

KUNNAMANGALAM BLOCK (KOZHIKODE DISTRICT)

Project No: IWMP3/2012-13

Kunnamangalam is a Block in Kozhikode District of Kerala State, India. It belongs to North Kerala Division and it is one of the 12 blocks of Kozhikode district. The block has 16 villages with a total of 86851 families. The block lies between 75°52'51.409"E, 11°13'45.073"N latitude and 75°58'15.913"E, 11°19'38.471"N longitude. PMKSY in Kunnamangalam block Panchayat was started in 2013-14. The total area of the project was 5162 ha. spanning 5 grama panchayaths (Chathamangalam, Mavoor, Kunnamangalam, Peruvayal, and Perumanna).

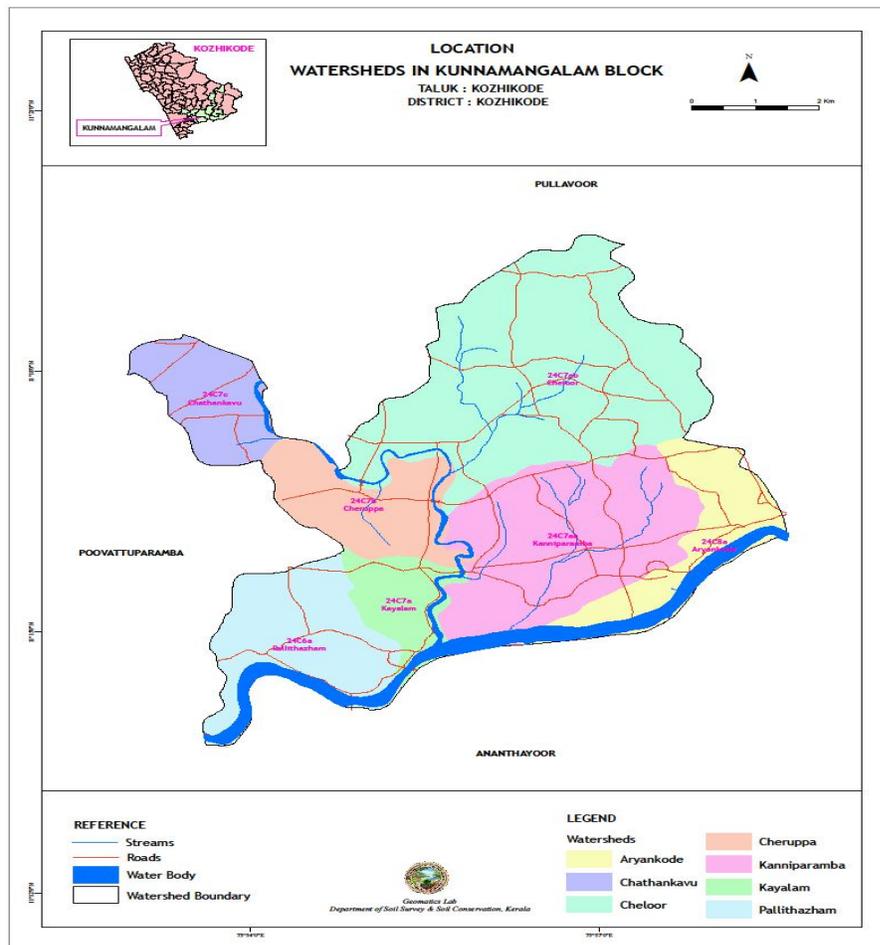


Fig 1: A map of the watershed area

The project has seven micro watersheds viz., Pallithazam, Kayalam, Chooloor, Kanniparamba, Cheruppa, Chathankavu and Arayankode. The total outlay of the project was

7.74 crores. Kunnamangalam block is a predominantly agricultural area with farming being the major source of income. With PMKSY, Kunnamangalam Block panchayath undertook the task of making the lives of farmers better by conserving soil, water and vegetative cover in convergence with other schemes like MGNREGS

Major works undertaken as EPA and NRM

1	Pond renovation	:	12
2	Nalla bund	:	15
3	Public well renovation	:	22
4	Well recharging	:	1126
5	VCB	:	1
6	Check dam	:	1
7	Biogas plant	:	1
8	Stone bund	:	3116.9 m ²
9	Coconut mulching	:	35749 nos.
	Total expenditure	:	4.54 crores

The major works undertaken were farm pond renovations, stream side protection (Retaining wall), well recharge structures, stone bunds, public well renovations etc.

The project evaluation team from the Centre for Water Resources Development and Management (CWRDM), Kozhikode visited the IWMP watershed areas of Kunnamangalam block of Kozhikode district on 13.06.2022. Initially, the team discussed with the Block Development Officer, Block panchayat president and Village Extension officer to know about the project related activities. After discussion, the team visited the IWMP sites in the Block.

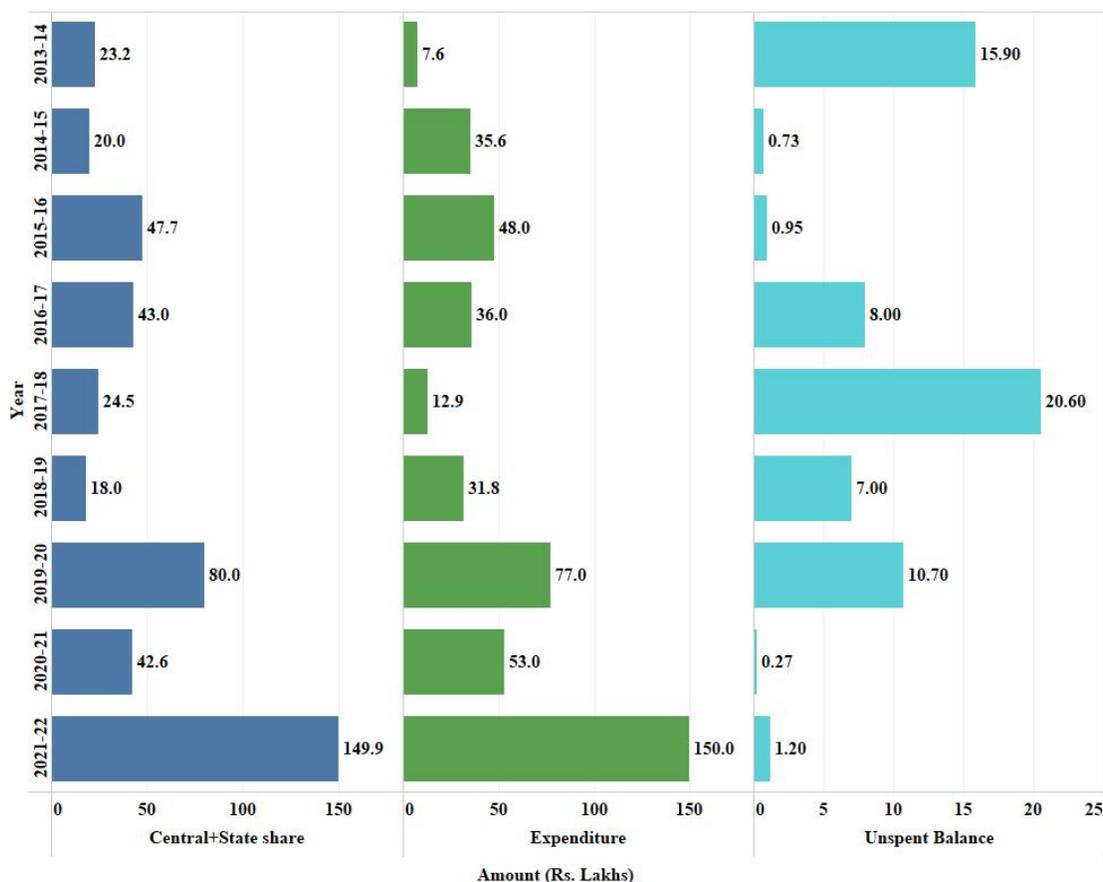


Fig 2: Financial overview of the Project

From the above figure, it was clear that the amount received was more in the FY 2021-22 followed by 2019-20. The expenditure of the project also follows a similar pattern.

1. Parathappoyil well renovation (Public well) in Chooloor watershed of Kunnamangalam block

A renovation of the public well was carried out in the Chooloor watershed area in order to meet the domestic as well as irrigation requirements of water. This well was constructed in 2015 with a budget of Rs 50,000 and a total of 20 families benefited from this project. The cultivation area has increased after the renovation of the public well.

Specifications: 4m diameter, 9 m depth and 87.92m³ of water storage.

The well renovations are a very effective scheme interventions in the area. Many people, the majority of whom are from low-income households, now have year-round access

to drinking water because of this effort. Two additional months of drinking water availability has been observed in this area.



2. Production system

Seed money of Rs. 25,000/- was given to ‘Valsala’ at Chooloor watershed. She planted 250 banana saplings in her farm land from the seed money.

PSMEactivities provide an excellent opportunity for the self-employment of unemployed people and it became an important source of secondary income for thefarmers and agricultural labourers. Under this project, 2669 farmers received production incentives and 6236 farmers benefited from the project. The annual average household income was increased by Rs. 7000/- in the project area.



3. Andipathi thodu thadaiyum (check dam)at Arayankode watershed Chathamangalam Panchayath

It is a water storage structure constructed in 2014 with a budget of Rs. 86,000/-. The primary purpose of this structure was to facilitate the domestic usage of water and to control soil erosion. But the structure is fully silted and recommended to go for desilting.

The check dam construction has a considerable effect on the region. The water level in the nearby wells was raised by the check dams. Additionally, this is quite advantageous for the growth of agriculture. As a result, the farmers' standard of living has improved considerably in the region. The water column was found to have increased by 1 m. Now, around 250 additional acres of land were brought under irrigation. Additionally, an increase of 264 ha under plantations/afforestation and 762 ha under agricultural crops was seen.



4. Pond renovations

- a) Palliyolkulam located at Kanniparamba watershed under Mavoor panchayat. Water in the pond was used for irrigation purposes. Siltation and water weeds were seen throughout the pond. Desilting and Cleaning activities could be undertaken in order to maximize the use of pond water (Specifications: 29x 27x 2m with a capacity of 1566 m³).
- b) Kandhamkulam storage pond was renovated at Chathankavu watershed, Kunnamangam. Water in the pond was used for irrigation purpose. The sidewall for the pond was also constructed. Specifications: 16x 13.75x 3.5m with a capacity of 770m³

This intervention helps with both the provision of water and the control of floodwater in the nearby areas. The pond serves as a natural catchment area for precipitation, stores it, and recharges the groundwater while also monitoring the water table in the area. The water it

provides helps in agriculture and animal husbandry activities. It functions as a natural freshwater ecosystem also.

These initiatives have improved the amount of land usable for agriculture while decreasing the amount of wasteland. Around 52 ha reduction in wasteland was noticed in the region.



Palliyolkulam

Kandhamkulam storage pond

5. Side protections at the Kanniparamba watershed

- a) Side protection at the Kanniparamba watershed of Chathamangalam Panchayath mainly to control floods and take up irrigation of agricultural crops during the summer months. The length of the structure is 240 m with a budget of Rs. 11.4 Lakhs.
- b) Side protection at Kannchothu Ambalamukku thodu was constructed at 300 m length at an approximate cost of Rs. 11.6 lakhs for controlling flood at Pallithazam watershed in Peruvayal Panchayath.

These side protections helped in restoring the natural drain. This construction promoted unrestricted water flow and helped to prevent the stream's banks from falling. The water level in the neighbouring wells increased as a result of the steady flow, ensuring access to drinking water. One month of enhanced flow of water in streams was observed after these interventions.



Summary of the Evaluation of Outcomes of PMSKY-WDC Projects

District: Kozhikode

Date of Visit 13.06.2022

1. Project Details:

Project No. Kozhikode: IWMP3/2012-13

Name of Block -Kunnamangalam

Sanctioned Area (ha): 5162

Sanctioned Cost (Rs. in lakh): 774.3

Name of Villages included in the project: Kunnamangalam, Mavoor, Peruvayal, Perumanna, Poolakkode, Chathamangalam and Thazhekode

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	7.5	6.5	An increase of 1 m water column (July)
2	Average depth of water table in tube wells	m	62	58	4m increase in water column in borewells
3	Number of ground water structures (dug	nos.	-	50	Addition of 12



	wells + tube wells + hand pumps) rejuvenated				created and 38 structures rejuvenated
4	Increase in Irrigation potential	ha	691	941	Increase of 250 ha
5	Area of Wasteland brought under productive use (like agriculture, plantation, fodder, etc.)	ha	1750	1698	Reduction of 52 Ha in wasteland.
6	Change in cropping / land use pattern (i) Area under Agriculture Crop (ii) Area under plantation / forest cover (iii) Area Under Wastelands	ha	650 190	1412 454	An increase of 762 ha under agricultural crop. 264 ha under plantation/afforestation.
7	Area Under Agriculture Crop (i) Area under Kharif crop (ii) Area under rabi crop (iii) Area under double crop	ha	190 - 80	410 - 165	2 fold increase in double crop
8	Cropping intensity	%	108	115	7 % increase
9	Increase in Yield /ha of crops (i) rabi crop (ii) Kharif crop	qt/ha	21	22	Increase in 1 qt/ha of paddy
10	Area of horticulture crop	ha	1950	2653	703 ha more under horticulture
11	Employment in agriculture related activities among beneficiaries	Mandays	---	24634	Mandays generated in the project.
12	Employment in non- agricultural sectors				
13	Fodder production	qt	1450	1600	Increase of 150 qt
14	Fuelwood production	qt	-	-	No data
15	Number of milch cattle	nos	3825	3860	Slight increase in cattle population
16	Milk production	Kl/yr	1103	1206	1,03,000 lit of increased milk production
17	Duration of flow of water in streams (upto November/December/January/February....May)		February	March	One month of enhanced flow of water in streams
18	Improvement of drinking water facility		February	April	Drinking water availability of extra two months

19	No. of persons engaged in ancillary activities like fishery,poultry, rural craftsmanship	nos	140	180	Increase of 40
20	Number of children enrolled in schools in the project area	nos	1990	2280	Though there was a reduction in enrollment during the COVID-19 pandemic, All children are enrolled in schools
21	Reduction in migration from rural to urban area in the project area	nos	-	-	During the project period migration was reduced.
22	Annual mean household income	Rs	65000	72000	An increase of Rs. 7000/-
23	Any other measurable indicator of impact assessment i) 2669 farmers received production incentive ii) Total rainwater harvesting structures created were 1139 iii) SHGs: 49 iv) 6236 farmers benefitted from the project.				

Concluding Remarks

- Kunnamangalam block is a predominantly agricultural area with farming being the major source of income. With PMKSY, Kunnamangalam Block panchayath undertook the task of making the lives of farmers better by conserving soil, water and vegetative cover in convergence with other schemes like MGNREGS.
- The major works undertaken were farm pond renovations, streamside protection, well recharge, stone bunds, public well renovations etc. However, it was noted that the side protection works were carried out for a smaller stretch in majority of the areas, as these structures help in flood control in the project area, more length and increase in similar structures may be carried out in the watershed area for a wider benefit.
- In the production sector, around 2700 farmers were provided incentives and in the livelihood sector, 49 SHGs were given revolving funds of Rs. 25000/- each. As many were getting the benefit from revolving fund, the amount given under the revolving fund may be increased in future for scaling up the activities in the watershed.
- More than 1000 well recharges have helped the people of the watershed to overcome water scarcity during the summer season. The benefit from these interventions is highly visible to the public, more structures may be promoted to catch the rainwater and recharge it. Regular monitoring of these structures by the Panchayaths is needed



for effective utilization of rainwater for recharging and overcoming the problem of summer scarcity of water.

- Some ponds were observed with silts and weeds. So, it is recommended to desilt and weed removal at frequent intervals with the help of MGNREGS in convergence mode for effective usage of water storage ponds.

Success Story:

Sidewall protection structures with Check dam:

Stream bank side wall protection structure with flow regulation at Chooloor watershed was constructed during 2021-22. The total length of the work is 240 m with a budget of Rs.12.0 Lakhs. More than 50 acres of agricultural land getting benefitted from this work. Check barriers were provided at regular intervals for increasing flow velocity and reducing siltation.

