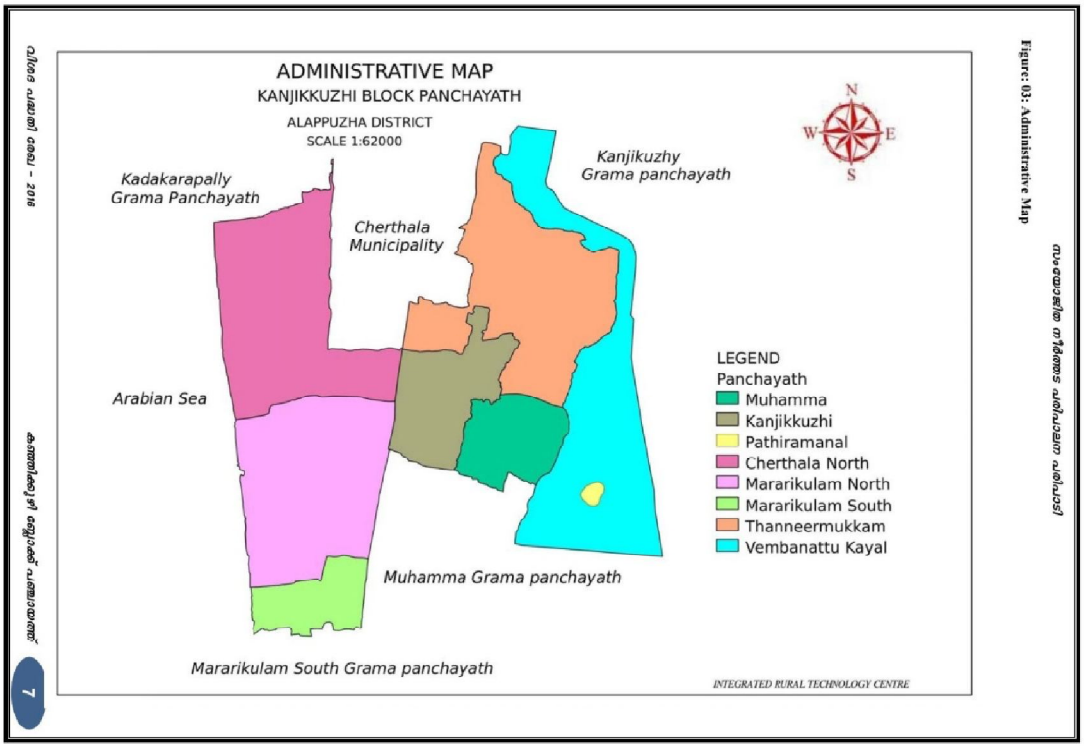
KANJIKUZHYBLOCK – IWMP -V (ALAPPUZHADistrict)

The project area lies in the Kanjikuzhy Block of AlappuzhaDistrict. It consists of 6 micro watersheds namely Mararikulam Valiyathodu, Elangipuzha Varanam, Chalunkal, Thanneermukkom Bund and Pathiramanal spread across four gram panchayaths namely Cherthala South,Mararikulam North,Kanjikuzhy,Thanneermukkom.The project has a total area of 6626.12 Ha. The project area is located between9°36’55.08"- 9°42’24.89’’N latitude and 76°17’24.73’’- 76°23’38.78"E longitude.

Table 1. Details of micro watersheds

Sl No	Name of Watershed	Watershed code	Area (in Ha)	GPs covered	Villages covered
1	Varanam	13M84a	2243.95	Thanneermukko, Kanjikuzhy,Muhamma,	Thanneermukkom North,Kokkothamangalam.Thanneermukkom south,Kanjikuzhy
2	Chalunkal	13M84b	1615.31	Cherthalasouth,Thanneermukkom, Mararikulam North,Kanjikuzhy	Kokkothamangalam ,kanjikuzhy
3	Thanneermukkom bund	13M84c	228.18	Thanneermukkom	Kokkothamangalam
4	Mararikulam valiyathodu	13m94a	1422.27	MararikulamNorth,Mararikulam South,	MararikulamNorth. Kalavoor
5	Elangipuzha	13M93a	2287.44	MararikulamNorth,Mararikulam south,Chrthala south	Cherthala north,Cherthala south
6	Pathiramanal	13M82a	25.44	Muhamma	Thanneermukkomsouth
Total			7822.5		

Fig 1: Map of the



Watershed area

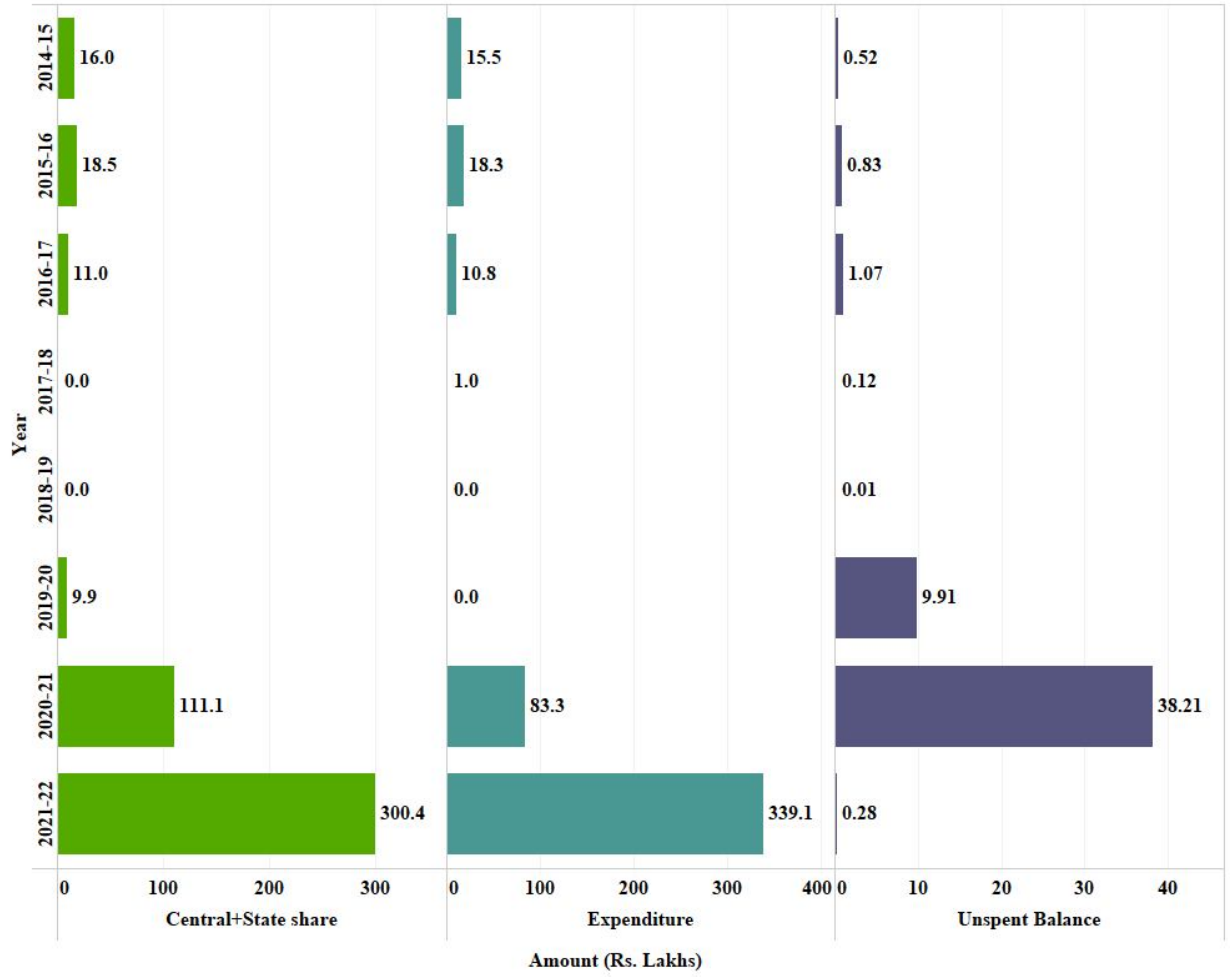


Fig 2: Financial overview of the Project

It was observed that an amount of Rs. 518.94 lakhs of total funds available for the project including the interest accrued to the funds received from Central and State Governments. During the FY 2017-18 and 2019-20, no funds were received from the Centre as well as State, whereas, the fund received was highest in the FY 2021-22 followed by 2020-21. The first seven years of the project received less than Rs. 60 lakhs. This irregular allocation affects the quality of work and it affects the overall health of the watershed.

The evaluation team from CWRDM visited the watershed area on 05/07/2022 and held discussions with the BDO, Joint BDO, Technical Expert and the VEOs who have associated with the implementation of the scheme at Kanjikuzhy Block Office.

The works visited by the team are:

1. **Fish farms**
    a) Fish farm at Rammyatha YSS, located in the Mararikkulam Valiyathodu watershed of Mararikulam North Panchayath. The main cultivating fish species were Tilapia, Anamus, Kaari and *Varaal*. They are selling these fish species at an approximate cost of Rs. 250/kg. In the last season, they harvested around 600 kg of fish.
    b) Fish farming, located in the Thanneermukkom bund watershed of Thanneermukkom panchayath. This work is carried out by the 'Kisan' SHG group, which consists of 10 members. They took the panchayat pond as a lease for fish farming. In a 25 cent area, they are cultivating Rohu, Catla, Tilapia, etc.

Fish farming is extremely common in this region and many SHG's were associated with this activity under the IWMP project. This helps in increasing the income of the SHG's and also supplies good quality fish to the community. As this is a profitable venture for the majority of the adopted with little cost involved in the process, Panchayath must promote pisciculture to all the SHG's in the Block.

2. **Side protections and renovations of ponds and streams**
    a) Side protection at Karipozhi, located in the Mararikkulam Valiyathodu watershed of Mararikulam North Panchayath. Sidewall protection at Reach 1 was 130m in length withdesiltation work of 500m. At Reach 2,side wall protection of 150m in length along with 1100m of desiltation work was carried out. At both the Reaches, the side wall work was carried out at a height of 1.2m.
    b) Desiltation of Chethipozhi – Panaickal thodu, situated at Mararikkulam Valiyathodu watershed in Mararikulam North Panchayath. Desiltation was carried out at an approximate cost of Rs. 7.7 Lakhs for a length of 750 m with 4 m depth. This work helped mainly to control the flood in the area.
    c) Chennavelipozhi- Janapathi thodu renovation, located in the Elangipuzha watershed in Cherthala South Panchayath. This work was done in convergence with MGNREGS. It has a 2300m desiltation.

d) Pond renovation at Velliyakulam lies in the Chalunkal watershed of Thanneermukkom Panchayath. It has 104m x 31m side protection along with desiltation work. More than 100 people use water from this pond for bathing. It spans an area of 170 cents.

Numerous tributaries of the Vembanad Lake can be found in the project area. Since the region serves as the Arabian Sea's outflow, efficient silt removal is necessary for the drainage in order to ensure a smooth flow of water. The project area, however, was severely impacted by the Kerala floods in 2018 and 2019. Side protectionand desilting of the drainage systems were urgently required to prevent more flooding in the neighbouring agricultural and residential regions. Moreover, efficient soil and water conservation structures at the ridge portion need to be undertaken efficiently along with the proper management of Thanneermukkom bund to prevent inundation and flooding in the region.

3. Rainwater harvesting tanks

a) Rainwaterr harvesting at Govt.fisheries technical HSS, Arthunkal, located in the Cherthala South Panchayath's Elangipuzha watershed.The rainwater harvesting tank has a capacity of 50,000 litres, which is mainly used by the hostel students for their daily needs.

b) Rain Water Harvesting at St.Antony's high school,Kokkothamangalam, located in the Thanneermukkom bund watershed of Thanneermukkom Panchayath. It has a capacity of 50,000 litres. The water is used by 400 students and staff of the school for drinking and cleaning purposes.

Kanjikuzhy project lies under the coastal zone and drinking water shortage is a serious issue faced by the people in this area due to salinity intrusion. Most households depend on water connections under various schemes like Japan-aided drinking water project. However, the project area receives an average of 2965mm rainfall annually, hence, harvesting the rainwater is one of the best solutions to mitigate the drinking water issue. As per the request of the watershed community, 14 rainwater harvesting tanks are built in various schools, hospitals, boat harbours and old age homes in the project area. The capacity of the RWHT varies from 20000 L to 50000 L. A minimum of 645000 litres of rainwater can be harvested through these tanks at each time which can be made available for drinking and irrigation purposes.

4. Farm tourism

This project is located in the Elangipuzha watershed of Cherthala South Panchayath. This project is carried out by Thiruvizhesan's SHG group, which consists of 10 members. They are cultivating different agricultural, horticultural, and floricultural crops. They practice entirely organic farming in 15 acre area. They cultivated sunflowers last summer to attracttourists at a nominal fee of Rs. 10/-. In addition, they also practice fish farming and animal husbandry activities.

The concept of farm tourism helps to motivate and attract the youth into agriculture, hence, more such farms need to be promoted in the region as no youth is interested to take up agriculture now.

5. Livelihood activities

a) Livelihood activity at Puthanangadi: The main activity is a stitching unit run bya JLG ‘Adithya’, located at Varanam watershed, Thanneermukkom Panchayath. They purchased new equipment’s from the backend subsidy, which helps in carrying out stitching work during the COVID-19 pandemic. The JLG also provides an opportunity for the youngsters to learn stitching work.

b) Integrated farming system takes place in the Varanam watershed of Kanjikuzhy panchayath. This project is carried out by the ‘Sreeguru’ SHG, which consists of 10 members. They practice vegetable cultivation like chilli, okra, brinjal etc. and fish farming with species like Tilapia, Anabus etc. were also practiced at the time of visit.

Under Major activity(30%) of the Livelihood Enhancement component of PMKSY (WDC), Adithya JLGwas assisted in expanding their existing stitching unit in the Varanam watershed of Kanjikuzhy PIA. The group was identified by the block panchayat while approaching various stitching units for distributing masks to schools and Covid-19 centres during the adverse times. For a project proposal of 3 lakhs, 1.5 lakhs was received as a loan from Federal Bank, Puthenangady and 1.5 lakhs as back-end subsidy under PMKSY. With the help of this amount, they were able to rent a better building, and were able to purchase bulk

stitching/cloth materials. The group running under the leadership of Smt.Girija, a previous tuition centre teacher is now able to attain a profit of Rs.25000/- per month. The main income of the group is from stitching Haritha karma Sena uniforms, masks, cloth bags and ladies' clothes. In addition to promoting plastic-free materials and extending support during Covid-19pandemic, this project was able to empower and encourage rural women to find their own source of income to support their families.

JLG's like this will be identified as role model centres for improving women's empowerment. Panchayath'sas well as Block Office's, will take necessary measures to bring awareness and build confidence among the rural women to empower them by choosing appropriate livelihood activities.

Summary of the Evaluation of Outcomes of PMSKY-WDC Projects

District	Alappuzha	Date of Visit	05/07/2022

1. Project Details:

Project No	IWMP-5/2014-15
Name of Block	Kanjikuzhy
Sanctioned Area (ha)	6626.12
Sanctioned Cost (Rs in lakh)	795.12
Name of Villages included in the project	Thanneermukkom North,Thanneermukkom South,Kokkothamangalam,Kanjikuzhy,Mararikulam North,Kalavoor, Cherthla south, Cherthala North

2. Impact Details

Sl. No.	Items	Unit	Pre-project status	Status at the end of project	Remarks
1	Average depth of water table in dug wells	m	2.7	1.95	Water column depth (July)
2	Average depth of water table in tube wells	m	7.5	6.0	1.5m increase in the water column
3	Number of ground water structures (dug wells + tube wells + hand pumps) rejuvenated	nos.	15312	15330	14 structures were newly constructed and 4 were rejuvenated
4	Increase in Irrigation potential	ha	2800	3600	
5	Area of Wasteland brought under productive use (like agriculture, plantation, fodder, etc.)	ha	20	12	8 ha of wasteland developed for productive use
6	Change in cropping / land use pattern (i) Area under Agriculture Crop (ii) Area under plantation / forest cover (iii) Area Under Wastelands	ha	 2800 -- --	 3600 -- --	800 ha increase in agricultural area
7	Area Under Agriculture Crop (i) Area under Kharif crop (ii) Area under rabi crop (iii) Area under double crop	ha	 1600 -- --	 2400 -- --	Increase in Kharif area was observed
8	Cropping intensity	%	108	113	5 % increase
9	Increase in Yield /ha of crops (i) rabi crop (ii) Kharif crop	qt/ha	1750	2250	

10	Area of horticulture crop	ha	4800	5250	450ha area increased under horticulture crops
11	Employment in agriculture related activities among beneficiaries	Man days	21225	28840	27546 mandays generated under the project
12	Employment in non- agricultural sectors	Man days	15000	20350	
13	Fodder production	qt	20000kg	25000kg	Increase in fodder production
14	Fuelwood production	qt	--	--	No data
15	Number of milch cattle	nos	5120	6300	23 % increase
16	Milk production	Kl/yr	730000	1277500	
17	Duration of flow of water in streams (upto November/December/January/February….May)		--	--	No data available. Not applicable as most of the area lies below sea level
18	Improvement of drinking water facility		--	--	14 Rain water harvesting structures created and 4 rejuvenated
19	No. of persons engaged in ancillary activities like fishery, poultry, rural craftsmanship	nos	25000	37325	292 pisciculture units supplied
20	Number of children enrolled in schools in the project area	nos	--	1800	All the children are attending schools
21	Reduction in migration from rural to urban area in the project area	nos	--	--	More than 27,000 man-days generated

					by the project
22	Annual mean household income	Rs	45000	60000	Average Rs 15000 increase
23	Any other measurable indicator of impact assessment i) 296 units of production systems were distributed under the project ii)SHGs assisted: 76 iii)48250 farmers benefitted from the project				

Some of the works visited in the project area

Fish farm at Rammyatha YSS

Side protection at Karipozhi

Desiltation of Chethipozhi – Panaickal thodu

Chennavelipozhi- Janapathi thodu renovation

Rain water harvesting at Govt.fisheries technical HSS, Arthunkal

Farm tourism- 'Thiruvizhesan' SHG group

Pond renovation at Velliyakulam

Rain Water Harvesting at St.Antony's high school,Kokkothamangalam

Fish farming by kisan SHG group

IFS by SreeguruSHG group

Adithya - stitching unit at Puthanangadi

Success stories:

Catch the Rain- Construction of Rain Water Harvesting Tanks at Kanjikuzhy

Batch 6 Kanjikuzhy project lies under the coastal zone and drinking water shortage is a serious issue faced by the people in this area due to salinity intrusion and poor quality of ground water. Most of the households are depending on water connections under various schemes like Japan-aided drinking water project. However, the project area receives an average of 2965.4mm rainfall annually and hence harvesting the rain water is one of the best solutions to mitigate drinking water issue. As per the request of the watershed community, 14 rain water harvesting tanks are built in various schools, hospitals, boat harbour and old age home in the project area. The capacity of the RWHT varies from 20000 L to 50000 L. A minimum of 645000 litres of rain water can be harvested through these tanks in each time which can be made available for drinking and irrigation purposes. A total of 6700 people are benefitted from the activities. Estimated amount -62.345 lakhs

Desiltation and bund strengthening of major drainage channels in Kanjikuzhy project area

The project area is rich with plenty of distributaries as well as tributaries of Vembanad lake and Arabian Sea. Since the area is the outlet to Arabian Sea, the drainages require proper silt removal to allow smooth flow of water. However, the project area was severely affected during the 2018 and 2019 Kerala floods. The drainages were in urgent need of desiltation to reduce future flooding in the nearby residential and agricultural areas. Twelve narrow and four major canals having a length of around 14.95 kms were desilted and the bunds were strengthened. It is proposed to cover the strengthened bunds using geotextiles for bio reinforcement under MGNREGS. Around 100.49 lakhs has been expended for the same and assured the smooth flow of water from various sub- canals to Arabian sea.