National Adaptation Fund for Climate Change project

"INTEGRATED SURFACE WATER MANAGEMENT FOR CLIMATE CHANGE ADAPTATION IN U.T. OF PUDUCHERRY"

PROJECT COMPLETION REPORT

Project Period
April 2016
to
March 2023

DEPARTMENT OF SCIENCE, TECHNOLOGY & ENVIRONMENT
3rd FLOOR, PHB BUILDING, ANNA NAGAR, PUDUCHERRY- 605 00 5
Phone : (0413) 2201256; Telefax : (0413) 2203494

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Project Completion Report for NAFCC Project

1. Basic Details of the Project

Title of project/ programme	**Integrated Surface Water Management for Climate Change Adaptation in U.T. of Puducherry**
Project period (if the project was granted an extension, include the original as well as the revised completion date)	April 2016 to April 2020 (Initial) April 2016 - March 2023 (Extended)
State/UT	Puducherry Union Territory
Geographical coverage	Puducherry and Karaikal Region
No. of Target Beneficiaries	Local communities residing in 31 project villages of Puducherry region (5,663 households with 2,33,918 individuals) and 30 project villages of Karaikal region (32,137 households with 1,31,719 individuals) of U.T. of Puducherry.
Project Sector(s)	National adaptation Fund for Climate Change (NAFCC)
Executing Entity (EE) particulars	Nodal Department: • Department of Science, Technology and Environment Executing Entities: • Public Works Department (PWD), • Department of Agriculture & Farmers Welfare, • Local Administration Department (LAD), • Karaikal Municipality, • Ariyankuppam Commune Panchayat, • Villanur Commune Panchayat, • Mannadipet Commune Panchayat, • Nettapakkam Commune Panchayat, • Bahour Commune Panchayat, • T.R. Pattinam Commune Panchayat, • Thirunallar Commune Panchayat, • Kottucherry Commune Panchayat, • Neravy Commune Panchayat, • Nedungadu Commune Panchayat.
Particulars of financial programme approved by MoEF&CC (Rs. Crore)	Rs. 16.76 Crores

<table>
<tr><td>Amount Received by Executing Entity (including 3% project execution cost)</td><td><table>
<tr><th>Instalment</th><th>Amount (Rs.)</th><th>Date</th></tr>
<tr><td>I Instalment</td><td>3,83,16,000</td><td>24.08.2016</td></tr>
<tr><td>II Instalment</td><td>5,43,07,427</td><td>25.06.2019</td></tr>
<tr><td>III Instalment</td><td>3,64,69,639</td><td>25.01.2022</td></tr>
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<tr><td>Total NIE Fee realised by NABARD (to be filled by RO)</td><td>-</td></tr>
<tr><td>Co-financing (if any)</td><td>Nil</td></tr>
<tr><td>Project contact(s)</td><td>The Director,
Department of Science, Technology & Environment,
3rd Floor, PHB Building,
Anna Nagar, Puducherry – 605 005.
Email: dste.pon@nic.in
Phone: 0413 – 2201256</td></tr>
<tr><td>NIE Contact (s)</td><td>Regional:
The Chief General Manager
48, Mahatma Gandhi Road,
Post Box No. 6074,
Nungambakkam,
Chennai - 600034.
Tamil Nadu.
Contact Number: 044-28276088
Email ID: chennai@nabard.org

Head Office:
The Chief General Manager
Plot C-24, G Block,
Bandra Kurla complex,
BKC Road, Bandra East,
Mumbai, Maharashtra 400051.
Contact Number: 022-26530019</td></tr>
</table>

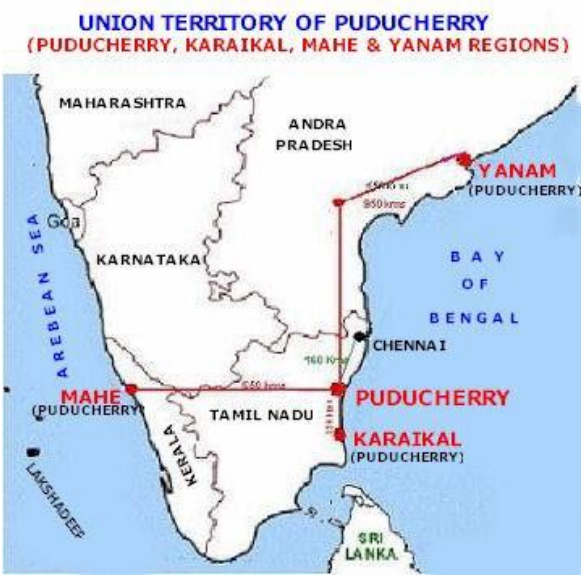
2. Year wise & component wise fund utilization

(Amount in Lakhs)

Financial Utilisation	Project Components						
	Rejuvenation of Tanks	Rejuvenation of Ponds in Puducherry Region	Formation of Mini Lake at Padutharkollai village	Rejuvenation of Ponds in Karaikal Region	Capacity Building for Tanks	Project Execution Cost	Total Cost
Sanctioned Amount	925.54	177.65	168.00	258.81	50.00	47.40	1627.40
1st Year	15.04	0	0	0	0	0	15.04
2nd Year	140.89	4.60	0	0	0	0	145.49
3rd Year	90.52	50.00	0	0	5.14	13.78	159.44
4th Year	72.84	15.09	0	0	0	0.86	88.79
5th Year	73.20	11.79	0	0	0	0.29	85.28
6th Year	235.50	27.66	0	81	0	1.78	345.94
7th Year	68.33	32.05	97.49	113.63	0	8.59	320.09
Total	696.32	141.19	97.49	194.63	5.14	25.3	1160.07

3. Problem context of the project

i) Geographical setting:



Puducherry Union Territory comprises four distinct regions - Puducherry, Karaikal and Yanam nestled on the eastern coast and Mahe on the western coast. All the four regions of the Union Territory are low lying coastal areas exposing them to the vulnerabilities and adverse impacts of climate change and coastal disasters. The Union Territory is already facing the pressure of water scarcity and critical ground water depletion. The present project on Integrated Surface Water Management is implemented in the Puducherry and Karaikal regions where agriculture is one of the prime activities. Water is an important basic need for agriculture development and economic advancement of the Puducherry and Karaikal regions.

ii) Project Context:

The Puducherry and Karaikal regions of the Union Territory boasts a rich history of traditional water management practices. Dating back to the eras of the Cholas and Pallavas, a network of interconnected irrigation tanks, both system tanks (river or canal fed) and non-system tanks (rain fed) has played a vital role in these region's agricultural prosperity. Under these regimes, village communities meticulously maintained these networks of tanks under the system of 'Kudimaramathu', through revenue generated from irrigation and allied activities like rearing of fish. Village communities displayed remarkable foresight by long-term planning, desilting works, strengthening bunds and planting trees to maintain the water bodies. This legacy of community-driven water management continued under French rule (1889-1954) with the establishment of 'Syndicate Agricole' and 'Caise Communes'. These cooperative ventures facilitated collaboration among cultivators, enabling them to undertake irrigation projects for their collective benefit. Following Puducherry's liberation from French rule, the administration of large irrigation tanks gradually transitioned to the Public Works Department,

while village ponds became the responsibility of local bodies within the newly formed Union Territory

However, the 1970s witnessed a significant shift in water management practises. The allure of readily available borewells began to overshadow the traditional systems of tank irrigation. While initially, these wells benefitted from rainwater recharge of the shallow aquifer feeding the tanks, it proved unsustainable later. Groundwater extraction far outpaced natural replenishment, leading to a silent crisis of water depletion.

The traditional tank irrigation system began to collapse over the subsequent decades. Recognizing the gravity of the situation, Government of Puducherry implemented the European Union Funded Tank Rehabilitation Project Puducherry (EU-TRPP) from 1999 to 2004. The project focused on revitalizing the water resources by desilting tanks and channels and formation of Tank User Associations to ensure proper maintenance and community involvement. However, post – project, many TUAs became dormant due to the absence of sustained support and resources. Moreover, the TUAs were struggling to maintain their relevance as most of the agricultural communities have transitioned away to ground water as main source of irrigation and the reliance on surface water bodies diminished. Without proper maintenance, the irrigation canals and tanks became clogged with silt, hindering water flow and causing water bodies to dry up.

This project, funded by the National Adaptation Fund for Climate Change (NAFCC), was conceived in response to these pressing water security challenges. It aims to address the issue through the rejuvenation of irrigation tanks and ponds in the Puducherry and Karaikal regions. By revitalizing these traditional systems and promoting sustainable water management practices, the NAFCC project seeks to build resilience against climate change and ensure a water-secure future for generations to come.

There are 59 system tanks (i.e. tanks are connected to river systems) and 25 non-system (rainfed) tanks in Puducherry region which irrigate about 6456 hectares of land. The system tanks receive supply from the two rivers and three major tributaries. Water from the rivers and tributaries are conveyed to the tanks through feeder channels. Apart from the 25 non-system tanks there are nearly 435 ponds that can hold rainwater. Much of the rainfall runoff can be stored in these 84 tanks.

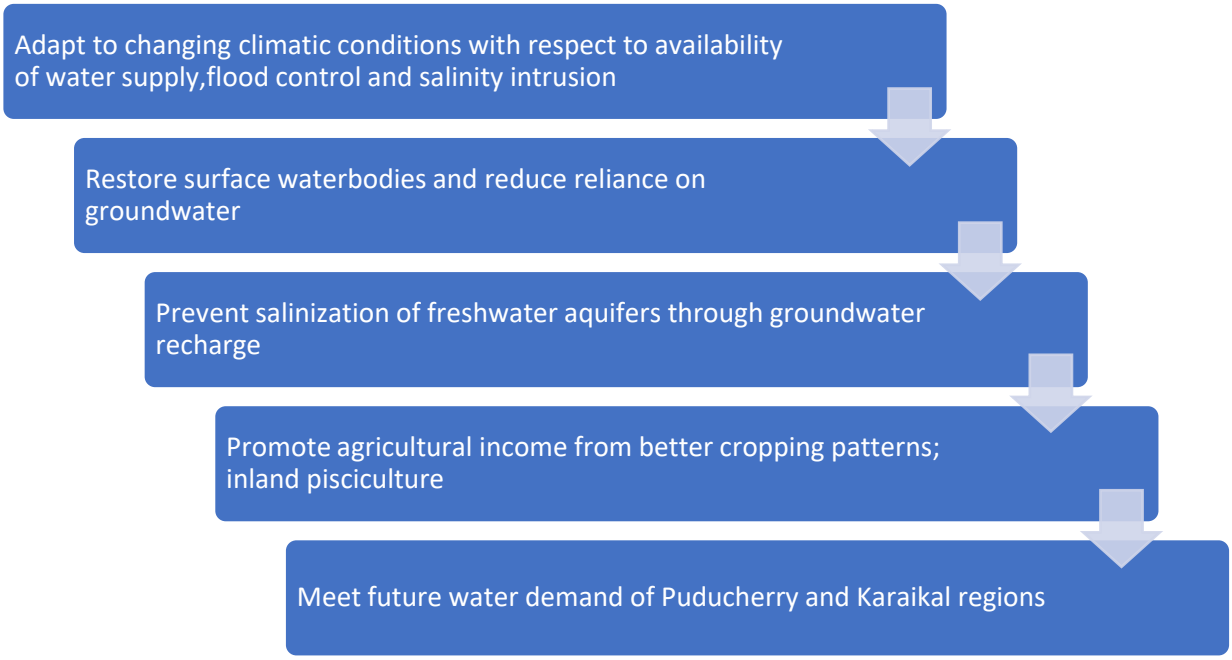
Karaikal is situated in the tail end of deltaic region of the Cauvery River. Surface water systems have sustained the Karaikal agriculture besides acting as a bulwark against salt water intrusion. There are around 549 ponds within the total area of 157 sq. kms area. Non-receipt of Cauvery water on time and erratic rainfall is affecting the area under cultivation and majority in the region could raise only single crop.

iii) Climate change impacts in project area

The Puducherry and Karaikal regions are experiencing the consequences of climate change, including erratic rainfall patterns, increased frequency and intensity of extreme weather events such as cyclones and rising temperatures. These changes exacerbate existing vulnerabilities in water management systems, leading to water scarcity, salinity ingress, and floods. These challenges also threaten agricultural productivity, water security, livelihoods, and the overall well-being of communities in the project area. The impacts of climate change are already visible in the following sectors and subsectors:

- Agriculture: Climate change disrupts traditional weather patterns, leading to:
    - Erratic Rainfall: Unpredictable rainfall patterns can cause droughts and floods, both of which are detrimental to agricultural productivity. Droughts can severely limit crop yields, while floods can damage crops and infrastructure.
    - Increased Salinity Intrusion: Rising sea levels, coupled with excessive groundwater extraction, can lead to saltwater intrusion into coastal aquifers. This salinated water is unsuitable for irrigation, further impacting agricultural viability.
- Water Security: Climate change exacerbates existing water scarcity issues in the following ways:
    - Deterioration of Water Bodies: Changes in rainfall patterns and rising temperatures can contribute to the drying up of existing water bodies, including tanks, ponds, and rivers. This reduces the overall availability of water for irrigation and domestic use.
    - Intensified Water Scarcity: Increased evaporation rates due to rising temperatures can further exacerbate water scarcity, especially during dry periods.

iv) Project Objectives:



v) Key Strategies:

1. **Enhanced Surface Water and Groundwater Management:** The projects involves rejuvenation of existing irrigation tanks and village ponds and also creation of new water storage structures like mini lake. This not only increases water storage capacity but also promotes the conjunctive use of groundwater and surface water, thereby mitigating the risks of over-extraction and saline water intrusion.
2. **Increased Groundwater Recharge:** The project contributes significantly to replenishment of groundwater resources through recharge structures and improved water management practices. By enhancing infiltration rates and promoting sustainable water use, the project aims to rebuild groundwater reserves for long-term water security.
3. **Surface Water Management for Flood Control:** Rejuvenated irrigation tanks and village ponds serve as effective floodwater retention structures, especially during periods of heavy rainfall and monsoon floods. By increasing the storage capacity of these water bodies, the project helps mitigate the impacts of floods by temporarily storing excess water and gradually releasing it downstream, thus reducing the risk of inundation and damage to infrastructure and livelihoods.

vi) Major Actions:

Rejuvenation of Irrigation Tanks in Puducherry: The project successfully rejuvenated 39 irrigation tanks, enhancing water storage capacity and promoting sustainable irrigation practices.

Rejuvenation of Village Ponds in Puducherry: 39 village ponds in the Puducherry region were rejuvenated, providing crucial water sources for agriculture and domestic use.

Formation of Mini Lake in Karaikal: The creation of a mini lake at Padutharkollai village further augmented water storage capacity, contributing to long-term water security in the region.

Rejuvenation of Village Ponds in Karaikal: In Karaikal, 147 village ponds were rejuvenated, bolstering water availability for agricultural and livelihood purposes.

Capacity Building of Tank User Associations: The project also focuses on capacity building of tank user associations, empowering local communities to manage water resources efficiently and sustainably.

vii) Project Livelihood:

The agricultural sector and allied activities are the primary source of income for many communities in Puducherry and Karaikal region. Climate change impacts on agriculture directly threaten these livelihoods through:

- Loss of Crops: Droughts, floods, and salinity intrusion can lead to significant crop failure, causing economic hardship for farmers.
- Reduced Income: Declining agricultural productivity translates to lower incomes for farmers and those dependent on the sector.

viii) Project Beneficiaries:

The project targets vulnerable communities residing in the project area, including smallholder farmers, women, and marginalized groups reliant on agriculture and allied activities for their livelihoods. These beneficiaries face heightened risks from climate change impacts, including loss of income, food insecurity, and displacement.

The direct beneficiaries include TUA members, farmers and other villagers utilizing the stored water for various purposes, including agriculture, domestic use, and other activities. Individuals employed in the desilting and other project works are also direct beneficiaries.

Indirect beneficiaries include residents of Puducherry and Karaikal regions benefitting from improved water availability and groundwater recharge due to project interventions such as revival of Tank Users Associations and construction of recharge bore wells.

ix) Impact Indicators:

- Increased water storage capacity: Measuring the increase in water storage capacity of rejuvenated tanks and ponds, contributing to enhanced water security and resilience to climate variability.
- Increased Groundwater Recharge Rates: Monitoring the rise in groundwater levels and recharge rates resulting from enhanced surface water storage.
- Reduction in Salinity Intrusion: Assessment of salinity levels in groundwater aquifers to gauge the project's success in mitigating saline water intrusion and preserving water quality.
- Reduced flood vulnerbality: Measuring the increased capacity of rejuvenated tanks and ponds to retain excess water during heavy rainfall, thereby reducing downstream flooding.
- Number of Capacity Building Programmes: Number of various programmes conducted for enhancing the capacity of stakeholders, fostering community engagement and strengthening of local institutions.
- Number of knowledge products: Number of knowledge products developed and disseminated to facilitate informed decision making and transparency and promoting success stories.

4. Details of project interventions

Water scarcity is a significant threat to the Puducherry and Karaikal regions. Overdependence on groundwater has caused a decline in its level, while erratic rainfall and unreliable access to the Cauvery River have further stressed Karaikal's agriculture. Climate change with its unpredictable rain patterns, extreme weather events, and rising temperatures worsens the situation, leading to water scarcity, saltwater intrusion, and even flooding.

To combat this crisis, a multi-pronged approach is planned under this project. Firstly, a holistic water management plan will focus on both groundwater and surface water resources. By rejuvenating irrigation tanks and village ponds, the project will not only increase storage capacity but also promote conjunctive use of these resources. This will ensure optimal water

utilization and reduce dependence on overexploited groundwater. Secondly, the project will significantly contribute to groundwater recharge through improved water management practices and replenishment of aquifers from surface water storage. By enhancing infiltration rates and promoting sustainable water use, the project will help rebuild groundwater reserves for the long term. Finally, the project addresses flood control through surface water management. Rejuvenated ponds and tanks will act as buffers during heavy rainfall and monsoons, temporarily storing excess water and releasing it gradually downstream. This will reduce the risk of flooding and protect infrastructure and livelihoods.

The project involves following interventions focussing on enhanced surface water storage capacity, augmented ground water recharge and community engagement:

1. **Rejuvenation of 39 Irrigation Tanks in Puducherry:** This component focuses on climate-proofing 39 priority irrigation tanks in Puducherry. Activities include de-siltation and deepening of 'arangani' portion of the tanks, strengthening of bunds, repairing sluice shutters, installing ground water recharge shafts and planting trees along tank bunds. The aim is to enhance water-holding capacity, recharge groundwater, and mitigate salinity intrusion. The Public Works Department of Puducherry carried out execution of works.

2. **Rejuvenation of 39 Village Ponds in Puducherry:** Identified village ponds in Puducherry were restored to their original storage capacity through de-siltation, bund strengthening, construction of retaining walls, and recharge shafts. The enhanced capacity caters to various local needs like bathing, livestock water, and fish breeding. This also promotes rainwater harvesting and groundwater recharge to prevent salinity intrusion. Execution is handled by five Commune Panchayats under the Local Administration Department.

3. **Formation of a Mini Lake in Padutharkollai Village in Karaikal:** In Karaikal, where agriculture heavily relies on Cauvery River, a mini lake is created in Padutharkollai Village to enhance surface storage and groundwater recharge. Spread over 14.34 hectares with a storage capacity of 400.86 million litres, the lake supports agriculture in over 141.6 hectares land in the surrounding villages. Construction

includes earthen bunds, sluices, and an approach road. The Public Works Department of Karaikal oversees execution.

4. **Rejuvenation of 147 Ponds in Karaikal:** This component targets the restoration of 147 ponds in Karaikal through de-silting, catchment treatment, and bund strengthening to enhance water-holding capacity. Execution is handled by Karaikal Municipality and five other Commune Panchayats under the Local Administration Department.

5. **Capacity Building of Tank User Associations:** The primary objective of the capacity building component is to enhance the knowledge, skills, and capabilities of stakeholders involved in water resource management, particularly focusing on Tank User Associations (TUAs) and local communities. This involves strengthening the TUAs , micro planning at the tank level, capacity building workshops and training programs. This component was executed by PWD through DHAN Foundation.

These interventions collectively aimed to rejuvenate water bodies, enhance water storage, recharge groundwater, and mitigate salinity intrusion, thus fostering sustainable water management practices in the targeted regions of Puducherry and Karaikal.

Summary of the project activities carried out is given in the table below. Detail breakup of works carried out under each project component is elaborated in Annexure I.

Summary of Project Activities

(Amount in Lakhs)

Sl. No.	Name of component and activity	Work proposed	Work completed	Sanctioned amount	Utilised Amount
1	2	3	4	5	6
Component 1	**Rejuvenation of Tanks**	**39 Tanks**	**36 Tanks**		
Activity 1	Desilting	8,84,832.55 cum	806838.616 cum		496.84
Activity 2	Recharge well	44 Nos	44 Nos		88.70
Activity 3	Repair of sluice	44 Nos	40 Nos		40.60
Activity 4	Tree plantation	8000 Nos	1913 Nos	925.54	5.33
Activity 5	Reconstruction of Inlet	2 Nos	1 Nos		31.55
	Others (Advt., Contingencies, Topological Survey etc.)	-			33.30
Sub Total (1)				**925.54**	**696.32**
Component 2	**Rejuvenation of Ponds in Puducherry Region**	**39 Ponds**	**36 Ponds**		
Activity 1	Desilting pond	96866.50 Cum	74497.24 Cum		66.85
Activity 2	Retaining wall	643.99 Cum	643.99 Cum		61.39
Activity 3	Recharge shaft	8 Nos	8 Nos	177.65	6.26
Activity 4	Bathing Ghats	6 Nos.	3 Nos		3.41
Activity 5	Chamber Work	2 Nos.	1 Nos		1.18
	Others (Quality Control, Contingencies, VAT etc.)	-			2.10
Sub Total (2)				**177.65**	**141.19**
Component 3	**Formation of Mini Lake at Padutharkollai village in Karaikal region**	**1 Mini Lake**	**1 Mini Lake**		
Activity 1	Earth Work	74560 Cum	70978.37 Cum		79.63
Activity 2	Inlet and Outlet Sluices	2 Nos.	0 Nos		0.00
Activity 3	Shifting of existing road	1 Job	1 Job	168.00	17.25
	Others (Advt, Contingencies, etc.)	-			0.61
Sub Total (3)				**168.00**	**97.49**

Sl. No.	Name of component and activity	Work proposed	Work completed	Sanctioned amount	Utilised Amount
1	2	3	4	5	6
Component 4	**Rejuvenation of Ponds in Karaikal Region**	**147 Ponds**	**133 Ponds**		
Activity 1	Desilting pond	1,93,903 Cum	168420.36 Cum	258.81	190.44
	Others (Advt., Contingencies, Topological Survey, etc.)	-	-		4.19
Sub Total (4)				**258.81**	**194.63**
Component 5	**Capacity Building for Tanks**	**39 tanks**	**20 Tanks**		
Activity 1	Capacity Building for Tanks	-	-	50.00	5.14
Sub Total (5)				**50.00**	**5.14**
Subtotal (Project Measures)				**1580.00**	**1134.77**
EE Cost	**Project Execution Cost**			**47.40**	**25.30**
Grand Total (Project Measures + EE Cost)				**1627.40**	**1160.07**

5. Livelihood generated

While the NAFCC project primarily focused on activities such as desilting, sluice repair, tree plantation, recharge shaft construction, and road laying, it indirectly contributed to livelihood generation within the project area. Due to the significant usage of earth-moving machinery such as excavators for tasks like desilting which is the major component of the project, the requirement for manual labour was reduced, resulting in fewer opportunities for direct livelihood generation. However, the project facilitated temporary employment and income for both skilled and unskilled workers from the local community by engaging them in the project tasks, leading to broader socio-economic benefits for the project area. The number of man-days of employment created by the project is outlined below:

Components	**Number of Man days**			**Duration of Livelihood Generated**
	Male	Female	Total	
Rejuvenation of Tanks	4073	1646	5719	Over a period of 7 years
Capacity Building Programme	200	150	350	Over a period of 2 years

In addition to the above direct employment opportunities created through project activities, the NAFCC project also facilitated long-term livelihood generation opportunities. The rejuvenation of tanks and ponds, coupled with capacity building initiatives, lays the foundation for sustainable livelihoods in the project area in following ways:

1. **Enhanced Agriculture and Fisheries:** The rejuvenation of irrigation tanks and village ponds contributes to increased water availability, thereby supporting agricultural activities in the region. Farmers can cultivate a wider variety of crops throughout the year, leading to improved productivity and income generation. Moreover, the replenishment of groundwater levels ensures sustained irrigation, reducing the risk of crop failure and enhancing agricultural resilience to climate variability.

2. **Aquaculture Development:** Revitalized ponds provide conducive environments for fish breeding and aquaculture. Local communities can engage in fish farming activities, supplementing their income through the sale of fish products. Capacity building initiatives empower individuals with the knowledge and skills required for sustainable aquaculture practices, further enhancing the economic viability of fishery-related livelihoods.

3. **Livelihood Diversification**: Capacity building programs aimed at strengthening tank user associations (TUAs) promote community-driven initiatives for livelihood diversification. TUAs can explore alternative income-generating activities such as eco-tourism, organic farming, and agro-processing ventures. By leveraging the restored natural resources, communities can develop innovative livelihood strategies that capitalize on local strengths and resources.

By combining infrastructure development with capacity building interventions, the NAFCC project not only addresses immediate employment needs but also lays the groundwork for sustained livelihood generation in the project area. Through a holistic approach encompassing agriculture, fisheries, skill development, and community entrepreneurship, the project fosters resilient and inclusive economic development, ensuring long-term prosperity for local communities.

6. Issues, challenges and corrective measures

The project faced several challenges and risks during its execution, encompassing environmental and social concerns, gender considerations and other potential risks that posed threat to the project's success. These challenges include the revival of the Tank Users Association, issues related to sewage water stagnation, logistical hurdles in moving machinery, potential disruptions during the monsoon and fish breeding seasons and objections to recharge structures due to pollution concerns.

i) Environmental Risks:

Challenges:

- Sewage Pollution in tanks and ponds degraded water quality and affects aquatic ecosystems.

Corrective Measures:

- The channels carrying domestic sewage to the ponds were diverted to community soak pits constructed under convergence with DRDA funds.

ii) Social Risks:

Challenges:

- The revival of Tank Users Associations presents inherent social challenges, such as resistance and coordination difficulties among community members.

Corrective Measures:

- To overcome these hurdles, the work of desilting was awarded to the TUAs in 12 tanks for fostering a sense of ownership. Additionally, capacity-building initiatives were undertaken to empower stakeholders and foster community engagement in water management endeavours.

iii) Gender Considerations:

Challenges:

- Socio-cultural norms and gender stereotypes may restrict women's involvement in water-related activities and decision-making processes.

Corrective measures:

- Ensured inclusive participation by conducting gender-sensitive consultations and providing capacity building opportunities for women in water governance.

iv) Other Risks:

a) Lack of Approach for the Machinery: Inadequate access for machinery at project sites poses logistical challenges that require strategic intervention. Collaborative efforts with local authorities, prioritization of manual labour, and exploration of alternative transportation methods were employed to address this issue effectively. By leveraging local expertise and engaging stakeholders in the decision-making process, logistical constraints were mitigated, ensuring the seamless execution of project activities.

b) Monsoon Season: The unpredictable nature of the monsoon season presents significant challenges to project execution and implementation. To mitigate these risks, a flexible project timeline was adopted, allowing for adjustments to accommodate seasonal variations effectively. Additionally, the implementation of rainwater harvesting techniques and the installation of recharge borewells were instrumental in minimizing the impact of heavy rainfall, thereby enhancing the project's resilience to climatic variability.

c) Fish Breeding Season: Project activities coinciding with the fish breeding season necessitate careful consideration to minimize disruptions and mitigate ecological impacts. By adjusting project timelines to avoid critical periods for fish breeding, potential disturbances to aquatic ecosystems were mitigated, ensuring the preservation of biodiversity and ecological balance.

d) Objections for Recharge Structures from Pollution Angle: Local objections to recharge structures due to perceived pollution risks necessitate proactive measures to address community concerns and ensure project acceptance. Proper design and construction of recharge structures, coupled with stakeholder engagement and awareness campaigns, fostered community acceptance and support for project initiatives. By prioritizing environmental sustainability and community engagement, potential objections were effectively mitigated, facilitating the successful implementation of project objectives.

7. Transformational changes brought out by the project

The Integrated Surface Water Management project in the Puducherry and Karaikal region has brought about several transformational changes, significantly improving water management, groundwater recharge, and community involvement in water conservation. A detailed overview of the transformational changes resulting from the project is given in Annexure II.

8. Results and key outcomes

The National Adaptation Fund for Climate Change (NAFCC) project has had a profound impact in watershed management and climate resilience of Puducherry and Karaikal regions. The project, undertaken with meticulous planning and execution, has yielded numerous direct and indirect benefits, contributing to the enhancement of livelihoods, environmental conservation, and sustainable water management practices.

i) Direct and Indirect Beneficiaries:

The NAFCC project in Puducherry and Karaikal has demonstrably improved the lives of local communities in the project villages. The project was executed in 31 villages in

Puducherry and 30 villages in Karaikal. These village communities heavily rely on agriculture and allied activities. While the project's primary beneficiaries are directly impacted by its interventions, their families also stand to benefit indirectly by increased household incomes from the project interventions. The project has benefited an estimated 55,663 households (2,33,918 individuals) in the project villages at Puducherry and 32,137 households (1,31,719 individuals) in the project villages at Karaikal. Notably, women comprise a significant portion of the beneficiaries, with 1,18,290 in Puducherry and 67,163 in Karaikal project villages.

The project's core intervention involved the rejuvenation of irrigation tanks and village ponds, a vital source of water for these communities' livelihoods. This improved water availability has directly impacted agricultural productivity and pisciculture practices, leading to increased household incomes. The project's benefits extend beyond immediate economic gains. Targeted interventions and capacity-building initiatives have empowered both men and women, enhancing their resilience in the face of climate change and fostering positive transformations in their lives.

Furthermore, the project's impact transcended beyond the project villages. The project's positive influence on water security, salinity reduction, and flood buffering during extreme weather events had a ripple effect, indirectly benefiting an estimated 3,65,637 families spread across the entire Puducherry and Karaikal region. This enhanced adaptive capacity contributes to the overall well-being and stability of the community, safeguarding livelihoods and promoting sustainable development.

ii) Trainings Conducted:

In addition to the rejuvenation efforts, capacity-building programs was conducted for the TUAs and villagers of the project tank areas, which have further enriched the adaptive capacity of the community. An extensive array of activities including Orientation Programmes, Mobile Theatre Awareness Programmes, Participatory micro vulnerability assessment and planning at tank level, Focus Group Discussion, Exposure Visits and Process Training (Hydrology, Business Plan & Book Keeping) were meticulously organised under the project. A total of 1297 stakeholders from the TUAs and villages participated in the various capacity building training programmes. The comprehensive details of the training programme are documented in Annexure IV.

Women's empowerment and inclusivity were emphasized throughout the project and special efforts were made to include women in capacity-building initiatives, ensuring their active participation A total of 172 women participated in these programs, acquiring valuable skills and knowledge in climate-resilient agriculture and water conservation. This enhanced their ability to cope with climate change impacts and fostered economic empowerment and self-reliance within the community.

The capacity building programs has yielded significant outcomes, including comprehensive documentation of micro level vulnerability of tank systems and development of micro plans for sustainable agriculture and business activities. The Training programs have equipped TUA leaders with essential skills in hydrology, business planning, and bookkeeping, while equitable benefit sharing among farmers and effective conflict resolution mechanisms have ensured harmonious water resource management. Knowledge dissemination efforts have facilitated the adoption of best practices, contributing to the project's overall success in promoting sustainable water resource management practices.

iii) Assets Produced, Developed, Improved, or Strengthened:

The project has significantly contributed to the enhancement and restoration of water-related assets in the Puducherry region. Key achievements include:

- Restoration of 36 irrigation tanks and 169 village ponds in the Puducherry and Karaikal regions regions, bolstering water storage management infrastructure.
- Successful removal of encroachments in ponds and tanks, restoring them to their original state and functionality.
- Deployment of 44 recharge borewells in irrigation tanks and 8 recharge borewells in ponds facilitated groundwater replenishment and sustainability
- Strengthening of bunds and deployment of retaining walls/revetments to control soil erosion and foster resilient water bodies.
- Afforestation initiatives involving plantation of 1913 trees along the bunds of water bodies for environmental conservation and ecosystem enrichment.
- Reconstruction of inlet structures and establishment of bathing ghats to enhance stakeholder accessibility and usability.
- Development of a new Mini Lake at Padutharkollai village, in Karaikal to address the water needs of adjacent village communities.

iv) Natural Assets Protected or Rehabilitated:

For centuries, the irrigation tanks and ponds have served as the lifeline of the Puducherry and Karaikal region, playing a pivotal role in agriculture, sustenance and the very fabric of life that has thrived around them. These network of system and non-system tanks and ponds boast a rich history dating back to the Chola and Pallava era. They were meticulously constructed to harvest rainwater and channel it into these reservoirs. This network of tanks and ponds reflected an advanced understanding of water management, ensuring a consistent water supply for irrigation throughout the year.

Beyond irrigation, these tanks and ponds acts as natural filters, replenished groundwater aquifers, and provided vital habitat for diverse flora and fauna, supporting a rich biodiversity. Unfortunately, these tanks and ponds face increasing threats from encroachment, pollution, and siltation. Protecting these tanks and ponds is essential for ensuring the water security, maintaining ecological balance and preserving the cultural heritage of the region.

The NAFCC project in the Puducherry region has made significant contributions to the restoration of these natural assets. The project resulted in revitalizing and enhancing the functionality of 36 irrigation tanks and 169 village ponds in Puducherry and Karaikal region. Additionally, the project developed a new Mini Lake at Padutharkollai village in Karaikal spanning a water spread area of 14.35 hectares

The creation and restoration of natural assets through the NAFCC project play a pivotal role in enhancing water security, biodiversity conservation, climate resilience, and socio-economic development in the Puducherry and Karaikal region. These efforts represent sustainable investments in the region's natural infrastructure, ensuring a more resilient and prosperous future for local communities and ecosystems.

v) Overall Outcomes of the Project:

- Desilting of 36 irrigation tanks and 169 village ponds resulted in a substantial increase in total storage capacity from 34 MCM to 46 MCM, positively impacting the surface and groundwater regime of Puducherry Union Territory.
- Creation of a man-made mini lake in Padutharkollai Village, spanning a water spread area of 14.35 hectares, serves as an additional water storage reservoir. This lake not

only addresses the water needs of local communities but also promotes groundwater recharge and supports sustainable agriculture over 350 acres of agricultural land.

- Repairing 40 defunct sluices, construction of inlet and outlet structures and bund strengthening in tanks and ponds improved water retention capacity, reduced water loss due to seepage and ensued more efficient water utilization for agricultural and domestic purposes.
- Implementation of chamber works and community soak pits for treating the inlet water in some of the village ponds improved the water quality and enhanced the overall health and functionality of the aquatic ecosystem within the ponds.
- Increase in water spread area and deployment of 52 recharge shafts in irrigation tanks and ponds resulted in significant augmentation of groundwater recharge. Groundwater levels had increased by 2 to 7 meters in the project area.
- Further, the stage of Ground Water Development has slightly improved from 102% (Over exploited) in 2017 to 94.77% (Critical) in 2022 due to the groundwater augmentation measures taken up by the Government under the present project and other schemes.
- Increased ground water levels and reduction in aquifer drawdown prevented the risk of risk of saline water intrusion into freshwater aquifers.
- The encroachment in all the water bodies were removed leading to the restoration and preservation of natural water ecosystems.
- By ensuring a reliable water supply to stakeholders even during dry periods, the project successfully addressed the impacts of climate variability.
- Afforestation activities in bund areas helped to prevent soil erosion, protect water bodies, and promote biodiversity conservation, contributing to the overall ecological health of the region.
- Successful promotion of inland pisciculture in the project tanks and ponds diversified economic activities, creating additional income opportunities and strengthening the resilience of local communities against climate-related shocks.
- 20 Tank User Associations were empowered through targeted capacity building and training programmes, with 1297 participants.
- Micro vulnerability assessment and mitigation plans prepared for 20 project tanks using participatory approach.

- Overall, the project ensured the sustainability of water resources, effectively meeting the present and future water demands of Puducherry and Karaikal regions while promoting socio-economic development and environmental conservation.

9. Pre & Post Development satellite photographs

The Pre and Post development satellite imageries are placed in Annexure III.

10. Lessons learned

i) Unprecedented Weather Events:

During the implementation of the NAFCC project, unforeseen heavy rainfall disrupted planned desilting activities during the summer season. Unprecedent rainfall of 259 mm occurred during February 2021 causing water stagnation during summer season and affecting the desilting works. This unexpected weather event highlighted the importance of incorporating flexibility into project timelines and activities to account for climate variability. By anticipating such challenges and adapting project plans accordingly, the project maintained momentum and effectively responded to changing environmental conditions.

ii) Timely Planning and Contingency Measures:

Delays in issuing work orders due to Legislative Assembly elections and the Covid-19 lockdown underscored the need for proactive planning and the establishment of contingency measures. By identifying potential disruptions and implementing strategies to address unforeseen circumstances, the project avoided delays and ensured timely progress towards its objectives.

iii) Proactive Planning and Revision of Project Components:

The necessity to revise the Detailed Project Report (DPR) twice to accommodate changes in project sites and components emphasized the importance of proactive decision-making. By regularly reviewing project dynamics and making necessary modifications to align with goals and objectives, the project adapted to evolving situations and maintained effectiveness.

iv) Effective Communication and Reporting Processes:

Ensuring proper communication and reporting processes are essential for project success. Effective and timely reporting of project progress to relevant authorities facilitated informed decision-making and streamlined approval processes, contributing to the project's continuity and success.

v) Challenges in Tendering Process:

Challenges in the tendering process, such as limited bidder participation necessitating repeated retenders, highlighted the importance of thorough assessment of market conditions. By effective communication with local bidders and encouraging contractors to participate in non-responsive tenders improved competitiveness and ensured successful implementation of works.

vi) Community Engagement in Project Works:

Engaging community participants in project activities is crucial for fostering local ownership and participation. Strengthening community engagement and outreach efforts, such as conducting awareness campaigns and addressing concerns hindering participation enhanced community involvement in project activities and overall project success.

vii) Continuous Monitoring and Timely Interventions:

Effective monitoring conducted by relevant authorities, including DSTE, NABARD, MoEFCC and Secretaries of Environment, Local Administration, and Public Works of GOP, enabled timely interventions and necessary modifications during project execution. Monthly monitoring and inspections by DSTE & NABARD officials ensured project progress aligns with objectives and facilitated informed decision-making.

11. Innovation

The NAFCC project in the Puducherry region has embraced several innovative practices and technologies to enhance the effectiveness and sustainability of its interventions. One notable innovation is the utilization of remote sensing and GIS technology for comprehensive mapping and assessment of water resources in the project area. The project has established a geospatial database, accessible via the project website (https://dste.py.gov.in/pccc/NAFCC/Index.htm), ensuring transparency and accessibility of

information to all stakeholders. This geospatial database serves central repository of all project related information facilitating informed decision making and targeted interventions.

Additionally, the project implemented innovative water conservation techniques such as rainwater harvesting and groundwater recharge systems. The installation of Recharge Shafts in tanks and ponds aims to replenish aquifers and mitigate the impacts of over-extraction and saline water intrusion, thereby ensuring long-term water security for communities in the region.

Furthermore, the project incorporated community-driven approaches and participatory methodologies to promote local ownership and sustainability. Through initiatives such as Participatory Vulnerability Assessment and Micro Planning excesses conducted in the project villages, the project actively engaged the TUAs encouraging them to play a central role in management of waterbodies. This innovative approach fosters empowerment and engagement among stakeholders, encouraging their active involvement in addressing water management challenges and building resilience against climate change impacts.

12. Description of the vulnerable communities and social groups

The integrated surface water management project in Puducherry targets various vulnerable communities facing water-related challenges. These include smallholder farmers marginalized groups such as landless labourers reliant on agriculture and related activities, coastal residents, women-headed households, and the urban poor. Their vulnerability stems from factors like limited access to water resources, socio-economic disparities, and exposure to climate change impacts such as water scarcity and contamination.

To address the needs of these vulnerable communities, the project employed a multi-faceted approach centred on community involvement and empowerment. It fostered active participation of community members, including women and weaker sections, in decision-making processes related to water management. Vulnerability Assessment and Micro Level Planning Exercises were conducted in the project villages using participatory approach. This involvement ensured that the perspectives, needs, and traditional knowledge of the vulnerable communities are integrated into project planning and implementation.

The project facilitated the promotion of pisciculture in the project tanks and ponds, providing additional opportunities for income generation and food security among the target communities.

The project also facilitated capacity-building initiatives aimed at enhancing the skills and knowledge of community members in sustainable water management practices, agricultural techniques resilient to climate change, and income-generating activities. Tailored training programs and workshops were conducted to equip them with the necessary tools and resources to adapt to changing environmental conditions and improve their livelihoods. Details of the training and capacity building program is provided in Annexure V.

Additionally, the project promoted revitalisation of local institutions such as Tank User Associations (TUAs) to strengthen community governance structures and facilitate equitable benefit-sharing of water resources. Through these mechanisms, vulnerable communities are empowered to actively manage and utilize water resources, build resilience to climate change, and improve their socio-economic well-being. By prioritizing inclusivity and empowerment, the project created sustainable solutions that address the specific needs and challenges faced by vulnerable communities in the project area.

13. Strengthening of long-term institutional and technical capacity for effective adaptation

The NAFCC project has significantly contributed to enhance the capacities of the government departments and village communities to plan and implement effective strategies for climate change adaptation. At the institutional level, the project strengthened the dedicated Puducherry Climate Change Cell functioning within the Department of Science, Technology and Environment for co-ordinating all climate change mitigation and adaptation projects. The Cell played a pivotal role in crafting the NAFCC project DPR, liaising with executing entities throughout project implementation, monitoring and evaluating progress, and facilitating documentation. Over the course of the NAFCC project's lifecycle, all participating government agencies augmented their skills to seamlessly integrate climate change adaptation into principles into their core functions and decision-making processes.

At the community level, strengthening the grass root institutions for effectively managing and maintaining the water bodies was a challenging task. The Tank User Associations (TUAs) were established during 1998 – 2004 as a part of the European Union funded Tank Rejuvenation Project, Puducherry (TRPP), for the purpose of enhancing community participation in water management at the grass root level. However, post – project, many TUAs became dormant due to the absence of sustained support and resources. Moreover, the TUAs were struggling to maintain their relevance as most of the agricultural communities have transitioned away to ground water as main source of irrigation and the reliance on surface water bodies diminished.

Recognizing the importance of revitalizing these institutions, the present project focused on reactivating TUAs as active stakeholders in sustainable water management. Capacity-building initiatives were conducted to raise awareness among community members about the benefits of surface water and the importance of collective action in its preservation. Training programs focused on equipping TUAs with the technical skills and knowledge needed to monitor and manage surface water resources effectively. Additionally, the project facilitated the implementation of income-generating activities such as pisciculture in project tanks and ponds, providing communities with tangible benefits from the sustainable use of surface water. By demonstrating the economic value of surface water resources, the project aimed to foster greater community interest and participation in TUA activities.

Despite these efforts, revitalizing TUAs proved challenging due to entrenched practices and preferences for groundwater use. Changing mindsets and behaviour patterns required sustained engagement and targeted interventions beyond the project's duration. While the project made significant strides in revitalizing TUAs and promoting sustainable water management, ongoing efforts are needed to ensure their long-term effectiveness. By addressing the root causes of community reliance on groundwater and fostering a culture of stewardship for surface water resources, future initiatives can build upon the foundation laid by the present project and contribute to the sustainable management of water resources in the region.

14. Planned measures for sustainability, replicability and upscaling of project activities

To ensure the sustainability of project activities, plans are in place for regular maintenance of rejuvenated tanks and ponds under the departmental budget and community engagement, continuous monitoring of recharge shaft performance, and capacity building of TUAs.

The project's replicability and upscaling will be facilitated through knowledge sharing, stakeholder engagement, and the establishment of best practices guidelines. The use of geospatial data for monitoring and reporting will be continued to enhance project transparency and effectiveness.

15. Other Salient Benefits derived from the Project

The project has yielded diverse range of benefits, extending beyond direct water resource augmentation objectives. The project's interventions have led to significant improvements in various aspects, contributing to sustainable development and enhancing the well-being of local communities in Puducherry and Karaikal regions. They include:

i) **Ecological Restoration and Biodiversity Enhancement:**

The project's interventions have contributed to restoring ecological balance and enhancing biodiversity in the project area. Rejuvenating tanks and ponds created conducive habitats for various flora and fauna species, promoting biodiversity conservation and ecosystem resilience.

ii) **Livelihood Support and Economic Empowerment:**

The project generated employment opportunities and provided livelihood support to local communities. Activities like desilting and water infrastructure maintenance improved water availability, boosting agricultural productivity and economic resilience.

iii) Social Cohesion and Community Well-being:

Community participation in project activities fostered social cohesion and strengthened community bonds. Collective water resource management efforts instilled a sense of

ownership and pride in shared natural heritage, enhancing community well-being and social harmony.

iv) Health and Sanitation Improvements:

Access to clean water sources resulting from project interventions led to improvements in public health and sanitation. Reduced waterborne diseases and improved hygiene practices positively impacted the health outcomes of community members, especially women and children.

v) Climate Resilience and Disaster Risk Reduction:

Enhanced water storage capacity and groundwater recharge bolstered climate resilience and mitigated risks associated with droughts and floods. Adaptive water management practices introduced through the project serve as effective disaster risk reduction strategies, helping communities cope with climate change impacts.

vi) Tourism Promotion and Cultural Heritage Conservation:

Revitalization of water bodies and creation of recreational spaces around lakes and ponds can promote tourism and cultural heritage conservation. Aesthetic appeal and development of public amenities attract tourists, stimulate economic growth, and preserve local heritage.

vii) Gender Empowerment:

The project has prioritized gender mainstreaming by ensuring equitable participation of women in decision-making processes and providing training and support for income-generating activities.

viii) Sustainable Agriculture:

Improved water availability supports agricultural activities, leading to increased crop yields and diversification of farming practices, thereby boosting local economies.

ix) Microclimate Improvement:

Water Bodies influence local microclimates by moderating temperature extremes. Rejuvenated tanks and ponds contributed to a more favourable and temperate environment in the surrounding areas.

Overall, the project has yielded multifaceted benefits encompassing ecological restoration, livelihood support, social cohesion, health improvements, climate resilience, tourism promotion, and cultural heritage conservation. These salient benefits highlight the project's holistic approach to sustainable development and its positive impact on local communities' well-being.

16. Constraints, if any faced in implementation of the project

The implementation of the Integrated Surface Water Management for Climate Change Adaptation project in the Puducherry and Karaikal regions encountered several constraints, which significantly impacted the smooth progress of the project and necessitated corrective actions to mitigate their effects. The constraints are summarized as follows:

External Factors: External factors beyond the project's direct control presented challenges that required adaptation and flexibility.

- **Unforeseen Events:** The project encountered unforeseen heavy rainfall in February 2021, exceeding typical summer patterns. This caused water stagnation and disrupted planned desilting activities. This event highlighted the importance of incorporating climate variability into project timelines and adopting flexible approaches to maintain momentum and adapt to changing environmental conditions.
- **Planning and Approvals:** Delays in issuing work orders due to Legislative Assembly elections and the Covid-19 lockdown underscored the need for proactive planning and contingency measures. The project addressed this by identifying potential disruptions and implementing strategies to counteract unforeseen circumstances, ensuring timely progress towards objectives.
- **Project Adjustments:** The need to revise the Detailed Project Report (DPR) twice to accommodate changes in project sites and components emphasizes the importance of proactive decision-making. By regularly reviewing project dynamics and making necessary modifications aligned with goals and objectives, the project adapted to evolving situations and maintained effectiveness.

Internal Factors: Internal factors within the project's control required focused interventions to ensure smooth implementation.

- **Tendering Process:** Limited bidder participation necessitating repeated retenders highlighted the importance of thorough market assessment. The project addressed this by effectively communicating with local bidders and encouraging contractor participation in non-responsive tenders, ultimately improving competitiveness and ensuring successful implementation of works.
- **Environmental and Social Risks:**
    - Environmental Impact: Sewage pollution in tanks and ponds presented a significant challenge, degrading water quality and impacting aquatic ecosystems. Corrective measures involved diverting sewage channels to community soak pits constructed under convergence with DRDA funds.
    - Social Considerations: Reviving Tank Users Associations (TUAs) presented inherent social challenges, such as resistance and coordination difficulties among community members. To overcome these hurdles, desilting work in 12 tanks was awarded to TUAs, fostering a sense of ownership. Additionally, capacity-building initiatives empowered stakeholders and fostered community engagement in water management endeavours.
    - Gender Equity: Socio-cultural norms and gender stereotypes restricts women's involvement in water-related activities and decision-making processes. To address this, the project ensured inclusive participation by conducting gender-sensitive consultations and providing capacity-building opportunities for women in water governance.
    - Logistical Challenges: Inadequate access for machinery at project sites posed logistical challenges. Collaborative efforts with local authorities, prioritization of manual labour and exploration of alternative transportation methods were employed to address this issue effectively.
    - Seasonal Considerations: The unpredictable nature of the monsoon season posed significant challenges. To mitigate these risks, a flexible project timeline was adopted, allowing for adjustments to accommodate seasonal variations effectively.
    - Fish Breeding Season: Project activities coinciding with the fish breeding season necessitated careful consideration. Adjusting project timelines to avoid critical periods for fish breeding mitigated potential disturbances to aquatic ecosystems, ensuring the preservation of biodiversity and ecological balance.

- Community Concerns: Local objections arose due to perceived pollution risks associated with recharge structures. Proper design and construction of recharge structures, coupled with stakeholder engagement and awareness campaigns, fostered community acceptance and support for project initiatives. By prioritizing environmental sustainability and community engagement, potential objections were effectively mitigated.

The project successfully addressed numerous challenges during its implementation. Proactive planning, flexible approaches, and effective communication proved crucial in overcoming unforeseen events and internal roadblocks. Addressing environmental and social risks through targeted interventions facilitated project sustainability and community ownership. By learning from these constraints and implementing the lessons learned, future water resource management projects can be designed and executed more effectively, ensuring the long-term health and functionality of Puducherry and Karaikal's vital tanks and ponds.

17. Statements of Beneficiaries from vulnerable communities in project area

Attached as Annexure IV

Certificate:

Certified that the above-mentioned project interventions were commenced on 24.09.2016 and completed within project timeline of March 2023. The work and activities have been implemented satisfactorily in accordance with the approved DPR.

Place: Puducherry
Date : 18.04.2024

Yasam Lakshmi Narayana Reddy
Director
Department of Science, Technology and Environment
Government of Puducherry

Annexure-I

Summary of Achievements against Targets Mentioned in Result Framework / DPR

Name of the Project: Integrated surface water management for Climate Change Adaptation in U.T. of Puducherry

Location: Puducherry and Karaikal Region

Component	Activity	Indicators (Results)	Baseline	Target	Actual Achievement (in MRV term)	Sources of Verification	Impact			No. of families whose adaptive capacity got enhanced (Direct & Indirect)
Component 1	**Rejuvenation of Tanks**						Social	Env.	Eco.	
Activity 1	Desilting	Excavation of Earth	-	8,84,832.55 cum	806838.616 Cum	M. Book of respective sub division of PWD	-	-	-	2,33,918
Activity 2	Recharge well	Construction of Recharge well	-	44 Nos	44 Nos		-	-	-	
Activity 3	Repair of sluice	Repair of sluice Shutter	-	44 Nos	40 Nos		-	-	-	
Activity 4	Tree plantation	Planting of Tree saplings	-	8000 Nos	1913 Nos		-	-	-	
Activity 5	Reconstruction of Inlet	Inlet structure Construction	-	2 Nos	1 Nos		-	-	-	
Component 2	**Rejuvenation of Ponds in Puducherry Region**									
Activity 1	Desilting pond	Excavation of Earth	-	96866.50 Cum	74497.24 Cum	M. Book of Respective Commune Panchayat	-	-	-	
Activity 2	Retaining wall	Construction of Side wall	-	643.99 Cum	643.99 Cum		-	-	-	
Activity 3	Recharge shaft	Construction of Recharge well	-	8 Nos	8 Nos		-	-	-	
Activity 4	Bathing Ghats	Construction of Bathing Ghats	-	6 Nos.	3 Nos		-	-	-	
Activity 5	Chamber Work	Construction of Chamber	-	2 Nos.	1 Nos		-	-	-	

Component	Activity	Indicators (Results)	Baseline	Target	Actual Achievement (in MRV term)	Sources of Verification	Impact			No. of families whose adaptive capacity got enhanced (Direct & Indirect)
Component 3	**Formation of Mini Lake at Padutharkollai village in Karaikal region**									1,31,719
Activity 1	Earth Work	Excavation of Earth	-	74560 Cum	70978.37 Cum	M. Book of respective sub division of PWD	-	-	-	
Activity 2	Inlet and Outlet Sluices	Construction of Inlet and Outlet Sluice Shutter	-	2 Nos.	0 Nos.		-	-	-	
Activity 3	Shifting of existing road	Shifting of existing road	-	1 Job	1 Job		-	-	-	
Component 4	**Rejuvenation of Ponds in Karaikal Region**					M. Book of Respective Commune Panchayat	-	-	-	
Activity 1	Desilting pond	Excavation of Earth	-	1,93,903 Cum	168420.36 Cum		-	-	-	
Component 5	**Capacity Building for Tanks**									
Activity 1	Capacity Building for Tanks	Training of Tank Users Association	-	39 Nos	20 Nos		-	-	-	

Details of the Works carried out

Tanks in Puducherry region:

Name of the Tank	Desilting (Cum)	Recharge Borewell (Nos.)	Repairing the sluice shutter (Nos.)	Tree plantation (Nos.)	Inlet Repair (Nos.)
Murungapakkam Tank	28479.447	0	0	0	0
Olandai Tank	44545.718	0	0	0	0
Kunichempet Pazhayaeri	18549.240	10	3	0	0
Vadhanur Tank	14274.858	8	4	1500	0
Mannadipet Tank	10580.778	0	1	0	0
Thirukkanur Peria Eri	29367.524	8	3	0	0
Katterikuppam Tank	35069.612	8	4	152	0
Thondamanatham Tank	44494.616	10	6	261	0
Bahour Tank	130910.790	0	3	0	0
Keezparikkalpet Tank	9805.410	0	1	0	0
Karaiyambuthur Tank	19940.750	0	0	0	0
Kirumampakkam Tank	18330.652	0	0	0	0
Kuruvinatham Tank	21145.081	0	0	0	0
Manapet Tank	10544.640	0	1	0	0
Korkadu	45729.01	0	0	0	0
Abishepakkam Tank	49098.493	0	5	0	1
Madagadipet Tank	12405.46	0	0	0	0
Thiruvandarkoil Tank	16847.657	0	0	0	0
Embalam Sitheri	10923.469	0	1	0	0
Kudiyirupupalayam Tank	2972.79	0	0	0	0
Kirumampakkam periyaeri	3953.065	0	0	0	0
Keezhagraharam tank	2288.39	0	0	0	0
Karikkalampakkam Tank	12832.57	0	0	0	0
Eripakkam Tank	13838.121	0	0	0	0
Nettapakkam Tank	28205.035	0	0	0	0
Chettipet Tank	7719.18	0	2	0	0
Sompet Tank	40959.09	0	2	0	0
Kodathur Tank	7352.25	0	2	0	0
Perungalure Tank	20913.83	0	0	0	0
Karaiyamputhur Odaperi Tank	9878.3	0	0	0	0
Suthukeny Periya eri	13954.44	0	0	0	0
Thuthipet Tank	8946.04	0	0	0	0
Thondamanatham Kadaperi	8681.36	0	0	0	0
Kariyamanikkam Tank	35643.183	0	0	0	0
Mannappan thangal	4300.867	0	0	0	0
Manalaipet Tank	13356.9	0	2	0	0
Total	806838.616	44	40	1913	1

Ponds in Puducherry region:

Name of the pond	Desilting (Cum)	Recharge Borewell (Nos.)	Retaining wall (Cum.)	Bathing Ghats (Nos.)	Chamber Work (Nos.)
Iyyanarkoil kulam at Kunichempet village	1401.67	0	0	0	0
Mangkulam at K.Andiarpalayam village	2033.22	0	0	0	0
Gingee kulam at Manalipet village	1759.80	0	0	0	0
Sudukadu kulam at Thiruvandarkoil village	1003.84	0	113.89	0	0
Iyyanarkoil kulam at Sanniyasikuppam village	3297	0	0	0	0
Uthu kulam at Kunichempet village	1183.71	0	0	0	0
Velan kulam at Kunichempet village	2360.65	0	0	0	1
Arippan kulam at Sorapet village	1686.30	0	0	0	0
Kalkatti kulam at Sompet village	1909.67	0	0	0	0
Theertha kulam at Vadhanur village	2859.71	0	0	0	0
Iyyanarkoil kulam at Vambupet	2320.74	0	0	0	0
Pana mattai Kuttai at Vinayagampet	1309.80	0	0	0	0
Perumal koil Kuttai at Suthukeny	1638.08	0	0	0	0
Kanagan Kuttai at Kunichempet	1300.78	0	0	0	0
Kannia kulam at Suthukeny	1079.87	0	0	0	0
Ayyanarkoil kulam at Embalam Revenue Village	2321.69	2	120.58	0	0
Pidari kulam at Maducarai village	2909.173	0	0	0	0
Ural kulam (Near Burial ground) at Maducarai village	2886.32	2	90.92	0	0
kulam at Sembiapalayam in Embalam Revenue Village	1181.10	2	141.35	0	0
Vella kulam in Embalam Revenue Village	1681.13	2	159.51	0	0

Name of the pond	Desilting (Cum)	Recharge Borewell (Nos.)	Retaining wall (Cum.)	Bathing Ghats (Nos.)	Chamber Work (Nos.)
Kannimar kulam at Karickalampakkam Revenue Village	2384.45	0	0	0	0
Kuttai at Nettapakkam	645.107	0	0	0	0
Pidari kulam at Nettapakkam	1950.753	0	0	0	0
Thirukanchi kulam at Thirukanchi	12191.80	0	0	0	0
Eswaran kulam at Seliamedu	1201.48	0	0	0	0
Thangal kulam at Kudiyiruppupalayam	1337.82	0	16.41	1	0
Oral kulam at Pillayarkuppam, Embalam constituency.	82.6	0	1.33	0	0
Attaikulam at Kuruvinatham	866.285	0	0	1	
Vinayagarkoil kulam at Pinnatchikuppam	920.45	0	0	1	0
Ural kulam (Panakuzhi Pallam) at Pillaiyarkuppam	1892.04	0	0	0	0
Iyyanar kulam at Kaduvanur	2104.86	0	0	0	0
Deepening of Iyyanarkoil kulam at Kuruvinatham	2809.645	0	0	0	0
Andhamozhi Iyyanarpan Kulam at Nirnayapet	2604.87	0	0	0	0
Thamarai kulam at Aranganur	1495	0	0	0	0
Retti kulam at Veerampattinam	1108.50	0	0	0	0
Krishnamachariyar kulam at Abishegapakkam	2777.33	0	0	0	0
Total	74497.243	8	643.99	3	1

Formation of 1 Mini Lake:

Name of the Work	Desilting (Cum)	Shifting of existing road
Formation of 1 Mini Lake at Padutharkollai village in Karaikal	70978.37	1 Job

Ponds in Karaikal region:

Work	Work details	Desilting (Cum)
Work 1	Rejuvenation of the Vannan Kulam, Eachi Kulam, Pillaiyar Koil Kulam, Kaliamman koil Kulam, Thera Kulam, Puduthurai Kudiyiruppu Kulam and Yazhmurinathan koil Kulam at Dharmapuram & Pudhuthurai Village, Karaikal Municipality in Karaikal.	9822.000
Work 2	Rejuvenation of the Chinna Kulam, Alwar Kulam, Erumamai Katchi Kuttai, Neravy koilpathupet Kulam, Dhobi Kulam, Pillaitheruvasal Kulam at Akkaravattam & Koilpathu Village in Karaikal Municipality in Karaikal.	6733.771
Work 3	Rejuvenation of the Keezhatheru Kulam, Keezhtheru Kulam, Periya kulam, Saatakaran Kuttai and Iyyanar Kulam, Oduthurai at Melaoduthurai Village in Karaikal Municipality in Karaikal	4248.940
Work 4	Rejuvenation of the Government Promboke Kulam (Anthoniyar Koil Kulam), Government Promboke Kulam, Muthunayakan Kulam, Muthiya Pillai Natham Kulam, Akkarai Kulam, Sountharathu Annai Kuttai, Naickan Kulam, Seniyar Kulam, Pillaithottam kulam, Vettaikaran Street kulam and Omakulam at Melaoduthurai Village in Karaikal Municipality in Karaikal	5947.430
Work 5	Rejuvenation of the Athiyadimadhagu Kulam, Koozhkuditha Agraharam periya Kulam, Muttathan Kulam and Ponnaiyapillai Kulam at Varichkudy village in Kottucherry Commune in Karaikal	3921.09
Work 6	Rejuvenation of the Thaneerpanthal Kulam, Sudugatu Kulam, Korai Kulam and Naneenarimettu Kulam at Thiruvettakudy village in Kottucherry Commune in Karaikal	2299.904
Work 7	Rejuvenation of the Periyakulam, Sithanathasamy Koil Kulam and Ayyapillai Agraharam Periyakulam at Poovam Village in Kottucherry Commune in Karaikal	3466.51
Work 8	Rejuvenation of the Vettiyankulam, Mukkulam and Thamaraikulam at Kottucherry Village in Kottucherry Commune in Karaikal	6400.76
Work 9	Rejuvenation of the Thamaraikulam, Agraharakulam, PidariKuttai, Karkathar Kulam, Konankulam, Sanakulam (Agaramangudy), Anthoniyar Kulam, Keezha Annavasalpet Kulam and Annavasal Motaiyan Kulam at Nedungadu Village in Nedungadu Commune in Karaikal	9868.5
Work 10	Rejuvenation of the Sinna Kulam, Kumara Kulam, Panchatcharapuram Keezha Kulam, Pandaravadai Pudu Kulam, Panduvan Kulam, Narikurumbai Snana Kulam and Adaikalapurampet Kulam at Kurumbakagaram Village in Nedungadu Commune in Karaikal	8482.79
Work 11	Rejuvenation of the Allikulam, Snana Kulam (Kulakudy), Saravanairuppu Kulam and Snana Kulam (Kottagam) at Ponbethy Village in Nedungadu Commune in Karaikal	7271.26
Work 12	Rejuvenation of the Periyakulam, Valluvar Kulam, Snana kulam and Vaduvan kulam at Ponbethy Village in Nedungadu Commune in Karaikal	5571.215
Work 13	Rejuvenation of the Sanankuttai (Keezha Sembiangal), Iyyanar Koil Kulam (Puthakudy) and Thamarai Kulam (Puthakudy) in Nedungadu Commune in Karaikal	1613.67
Work 14	Rejuvenation of the Thiruvengadapuram Nambian Kulam, Moogiladi Kulam and Kallaraikuttai at Melakasakudy Village in Nedungadu Commune in Karaikal	4315.48
Work 15	Rejuvenation of the Pandaravadai Pasi Kulam, Nelli Kulam, Varushapathu Kottapady Snana Kulam, Muppaithankudy Mudhalikulam, Muppaithan-kudy Mandhavelikulam at Sethur village in Thirunallar commune in Karaikal	3593.76

Work	Work details	Desilting (Cum)
Work 16	Rejuvenation of the Iyynar Kulam, serumavilangai, Nallathaneerkulam, south thamaraikulam, singaperumalkulam in sorakudy and Subrayapuram Thalaiyarikulam in Thirunallar of Thirunallar commune in Karaikal	4114.49
Work 17	Rejuvenation of the Rengapillai Kuttai, Maniyan Kulam, Mookuthi Kuttai, Nanji Kuttai, Thamban Kuttai in Thirunallar commune in Karaikal	2433.23
Work 18	Rejuvenation of the Kannapursnana Kulam, Thamanangudy snana Kulam, Nallambalpidari Kulam Thennankudy, Sellur, Agastheeswara Kulam & Thamarai Kulam, Pathakudy Mela Kulam in Karukkankud in Thirunallar commune in Karaikal	6946.77
Work 19	Rejuvenation of the Annanaikan Kulam, Pidari Kulam, Neivatcherypuliyam Kulam in Thirunallar, Paal Kuttai in Sorakudy & SundharaKulam in Subarayaburam in Thirunallar Commune in Karaikal	2984.14
Work 20	Rejuvenation of the Thamaraikulam, Pet kulam, Periakulam, Peran kulam and Chettiyarkulam in Vizhidiyur Village in Karaikal	1854.74
Work 21	Rejuvenation of the Pillaiyarkovil kulam oozhiyapathu, Thirukulam Thooduponamoolai, vadakku kulam thoduponamoolai, Kunchiamman kovil kulam, Thoppulankulam oozhiyapathu and Periakulam kakamozhyin Keezhamanai Village in Karaikal	2491.05
Work 22	Rejuvenation of the Pillaiyar kovilkulam, Thirukulamsivan north, Kaliamman kovilkulam, Kumaran kovilkulam, Pidarykulam and Katrakulam in Neravy North Village in Karaikal	6909.15
Work 23	Rejuvenation of the Class Kulam, Class Pet Kulam and ThalaiyariKuttai in Neravy South Village in Karaikal	1810.65
Work 24	Rejuvenation of the Edatherukulam, Keezhaiyur, Vettiyankulam, Keezhaiyur, Anjumarathadikulam, Keezhaiyur, Lingathadikulam, Keezhaiyur, Sadayankuttai, Keezhaiyur and Park kulam, T.R.Pattinam North in T.R.Pattinam Commune in Karaikal	8374.59
Work 25	Rejuvenation of the Vadakkupetkulam, Polagam, Kulam near Kathaperumal house, Nainikattalai, Vannankulam, Polagam, Thiruvasalkulam, Polagam, Kulam backside Kanagasabai house, Nainikattalai in T.R.PattinamSouthin T.R.Pattinam Commune in Karaikal	4028.67
Work 26	Rejuvenation of the Vannankulam, Melaiyur, Angarankulam, Melaiyur, Ponnankuttai, Melaiyur, Thoppukollaikuttai, Melaiyur, Muthampallapetkulam, Melaiyur and Poongulam, Melaiyur in T.R.Pattinam central village in Karaikal	5405.64
Work 27	Rejuvenation of the Chettiyarkulam, Keezhaiyur and Ayyanarkuttai, Keezhaiyurin T.R.Pattinam central village in T.R.Pattinam Commune in Karaikal	8486.91
Work 28	Rejuvenation of the Soriyankuttai, Keezhavanjure, Melapetkulam, Keezhavanjure, Nadupetkulam, Keezhavanjure and Paravaikulam, Melavanjure in Vanjorevillage in T.R.Pattinam Commune in Karaikal	6601.24
Work 29	Rejuvenation of the Vannankulam, Keezhavanjure, Petharanasamykulam, Keezhavanjure, Mariammankoil kulam, Keezhavanjure and Agrahrakulam, Melavanjure in Vanjorevillage in T.R.Pattinam Commune in Karaikal	9992.82
Work 30	Rejuvenation of the Kulam near Maideen sahib land, Keezhavanjure and Pinna kuttai, Keezhavanjurein Vanjure Village Panchayat in T.R.Pattinam Commune in Karaikal	12429.19
	Total	168420.36

Expenditure details

Site-wise expenditure incurred for Tanks in Puducherry region: (Amount in Rs.)

Name of the Tank	Desilting	Recharge Borewell	Repairing the sluice shutter	Tree plantation	Inlet Repair	Others	Total Amount
Murungapakkam Tank	1143967	0	0	0	0	135224	1279191
Olandai Tank	1735843	0	0	0	0	56884	1792727
Kunichempet Pazhayaeri	1252203	1408709	118500	0	0	111161	2890573
Vadhanur Tank	535391	2114970	100000	198840	0	82122	3031323
Mannadipet Tank	692356	0	29501	0	0	46935	768792
Thirukkanur Peria Eri	1130060	2455511	99000	7560	0	130542	3822673
Katterikuppam Tank	1636423	1057801	88000	59964	0	218001	3060189
Thondamanatham Tank	2021742	1833227	236427	266020	0	199322	4556738
Bahour Tank	4496294	0	60000	0	0	160992	4717286
Keezparikkalpet Tank	394963	0	38050	0	0	18376	451389
Karaiyambuthur Tank	1742873	0	0	0	0	89415	1832288
Kirumampakkam Tank	742707	0	0	0	0	28472	771179
Kuruvinatham Tank	857508	0	0	0	0	36000	893508
Manapet Tank	425116	0	38050	0	0	23384	486550
Embalam Vannan Eri	0	0	0	0	0	64635	64635
Embalam Vakkran Eri	0	0	0	0	0	59235	59235
Korkadu	5022134	0	0	0	0	208812	5230946
Abishepakkam Tank	2013404	0	176500	0	3154757	199106	5543767
Madagadipet Tank	1209652	0	0	0	0	56846	1266498
Thiruvandarkoil Tank	1181416	0	0	0	0	145512	1326928
Embalam Sitheri	273087	0	857879	0	0	70632	1201598
Thirukanchi Tank	0	0	0	0	0	29300	29300
Kudiyirupupalayam Tank	298524	0	0	0	0	149690	448214
Selliamedu Tank	0	0	0	0	0	84860	84860
Adhingapet Tank	0	0	0	0	0	14650	14650
Kirumampakkam periyaeri	167491	0	0	0	0	14250	181741
Keezhagraharam tank	246314	0	0	0	0	24964	271278
Karikkalampakkam Tank	703586	0	0	0	0	62260	765846
Eripakkam Tank	868804	0	0	0	0	53650	922454
Nettapakkam Tank	2717995	0	0	0	0	138784	2856779
Chettipet Tank	1096274	0	767877	0	0	99550	1963701
Sompet Tank	3818714	0	166000	0	0	22514	4007228

Name of the Tank	Desilting	Recharge Borewell	Repairing the sluice shutter	Tree plantation	Inlet Repair	Others	Total Amount
Kodathur Tank	241646	0	161220	0	0	14550	417416
Perungalure Tank	2050087	0	0	0	0	69450	2119537
Karaiyamputhur Odaperi	1190567	0	0	0	0	89410	1279977
Suthukeny Periya eri	1370207	0	0	0	0	59550	1429757
Thuthipet Tank	929008	0	0	0	0	44550	973558
Thondamanatham Kadaperi	886708	0	0	0	0	44550	931258
Kariyamanikkam Tank	2680031	0	0	0	0	130480	2810511
Mannappan thangal	419027	0	0	0	0	26910	445937
Manalaipet Tank	1491940	0	1123270	0	0	14550	2629760
Total	49684062	8870218	4060274	532384	3154757	3330080	69631775

Site-wise expenditure incurred for ponds in Puducherry region: (Amount in Rs.)

Name of the pond	Desilting	Recharge Borewell	Retaining wall	Bathing Ghats	Chamber Work	Others	Total
Iyyanarkoil kulam at Kunichempet village	57570	0	0	0	0	0	57570
Mangkulam at K.And-iarpalayam village	77262	0	0	0	0	0	77262
Gingee kulam at Manalipet village	52794	0	0	0	0	0	52794
Sudukadu kulam at Thiruvandarkoil village	83736	0	784643	0	0	10326	878705
Iyyanarkoil kulam at Sanniyasikuppam village	125705	0	0	0	0	15713	141418
Uthu kulam at Kunichempet village	200674	0	0	0	0	0	200674
Velan kulam at Kunichempet village	374538	0	0	0	167129	15923	557590
Arippan kulam at Sorapet village	168602	0	0	0	0	0	168602
Kalkatti kulam at Sompet village	258162	0	0	0	0	0	258162
Theertha kulam at Vadhanur village	412115	0	0	0	0	0	412115
Iyyanarkoil kulam at Vambupet	306614	0	0	0	0	0	306614
Pana mattai Kuttai at Vinayagampet	189148	0	0	0	0	0	189148
Perumal koil Kuttai at Suthukeny	236589	0	0	0	0	0	236589
Kanagan Kuttai at Kunichempet	196724	0	0	0	0	0	196724
Kannia kulam at Suthukeny	197000	0	0	0	0	0	197000
Ayyanarkoil kulam at Embalam Village	178688	146037	932679	0	0	14536	1271940

Name of the pond	Desilting	Recharge Borewell	Retaining wall	Bathing Ghats	Chamber Work	Others	Total
Pidari kulam at Maducarai village	369092	0	0	0	0	0	369092
Ural kulam (Near Burial ground) at Maducarai village	106000	150889	993411	0	0	10513	1260813
kulam at Sembia-palayam in Embalam Revenue Village	131118	158387	1074511	0	0	0	1364016
Vella kulam in Embalam Revenue Village	96925	146166	1189563	0	0	432	1433086
Kannimar kulam at Karickalampakkam Revenue Village	143785	0	0	0	0	0	143785
Kuttai at Nettapakkam	130576	0	0	0	0	0	130576
Pidari kulam at Nettapakkam	97500	0	0	0	0	0	97500
Thirukanchi kulam at Thirukanchi	353562	0	0	0	0	0	353562
Eswaran kulam at Seliamedu	90231	0	0	0	0	0	90231
Thangal kulam at Kudiyiruppupalayam	50476	0	854673	196700	0	1280	1103129
Oral kulam at Pillayarkuppam, Embalam	5385	0	274442	0	0	2266	282093
Attaikulam at Kuruvinatham	97984	0	5931	73788	0	14500	192203
Vinayagarkoil kulam at Pinnatchikuppam	95323	0	4278	70590	0	21511	191702
Ural kulam (Panakuzhi Pallam) at Pillaiyarkuppam	199416	0	0	0	0	14500	213916
Iyyanar kulam at Kaduvanur	233309	0	0	0	0	14500	247809
Iyyanarkoil kulam at Kuruvinatham	328231	0	0	0	0	14500	342731
Andhamozhi Iyyanarpan Kulam at Nirnayapet	276850	0	0	0	0	29957	306807
Thamarai kulam at Aranganur	165968	0	0	0	0	26988	192956
Retti kulam at Veerampattinam	167921	0	0	0	0	0	167921
Krishnamachariyar kulam at Abishegapakkam	432502	0	0	0	0	0	432502
Total	6688075	601479	6114131	341078	167129	207445	14119337

Formation of 1 Mini Lake: **(Amount in Rs.)**

Name of the Work	Desilting	Shifting of existing road	Others	Total
Formation of 1 Mini Lake at Padutharkollai village in Karaikal	7962745	1724635	61179	9748559

Ponds in Karaikal region: **(Amount in Rs.)**

Work	Work details	Desilting	Others	Total
Work 1	Rejuvenation of the Vannan Kulam, Eachi Kulam, Pillaiyar Koil Kulam, Kaliamman koil Kulam, Thera Kulam, Puduthurai Kudiyiruppu Kulam and Yazhmurinathan koil Kulam at Dharmapuram & Pudhuthurai Village, Karaikal Municipality in Karaikal.	1080298	7570	1087868
Work 2	Rejuvenation of the Chinna Kulam, Alwar Kulam, Erumamai Katchi Kuttai, Neravy koilpathupet Kulam, Dhobi Kulam, Pillaitheruvasal Kulam at Akkaravattam & Koilpathu Village in Karaikal Municipality in Karaikal.	688882	7571	696453
Work 3	Rejuvenation of the Keezhatheru Kulam, Keezhtheru Kulam, Periya kulam, Saatakaran Kuttai and Iyyanar Kulam, Oduthurai at Melaoduthurai Village in Karaikal Municipality in Karaikal	466304	7571	473875
Work 4	Rejuvenation of the Government Promboke Kulam (Anthoniyar Koil Kulam), Government Promboke Kulam, Muthunayakan Kulam, Muthiya Pillai Natham Kulam, Akkarai Kulam, Sountharathu Annai Kuttai, Naickan Kulam, Seniyar Kulam, Pillaithottam kulam, Vettaikaran Street kulam and Omakulam at Melaoduthurai Village in Karaikal Municipality in Karaikal	815641	7571	823212
Work 5	Rejuvenation of the Athiyadimadhagu Kulam, Koozhkuditha Agraharam periya Kulam, Muttathan Kulam and Ponnaiyapillai Kulam at Varichkudy village in Kottucherry Commune in Karaikal	499355	18778	518133
Work 6	Rejuvenation of the Thaneerpanthal Kulam, Sudugatu Kulam, Korai Kulam and Naneenarimettu Kulam at Thiruvettakudy village in Kottucherry Commune in Karaikal	299662	18779	318441
Work 7	Rejuvenation of the Periyakulam, Sithanathasamy Koil Kulam and Ayyapillai Agraharam Periyakulam at Poovam Village in Kottucherry Commune in Karaikal	536954	18778	555732
Work 8	Rejuvenation of the Vettiyankulam, Mukkulam and Thamaraikulam at Kottucherry Village in Kottucherry Commune in Karaikal	900559	18778	919337
Work 9	Rejuvenation of the Thamaraikulam, Agraharakulam, PidariKuttai, Karkathar Kulam, Konankulam, Sanakulam (Agaramangudy), Anthoniyar Kulam, Keezha Annavasalpet Kulam and Annavasal Motaiyan Kulam at Nedungadu Village in Nedungadu Commune in Karaikal	1027530	32277	1059807
Work 10	Rejuvenation of the Sinna Kulam, Kumara Kulam, Panchatcharapuram Keezha Kulam, Pandaravadai Pudu Kulam, Panduvan Kulam, Narikurumbai Snana Kulam and Adaikalapurampet Kulam at Kurumbakagaram Village in Nedungadu Commune in Karaikal	865218	32277	897495
Work 11	Rejuvenation of the Allikulam, Snana Kulam (Kulakudy), Saravanairuppu Kulam and Snana Kulam (Kottagam) at Ponbethy Village in Nedungadu Commune in Karaikal	795555	32278	827833
Work 12	Rejuvenation of the Periyakulam, Valluvar Kulam, Snana kulam and Vaduvan kulam at Ponbethy Village in Nedungadu Commune in Karaikal	689649	32278	721927

Work	Work details	Desilting	Others	Total
Work 13	Rejuvenation of the Sanankuttai (Keezha Sembiangal), Iyyanar Koil Kulam (Puthakudy) and Thamarai Kulam (Puthakudy) in Nedungadu Commune in Karaikal	294903	32278	327181
Work 14	Rejuvenation of the Thiruvengadapuram Nambian Kulam, Moogiladi Kulam and Kallaraikuttai at Melakasakudy Village in Nedungadu Commune in Karaikal	469107	32278	501385
Work 15	Rejuvenation of the Pandaravadai Pasi Kulam, Nelli Kulam, Varushapathu Kottapady Snana Kulam, Muppaithankudy Mudhalikulam, Muppaithankudy Mandhavelikulam at Sethur village in Thirunallar commune in Karaikal	534465	15876	550341
Work 16	Rejuvenation of the Iyynar Kulam, serumavilangai, Nallathaneerkulam, south thamaraikulam, singaperumalkulam in sorakudy and Subrayapuram Thalaiyarikulam in Thirunallar of Thirunallar commune in Karaikal	638026	15876	653902
Work 17	Rejuvenation of the Rengapillai Kuttai, Maniyan Kulam, Mookuthi Kuttai, Nanji Kuttai, Thamban Kuttai in Thirunallar commune in Karaikal	388968	15876	404844
Work 18	Rejuvenation of the Kannapursnana Kulam, Thamanangudy snana Kulam, Nallambalpidari Kulam Thennankudy, Sellur, Agastheeswara Kulam & Thamarai Kulam, Pathakudy Mela Kulam in Karukkankud in Thirunallar commune in Karaikal	997789	15876	1013665
Work 19	Rejuvenation of the Annanaikan Kulam, Pidari Kulam, Neivatcherypuliyam Kulam in Thirunallar, Paal Kuttai in Sorakudy&SundharaKulam in Subarayaburam in Thirunallar Commune in Karaikal	500330	15876	516206
Work 20	Rejuvenation of the Thamaraikulam, Pet kulam, Periakulam, Peran kulam and Chettiyarkulam in Vizhidiyur Village in Karaikal	228702	1750	230452
Work 21	Rejuvenation of the Pillaiyarkovil kulam oozhiyapathu, Thirukulam Thooduponamoolai, vadakku kulam thoduponamoolai, Kunchiamman kovil kulam, Thoppulankulam oozhiyapathu and Periakulam kakamozhyin Keezhamanai Village in Karaikal	294902	1750	296652
Work 22	Rejuvenation of the Pillaiyar kovilkulam, Thirukulamsivan north, Kaliamman kovilkulam, Kumaran kovilkulam, Pidarykulam and Katrakulam in Neravy North Village in Karaikal	800598	1750	802348
Work 23	Rejuvenation of the Class Kulam, Class Pet Kulam and ThalaiyariKuttai in Neravy South Village in Karaikal	270123	1750	271873
Work 24	Rejuvenation of the Edatherukulam, Keezhaiyur, Vettiyankulam, Keezhaiyur, Anjumarathadikulam, Keezhaiyur, Lingathadikulam, Keezhaiyur, Sadayankuttai, Keezhaiyur and Park kulam, T.R.Pattinam North in T.R.Pattinam Commune in Karaikal	949849	4844	954693
Work 25	Rejuvenation of the Vadakkupetkulam, Polagam, Kulam near Kathaperumal house, Nainikattalai, Vannankulam, Polagam, Thiruvasalkulam, Polagam, Kulam backside Kanagasabai house, Nainikattalai in T.R.PattinamSouthin T.R.Pattinam Commune in Karaikal	443042	4844	447886

Work	Work details	Desilting	Others	Total
Work 26	Rejuvenation of the Vannankulam, Melaiyur, Angarankulam, Melaiyur, Ponnankuttai, Melaiyur, Thoppukollaikuttai, Melaiyur, Muthampallapetkulam, Melaiyur and Poongulam, Melaiyur in T.R.Pattinam central village in Karaikal	695233	4844	700077
Work 27	Rejuvenation of the Chettiyarkulam, Keezhaiyur and Ayyanarkuttai, Keezhaiyurin T.R.Pattinam central village in T.R.Pattinam Commune in Karaikal	1108279	4844	1113123
Work 28	Rejuvenation of the Soriyankuttai, Keezhavanjure, Melapetkulam, Keezhavanjure, Nadupetkulam, Keezhavanjure and Paravaikulam, Melavanjure in Vanjorevillage in T.R.Pattinam Commune in Karaikal	486980	4843	491823
Work 29	Rejuvenation of the Vannankulam, Keezhavanjure, Petharanasamykulam, Keezhavanjure, Mariammankoil kulam, Keezhavanjure and Agrahrakulam, Melavanjure in Vanjorevillage in T.R.Pattinam Commune in Karaikal	679016	4843	683859
Work 30	Rejuvenation of the Kulam near Maideen sahib land, Keezhavanjure and Pinna kuttai, Keezhavanjurein Vanjure Village Panchayat in T.R.Pattinam Commune in Karaikal	598093	4843	602936
Total		19044012	419347	19463359

Annexure-II

Transformational changes brought out under the project

Name of the Project: Integrated surface water management for Climate Change Adaptation in U.T. of Puducherry

Location: Puducherry and Karaikal region

Sl. No.	Planned interventions	Impact of interventions	Innovativeness	Remarks
1	Desilting of Tanks & Ponds, bund strengthening and repair of sluice shutters.	By removing accumulated sediments, the ponds' water-holding capacity is enhanced, allowing them to better withstand periods of drought and capture excess rainfall during intense precipitation events. This adaptation strategy contributes to improved water availability for agricultural, domestic, and ecological purposes, thus bolstering the resilience of local communities to climate variability. Additionally, improved water storage in ponds facilitates groundwater recharge, which contributes to mitigating the adverse effects of declining groundwater levels and seawater intrusion.	Innovations incorporated into the desilting process include the use of mechanized equipment for efficient sediment removal within a short period, significantly expediting the rejuvenation process while minimizing labour requirements. Moreover, participatory approach was adopted by involving the TUAs in desilting a portion of the tanks, thereby fostering a sense of ownership. A Geospatial Database was created in project website to provide information on project progress, spatial data and key performance indicators: https://dste.py.gov.in/pccc/NAFCC/Index.htm/. Pre and Post project Satellite imageries were documented to show the visual changes brought about by the project.	The innovative approach fostered transparency and accountability.

2	Construction of Recharge shafts in irrigation tanks	Recharge shafts construction in the irrigation tanks resulted in replenishing the dwindling ground water resources and ensuring water availability during dry periods. Moreover, the risk of saltwater intrusion into aquifers is also reduced.	Recharge shafts are an innovative approach for ground water recharge. These vertical shafts filled with rocks and gravel act as filters for excess water from tanks and lakes. This filtered water reaches deeper groundwater layers, diluting salinity and improving overall water quality. They also minimize evaporation and require less land than traditional methods.	Continuous monitoring of recharge shafts performance is essential.
3	Formation of 1 mini lake at Padutharkollai Village in Karaikal	The creation of a manmade mini lake as part of the NAFCC project stands as a significant stride towards climate change adaptation efforts. Spanning a water spread area of 14.35 hectares, this mini lake ranks as the second largest in the Karaikal region. Land for the lake was acquired from farmers around 14 years ago. Ever since the acquisition of land, farmers have been urging the authorities to create the lake at the earliest. The work was taken under NAFCC project and earthen bunds have been meticulously constructed around the lake with an approach road to the Muthampallampet village located across the lake.	Through robust community engagement and ecological restoration principles, this initiative heralds a paradigm shift towards sustainable water management practices in the region, fostering long-term environmental and socioeconomic benefits.	Future plans include the development of public amenities to promote tourism around the lake, enhancing its utility and attractiveness.

		The lake is likely to store a maximum of four lakh cubic meters of water, thereby addressing the water needs of the local communities and promoting ground water recharge. The lake will serve as a sustainable source of irrigation water for the surrounding 350 acres of agricultural fields.		
4	Revival of Tank Users Associations	The Capacity Building of TUAs represents a transformative approach towards community-led adaptation and mitigation efforts in Puducherry. By reviving dormant TUAs and empowering local communities, the project not only strengthens resilience to climate change but also fosters a sense of ownership over water resources. The active involvement of TUA members in desilting activities underscores their commitment to sustainable water management practices.	An innovative aspect of the project lies in its participatory approach towards capacity building. Drawing from the legacy of the EU-TRPP project, which established TUAs, the NAFCC project leverages community engagement to revitalize these associations. By involving TUA members in desilting works and providing comprehensive training and awareness programs, the project fosters a sense of ownership and responsibility towards water resources. This participatory model of empowerment ensures the sustainability of water management initiatives and promotes inclusive adaptation strategies.	This project sets a precedent for inclusive and participatory approaches to water resource management, highlighting the importance of community engagement in building climate resilience.

Annexure-III

NABARD HO, Mumbai

Name of the Project : Integrated surface water management for Climate Change Adaptation in U.T. of Puducherry

Location : Puducherry and Karaikal region

Project Sites with its Geo location, capacity and area

Irrigation Tanks in Puducherry Region

Name of Tank	Latitude	Longitude	Type of Tank	Ayacut area in ha	Waterspread area in ha	Capacity in Mcft	No. of Sluices
Olandai Tank	11.9156056	79.7993501	System Tank	72.43	42.57	14	2
Murungapakkam Tank	11.9120231	79.7980328	System Tank	46.73	41.08	31	2
Thondamanatham velleri Tank	11.9620067	79.7198598	System Tank	51.07	35.79	12.46	6
Thondamanatham Kadaperi	11.9698545	79.7268994	Non System Tank	34.98	15.66	5.65	2
Thuthipet Tank	11.9861551	79.7196762	Non System Tank	17.48	9.44	9.5	0
Katterikuppam Tank	12.0060512	79.6945076	System Tank	94.97	49.8	6.5	7
Suthukeny Periya eri	12.0202138	79.6768162	Non System Tank	94.74	25.8	19	3
Kodathur Tank	11.9981322	79.6648695	System Tank	28.72	5.6	6	3
Chettipet Tank	12.0174561	79.6434449	System Tank	26.48	6.89	12.3	2
Manalipet Tank	12.0238259	79.6290627	Non System Tank	7.82	4.3	0.78	2
Konichempet pazhayaeri	11.9943889	79.6262632	System Tank	32.07	16.12	4.6	3
Mannadipet Tank	11.9910294	79.6263053	Non System Tank	11.69	4.17	2	3
Thirukkanur perieri Tank	11.9916233	79.6336086	System Tank	63.77	18.43	13	3
Sompet Tank	11.9715128	79.6228088	System Tank	25.92	22.95	13.5	2
Vadhanur Tank	11.9658126	79.6318065	System Tank	164.73	106.37	28	5
Thiruvandar Koil Tank.	11.9225473	79.6557358	System Tank	75.32	16.45	2.2	2
Madagadipet Tank	11.9136886	79.6335943	System Tank	87.89	20.93	6.5	3

Name of Tank	Latitude	Longitude	Type of Tank	Ayacut area in ha	Waterspread area in ha	Capacity in Mcft	No. of Sluices
Thirukkanchi Tank	11.8832503	79.7651953	System Tank	15.45	3.49	6	2
Keezhagraharam Tank	11.8812778	79.7714483	System Tank	21.88	1.11	3	2
Abishegapakkam Tank	11.8544307	79.7699373	System Tank	308.9	42.43	53	5
Mannappanthangal	11.8566497	79.7501874	Non System Tank	11.78	1.1	1.5	1
Karikkalampakkam Tank	11.8590667	79.7446101	Non System Tank	82.95	4.33	12.5	2
Korkadu Tank	11.8731507	79.7362131	System Tank	202.97	65.28	48.2	3
EmbalamVakkraneri Tank	11.8720076	79.7223793	System Tank	81.69	14.97	16	2
Embalam Sitheri	11.8680425	79.7226041	System Tank	48.09	1.52	9	3
Embalam Vannan Eri	11.8773601	79.7154369	System Tank	43.59	20.93	9	2
Nettapakkam Tank	11.8595017	79.6279208	System Tank	61.71	29.87	12	2
Eripakkam Tank	11.8838535	79.6386874	Non System Tank	15.63	8.03	3	3
Kariyamanikkam Tank	11.8733575	79.6199705	Non System Tank	46.81	12.43	5.63	3
Karaiyamputhur Odaperi	11.8266921	79.6574854	System Tank	89.47	91.44	19	4
Karayamputhur Vannaneri	11.8169506	79.6542056	System Tank	31.7	18.58	2.29	3
Perungalore Tank	11.8764921	79.7545948	System Tank	29.01	6.32	2.58	2
Bahour Tank	11.8232274	79.7379731	System Tank	728.98	321.55	193.5	8
Kirumambakkam Tank	11.8187721	79.7776327	System Tank	203.39	65.25	43	7
Kirumampakkam periya eri	11.8166919	79.7745407	System Tank	203.39	65.25	43	7
Kudiyiruppu-palayam Tank	11.8138141	79.7546992	System Tank	17.63	2.41	9	2
Manapet Tank	11.8032366	79.7690119	System Tank	115	14.89	4.16	5
Keezhparikkalpet Tank	11.7923987	79.7591007	System Tank	88	5.3	1.97	2
Kurivinatham Tank	11.7936666	79.7248227	System Tank	13.69	9.58	15	1
Adhingapet Tank	11.82388889	79.76111111	System Tank	36.6	2	26	1
Seliamedu Tank	11.8325	79.76055556	System Tank	27.56	4.59	9	2

Ponds in Puducherry Region

Name of Ponds	Latitude_N	Longitude_E	Area_in_sqm	Capacity_in_Cum
Iyyanarkoil kulam at Kunichempet village	12.004400	79.6298583	1500	3800
Mangkulam at K.Andiarpalayam village	11.928597	79.6210972	3300	6075
Gingee kulam at Manalipet village	12.028114	79.6270389	3700	5685
Sudukadu kulam at Thiruvandarkoil village	11.915128	79.6597611	6000	11025
Iyyanarkoil kulam at Sanniyasikuppam village	11.935833	79.6561111	12800	5980
Uthu kulam at Kunichempet village	12.006414	79.6406944	1500	2400
Velan kulam at Kunichempet village	12.003986	79.6293472	1700	4195
Arippan kulam at Sorapet village	11.960325	79.6698917	27500	75548
Kalkatti kulam at Sompet village	11.932444	79.6482694	1100	7245
Iyyarnarkoil kulam at Sompet village	11.935544	79.6562056	2100	9800
Theertha kulam at Vadhanur village	11.952778	79.6516667	12600	38405
Ayyanarkoil kulam at Embalam Village	11.867278	79.7252389	2350	9515
Pidari kulam at Maducarai village	11.867711	79.6063000	4900	22495
Ural kulam (Near Burial ground) at Maducarai	11.879867	79.6012806	5900	23735
kulam at Sembiapalayam in Embalam Village	11.883144	79.7296250	4950	4080
Vella kulam in Embalam Revenue Village	11.866125	79.7192500	8150	7928
Kannimar kulam at Karickalampakkam Village	11.868261	79.7384167	8300	6626
Thirukanchi kulam at Thirukanchi	11.884131	79.7634667	12500	15288
Eswaran kulam at Seliamedu	11.826256	79.7515750	9000	22140
Thangal kulam at Kudiyiruppupalayam	11.816594	79.7551556	3700	4536
Oral kulam at Pillayarkuppam, Embalam	11.817806	79.7838750	1800	6230
Thamarai kulam (Muthal kulam) at Bahour	11.807433	79.7416028	12000	29275
Attaikulam at Kuruvinatham	11.793111	79.7376694	3400	8365
Andhamozhi Iyyanarpan Kulam at Nirnayapet	11.829878	79.7460722	7900	12970
Vinayagarkoil kulam at Pinnatchikuppam	11.821628	79.7533472	1700	4500
Thamarai kulam at Aranganur	11.832647	79.7511472	6600	14258
Sevithu Ural Kuttai at Thirubuvanai	11.930000	79.6527778	16150	18750
Iyyanarkoil kulam at Vambupet	11.964167	79.6783333	5400	9500
Pana mattai Kuttai at Vinayagampet	11.953611	79.6786111	4500	9750
Perumal koil Kuttai at Suthukeny	12.004167	79.6780556	7650	11650
Kanagan Kuttai at Kunichempet	12.007500	79.6325000	2600	5755
Kannia kulam at Suthukeny	12.009667	79.6764167	2300	5100
Ural kulam (Panakuzhi Pallam) at Pillaiyarkuppam	11.808340	79.7844548	2020	4785
Iyyanar kulam at Kaduvanur	11.815545	79.6972610	2350	7500
Iyyanarkoil kulam at Kuruvinatham	11.794227	79.7420400	4550	8500
Kuttai at Nettapakkam	11.867719	79.6285200	720	3000
Pidari kulam at Nettapakkam	11.862972	79.6413820	2130	9454
Retti kulam at Veerampattinam	11.896667	79.8216667	4550	10150
Krishnamachariyar kulam at Abishegapakkam	11.862139	79.7856944	13200	15036

Formation of 1 Mini Lake in Padutharkolai village in Karaikal region

The land has been acquired to an extent of 14.345 Hectare (or) 35.43 Acres for the formation of a mini lake at Padutharkollai village in T.R. Pattinam commune. The earthern bund was formed all around the lake and provided approach road to the Muthampallampet village by shifting the existing road runs inside the lake. It will be very useful for recharging of ground water in Karaikal region. The site is located at 10.8772268 N and 79.8101825 E.

Ponds in Karaikal region

Name of Ponds	Latitude__N	Longitude__E	Area_in_sqm	Capacity_in_Cum
Vannan Kulam	10.919011	79.821872	2400	3599.07
Eachi Kulam	10.9190459	79.8197753	3010	4499.54
Pillaiyar Koil Kulam	10.942713	79.828163	800	1200.63
Kaliamman Koil Kulam	10.923956	79.817906	1155	1732.99
Thera Kulam	10.915425	79.813799	2850	1874.57
Puduthurai Kudiyiruppu Kulam	10.9130263	79.8177385	835	1251.60
Yazhmurinathan Koil Kulam - Dharmapuram	10.919893	79.8197754	1278	1917.06
Chinna Kulam - Akkaraivattam	10.898083	79.837528	950	2300.18
Alwarkulam - Neravy	10.88727	79.828876	1280	853.09
Erumamai Katchi Kuttai - Neravy	10.888528	79.829278	1850	370.02
Neravy koil pathu pet Kulam - Neravy	10.891064	79.8291757	400	249.99
Dhobi Kulam - Nehru Nagar	10.938818	79.828754	2003	3004.45
Pillaitheruvasal Kulam	10.936545	79.812406	2950	4425.15
Keezhatheru Kulam-Melaoduthurai	10.901084	79.812369	1020	1836.06
Keezhtherukulam–Melaoduthurai (5/12)	10.901084	79.81252	450	81.00
Periyakulam - Melaoduthurai	10.90108	79.81237	1460	2190.03
Saatakarankuttai - Melaoduthurai	10.899991	79.814816	482	730.00
Iyyanar Kulam - Oduthurai	10.904436	79.824879	2950	5310.08
Government Promboke Kulam (Anthoniyar Koil Kulam)(Allround)-Melaoduthurai	10.899897	79.817123	725	1305.03
Government Promboke Kulam (No.58)(Allround)-Melaoduthurai	10.905311	79.807688	568	352.01
Muthunayakan Kulam (Allround)-Melaoduthurai	10.904032	79.80776	800	1200.02
Muthiya Pillai Natham Kulam (Allround)-Melaoduthurai	10.901301	79.81419	2260	4068.06
Akkarai Kulam (Backside Water Tank) (Allround)	10.907607	79.835523	2400	4320.07
Sountharathu Annai Kuttai (Nethaji Nagar) (Allround)	10.907786	79.834468	1100	1130.02
Naickankulam (Allround) - Karaikal Town	10.926596	79.830334	2200	2640.05
Seniyar Kulam (Allround) - Karaikal Town	10.928241	79.830044	4250	8925.15
Pillaithottam Kulam (Allround) - Karaikal Town	10.931194	79.834753	4330	495.01
Vettaikaran Street Kulam (Allround) - Koilpathu	10.937916	79.837405	1120	1120.02

Name of Ponds	Latitude__N	Longitude__E	Area_in_sqm	Capacity_in_Cum
Omakulam (Allround) - Koilpathu	10.944528	79.828903	5530	8295.14
Athiyadi Madhagu Kulam	10.9736305	79.816841	3800	6841.34
Koozhkuditha Agrahara Periyakulam	10.973771	79.808674	800	21999.32
Muttathan Kulam	10.994244	79.811393	800	1860.41
Ponnaiyapillai Kulam	10.978763	79.81931	1600	5629.38
Thaneerpanthal Kulam	10.972285	79.83884	28240	3148.83
Sudugatu Kulam	10.973757	79.839318	1050	2205.88
Korai Kulam	10.9749855	79.8362547	2000	4199.38
Naneenarimettu Kulam	10.9783729	79.8436424	26320	4199.38
Periyakulam	10.995252	79.825813	1150	1803.78
Sithanathasamy Koil Kulam	10.99098	79.831757	2750	6736.57
Ayyapillai Agraharam Periyakulam	10.993065	79.823343	4100	8803.69
Vettiyankulam	10.961268	79.837717	900	2149.25
Mukkulam	10.96494	79.826347	3000	8840.50
Thamaraikulam	10.9613815	79.8252744	12550	20300.31
Thamaraikulam	10.968144	79.771172	9373	8435.57
Agraharakulam	10.9699	79.770339	280	252.02
Pidari Kuttai	10.967908	79.773629	377	339.00
Karkathar Kulam	10.97024	79.772126	1050	945.04
Konankulam	10.971779	79.772607	1050	945.03
Sanakulam (Agaramangudy)	10.963312	79.764925	1610	1449.05
Anthoniyar Kulam	10.971374	79.776201	1380	1242.04
Keezha Annavasalpet Kulam	10.97292	79.76066	1020	918.03
Annavasal Motaiyan Kulam	10.974365	79.754952	432	389.01
Sinna Kulam	10.981382	79.766261	2664	2398.08
Kumara Kulam	10.985005	79.766737	2958	2662.09
Panchatcharapuram Keezha Kulam	10.98434	79.765107	540	540.02
Pandaravadai Pudu Kulam	10.990238	79.764171	576	518.02
Panduvan Kulam	10.983372	79.765928	2940	2646.09
Narikurumbai Snana Kulam	10.988392	79.751361	783	705.02
Adaikalapurampet Kulam	10.995194	79.750391	800	720.03
Allikulam	10.990547	79.776703	2080	1872.07
Snana Kulam (Kulakudy)	10.99607	79.77756	3818	3436.12
Saravanairuppu Kulam	10.986168	79.776072	4600	4140.14
Snana Kulam (Kottagam)	10.986572	79.783107	936	842.03
Periyakulam	10.972735	79.777638	4347	3912.14
Velluvar Kulam	10.975012	79.778467	989	890.03
Snanakulam	10.972646	79.783511	1221	1099.04
Vaduvankulam	10.973117	79.776387	1680	1512.05
Sanan Kuttai (Keezha Sembiangal)	10.972495	79.791823	231	208.01
Ayyanar Koil Kulam (Puthakudy)	10.968977	79.802945	1363	1227.04
Thamaraikulam (Puthakudy)	10.974768	79.802943	1064	958.03
Thiruvengadapuram Nambian Kulam	10.968047	79.792792	4615	4154.14

Name of Ponds	Latitude__N	Longitude__E	Area_in_sqm	Capacity_in_Cum
Moongiladi Kulam	10.929798	79.833173	1634	1471.05
Kallarai Kuttai	10.952787	79.797445	630	567.02
Pandaravadai Pasi Kulam	10.934751	79.743853	3622	3477.12
Nelli Kulam	10.930151	79.74157	8450	7605.26
V.Kottapadi Snanakulam	10.920507	79.7466384	1800	1944.07
Muppaithankudi Mudhalikulam	10.922433	79.7558022	2900	3219.11
Muppaithankudi Mandhaveli Kulam	10.9228713	79.7530432	550	693.02
Iyyanar Kulam, Serumavilalgai	10.9610003	79.7736916	5450	5886.21
Nallathanni Kulam	10.9347424	79.7835624	3450	3726.13
South Thamarai Kulam	10.9337278	79.7788769	1350	1458.05
Singaperumal Kulam	10.9384852	79.7803817	3900	4212.15
Thalayari Kulam (Suburayapuram)	10.959297	79.7984034	1840	1987.07
Rangapillai Kuttai	10.9283373	79.79328576	600	864.03
Maniyan Kulam	10.9286398	79.79473315	1700	1836.06
Mookuthi Kuttai	10.9286398	79.79473315	1500	1620.06
Nanji Kuttai	10.92866318	79.79473315	1700	1836.06
Thamban Kuttai	10.92780532	79.79428355	2000	2160.08
Kannapur Snana Kulam	10.9619792	79.739112	4847	5235.18
Thamanan Kudy Snana Kulam	10.95160758	79.73790379	1450	1566.05
Pidari Kulam, Thennangudi	10.92716404	79.76377744	9150	9882.34
Agatheeswarar & Thamarai Kulam	10.9268758	79.770057	1850	1998.07
Pathakudi Melakulam	10.95477385	79.75951071	6800	7344.26
Paal Kuttai	10.93993859	79.7793262	600	648.02
Sundhara Kulam	10.93700589	79.78705968	2500	2700.09
Annanaicken Kulam	10.93622374	79.78256899	1200	1728.06
Pidari Kulam, Thirunallar	10.92986839	79.79307923	2500	2700.09
Puliyan Kulam, Thirunallar	10.92552694	79.79535911	1150	1242.04
Thamaraikulam	10.907673	79.791533	3,010.057	5508.19
Pet Kulam, Manampet	10.893824	79.763259	908.127	2216.08
Periyakulam, Manampet	10.893562	79.759418	6,020.114	16525.58
Perankulam, Vizhidiyur	10.907229	79.765451	929.030	1417.05
Chettiyar Kulam, Vizhidiyur	10.906991	79.770064	1,226.320	2618.09
Pillayarkoil Kulam, Oozhiyapathu	10.900323	79.797102	979.848	1792.45
Thirukulam, Thooduponamoolai	10.89024	79.784058	1,268.126	3092.19
Vadakkukulam, Thooduponamoolai	10.891343	79.784486	659.425	1407.34
Kunchiamman Koil Kulam, Keezhamanai	10.898057	79.799931	803.797	1716.00
Thoppulankulam, Oozhiyapathu	10.898539	79.798837	696.494	1274.26
Periya Kulam, Kakaimozhy	10.894018	79.796226	1,463.222	3120.51
Pillayar Koil Kulam, Neravy	10.893112	79.815305	1,464.151	4018.15
Thirukulam, Neravy	10.892872	79.812323	4,450.611	13575.07
Kaliamman Koil Kulam, Neravy	10.891871	79.806254	1,114.836	3399.65
Kumarankoil Kulam, Neravy	10.895288	79.812744	1,393.545	2974.69
Pidarikulam, Neravy	10.896484	79.813574	1,463.222	4016.59

Name of Ponds	Latitude__N	Longitude__E	Area_in_sqm	Capacity_in_Cum
Katrar Kulam, Neravy	10.894057	79.813826	2,173.930	5304.46
Class Kulam, Neravy	10.892863	79.818883	1,282.061	2736.72
Classpet Kuttai, Neravy	10.892392	79.820953	882.579	1076.89
Thalaiyari Kuttai, Neravy	10.891409	79.819983	1,449.287	3535.64
Edatheru Kulam, Keezhaiyur	10.865762	79.83125	3450	13849.58
Vettiyan Kulam, Keezhayur	10.832493	79.836152	2000	5022.48
Anjumarathady, Keezhayur	10.879778	79.83711	1600	6472.34
Lingathadi Kulam, Keezhayur	10.849683	79.829499	3800	5211.47
Sadayankuttai, Keezhayur	10.871172	79.834962	670	232.82
Park Kulam, T.R.Pattinam North	10.875388	79.83262	2700	2570.68
Vadakupetkulam, Polagam	10.864285	79.824937	2150	2832.61
Kulam Near Kathaperumal House, Nainikattalai	10.86478	79.80923	1100	3386.85
Vannankulam, Polagam	10.882753	79.8179443	1800	4729.91
Thiruvasal Kulam, Polagam	10.86121	79.820044	16400	34619.09
Kulam Backside Kanagasabai House, Nainikattalai	10.865123	79.809228	1250	1763.02
Vannan Kulam, Melayur	10.871578	79.82542	3000	3260.67
Angaran Kulam, Melayur	10.873467	79.82544	6800	5387.45
Ponnankuttai, Melayur	10.850008	79.822072	600	868.91
Thoppukollaikuttai, Melayur	10.879285	79.818223	400	687.89
Muthampallapet, Melayur	10.879662	79.813743	800	2717.80
Poongulam, Melayur	10.874892	79.826405	3850	3726.98
Chettiyar Kulam, Keezhayur	10.865762	79.83125	5700	5720.71
Ayyanarkuttai, Keezhayur	10.877807	79.80938	250	387.16
Sooriyankuttai, Keezhavanjure	10.822025	79.835452	1050	1459.05
Melapet Kulam, Keezhavanjure	10.834528	79.833463	2543	3239.67
Nadupet Kulam, Keezhavanjure	10.832493	79.836152	3500	4292.56
Paravai Kulam, Melavanjure	10.829543	79.834459	7400	13238.72
Vannan Kulam, Keezhavanjure	10.849683	79.829499	3000	1713.42
Petharanasamy Kulam, Keezhavanjure	10.82734	79.838253	2050	3304.46
Mariamman Koil Kulam, Keezhavanjure	10.822025	79.835452	9700	21479.00
Agraharakulam, Melavanjure	10.829963	79.833351	3544	6383.35
Kulam Near Meideen Sahib Land, Keezhavanjure	10.849683	79.829499	7450	25341.40
Pinna Kuttai, Keezhavanjure	10.849683	79.829499	5600	12049.76

Comparative Pre & Post Development Photographs of Major interventions

Bahour Tank

Before

After

Abishegapakkam Tank

Before

After

Korkadu Tank

Before

After

Kirumampakkam Tank

Before

After

Murungapakkam Tank

Before

After

Vadhanur Tank

Before

After

Olandai Tank

Before

After

Madagadipet tank

Before

After

Mannadipet Tank

Before

After

Katterikuppam tank

Before

After

Kunichempet Tank

Before

After

Thirukkanur Periaeri Tank

Before

After

Thondamantham Veleri Tank

Before

After

Thiruvandarkoil Tank

Before

After

Manapet Tank

Before

After

Keezhparikalpet Tank

Before

After

Karayamputhur Vannaneri Tank

Before

After

Kuruvinatham Tank

Before

After

Kudiyiruppupalayam tank

Before

After

Keezhagraharam tank

Before

After

Karikkalampakkam tank

Before

After

Eripakkam tank

Before

After

Nettapakkam tank

Before

After

Chettipet tank

Before

After

Kodathur tank

Before

After

Perungalure tank

Before

After

Karaiyamputhur Odaperi tank

Before

After

Suthukeny Periya eri tank

Before

After

Thuthipet tank

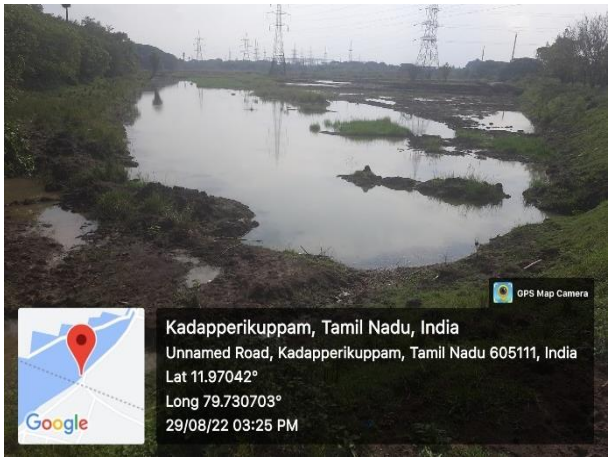
Before

After

Thondamanatham Kadaperi tank

Before

After



Kariyamanikkam tank

Before

After

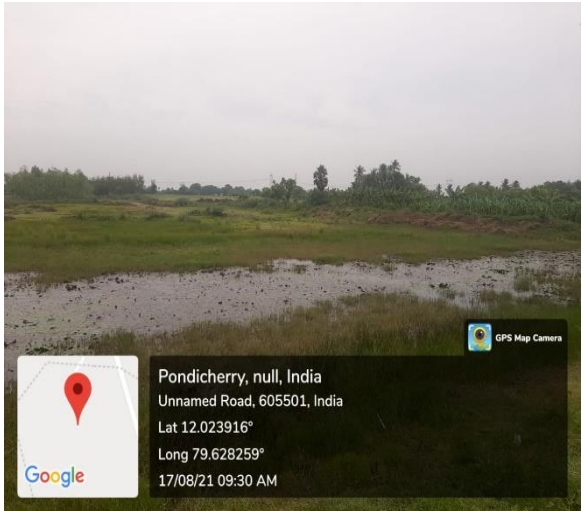
Mannappan thangal

Before

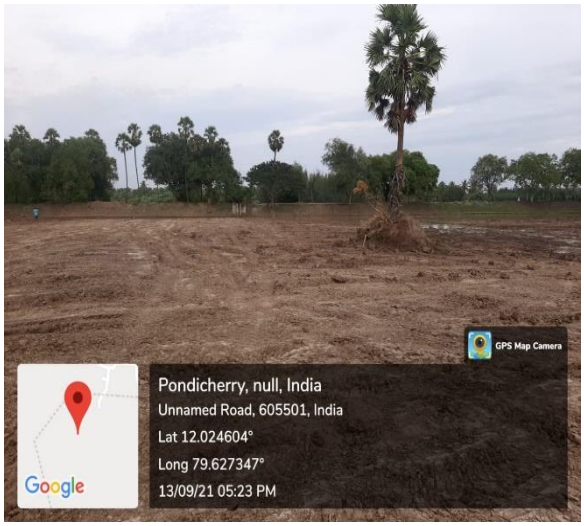
After

Manalaipet tank

Before



After



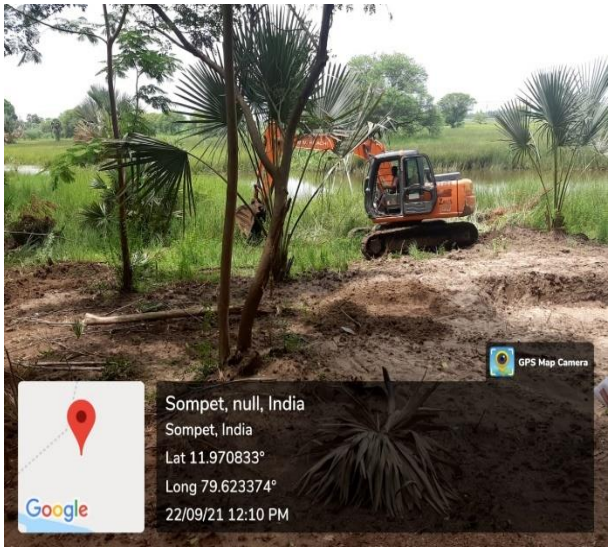
Embalam Sitheri

Before

After

Sompet tank

Before



After

Components of Tank

Desilting


2018-4-26 11:23


3 Jun 2019 4:00:54 pm
Mariamman Kovil Street
Mannadipet
Villupuram
Tamil Nadu

Bund Formation

Recharge Bore Well


4 Apr 2019 11:38:08 am
Madagadipet-Thirukanur Road
Mannadipet
Villupuram
Tamil Nadu

Tree Plantation


2019-7-11 10:14

Sluice Shutter Repair

Reconstruction of Inlet

Fishing Pond in Kunichempet Tank

Component 2: Rejuvenation of Ponds in Puducherry region

Iyyanarkoil kulam at Kunichempet village

Before

After

Mangkulam at K.Andiarpalayam village

Before

After

Gingee kulam at Manalipet village

Before

After

Sudukadu kulam at Thiruvandarkoil village

Before

After

Iyyanarkoil kulam at Sanniyasikuppam village

Before

After

Uthu kulam at Kunichempet village

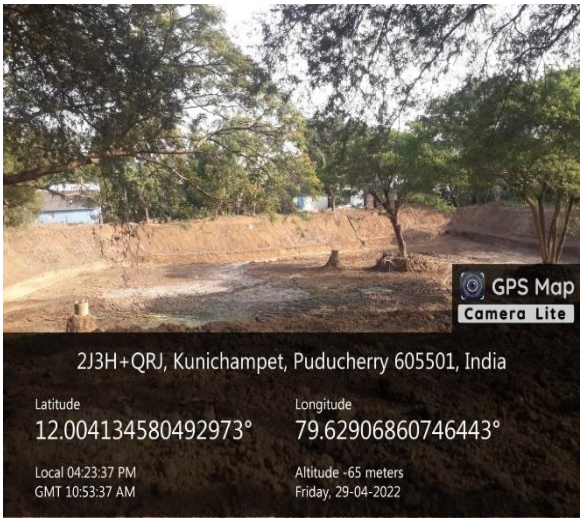
Before

After

Velan kulam at Kunichempet village

Before

After



Arippan kulam at Sorapet village

Before

After

Kalkatti kulam at Sompet village

Before

After

Theertha kulam at Vadhanur village

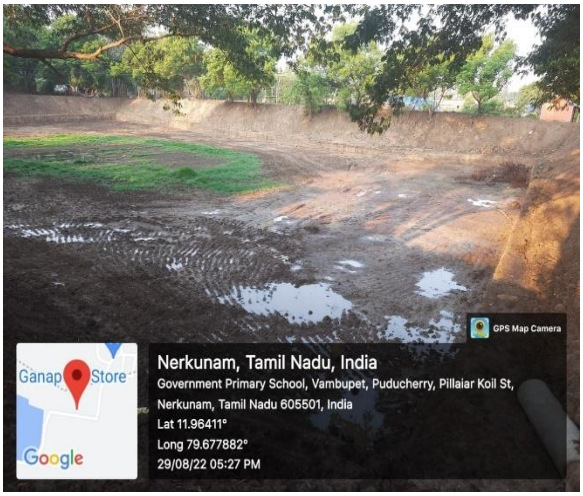
Before

After

Iyyanarkoil kulam at Vambupet

Before

After



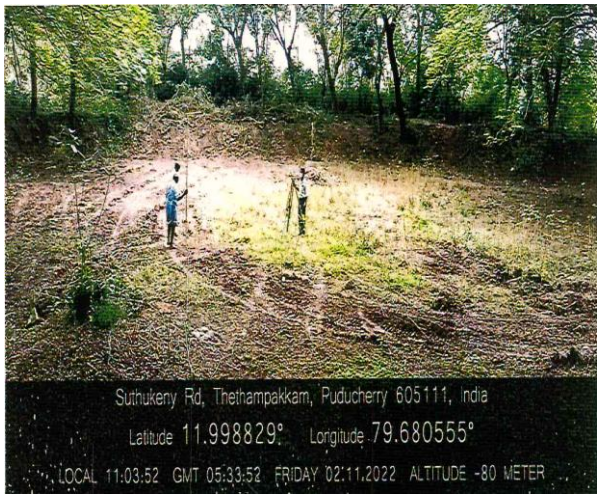
Pana mattai Kuttai at Vinayagampet

Before

After

Perumal koil Kuttai at Suthukeny

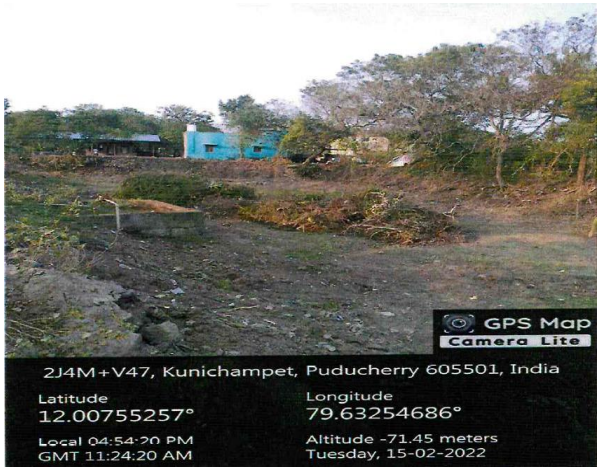
Before



After

Kanagan Kuttai at Kunichempet

Before



After

Kannia kulam at Suthukeny

Before

After

Ayyanarkoil kulam at Embalam Revenue Village

Before **After**

Pidari kulam at Maducarai village

Before **After**

Ural kulam (Near Burial ground) at Maducarai village

Before **After**

kulam at Sembiapalayam in Embalam Revenue Village

Before **After**

Vella kulam in Embalam Revenue Village

Before **After**

Kannimar kulam at Karickalampakkam Revenue Village

Before **After**

Kulam, Sanniyasikuppam, Puducherry

Before

After

Pidari kulam at Nettapakkam

Before

After

Thirukanchi kulam at Thirukanchi

Before

After

Eswaran kulam at Seliamedu

Before

After

Thangal kulam at Kudiyiruppupalayam

Before

After

Oral kulam at Pillayarkuppam, Embalam constituency.

Before

After

Attaikulam at Kuruvinatham

Before

After

Vinayagarkoil kulam at Pinnatchikuppam

Before

After

Ural kulam (Panakuzhi Pallam) at Pillaiyarkuppam

Before

After

Iyyanar kulam at Kaduvanur

Before **After**

Iyyanarkoil kulam at Kuruvinatham

Before **After**

Andhamozhi Iyyanarpan Kulam at Nirnayapet

Before **After**

Thamarai kulam at Aranganur

Before

After

Retti kulam at Veerampattinam

Before

After

Krishnamachariyar kulam at Abishegapakkam

Before

After

Recharge Borewell in Ural Kulam

Component 3; Formation of Mini Lake at Padutharkollai Village

Before Commencement of the work:

Bund Formation


GPS Map Camera
Kottamangalam, Tamil Nadu, India
VRG7+V4, Kottamangalam, Tamil Nadu 609606, India
Lat 10.878828°
Long 79.814401°
30/06/22 11:32 AM
Google

Component – 4 Ponds in Karaikal region

Ponds at Dharmapuram & Pudhuthurai Village in Karaikal Municipality

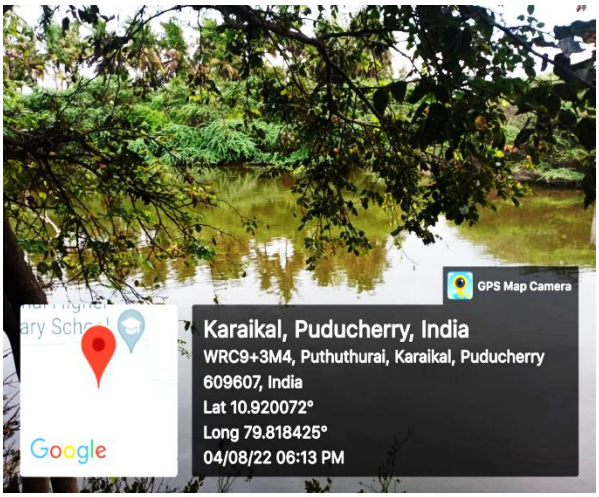
Vannan Kulam

Before

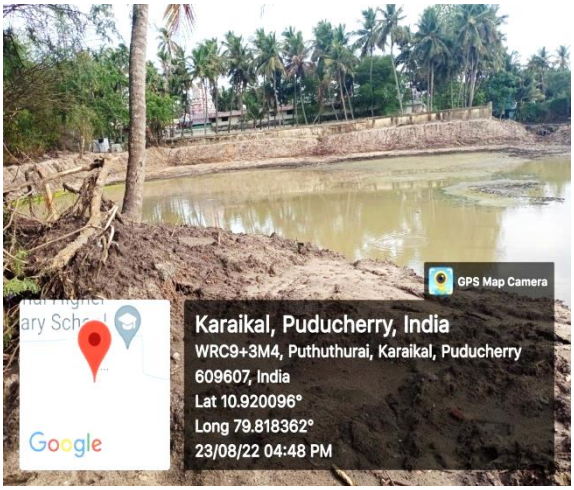
After

Kaliamman Koil Kulam

Before

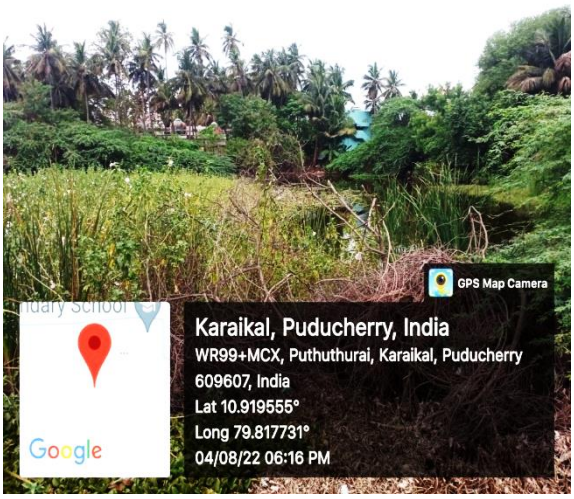


After



Yazhmurinathan Koil Kulam - Dharmapuram

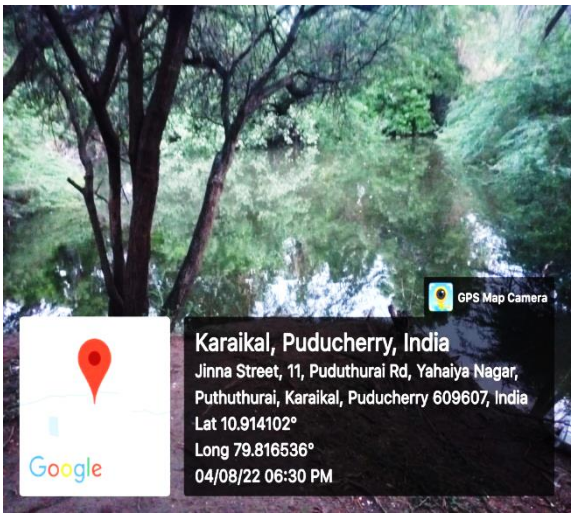
Before



After

Puduthurai Kudiyiruppu Kulam

Before



After

Thera Kulam

Before

After

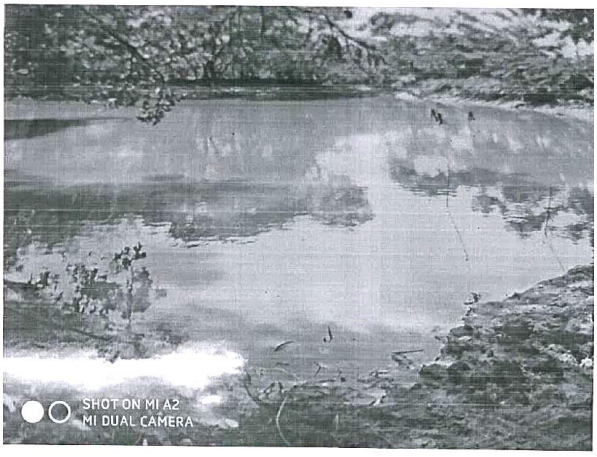
Keezhatherukulam at Melaoduthurai

Before

After

Iyanar Kulam, Oduthurai

Before



After

Rejuvenation of Ponds at Varichkudy Village in Kottucherry Commune

Koozhkuditha Agrahara Periyakulam

Before

After

Ponnaiyapillai Kulam

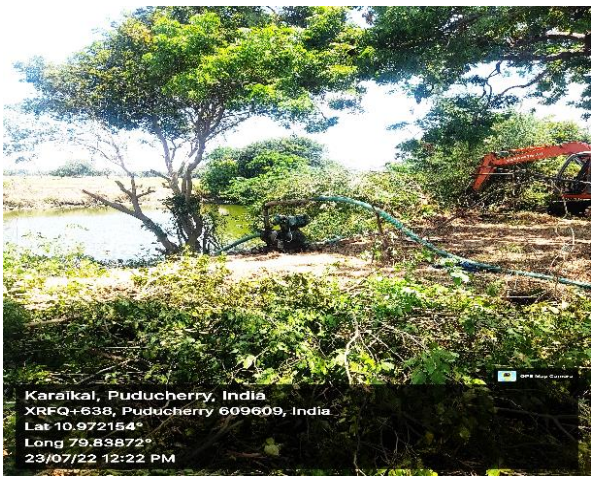
Before

After

Rejuvenation of Ponds at Thiruvettakudy Village in Kottucherry Commune

Thaneerpanthal Kulam

Before

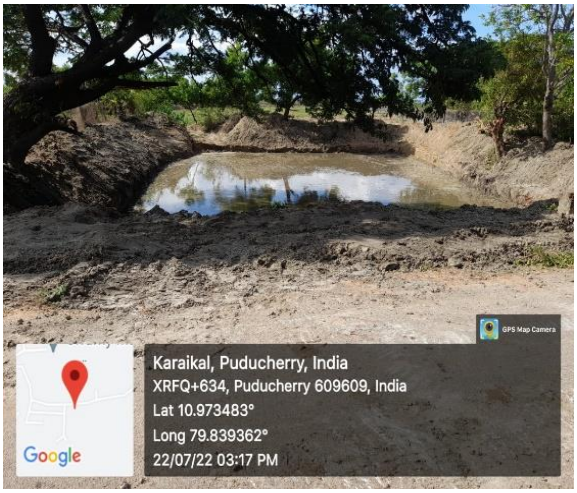


After

Sudugatu Kulam

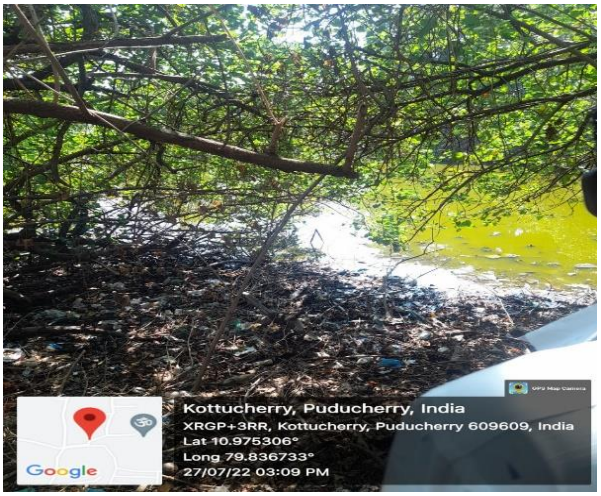
Before

After

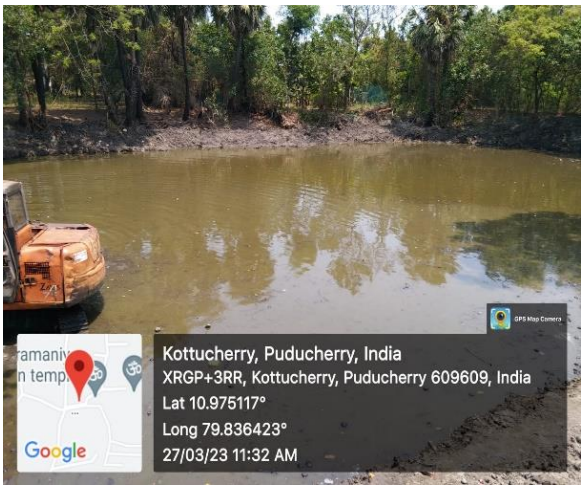


Korai Kulam

Before



After

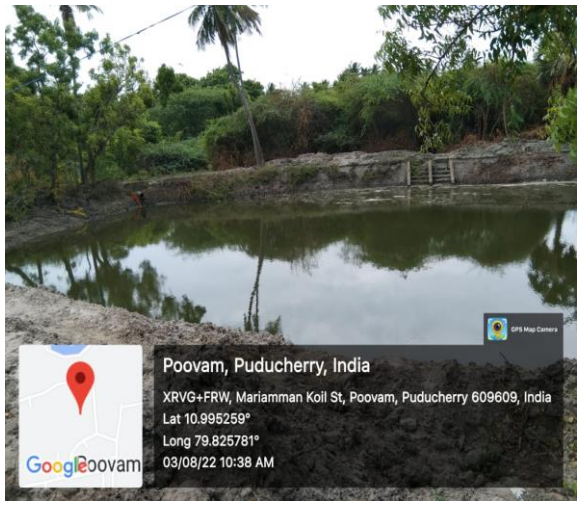


Rejuvenation of Ponds at Poovam Village in Kottucherry Commune

Periyakulam

Before

After



Sithanathasamy Koil Kulam

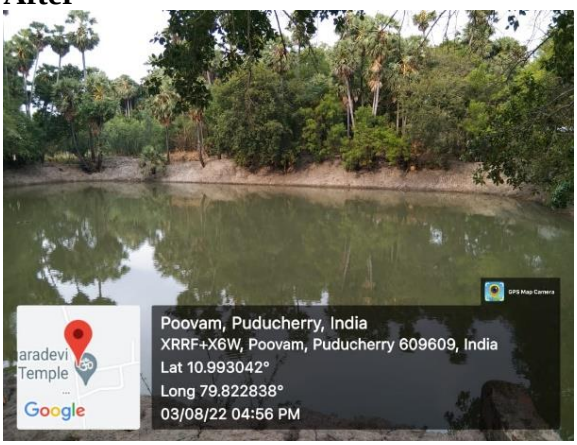
Before

After

Ayyapillai Agraharam Periyakulam

Before

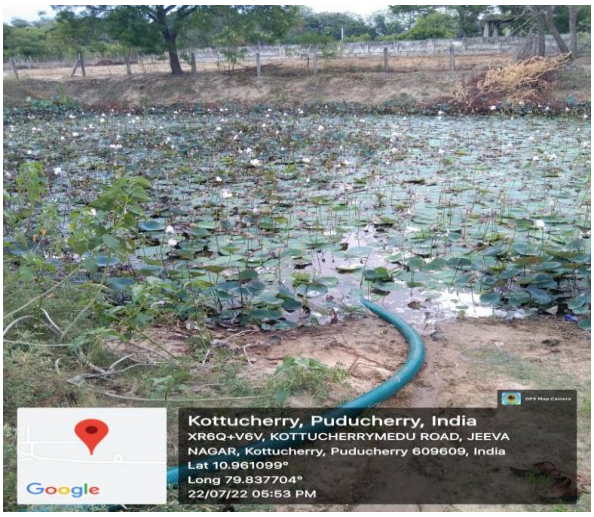
After



Rejuvenation of Ponds at Kottucherry Village in Kottucherry Commune

Vettiyankulam

Before



After

Mukkulam

Before

After

Thamaraikulam

Before

After

Rejuvenation of ponds at Nedungadu Village in Nedungadu Commune

Thamaraikulam

Before

After

Agraharakulam

Before

After

Pidari Kuttai

Before

After

Karkathar Kulam

Before

After

Konankulam

Before

After

Sanakulam (Agaramangudy)

Before

After

Anthoniyar Kulam

Before

After

Keezha Annavasalpet Kulam

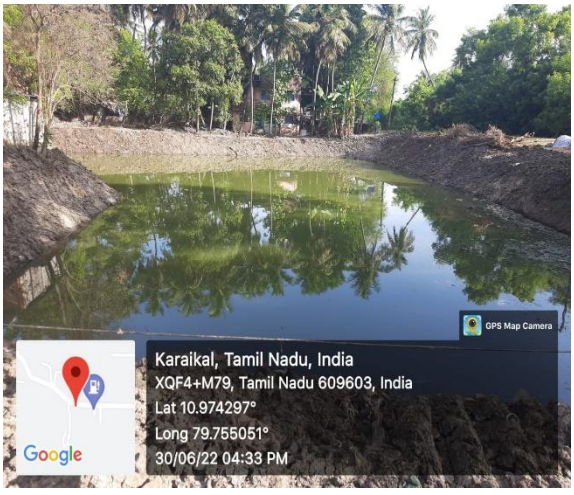
Before

After

Annavasal Motaiyan Kulam

Before

After



Rejuvenation of ponds at Kurumbakagaram Village in Nedungadu Commune

Sinna Kulam

Before

After

Kumara Kulam

Before

After

Panchatcharapuram Keezha Kulam

Before

After

Pandaravadai Pudu Kulam

Before

After

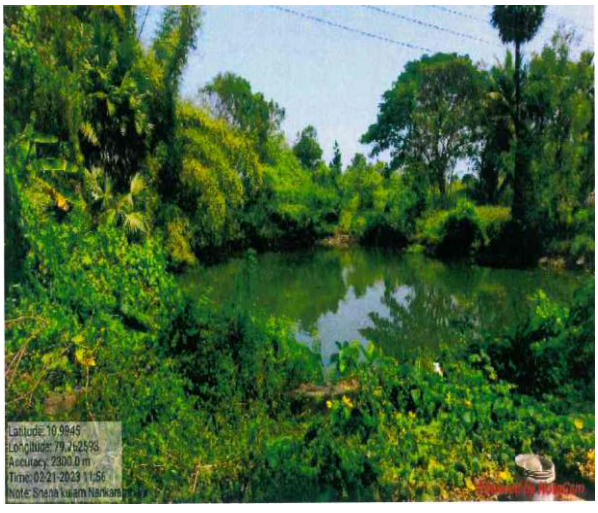
Panduvan Kulam

Before

After

Narikurumbai Snana Kulam

Before



After

Adaikalapurampet Kulam

Before

After

Rejuvenation of ponds at Ponbethy Village in Nedungadu Commune

Allikulam

Before

After

Snana Kulam (Kulakudy)

Before

After

Saravanairuppu Kulam

Before

After

Snana Kulam (Kottagam)

Before

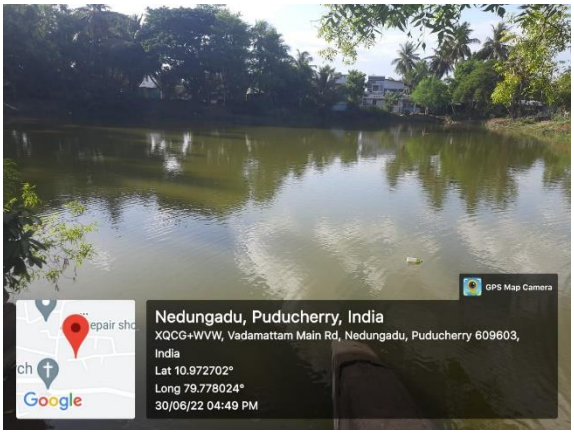
After

Rejuvenation of ponds at Ponbethy Village in Nedungadu Commune

Periyakulam

Before

After



Velluvar Kulam

Before

After

Snanakulam

Before

After

Vaduvankulam

Before

After

Rejuvenation of ponds in Nedungadu Commune

Sanan Kuttai (Keezha Sembiangal)

Before

After

Ayyanar Koil Kulam (Puthakudy)

Before

After

Thamaraikulam (Puthakudy)

Before

After

Rejuvenation of ponds at Melakasakudy Village in Nedungadu Commune

Thiruvengadapuram Nambian Kulam

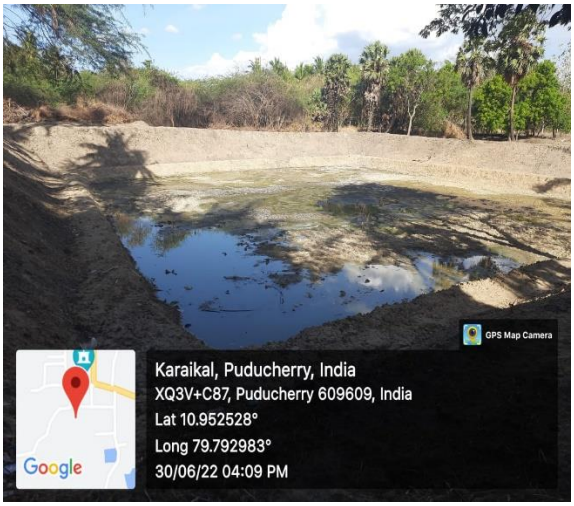
Before

After

Moongiladi Kulam

Before

After



Kallarai Kuttai

Before

After

Rejuvenation of Ponds at Sethur Village in Thirunallar Commune

Pandaravadai Pasi Kulam

Before

After

V.Kottapadi Snanakulam

Before

After

Muppaithankudi Mandhaveli Kulam

Before

After

Rejuvenation of Ponds at Sorakudy Village in Thirunallar Commune

Iyyanar Kulam, Serumavilalgai

Before

After

South Thamarai Kulam

Before

After

Singaperumal Kulam

Before

After

Rejuvenation of Ponds at Thirunallar Village in Thirunallar Commune

Mookuthi Kuttai

Before

After

Nanji Kuttai

Before

After

Thamban Kuttai

Before

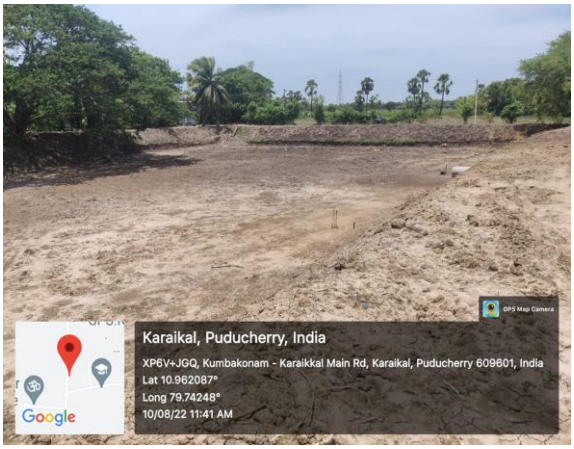
After

Rejuvenation of Ponds at Sellur, Ambagarathur & Karukankudy Village in Thirunallar Commune

Kannapur Snana Kulam

Before

After



Pidari Kulam, Thennangudi

Before

After

Pathakudi Melakulam

Before

After

Rejuvenation of Ponds at Sorakudy & Suburayapuram Village in Thirunallar Commune

Sundhara Kulam

Before

After

Annanaicken Kulam

Before

After

Puliyan Kulam, Thirunallar

Before

After

Rejuvenation of Ponds at Vizhidiyur Village Panchayat in Neravy Commune

Class Kulam, Neravy

Before

After

Rejuvenation of Ponds at Melayur, T.R.Pattinam Central Village Panchayat in T.R.Pattinam Commune

Vannan Kulam, Melayur

Before

After

Angaran Kulam, Melayur

Before

After

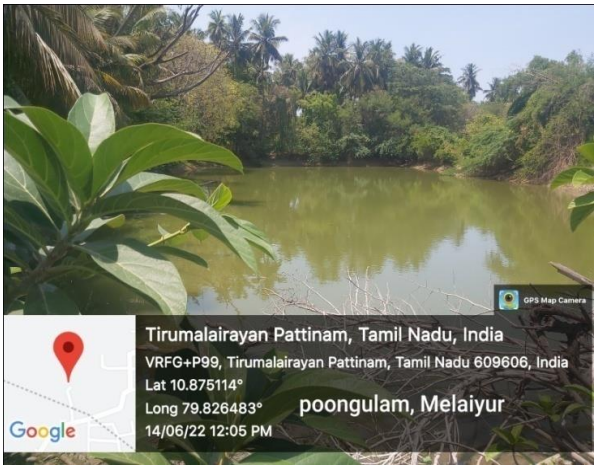
Muthampallapet, Melayur

Before

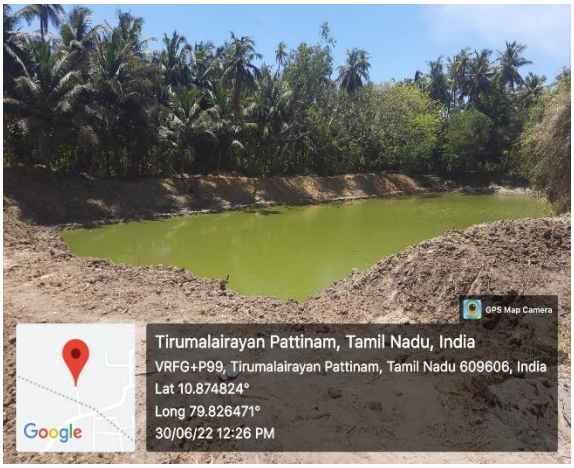
After

Poongulam, Melayur

Before



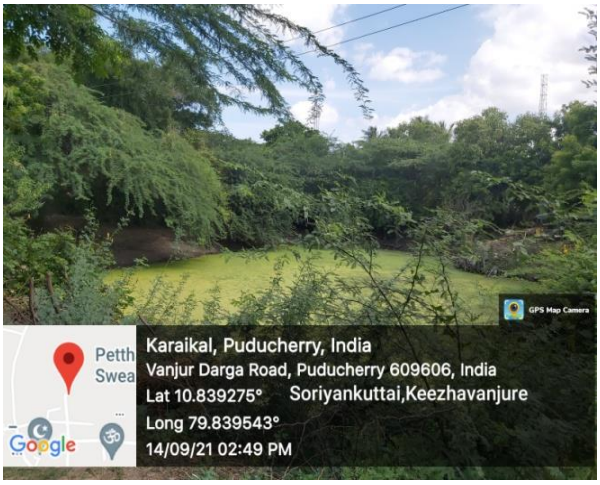
After



Rejuvenation of Ponds at Vanjore Village Panchayat (Part 1) in T.R.Pattinam Commune

Sooriyankuttai, Keezhavanjure

Before



After

Melapet Kulam, Keezhavanjure

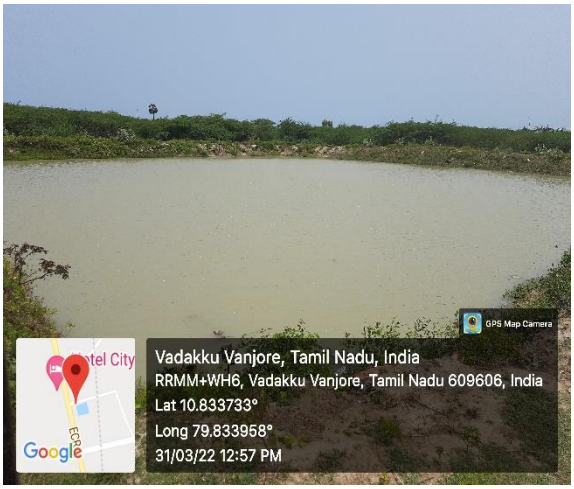
Before

After

Nadupet Kulam, Keezhavanjure

Before

After



Paravai Kulam, Melavanjure

Before

After

Rejuvenation of Ponds at Vanjore Village Panchayat (Part 2) in T.R.Pattinam Commune

Vannan Kulam, Keezhavanjure

Before

After

Petharanasamy Kulam, Keezhavanjure

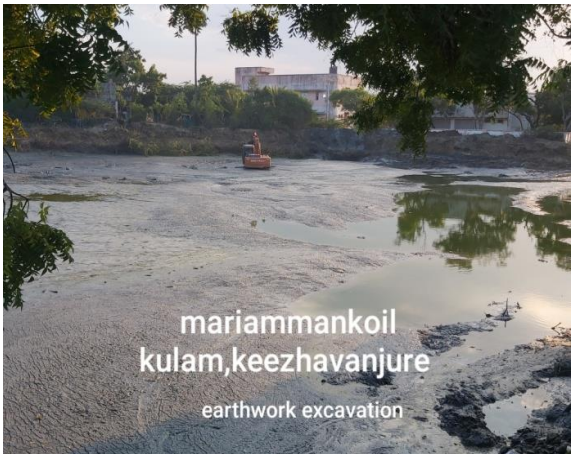
Before

After

Mariamman Koil Kulam, Keezhavanjure

Before

After



Agraharakulam, Melavanjure

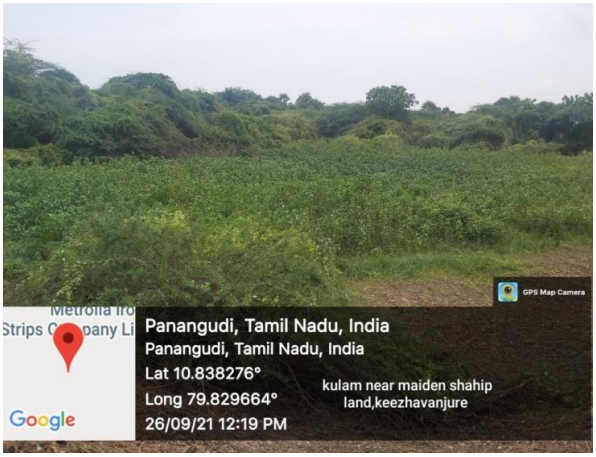
Before

After

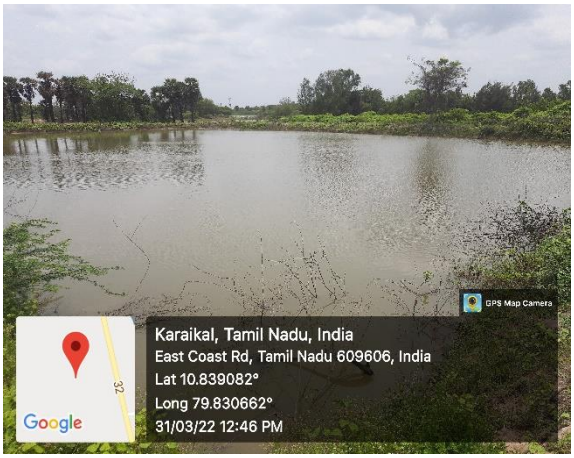
Rejuvenation of Ponds at Vanjore Village Panchayat (Part 3) in T.R.Pattinam Commune

Kulam Near Meideen Sahib Land, Keezhavanjure

Before

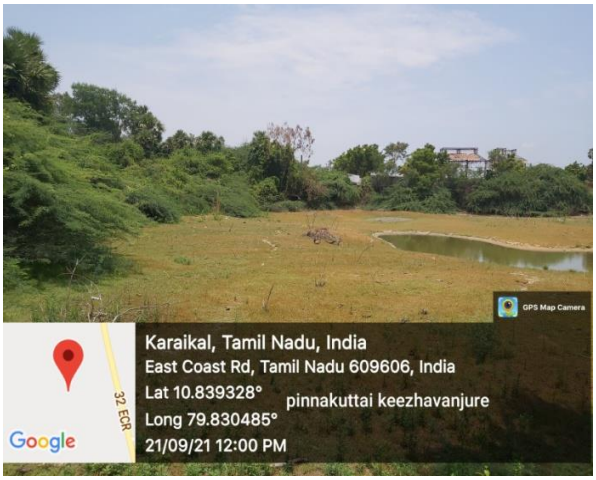


After

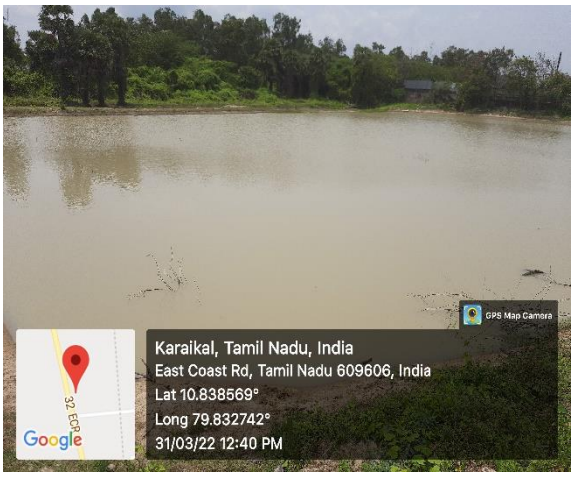


Pinna Kuttai, Keezhavanjure

Before



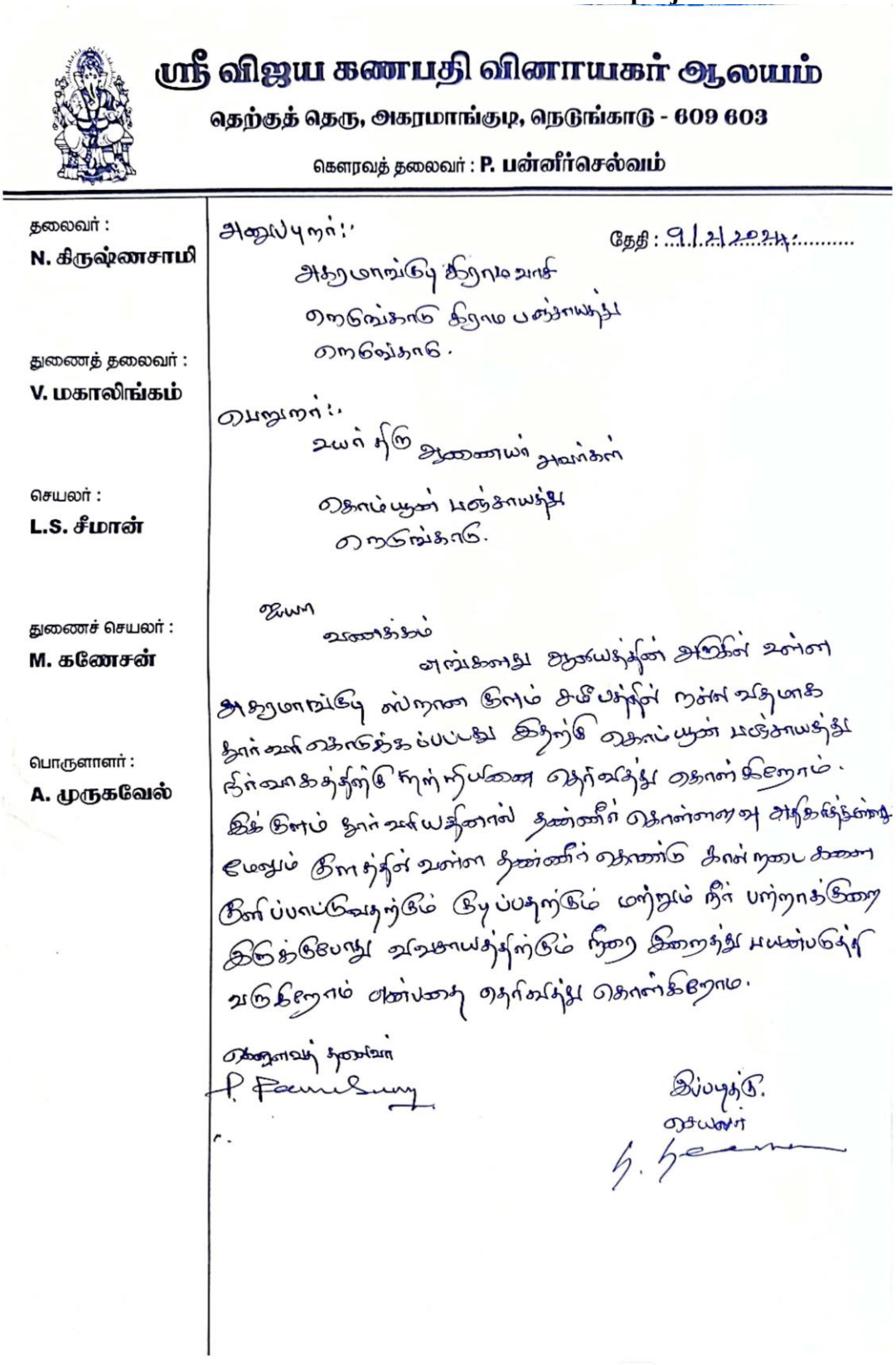
After



Annexure IV

NABARD HO, Mumbai
Name of the Project: Integrated surface water management for Climate Change Adaptation in U.T. of Puducherry

Statements of Beneficiaries from vulnerable communities in project area:



ஸ்ரீ விஜய கணபதி விநாயகர் ஆலயம்

தெற்குத் தெரு, அகரமாங்குடி, நெடுங்காடு - 609 603

கௌரவத் தலைவர் : P. பன்னீர்செல்வம்

தலைவர் : N. கிருஷ்ணசாமி

துணைத் தலைவர் : V. மகாலிங்கம்

செயலர் : L.S. சீமான்

துணைச் செயலர் : M. கணேசன்

பொருளாளர் : A. முருகவேல்

அனுப்புநர்: தேதி : 9/2/2024

அதரமாங்குடி கிராமம் மாரி
நெடுங்காடு கிராம பஞ்சாயத்து
நெடுங்காடு.

பெறுநர்:
உயர் திரு ஆணையர் அவர்கள்
காரைக்கால் பஞ்சாயத்து
நெடுங்காடு.

ஐயா
வணக்கம்
எங்களது ஆலயத்தின் அருகில் உள்ள அதரமாங்குடி ஸ்நான தீர்த்தம் சமீபத்தில் நல்ல விதமாக தூர்வாரி கொடுக்கப்பட்டது இதனால் காரைக்கால் பஞ்சாயத்து நிர்வாகத்திற்கு நன்றியினை தெரிவித்து கொள்கிறோம். இக் தீர்த்தம் தூர்வாரியதினால் தண்ணீர் கொள்ளளவு அதிகரித்துள்ளது மேலும் தீர்த்தத்தின் உள்ள தண்ணீர் கொண்டு கால்நடைகளை குளிப்பாட்டுவதற்கும் குடிப்பதற்கும் மற்றும் நீர் பற்றாக்குறை இருக்கும்போது விவசாயத்திற்கும் நீரை இறைத்து பயன்படுத்தி வருகிறோம் என்பதை தெரிவித்து கொள்கிறோம்.

தலைவர்
P. Panneerselvam

இப்படிக்கு,
செயலர்
L. Seeman

09-02-2024
திருவேங்கடபுரம்.

அனுப்புனர்

கிராமவாசிகள்,
திருவேங்கடபுரம்.
மேலகாசாகுடி கிராம பஞ்சாயத்து,
நெடுங்காடு.

பெறுநர்

உயர்திரு ஆணையர் அவர்கள்,
நெடுங்காடு கொம்யூன் பஞ்சாயத்து,
நெடுங்காடு.

ஐயா,

எங்களது கிராமத்தில் உள்ள திருவேங்கடபுரம் நம்பியான் குளம் சென்ற வருடம் தூர்வாரப்பட்டது. இக்குளம் தூர்வாரியதினால் கடந்த பருவ மழையின் போது முழுவதுமாக நிரம்பியுள்ளது. தண்ணீரின் கொள்ளளவும் அதிகரித்துள்ளது. இந்த தண்ணீரைக் கொண்டு ஆடு மாடுகள் குளிப்பாட்டுவதற்கும் விவசாய பணிகளுக்கும் ஏதுவாகிறது குளத்தின் ஆழத்தை அதிகப்படுத்தி கொடுத்த அரசு மற்றும் நெடுங்காடு கொம்யூன் பஞ்சாயத்திற்கும் நன்றி.

இப்படிக்கு

Newspaper Clippings:

Rs 16.76 crore surface water management project for Puducherry

indianexpress.com/article/india/rs-16-76-crore-surface-water-management-project-for-puducherry-4559011/

March 7, 2017

A Rs 16.76 crore centrally-assisted integrated surface water management project would be implemented in the Union Territory. The Union Ministry of Environment and Forest has earmarked Rs 16.76 crores for the project to be implemented through rejuvenation of water bodies, an official release said today. Under this project, twenty tanks and 32 village ponds would be rejuvenated.

The purpose of the project was to increase the adaptive capacity of local communities to impacts of climate change through `diminishing reliance on ground water resources` and by restoring surface water bodies.

வேடந்தாங்கலாகும் புதுச்சேரி ஏரிகள்! அரியவகை பறவைகளின் வருகை அதிகரிப்பு

dinamani.com/all-editions/edition-viluppuram/puducherry/2020/Feb/27/வேட-தாங்கலாகும்-புதுச்சேரி-ஏரிகள்-அரியவகை-பறவைகளின்-வருகை-அதிகரிப்பு-3382514.html

புதுச்சேரியில் உள்ள 24 ஏரிகளில் 114 இனங்களைச் சேர்ந்த 6,530 பறவைகள் காணக்கிடைத்துள்ளன.

Updated on:
27 பிப்ரவரி 2020, 3:16 am

புதுச்சேரியில் உள்ள 24 ஏரிகளில் 114 இனங்களைச் சேர்ந்த 6,530 பறவைகள் காணக்கிடைத்துள்ளன. இதன்மூலம், பறவைகளின் வேடந்தாங்கலாக புதுச்சேரி ஏரிகள் மாறி வருவதுடன், சிறந்த சூழலியல் தலமாக புதுச்சேரி உருவெடுத்துள்ளதாகவும் பறவை ஆர்வலர்கள் தெரிவித்தனர்.

ஆகச் சிறந்த பல்லுயிர்ப் பெருக்க இடமாக நீர்நிலைகள் விளங்குகின்றன. பல்லுயிர்த்தன்மையில் பறவைகள் மிக முக்கிய இடத்தை வகிக்கின்றன. புழு, பூச்சிகள், சிறு உயிரினங்களின் எண்ணிக்கையை கட்டுக்குள் வைப்பதில் பறவைகள் மிகச் சிறந்த பங்காற்றுகின்றன. பறவைகள் இருப்பதால்தான் மனிதர்களாகிய நமக்கு உணவு தானியங்கள் பெருமளவு தோராமாகாமல் கிடைக்கின்றன. வயல்வெளிகளில் புழு, பூச்சிகளை உண்பதால், விவசாயிகளின் நண்பனாக பறவைகள் திகழ்கின்றன. பறவைகளின் எண்ணிக்கை அதிகரிப்பு சுற்றுச்சூழல், இயற்கை பாதுகாப்புக்கான அறிகுறியாகும்.

இதைக் கருத்தில் கொண்டு, சுற்றுச்சூழல் கல்விக் கழகம் சார் பில், புதுச்சேரியில் உள்ள 24 ஏரிகளில் பறவைகள் கணக்கெடுப்புப் பணி கடந்த ஜனவரி 16, 17 , 18, 19 ஆகிய தேதிகளில் நடைபெற்றது. இந்தப் பணியில் 2,097 தன்னார்வலர்கள் பங்கேற்றனர். இதன் முடிவுகள் தற்போது வெளிவந்துள்ளன.

இதுகுறித்து சுற்றுச்சூழல் கல்விக் கழகத்தைச் சேர்ந்த பறவை ஆர்வலர்களான சிவகணபதி, பி.சரேந்தர் ஆகியோர் கூறியதாவது:

புதுச்சேரியில் உள்ள ஏரிகளில் நடைபெற்ற பொங்கல் பறவைகள் கணக்கெடுப்பில், 266 வெண்புருவ வாத்துகள், 87 கூளிவால் வாத்துகள், 339 ஆசிய பனை உழவாரன், 48 செண்பகம், 45 கொளதாரிகள், 61 முக்குளிப்பான், 37 மணிப்புறா, 48 குயில்கள், 30 அக்கா குயில், 53 தாழைக்கோழி, 45 நாமக்கோழி, 75 நீல தாழக்கோழி, 48 வெண்மார்பு காளாங்கோழி, 40 சாம்பல் தலை ஆள்காட்டி, 141 செம்மூக்கு ஆள்காட்டி, 149 தாமரைக்கோழி, 39 நத்தைக்குத்தி நாரை, 70 பாம்புதாரா, 55 சின்ன நீர்க்காகம், 122 நீர்க்காகம் 57 மஞ்சள் மூக்கு நாரை, 15 சாம்பல் கூழைக்கடா, 32 மஞ்சள் குருகு, 218 உண்ணிக்கொக்கு, 77 கொக்குகள், 480 மடையான்கள், 63 வெண்மார்பு மீன்கொத்திகள், 58 நீலவால் பஞ்சுருட்டான், 199 பச்சைக்கிளிகள், 120 சாம்பல் கரிச்சான், 551 காகம், 32 வால்காக்கை, 272 அண்டங்காக்கைகள், 85 தையல் சிட்டுகள், 87 சாம்பல் கதிர் குருவி, 70 பெரிய நாணல் கதிர் குருவி, 124 தகைவிலான், 21 செம்பிடரி தகைவிலான், 73 சாம்பல் தலை சின்னான், 68 வெண்புருவ சின்னான், 120 தவிட்டுக்குருவி, 521 மைனா, 852 கரும்பு, சிவப்பு சீழ்க்கை சிரவி, குள்ளத்தாரா, மயில், மாடப்புறா, மணிப்புறா, சங்குவளை நாரை, குயில், மண்கொத்தி, சாம்பாய் நாரை, கரண்டிவாயன், பருந்து, ஆந்தை, வல்லூறு, வானம்பாடி, கருஞ்சிட்டு, தேன்சிட்டு, பூஞ்சிட்டு, வெண்புருவ வாலாட்டி உள்ளிட்ட 114 இனங்களைச் சேர்ந்த 6,530 பறவைகள் தென்பட்டதாக பறவை ஆர்வலர்கள் தெரிவித்தனர்.

பாகூர் ஏரி, உகடு ஏரி, பண்டசோழநல்லூர், திம்மநாயக்கன்பாளையம், கிருமாம்பாக்கம் ஏரிகளில் அதிகபட்சமாக பறவைகள் தென்பட்டுள்ளன. இவற்றில் செந்தலை வல்லூறு, விராலடிப்பான் போன்ற அரிதிலும் அரிதான பறவைகளும் தென்பட்டுள்ளன என்றனர்.

புதுச்சேரியில் உள்ள நீர்நிலைகள் கடந்த சில மாதங்களாக தூர்வாரப்பட்டு வருகின்றன. இவற்றில் ஏரிகளை தூர்வாரும் பணி அண்மையில்தான் தொடங்கியது. எனவே, வரும் காலங்களில் பறவைகளின் எண்ணிக்கை மேலும் அதிகரிக்கும். இதன்மூலம், புதுச்சேரி சிறந்த சூழலியல் தலமாக உருவெடுத்து வருகிறது. இது, சுற்றுலாப் பயணிகளை ஈர்க்கும் என்று பொதுப் பணித் துறை அதிகாரிகள் தெரிவித்தனர்.

சுற்றுச்சூழல் ஆர்வலர்கள் டி.வினோத், ரமேஷ் ஆகியோர் கூறியதாவது: நீர்நிலைகளில் உள்ள நீரின் அளவு, உணவு, பாதுகாப்பான உறைவிடத்தை வைத்தே பறவைகள் வரவை வருதலும், இருக்கும் பறவைகள் வேறோங்கும் இடம்பெயராதலும், பறவைகளின் இனப்பெருக்கம் அதிகரித்தலும் ஏற்பட முடியும். அதற்கு ஆக்கிரமிப்பின் பிடியில் உள்ள அனைத்து நீர்வரத்து வாய்க்கால்களையும் தூர்வாரி, புதுச்சேரியில் உள்ள ஏரிகளுக்கு போதுமான அளவில் தண்ணீர் கிடைக்க வழிவகை செய்ய வேண்டும்.

நீர்நிலைகளை தூர்வாரும்போது, பறவைகளின் இருப்பிடமான நீர்நிலைகளின் அருகிலுள்ள புதர்கள், செடி, கொடிகளை கூடுமான வரை அழிக்கக் கூடாது. மேலும், அழிந்து வரும் பல பறவை இனங்களைக் காப்பாற்ற, நம்மால் முடிந்தவரை வீடுகளிலும், நீர்நிலைகளின் ஓரங்களிலும் மரக் கன்றுகளை நட்டு வளர்க்க வேண்டும் என்றனர்.

1/2 2/2

Pondicherry creates inventory of water bodies, rejuvenates them

blog.mygov.in/pondicherry-creates-inventory-of-water-bodies-rejuvenates-them/

29 Nov 2019

It's been an uphill battle for the seaside town of Pondicherry in the Union Territory of Puducherry over the past few months as district officials made every effort to rejuvenate, renovate and restore water bodies in the district, many of which were almost lost or encroached upon.

The initiative is a part of Puducherry's Neerum Oorum (Water and Village) Scheme to adopt water bodies, renovate them and protect them.

According to District Collector, Dr. T. Arun, many of the water bodies and ponds were almost lost, overrun as they were with foliage, waste or encroachments. Some of them were almost flat and dry. "Given the high levels of groundwater exploitation, water shortage is common here during many months. So we decided to set things right." he said.

Taking inventory: The number of water bodies in the district was available in the Revenue Records of the district. To help them make an inventory, a team was sent to survey the water bodies, document the same and provide a unique number to every pond based on its location – village, panchayat and sub-division. Although a very difficult task, this was done to set the ball rolling.

Corporate Social Responsibility, Convergence: Through convergence with MGNREGA Scheme, PWD, local bodies and with CSR support of many companies, banks and NGOs including Lions and Rotary Clubs, desilting of 120 ponds has been done to date. Further, work for another 80 ponds is in progress, including 30 temple ponds.

De-silting of canals: De-silting of canals, was undertaken with support from local leaders and officials from the district administration, as a part of Neerum Oorum. The project received vital support from the offices of the Governor and Chief Minister.

1/2

Neerum Oorum: The tagline for the water bodies' rejuvenation programme was 'Neerum Oorum. Advertisements were given in local newspapers, appealing for support from the public, corporate sector and institutions. More than a dozen companies provided free services. With their support 200 KMS of canals were cleared.

Geo-tagging of water bodies: Instructions have been given to digitize all water bodies by geo-tagging them, in collaboration with Nagpur based NEERI (National Environment Engineering Research Institute). This will prevent encroachments and misuse of the same. An App will be launched soon to better monitor and maintain the water bodies.

Impact: Many of the ponds that were rejuvenated over the past few months now have water, increasing the water storage capacity of the district. This will also help increase the groundwater table. Care will also be taken to ensure that the ponds will be retained as water bodies. Plans are in the pipeline to improve the appearance and approach to the water bodies by building pavements around them and if space permits make a park near them that could have a picnic area or open air gym.

As per official data, Puducherry has as many as with 84 irrigation tanks and 607 ponds which are the lifeline of Puducherry's ground water recharging systems, source for drinking water and also the backbone for agriculture.

2/2

Full capacity reached, Bagur Lake

dailythanthi.com/news/puducherry/full-capacity-reached-bagur-lake-787722

தினத்தந்தி September 8, 2022

தென்பெண்ணை ஆற்றில் மீண்டும் வெள்ளப்பெருக்கு ஏற்பட்டுள்ளதால் பாகூர் ஏரி முழு கொள்ளளவை எட்டியுள்ளது. மழைக்காலத்துக்குள் வாய்க்கால்களை தூர்வார எம்.எல்.ஏ.க்கள் கோரிக்கை விடுத்துள்ளனர்.

பாகூர்

தென்பெண்ணை ஆற்றில் மீண்டும் வெள்ளப்பெருக்கு ஏற்பட்டுள்ளதால் பாகூர் ஏரி முழு கொள்ளளவை எட்டியுள்ளது. மழைக்காலத்துக்குள் வாய்க்கால்களை தூர்வார எம்.எல்.ஏ.க்கள் கோரிக்கை விடுத்துள்ளனர்.

கன மழை

கர்நாடகம், தமிழக பகுதியில் பெய்த கனமழையால் தென்பெண்ணை ஆற்றில் வெள்ளப் பெருக்கு ஏற்பட்டதையடுத்து அணைகள், ஏரிகள் உள்ளிட்ட நீர்நிலைகள் நிரம்பி வழிகின்றன.

புதுச்சேரியில் சோர்ணாவூர் அணைக்கட்டில் இருந்து பங்காரு வாய்க்கால் வழியாக பாகூர் ஏரி, கரையாம்புத்தூர், மணமேடு ஏரிகளுக்கும், சித்தேரி அணைக்கட்டில் இருந்து குருவிநத்தம், பரிக்கல்பட்டு உள்ளிட்ட ஏரிகளுக்கும் தண்ணீர் கொண்டு சென்று நிரப்பி வருகின்றனர்.

1/3

இந்நிலையில் மீண்டும் கர்நாடக மாநிலத்தில் மழை பெய்து வருவதால் தென்பெண்ணையாற்றில் வெள்ளப்பெருக்கு ஏற்பட்டது. இதனால் சாத்தனூர் அணையில் இருந்து சுமார் 15 ஆயிரம் கன அடி தண்ணீர் வெளியேற்றப்பட்டு வருகிறது.

முழு கொள்ளளவை எட்டியது

தொடர்ந்து சோர்ணாவூர் அணையில் இருந்து பங்காரு வாய்க்கால் வழியாக பாகூர் ஏரிக்கு நீர்வரத்து அதிகரித்துள்ளது. நாளுக்கு நாள் ஏரியின் நீர்மட்டம் வேகமாக உயர்ந்து வந்தநிலையில் நேற்று முன்தினம் பாகூர் ஏரி 3 மீட்டரை தொட்டு, முழு கொள்ளளவை எட்டியது.

இதனையடுத்து அதிகபட்ச கொள்ளளவான 3.6 மீட்டர் உயரத்திற்கு தண்ணீரை சேமிக்கும் வகையில், பொதுப்பணித்துறை அதிகாரிகள் நடவடிக்கை மேற்கொண்டனர்.

அதன்படி, அரங்கனூர் கலிங்கள் பகுதியில் 20 செ.மீ., உயரம் கொண்ட 3 தடுப்பு கட்டைகள் போடும் பணி நேற்று நடைபெற்றது. முன்னதாக அங்குள்ள ஏடிமுடி அய்யனார் கோவிலும், கலிங்களில் உள்ள பங்காரி, சிங்காரி சிலைகளுக்கும் சிறப்பு பூஜை நடந்தது.

இதில் எம்.எல்.ஏக்கள் லட்சுமிகாந்தன், செந்தில்குமார் கலந்து கொண்டு தடுப்பு கட்டை போடும் பணியை தொடங்கி வைத்தனர்.

பொதுப்பணித்துறை கண்காணிப்பு பொறியாளர் பாஸ்கரன், செயற்பொறியாளர் ராதாகிருஷ்ணன், உதவி பொறியாளர் மணிமாறன், இளநிலை பொறியாளர் மனோகர், வெங்கடேஸ்வரன் மற்றும் அதிகாரிகள், பொதுமக்கள் கலந்து கொண்டனர்.

15 கிராமங்களுக்கு பாசன வசதி

புதுச்சேரியின் 2-வது பெரிய ஏரியாக பாகூர் ஏரி உள்ளது. 3.6 மீட்டர் உயரமுள்ள இந்த ஏரியின் கொள்ளளவு 194 மில்லியன் கனஅடி. பருவமழை காலத்தில் தென்பெண்ணையாற்றின் குறுக்கே உள்ள சோர்ணாவூர் அணைக்கட்டில் இருந்து பங்காரு வாய்க்கால் வழியாக பாகூர் ஏரிக்கு தண்ணீர் வருவது வழக்கம்.

இந்த ஏரி மூலம் பாகூர், சேலியமேடு, குடியிருப்புபாளையம், அரங்கனூர், குருவிநத்தம் உள்பட 15க்கும் மேற்பட்ட கிராமங்களில் உள்ள சுமார் 3 ஆயிரம் ஏக்கர் நிலம் பாசன வசதி பெறுகிறது.

பருவ மழைக்கு முன்னதாக நீர் நிலைகள் முழு கொள்ளளவை எட்டி உள்ளதால், பருவ மழை காலங்களில் குடியிருப்பு பகுதியிலும், விளை நிலங்களிலும் மழைநீர் புகாத வகையில் உரிய முன்னெச்சரிக்கை நடவடிக்கை எடுக்க வேண்டும். வாய்க்கால்களை உடனடியாக தூர்வார வேண்டும் என எம்.எல்.ஏ.க்கள் அதிகாரிகளிடம் கேட்டுக்கொண்டனர்.

பாகூர் ஏரியில் தற்போது நிரம்பி உள்ள தண்ணீரை பயன்படுத்தி சுமார் 4 மாதங்களுக்கு விவசாய பணிகளை செய்ய முடியும். ஏரி முழு கொள்ளளவை எட்டி உள்ளதால் பொதுப்பணித் துறை வழியர்கள் கண்காணிப்பு பணியில் தொடர்ந்து ஈடுபட்டு வருகின்றனர்.

2/3

தொடர் கனமழையால் முழு கொள்ளளவை எட்டியது பாகூர் ஏரி | Bahour Lake has Reached its Full Capacity Due to Continuous Heavy Rains

hindutamil.in/news/tamilnadu/1154113-bahour-lake-has-reached-its-full-capacity-due-to-continuous-heavy-rains.html

November 16, 2023

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தொடர் கனமழையால் முழு கொள்ளளவை எட்டியது பாகூர் ஏரி

தொடர் மழையால் நிரம்பி வழியும் செட்டிப்பட்டு படுகை அணை

புதுச்சேரி: புதுச்சேரியில் பெய்த தொடர் கனமழை காரணமாக, மாநிலத்தின் இரண்டாவது பெரிய ஏரியான பாகூர் ஏரி முழு கொள்ளளவை எட்டியுள்ளது.

புதுச்சேரி அடுத்த பாகூர் பகுதியில் 22 ஏரிகள், குளங்கள், படுகை அணைகள் உள்ளிட்ட நீர்நிலைகள் உள்ளன. கடந்த சில நாட்களாக பெய்து வரும் தொடர் மழையின் காரணமாக புதுச்சேரியின் இரண்டாவது பெரிய ஏரியான பாகூர் ஏரிக்கு, சொர்ணாவூர் அணைக் கட்டில் இருந்து பங்காரு வாய்க்கால் வழியாக தண்ணீர் வருகிறது. பாகூர் ஏரி முழு கொள்ளளவான 3 மீட்டரை எட்டியுள்ள நிலையில், 3.6 மீட்டர் என்ற அளவுக்கு அதிக பட்ச நீரை சேமிக்கும் பணியில் பொதுப் பணித்துறை நீர் பாசன பிரிவு அதிகாரிகள் ஈடுபட்டு வருகின்றனர்.

1/2

அரங்கனூரில் உள்ளபாகூர் ஏரியின் உபரி நீர் வெளியேறும் கலிங்கல் பகுதியில் உள்ள 21 கண்களில் 20 செ.மீ உயரம் கொண்ட தடுப்பு கட்டை போடப்பட்டு, நீர் சேமிக்கும் பணி மேற்கொள் ளப்பட்டு வருகிறது. இதபோல் திருக்கனூர் அடுத்த செட்டிப்பட்டு – திருவக்கரை சங்கராபரணி ஆற்றின் குறுக்கே பொதுப் பணித்துறை நீர் பாசன பிரிவு மூலம் தடுப்பணை அமைக்கப்பட் டுள்ளது. தொடர் மழையால் சங்கராபரணி ஆற்றின் குறுக்கே அமைக்கப்பட்டுள்ள இந்தத் தடுப்பணை, தற்போது முழுவதும் நிரம்பி தண்ணீர் வழிந்தோடுகிறது.

நிரம்பி வழிந்து வரும் தண்ணீரில் அப்பகுதி இளைஞர்கள் மீன்பிடித்து வருகின்றனர். பொதுமக்களும் தடுப்பணை பகுதியை கண்டு ரசிப்பதுடன் செல்ஃபி மற்றும் புகைப்படம் எடுத்து மகிழ்கின்றனர். தடுப்பணை நிரம்பியுள்ளதால், செட்டிப்பட்டு மற்றும் அதனைச் சுற்றியுள்ள பல்வேறு கிராமங்களில் நிலத்தடி நீர்மட்டம் உயரும் என்பதால் விவசாயிகள் மற்றும் பொதுமக்கள் மகிழ்ச்சி அடைந்துள்ளனர். தொடர் கனமழை காரணமாக சங்கராபரணி ஆற்றின் குறுக்கேயுள்ள கூனிச்சம்பட்டு, கைக்கிலப் பட்டு தடுப்பணைகளிலும் தண்ணீர் வேகமாக நிரம்பி வருகிறது.

அதே நேரத்தில் செல்லிப்பட்டு - பிள்ளையார்குப்பம் படுகை அணை உடைந்து இரண்டு ஆண்டுகளுக்கு மேலாகியும் கட்டப்படாததால் தொடர் மழை பெய்தும் தண்ணீர் தேங்க வழியின்றி வீணாக வெளியேறி வருகிறது. இதனால் பொதுமக்கள், விவசாயிகள் வேதனை அடைந்் துள்ளனர். புதிய அணை கட்டும் பணியை விரைந்து தொடங்க வேண்டும் என்று இப்பகுதி மக்கள் வலியுறுத்துகின்றனர்.

WRITE A COMMENT

2/2

புதுவையில் 19 ஏரி, 10 தடுப்பணைகள் நிரம்பியது

maalaimalar.com/puducherry/19-lakes-and-10-barrages-were-filled-in-puduvai-685953

மாலை மலர்

November 16, 2023

முழு கொள்ளளவை எட்டியுள்ள பாகூர் ஏரியில் இருந்து உபரி நீர் வெளியேறும் காட்சி.

Byமாலை மலர்16 Nov 2023 8:27 AM GMT

- 24 மணிநேரமும் இயங்கும் பேரிடர் கால அறை திறப்பு
- சாலைகளில் தேங்கிய மழைநீர், மரங்கள் பொதுப்பணித்துறை ஊழி–யர்கள் மூலம் உடனுக்குடன் அகற்றப்படு–கிறது.

புதுச்சேரி:

புதுவையில் 13-ந்தேதி மாலை 6 மணிக்கு தொடங்கிய மழை மறுநாள் செவ்வாய்க் கிழமை இரவு 8 மணி வரை இடைவிடாமல் 26 மணி நேரம் மழை கொட்டியது.

இந்த தொடர் மழையால் புதுவை பகுதியில் உள்ள ஏரி நிரம்பி வருகிறது. இதுகுறித்து புதுவை பொதுப்பணித் துறை அமைச்சர் லட்சுமி நாராயணன் வெளி யிட்டுள்ள செய்தி குறிப்பில் கூறியிருப்ப தாவது:-

புதுவையில் வடகிழக்கு பருவமழை தீவிர–மடைந்துள்ளதால் மக்களின் இயல்பு வாழ்க்கை பாதிக்கப் படாமல் இருக்க முதல்-அமைச்சர் ஆணைப்படி அனைத்து அரசு துறைகளும் தயார் நிலையில் இருக்க அறிவுறுத் தப்பட்டுள்ளது. 2 நாட்கள் பெய்த மழையின் போது கள ஆய்வு

1/2

மேற்கொள் ளப்பட்டு முன்னெச்ச–ரிக்கை நடவடிக்கை எடுக்கப்பட்டது.

பொதுப்பணித்துறை மூலம் அனைத்து கொம்யூ னில் உள்ள நீர்ப்பாசன வாய்க்கால்கள், பெரிய வாய்க்கால்கள், வரத்து கால்வாய்கள் என மொத்தம் 142 கி.மீ. தூரத்துக்கு தூர் வாரப் பட்டது. நகர பகுதியில் உப்பார், கருவடிக்குப்பம் வாய்க்கால் 3 கி.மீ. தூரத் திற்கு தூர்வாரப்பட்டது.

பாகூர் கொம்மந்தான் மேடு, வடக்கு கரையில் அணைக்கட்டு அருகே மழை யினால் ஏற்படும் வெள்ள பெருக்கை தடுக்க மணல் மூட்டை அடுக்கப்பட்டது. பாகூர் சித்தேரி முதன்மை வாய்க்காலில் தண்ணீர் தடையின்றி செல்ல வழி ஏற்படுத்தப் பட்டு, நிலங்களில் இருந்து தண்ணீர் வெளி–யேற்றப்பட்டு வருகிறது.

ஷட்டர்கள் மூலம் கட்டுப் படுத்தி தண்ணீர் ஆற்றுக்கு திருப்பி விடப் படுகிறது. புதுவையில் மொத்தம் உள்ள 84 ஏரி களில் 19 ஏரிகள் முழு கொள்ளளவை எட்டி–யுள்ளது. 10 தடுப்பணைகள் முழு கொள்ளளவை எட்டி யுள்ளது.

பாவாணர் நகர் பகுதியில் வெள்ளி நீர் பாதிப்பு வராமல் இருக்க தடுப்பு பலகை அமைக் கப்பட்டு மழைநீர் வடிய–விடப்பட்டுள்ளது.

சாலைகள் நகராட்சி மூலம் மேம்படுத்தப்பட உள்ளது. ரெயின்போ நகர் கற்றியுள்ள பகுதியில் வெள்ள நீர் பாதிப்பு வராமல் தடுக்க மின் மோட்டார் அமைக்கப்பட்டு மழைநீர் வெளியேற்றப் பட்டது. சாலைகளில் தேங்கிய மழைநீர், மரங்கள் பொதுப்பணித்துறை ஊழி–யர்கள் மூலம் உடனுக்குடன் அகற்றப்படுகிறது.

இந்த பணிக்காக 25 ஜே.சி.பி. எந்திரங்கள் மரம் அறுக்கும் கருவிகள் தயார்நிலையில் உள்ளது. கலெக்டர் அலுவலகத்தில் பேரிடர்கால நடவடிக்கை மேற்கொள்ள 24 மணி நேரமும் செயல்படும் வகையில் அவசர கால கட்டுப்பாட்டு அறை செயல்படுகிறது.

புகார்களுக்கு உடனடி நடவடிக்கை எடுக்க சுழற்சி முறையில் பணிபுரிய அலுவலர்கள் நியமிக்கப் பட்டுள்ளனர். சம்பந்தப் பட்ட துறை அலுவலர் களுக்கு தகவல் தெரிவிக்கப்பட்டு உரிய நடவடிக்கையும் எடுக்கப் பட்டு வருகிறது.

இவ்வாறு அதில் கூறப்பட்டுள்ளது.

2/2

தொடர் மழை காரணமாக புதுச்சேரியில் 48 ஏரிகள் நிரம்பின: ஊசுட்டேரி, பாகூர் ஏரி விரைவில் நிரம்பும் | lakes were full

hindutamil.in/news/tamilnadu/608001-lakes-were-full.html

December 4, 2020

▲ தொடர் மழையால் தண்ணீர் அதிகரித்து கடல்போல் காட்சியளிக்கும் பாகூர் ஏரி.

புதுச்சேரியில் பெய்து வரும் மழை காரணமாக 48 ஏரிகள் முழுயைாக நிரம்பி உள்ளன. பெரிய ஏரிகளான ஊசுடு ஏரி, பாகூர் ஏரி வேகமாக நிரம்பி வருகின்றன.

புதுச்சேரியின் ஆண்டு சராசரி மழையளவு 1,200 மி.மீ ஆகும். நடப்பாண்டை பொறுத்தவரை பரவலாக மழை பெய்து வருகிறது. இதனால் கடந்த ஜனவரி முதல் நவம்பர் மாதம் வரை மொத்தம் 1,126 மி.மீட்டர் மழை பெய்துள்ளது. குறிப்பாக தென்மேற்கு பருவமழை காலத்தில் 328.20 மி.மீ மழை பெய்துள்ளது. வடகிழக்கு பருவமழை தொடங்கி, கடந்த நவம்பர் மாதம் முழுவதும் 512.40 மி.மீ மழை பெய்துள்ளது. நிவர் புயலால் ஒரே நாளில் 30 செ.மீ மழை பொழிவு பதிவானது.

இந்நிலையில் வங்கக்கடலில் உருவான 'புரெவி' புயல் காரணமாக புதுச்சேரி முழுவதும் கடந்த இரு தினங்களாக கனமழை பெய்து வருகிறது. இதன்படி நேற்று முன்தினம் காலை 8.30 மணி முதல் நேற்று காலை 8.30 மணி வரை புதுச்சேரி பகுதியில் 70 மி.மீ., திருக்கனூர் பகுதியில் 73 மி.மீ., பத்துக்கண்ணு பகுதியில் 56 மீ.மீ., பாகூர் பகுதியில் 63 மி.மீ. மழை பதிவாகியுள்ளது. மேலும், தொடர்ந்து மழை பெய்து வருவதால் புதுச்சேரியில் உள்ள ஏரி, குளம் உள்ளிட்ட நீர்நிலைகள் வேகமாக நிரம்பி வருகின்றன.

புதுச்சேரியில் மொத்தம் 84 ஏரிகள் உள்ளன. இவற்றில் நேற்றைய நிலவரப்படி காட்டேரிக்குப்பம் ஏரி, சுத்துக்கேணி பெரிய ஏரி, தொண்டமாநத்தம் வெள்ளேரி மற்றும் கடப்பேரி, முருங்கப்பாக்கம் ஏரி, ஒழந்தை ஏரி, அபிஷேகப்பாக்கம் ஏரி, மணமேடு ஏரி, கிருமாம்பாக்கம் ஏரி, உச்சிமேடு ஏரி, மேல்பரிக்கல்பட்டு ஏரி, அரங்கனூர் ஏரி, கணகன் ஏரி, வேல்ராம்பட்டு ஏரி உள்ளிட்ட 48 ஏரிகள் முழுமையாக நிரம்பியுள்ளன.

குறிப்பாக, புதுச்சேரியின் பெரிய ஏரியான ஊசுட்டேரியில் 3.50 மீட்டரில், 2.55 மீட்டர் உயரத்துக்கு தண்ணீர் நிரம்பி உள்ளது. இரண்டாவது பெரிய ஏரியான பாகூர் ஏரியின் உயரம் 3.60 மீட்டரில், 2.24 மீட்டர் உயரத்துக்கு தண்ணீர் தேங்கி உள்ளது. மேலும், கொம்மந்தான்மேடு, பிள்ளையார்குப்பம், சுத்துக்கேணி உள்ளிட்ட படுகை அணைகளும், சித்தேரி அணைக்கட்டு போன்றவைகளும் நிரம்பி வழிகின்றன.

தொடர்ந்து மழை நீடிக்கும் என்பதால் அனைத்து ஏரிகளும் நிரம்பி வழியும் வாய்ப்பு உள்ளது என எதிர்பார்க்கப்படுகிறது.

Major tanks in Puducherry brimming with water

thehindu.com/news/cities/puducherry/major-tanks-in-puducherry-brimming-with-water/article33262586.ece

Officials said that so far, the water had reached full levels in 51 irrigation tanks of the 84

December 06, 2020 11:55 am | Updated 11:55 am IST - Special Correspondent

The check dam at Sellipattu near Oussudu in Puducherry has been overflowing following discharge of surplus water from the Veedur dam in Villupuram district, on December 6, 2020.

The major tanks here are brimming following incessant rain in catchment areas in the Puducherry and Tamil Nadu over the last few days.

Puducherry has 84 irrigation tanks and more than 500 ponds which are the lifeline for ground water recharging systems, drinking water and agriculture. Officials said that the water had reached the full levels in 51 tanks so far.

Annexure V

Capacity Building Summary

The Integrated Surface Water Management for Climate Change Adaptation project in the Union Territory of Puducherry aimed to address the challenges posed by climate change through the rejuvenation of irrigation tanks and ponds in Puducherry and Karaikal regions. Various capacity-building initiatives and awareness programs were undertaken to empower local communities and stakeholders as a part of the project. This report presents the detail account of the capacity-building activities undertaken, highlighting the achievements and outcomes.

The capacity-building programs were meticulously designed with a comprehensive plan for sustainable development in the tank system, ensuring community participation for the implementation of integrated surface water management. These initiatives were implemented through Dhan Foundation a non-profit organisation working on tank-based watersheds and other community development projects. The project was fully funded by the Ministry of Environment, Forest and Climate change under the National Adaptation Fund for Climate Change.

These capacity-building programs encompassed a diverse range of activities aimed at equipping local communities and stakeholders with the requisite skills and knowledge to sustainably manage water resources beyond the project's duration. These activities are categorized as follows:

- Inception Workshops
- Village-level Orientation Programmes
- Participatory Micro-Vulnerability Assessment at tank level
- Participatory Micro-Planning exercises at tank level
- Process Training covering hydrology, business planning, bookkeeping, etc.

Through these multifaceted initiatives, the project endeavoured to instil resilience and capacity within local communities to effectively manage water resources amidst the changing climatic conditions, ensuring a sustainable and prosperous future for all stakeholders involved.

The capacity building activities were carried out in following 20 irrigation tanks:

Sl. No.	Name of Tank	Name of the Village
1	Abishegapakkam Tank	Abishegapakkam
2	Adigapet Tank	Adingapet
3	Karayamputhur Vannan Eri	Karayamputhur
4	Keezhparikkalpet Tank	Keezhparikkalpet
5	Kirumampakkam Tank	Kirumampakkam
6	Kirumampakkam Periya Eri	Kirumampakkam
7	Koonichempet Tank	Koonichempet
8	Kudiyirupupaalayam Tank	Kudiyirupupaalayam
9	Embalam Vakkran Eri	Embalam
10	Embalam Vannan Eri	Embalam
11	Kurivinatham Tank	Kurivinatham
12	Embalam Sitheri	Nathamedu
13	Mannadipet Tank	Mannadipet
14	Manapet Tank	Manapet
15	Thirukkanur Periya Eri	Thirukkanur
16	Vadhanur Tank	Vadhanur
17	Olandai Tank	Olandai
18	Thondamantham Velleri Tank	Thondamantham
19	Katterikuppam Tank	Katterikuppam
20	Seliamedu Tank	Seliamedu

Details of the programs undertaken:

1. **Inception Workshop**

The commencement of the Capacity Building activities was marked by an Inception Workshop held on 28th and 29th September 2018. The two-day program conducted by Dhan Foundation focused on enhancing the understanding and management of water resources among stakeholders in Puducherry.

Day 1 of the workshop took place at the Dr. Abdul Kalam Science Centre & Planetarium, Lawspet, Puducherry. The event was graced by the presence of the Hon'ble Minister for Science, Technology and Environment, Shri. M. Kandhasamy, and Shri. P. Parthiban I.A.S., Secretary (Science, Technology and Environment) as Chief Guests. The workshop provided insights into the water resources of Puducherry, including present and future needs, followed by discussions on pond management techniques and irrigation methods. After lunch, the session delved into the role of community organizations in pond governance and introduced participants to participatory learning methods in pond construction and management and participatory micro planning for effective implementation.


Inception Workshop Chaired by Hon'ble Minsiter for Environment

Day 2 involved a field visit to Sandai Pudukuppam, facilitating interaction with agricultural farmers to understand practical challenges and solutions. Post-visit, knowledge sharing sessions and discussions on project implementation planning were conducted, culminating in a conclusion ceremony and certificate distribution. Overall, the program aimed to empower participants with knowledge and skills essential for sustainable water resource management in the region.

Interaction with Farmers at Sandaipudukuppam village

The program had an active participation of 90 members from the Tank User Associations of various villages in Puducherry, along with officials from the Department of Science, Technology and Environment, Public Works Department, Local Administration Department, Commune Panchayats and NABARD- Puducherry.

2. Village Level Orientation Programmes

Following the Inception Workshop, Village Level Orientation Programmes were organized across 20 Irrigation Tanks to effectively engage with the community and disseminate crucial knowledge on water conservation, tank irrigation management, and farmers' issues. These programs, integral to the Capacity Building Programme, were conducted in collaboration with the Tank Users Associations, ensuring active participation from farmers within these communities.

Sl. No.	Village Name	Name of the Association	No. of Participants
1.	Abishegapakkam	Abishegapakkam Eri Sangam	11
2.	Adingapet	Adingapet Eri Sangam	13
3.	Karayamputhur	Karayamputhur Eri Sangam	19
4.	Keezhparikkalpet	Keezhparikkalpet Eri Sangam	17
5.	Kirumampakkam	Kirumampakkam Periya Eri Sangam	05
6.	Kirumampakkam	Kirumampakkam Chinna Eri Sangam	05
7.	Koonichempet	Koonichempet Pazhliya Eri Sangam	15
8.	Kudiyirupupaalayam	Kudiyirupupaalayam Eri Sangam	23
9.	Embalam	Embalam Vakkran Eri Sangam	18
10.	Embalam	Embalam Vannan Eri Sangam	12
11.	Kurivinatham	Kurivinatham Eri Sangam	17
12.	Nathamedu	Embalam sitheri Sangam	17
13.	Mannadipet	Mannadipet Eri Sangam	37
14.	Manapet	Manapet Eri Sangam	21
15.	Thirukkanur	Thirukkanur periya Eri Sangam	17
16.	Vadhanur	Vadhanur Eri Sangam	35
17.	Olandai	Olandai Eri Sangam	17
18.	Thondamantham	Thondamantham Eri Sangam	30
19.	Katterikuppam	Katterikuppam Eri Sangam	34
20.	Seliamedu	Seliamedu Eri Sangam	23
		Total	386

The orientation process included the implementation of Participatory Tank Appraisal (PTA), serving as a comprehensive approach for project inception and fostering formal and informal discussions with villagers, command area farmers, and well owners. Key components of this process involved conducting formal and informal meetings with the village community, providing orientation sessions to village residents and existing Tank Farmers Associations, utilizing Mobile Theatre as a tool to raise awareness about water conservation practices, and facilitating primary and secondary data collection.

Additionally, the program involved the execution of Participatory Rural Appraisal (PRA) and PTA exercises to assess the current agricultural productivity and water management practices within the community. The insights gathered from these exercises were instrumental in identifying the renovation needs and formulating action plans for future sustainability initiatives. This meticulous approach ensured that the capacity-building efforts were grounded in community needs and tailored to address specific challenges faced by local farmers.

Orientation Programmes in Villages

3. Participatory Micro-Vulnerability Assessment and Micro-Planning at Tank level:

Participatory approaches in water resource management are essential for sustainable development, especially in the context of climate change. The NAFCC project in the Union Territory of Puducherry integrated participatory methodologies to enhance resilience and adaptive capacity at the micro-level by conducting Participatory Micro-Vulnerability Assessment (PMVA) and Participatory Micro-Level Planning (PMLP) exercises at tank levels.

Participatory Micro-Vulnerability Assessment (PMVA) is a crucial step in understanding and addressing vulnerabilities related to water resources. Across twenty designated tanks, local stakeholders collaborated to identify risks posed by climate change, infrastructure degradation, and socio-economic conditions. Through transect walks, focus group discussions, and participatory rural appraisal techniques, TUA members and local communities assessed vulnerabilities and prioritize adaptation strategies. PMVA empowered the communities to contribute to decision-making processes, fostering ownership and resilience in water resource management.

Following PMVA, Participatory Micro-Level Planning (PMLP) exercises were organized to translate identified vulnerabilities into actionable plans. In collaboration with Panchayat officials, government agencies, NGOs, and local communities, planning sessions were conducted to strategize agriculture, water management, and market integration initiatives. Exposure visits to successful models, such as Kottampatti Farmers Producers Organisation and Singampunari Vattara Vayalagam in Madurai District, provided TUA members with insights into community resource mobilization efforts in reviving and maintaining irrigation tanks and sustainable agriculture business models.

The PMVA and PMLP exercise was conducted in twenty designated tanks, focusing on identifying issues and challenges related to micro vulnerabilities in the tank system, current cropping patterns during drought and agricultural practices and market dynamics. Through a participatory approach, systematic evaluation of micro-level vulnerabilities in the tanks were conducted and adaptation strategies that are grounded in community needs and priorities were prepared. By integrating transect walks, FGDs, PRA techniques, and analysis of agricultural practices and market dynamics, inclusive and community-driven and context-specific adaptation solutions were evolved to address climate change challenges through sustainable management of water resources.

Details of TUAs participation in the PMVA and PMLP programmes

Sl. No.	Village Name	Name of the Association	No. of Participants
1.	Abishegapakkam	Abishegapakkam Eri Sangam	10
2.	Adingapet	Adingapet Eri Sangam	13
3.	Karayamputhur	Karayamputhur Eri Sangam	12
4.	Keezhparikkalpet	Keezhparikkalpet Eri Sangam	7
5.	Kirumampakkam	Kirumampakkam Periya Eri Sangam	5
6.	Kirumampakkam	Kirumampakkam Chinna Eri Sangam	
7.	Koonichempet	Koonichempet Pazhliya Eri Sangam	10
8.	Kudiyirupupaalayam	Kudiyirupupaalayam Eri Sangam	20
9.	Embalam	Embalam Vakkran Eri Sangam	18
10.	Embalam	Embalam Vannan Eri Sangam	12
11.	Kurivinatham	Kurivinatham Eri Sangam	17
12.	Nathamedu	Embalam sitheri Sangam	10
13.	Mannadipet	Mannadipet Eri Sangam	20
14.	Manapet	Manapet Eri Sangam	11
15.	Thirukkanur	Thirukkanur periya Eri Sangam	17
16.	Vadhanur	Vadhanur Eri Sangam	20
17.	Olandai	Olandai Eri Sangam	17
18.	Thondamantham	Thondamantham Eri Sangam	30
19.	Katterikuppam	Katterikuppam Eri Sangam	10
20.	Seliamedu	Seliamedu Eri Sangam	20
		Total	279




Participatory Micro-Vulnerability Assessment and Micro-Planning Excersise

4. Exposure Visits

As part of the Capacity Building activities, several exposure visits were conducted to enhance the capacity of stakeholders in sustainable water management and climate change adaptation. These visits aimed to provide participants with practical insights, knowledge sharing, and hands-on experiences in various aspects of water conservation, watershed management, and community-based initiatives. The exposure visits played a crucial role in fostering collaboration, empowering local communities, and promoting resilience in the face of climate change impacts.

i) Exposure Visit to Water Knowledge Centre, The DHAN Academy, Madurai:

The visit to the Water Knowledge Centre of Dhan Academy on 12.08.2019 provided participants with insights into water quality testing, conservation techniques and soil management practices. Through hands-on demonstrations, participants gained a deeper understanding of the sophisticated water quality monitoring techniques in both surface and groundwater sources and the significance of regular monitoring to ensure the safety and cleanliness of water sources. Participants also learned about innovative strategies for treating and reusing rainwater, thereby augmenting water supply and reducing dependency on external sources. Moreover, the participants learnt about soil quality maintenance and rainwater treatment, elucidating the intricate relationship between soil and water conservation efforts.

Fourty-five leaders from various TUAs in Puducherry actively participated in this exposure visit and gained practical knowledge on water quality management and conservation practises.

Key takeaways include:

- Importance of regular water quality testing and monitoring to ensure safe and clean water sources.
- Strategies for treating and reusing rainwater to augment water supply and reduce dependency on external sources.
- Role of soil management practices in enhancing water infiltration, moisture retention, and agricultural productivity.

ii) Exposure visit to Kottampatti Vayalagam Federation:

The visit to Kottampatti Vayalagam Federation, Madurai District on 13.08.2019, showcased exemplary business initiatives aimed at promoting sustainable agriculture practices and community development. Fourty-five leaders from various TUAs in Puducherry participated in this exposure visit. Participants learned about the federation's origin, growth trajectory, and self-sustainability model. Insights into the federation's initiatives, such as financial support to farmers, conservation works in tanks, and marketing through Farmers Producer Organization (FPO), highlighted the importance of community-led initiatives in achieving sustainable water management and agricultural practices. Demonstrations on solar drying of coconut, production of organic fertilizer - Panjakaviyam, and the functioning of Vanoli-Vayalaga Radio provided valuable insights into innovative approaches for enhancing livelihoods and promoting community engagement.

Key takeaways include:

- Importance of community participation and leadership in driving sustainable development initiatives.
- Innovative approaches for marketing agricultural produce and value-added products through FPOs.
- Effective utilization of resources, such as solar energy for coconut drying, to enhance productivity and reduce environmental impact.
- Role of community radio in disseminating information, promoting agricultural best practices, and facilitating knowledge sharing.

Kottampatti Farmers Producers Organisation visit

iii) Exposure visit to Singampunari Vayalagam Federation:

The exposure visit to Singampunari Village, Sivagangai District on 13.08.2024, offered valuable lessons in tank-based watershed management and community-led conservation efforts. Fourty-five leaders from various TUAs in Puducherry participated in this exposure visit. The participants gained insights into the success story of renovation of Kirukangottai tank and its linked cascade tanks and the pivotal role played by the community associations in renovation and management of these tanks. Groundwater levels have notably increased from 700 to 350 feet owing to these restoration efforts. Managed by 'Neerkattis' (water managers), tank irrigation efficiently caters to cultivable fields based on seasonal crop water demands. The association generates revenue through activities like fish rearing and mobilizes contributions from cultivators to sustain tank maintenance. The participants then visited the Mochchi Kanmai tank renovated three years ago and gained further insights into the cascade systems functionality and community institution’s role in ensuring water security and sustainable agriculture.


Singampunari Vayalagam Federation Visit

Key takeaways include:

- Emphasis on community-driven initiatives for water body revitalization and agricultural resilience.
- Recognition of cascade systems and people's institutions in promoting sustainable water management and livelihood enhancement.
- Acknowledgment of the necessity of robust water governance and community participation in maintaining tanks and irrigation systems.

iv) Exposure Visit to T. Kallupatti Watershed:

The visit to T. Kallupatti Watershed in Madurai district on 20.09.2023, showcased community-led efforts in tank-based watershed management, and sustainable agriculture. Thirty-six leaders from various TUAs in Puducherry actively participated in this exposure visit. Participants learned about the watershed's role in preserving water resources, promoting soil health, and enhancing agricultural resilience. Field visits to various water conservation structures at Sengulam watershed provided practical insights into effective watershed management practices. Discussions on improved farm practices, crop diversification, and soil moisture retention techniques underscored the importance of adaptive strategies in mitigating climate change impacts.

Key takeaways include:

- Importance of watershed management in preserving water resources and promoting soil health.
- Role of community participation and collaboration in implementing water conservation measures.

- Adoption of climate-smart agricultural practices to enhance resilience and ensure food security in the face of climate change.

T. Kallupatti watershed visit

5. Training Programmes

1. Training Programme I - People Institution for Water Resource Management and its Governance

This one-day training programme held at Dhan Academy, Madurai on 12.08.2019 aimed to enhance capacity of the stakeholders in water resource management and governance, with a focus on People Institution for Water Resource Management. 45 leaders from various TUAs of Puducherry participated in the programme. This initiative, organized by the Department of Science, Technology & Environment in collaboration with DHAN Foundation, addressed contemporary challenges in water management. The programme encompassed various training activities designed to equip participants with the necessary knowledge and skills to promote sustainable water practices.

- **Orientation Event:**
    - The orientation event commenced with an inaugural address, setting clear learning objectives for the training programme. Participants were guided on building a shared understanding of the training goals and objectives. Key topics included the importance of community participation and the establishment of learning objectives. Through this session, participants gained insights into the significance of community-driven initiatives in water management and the importance of setting clear learning objectives.

- **Hydrology - Training No. 1:**
    - The first hydrology training session focused on **water resource management, current trends and best practices.** Participants received an overview of the national and state-specific water resources, highlighting the need for water resource conservation. Topics covered included the situation of water resources, best practices in conservation, and the role of farmers in water management. Participants learned about the challenges and opportunities in water resource management, gaining valuable insights into effective conservation strategies.
    - In the second session, participants delved into the **importance and characteristics of people institutions in tank-based water conservation.** The session emphasized the role of community-led initiatives in water conservation and the uniqueness of people institutions. Discussions centred on the significance of community participation and the establishment of norms for tank-based conservation. Participants gained a deeper understanding of the role of people institutions in sustainable water management.

- **Hydrology - Training No. 2:**
    - The second hydrology training session provided insights into DHAN Foundation's experience in institution building for tank maintenance. Participants learned about community norms, conservation works, and effective institutional building practices. Discussions focused on the importance of community-led tank maintenance and the role of institutional frameworks in sustaining water resources. Through case studies and examples, participants gained practical knowledge on effective institutional building practices.

- **Visit to Water Lab:**
    - The Participants visited the water lab in Dhan Academy for exposure on water testing methods and quality analysis. Led by experts, participants learned about the importance of regular water testing and the relevance of water quality to agriculture and domestic use. Through interactive sessions and demonstrations, participants gained practical skills in water quality analysis. The visit highlighted

Throughout the training programme, participants gained valuable insights into community-led initiatives in water management, effective institutional building practices, and the importance of water quality testing. Reflection sessions facilitated discussions on practical applications of learnings and encouraged active engagement from participants. Participants left the programme equipped with the necessary tools and strategies to address water management challenges effectively in their respective communities.

Training on People Institution for Water Resource Management and its Governance

1. Training Programme II - Tank systems and Role of Leadership in TUA

The second training programme under the NAFCC Project "Integrated Surface Water Management for Climate Change Adaptation in Puducherry" was conducted by the Department of Science, Technology & Environment in collaboration with DHAN Foundation at DHAN Academy, Madurai on 13th and 14th August 2019. 45 leaders from various TUAs of Puducherry participated in the programme. The objective of the training was to educate participants on the importance of TUAs in tank-based water conservation and maintenance. Key focus areas included governance, leadership, traditional tank maintenance practices, and the development of action plans for effective tank management.

The programme schedule consisted of various training sessions and activities aimed at addressing the objectives. Sessions included discussions on governance and leadership, traditional tank maintenance practices, and the development of business plans. The schedule also incorporated exposure visits to rainwater harvesting structures to provide practical insights into water conservation practices.

- **Governance and Leadership:**
    - Sessions on governance and leadership highlighted the importance of community leadership in tank-based water conservation. Discussions revolved around identifying and nurturing leadership qualities within individuals and empowering them to lead conservation efforts.

- **Evolving Plan for Action and Leads for TANK System:**
    - Participants discussed strategies for strengthening TUAs and developing action plans for effective tank management. Key points included the inclusion of women members in TUAs, regularizing committee meetings and financial audits, and promoting collaboration with line departments and NGOs.

- **People Seminar – Future Action and Role of Tank Users Association in Conservation of the Tank and Its System:**
    - Three groups were formed among the participants to discuss the future actions and roles of TUAs, resulting in a set of actionable points. These included advocating for the inclusion of women members in TUAs, ensuring regular committee meetings and financial audits, implementing preplanning before tank work execution, and promoting the practice of Kudimaramathu system.

- Additionally, collaboration with line departments and NGOs was emphasized, with specific actions outlined such as removal of encroachment, construction of check dams, and conducting skill-building training and awareness programs.
- The seminar provided a platform for participants to brainstorm and develop practical strategies for the future management of tank systems. By dividing into groups, participants were able to delve into specific aspects of TUA roles and responsibilities, leading to the formulation of comprehensive action plans. The proposed actions ranged from organizational measures such as committee meetings and financial audits to technical interventions like soil testing and construction of check dams.
- Overall, the seminar facilitated constructive discussions and laid the groundwork for concerted efforts towards the conservation and sustainable management of tank systems in Puducherry.

Training on Tank systems and Role of Leadership in TUA

Training Programme II successfully achieved its objectives of empowering TUAs to play a proactive role in tank maintenance and conservation. The programme provided valuable insights, practical knowledge, and action-oriented strategies for sustainable water management in Puducherry.

2. Training Programme III - Water Hyacinth Handicrafts Training for Women

In continuation of the efforts under the NAFCC project aimed at integrated surface water management through the rejuvenation of tanks for climate change adaptation in Puducherry, a specialized training program was conducted to empower women in local communities by providing them with skills to prepare handicrafts from water hyacinth. This state funded training programme was conducted in collaboration with M/s. HOPE Foundation and Alliance for Good Governances (AGG) for 15 days during the Water Festival 2023, from 7th to 21st March 2023 at the Community Hall in Manapet Village of Bahour Commune. 46 women from various SHGs participated in the training and learned to craft various products such as purses, handbags, pen stands, and baskets from dried water hyacinth stems.

This initiative aimed to generate alternative livelihood opportunities for women while fostering a deeper connection to the conservation and maintenance of pond and tank ecosystems. The objectives of the training programme were to

- Empower women with skills in handicraft preparation from water hyacinth.
- Raise awareness about the importance of maintaining pond and tank ecosystems.
- Foster sustainable utilization of water hyacinth for income generation and ecosystem health.

Water hyacinth, removed from Uchimedu tank and Manapet tank, was utilized for the training program. The training program consisted of both theoretical sessions and hands-on practical sessions conducted by experienced trainers from Assam. Participants were introduced to the concept of water hyacinth utilization and its significance in the context of ecosystem maintenance. Practical sessions focused on teaching various techniques for crafting products such as baskets, mats, and decorative items from water hyacinth. Additionally, participants received training on basic business skills including marketing, pricing, and product packaging to help them establish small-scale enterprises.

Following the training, the handicraft products were exhibited at the Exhibition Hall, Beach Road, from 22nd March to 3rd April 2023. This exhibition showcased the creativity and skills acquired by the participants and highlighted the potential for sustainable utilization of water hyacinth.

The training program established a direct linkage between the utilization of water hyacinth for handicraft preparation and the maintenance of pond and tank ecosystems. Participants were educated about the detrimental effects of water hyacinth overgrowth on water bodies, including reduced oxygen levels, biodiversity loss, and obstruction of water flow. By learning to harvest and utilize water hyacinth for handicrafts, women were actively involved in mitigating the negative impacts of this invasive species. Furthermore, the economic opportunities created through handicraft production incentivized women to actively engage in the preservation and cleanliness of ponds and tanks, thereby contributing to ecosystem health and resilience.

The NAFCC project in Puducherry successfully empowered local communities and stakeholders through capacity-building initiatives. The workshops, orientation programs, assessments, and training sessions conducted under the project enhanced community understanding, engagement, and resilience in managing water resources. Achievements include increased stakeholder participation, improved water management knowledge, and sustainable livelihood opportunities. Collaboration among stakeholders fostered collective responsibility. The project's emphasis on community-driven solutions demonstrated the effectiveness of inclusive approaches in addressing climate change challenges, laying the foundation for long-term sustainability in Puducherry.

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