

TN-IAMWARM PROJECT
CAPACITY BUILDING OF WATER USERS ASSOCIATION (WUAS) FOR
PARTICIPATORY IRRIGATION MANAGEMENT (PIM) IN THE SUB
BASINS OF UPPER VAIGAI, VARATTAR - NAGALAR, UPPER
GUNDAR, SINDAPALLI UPPODAI, THERKAR AND SENKOTTAIAR
LYING IN THE DISTRICTS OF MADURAI, VIRUDHUNAGAR & THENI

PACKAGE – 10

FINAL REPORT



Submitted to

The Executive Engineer,
PWD/WRO, Gundar Basin Division, Madurai – 2

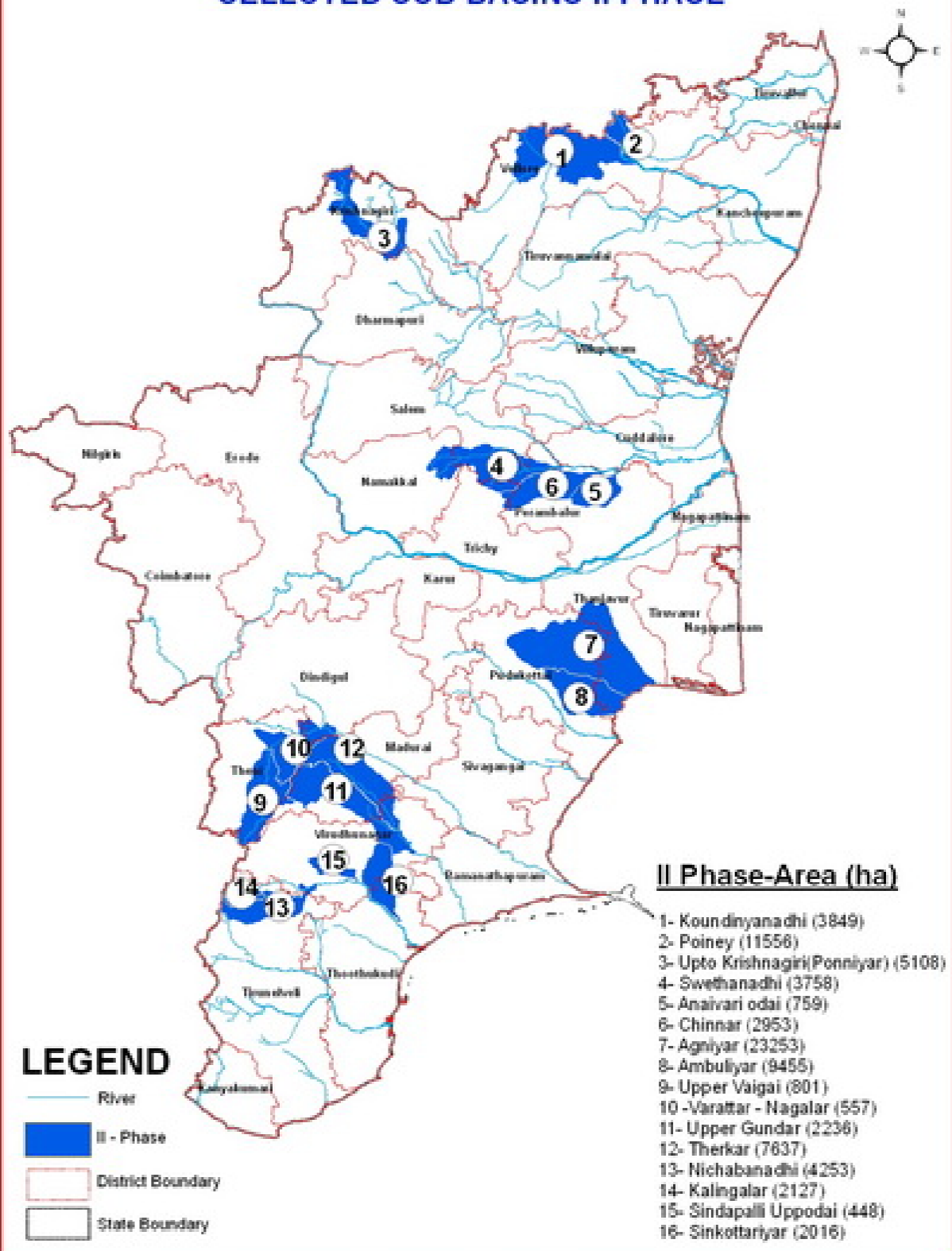


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IAMWARM PROJECT SELECTED SUB BASINS-II PHASE



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1. Introduction

Tamilnadu is one of the driest states in India, averaging only 925 millimeters of rainfall a year. Per capita availability of water resources in Tamilnadu (population about 62 million) is only 900 cubic meters a year, compared with 2,200 cubic meters for all of India. The state's dry season lasts five months (January through May) even in good years, and severe droughts occur in 3 of 10 years, severely limiting cultivation of crops between June and September. A recent series of droughts and water shortages has highlighted the importance of good water resources and irrigation management. Tamilnadu's geographic area can be grouped into 17 river basins, a majority of which are water-stressed. There are 61 major reservoirs, about 40,000 tanks (traditional water harvesting structures) and about 3 million wells, that heavily utilize the available surface water (17.5 BCM) and groundwater (15.3 BCM). Agriculture is the single largest consumer of water in the state, using 75% of the state's water. Irrigation through a combination of canals, wells, and tanks increases the reliability and availability of water for farming and is essential for cultivating crops in much of state. Approximately 30% of the net irrigated area of 3 million hectares is watered by canals and 21% by tanks, while 49% is fed by wells. The remaining area is irrigated by other sources such as streams and springs. Rainfed agriculture, employing approximately 25% of farmers, accounts for 46% of the net sown area of 5.5 million hectares.

A recent Bank report has shown that the agriculture sector faces major constraints due to dilapidated irrigation infrastructure coupled with water scarcity (both quantity and quality) due largely to growing demands from industry and domestic users and intensifying interstate competition for surface water resources. In some parts of the state, the rate of extraction of groundwater has exceeded recharge rates, resulting in falling water tables. Water quality is also growing concern. Effluents discharged from tanneries and textile industries and heavy use of pesticides and fertilizers have had a major impact on surface water quality, soils, and groundwater. Long-term growth in agriculture and rural income depends in large part on increasing efficiency of use of water. In addition, diversification into higher value, less water-intensive products, such as fruits, vegetables, spices, and livestock products, may be one of the most promising sources of agricultural growth. Tamilnadu's agro-climatic conditions are well suited for diversified agriculture. Rapidly increasing incomes and changing patterns of food demand also provide strong impetus for diversification. Increased agricultural diversification and private investment in higher value processing are likely to generate new rural non-

farm employment opportunities and raise rural incomes. Increased availability of water and greater efficiency of water use in the dry season (for example, through the widespread adoption of drip irrigation) could enable cultivation of crops year-round, providing employment in agricultural production and processing, benefiting the rural poor. Improving efficiency of water use and diversification require improved irrigation service delivery together with better resource management measures. This requires asset modernisation with a multi-sectoral perspective, focus on market linkages, as well as technical and managerial upgrading of asset developers, users and managers.

1.1 Government Action: The Government of Tamilnadu has taken a number of progressive actions on water resources and irrigation management particularly through the Bank-assisted Tamilnadu Water Resources Consolidation Project (WRCP), which closed in September 2004 with a satisfactory rating. Some of these actions taken include:

1.2 Institutional: Creation of a Water Resources Organization (WRO) from the PWD; initiation of the separation of cadres between water resources management and buildings; strengthening of the Institute for water studies and the State Surface and Groundwater Data Center and preparation of detailed spatial knowledge base for water management; setting up of a Reforms Task Force and the initial efforts to implement its recommendations such as rightsizing through Voluntary Retirement Schemes; creation of a multi-sectoral Water Resources Control and Review Council (WRCRC) chaired by the Chief Minister with seven thematic sub-committees which is a precursor for unbundling resource management from service delivery; creation of operational environmental cells in WRO ; decentralization of operational Chief Engineers in a basin/cluster of basins framework, and formation of water users associations.

1.3 Policy and Strategy: TN was one of the first states to pass a Groundwater Bill, Procurement/Right to Transparency Act and Farmers Management of Irrigation Systems Act. The state has prepared a State Framework Water Resources Plan for all the river basins except Cauvery, an Environmental Planning Framework for Water Resources Management, and a State Water Policy.

1.4 Investments: Basins have become the organizing framework for investments and staff deployment.

Modernizing Irrigated Agriculture: The state has adopted a multi-disciplinary approach on a pilot demonstration covering about 3000 ha in the Hanuman Nadhi Sub-basin of the Thambiraparani system (system tank improvement, drip and

sprinkler irrigation, introduction of tissue culture for banana) This approach fostered engineer –extensionist –farmer linkages and helped agencies to work together. The ICR mission for the Water Resources Consolidation Project has reported that there is a perceptible change in mind-set. Demonstrations in this exercise were focused on crop diversification to high value crops.

1.5 Water Resources Management: Comprehensive water planning on a river basin basis with micro-level plans having been completed for five basins and work is under way for another eleven basins. First two representative River Basin Boards formed in the South Asia Region (Palar and Thambiraparani Basin Development and Management Boards), development of a good database for all river basins and enhanced analytical capacity for water planning at the Institute for Water Studies.

1.6 Issues: Many of the actions taken by the Government of Tamilnadu serve as a good foundation to further the reform processes and to move towards a more efficient irrigation service delivery and improved resource management. However there are still a few key issues and assisting Tamilnadu to deal with these issues will be main aim of the proposed project.

1.7 Institutional weaknesses: Which continue to constrain optimum management and development of water resources in the state need to be addressed. Public administration in the water sector would be improved by separating responsibilities for water resource management and irrigation service delivery (as per the Bank's "Rules of Engagement"). Two agencies are needed; a regulatory agency to allocate the share of water resources to agriculture, industry, and other uses, and an irrigation department focusing on irrigation delivery systems, instead of the current setup of a single organization.

The approach to operation and maintenance needs to be improved: As is common in many Indian States, inadequate priority to, and funding for, operations and maintenance has led to deterioration of surface irrigation systems not covered under the earlier Bank project. Traditionally, there has been minimal involvement of farmers in the operations and maintenance of irrigation systems. The current provisions for surface irrigation water charges allow full cost recovery for required operations and maintenance expenditures. However, these charges have not been consistently collected. The Government has to put in place a consistent framework for collection of water charges to meet full O&M expenditures.

Participatory irrigation management has to be strengthened and rolled out state-wide: Irrigation management transfer is at an early stage in Tamilnadu but

making substantial progress with the enactment of the FMIS Act. About 1600 Farmers' Councils (Water Users' Associations) have been set up and another 3000 need to be set up covering the entire State. These associations need considerable training and capacity building to manage irrigation systems under the purview.

Agricultural diversification has to be promoted to increase the productivity of water: Paying greater attention to market infrastructure, strengthening research and extension, and improving irrigation pumpset efficiency will foster diversification and is also likely to make introduction of power charges for groundwater abstraction more acceptable to farmers. If farmers' costs and incomes varied according to the amount of electricity (and water) used with well irrigation, they would have an incentive to shift some land from water-intensive crops (rice and sugar cane) toward less water-intensive crops (including cotton, maize, and vegetables). Marketing of produce and better use of information technology in this regard need special attention.

Greater attention is needed for modernizing irrigation infrastructure and scaling-up the adoption of water saving irrigation technologies. While the use of sprinkler and drip technology has been promoted in the state, the high capital cost of these technologies constrains widespread adoption by smallholders and marginal farmers. The development of more affordable technologies or a suitable system of targeted incentives to increase the use of sprinkler and drip systems are issues to consider in this regard.

The Basin Development and Management Board set up for two basins need technical support to enable them to function to their full potential: Social and environmental issues related to irrigation service delivery and water resources management have to be better integrated and mainstreamed. Effective drought forecasting, preparedness and management mechanisms have to be developed.

Rationale for Bank involvement: The World Bank has supported, and is supporting, the Government of Tamilnadu's efforts of sustainable growth and poverty alleviation through a number of projects. Since the management of water and irrigated agriculture is so closely linked to the performance of the economy and creation of employment opportunities, it is important that further reforms and infrastructure modernization be pursued in these areas as a core part of our support to the State.

The lessons learned from Water Resources Consolidation Project (ICR rate "exemplary" by OED) indicate that although a number of reforms have been

initiated and some irrigation infrastructure rehabilitation has been carried out, there is still a substantial need for modernization of infrastructure (upscaling the Hanumannadhi pilot) coupled with skills up gradation. The Bank's India Country Water Resources Assistance Strategy indicates the need for Tamil Nadu to focus more on effectively applying the "useful building blocks" built so far to resolve its many pressing problems on the water front. It also cautions against a focus on "zero-sum" storage development investments in water-stressed basins where a water management focus may be more pragmatic.

Tamilnadu has already taken some important steps in expenditure prioritization (a detailed public expenditure review will be done as part of preparation) and organisation reforms in irrigation and drainage institutions that are vital to improving the delivery of surface irrigation services and helping to ensure the longer-term performance of irrigation infrastructure. Further organizational reforms to streamline business processes to enhance efficiency and transparency and professionalize the work culture will be essential to improving service delivery to the client farmers, reduce costs of service provision (especially by modernizing and rightsizing), ensure financial sustainability of operations and maintenance of systems and reduce the fiscal burden on state Governments. Through previous and ongoing engagements, the Bank has established a close working relationship with the GoTN and has developed a good understanding of the problems of the water and irrigated agriculture sectors of the State and has a good assessment of the institutional capacity and what is achievable in the State. The ongoing engagement on cross-cutting knowledge initiatives also has maintained water resources as a key focus area. This project would also help improve the benefits of the Hydrology project and its successor, HP II.

The Government of Tamilnadu has indicated in several forums that the proposed project is the single highest priority in its requests to the World Bank for assistance, and has shown its commitment and ability through a satisfactory performance in the wide-ranging activities under TN WRCP. The various actions taken by Government of Tamilnadu thus far, are in line with the Bank's Principles of Engagement (see annex).

1.8 Project Development Objective: The proposed project development objective is to improve irrigation service delivery and productivity of irrigated agriculture with effective integrated water resources management in a river basin/Sub-basin framework in Tamil Nadu.

1.9 Project Description: The above objective is to be achieved through

investments for modernizing irrigation infrastructure (including systems rehabilitation, on-farm works, technical and managerial upgrading of institutions involved in irrigation development, operation and management, diversification of agriculture with appropriate extension measures and market linkages, promoting public-private partnerships, piloting innovative irrigation infrastructure development and management options) and re-orienting and strengthening institutions and instruments required for integrated effective water resources management in the State (including unbundling resource management from service delivery institutions). The proposed project would consist of the following two primary components:

1.10 Component A - Irrigated Agriculture Modernization: This component is intended to improve the productivity of irrigated agriculture. Project supported activities include: Irrigation systems modernization in a sub-basin framework (including participatory and sustainable modernization of any water storages, and related irrigation infrastructure including system/non-system/rainfed tanks, (to support of the revival and restoration of traditional water bodies outlined by GOI in its Bharat Nirman Program), distribution systems, pumpset efficiency; measurement and monitoring covering about one million hectares expending on the experience of the Hanumannadhi pilot. It is expected that this would be initiated in the Palar, Parambikulam Aliyar, Thambiraparani, Vaigai and Kodayar Basins and extended to other basins.

Institutional Modernization for Irrigated Agriculture (targeted modernization – improved asset inventory and management plans, (for instance, dams, tanks, irrigation infrastructure, agricultural. Horticultural fisheries data) technical and managerial upgrading of irrigation development and service delivery institutions, modernization of manuals/procedures, computerization, LAN and WAN, knowledge management software, information management and sharing public interaction closer, integration of WRO/PWD and Agriculture, Horticulture, Agricultural Engineering, Livestock/Fisheries Departments.)

Sustainable Agriculture modernization (cropping systems diversification and management to improve water conservation and farmer returns, integrated pest and nutrient management, Public Private Partnerships for extension, post-processing, certification, marketing). It should be noted that Tamilnadu is the only state with the Agricultural Produce Marketing (Regulation) Act, 1987 which allows direct marketing, contract farming and setting up of markets in private and co-operative sectors in the state. Other states are enacting amendments to their Acts to introduce these reforms now.

1.11 Component B - Water Resources Management: This component is intended to strengthen the policy and institutional framework for improved sustainable management of water resources in the State. These activities would include:

State-level (converting the WRCRC (SPELL OUT ACRONYM) to a State Water Council, amalgamating the associated sub-committees and upgrading the Institute for Water Studies (IWS) and the Surface and Groundwater Data Center (SGDC) to a State Water Resources Agency, establishment of a Water Regulator, development of appropriate policy and institutional arrangements, instruments, and information tools, to promote flexible water resources management)

1.12 Component C - Institutional Modernisation for Irrigated Agriculture: This component seeks to improve the institutional capacity for modern, efficient, and accountable irrigation service delivery. The scope of this activity is state-wide.

These activities will be implemented through the WRO and the WUAs. The activities are expected to substantially scale-up the institutional capacity at the WRO to design, monitor, maintain and modernize their assets in an environmentally and socially sustainable manner using appropriate state-of-art techniques, and to more effectively interact with much stronger WUAs.

1.13 Component D - Water Resources Management: The objective of this component is to improve the institutional arrangements and capacity for sustainable water resources management in the State. This will include the creation of a State Water Resources Management Agency (SWaRMA), amalgamating the existing Institute for Water Studies and the State Ground and Surface Water Resources Data Centre.

These activities are to be implemented by the SWaRMA (and its predecessor institutions till this is formed), the WRO, and Basin Boards. These investments should make Tamilnadu one of the best examples of operationalising modern sustainable Water Resources Planning and Management concept in a basin framework in India.

1.14 Component E - Project Management Support: This component will support the management and coordination efforts related to this project.

This component will be implemented by the Multi-Disciplinary Project Unit (MDPU). It is expected that the project activities would help MDPU improve its challenging institutional coordination function, remain on top of the status of project activities, and undertake corrective measures as required.

Basin-level (Strengthening, empowering and expanding Basin Development and Management Boards, development of basin analytical decision support systems targeted to support key policy and investment decisions, drought/flood preparedness, participatory structured consultations including strategic social and environmental assessments to systematically develop Sub-basin Development and Management plans, demonstration pilots)

Water Resources Research Fund (WRRF) Capitalizing on the success of the WRRF (SPELL OUT ACRONYM) established in the TN WRCP, this investment would expand the activities undertaken using the fund for targeted studies, awareness raising and applied research on key water and irrigated agriculture issues facing the state. A similar approach to that in the previous project is envisaged – competitive allocation of funds with the State providing a matching contribution to the fund. In addition, partnerships with relevant Universities and other key institutions throughout the State are envisaged to improve the local participation, outreach and sustainability of project technical assistance.

1.15 Safeguard Policies: Given that the physical investments proposed in the project are all of a rehabilitation/modernization nature, there are expected to be no major adverse environmental or social impacts associated with the project activities. However, given the scale of the project (entire State) and the large-scale water resources and irrigated agriculture modernization activities, the project is tentatively classified as Category A. Dam safety issues relevant to the OP would be addressed under the project as a mandatory requirement. There are not expected to be any major negative impacts on cultural property, natural habitats or forests. Although the project is not expected to finance any pesticide procurement, there may be induced impacts of increased pesticide and fertilizer use by intensifying and diversifying agricultural systems. These would be mitigated with significant strengthening of the State's IPM and INM activities; organic farming and water conservation in agriculture would be promoted. Although the proposed activities are not expected to require any resettlement, the rehabilitation grants and asset maintenance grant frameworks used in the earlier project will be applied in the case of any minor land acquisition. The existing Environment Cells has been strengthened to Environment and Social Cells. The environmental and social issues related to irrigation service delivery in an integrated water resources management framework have been studied in detail in an Environmental and Social Assessment already carried out by GoTN for the proposed project. This assessment would be updated by GoTN focusing on the interventions targeted under this investment.

1.16 Problem Issues: Faster growth in agriculture is central to sustainable development and poverty reduction in Tamilnadu. Although agriculture accounts for only 15.7 percent of total GSDP, farm income accounts for about half of household income for 35 million people (56 percent of the state's population) who live in rural areas. Much of this rural population is poor, with estimates ranging from 7.4 million people (20.6 percent of the rural population) to 11.4 million (31.8 percent of the rural population). For the poorest rural quintile (approximately) 1.5 million households, or 7.5 million people), more than three-quarters of income is derived from agriculture, with agricultural wage labor alone accounting for half of household income. Given the importance of agriculture in the incomes of the poor in Tamilnadu, growth in labor-intensive agriculture could further reduce rural poverty through higher yields to small producers, higher real wages to agricultural laborers, and increased income and employment opportunities with forward and backward links to the rural non-farm sector.

1.17 Motto:

The Motto of IAMWARM Project is “ *More money per drop of water* “

2. INCEPTION

COODU was selected as a support organisation for the Capacity building of Water Users Associations (WUAs) and Commodity Groups (CGs) for Participatory Irrigation Management (PIM), Agricultural Intensification and Diversification activities in the sub-basin(s) of **Upper Vaigai, Varattar - Nagalar, Upper Gundar. Sindappalli Upodai, Therkar and Senkottaiyar** lying in the Districts of Madurai, Virudhunagar and Theni and the project commenced on 01.07.2011.

2.1 Scope of the assignment:

- To create the required awareness among the farmers and other rural community in the sub-basin(s) about Participatory Irrigation Management (PIM) and improve the participation of women farmers.
- To build capacity of selected water users into sustainable WUAs, in the above sub basin(s) under IAMWARM Project to undertake and sustain the activities under the framework of TNFMIS Act.

2.2 Objectives of the assignment:

- To provide the required services for providing capacity building of Water Users Associations (WUAs) for successful implementation of Participatory Irrigation Management (PIM), Agricultural intensification and Diversification activities in the command area of the **Upper Vaigai, Varattar - Nagalar, Upper Gundar. Sindappalli Upodai, Therkar and Senkottaiyar** sub-basin(s) and to ensure with necessary ways and means for the sustainability of the outcomes, contemplated under the TNIAMWARM project.
- To create awareness about the project and its expected outputs, salient features of the TNFMIS Act and the procedures to be adopted in its implementation.
- To create awareness among the Women members and induce them for their effective participation in various activities of WUAs
- To create awareness among WUAs members regarding water management techniques, agro engineering technologies such as micro irrigation sprinkler, fertigation and other water harvesting techniques.
- To build the capacity of all WUAs already formed for enhancing the productivity and production, and enhanced incomes from specific recommended agriculture / horticulture crops, animal husbandry and fisheries and other feasible income generating activities through required agro-processing, marketing and agribusiness about practices and disseminate best practices.
- To build the capacity of all the members of the managing committee of the WUAs members of the four sub-committees.
- To increase the “impact area” with replication of the demonstration farms, recommendations and extension and marketing activities carried out by the line departments.
- To propose “Innovative Mechanisms” for marking effective use of various interventions that could make the WUAs capacity building process more effective and efficient.

2.3 The Vision:

Focus the Technical Approach Methodology of this capacity building exercise towards the goals and objective of the IAMWARM Project Viz.

“Through agricultural intensification, diversification, productivity improvement, introduction of improved technology, providing required agro-processing, agricultural marketing and agribusiness input, increase irrigated agricultural productivity in a sustainable water resources management frame work.

2.4 The Mission:

To provide the required services towards capacity building of Water Users Associations (WUAs) for adoption of different methodologies and practices, which will facilitate “cost-effective irrigation services” in **Upper Vaigai, Varttar, Nagalar, Upper Gundar, Sindapalli Uppodai, Therkar & Senkottaiar** lying in the **Districts of Madurai, Virudhunagar and Theni**

2.5 Specific objectives of the assignment:

1. To develop a sense of ownership of the water body and systems that delivers irrigation water to them
2. To have adequate plan for maintenance of irrigation systems
3. To promote and secure equitable water distribution among its users,
4. To have irrigation water distribution plan for efficient and economic utilization of water
5. To maximize crop production (crop productivity per drop of water)
6. To promote appropriate environmental practices
7. To develop a system that gradually enables and empowers its members to manage and sustain water resources in their area.
8. To develop the WUAs to work in partnership with officials of WRD and other line departments.
9. Enable them to utilize the empowerment through TNFMIS Act to their best advantage
10. To develop Gender participation
11. To Create environmental awareness
12. To build capacity of WUAs for handling own-management works (small civil works).
13. To ensure linkages with the WRD and other line departments for ensuring WUAs sustainability.
14. Enable WUAs to undertake “Social and Financial” audits as envisaged in the TNFMIS Act.
15. To build capacity of the WUAs to organise managing committee meetings, general body meetings & sub-committee meetings, mobilise the members, maintain records, office upkeep etc.
16. Enable them to enhance their incomes from specific recommended agriculture / horticulture crops, animal husbandry and fisheries and other feasible income generating activities through required agro-processing, marketing and agribusiness about practices and disseminate best practices.
17. Propose “Innovative Mechanisms” for making effective use of various interventions that could make the WUAs capacity building process more effective and efficient including marketing capabilities of commodity groups

For e.g.:

- Study the “Pulses Mission” adopted In Upper Vellar sub basin and Scaling up for adoption in South Vellar to empowered the farmers to be self reliant in cropping, marketing etc..
- ii) Study the model on Integration of Horticulture, Agricultural Engineering and Agri Marketing in Upper Vellar sub basin and facilitate line Departments towards cultivation success in South Vellar Basin and also make fish culture a success.

18.To achieve socio-economic realities through intensive interactions with all section of the communities to enhance the status and representation of the disadvantaged groups, as well as facilitating a positive relationship between the WUAs and the WRD officials, Line department officials and field functionaries.

2.6 Tasks:

1. To present “innovative ways of addressing the “community mobilisation” requirements.
2. To document “case studies” related to the partnership between WUA and WRD officials
3. To develop Training strategies to include in location and on the field approaches according to the real and felt needs and to cover the goals and objective of the capacity building of WUA
4. To design and provide details for carrying out the process of Monitoring and Evaluation of various activities expected to be carried out by the Consultants
5. Develop training modules for imparting training to WUAs & farmers.
6. Identify areas of conflicts and conflict resolution through Effective communication

2.7 Methodology for achieving the objectives of the assignment:

1. Sample study of the functioning of the existing WUA belonging to the category of successfully functioning, Average and Non-functioning by collecting the details of such WUAs from WRD.
2. Conduct discussion with the farmers to identify the strength and weaknesses.
3. Develop case studies on them.
4. Based on the data collected develop different Training Modules for the three categories and impart training to the WUAs according to their merits to build their capacities to make all of them in efficient category.
5. Capacity building exercise will be designed to be done on the field or on the location with proper modules for individual WUA and commodity groups.
6. Study socio economic scenario of farmers of the WUAs.

7. Intensive interactions with all section of the communities to enhance the status and representation of the disadvantaged groups.
8. Achieve the objectives of this Capacity Building through interaction and training.
9. Develop innovative Mechanism to achieve the objectives and facilitate the Line Departments to implement as pilot models in selected WUA and then disseminate the success storey to other WUAs.
10. Achieve Gender Participation in WUA with success stories of women entrepreneurs, preferably deploying woman Para workers.

3. PROJECT ADMINISTRATION

To administer the Project, the following personnel were appointed as approved by the SE – PWD – WRO., Vaippar basin circle, Virudhunagar.

1. Key personnel. Team leader - 1 No. & Community Organiser - 2 Nos.
2. Sub key personnel: Para workers 1 / 7 WUAs. For 70 WUAs, 10 para workers.
3. Office Manager
4. Accountant
5. System Operators – 2 Nos.
6. Office Assistant
7. Watchman

4. FAMILIARISATION WITH THE AREAS AND THE PEOPLE

The personnel collected data on the project areas, water resources, cropping pattern and the existing WUAs.

The personnel also familiarised with opinion leaders/ change agents / animators / lead farmers/ women lead farmers in the command areas at village level to function on a permanent basis for organizing farmers for effective functioning of WUAs

5. IDENTIFICATION OF MODEL / CONTACT FARMERS

During the familiarisation meetings held with farmers and other stakeholders, model / contact farmers were identified as follows

S.No	Name of the WUA	Name of Contact Farmers
1	Duraisampuram Anicut Pomminaickankulam, Kodanginaickarkulam, Athankaraipatti Supply channel & Kunnur anicut Water User's Association	K.Arunachalam, s/o Kandasamy, Middle street, Kunnur, Theni Dt. 9448259445
2	Manjalnadhi Tank, Naickankulam, Thathamuthankulam, Kanavaimudakkukulam & Karuvelankulam tank Water user's Association.	N.Selvakumar, S/O Nattrayan, 84, 1 st ward Bagavathyamman kovil street, Erasakkanaickanur, Uthamapalayam (T.K), Theni Dt. 9943725125
3	Kuppamal Samudram, Kadambankulam, Saptur, & Kudiserikulam Water User's Associations	L.Kalimuthu, Elumalai (p.o), Peraiyur (T.K), Madurai Dt. 9786473546
4	Sennalperi, Poolankulam, tanks Water User's Associations.	Navaneethakrishnan, s/o Ramasamy chettiyar, 1/100, Muthunagaiahpuram, Melatheru, Periyapoolanpatty (p.o), Peraiyur (T.K), Madurai Dt.
5	Elumalai, Kanakkankulam, Uthapuram Water User's Associations.	M.Balasubramanian, s/o Marimuthu, Uthapuram (p.o), Peraiyur (T.K), Madurai Dt.
6	Sokkanathan, Thirumanickam, Periyakattalai tanks Water User's Associations.	N.K.Ramasamy, Thirumanikkam Setapatti (T.k), Madurai (D.t)
7	Allikundam, Vagurani tanka Water User's Associations.	K.Manikandan, S/o Karuppaiya, 1/79 West Street, Allikkundam (Po), Usilampatti (T.K), Madurai (Dt)

8	Mochikulam Tanks Water User's Associations.	M.Periyanatchi,Kuppalnatham,Sedapatti (T.k), Madurai (D.t)
9	Melanesaneri Karisalkulam Tanks Water User's Associations.	A.Chellapandy, s/o Karupputhevar, Melanesaneri, Sivarakottai, Thirumangalam T.K. Madurai.(D.T) 9360070590
10	Karisalkulam tank Water User's Associations.	Muthumaniammal,AthikaripattiSetapatti (T.k), Madurai(D.t)
11	Semparani kanmoi Water User's Associations.	C.Selvam, S/O Chinnayathevar, S.Senampatty, Sembarani(p.o), Peraiyur (T.K), Madurai Dt.
12	Alapalacheri Big tanks Water User's Associations.	K.Ravainarayanan, s/o Kattarinayanar, Nagaiahpuram, Allapalacheri (p.o) , Thirumangalam(T.K.)Madurai.(D.T) 9751815420
13	Thangalacheri Tank Water User's Associations.	R.Rajaram, s/o Ramasamy reddy, Thangalacheri (p.o), ThirumangalamT.K. Madurai.(D.T)9943077320
14	Sowdarpattikanmoi tank Water User's Associations.	C.Kodeeswaran, s/o Chinnagurusamydevar, Sowdarpatti (p.o) ThirumangalamT.K. Madurai.(D.T) 9843523989
15	Pokkampatti & Pullamuthur tanks Water User's Associations.	R.Rukumaniammal w/o Duraisamy, Periyabookampatty, Thangalacheri (p.o), ThirumangalamT.K. Madurai.(D.T) 9942035090
16	Theirali tank Water User's Associations.	M.Pitchai, s/o Muthumayan, 45,Northstreet, Thiralli(p.o), Thirumangalam T.K. Madurai.(D.T) 9944467884
17	Sivarakottai Karisalkulam Water User's Associations.	M.Senbagalingam,S/o Muthaiahthevar,3/449A, Sivarakottai, Thirumangalam T.K. Madurai.(D.T) 9840954162

18	Arasapatti pottapacheri tank Water User's Associations.	P.Muthu, S/o Paraman,3/62, Veyilluvanthalpuram, T.Arasapatti(p.o), Thirumangalam T.K. Madurai.(D.T) 9790599495
19	Sennampatti Puliankulam Water User's Associations.	B.Pillavadiyan,s/o A.Bose, 2/140,Kurayur(p.o), Thirumangalam T.K. Madurai.(D.T)9245964479
20	Senkulan Tank Water User's Associations.	P.Krishnan,S/o Pitchai, 12/45, Palapacheri , Kallikudi (p.o)Thirumangalam(t.k)Madurai (D.t)9743282411
21	Kurayur and Maruthankudi periyakanmoi Water User's Associations.	S.Sakkaiyathevar, s/o Solaimalai, southstreet, Kalligudi (via), Kurayur (p.o), ThirumangalamT.K. Madurai.(D.T)7598365727
22	T.Kokkulam periyakanmoi Water User's Associations.	M.Sundram,S/O Manimuthu, Eaststreet, T.Kukkulam(P.O) ThirumangalamT.K. Madurai.(D.T)
23	Thoombakulam, Arasapatti and Valayankulma periyakanmoi Water User's Associations.	P.Ayyavu, s/o Poonusamy, Thoombakulam, T.Kukkulam(via) ThirumangalamT.K. Madurai.(D.T) 9003403015
24	Maikudi kanmoi Water User's Associations.	M.Pandi s/o, Mahalingam, 4 th ward, Maikudi Nedunkulam(p.o), ThirumangalamT.K. Madurai.(D.T)
25	Kallanai Karisalkulam kanmoi Water User's Associations.	Velu thevar, s/o Subbaiah thevar,2 nd ward, Kudakovilroad, kallanai, Thirumangalam T.KMadurai
26	Vidathakulam and Virusankulam Water User's Associations.	TPR.Jeyraman,s/o Ramasamy, Vedathakulam(p.o), ThirumangalamT.KMadurai (D.T)9894047803
27	Ulagani periyakanmoi Water User's Associations.	R.Rajendran s/o Ramudevar, Kudakovil (p.o) Ullagani, ThirumangalamT.K. Madurai.(D.T)
28	Vadugapatti kanmoi Water User's Associations.	M.Perumaldevar, s/o,Muthukalani,Ramanathapuram Araiypatti(p.o),Usilampatti (T.K),Madurai Dt – 625532
29	Anaiyur kanmoi Water User's Associations.	O.Bose, s/o Ochadevar, Middlestreet,

		Kattakaruppanpatti,Poothipuram(p.o),Usilampatti (T.K), Madurai Dt – 625532,9944362121
30	Thimmanatham kanmoi Water User's Associations	R.Sasikumar, s/oRajapandi, Koppilipatty, Thimmanatham(p.o), Usilampatti (T.K),Madurai Dt – 625532,9488843255
31	Kappalur Tank Water User's Associations.	S.Solairaj S/o.Solaimalainayakar, Middle street, Kappalur(p.o),Thirumangalam(T.k),Madurai – 625706 9788690218.
32	Othai Alangulam, Periya Alangulam and Sambakulam Tanks Water User's Associations.	M.Vij an, s/o Muthudevar, Periyaalangulam, Valaipatti(p.o), Madurai-22,9786665449
33	Vedar Puliyankulam, Thenpalanji and Vadapalanji tanks Water User's Associations.	S.Pandi, s/o Subramani,5/123,Northstreet, Thenpalanzhi(p.o), Madurai South, Madurai-21. 9626602296
34	Keelakuilkudai, Melakuilkudi and Maruthani Tanks Water User's Associations.	K.Santhanam, s/o Karmagam, Southstreet, 2/24, Keelakuillkudi (p.o) South Madurai, Madurai-19. 9629373069
35	Koorankulam Tank Water User's Associations.	K.Pandayarajan, s/o Karuthaiahdevar, K,Pulliankulam, Sekkanurani(p.o)Thirumangalam(T.K),Madurai DT 9944564030
36	Vadakarai Periyakulam and Chinnakulam Tank Water User's Associations	N.A.Rathakrishan,S/o Angappathevar,Vadakarai, Melakkottai (p.o), Thirumangalam (T.K), Madurai (D.T).
37	Malatar and Sirupatti Tanks Water User's Associations.	S.Kalimuthu, s/o Chinnappan,weststreet, Uthappanayakanur,Usilampatti (T.K),Madurai Dt 625532 9786179601
38	Iluppaikulam, Karisalkulam Tanks Water User's	S.Arumugam, s/o Subramani,2/20, Elluppaikulam,

	Associations.	Maruthangkudi(p.o), Thirumangalam T.K. Madurai.(D.T) 9894320061
39	Thoppur Tank Water User's Association.	R.Ramachandran,s/o Ramakrishnanthevat,Eaststreet, Thoppur, Sithumundradappu (p.o), Kariyapatty(T.K), Virudhunagar Dt.9585055874
40	Vakkanankundu Tank Water User's Association.	V.Ambraose, s/o Velu, Vakkanagundu (P.O), Kalkuruchi (via), Kariyapatty (T.K), Virudhunagar Dt. 9789385847
41	Kattukuthagai Karisalkulam Tank Water User's Association	M.Mariappan, s/o Muthaiah, 12/6,Pillayar kovil street, K.Karisalkulam, Pampaty(p.o), Kariyapatty(T.K), Virudhunagar Dt.9787134934
42	Nedungulam Kanmoi Water User's Association.	V.Pitchai,s/o Vanniudyandevan, 1-2/1 Devarstreet, A.Nedungulam,Kariyapatty(T.K), Virudhunagar Dt. 9942150265
43	Ariayanendal, Idayankulam tanks Water User's Association.	U.Karuppiyah, s/o Uorkavalan, Kariyapatty(T.K), Virudhunagar Dt.
44	Vettilaiyurani, Muthalnaickanpatti and A.Subramaniapuram Tanks Water User's Associations.	G.Chinnasamy s/o Gopalsamy, 2/4 Mela odampatty, Venkatachalapuram, Sivakasi(T.K),Virudhunagar Dt.
45	Vendakulam, A.Ramalingapuram and Alampatti Tanks Water User's Associations.	P.Karuppaiah,s/o Periyadaiyar , Anaikaraipatti, Sattur, Virudhunagar Dt.
46	Periya Thummakundu, Pappakudi Tanks Water User's Associations.	V.Vellasamy, s/o Veerabadran, Periyathummakundu, Mavilpatty(p.o), Aruppukottai(T.K), Virudhunagar Dt.
47	Iyankarisalkulam and Mavilpatti Tanks Water User's Associations.	P.Ramakrishna nayackar,s/o Perumal, 1/85 Melatheru Ayankarisalkulam, Ettaipuram (T.K) Tutucorin Dt. 9486746075

48	Melakarandai Tank Water User's Associations.	G.Balakrishnan s/o Gurusamy thevar, 1/85 Melakaranthai , Ettayapuram(t,k) Tutucori -628904 9443195382
49	Perayakudi Tank Water User's Associations	S.Mavelraj, s/o,Sungava nayackar, 1/25 Muthaliyar street, Nagalapuram (p.o), Villathikulam (T.K), Tutucorin – 628904
50	Athangarai Big & Small Tanks Water User's Associations.	A.Sigappuraj, s/o Amirtham, 2/58, 1E, Southstreet, Aathankarai, Villathikulam (T.K),Tutucorin – 628904
51	Thirumangalam Main canal 1st BC Water User's Association	Murugan, Pasana kotta thalaivar,12/6,Kodikulam(p.o), Usilampatti (T.K),Madurai Dt .
52	Sowdarpatti karisalkulam Tank WUA	S.KODEESWARAN S/O .CHINNAGURUVAN SOWDARPATTI.
53	Thirumangalam Main canal 3rd BC Water User's Association	C.Thangaraj, s/o Chinnaraj, Manalpatty, Chellampatty(p.o), Usilampatti (T.K), Madurai Dt - 625529
54	Thirumangalam Main canal 4th BC Water User's Association	Mayathevar,s/o Rasuchinnathevar,262, Nethaji street,NGO Colony, Madurai-625019,9842158594
55	Thirumangalam Main canal 5th and 6th BC Water User's Association	Palani, s/o Ramasamy, Othaveedu, Mettupatty, Usilampatti (T.K),Madurai Dt – 625532 9944236678 (Kasimayan)
56	Kodimangalam kanmoi Water user's Association	Thirukumaran,2/4,middlestreet,1 st Kodimangalam, Thiruvenkadam-625234,9842159647
57	Vadivelkarai Kanmoi Water User's Association	Ramanathan,3/245,Weildingson road, Vadivelkarai, Thiruparamkundram-625019,9443345829
58	Vilacheri kanmoi Water User's Associations	Abdul Wahab,Pallivasal theru, Vilacheri, Thiruparamkundram-625006,0452-248620

59	Thirupparamkunram vatta kanmoi Water User's Associations	Saminathan,64,sanathitheru, Thiruparamkundram-625005,9865370393
60	NagamalaiPudukottai kanmoi Water User's Associations	K.C.P.Jayakumar,2/44,Periyavedu, Nagamalaipudukottai, Thiruparamkundram-625019,9788854848
61	Nilaiyur Kuthiarkundu kanmoi Water User's Associations	Karunanidhi,5/A, Gandhiji 2 nd street, 3 rd stop, Thirunagar, Madurai-625005,9677484711
62	Vadakarai Periyakanmoi WUA	RADHAKRISHNAN, VADAKARAI (Cell.NO: 9943683312)
63	Koorankulam tank WUA	CHINNA THAMBI, LAKSHMIPURAM. (Cell No : 9894998756)
64	Chettikurichi BIG & Small, Sethurajapuram and Andipatti Tank WUA	GNASOWNDHARI, PERIYACHETTIKURICHI.
65	Podampatti and Vaduvarpatti WUA	R.MARICHAMY, KURUNTHAMADAM
66	Periya Pullyampatti, Aruppukottai, Sukkilanatham and Meenatchipuram Tanks WUA	K.SUNDARAJ, SUKKILANATHAM
67	Thiruperungundram Vatta kanmoi WUA	M.SWAMINATHAN S/O.MUTHUSUBRAMANI THIRUPPARAMKUNDRAM, Cell No:9865370393
68	Mallayanaickan patti tank WUA	A.RAMASAMY , MALLANAICKANPATTI
69	Kanmoipatti, Pappakudi, Kundalakuthur and muthusampuram Tanks WUA	K.MURUGAN S/O.KARUPPASAMY MUTHUSAMPURAM, Cell No:9486659507
70	Thiruvirunthal puram Tank WUA	M.MUTHUKARUPPAN S/O THIRUVIRUNTHALPURAM.

6. TRAINING THE PROJECT STAFF

Key Personnel and Sub-Key Personnel underwent a three day “**Orientation Workshop**” organised by the COODU at IMTI, Trichy through the Nodal officer of the sub-basin in consultation with MDPU/PIM Cell

The Sub key personnel (Para workers) also underwent on field trainings on Water Management, organised by the COODU at IMTI, Trichy through the Nodal officer of the sub-basin in consultation with MDPU/PIM Cell.

The key personnel were also trained at the CRENIEO at Muttukadu, Chennai in three batches.

7. FORMATION OF SUB- COMMITTEES:



After the formation/ strengthening of the WUAs, the personnel initiated the formation of sub committees. The project personnel also conducted meetings at the WUA level for the TC members and WUA members regarding the role of the sub committees. As per TNFMIS Act, the following sub committees were formed.

1. Finance and resource sub committee
2. Work sub committee
3. Water management sub committee
4. Monitoring, evaluation and training sub committee

8. OPENING OF BANK ACCOUNTS

For the financial administration of the WUAs, bank accounts were opened thereby ensuring the sustainable functioning of WUAs with proper management system and participation of the WUA members in the sub-basins, jointly operated by the WUA President and one of the TC Member as per the TNFMIS Act.

WUAs BANK ACCOUNTS OPEN DETAILS

CLUSTER NAME -1 (THENI)

S. NO	NAME OF THE WUA	PRESIDENT NAME	NAME OF THE BANK & A/C NO AND ADDRESS
1	SENKULAM, SIRUKULAM, PERIYAKULAM, AMMAKULAM, KADAMBANKULAM, KOVILANKULAM, & KENGANKULAM WUA'S	K.MUTHUKALAI S/O.KARUPPAIAH DEVAR KADAMALAIKUNDU Cell No: 9487143387	CANARA BANK KADAMALAIKUNDU, A/C NO: 1349101010567
2	DURASAMPURA MANICUT POMMINAICKANKULAM, KODANGINAICKARKULAM, ATHAKARAIPATTI SUPPLY CHANNEL & KUNNUR ANICUT WUA'S	K.ARUNACHALAM S/O. KANDHASAMY KUNNUR. Cell No:9442615186	
3	MANJALNADHI TANK, NAICKANKULAM, THETHAMUTHANKULAM, KANAVAIMUDAKKULAM & KARUVELANKULAM, TANKS WUAS	N.SELVAKUMAR S/O.NATARAJAN ERASAI. Cell No:9943725125	FEDERAL BANK,CHINNAOVULAPURA M A/C NO; 20910100002167
4	POOVALACHERI, SARISALKULAM, SEMKULAM, SIGUODAI, GOVINDAMUDAKKULAM & KARUVELANKULAM TANKS WUAS	N.SEENIVASAN S/O.NARAYANASAMY MATHURAPURI. Cell No:9715795801	

5	THEPPAMPATTI KANMOI, PALAKOMBAI, ATHIGARIKULAM, AUNDIPATTI TANK, KOOTHARAYAPERUMALKOVIL TANK, NALLIDAICHERIKANMOI, ASRIPATTIKANMOI, SAKKILICHIKULAM & JAMBULIPUTHUR TANKS WUAS	N.VIJAYAN S/O.NATARAJAN THEPPAMPATTY. Cell No:	INDAN BANK A/C NO; 6156691949
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CLUSTER NAME -2 (T.KALLUPATTI)

S. No	NAME OF THE WUA	PRESIDENT NAME	NAME OF THE BANK & A/C NO AND ADDRESS
1	KUPPAMALSAMUDRAM, KADAMBANKULAM, SAPTUR & KUDISERIKULAM, WUAs	L.KALIMUTHU S/O.LAKSHMANADEVAR SALUPPAPATTI. Cell No:9787574235	CANARA BANK, ATHIPATTI A/C NO; 1841101013404
2	SENNALPERI, POOLANKULAM TANKS WUAS	R.NAVANEETHAKRISHNAN S/O.RAMASAMY PERIYAPOLAMPATTI. Cell No:9787529273	MD 115 PACCS LTD, PERIYAPULAMPATTI A/C NO ; 533
3	ELUMALAI, KANAKKANKULAM, UTHAPURAM WUAS	M.BALASUBRAMANIAM S/O.MARIMUTHU PILLAI UTHAPURAM. Cell No:8973774359	
4	SOKKANATHAN, THIRUMANIKAM, PERIYAKATTALAI, TANKS WUAS	K.RAMASAMY S/O.KARUPPUDEVAR MELATHIRUMANICKAM. Cell No:8870082427	MD 28 PACCS LTD, MELA THIRUMANICKAM A/C NO ; 605
5	ALLIKUNDAM, VAGURANI TANKS WUAS	MANIKANDAN S/O. ALLIKUNDAM. Cell No:9894042883	CANARA BANK, USILAMPATTI A/C NO :1022101036256
6	MOCHIKULAM TANKS WUAS	M.PERIYANATCHI W/O.MURUGAN KUPPANATHAM. Cell No:9843759334	
7	KARISALKULAM, ATHIKARIPATTI TANKS WUAS	MUTHUMUNIYAMMAL W/O.THAVAMANI ATHIKARIPATTI. Cell No:9176621414	DEATH
8	SEMPARANI KANMOI WUAS	C.SELVAM S/O.CHINNADEVAR SENNAMPATTI. Cell No:9751469776	BANK OF INDIA, CHINNAKATTALAI A/C NO; 825910210000099
9	MELANESNERI, KARISALKULAM WUA's	M.CHELLAPANDI S/O.AZHAGARSAMY MEENATCHIPURAM, Cell No:9360070590	M.U.59, VEERAPERUMALPURAM PACS AC.NO: 71657010112505

CLUSTER NAME -3 (THIRUMANGALAM)

S.NO	NAME OF THE WUA	PRESIDENT NAME & CELL NO	NAME OF THE BANK & A/C NO & ADDRESS
1	ALAPALACHERI BIG TANK WUA	RAVINARAYANAN S/O. ALAPACHERI, Cell No:9751815420	
2	THANGALACHERI TANK WUA	R.RAJARAM S/O.RAMASAMY THANGALACHERI. Cell No:9943077320	
3	SOWDARPATTI KANMOI TANK WUA	S.KODEESWARAN S/O.CHINNAGURUVAN SOWDARPATTI. Cell No:9843523484	MD 47 PACCS LTD, S.MEENAKSHIPURAM A/C NO: 71531011001581
4	POKKMPATTI & PULLAMUTHUR TANKS WUA	D.RUKKUMANIAMMAL W/O.DURAICHAMY PERIYAPOKKAMPATTI. Cell No:9942035040	MD 64 PACCS LTD, T.AMMAPATTI A/C NO: 65010012668
5	THIRALI TANK WUA	P.PITCHAI S/O.MUTHUMAYAN ATCHAMPATTI. Cell No:9361225057	INDIAN OVERSEAS BANK , ALAMPATTI A/C NO: 208501000005224
6	SIVARAKOTTAI, KARISALKULAM WUAS	M.SENBAGALINGAM S/O.MUTHAIAH SIVARAKOTTAI. Cell No:9944212503	CANARA BANK, SIVARAKOTTAI A/C NO ; 8714101000027
7	ARASAPATTI, POTTAPACHERI TANK WUAS	P.MUTHU S/O.PARAMAN T.ARASAPATTI. Cell No:9790599495	CANARA BANK, SIVARAKOTTAI A/C NO ; 8714101000028
8	SENNAMPATTI, PULIANKULAM WUAS	A.BOSE S/O. KURAYUR. Cell No:9245964479	
9	SENKULAN TANK WUA	P.KRISHNAN S/O.PITCHAI PALLAPACHERI. Cell No:9943282411	CANARA BANK, KALLIKUDI, A/C NO ,0968101029094

CLUSTER NAME - 4 (KALLIKUDI)

S. NO	NAME OF THE WUA	PRESIDENT NAME	NAME OF THE BANK & A/C NO AND ADDRESS
1	KURAYUR & MARUTHANKUDI PERIYA KANMOI WUAS	S.SAKKAYADEVAR S/O.SOLAMALAI KURAYUR. Cell No:9443796971	BANK OF INDIA, KURAYUR A/C NO, 82541011004376
2	T. KOKKULAM PERIYA KANMOI WUA	M.SUNDARAM S/O.MANIMUTHU T.KOKKULAM. Cell No:9500825226	STATE BANK OF INDIA, KODAKOIL A/C NO , 32303683815
3	THUMMBAKULAM, ARASAPATTI, VALAYAKULAM PERIYA KANMOI WUAS	P.AYYAVU S/O.PONNUCHAMY THUMMBAKULAM. Cell No:9843317717	CANARA BANK , SIVARAKATTAI A/C NO, 8714101000634
4	MAIKUDI KANMOI WUAS	M.PANDI S/O.MAHALINGAM MAIKUDI. Cell No:9750637046	MD.PACS. MELAKOTTAI. AC.NO: 4684
5	KALLANAI, KARISALKULAM KANMOI WUAS	S.VELUDEVAR S/O.SUBBAIADEVAR KALLANAI. Cell No:9994131831	MD 62 PACCS LTD, KODAKOIL A/C NO, 1842
6	VADAKARAI, PERIYAKULAM & CHINNAKULAM TANK WUAS	A.RADHAKRISHNAN S/O.ALAGAPPADEVAR VADAKARAI. Cell No:9943683312	MD 2449 PACCS LTD, THIRUMANGALAM A/C NO , 71519010004682
7	VIDATHAKULAM & VIRUSANKULAM WUAS	PNR,JEYARAMAN S/O.RAMASAMY VIDATHAKULAM. Cell No:9894047803	MD 59 PACCS LTD, VIDATHAKULAM A/C NO, 1378
8	ULAGANI PERIYA KANMOI WUAS	R.RAJENDRAN S/O.RAMATHDEVAR ULAGANI. Cell No:9994946723	STATE BANK OF INDIA, KODAKOIL A/C NO ,32303607141

CLUSTER NAME -5 (USILAMPATTI)

S.NO	NAME OF THE WUA	PRESIDENT NAME	NAME OF THE BANK & A/C NO AND ADDRESS
1	VADUGAPATTI KANMOI WUAS	M.PERUMALDEVAR S/O.MUTHUKALYANI RAMANATHAPURAM Cell No:9489083360	
2	ANAIYUR KANMOI WUAS	O.BOSE S/O.OTCHATHDEVAR KATTAKARUPPANPATTI Cell No:9944362121	STATE BANK OF INDIA, ANAIYUR A/C NO ,32472122184
3	THIMMANATHAM KANMOI WUAS	R.SASIKUMAR S/O.RAJAPANDI THIMMANATHAM. Cell No:9488843255	PRESIDENT MIGRATED
4	KAPPALUR TANK WUAS	S.SOLAIRAJ S/O.SOLAIMALAI KAPPALUR. Cell No:9788690218	STATE BANK OF INDIA, KAPPALUR A/C NO 33497822623
5	OTHAI LANGULAM, PERIYAALANGULAM AND SAMBAKULAM TANKS WUAS	M.VIJAYAN S/O.MUTHUDEVAR PERIYA ALANGULAM Cell No:9786665449	INDIAN OVERSEAS BANK, VALAYAPATTI A/C NO , 119601000009871
6	VEDARPULIYANKULAM, THENPALANJI AND VADAPALANJI TANKS WUAS	S.PANDI S/O.SUBRAMANI THENPALANJI. Cell No:9943464693	MD 2545 PACCS LTD NP KOTTAI A/C NO , 3002
7	KEELAKUILKUDAI, MELAKUILKUDI, AND MARUTHANI TANKS WUAS	K.SANTHANAM S/O.KARMEGAM KELAKUILKUDI. Cell No:9629373069	UNION BANK OF INDIA,TIRUPPARANGUNRAM A/C NO , 33530201508010
8	KOORANKULAM TANK WUAS	R.CHINNATHAMBI S/O.RAMAR MELAKOTTAI. Cell No:9894998756	STATE BANK OF INDIA,TIRUMANGALAM A/C NO ,32517729337
9	MALATAR AND SIRUPATTI TANKS WUAS	S.KALIMUTHU S/O.SINNAPPAN UTHAPPANAICKANUR Cell No:9786179601	TMB USILAMPATTI A/C NO 070100050309646

CLUSTER NAME -6 (KARIYAPATTI)

S. NO	NAME OF THE WUA	PRESIDENT NAME	NAME OF THE BANK & A/C NO. & ADDRESS
1	ILUPPAIKULAM, KARISALKULAM TANKS WUAS	S.ARUMUGAM S/O.SUBRAMANI ILUPPAIKULAM. Cell No:9245847607	BANK OF INDIA, KURAYUR A/C NO, 825410110004521
2	THOPPUR TANK WUAS	R.RAMACHANDRAN S/O.RAMAKRISHNAN THOPPUR. Cell No:9585055874	PANDIYAN GRAMA BANK, KARIAPATTI A/C NO , 50591
3	VAKKANANKUNDU TANK WUAS	V.AMBUROSE S/O.VELU VAKKANANKUNDU. Cell No:9789385847	PANDIYAN GRAMA BANK, KALKURICHI A/C NO , 9393
4	KATTUKUTHAGAI, KARISALKULAM TANK WUAS	M.MARIAPPAN S/O.MUTHAIAH KARISALKULAM Cell No:9787134934	PRESIDENT DEATH
5	NEDUNGULAM KANMOI WUAS	V.PITCHAI S/O.VANNIUDAIYAN NEDUNGULAM. Cell No:9942150265	PANDIYAN GRAMA BANK, KARIAPATTI A/C NO, 50590
6	ARIAYANENDAL, IDAYANKULAM TANKS WUAS	U.KARUPPAIAH S/O.URUKAVALAN KARIYAPATTI. Cell No:	INDIAN OVERSEAS BANK, KARIAPATTI A/C NO, 254601000030002

CLUSTER NAME -7 (ARUPPUKOTTAI)

S. NO	NAME OF THE WUA	PRESIDENT NAME	NAME OF THE BANK & A/C NO & ADDRESS
1	VETRILAIYURANI, MUTHALNAICKANPATTI AND A.SUBRAMANIYAPURAM TANKS WUAS	K.SINNASAMY S/O. VETRILAIYURANI.	
2	VENDAKULAM, A.RAMALINGAPURAM AND ALAMPATTI TANKS WUAS	U.KARUPPAIAH S/O.UDAYAL ANAKKARAIPATTI. Cell No:9787217733	
3	PERIYAPULIYAMPATTI, ARUPPUKOTTAI SUKKILANATHAN AND MEENATCHIPURAM TANKS WUAS	K.SUNDARAJ S/O. SUKKILANATHAM.	
4	THIRUVIRUNTHALPURAM TANK WUAS	M.MUTHUKARUPPAN S/O. THIRUVIRUNTHALPURAM. Cell No:	
5	PODAMPATTI AND VADUVARPATTI TANKS WUAS	R.MARICHAMY S/O. PODAMPATTI. Cell No:	INDIAN BANK, ARUPPUKOTTAI A/CNO, 6068578752
6	MALLANAICKANPATTI TANK WUAS	A.RAMASAMY S/O. MALLANAICKANPATTI. Cell No:	INDIAN BANK, A/C NO, 6066795258
7	CHETTIKURICHI BIG & SMALL SETHURAJAPURAM AND ANDIPATTI TANKS WUAS	S/O. CHETTIKURICHI. Cell No:	INDIAN BANK, ARUPPUKOTTAI A/CNO, 6066816098

CLUSTER NAME -8 (VILATHIKULAM)

S. NO	NAME OF THE WUA	PRESIDENT NAME	NAME OF THE BANK, A/C NO & ADDRESS
1	KANMOIPATTI, PAPPAKUDI, KUNDALAKUTHUR & MUTHUSAMYPURAM TANKS WUAS	K.MURUGAN S/O.KARUPPASAMY MUTHUSAMYPURAM. Cell No:9486659507	
2	PERIYATHUMMAKUNDU, PAPPAKUDI TANK WUAS	VELLAICHAMY S/O. PERIYATHUMMAKUNDU. Cell No:	PRESIDENT DEATH
3	IYANKARISALKULAM AND MAVILPATTI TANKS WUAS	MAVILRAJ S/O. MAVILPATTI. Cell No:	
4	MELAKARANDAI TANK WUAS	G.BALAKRISHNAN S/O.GURUSAMYDEVAR MELAKARANDAI. Cell No:9443195382	PANDIYAN GRAMA BANK, NAGALAPURAM, A/C NO , 10428
5	PERAYAKUDI TANK WUAS	MAVELRAJ S/O. PERAYAKUDI. Cell No:	INDIAN OVERSEAS BANK , NAGALAPURAM, A/C NO, 028201000019336
6	ATHANGARAI BIG SMALL TANKS WUAS	A.SIVAPURAJANADAR S/O.AMIRTHANADAR ATHANGARAI. Cell No:9655365720	TMB BANK, VILATHIKULAM. AC.NO: 009100050308795

CLUSTER NAME -9 (SENGULAM)

S.NO	NAME OF THE WUA	PRESIDENT NAME	NAME OF THE BANK, A/C NO, ADDRESS
1	THIRUMANGALAM MAIN CANAL 1 ST BC WUAS	M.MURUGAN S/O. KODIKULAM. Cell No:9842943357	STATE BANK OF INDIA, A/C NO, 11501943036
2	THIRUMANGALAM MAIN CANAL 2 ND BC WUAS	C.RAJUDEVAR S/O.CHINNASIVANANDI MELAURAPPANU. Cell No:9942588206	STATE BANK OF INDIA, A/C NO, 1014313712-1
3	THIRUMANGALAM MAIN CANAL 3 RD BC WUAS	C.THANGARAJ S/O.CHINNARAJ MANALPATTI. Cell No:9993416829	CANARA BANK, CHELLAMPATTI A/C NO, 4934
4	THIRUMANGALAM MAIN CANAL 4 TH BC WUAS	R.MAYADEVAR S/O.RAJACHINNU MUNDUVELAMPATTI. Cell No:9842158594	CANARA BANK, CHELLAMPATTI A/C NO, 4631
5	THIRUMANGALAM MAIN CANAL 5 TH & 6 TH BC WUAS	R.PALANI S/O.RAMASAMY METTUPATTI. Cell No:9003488490	BANK OF INDIA, SINDHUPATTI A/C NO, 6302

CLUSTER NAME -10 (THIRUPARMKUNDRAM)

S. NO	NAME OF THE WUA	PRESIDENT NAME & CELL NO	NAME OF THE BANK, A/C NO & ADDRESS
1	KODIMANGALAM KANMOI WUAS	M.THIRUKUMARAN S/O. KODIMANGALAM. Cell No:9842159647	MD 2543, PACCS LTD KODIMANGALAM, A/C NO, 1065
2	VADIVELKARAI KANMOI WUAS	T.RAMANATHAN S/O.THANAPANDIAN VADIVELKARAI. Cell No:9443345829	INDIAN BANK , NP KOTTAI A/C NO , 942677243
3	VILACHERI KANMOI WUAS	M.ABDUL VAGAB S/O.MOHAMEED MUSTHABA VILACHERI Cell No:9444727878	UNION BANK OF INDIA, VILACHERI, A/C NO,444902010011849
4	THIRUPPARAMKUNRAM VATTA KANMOI WUAS	M.SWAMINATHAN S/O.MUTHUSUBRAMANI THIRUPPARAMKUNDRAM Cell No:9865370393	UNION BANK OF INDIA, TIRUPARANGUNRAM A/C NO, 8523
5	NAGAMALAI PUDUKOTTAI KANMOI WUAS	KCP.JEYAKUMAR S/O. VILACHERI. Cell No:9788854848	MD 2543, PACCS LTD, NPKOTTAI A/CNO, 2962
6	NILAIYUR, KUTHIARKUNDU KANMOI WUAS	A.KARUNANITHI S/O.AKKINIRAJ NILAIYUR. Cell No:9677484711	INDIAN BANK, TIRUNAGAR A/C NO, 825210110011802

9. WALK THROUGH SURVEYS CONDUCTED WITH WUAs

9.1. Purpose of the Walk through survey

- ★ To understand the problems in an intensive manner, Walk Through Surveys , in identifying gaps/trends of the sub-basins were conducted by the WUAs members.
- ★ In order to identify the existing problems and trends in the channels in the sub-basins, the WUA members are motivated and prepared for walk through survey along the water source and irrigation areas of the tanks and anaicuts in the sub-basins.
- ★ The active participation of the WUA members has led to preparation of a comprehensive plan for water budgetting and equitable distribution of water.

As per ToR, 60 walk through surveys have been conducted to identify the problems of the water bodies and water ways that sustain agriculture, in which WUAs of the concerned tanks and anaicuts participated and involved in the walk through survey and revealed the problems that they have encountered and also learn about the emerging problems of the water ways. Walk through surveys were conducted with the concerned WUA presidents and WUA members.

9.2. Extract of observation made / issues raised during a few walk through surveys

I. Sub basin : Therkar
Cluster : Thiruparankundram
WUA : Vilacheri Tank
Area : 360.020 Ha.
Issues :

- Repair in ammankoil field channel sluice

- Sewage draining in tank.(This was stopped immediately)
- Siltation in tank.
- Proliferation of fish in tank.

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II. Sub basin : Therkar
 Cluster : Kallikudi
 WUA : Kurayur & Maruthankudi Periyakanmoi Tank
 Area : 350.340 Ha.
 Issues :

- ✓ Plants outgrowth along tank bund.
- ✓ Siltation in tank
- ✓ Proliferation of fish in tank.
- ✓ Water from supply channel not reaching all sluices evenly

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III. Sub basin : Therkar
 Cluster : Usilampatti
 WUA : Thenpalanji, Vadapalanji, Vedar Puliankulam tanks
 Area : 151.365 Ha.
 Issues :

- ❖ Repair of 2 sluices
- ❖ Silt near sluices (Farmers agreed to desilt)
- ❖ Structure for supply channel from Malvalipatti tank required so that flood water from Vaigai can reach the tank.
- ❖ Construction of feeder channel.
- ❖ Removing trees from tank required.
- ❖ Silt in tank.

10. WORK PLAN

The work Plan for the Project period is as follows:

Month:1

Activities undertaken

- Data on sub-basins and tanks collected.
- Recruitment and training of paraworkers completed
- Administrative setup put in place
- Study of existing WUAs Completed
- Work Plan formulated

Month: 2

Study of existing system of irrigation, agricultural practices, production and productivity and environmental issues completed through water walks and walk through surveys.

Data on social-economic status of farmers in the respective WUAs collected and analysed.

Month: 3-12

Capacity building and training programmes conducted.

On-field training on operation and maintenance of irrigation system, water management, farming techniques, cropping pattern, input supply, processing and marketing of agricultural produce, organised and imparted to WUA members.

Water budgets for each WUA prepared and water distribution schedule drawn up.

Continuous interaction with farmers in every WUA to share information arranged

Month: 13-21

Continuous on field training on operation and maintenance of irrigation systems, water management, farming techniques, cropping patten, processing and marketing of agricultural produce for WUAs members organised.

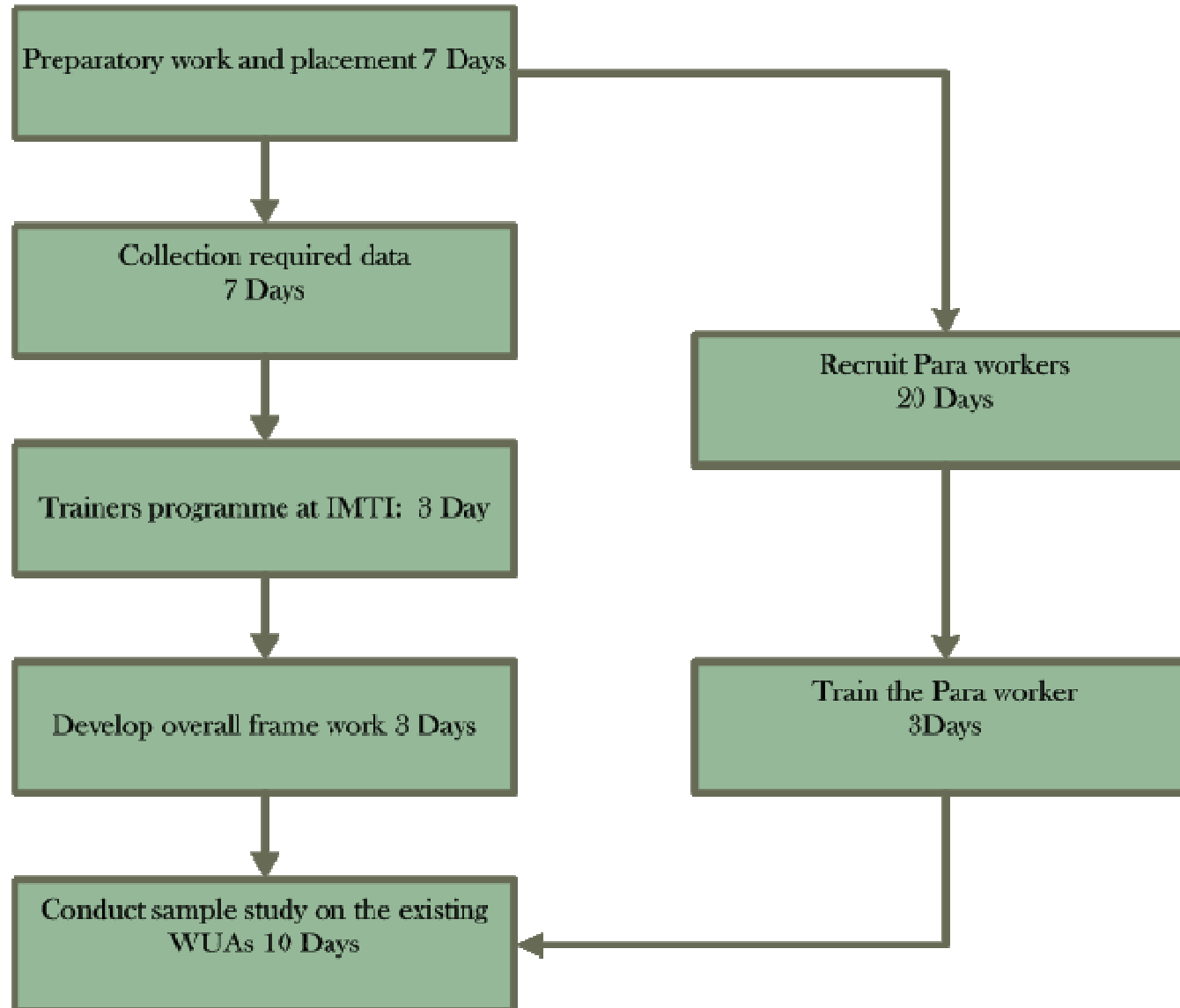
Bank accounts of WUAs operationalised with deposits of subscription from farmers.

Month: 21-30

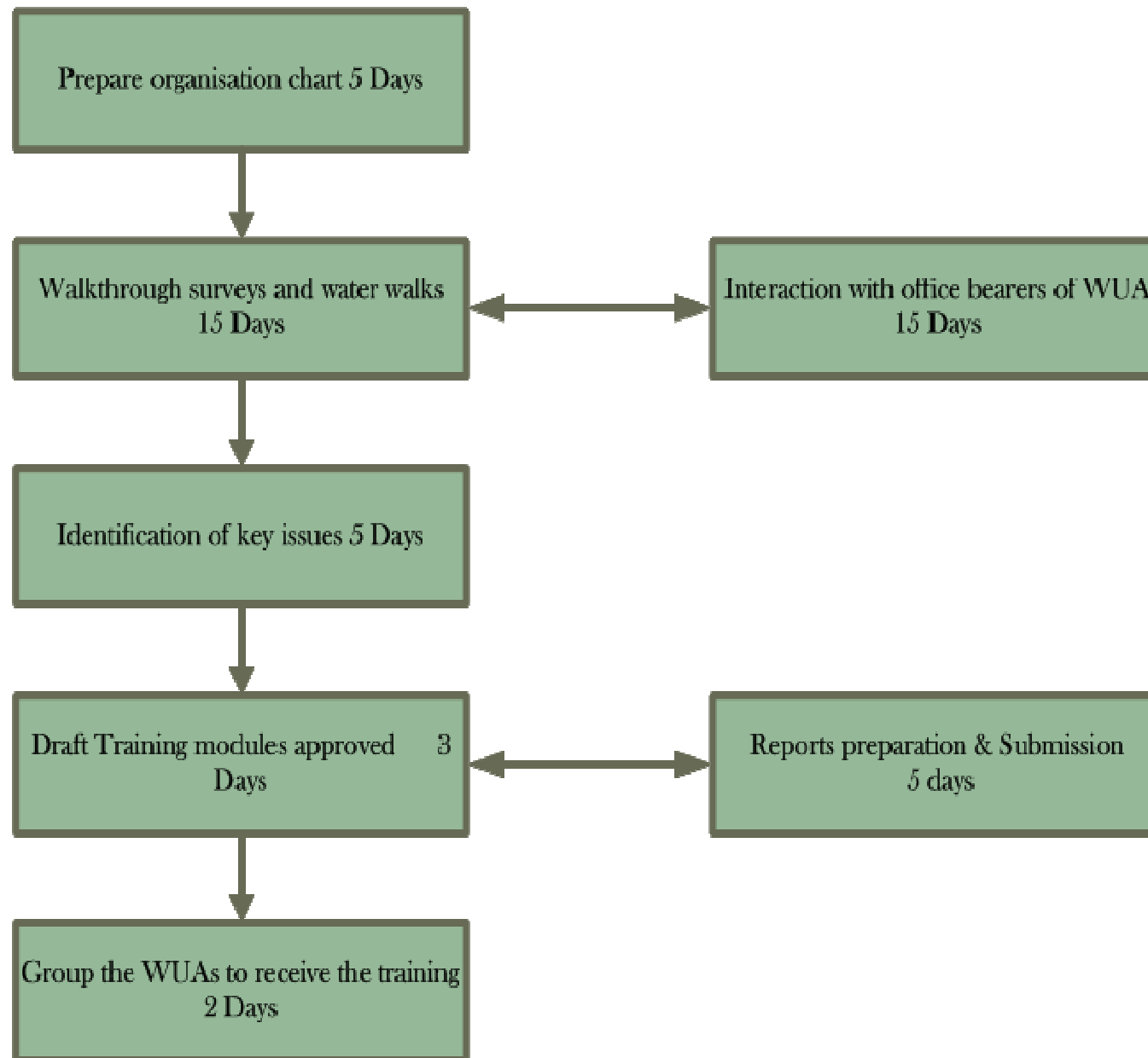
On-field training completed.

Linkages between WUAs and Research and Extension Organisations established for sustainability of capacity building and training of members.

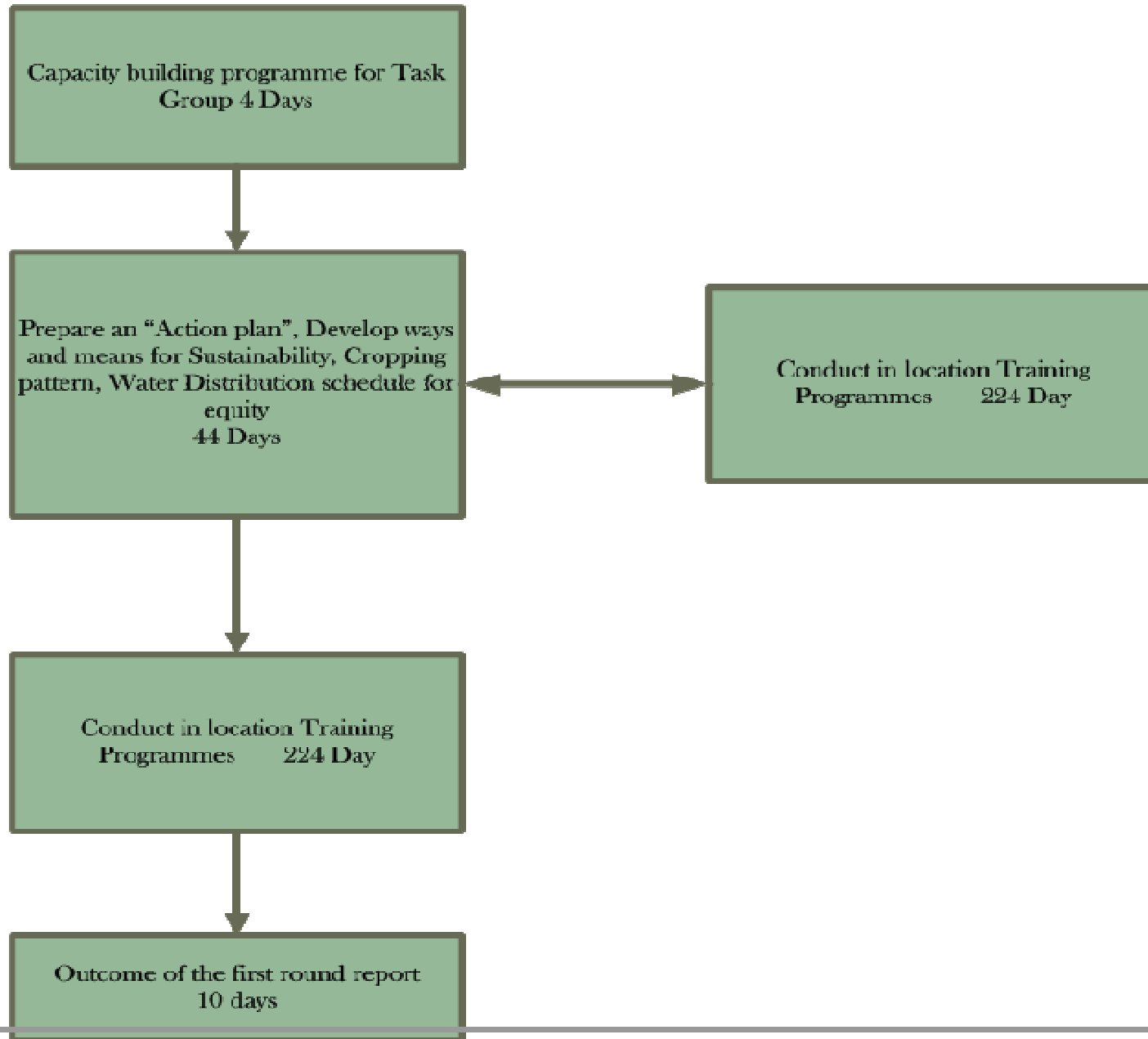
For the First Month



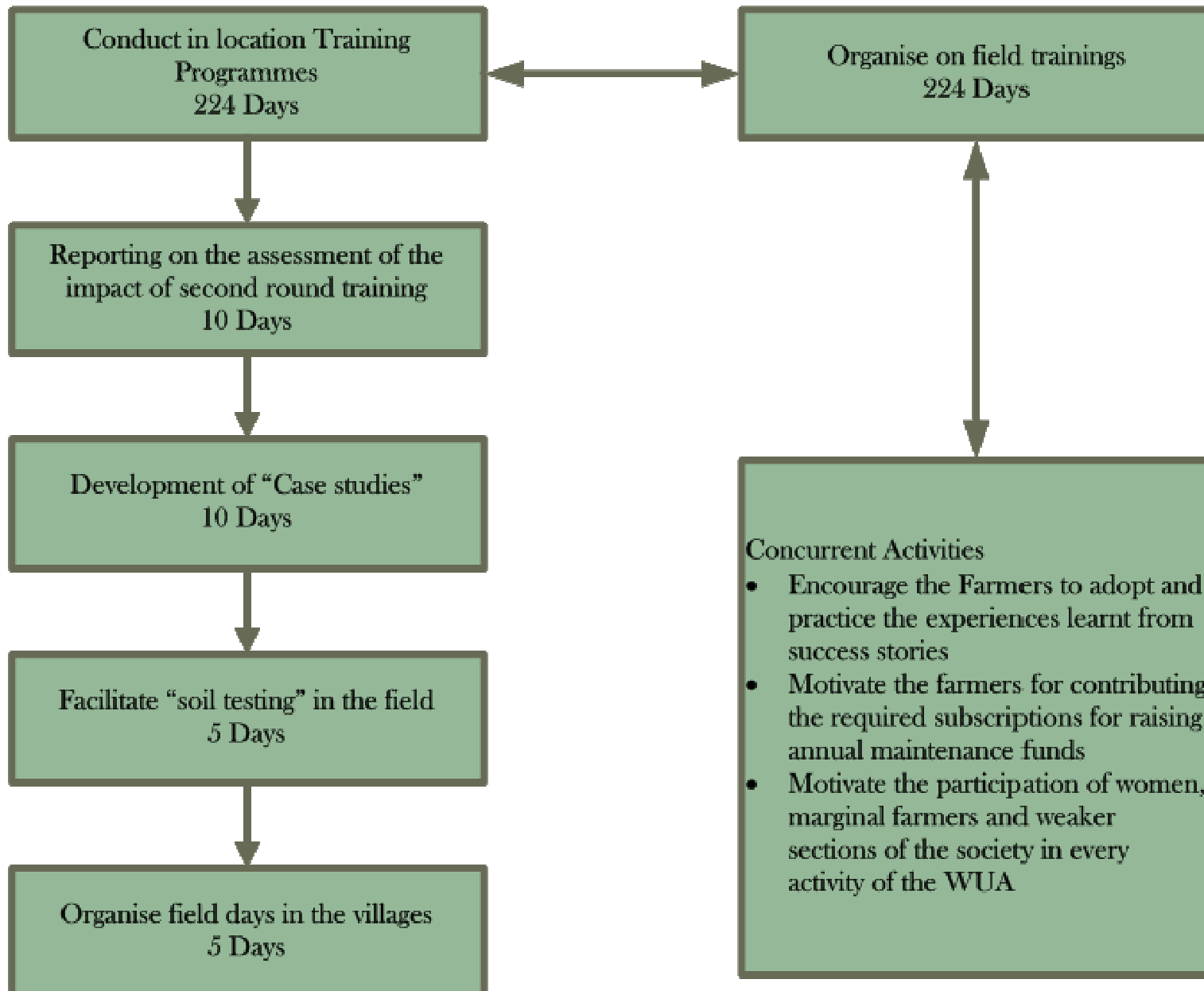
For the Second month of the Consultancy



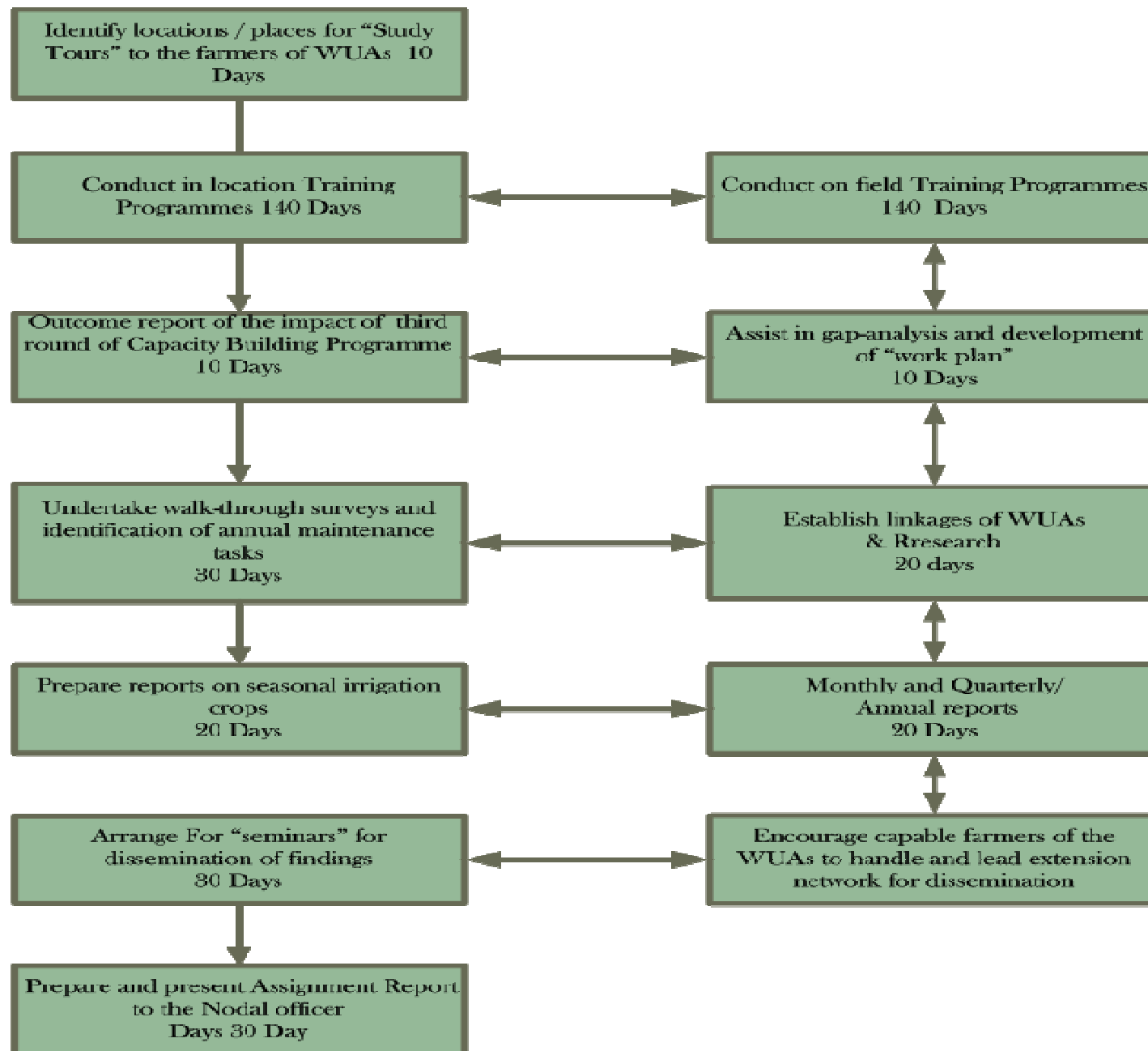
For the Third to Twelfth month of the Consultancy



For the Thirteenth to Twenty First month of the Consultancy



For the Twenty Second to Thirtieth month of the Consultancy



11. INTERACTIONS WITH STAKEHOLDERS

Key Personnel, sub key personnel and para workers regularly interacted with farmers, elders and other stakeholders to know about the status of water resources, seasonal availability of water, history of rainfall and occurrence of drought over time, problems faced, practices and measures adopted to conserve water, occurrence of water theft, measures needed to conserve water, environmental issues, fisheries and its production and potential, cattle management, pasture development, cropping pattern, etc.,

Various suggestions on cropping pattern, measures on water management techniques and alternate crop are broached with those interacted with.

On the basis of water availability and potential, diversification of high water demanding crops to low water demanding crops, its technological and climatological parameters coupled with issues on marketing tieups were also discussed and placed before the WUA for approval and forwarded to the Nodal Officer for necessary action in association with line departments.

Discussion to create the required awareness among the farmers and other rural community in the sub-basin(s) about Participatory Irrigation Management (PIM) and improve the participation of women farmers were also held.

12. CLUSTERING OF WUAs

For operational reasons, the WUAs are clustered as follows:

CLUSTERING OF WUAs						
Package 10 - Name of Sub Basin(S): Upper Vaigai, Varattar - Nagalar, Upper Gundar, Therkar, SindapalliUppodai&Senkottaiar						
Cluster Number: 1 Cluster Name: Theni			Para worker Name: Mrs. P.Karpagam			
Sl. No.	Name and Code of the WUA	Type of Irrigation system	WUA Area (Ha.)	Location of the Irrigation system		
				Village	Taluk	District
	Upper Vaigai, Varattar - Nagalar Sub Basin					
1	Senkulam, Sirukulam, Periyakulam, Ammakulam, Kadambankulam, Kovilankulam&Kengankulam Water User's Association	Non System Tanks	262.400	Mailadumparai	Aundipatti	Theni
2	DuraisampuramanicutPomminaickankulam, Kodanginaickarkulam, Athankaraipatti Supply channel & Kunnuranicut Water User's Association	Non System Tanks	303.910	Kunnur, Vallalnadhi	Aundipatti	Theni
3	Manjalnadhi Tank, Naickankulam, Thathamuthankulam, Kanavaimudakkukulam&Karovelankulam tank	Non System Tanks	157.040	Erasakkanaickanur	Uthamapalayam	Theni
	Varattar - Nagalar Sub Basin					
4	Poovalacheri, Karisalkulam, Semkulam, Siguodai, Govindamudalikulam, Sockappanaickankulam&Varatar Direct ayacut	Non System Tanks	233.850	Vadaveeranaickanpatti	Aundipatti	Theni

5	Theppampatikanmoi, Palakombai, Athigarikulam, Aundipatti tank, Kootharayaperumalkoil tank, G. UsilampattiPudukulam tank, Kannimarkulam tank, Nallidaicherikanmoi, Asaripattikanmoi, Sakkilichikulam and Jambuliputhur tanks Water User's Association.	Non System Tanks	512.220	Theppampatti, Palakkombai, Aundipattai,	Aundipatti	Theni
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Cluster Number: 2		Cluster Name: T.Kallupatty		Para worker Name: Mr. P.Ramaraj		
Sl. No.	Name and Code of the WUA	Type of Irrigation system	WUA Area (Ha.)	Location of the Irrigation system		
				Village	Taluk	District
	Upper Gundar Sub Basin					
1	KuppamalSamudram, Kadambankulam, Saptur, &Kudiserikulam Water User's Associations	Non System Tanks	325.670	Saptur, Vandaneri, Kudiseri	Periyur	Madurai
2	Sennalperi, Poolankulam, tanks Water User's Associations.	Non System Tanks	117.390	Senkulam, Poolankulam	Periyur	Madurai
3	Elumalai, Kanakkankulam, Uthapuram Water User's Associations.	Non System Tanks	263.540	Elumalai	Periyur	Madurai
4	Sokkanathan, Thirumanickam, Periyakattalai tanks Water User's Associations.	Non System Tanks	232.480	Melathiru manickam	Periyur	Madurai

5	Allikundam, Vaguranitanka Water User's Associations.	Non System Tanks	133.400	Allikundam, vagurani	Usilampatti	Madurai
6	Mochikulam Tanks Water User's Associations.	Non System Tanks	62.640	Kupalnatham	Periyur	Madurai
7	MelanesaneriKarisalkulam Tanks Water User's Associations.	Non System Tanks	97.820	Melanesaneri	Thirumangalam	Madurai
8	Karisalkulam tank Water User's Associations.	Non System Tanks	32.800	Athikaripatti	Thirumangalam	Madurai
9	Semparanikanmoi Water User's Associations.	Non System Tanks	48.640	Semparani	Thirumangalam	Madurai

Cluster Number: 3 Cluster Name: Thirumangalam		Para worker Name: Mr. A. Pandi				
Sl. No.	Name and Code of the WUA	Type of Irrigation system	WUA Area (Ha.)	Location of the Irrigation system		
	Upper Gundar Sub Basin			Village	Taluk	District
1	Alapalacheri Big tanks Water User's Associations.	Non System Tanks	85.340	Alappalacheri	Thirumangalam	Madurai
2	Thangalacheri Tank Water User's Associations.	Non System Tanks	103.895	Thangalacheri	Thirumangalam	Madurai
3	Sowdarpattikanmoi tank Water User's Associations.	Non System Tanks	99.670	Sowdarpatti	Thirumangalam	Madurai

4	Pokkampatti&Pullamuthur tanks Water User's Associations.	Non System Tanks	89.325	Pokkampatti	Thirumangalam	Madurai
5	Theirali tank Water User's Associations.	Non System Tanks	142.600	Thirali	Thirumangalam	Madurai
6	SivarakottaiKarisalkulam Water User's Associations.	Non System Tanks	138.300	Sivarakottai	Thirumangalam	Madurai
7	Arasapattipottapacheri tank Water User's Associations.	Non System Tanks	45.735	Arasapatti	Thirumangalam	Madurai
8	SennampattiPuliankulam Water User's Associations.	Non System Tanks	46.700	Senampatti	Thirumangalam	Madurai
9	Senkulan Tank Water User's Associations.	Non System Tanks	41.490	Senkulam	Thirumangalam	Madurai

Cluster Number: 4 Cluster Name: Kallikudi		Para worker Name: Mrs. A. Panner Selvam				
Name and Code of the WUA		Type of Irrigation system	WUA Area (Ha.)	Location of the Irrigation system		
Therkar Sub Basin				Village	Taluk	District
1	Kurayur and Maruthankudiperiyakanmoi Water User's Associations.	Non System Tanks	350.340	Kurayur, Maruthankudi	Thirumangalam	Madurai
2	T.Kokkulamperiyakanmoi Water User's Associations.	Non System Tanks	66.975	T. Kokkulam	Thirumangalam	Madurai

3	Thoombakulam, Arasapatti and Valayankulmaperiyakanmoi Water User's Associations.	Non System Tanks	319.025	Thoombakulam, Arasapatti	Thirumangalam	Madurai
4	Maikudikanmoi Water User's Associations.	Non System Tanks	100.000	Maikudi	Thirumangalam	Madurai
5	KallanaiKarisalkulamkanmoi Water User's Associations.	Non System Tanks	55.245	Kallanai	Thirumangalam	Madurai
6	Vidathakulam and Virusankulam Water User's Associations.	Non System Tanks	170.955	Vidathakulam	Thirumangalam	Madurai
7	Ulaganiperiyakanmoi Water User's Associations.	Non System Tanks	91.365	Ulagani	Thirumangalam	Madurai

Cluster Number: 5 Cluster Name: Usilampatty		Para worker Name: Mr. A. Ravi				
Name and Code of the WUA		Type of Irrigation system	WUA Area (Ha.)	Location of the Irrigation system		
Therkar Sub Basin				Village	Taluk	District
1	Vadugapattikanmoi Water User's Associations.	Non System Tanks	42.300	Vadukapatti	Usilampatti	Madurai
2	Anaiyurkanmoi Water User's Associations.	Non System Tanks	47.070	Anaiyur	Usilampatti	Madurai
3	Thimmanathamkanmoi Water User's Associations.	Non System Tanks	48.225	Thimmanatham	Usilampatti	Madurai

4	Kappalur Tank Water User's Associations.	Non System Tanks	61.440	Kappalur	Thirumangalam	Madurai
5	OthaiAlangulam, PeriyaAlangulam and Sambakulam Tanks Water User's Associations.	Non System Tanks	257.385	Othaialangulam	Maduraisouth	Madurai
6	VedarPuliyankulam, Thenpalanji and Vadapalanji tanks Water User's Associations.	Non System Tanks	151.365	Vedarpuliyankulam, Thenpalanji	Maduraisouth	Madurai
7	Keelakuilkudai, Melakuilkudi and Maruthani Tanks Water User's Associations.	Non System Tanks	258.535	Keelakuilkudi-Melakuilkudi	Maduraisouth	Madurai
8	Koorankulam Tank Water User's Associations.	Non System Tanks	54.650	K. Puliyankulam	Thirumangalam	Madurai
9	VadakaraiPeriyakulam and Chinnakulam Tank Water User's Associations.	Non System Tanks	193.680	Vadakarai	Usilampatti	Madurai
10	Malatar and Sirupatti Tanks Water User's Associations.	Non System Tanks	163.180	Uthapanaikkanur	Usilampatti	Madurai

Cluster Number: 6 Cluster Name: Kariyapatty**Para worker Name: Mr. R. Maruthupandian**

Name and Code of the WUA		Type of Irrigation system	WUA Area (Ha.)	Location of the Irrigation system		
Therkar Sub Basin				Village	Taluk	District
1	Iluppaikulam, Karisalkulam Tanks Water User's Associations.	Non System Tanks	42.240	Iluppaikulam	Thirumangalam	Madurai
2	Thoppur Tank Water User's Association.	Non system	102.995	Thoppur	Kaiyapatti	Virudhunagar
3	Vakkanankundu Tank Water User's Association.	Non system	51.77	Vakkanankundu	Kaiyapatti	Virudhunagar
4	KattukuthagaiKarisalkulam Tank Water User's Association.	Non system	125.72	Kattukuthagai	Kaiyapatti	Virudhunagar
5	NedungulamKanmoi Water User's Association.	Non system	43.665	Nedungulam	Kaiyapatti	Virudhunagar
6	Ariyanendal, Idayankulam tanks Water User's Association.	Non system	70.11	Nedungulam	Kaiyapatti	Vir udhunagar

Cluster Number: 7 Cluster Name: Aruppukottai**Para worker Name: Mr. J. Samuel Wilson**

Name and Code of the WUA		Type of Irrigation system	WUA Area (Ha.)	Location of the Irrigation system		
	SindapalliUppodai Sub Basin:			Village	Taluk	District
1	Vettilaiyurani, Muthalnaickanpatti and A.Subramaniyapuram Tanks Water User's Associations.	Rainfed tanks	245.25	Vettilaiurani	Sivakasi	Virudhunagar
2	Vendakulam, A.Ramalingapuram and Alampatti Tanks Water User's Associations.	Rainfed tanks	202.92	A. Ramalingapuram	Sattur	Virudhunagar
	Senkottaiyar Sub Basin:					
3	PeriyaPuliyampatti, Aruppukottai, Sukkulanatham and Meenatchipuram Tanks Water User's Associations.	Rainfed tanks	198.82	Periyapuliampatti	Aruppukottai	Virudhunagar
4	Thiruvirunthalpuram Tank Water User's Associations.	Rainfed tanks	245.945	Thiruvirunthalpuram	Aruppukottai	Virudhunagar
5	Podampatti and Vaduvarpatti tanks Water User's Associations.	Rainfed tanks	176.335	Podampatti	Aruppukottai	Virudhunagar
6	Mallanaickanpatti Tank Water User's Associations.	Rainfed tanks	51.91	Mallanaickanpatti	Aruppukottai	Virudhunagar

7	Chettikurichi Big & small, Sethurajapuram and Andipatti tanks Water User's Associations.	Rainfed tanks	234.375	Koppusithampatti	Aruppukottai	Virudhunagar
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Cluster Number: 8 Cluster Name: Vilathikulam			Para worker Name: Mr. S. Ilango			
Name and Code of the WUA		Type of Irrigation system	WUA Area (Ha.)	Location of the Irrigation system		
Senkottaiyar Sub Basin:				Village	Taluk	District
1	Kanmoipatti, Pappakudi, Kundalakuthur and Muthusampuram Tanks Water User's Associations.	Rainfed tanks	303.53	Athipatti	Aruppukottai	Virudhunagar
2	PeriyaThummakundu, Pappakudi Tanks Water User's Associations.	Rainfed tanks	111.48	Periyathumpakundu	Aruppukottai	Virudhunagar
3	Iyankarisalkulam and Mavilpatti Tanks Water User's Associations.	Rainfed tanks	158.84	Iyankarisalkulam	Ettaiyapuram	Thoothukudi
4	Melakarandai Tank Water User's Associations.	Rainfed tanks	376.37	Melakarndai	Ettaiyapuram	Thoothukudi
5	Perayakudi Tank Water User's Associations.	Rainfed tanks	76.885	Perayakudi	Ettaiyapuram	Thoothukudi

6	Athangarai Big & Small Tanks Water User's Associations.	Rainfed tanks	114.39	Athankarai	Ettaiyapuram	Thoothukudi
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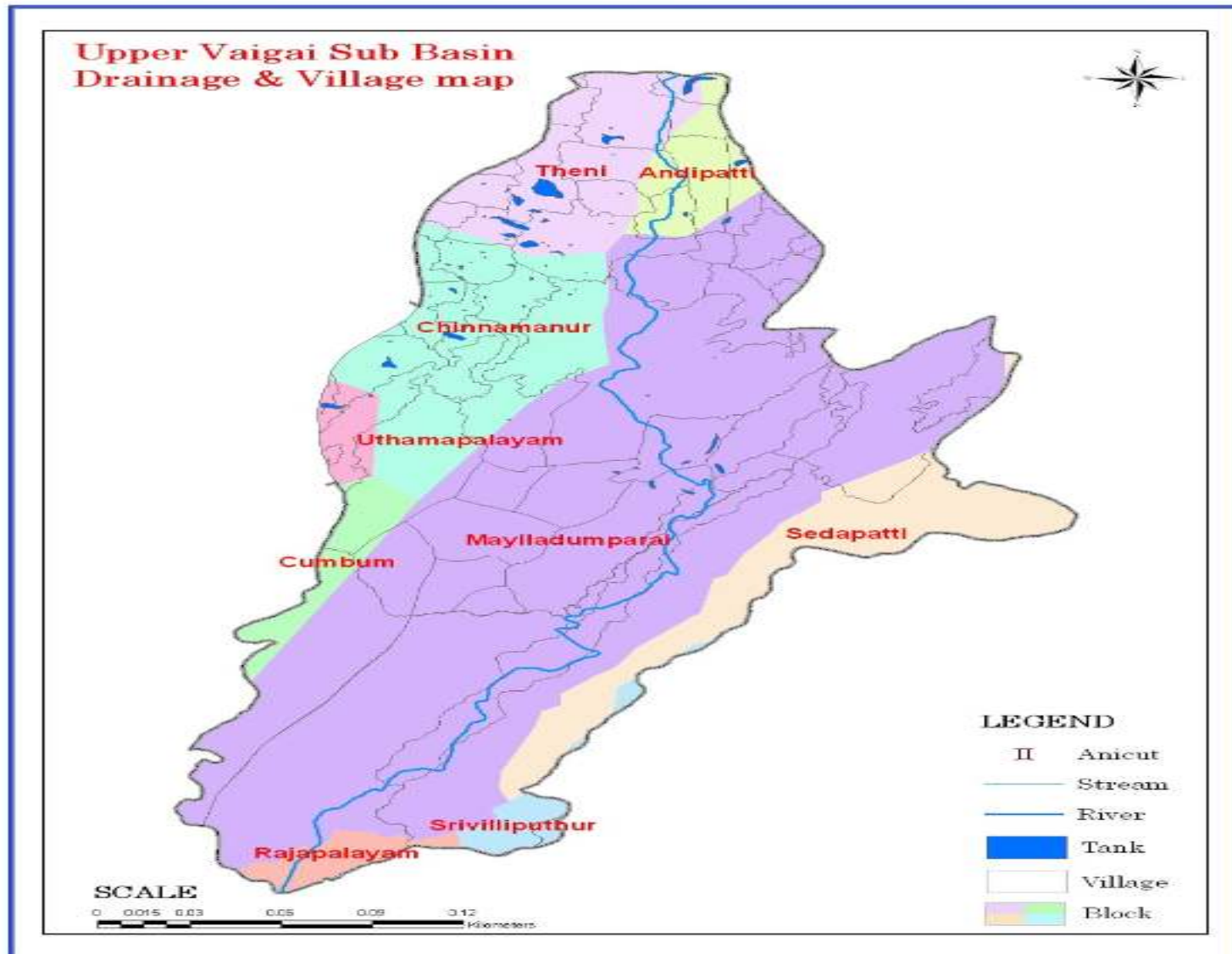
Cluster Number: 9 Cluster Name: Senkulam				Para worker Name: Mr. P. Alagesan		
Sl. No.	Name and Code of the WUA	Type of Irrigation system	WUA Area (Ha.)	Location of the Irrigation system		
	Terkkar Sub Basin			Village	Taluk	District
1	Thirumangalam Main canal 1st BC Water User's Association	System	1107.210	Vikaramangalam, KodikulamJothimanic kam	Usilampatti	Madurai
2	Thirumangalam Main canal 2nd BC Water User's Association	System	1480.000	Ayyanarkulam, Vinnakudi,	Usilampatti Thirumangalam	Madurai
3	Thirumangalam Main canal 3rd BC Water User's Association	System	849.990	Guruvakudi, Chellappankottai	Thirumangalam	Madurai
4	Thirumangalam Main canal 4th BC Water User's Association	System	2365.450	Vaigaikulam, Alagusirai, Pungaankulam, Chilthalai	Usilampatti Thirumangalam	Madurai
5	Thirumangalam Main canal 5th and 6th BC Water User's Association	System	1436.500	Sengulam, Venkadasamudram	Madurai South	Madurai

Cluster Number: 10 Cluster Name: Thirupparankundram**Para worker Name: Mrs. S. Gowribhai**

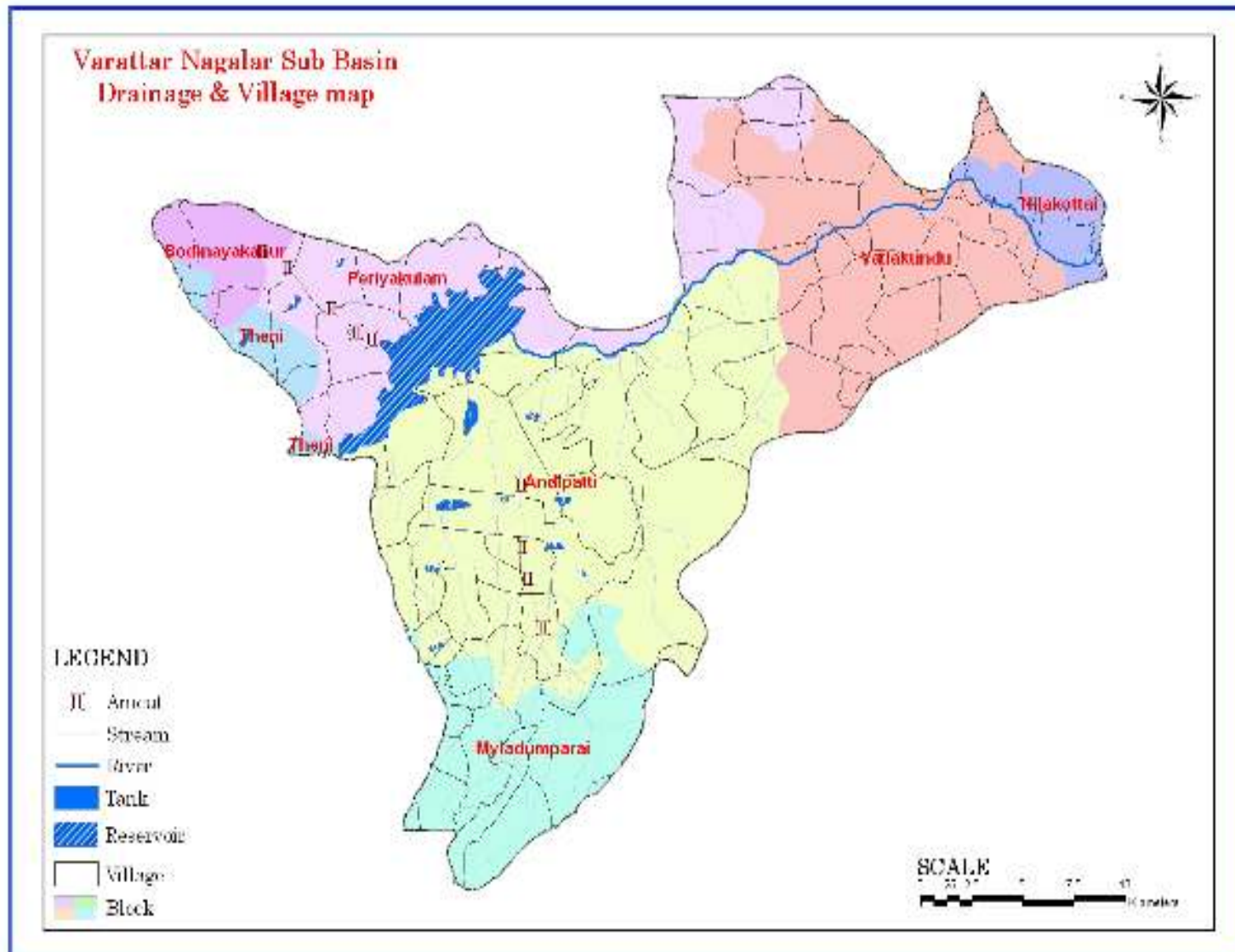
Sl. No.	Name and Code of the WUA	Type of Irrigation system	WUA Area (Ha.)	Location of the Irrigation system		
				Village	Taluk	District
	Terkkar Sub Basin					
1	Kodimangalamkanmoi Water user's Association	System	50.980	Melamathur, Sevalkulam	Thirumangalam	Madurai
2	VadivelkaraiKanmoi Water User's Association.	System	88.570	Vadivelkarai	Madurai South	Madurai
3	Vilacherikanmoi Water User's Associations.	System	360.020	Vilacheri	Madurai South	Madurai
4	Thirupparamkunramvattakanmoi Water User's Associations.	System	218.410	Panankulam	Madurai South	Madurai
5	NagamalaiPudukottaikanmoi Water User's Associations.	System	85.510	Kilaneri	Madurai South	Madurai
6	NilaiyurKuthiarkundukanmoi Water User's Associations.	System	518.510	Nilaiyur	Madurai South	Madurai

12.1 MAPS of Sub Basins

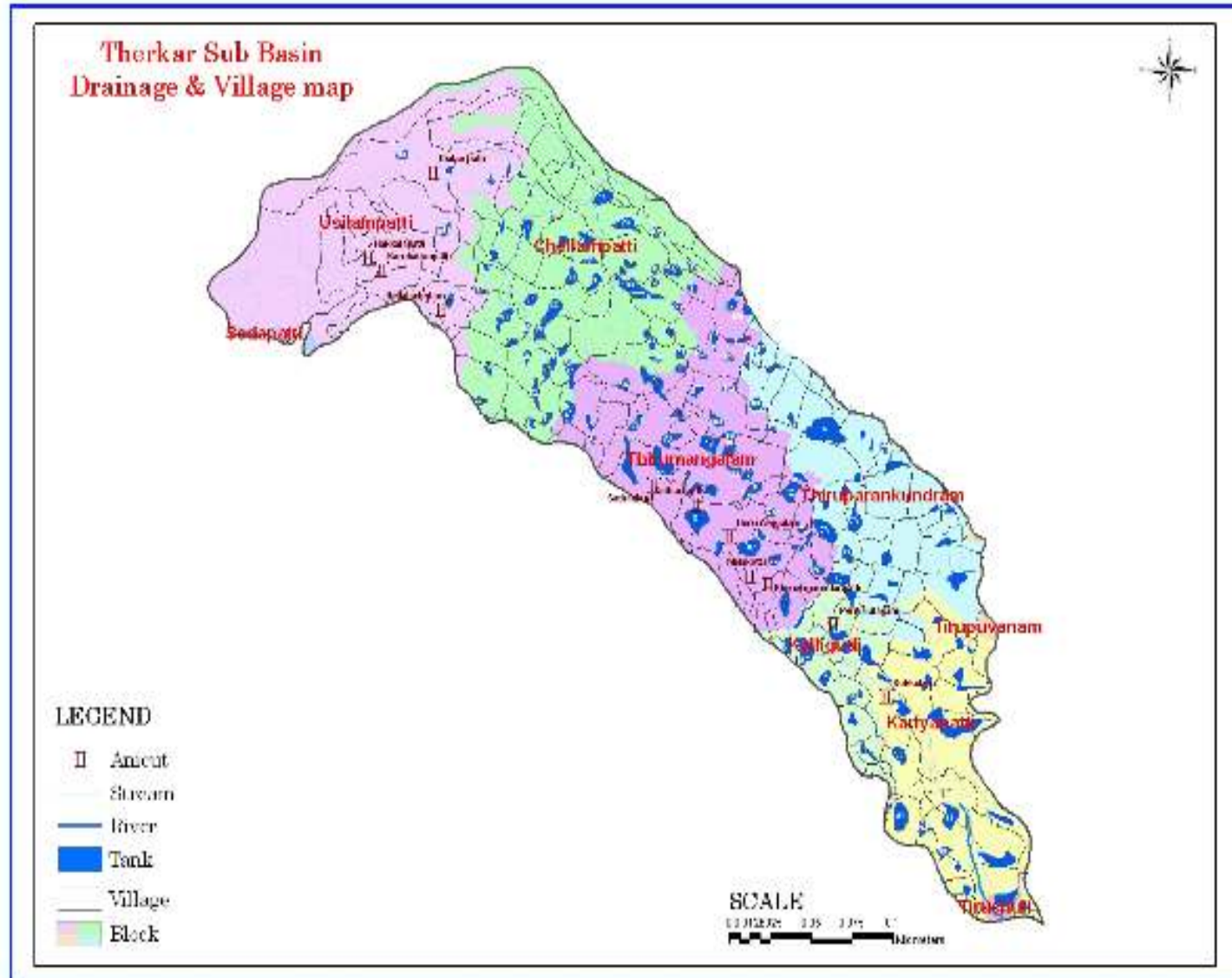
5. Upper Vaigai Sub-Basin



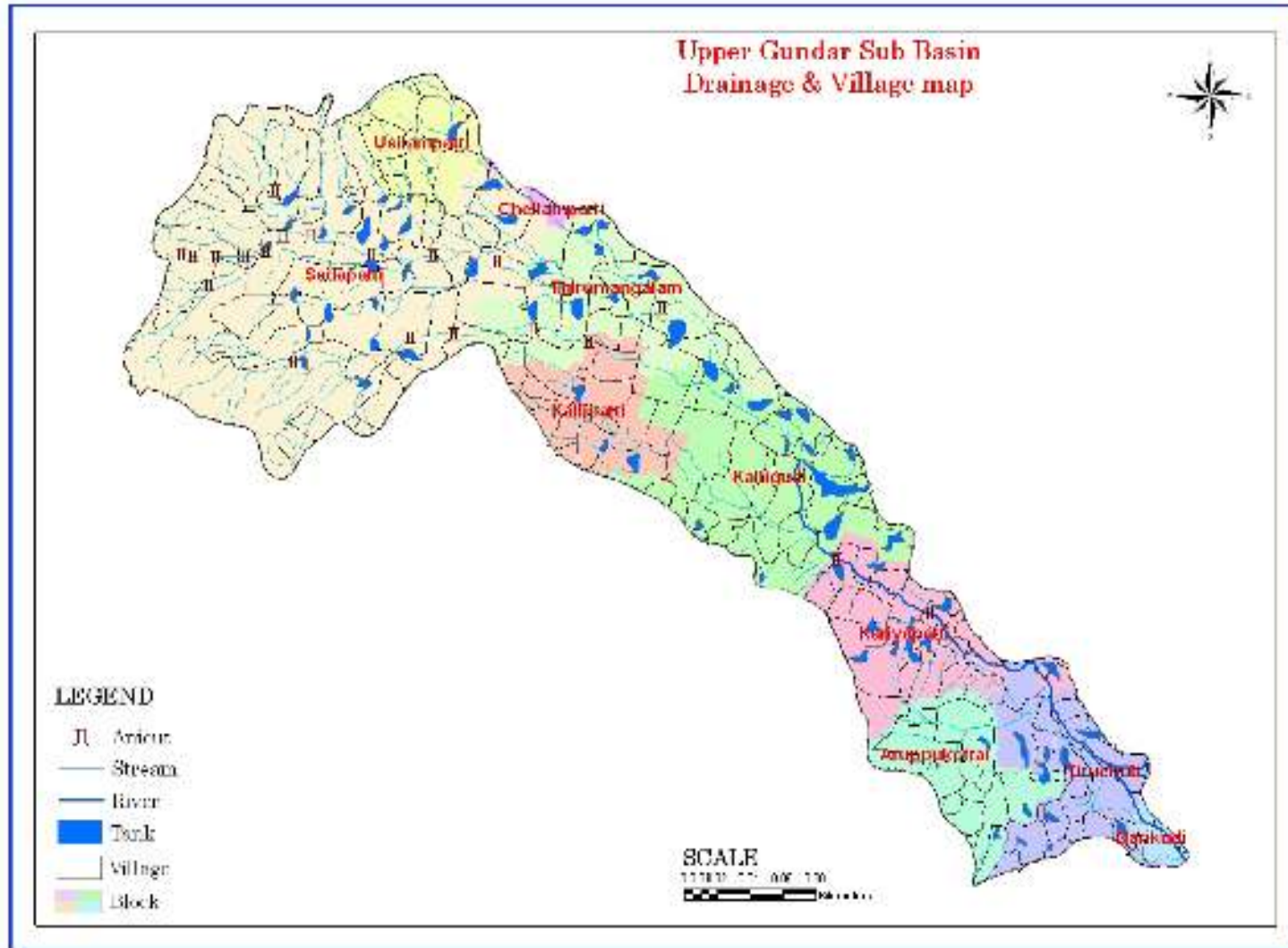
6. Varattar Nagalar Sub-Basin



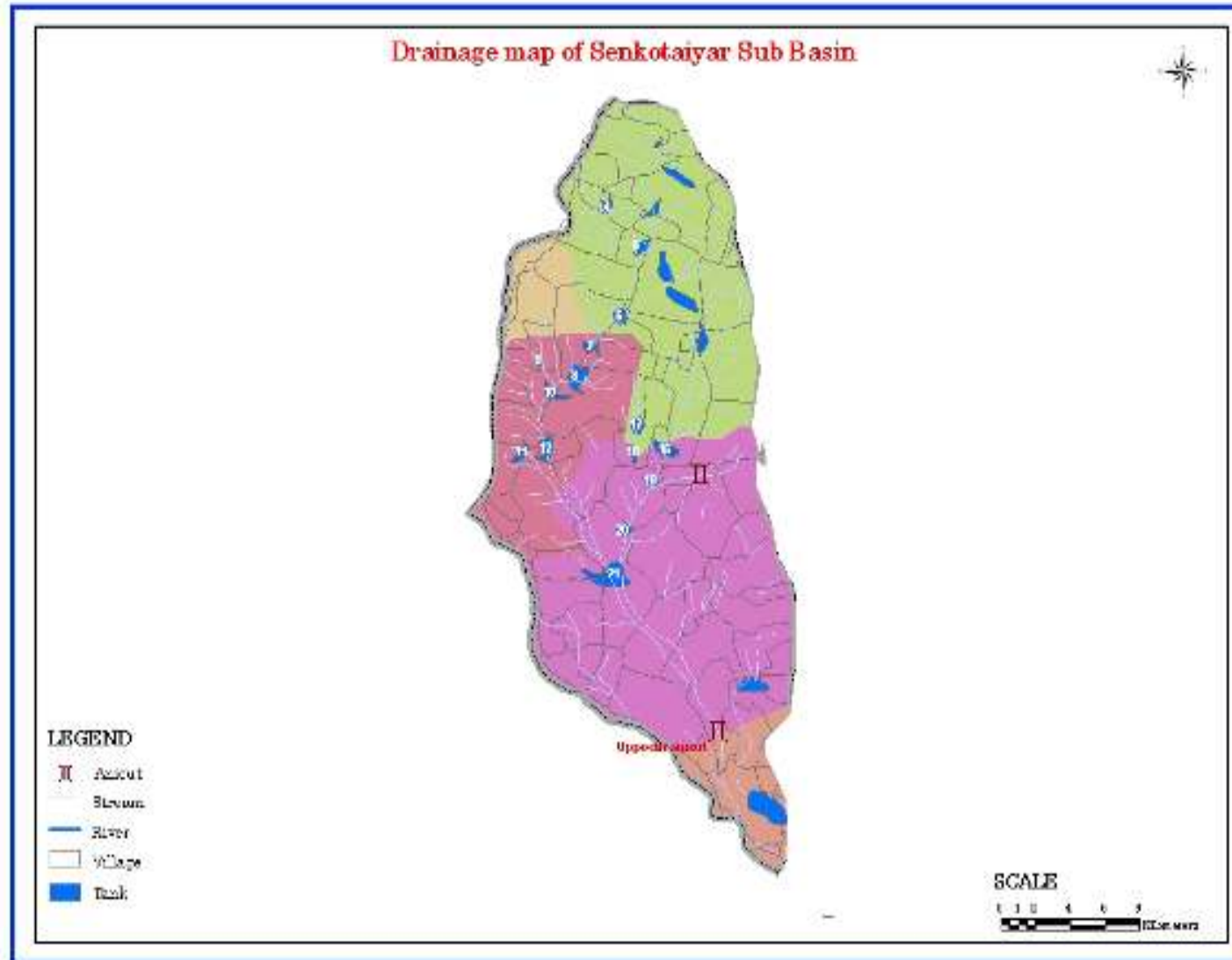
7. Therkar Sub-Basin



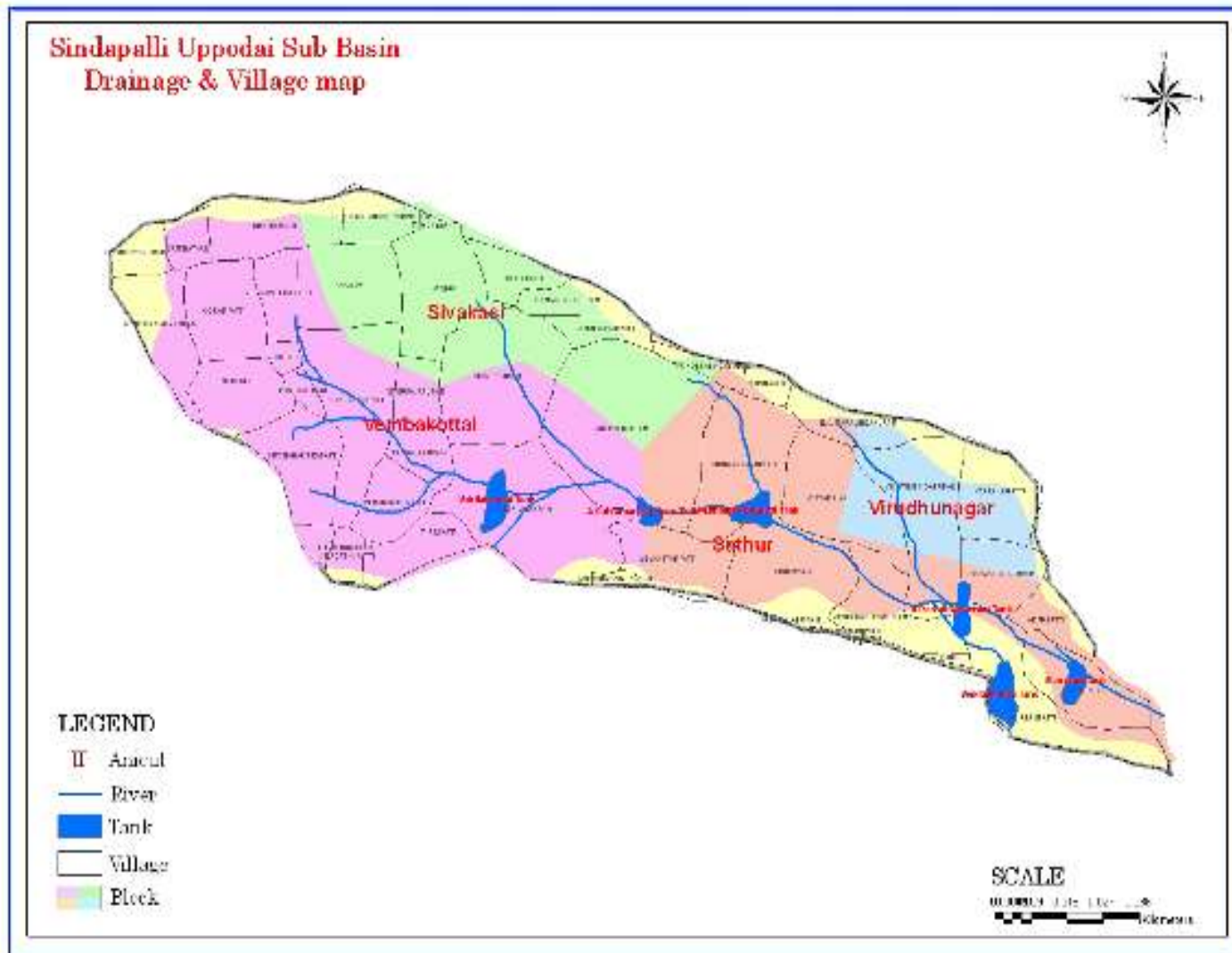
8. Upper Gundar sub-Basin



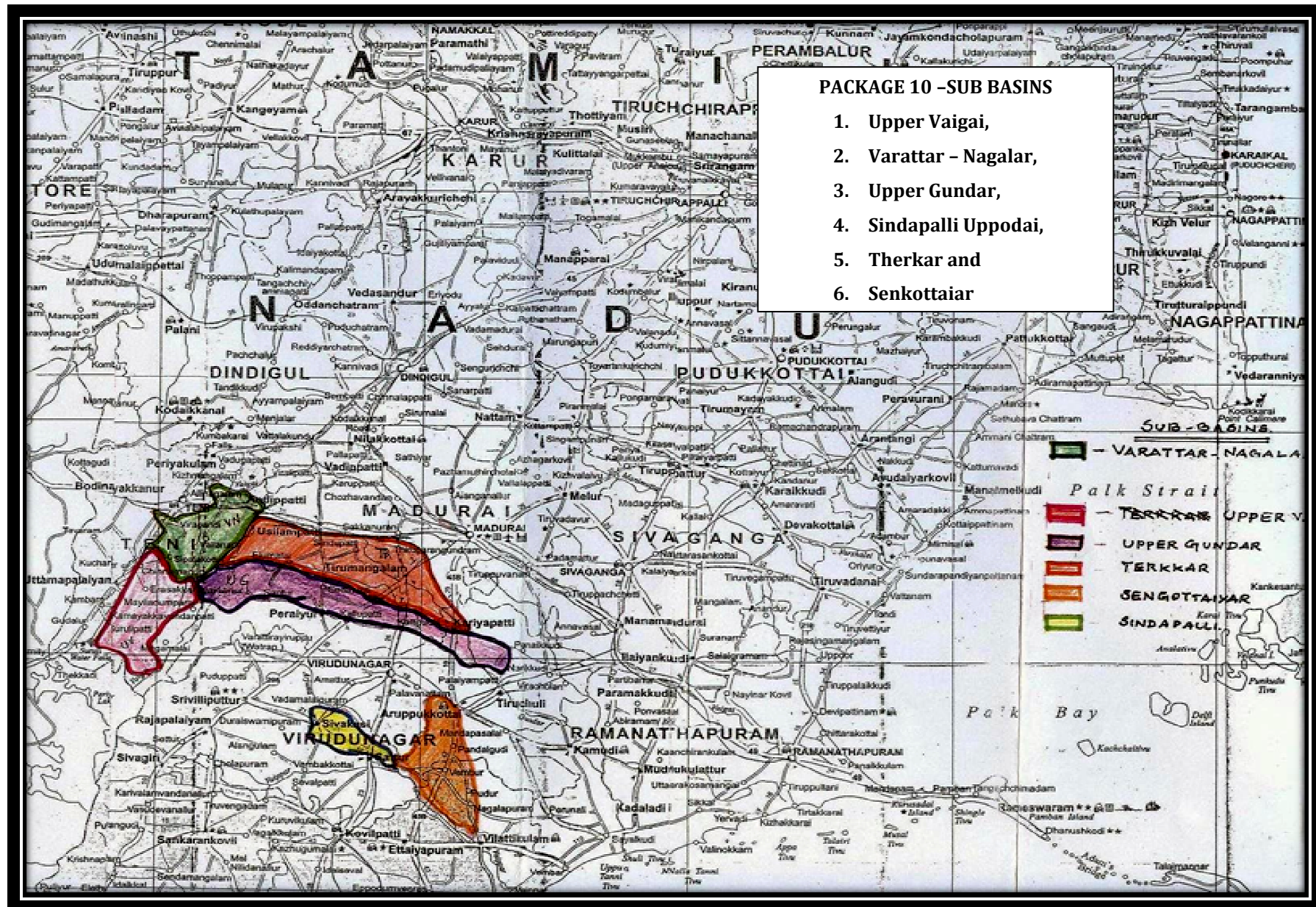
9. Sengottaiyar Sub-Basin



10. Sindappalli Uppodai - Sub Basin



Package 10- Sub basins



13. CAPACITY BUILDING TRAINING PROGRAMMES FOR WUAs

To build the capacity of selected water users for sustainable WUAs, in the above sub basin(s) under IAMWARM Project to undertake and sustain the activities under the framework of TNFMIS Act, Capacity Building Programmes were conducted as follows.

13.1 Two Days Capacity Building Training Programmes to WUAs

Sl.No	DATE	Name of the WUAs	Sub Basin	Training Venue	No. of WUA Members	No of Officials Participated
1	May 30 & 31 - 2012	Thirali tank Water User's Associations	Upper Gundar	Community Hall Alampatty	27 +35=62	EE, WRO/PWD AE, WRO/PWD AE, WRO/PWD AEE, WRO/PWD JE, AED Tech. Asst, WRO/PWD Supervisor, Fisheries Dept AAO, Agri. Dept 8
		Melanesaneri Karisalkulam Tanks Water User's Associations.	Upper Gundar			
2	June 2 & 3 - 2012	Thoombakulam, Arasapatti and Valayankulamperiyakanmoi Water User's Associations.	Therkar	Community Hall Thoombakulam	28+26=54	AE, WRO/PWD Supervisor, Fisheries Dept AAO, Agri. Busi
		ArasapattiPottapacheri tank Water	Upper			

		User's Associations.	Gundar			JE, AED 4
3	June 4 & 5 - 2012	Sivarakottai Karisalkulam Water User's Associations.	Upper Gundar	Community Hall Sivarakottai	30+26=56	AE, WRO/PWD AAO, Agri. Dept Supervisor, Fisheries Dept AAO, Agri. Busi AEE, AED AD, Agri. Dept 6
		Senkulan Tank Water User's Associations.	Upper Gundar			
4	June 7 & 8 - 2012	Iluppaikulam, Karisalkulam Tanks Water Users Associations.	Therkar	Community Hall Iluppaikulam	31+26=57	AE, WRO/PWD AE, WRO/PWD Manager, ATMA JE, AED Vet. Asst. Surgeon, Veterinary Dept Depty. Agri. Officer, Agri. Dept 6
		Karisalkulam Tanks Water User's Associations	Therkar			
5	June 13 & 14 - 2012	T.Kokkulam Periyakanmoi Water User's Associations.	Therkar	Community Hall Kallanai	27+28=55	AE, WRO/PWD Vet. Asst. Surgeon, Veterinary Dept AD, Agri. Dept 3
		Kallanai Karisalkulam Kanmoi Water User's Associations.	Therkar			
6	June 15 & 16 -	Ulagani Periyakanmoi Water User's	Therkar	Community Hall	32+26=58	AEE, WRO/PWD

	2012	Associations		Ulagani		AE, WRO/PWD AAO, Agri. Busi 3
		MaikudiKanmoi Water User's Associations.	Therkar			
7	June 18 & 19 - 2012	Vakkanankundu Tank Water User's Association.	Therkar	PUM School Vakkanankundu	29+27=56	AE, WRO/PWD 1
		Thoppur Tank Water User's Association.	Therkar			
8	June 25 & 26 - 2012	Kurayur and MaruthankudiPeriyakanmoi Water User's Associations.	Therkar	Community Hall Kurayur	70+31=101	AE, WRO/PWD JE, AED Vet. Asst. Surgeon, Veterinary Dept 3
		SennampattiPuliankulam Water User's Associations.	Upper Gundar			
9	June 27 & 28 - 2012	Vidathakulam and Virusankulam Water User's Associations.	Therkar	Community Hall Vidathakulam	31+25=56	-
		Kappalur Tank Water User's Associations.	Therkar			
10	June 29 & 30 - 2012	Alapalacheri Tank Water User's Associations	Upper Gundar	Community Hall Alapalacheri	30+27=57	AE, WRO/PWD JE, AED 2
		SowdarpattiKarisalkulam Tank Water User's Associations.	Upper Gundar			
11	July 9 & 10 - 2012	Ariayanendal, Idayankulam tanks Water User's Association.	Therkar	PUE School, Mandiriodai	30+26=56	-
		NedungulamKanmoi Water User's Association.	Therkar			

12	July 11& 12 - 2012	VadakaraiPeriyakulam and Chinnakulam Tank Water User's Associations.	Therkar	Community Hall, Vadakarai	31+26=57	AEE, WRO/PWD AE, WRO/PWD 2
		Koorankulam Tank Water User's Associations.	Therkar			
13	July 13& 14 - 2012	OthaiAlangulam, PeriyaAlangulam and Sambakulam Tanks Water User's Associations.	Therkar	CASA Training Centre, O.Alangulam	30+25=55	AE, WRO/PWD Work Inspector, WRO/PWD Vet. Asst. Surgeon, Veterinary Dept Vet. Asst. Surgeon, Veterinary Dept 4
		NilaiyurKuthiarkundukanmoi Water User's Associations.	Therkar			
14	July 23&24 - 2012	VadivelkaraiKanmoi Water User's Association.	Therkar	Thadathagai Amman Koil Hall, NagamalaiPudukottai	25+26=51	Irrigation Inspector, WRO/PWD TNAU 2
		NagamalaiPudukottaikanmoi Water User's Associations.	Therkar			
15	July 25&26 - 2012	Keelakuilkudi, Melakuilkudi and Maruthani Tanks Water User's Associations.	Therkar	Collection Centre, Keelakuilkudi	26+30=56	AE, AED AE, AED AAO, Agri Marketing 3
		VedarPuliyankulam, Thenpalanji and Vadapalanji tanks Water User's Associations.	Therkar			
16	July 27&28 - 2012	Thangalacheri Tank Water User's Associations.	Therkar	Community Hall, Thangalacheri	29+26=55	Vet. Asst. Surgeon, Veterinary Dept

		Pokkampatti&Pullamuthur tanks Water User's Associations	Therkar			Livestock Specialist, Veterinary Dept 2
17	July 30&31 - 2012	Thirumangalam Main canal 3 rd BC Water User's Association	Therkar	Seelaikariamman Marriage Hall, Chellampatty	27+29=56	AE, AED ADA, Agri Dept AO, Agri Dept 3
		Thirumangalam Main canal 4 th BC Water User's Association	Therkar			
18	August 16 & 17 - 2012	PeriyaPuliyampatti, Aruppukottai, Sukkilanatham and Meenatchipuram Tanks WUA	Senkottaiyar	Community Hall, Sukkilanatham	25+26=51	AE, WRO/PWD AAO, Agri Dept 2
		Thiruvirunthalpuram Tank WUA	Senkottaiyar			
19	August 18 & 19 - 2012	Podampatti and Vaduvarpatti WUA	Senkottaiyar	Community Hall, Chidambarapuram	26+29+ 23=78	AE, WRO/PWD AAO, Horti AAO, Agri Marketing 3
		Chettikurichi Big & Small, Sethurajapuram and Andipatti tanks WUA	Senkottaiyar			
		PeriyaThummakundu, Pappakudi Tanks WUA	Senkottaiyar			
20	August 24 & 25 - 2012	Kanmoipatti, Pappakudi, Kundalakuthur and Muthusampuram Tanks WUA	Senkottaiyar	Community Hall, Mallayanaickanpatti	25+30=55	JE, WRO/PWD AAO, Agri Marketing 2
		Mallayanaickanpatti Tank WUA	Senkottaiyar			
21	August 26 & 27 - 2012	Vettilaiyurani, Muthalnaickanpatti and A.Subramaniyapuram Tanks	SindapalliUp podai	Community Hall, Muthalnaikanpatty	30+1=31	AAO, AgriBusi JE, WRO/PWD 2
		Vendakulam, A.Ramalingapuram and Alampatti Tanks WUA	SindapalliUp podai			

22	August 28 & 29 - 2012	Melakarandai Tank WUA	Senkottaiyar	Community Hall, Melakarandai	26+25=51	JE, WRO/PWD JE, WRO/PWD JE, WRO/PWD 3
		Iyankarisalkulam and Mavilpatti Tanks WUA	Senkottaiyar			
23	August 30 & 31 - 2012	Athangarai Big & Small Tanks WUA	Senkottaiyar	KammavarUravinmurai Marriage hall, Nagalapuram	28+24=52	JE, WRO/PWD JE, WRO/PWD 2
		Perayakudi Tank WUA	Senkottaiyar			
24	September 3 & 4 - 2012	Thirumangalam Main canal 1 st BC Water User's Association	Therkar	Loga Pandi Marriage Hall, Chellampatty	26+27=53	SE, WRO/PWD SE, WRO/PWD EE, WRO/PWD AEE, WRO/PWD AEE, WRO/PWD AE, WRO/PWD AE, WRO/PWD & Mr.Sankar Narayanan Senior Social Development Specialist The World Bank New Delhi 7
		Thirumangalam Main canal 5 th and 6 th BC Water User's Association	Therkar			
25	June 10 & 11 - 2013	Karisalkulam tank WUA Sokkanathan, Thirumanickam, Periyakattalai tanks WUA	Upper Gundar	Community Hall, Melathirumanickam	26+25=51	AE, WRO/PWD AAO, Agri 2

26	June 15 & 16 - 2013	Semparani Kanmoi WUA Mochikulam Kanmoi WUA	Upper Gundar	Community Hall, Semparani	24+26=50	AE, WRO/PWD AAO, Agri AAO, Agri Marketing 3
27	June 17 & 18 - 2013	Elumalai, Kanakkankulam, Uthapuram WUA Allikundam, Vagurani WUA	Upper Gundar	Community Hall, Alligundam	28+24=52	JE, WRO/PWD AAO, Agri AAO, Agri Marketing 3
28	July 06 & 07 - 2013	Thimmanatham kanmoi WUA Malatar and Sirupatti Tanks WUA	Upper Vaigai, Varattar - Nagalar Sub Basin	Community Hall, Vadaveeranaickan patti	26+26=52	AE, WRO/PWD 1
29	July 19 & 20 - 2013	Sennalperi, Poolankulam tanks WUA Kuppamal Samudram, Kadambankulam, Saptur, & Kudiserikulam WUA and Jambuliputhur tanks WUA	Upper Gundar	Community Hall, Mangalrevu	23+27=50	AE, WRO/PWD 1
30	July 23 & 24 - 2013	Senkulam, Sirukulam, Periyakulam, Ammakulam, Kadambankulam, Kovilankulam & Kengankulam Tank WUA	Upper Vaigai, Varattar - Nagalar Sub Basin	Community Hall, Palakombai	40	AE, WRO/PWD 1

31	July 25 & 26 - 2013	Duraisampuram anicut Pomminaickankulam, Kodanginaickarkulam, Athankaraipatti Supply channel & Kunnur anicut WUA Theppampatikanmoi, Palakombai, Athigarikulam, Aundipatti tank, Kootharayaperumalkoil tank, G. Usilampatti Pudukulam tank, Kannimarkulam tank, Nallidaicherikanmoi, Asaripattikanmoi, Sakkilichikulam	Upper Vaigai, Varattar - Nagalar Sub Basin	Community Hall, Vadaveeranaickan patti	26+26=52	AE, WRO/PWD 1
32	July 26 & 27 - 2013	Vilacheri kanmoi WUA Thirupparamkunram vatta kanmoi WUA	Therkar	Community Hall, Thirupparam kunram	28+24=52	-
33	July 30 & 31	Vadugapatti kanmoi WUA Anaiyur kanmoi WUA	Therkar	Community Hall, Anaiyur	26+26=52	AE, WRO/PWD 1
34	August 13 & 14 -2013	Manjalnadhi Tank, Naickankulam, Thathamuthankulam, Kanavaimudakkukulam & Karuvellankulam tank WUA Kodimangalam tank WUA	Upper Vaigai, Varattar - Nagalar	Community Hall, Erasai	27+29=56	Veterinary Asst. Surgeon 1
35	August 16 & 17 -2013	Thirumangalam Main Canal 2 nd BC	Therkar	Community Hall, Melaorappanur	36	-

13.2 One Day Capacity Building Training Programmes to WUAs-(1st Round)

Sl.No	DATE	Name of the WUAs	Sub Basin	Training Venue	No. of WUA Members	No of Officials Participated
1	- Aug - 2013	Vidathakulam and Virusankulam Water User's Association Kappalur Tank Water User's Association	Therkar	Community Hall, Vidathukulam	27 +30=57	AE, WRO/PWD JE, AED Supervisor, Fisheries Dept AAO, Agri. Dept Vet. Asst. Surgeon, Veterinary Dept AAO, Agri Marketing MTS, PWD/WRO 7
2	17- Aug- 2013	Maikudi Kanmoi Water User's Association Ulagani Periyakanmoi Water User's Association	Therkar	Community Hall, Vulagani	28+26=54	AE, WRO/PWD Vet. Asst. Surgeon, Veterinary Dept 2
3	19- Aug- 2013	Vadakarai Periyakulam and Chinnakulam Tank Water User's Association Koorankulam Tank Water User's Association	Therkar	Community Hall, Vadakarai	23+27=50	AEE, WRO/PWD AE, WRO/PWD AAO, Agri. Dept Vet. Asst. Surgeon, Veterinary Dept AAO, Agri Marketing 5

4	20- Aug - 2013	T.Kokkulam Periyakanmoi Water User's Association Kallanai Karisalkulam Kanmoi Water User's Association	Therkar	Community Hall, Kallanai	25+27=52	AE, WRO/PWD AAO, Agri. Dept AAO, Agri Marketing MTS, PWD/WRO (2) FO, PWD/WRO (16) 21
5	21- Aug - 2013	Sivarakottai Karisalkulam Water User's Association Pallappacheri WUA	Upper Gundar	Community Hall, Sivarakottai	26+25=51	AE, WRO/PWD AAO, Agri. Dept AAO, Agri Marketing MTS, PWD/WRO (2) FO, PWD/WRO (14) 19
6	23- Aug - 2013	Thoombakulam, Arasapatti and Valayankulam periyakanmoi Water User's Association Arasapatti Pottapacheri tank Water User's Association	Therkar	Community Hall, Thumbakulam	25+27=52	DSE, PWD/WRD AEE, PWD/WRD HD, PWD/WRD AE, WRO/PWD (3) AE, AED 7
7	24- Aug - 2013	Iluppaikulam, Karisalkulam Tanks Water Users Association Karisalkulam Tanks Water User's Association	Therkar	Community Hall, Illupakulam	28+25=53	AE, WRO/PWD AAO, Agri. Dept 2
8	27- Aug - 2013	Nedungulam Kanmoi Water User's Association Ariayanendal, Idayankulam tanks Water User's Association	Therkar	Community Hall Manthiri Odai	25+29=54	AE, WRO/PWD (2) Work Inspector PWD/WRD FO, PWD/WRO (7) 10

9	29- Aug - 2013	Thirumangalam Main canal 1 st BC Water User's Association Thirumangalam main canal 3 rd BC	Therkar	Community Hall, Sellampatti	26+27=53	AE, WRO/PWD AAO, Agri. Dept 2
10	30- Aug - 2013	Thirumangalam Main Canal 4 th BC Thirumangalam Main Canal 5 th BC	Therkar	Community Hall, Sellampatti	28+27=55	AE, AED AAO, Agri. Dept Work Inspector (2) ATMA, SMS 5
11	03- Sep - 2013	Chettikurichi Big & Small, Sethurajapuram and Andipatti tanks WUA Podampatti and Vaduvarpatti WUA	Senkottaiyar	Community Hall, Sithambarapuram	26+26=52	JE, PWD/WRD AE, AED AO, Agri Dept. Vet. Asst. Surgeon, Veterinary Dept AAO, Agri. Marketing AAO, Agri. Dept 6
12	04- Sep - 2013	Periya Puliampatti, Aruppukottai, Sukkulanatham and Meenatchipuram Tanks WUA Thiruvirunthalpuram Tank WUA	Senkottaiyar	Community Hall, Thiruvirunthalkulam	26+25=51	JE, PWD/WRD Vet. Asst. Surgeon, Veterinary Dept FO, PWD/WRD 3
13	05- Sep - 2013	Vettilaiyurani, Muthalnaickanpatti and A.Subramaniapuram Tanks WUA Vendakulam, A.Ramalingapuram and Alampatti Tanks WUA	Sindapalli Uppodai	Community Hall, Vendakulam	25+27=52	JE, PWD/WRD 1
14	06- Sep -	Periya Thummakundu, Pappakudi Tanks WUA	Senkottaiyar	Community Hall, Malaickenpatti	28+25=53	AE, WRO/PWD Vet. Asst. Surgeon,

	2013	Mallayanaickan patti Tank WUA Kanmoipatti, Pappakudi, Kundalakuthur and Muthusampuram Tanks WUA				Veterinary Dept 2
15	07- Sep - 2013	Melakarandai Tank WUA Iyankarisalkulam and Mavilpatti Tanks WUA	Senkottaiyar	Community Hall, Melakaranthai	25+29=54	AE, WRO/PWD MTS, PWD/WRO FO, PWD/WRO 3
16	10- Sep- 2013	Athangarai Big & Small Tanks WUA Perayakudi Tank WUA	Senkottaiyar	Community Hall, Nagalapuram	26+25=51	FO, PWD/WRO 1
17	12- Sep- 2013	Othai Alangulam, Periya Alangulam and Sambakulam Tanks WUA	Therkar	Kasa Training Center, O.Alangulam	39	AE, AED Vet. Asst. Surgeon, Veterinary Dept AAO, Agri. Dept Work Inspector 4
18	14- Sep- 2013	Vilacheri kanmoi WUA Thirupparamkunram vatta kanmoi WUA	Therkar	Community Hall, Vilacheri	28+25=53	AE, WRO/PWD Work Inspector 2
19	16 - Sep - 2013	Vakkanankundu Tank Water User's Association Thoppur Tank Water User's Association	Therkar	Community Hall, Thooppur	25+29=54	AE, WRO/PWD Work Inspector (2) 3
20	01-Oct - 2013	Vedar Puliyankulam, Thenpalanji and Vadapalanji tanks Water User's Association Keelakuilkudi, Melakuilkudi and Maruthani Tanks Water User's Associations.	Therkar	Community Hall, Thenpalanji	27 +30=57	JE, PWD/WRD 1

21	03-Oct - 2013	Uthappanayikkanur Thimmanatham kanmoi WUA	Therkar	Community Hall, Uthapanaickanur	28+26=54	Vet. Asst. Surgeon, Veterinary Dept 1
22	04-Oct - 2013	Vadugapatti kanmoi WUA Anaiyur kanmoi WUA	Therkar	Community Hall, Annaiyur	23+27=50	-
23	07-Oct - 2013	Nilaiyur Kuthiarkundu kanmoi Water User's Associations Kappalur Tank Water User's Associations	Therkar	Community Hall, Nilaiyur	25+27=52	-
24	08-Oct - 2013	Vadivelkarai Kanmoi Water User's Association. NagamalaiPudukottai kanmoi Water User's Association	Therkar	Community Hall, Nagamalai	26+25=51	AE, AED Vet. Asst. Surgeon, Veterinary Dept 2
25	09-Oct - 2013	Kodimangalam kanmoi WUA	Therkar	Community Hall, K. Mangalam	25+27=52	AE, WRO/PWD Work Inspector 2
26	10 - Oct - 2013	Sennalperi, Poolankulam tanks WUA Kuppamal Samudram, Kadambankulam, Saptur, & Kudiserikulam WUA	Upper Gundar	Community Hall, Mangalrevu	28+25=53	AE, WRO/PWD 1
27	11-Oct - 2013	Sokkanathan, Thirumanickam, Periyakattalai tanks WUA Elumalai, Kanakkankulam, Uthapuram WUA	Upper Gundar	Community Hall, Thirumanikkam	27 +30=57	-
28	12-Oct - 2013	Allikundam, Vagurani WUA Mochikulam Kanmoi WUA	Upper Gundar	Community Hall, Allikundam	28+26=54	Vet. Asst. Surgeon, Veterinary Dept 1
29	15-Oct - 2013	Semparani Kanmoi WUA Karisalkulam Tanks WUA	Upper Vaigai, Varattar - Nagalar	Community Hall, Semparani	23+27=50	AE, WRO/PWD 1

			Therkar			
30	17-Oct - 2013	Alapalacheri Tank Water User's Association Thangalacheri Tank Water User's Association	Upper Gundar Therkar	Community Hall, Alapulacheri	25+27=52	FO, PWD/WRO 1
31	18-Oct- 2013	Kurayur and Maruthankudi Periyakanmoi Water User's Association Sennampatti Puliankulam Water User's Association	Therkar	Community Hall, Kuraiyur	26+25=51	-
32	19-Oct- 2013	Melakarandai Tank WUA Thirali tank Water User's Association	Senkottaiyar Upper Gundar	Community Hall, Alampatti	25+27=52	AE, WRO/PWD Work Inspector 2
33	21-Oct- 2013	Pokkampatti & Pullamuthur tanks Water User's Association Sowdarpatti Karisalkulam Tank Water User's Association	Therkar Upper Gundar	Community Hall, Pokkampatti	28+25=53	JE, PWD/WRD 1
34	22-Oct- 2013	Thirumangalam Main canal BC-2	Therkar	Community Hall Melaurappanur	38	AE, WRO/PWD Vet. Asst. Surgeon, Veterinary Dept 2
35	23-Oct - 2013	Theppampatikanmoi, Palakombai, Athigarikulam, Aundipatti tank, Kootharayaperumalkoil tank, G. Usilampatti Pudukulam tank, Kannimarkulam tank, Nallidaicherikanmoi, Asaripattikanmoi, Sakkilichikulam and Jambuliputhur tanks WUA Senkulam, Sirukulam, Periyakulam, Ammakulam, Kadambankulam,	Upper Vaigai, Varattar - Nagalar	Community Hall Aundipatti	28+26=54	AE, WRO/PWD MTS, PWD/WRO FO, PWD/WRO 3

		Kovilankulam & Kengankulam Tank WUA				
36	24-Oct - 2013	Duraisampuram anicut Pomminaickankulam, Kodanginaickarkulam, Athankaraipatti Supply channel & Kunnur anicut WUA Poovalacheri, Karisalkulam, Semkulam, Siguodai, Govindamudalikulam, Sokkappanaickankulam & Varatar Direct ayacut	Upper Vaigai, Varattar - Nagalar	Community Hall Kunnur	23+27=50	FO, PWD/WRO 1
37	25-Oct - 2013	Manjalnathi Tank, Naickankulam, Thathamuthankulam, Kanavaimudakkukulam & Karuvellankulam tank WUA	Upper Vaigai, Varattar - Nagalar	Community Hall Erasai	32	AE, AED Vet. Asst. Surgeon, Veterinary Dept AAO, Agri. Dept Work Inspector 4

13.3 One Day Capacity Building Training Programmes to WUAs-(2ndRound)

Sl.No	DATE	Name of the WUAs	Sub Basin	Training Venue	No. of WUA Members	No of Officials Participated
1	28-Oct- 2013	Vidathakulam and Virusankulam Water User's Association Kappalur Tank Water User's Association	Therkar	Community Hall, Kappalur	27 +30=57	AE, WRO/PWD JE, AED AAO, Agri. Dept AAO, Agri Marketing 4

2	29-Oct-2013	Maikudi Kanmoi Water User's Association Ulagani Periyakanmoi Water User's Association	Therkar	Community Hall, Vulagani	28+26=54	-
3	30-Oct-2013	Vadakarai Periyakulam and Chinnakulam Tank Water User's Association Koorankulam Tank Water User's Association	Therkar	Community Hall, Vadakarai	23+27=50	AAO, Agri. Dept Vet. Asst. Surgeon, Veterinary Dept AAO, Agri Marketing 3
4	31-Oct-2013	T.Kokkulam Periyakanmoi Water User's Association Kallanai Karisalkulam Kanmoi Water User's Association	Therkar	Community Hall, Kallanai	28+26=54	-
5	04-Nov-2013	Sivarakottai Karisalkulam Water User's Association Pallappacheri WUA	Upper Gundar	Community Hall, Sivarakottai	26+25=51	AAO, Agri Marketing 1
6	05-Nov-2013	Thoombakulam, Arasapatti and Valayankulam periyakanmoi Water User's Association Arasapatti Pottapacheri tank Water User's Association	Therkar	Community Hall, Thumbakulam	25+25=50	-
7	06-Nov-2013	Iluppaikulam, Karisalkulam Tanks Water Users Association Karisalkulam Tanks Water User's Association	Therkar	Community Hall, Illupakulam	26+25=51	AAO, Agri. Dept 1
8	08-Nov-2013	Nedungulam Kanmoi Water User's Association Ariyanendal, Idayankulam tanks Water User's Association	Therkar	Community Hall Manthiri Odai	25+27=52	Work Inspector PWD/WRD 2
9	09-Nov-	Thirumangalam Main canal 1 st BC Water User's Association	Therkar	Community Hall, Sellampatti	27+27=54	AAO, Agri. Dept

	2013	Thirumangalam main canal 3 rd BC				1
10	10-Nov-2013	Vakkanankundu Tank Water User's Association Thoppur Tank Water User's Association	Therkar	Community Hall, Thooppur	25+26=51	Work Inspector (2) 2
11	11-Nov-2013	Thirumangalam Main Canal 4 th BC Thirumangalam Main Canal 5 th BC	Therkar	Community Hall, Sellampatti	26+27=53	AAO, Agri. Dept Work Inspector (2) 3
12	13-Nov-2013	Vadugapatti kanmoi WUA Anaiyur kanmoi WUA	Therkar	Community Hall, Annaiyur	23+26=51	-
13	15-Nov-2013	Chettikurichi Big & Small, Sethurajapuram and Andipatti tanks WUA Podampatti and Vaduvarpatti WUA	Senkottaiyar	Community Hall, Sithambarapuram	27+26=53	Vet. Asst. Surgeon, Veterinary Dept AAO, Agri. Marketing 2
14	16 Nov-2013	Periya Puliampatti, Aruppukottai, Sukkilanatham and Meenatchipuram Tanks WUA Thiruvirunthalpuram Tank WUA	Senkottaiyar	Community Hall, Thiruvirunthalkulam	26+24=50	JE, PWD/WRD 1
15	18 Nov-2013	Vettilaiyurani, Muthalnaickanpatti and A.Subramaniapuram Tanks WUA Vendakulam, A.Ramalingapuram and Alampatti Tanks WUA	Sindapalli Uppodai	Community Hall, Vendakulam	25+26=51	AAO, Agri. Marketing 1
16	19 Nov-2013	Periya Thummakundu, Pappakudi Tanks WUA Mallayanaickan patti Tank WUA Kanmoipatti, Pappakudi, Kundalakuthur and Muthusampuram Tanks WUA	Senkottaiyar	Community Hall, Malaickenpatti	26+24=50	AE, WRO/PWD Vet. Asst. Surgeon, Veterinary Dept 2

17	20 Nov-2013	Melakarandai Tank WUA Iyankarisalkulam and Mavilpatti Tanks WUA	Senkottaiyar	Community Hall, Melakaranthai	25+27=52	AE, WRO/PWD 1
18	21 Nov-2013	Athangarai Big & Small Tanks WUA Perayakudi Tank WUA	Senkottaiyar	Community Hall, Nagalapuram	26+26=52	-
19	22 Nov-2013	Othai Alangulam, Periya Alangulam and Sambakulam Tanks WUA Nilaiyur Kuthiarkundu kanmoi Water User's Associations	Therkar	Kasa Training Center, O.Alangulam	27 +24=51	AAO, Agri. Dept Work Inspector 2
20	23 Nov-2013	Vedar Puliyankulam, Thenpalanji and Vadapalanji tanks Water User's Association Keelakuilkudi, Melakuilkudi and Maruthani Tanks Water User's Associations.	Therkar	Community Hall, Thenpalanji	27 +30=57	JE, PWD/WRD 1
21	25 Nov-2013	Vadivelkarai Kanmoi Water User's Association. NagamalaiPudukottai kanmoi Water User's Association	Therkar	Community Hall, Nagamalai	26+27=53	Vet. Asst. Surgeon, Veterinary Dept 1
22	26 Nov-2013	Vilacheri kanmoi WUA Thirupparamkunram vatta kanmoi WUA	Therkar	Community Hall, Vilacheri	26+24=50	Work Inspector (2) 2
23	28 Nov-2013	. Sokkanathan, Thirumanickam, Periyakattalai tanks WUA . Elumalai, Kanakkankulam, Uthapuram	Upper Gundar	Community Hall, Thirumanikkam	27 +30=57	Vet. Asst. Surgeon, Veterinary Dept 1
24	29 Nov-2013	Sennalperi, Poolankulam tanks WUA Kuppamal Samudram, Kadambankulam, Saptur, & Kudiserikulam WUA	Upper Gundar	Community Hall, Mangalrevu	27+25=52	-

25	30 Nov-2013	Allikundam, Vagurani WUA Mochikulam Kanmoi WUA	Upper Gundar	Community Hall, Allikundam	27+26=53	Vet. Asst. Surgeon, Veterinary Dept 1
26	03-Dec-2013	Semparani Kanmoi WUA Karisalkulam Tanks Water User's Association	Upper Vaigai, Varattar - Nagalar Therkar	Community Hall, Semparani	27+26=52	AAO, Agri. Dept 1
27	04-Dec-2013	Alapalacheri Tank Water User's Association Thangalacheri Tank Water User's Association	Upper Gundar Therkar	Community Hall, Alapulacheri	25+26=51	-
28	06-Dec-2013	Pokkampatti & Pullamuthur tanks Water User's Association Sowdarpatti Karisalkulam Tank Water User's Association	Therkar Upper Gundar	Community Hall, Pokkampatti	27+25=52	AAO, Agri. Dept 1
29	07-Dec-2013	Theppampatkanmoi, Palakombai, Athigarikulam, Aundipatti tank, Kootharayaperumalkoil tank, G. Usilampatti Pudukulam tank, Kannimarkulam tank, Nallidaicherikanmoi, Asaripattikanmoi, Sakkilichikulam and Jambuliputhur tanks WUA Senkulam, Sirukulam, Periyakulam, Ammakulam, Kadambankulam, Kovilankulam & Kengankulam Tank WUA	Upper Vaigai, Varattar - Nagalar	Community Hall Aundipatti	26+26=52	AE, WRO/PWD 1
30	09-Dec-2013	Duraisampuram anicut Pomminaickankulam, Kodanginaickarkulam, Athankaraipatti Supply channel & Kunnur anicut WUA	Upper Vaigai, Varattar - Nagalar	Community Hall Kunnur	23+27=50	-

		Poovalacheri, Karisalkulam, Semkulam, Siguodai, Govindamudalikulam, Sökkappanaickankulam & Varatar Direct ayacut				
31	10-Dec-2013	Manjalnathi Tank, Naickankulam, Thathamuthankulam, Kanavaimudakkukulam & Karuvelankulam tank WUA	Upper Vaigai, Varattar - Nagalar	Community Hall Erasai	34	Vet. Asst. Surgeon, Veterinary Dept AAO, Agri. Dept 2
32	13-Dec-2013	Melakarandai Tank WUA Thirali tank Water User's Association	Senkottaiyar Upper Gundar	Community Hall, Alampatti	27+27=54	Work Inspector 1
33	17-Dec-2013	Vadakarai Periyakulam and Chinnakulam Tank Water User's Association Koorankulam Tank Water User's Association	Therkar	Community Hall, Vadakarai	25+27=52	Vet. Asst. Surgeon, Veterinary Dept AAO, Agri Marketing 2
34	18-Dec-2013	Kurayur and Maruthankudi Periyakanmoi Water User's Association Sennampatti Puliankulam Water User's Association	Therkar	Community Hall, Kuraiyur	26+25=51	AE, WRO/PWD 1
35	19-Dec-2013	Kodimangalam kanmoi WUA	Therkar	Community Hall, K. Mangalam	31	-
36	19-Dec-2013	Uthappanayikkanur Thimmanatham kanmoi WUA	Therkar	Community Hall, Uthapanaickanur	26+26=52	-

14. MID-TERM EVALUATION OF THE PROJECT AND SUPPORT ORGANISATION

The PWD/WRD had entrusted mid-term evaluation of the project and the support organisation to SMEC, which conducted field visits to project areas and met with the key and sub key personnel of COODU from 06.01.2011 to 07.10.2011. SMEC team visited 6 clusters comprising Vidathakulam, Kurayur, Anaiyur, Sivarakottai, Vilacheri, Chellampatti and Melakaranthai WUAs for monitoring and evaluation various project activities and at the end of the visit, submitted a report to the PWD/WRD.

15. IMPACT OF CAPACITY BUILDING AND TRAINING PROGRAMMES

In the 70 WUAs assigned to the COODU, the organisation organised capacity building and training Programmes at 2 WUAs per programme. The WUA members were equipped with skills and knowledge on the following topics and issues.

Day1:

- Irrigation sources – Existing resources and present status.
- Participatory irrigation management
- Sensitising WUA members on Water budget
- Problems and issues: Finding Solutions through discussions and analysis and its outcomes.

Day2:

- Sharing information on knowledge gained on day-1.
- WUA-its functions, roles and responsibilities of members
- Function / responsibilities of line departments
- Convergence of various schemes implemented by line and other departments
- Institutional framework : General body and committees and their functions
- Maintenance of records / registers/ accounts. The programme has enabled the members to carry out the following tasks.

- ✓ Efficient and judicious use of water
- ✓ Preparation of seasonal irrigation reports
- ✓ Adoption of successful agricultural practices
- ✓ Organise and conduct meetings properly with discussions, resolutions and recording of minutes
- ✓ Undertake walk through surveys and identification of annual maintenance tasks.
- ✓ Preparation of water distribution schedule, thereby ensuring equitable distribution of water
- ✓ Groomed leaders capable of developing skills and knowledge of farmers.

15.1 Organisation:

- ✓ All stakeholders / water user have been enrolled as members in their respective WUAs.
- ✓ Conduct of monthly meeting of all WUAs
- ✓ Technical sub-Committees for water distribution and management, work review, canal disputes, offences eradication, finances are functioning effectively.
- ✓ Required records in WUAs are being maintained.

15.2 Financial Management

- ✓ Bank account for WUAs have been opened and subscription fees remitted by WUA members deposited for execution of maintenance works.
- ✓ Budgets of WUAs have been prepared

15.3 Water Management

- ✓ Plans for irrigation on equitable basis prepared.
- ✓ Conduct of social audit after every harvest completed
- ✓ Details of areas under crops have been documented for study.

15.4 Asset Management

- ✓ Plans for operation & maintenance work have been prepared
- ✓ Work have been executed by WUAs members themselves on their own

- ✓ Has provided a conducive platform in the villages to launch and executive development activities with people's participatory and involvement
- ✓ Water conveyance and regulation in the main and branch canal systems have significantly improved after rehabilitation and modernization
- ✓ More interactions between farmers in the command area with officials of Government departments. Farmers in command area have realized the importance of their participation in actual irrigation management practices

15.5 Conflict management

Conflicts over community assets have been amicably resolved by sub-committees.

16. WAYS AND MEANS OF SUSTAINING THE CAPACITY BUILDING PROGRAMME

- ★ Continuous engagement of paraworkers previously employed by COODU to develop the capacity of WUA members and update their knowledge and skill on honorarium basis. Since the paraworkers have already imparted training and capacity building and interacted with the members, taking forward the programme would be possible and positive.
- ★ Organising exposure visits to successful water resource development projects and where best agricultural practices adopted.
- ★ The agriculture / Horticulture extension workers could be entrusted with continuing the capacity building and training of farmers.
- ★ Periodic refresher training programmes.
- ★ Establishment of demonstration plots by agriculture/horticulture departments
- ★ Farmer leader or volunteer farmers could be groomed as contact farmers by TNAU for taking forward the capacity building programme.

- ★ Regular conduct of lecture/demonstration programmes at WUA areas by TNAU, NGOs and research institutions.
- ★ The panchayat TV / Television bought by WUA installed in WUA office could be used to televise information on latest water management and agricultural techniques either by satellite channels of the Govt or Information CDs supplied by line departments.

17. IMPACT ASSESSMENT OF THE OVERALL CAPACITY BUILDING PROGRAMMES

- ★ Establishment of strengthened and functioning WUAs in seven sub-basins in Vaippar basin spread over three districts.
- ★ 70 WUAs comprising 1912 members equipped with knowledge and skills in water management, operation and maintenance of irrigation systems, agricultural / farming techniques, cropping pattern, processing and marketing of agricultural produce and maintenance of registers and accounts.
- ★ Operation and maintenance of tanks, canals, channels by WUAs with labour and financial contribution by members.
- ★ Creation of transparent institutional mechanisms empowered to undertake / execute operation and maintenance of water resources and accountable to the people by social audit.
- ★ Development of linkages with TNAU, KVKs and other research organisations for agricultural techniques, natural and alternate farming, pest control, etc...
- ★ Collection of annual subscription @ Rs.100/- Per Acre from WUAs members for maintenance works thereby reducing the financial commitment of the Government.
- ★ Converting the water resources into community assets by handing them over to the WUA thereby making them responsible for their protection, securing them from encroachments.

- ★ Developing / ensuring communal harmony by equitable distribution of water.
- ★ Convergence of various schemes implemented by the 8 line departments and Rural Development & Panchayat Raj Department through the MGNREGS.
- ★ Water budgetting has also ensured storage and distribution of water for drinking water and other needs to households for human and cattle consumption.
- ★ Conservation and development of environment and ecology by community initiatives.

18. SUGGESTIONS FOR IMPROVEMENT, SUSTAINABILITY, etc.,

- ✓ Ensuring convergence of schemes for creation and development of sustainable and durable assets, including convergence of MGNREGS by executing desilting and strengthening work which would also generate employment, thereby providing livelihood to agriculture and other labourers.
- ✓ Engaging KVKs to impart skill training on food processing to WUA members and their families for the production of value added food products.
- ✓ Imparting skill training on panchakavya and compost making to farmers by the TNAU-RRS for the production of vermi compost and panchakavya.

Based on the interactions with the farmers and stakeholders of various WUAs during one to one meetings, one to group interactions, on field trainings and interactive sessions during capacity building and training programmes, suggestions elicited for improvement and sustainability of the programe are put forth as follows:

- Sharing information with farmers on latest technologies on efficient water management, agricultural techniques and

inputs. Updation of information through training and demonstration.

- Participation of line department officials in WUA meetings.
- Ensuring convening of general body and monthly meeting of WUAs by PWD-WRO in a proper manner.
- Review of WUA representatives by SE-PWD-WRD periodically.
- Forward and backward linkage for marketing agricultural produce by agriculture and agriculture marketing departments.
- Motivating WUA representatives to attend monthly agricultural grievance day meetings conducted by the collector to share / get experience and information as well as for grievance redressal.
- Review of agriculture / horticulture extension officials regarding functioning of WUAs periodically by ADOs / JDs.
- Review of bankers on extension of loan to farmers during DLCC meetings.
- Review of schemes implemented by agriculture and allied sectors departments on assistance extended to WUAs during plan review meetings conducted by the collector.
- Strict adoption of people's participatory approach by PWD-WRO and line departments when implementing schemes for farmers, including in water resource creation and development. ((e.g) Sluice, surplus weir, channel work, etc..).
- Involving WUAs in schemes on Water resource creation and development from Planning to maintenance stages.
- Transparency in implementation of schemes implemented for farmers by PWD and line Departments.

19. CASE STUDIES

19.1 Case Study-1:

- i. **Name of Farmer** :Radhakrishnan
- ii. **WUA** :Vadakarai Periakulam and chinnakulam.
- iii. **Type of Irrigation** :Non system tanks
- iv. **Sub Basin** :Therkar
- v. **District / Taluk** :Madurai / Usilampatti
- vi. **WUA area** :193.68 Ha.
- vii. **Rainfall** :Not normal. Low rainfall for the past 3 years. Not even sufficient for one month storage
- viii. **People's initiative:** The Government normally carries out desilting of canal from Gundar from Thirumangalam to Vadakarai tank once in five years. Hence in order to get water to the tank, the WUA takes up desilting of the canal every year at a cost of Rs1.75 lakhs to Rs2.0 lakhs wholly contributed by its members by subscription. The length of the canal is 3 km. There are four sluices and two surplus weirs.
- xi. **Other irrigation source** :Sewage flows in from Thirumangalam town, enough to irrigate one acre of agriculture land every day. The WUA regulates its distribution and has arranged to irrigate all lands on rotation basis. At present, cotton fields are irrigated by using 7 Hp motor at the expense of the WUA.
- xii. **Proposed Work :** The Govt have sanctioned desilting of canal from Sathankudi tank located 4 km from Thirumangalam to vadakarai tank at a cost of Rs.3.0 Crores. The PWD will float tenders for the work.
- xiii. **Existing Assets :**
 - i). Vadakarai big and small tanks linked by a canal.
 - ii). Gundar vadakarai canal.
- xiv. **Issues** : The farmer has planted cotton in 10 acres of his and. He says that neither the cotton seed nor the insecticide supplied by the agriculture department are of good

quality or effective or worthwhile. He could get good quality cotton seeds from private companies.

The TNAU Personnel do not come to the village for study or advice. Pests attack cotton plants just before picking. There is no effective pest control.

- xv. Suggestions** : Line departments should be periodically in touch with the WUAs. TNAU should conduct study on pests attacking cotton plants and advise on pest control. Agriculture department to supply quality cotton seeds and send its field officials to visit cotton and other fields periodically.

19.2 Case Study-2:

- i. **Name of Farmer** : N. Radhakrishnan
- ii. **WUA** : Manjalnadhi Tank, Naickankulam, Thathamuthankulam, Kanavaimudakkukulam & Karuvelankulam Tanks.
- iii. **Type of Irrigation** : Non system tank
- iv. **Sub Basin** : Upper Vaigai, Varattar-Nagalar
- v. **Name of cluster** : Andipatti
- vi. **Membership** : WUA-Technical Committee and National Agriculture Mission – Banana Committee.
- vii. **Personal Achievements**: Raised banana plantation in 50 acres during the year 2010-2011. Has raised banana plantation in 20 acres in 2013-14 drawing water from borewell due to failure of monsoon.
- viii. **Statement on the Project**: Naickankulam tank encompasses 100 acres of land with 100 acres ayacut area and 1300 Ha catchment area
 - ✓ Agricultural Engineering department has desilted channel, Drip irrigation lines laid for 5 Km.
 - ✓ Desilting and strengthening of tank executed under MGNREGS, there by also providing employment opportunities, to labourers.
- ix. **Initiative of WUA** : Carried out jungle clearance in the channel prior to its desilting by agricultural Engineering Department.
- x. **Suggestion** : Periodic Desilting of tank, pond and Oorani.

- ✓ Release of government subsidy to WUAs.
- ✓ Convergence of schemes including MGNREGS, for the improvement of water resources.

19.4 Case Study-3:

- i. **Name of Farmer** :M.Pitchai, President – Thirali WUA.
- ii. **WUA** :Thirali Tank WUA.
- iii. **Type of Irrigation** :Non system tank
- iv. **Sub Basin** :Upper Gundar.
- v. **Name of cluster** :Thirumangalam.
- vi. **WUA area** :142.600 Ha.
- vii. **Personal Achievements** :Has strengthened the WUA, Initiated Kudimaramathu in supply and feeder channels with people contributing their labour as well as money.
- viii. **Statements on project:** Monsoon failure, Low Rainfall for the past three years: Only one month storage during Monsoon
 - ★ In 2011-12, strengthening of bund taken up by PWD at a cost of Rs.50.0 lakhs, and Rs.48.0 lakhs for surplus weir repairs built across the river.
 - ★ No well in the tank.
 - ★ 15 well in the ayacut area.
 - ★ Owns 1 acre agri land with no well.
 - ★ Now all lands are rainfed
 - ★ Black soil on one side and black soil with gravel on another side of the area.
 - ★ Depending on availability of (ground) water, sugarcane, groundnut, cotton and sun flower also cultivated besides paddy.
 - ★ Single crop in rainfed areas and two crops in land irrigated by well.
 - ★ Tank are a – 490 acre /Ayacut are – 500 acre.
 - ★ Work under MGNREGS also undertaken in the tank, two time during the 2013-14 for 4 months.

- ix. **Initiatives of the WUA:** Executed desilting of supply channel from Gundar at Naduvakottai with a length of 3 Km with contribution of labour and money by members; labour contribution-1 from each family on the pattern of “Kudimaramathu”.
- ★ In the feeder channel from the tank, channel was lined with masonry work for a length of 150 meters.
- x. **Suggestions** :Formation of a well in the tank
- ★ Convergence of schemes including MGNREGS.
 - ★ WUA should be truly empowered as per act.
 - ★ Better co-ordination among the 8 line departments in meeting of WUAs
 - ★ The 5 departments, other than Horticulture, Agricultural Engineering and PWD-WRO should also extend their services in fulfilling the objectives of the project.

19.4 Case Study-4:

- i. **Name of Farmer** :K.C.P.Jayakumar – Advocate.
President – WUA and President – Nagamalai-Pudukottai Panchayat.
- ii. **WUA** :Nagamalai-Pudukottai Tanks WUA.
- iii. **Type of Irrigation** :System Tank.
- iv. **Sub Basin** :Upper Gundar.
- v. **Name of Cluster** :Thiruparankundram.
- vi. **WUA area** :85.510 Ha.
- vii. **Statement on the Project** :No consultation with WUA regarding work executed in the tank.
- Top down approach.
 - Weak institutional framework.
 - Severe drought for the past three years and hence low motivational level among WUA members.

Viii. Suggestions

- In the sluice work executed recently WUA was not consulted as to its need.
 - Has been functioning also as panchyat president for the 3rd time.
- :
- Empowerment of WUA.
 - Consultation with WUA from Planning to Execution stage.
 - Transparency

20. CONCLUSION

COODU has fulfilled tasks assigned to it in accordance with the ToR, leading to achievement of all the Project Objectives.

It is heartening that, the WUAs have executed various works in the water sources on their own, with labour and financial contributions from its members and continue to do the same in a sustainable manner.

All the water resources would henceforth be treated as community assets. Development of durable and sustainable assets is assured.

But for the failure of monsoon, the outcomes and outputs would have brought tangible benefits to the WUAs members and substantial growth in agriculture and allied sectors.

21. PHOTO GALLERY

21.1 Two day training Programme



Atrangarai Big Kanmoi, Smal Kanmoi & Perayakudi kanmoi WUAs



Kanmoipatti, Pappakudi, Kundalakutthur, Muthusampuram & Mallaiyanayakanpatti WUAs



Vetrilaiyurani, Muthalnayakanpatti, Subramaniyapuram & Vendakulam, A.Ramalingapuram, Alampatti WUAs



Kokkulam kamoi & Kallanai Karisal Kulam Kanmoi WUAs



Vakkanankundu Kanmoi & Thoppur Kanmoi WUAs



Thirali Kanmoi & Melaneseneri Kanmoi WUAs

21.2 One day Training



Vidathukulam, Virusakulam Kanmoi & Kappalur Kanmoi WUAs



Sivarakottai Karisalkulam Kanmoi & Senkulm Kanmoi WUAs



Ariyenthal, Idaiyankulam & Nedungkulam WUAs



Thirumangalam Main BC 4th & Thirumangalam Main BC 5th , 6th WUAs



Vilacheri Kanmoi & Thiruperunkundram Vatta Kanmoi WUAs



Senkulam, Sirukulam, Periyakulam, Ammakulam, Kadambankulam, Kovilankulam&Kengankulam

21.3 On field Training



Ulagani Kanmoi



Sivarakottai Kanmoi



Pokkampatti Kanmoi.



Chettikurichi Kanmoi



Kilakuyilkudi Kanmoi



Sengulam Kanmoi

21.4 World Bank Mission Visit



World Bank Mission meeting at COODU office Package - 10



World Bank Mission meeting with Kurayur WUAs



World Bank Mission meeting with Kurayur WUAs



Thirumangalam Main BC 1st & Thirumangalam Main BC 5th , 6th WUAs



Thirumangalam Main BC 1st & Thirumangalam Main BC 5th , 6th WUAs)



Thirumangalam Main BC 1st & Thirumangalam Main BC 5th , 6th WUAs

21.5 Project Evaluation



21.6 Final Evaluation



22. ANNEXURE

22.1 a. Model Water Budgeting

தண்ணீருக்கான வரவு – செலவு திட்டம்

		தேதி	
கிராமத்தின் பெயர்:	கறன்குளம்	thirumangalam	மாவட்டம்: மதுரை
தாலுக்கா:	திருமங்கலம்		மண்டலம்:
1. தண்ணீரின் வரவு:			
கிராமத்தின் பரப்பளவு	=	876.42 ஹெக்டேர்	
ஆண்டின் சராசரி மழையளவு	=	881 மிமீ	or 0.881 மீட்டர்
பெய்த மழையினால் கிடைக்கப் பெற்ற தண்ணீரின் அளவு	{	=	876.42 x 0.881 x 10000
		=	7721260.2 கனமீட்டர்
		=	7.7212602 மில்லியன் கன மீட்டர்
		=	77212.602 லட்சம் லிட்டர்
இந்த தண்ணீர் கீழ்க்கண்டவற்று மாற்றம் பெறுகிறது			
1. நிலத்தடி நீர் @ 10%	=	7721.2602 லட்சம் லிட்டர்	→ (A)
2. மேற்பரப்பு நீர் @ 20%	=	15442.52 லட்சம் லிட்டர்	→ (B)
மீதமுள்ள 70% மண்ணில் ஈரப்பதமாக இருப்பதில் மழை சார்ந்த மானாவரி பயிர்களுக்கு, அதாவது, மரம், செடி, கொடிகளால் உறிஞ்சப்பட்டு பின்னர் ஆவிபாகி விடும்.			
3. மேற்பரப்புநீரின் மூலம் நிரப்பப்படும் ஏரியின் கொள்ளளவு			
அ) ஏரியின் கொள்ளளவு (60 % கொள்ளளவு)			
	=	22.14 மி. கன அடி	= 0.63 மில்லியன் கன மீட்டர்
	=	0.63 x 0.6	
	=	0.376 மி. கன மீட்டர்	or 3761.04 லட்சம் லிட்டர்
ஆ) பஞ்சாயத்து குளங்கள் (60 % கொள்ளளவு)			
	=	11.78 மி. கன அடி	= 0.33 மில்லியன் கன மீட்டர்
	=	0.33 x 0.6	
	=	0.200 மி. கன மீட்டர்	or 2001.13 லட்சம் லிட்டர்
நீர் நிலைகளில் சேகரிக்கப்பட்டுள்ள நீர்	=	5762 லட்சம் லிட்டர்	→ (C)
நீர் நிலைகளை நிரப்பிய பின் வழிநீர்தோடும் நீர் கிராமத்தை விட்டு செல்லும் முன் ஓடை, நதிகள் மூலமாக மீண்டும் நிலத்திற்குள் ஊடுருவும் அளவு (20%) [ie. (B - C) x 0.20]			
	=	11681.478 x 0.2	
	=	2336.2957 லட்சம் லிட்டர்	→ (D)
கிராமத்திலுள்ள மொத்த நீரின் இருப்பு (வரவு)			
	=	நிலத்தடி நீர் + மேற்பரப்பு நீர் + மேற்பரப்பு நீரிலிருந்து கிடைக்க பெறும் ஊடுருவல் நீர் [A+C+D]	
	=	7721.26 + 5762.17 + 2336.3	
	=	15819.73 lakhs litre	→ (E)

2. கிராமத்தில் நீரின் தேவை (செலவு)

a) குடிநீர் மற்றும் அன்றாட தேவைகளுக்கு

$$\begin{array}{r} \text{மக்கள்} \\ \text{(ஒரு நாளைக்கு 70 லிட்டர் வீதம்)} \\ \hline - \quad 3570 \\ - \quad 70 \\ \hline = \quad 912.135 \text{ லட்சம் லிட்டர்} \end{array}$$

$$\begin{array}{r} \text{கால்நடைகள்} \\ \text{(ஒரு நாளைக்கு 60 லிட்டர் வீதம்)} \\ \hline - \quad 700 \\ - \quad 60 \\ \hline = \quad 153.3 \text{ லட்சம் லிட்டர்} \end{array}$$

$$\text{மொத்தம்} = 1065.44 \text{ ல. லிட்டர்} \longrightarrow (F)$$

b) விலகாய தேவைகளுக்கு = 27952.4 ல. லிட்டர் \longrightarrow (G)

$$\begin{array}{r} \text{மொத்த நீரின் தேவை (F + G)} \\ = \text{குடிநீர் மற்றும் அன்றாட தேவைகளுக்கு} + \text{விலகாய தேவைகளுக்கு} \\ = 1065.44 + 27952.4 \\ = 29017.84 \text{ ல. லிட்டர்} \longrightarrow (H) \end{array}$$

$$\begin{array}{r} \text{கிராமத்தில் தண்ணீரின் நிகர இருப்பு} \\ = \text{தண்ணீரின் வரவு} - \text{செலவு} \\ = 15819.73 - 29017.84 \quad \{(E) - (H)\} \\ = -13198.10 \text{ ல. லிட்டர்} \end{array}$$

$$\begin{array}{r} \text{பற்றாக்குறை} \\ = \frac{\text{செலவு (H)}}{\text{தண்ணீரின் வரவு (E)}} \\ = 1.83 \end{array}$$

22.2 b. Sample Sub Committee details

TN-IAMWARM PROJECT – PACKAGE NO – 10 – SUB COMMITTEE DETAILS

NAME OF THE WUA: DURAISAMPURAM ANICUT, POMMINAICKANKULAM,
KODANGINAICKANKULAM, ATHANKARAIPATTI SUPPLY CHANNEL &
KUNNUR ANICUT WUA

SUB BASIN NAME : UPPER VAIGAI, VARATTAR - NAGALAR

CLUSTER NO – 1 - ANDIPATTI

NAME OF THE WUA PRESIDENT	S.NO	NAME OF SUB-COMMITTEE	DATE OF FORMATION OF SUB-COMMITTEE	NAME & MOB. No. OF THE CONVENER	NAME OF THE SUB-COMMITTEE MEMBER
ARUNACHALAM KUNNUR (Ph NO: 9442615186)	1	FINANCIAL SUB-COMMITTEE	12.06.2013	A.DURAIRAJ Ph NO: 9944591336 KUNNUR	1. GANESAN
					2. SANGAIAH
					3. K.GANESAN
					4.C.ASHOK KUMAR
	2	WORKING SUB-COMMITTEE		M.PASUPATHI Ph NO: 9943899415 KUNNUR	1.S.MURUGAN
					2.MUNIYANDI
					3. MALLIYARAJ
					4. ARIVAZHAGAN
	3	WATER MANAGEMENT SUB-COMMITTEE		M.MARIYAPPAN Ph NO: 9629156363 KUNNUR	1.N.RAJENDRAN
					2.PRAKASH
					3.V.CHITRA
					4.R.PANDIYARAJAN
	4	MONITORING, EVALUVATION & TRAING SUB-COMMITTEE		V.CHANDRA Ph NO: 04546 252277 KUNNUR.	1.M.KRISHNASAMY
					2.N.NAGARAJAN
					3.T.GUNASEKARAN
					4.M.SAMYNATHAN

22.3 c. OBSERVATION A FEW TANK DURING OF WATER WALK.

Anaiyoor Kanmoi: Katta Karuppampatti Village

- Anaiyoor Kanmoi is a non system tank lying in Therkar sub basin
- The ayacut of this tank is about 53 ha owned by about 50 farmers.
- It has one sluice and two surplus weirs.
- There are 35 open wells and 4 bore-wells supply water to the ayacut.
- The depth of wells ranged from 40 to 55 feet, whereas it is 300 to 400 feet in bore wells.
- Major crops grown in this tank ayacut are: paddy, cotton, sugarcane.
- The full tank supply lasts only for three months irrigation.
- Since the tank ayacut is mostly by a single community the management of the tank is considerably good and disputes are rare.
- Informal functioning of the WUA is considerably good.
- The formal WUA was formed in October 2009.
- Formally no meeting was conducted so far and the villagers did no tank improvement activity in the last 5 years.
- No Fish culture activity was undertaken in this tank and the tank bed has spread with three feet siltation.
- During the last five years the tank reached FTL only once; half-FTL twice; last year it reached $\frac{3}{4}$ -FTL and this year it has only $\frac{1}{4}$ th FTL.

Chellappampatti Tank: Chellappampatti Village

- This is a system tank located in Therkar sub-basin.
- It gets its supply from the Periyar Irrigation source through Tirumangalam main / branch canals.
- This is a complicated system which involves supply to several other system tanks through the Tirumangalam canal source.
- Maintenance of the Tirumangalam main/branch canals is poor resulting to less supply to the tanks through this source.

- This canal supplies water to more than 1600 ha of ayacut under the tanks of Kodikulam (Manalpalli), Munduvelanpatti, Mettupatti and T. Orathanur tanks and more than 4000 ha under direct canal irrigation.
- Most of the tanks including the Chellampatti tank, encroachment reduces not only the holding capacity of the tanks but also prevents the rainwater that has to be stored in the tanks, leading to loss of storage every year.
- Under the jurisdiction of tanks annual income generated through fisheries auction was more than 10 Lakh rupees.
- This amount could not be utilised properly for development activities because the entire amount is taken away by the PWD and it should be shared with the WUAs

Vilacheri Kanmoi WUA

- This Vilacheri Village is a peculiar one served both by the tank and canal (Nilaiyur) system.
- Due to rich availability of water supply in most of the months farmers are cultivating water intensive crops such as paddy, banana and in poor water supply period grams are also grown widely.
- SRI paddy is grown to an extent of about 15 ha. The tank, Vilacheri, has an ayacut of 210 ha.
- There are nearly 500 farmers owned this ayacut. The tank has 2.5 K.M. length of bund, in which 4 sluices are located.
- The WUA in this tank was formed before the IAMWARM Project was started.
- The current president held this position previously from 2006 to 2009.
- It was informed that this WUA has been functioning actively to manage the system as effectively as possible.
- Regular meetings were conducted (through tom-tom) and totally 15 meetings were held in the last one-year.

- Usually 20 to 25 members attended the meetings. Although many members are not attending the meetings, they are keen to know the decisions taken in the meetings and they are ready to abide the rules and regulations of the meetings.
- The storage in the tank lasts for more than 7 months.
- As a result, Fish culture is done effectively every year.
- The latest fish contract was 1.10 lakhs for one year and the contract is valid for three years.
- The WUA members indicate that the IAMWARM work carried out during 2009 in this tank was not up to the mark.
- This is because all the four sluices are problematic, in which one is repaired ineffectively; one other was done nothing and in the remaining two imperfect works was done.
- Thus controlling and managing of these sluices are difficult. This problem occurred mainly because the officials did not consult the farmers before execution of works in this tank.
- From this observation we understand that how farmers are ineffective in managing the tank systems even in tanks where availability of water supply is not a constraint.
- In Vilacheri tank, farmers are cultivating annual and water intensive crops which definitely fetch a good income.
- A little contribution by the ayacut farmers can help to restore the tank infrastructures if the WUA is functioning effectively. But this aspect is not at all noticed in this tank.
- This clearly indicates that both the resourceful tank farmers as well as the resource less tank farmers are one and the same and they are unable to understand the strength of the WUAs to fulfill their required tasks as effectively as possible.

Sivarakkottai Tank: Sivarakkottai Village

- It is located in Kamandalanathi of Upper Gundar sub-basin. The ayacut of this tank is about 145 ha
- There are only four wells in the entire ayacut.
- Mostly one monsoon crop is possible.
- Encroachment within the ayacut area is gradually fetching up due to development of one Engineering College which was recently constructed by a noted (Madurai) politician in this tank ayacut.
- Enquiries reveal that the particular ayacut land was sold by an ayacut farmer for the college purpose and hence there is no problem for this tank infrastructure.
- The tank has five sluices, one surplus weir and the bund length is 3 k.m.
- The breadth of the bund is about 5 feet.
- During October 2010, a year ago, the IAMWARM tank improvement work was undertaken in this tank.
- The entire length of the tank bund was strengthened, two sluices were repaired, two sluices reconstructed and the remaining one is in good condition.
- The project work undertaken in this tank is good and satisfactory for the beneficiaries.
- In the past five years the tank has got filled up only once.
- The catchment area for this tank is so wider, which spreads over 50 sq. mts.
- This tank is the last in its catchment which is served by the Upper Gundar inlet channel.
- This inlet channel supplies water to 17 upstream tanks before emptying into this tank.
- Below the surplus weir of this tank, Therkar basin starts.

- Since the tank ayacut mostly gets its supply from the tank and the monsoon rains the farmers able to cultivate only in one season, in which paddy is dominating.
- The WUA is functioning informally.

Kurayur Tank: Kuraiyur Village

- The WUA was formed in Dec. 2008.
- This tank is located in Therkar sub basin.
- The tank has an ayacut of 305 ha, 7 sluices and 2 surplus weirs.
- With an expenditure of 14 lakhs the tank infrastructures were developed in 2009-10.
- The ayacut farmers are happy with the development works done in this tank.
- There are 9 TC Members functioning in this WUA.
- Association is functioning informally.
- Due to intensive steps by the PWD official solved many of the smaller problems of the ayacut farmers; the WUA is able to function informally, otherwise it might become defunct.
- During the IAMWARM tank improvement activity the sluice repair was not properly done in this tank by the CONTRACTOR.
- As a result, farmers were agitating frequently due to non control of water supply from the sluice.
- PWD official after seeing the problem, spent own money to rectify the defect in the sluice.
- After that the farmers are happy and now they are faithful with the A.E.
- During the last 5 years the tank has got filled twice, one year it has got one-third storage and in two years it reached half FTL.
- Paddy is the main crop. SRI paddy is cultivated effectively in the tank ayacut.
- In the tank bed farmers raise cucumber after the tank is emptied.

- There are 60 wells in the ayacut.
- Among the 9 sluices, 5 were reconstructed.
- The length of the bund is nearly 7 km.
- During the tank improvement period, the bund was strengthened only in vulnerable places for a total distance of 0.5 km.
- There are two surplus weirs, which are in good condition.
- The ayacut farmers report that the tank bed is severely silted up and there is a possibility for the removal of silt to a depth of 5 feet.
- The interaction with the farmers indicates that they need to be motivated to understand the benefits accruing out of working together and to follow the TNFMIS Act.

Vakkanankundu Tank: Vakkanankundu Village.

- This tank is located adjacent to Madurai-Thoothukudi High Way in Therkar sub-basin
- It was renovated during Phase II of the project.
- A visit was done purposefully to understand the position of the tank storage during the rainy season that is in November.
- A close look at the tank bed confirmed that the tank bed was excavated more than 20 feet deep and unevenly over 100 meters.
- The Highways department for laying National Highways did this uneven deepening in this roadside tank.
- Although the excavation of tank bed looks uneven, there seems to be no problem for the tank.
- Actually, this deepening of bed helps to store more of dead storage, which would help to raise groundwater level in the nearby wells.
- The stored water may be used for other village needs like cattle bathing, drinking and washing

Melakaranthai Tank: Melakaranthai Village

- This is one of the largest tanks in this area
- The ayacut is 375 ha but only a third i.e., 120 ha is currently cultivated due to the problem of water conveyance to the tail end areas.
- The soil is mostly black-cotton type.
- The tank is a rain fed one. In the last five years the tank has filled $\frac{3}{4}$ FTL only once.
- In the remaining years it has got only less than half FTL storage.
- The FTL supply was normally possible for irrigation for five months, but due to siltation now it is possible only for 4 months.
- The ayacut has only three wells with a maximum depth of 26 feet. Since the groundwater is saline no one is interested to have wells.
- Hence the importance of the tank water is fully realized by the villagers and the tank farmers.
- In this tank WUA was formed on 28.02.2008.
- Annually at least four meetings are conducted.
- Bank account was opened with Pandiyan Grama Bank.
- It is informed by the president and the TCMs during the meeting that the IAMWARM works executed in this tank was more useful, however, no involvement of farmers for the execution of any of these works.
- Nearly Rs. 40 lakhs was spent for tank improvement activities.
- There are 3 sluices in this tank and all are in good condition now. Due to black soil frequent repairs are necessary to maintain the sluices in condition.
- For this purpose, in the first time in the history, this tank Organisation has succeeded to get some funds of Rs. 75,000/- by auctioning for excavation of Karuvel Trees root planted in the tank bed.

- After the harvest of the trees by the Forest Department, the remaining root portion was auctioned by the Organisation to get some money for tank maintenance purpose.
- Through this reserve amount, some remuneration (Rs. 3000 per month) is given to neerpaichy, who perform the irrigation duty when the tank water is lean for one month.
- No fish culture is possible in this tank.
- It is informed by the tank beneficiaries that income generated through all tank related sources should be given to the WUAs for maintenance of the tank infrastructures and this activity has to be closely monitored by the PWD Officials. This would help to sustain the tank system effectively.
- In this tank, when there is no tank storage in any year, farmers usually raise one dry crop especially cotton.
- Due to poor soil quality line department activities are not flourishing.
- Even horticulture crops are not suitable in this region.
- Also the farm ponds are ineffective even if 100 % subsidy is given.
- Even for drinking water, people are depending on the “Vallanad Koottu Kudineer” which runs over 100 km distance.

Vidathu Kulam: Vidathukulam Village

- Vidathukulam is located in the Therkar basin.
- The ayacut of this tank is 69 ha.
- There are two sluices which are reconstructed in the tank improvement activity.
- Bund strengthening was done adequately.
- The full tank storage is possible for irrigation for 3.5 months.
- There are 20 open wells in the ayacut and the depth ranged between 30 to 40 feet.
- In the last five years the tank has reached FTL storage thrice.

- Since the supply from the wells is adequate for cultivation farmers are raising many crops such as paddy, cotton, groundnut, tissue culture banana.
- Some farmers are cultivating SRI Paddy and they are reaping a yield of nearly 9000 kg per ha.
- The WUA was formed earlier in this tank and the same president is continuing now.
- Due to the dominance of a single community the WUA is functioning informally well. There are seven TCMs functioning in this WUA.
- In the Therkar sub basin for tank improvement activity, the IAMWARM Project share was Rs. 1033 lakhs from which a portion of the amount is spent for this tank improvement.
- Although the WUA is not formally functioning, it is performing most of its duties informally.
- Whenever required meetings are organized and consultations are made with the ayacut farmers.
- For the IAMWARM Project purpose 6 to 7 meetings were conducted, in which in one of the meetings encroachment in the channels were discussed and informally requested the ayacut farmers to clear their encroachments.
- Immediately this was carried out by the ayacut farmers and the villagers.
- Although bank account was not opened with the nationalized bank as and when required necessary amount can be collected from the ayacut farmers as informed by the President Mr. Jeyaraman.
- The tank has no fish culture activity.
- The President of the WUA has informed that the line department activities are effectively utilized by the farmers.
- Through AED, implements like drip, sprinkler, conoweeder and markers were supplied and the farmers are getting benefits by using the implements.

- Through agriculture department, the WUA President has raised a vermin culture unit.
- He is using the compost for enriching the soil in his farm. He opined that the yield and quality of vegetables raised by using vermin compost are comparative higher than the one which does use the compost.
- On the whole, the tank ayacut farmers are happy about the IAMWARM Project interventions, which helped them to earn a more income than before.