

PARAKADAVUBLOCK – IWMP -III (ERNAKULAM District)

Parakkadavu block panchayat is located in the Paravoor and Aluva Taluk of Ernakulam district. The project area covering this block panchayath is 5161.88 Ha. Parakkadavu comes under the midland region and the highest point of the study area is 52 m above MSL located in the northeastern part. It has eight watersheds namely Kaprassery, Kaipillikkunnu, Kunnukara, Parakkadavu, Puthenkavuchal, KuthiyathoduThelathuruth and Mambra. These micro watersheds are distributed among seven grama panchayaths, namely Puthenvelikkara, Kunnukara, Parakkadavu, Nedumbassery and Chengamanad. The project has an area of 5100 Ha. The project area is located between 10°7'57" to 10°14'29"N latitude and 76°15'24" to 76°23'13"E longitude.

Table 1. Details of micro watersheds

SI No	Name of Watershed	Watershed code	Area (in Ha)	GPs covered
1	Kuthiyathodu	14P18a	121.04	Puthenvelikkara, Kunnukara
2	Kunnukara	14P19a	1145.15	Kunnukara
3	Kurumasseri	14P20a	318.8	Kunnukara, Parakkadavu
4	Kaipillikkunnu	14P21a	1041.73	Parakkadavu, Nedumbassery, Chengamanad,
5	Kaprasseri	14P22a	1483.55	Nedumbassery
6	Parakkadavu	16C3a	398.84	Parakkadavu
7	Mambra	16C55a	442.98	Parakkadavu, Kunnukara,
8	Puthenkavuchal	16C56a	209.79	Parakkadavu
Total			5161.88	

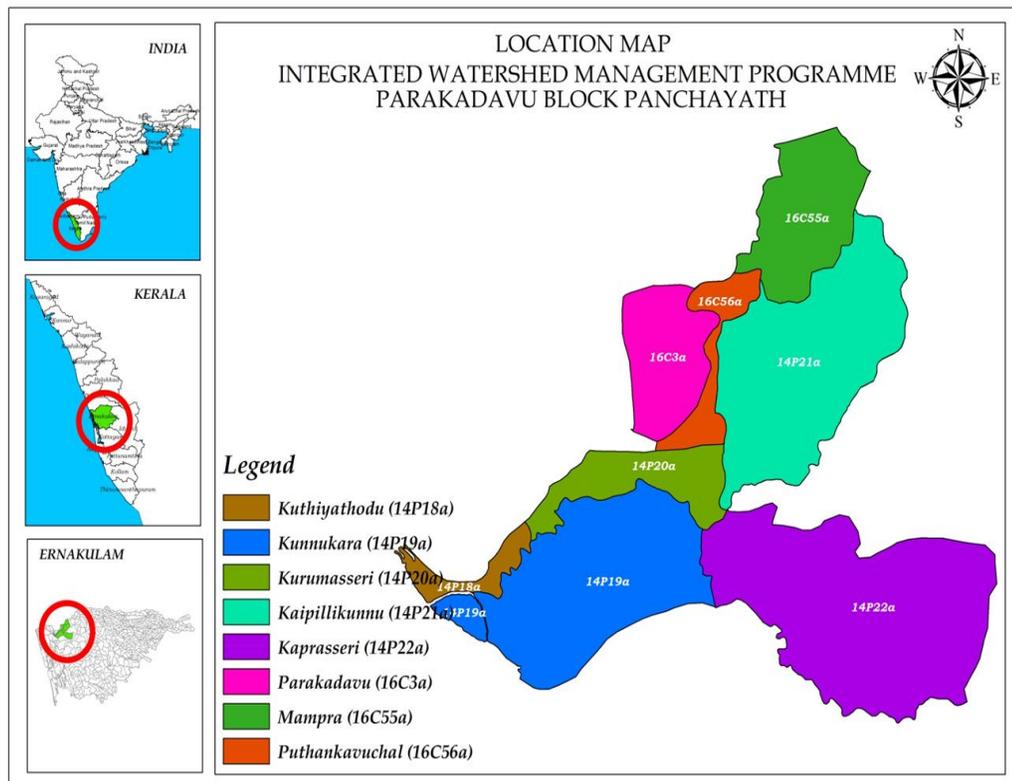


Fig 1: Map of the Watershed area

The evaluation team from CWRDM visited the project IWMP –III/2013-14 in Parakadavu Block on 01/07/2022. The team conducted an initial discussion with the Block Development Officer, and Village Extension Officers of the Block and collected additional information about the IWMP project implemented in the Block. Also evaluated the impact and developments taken place through the interventions executed under the project by going through various records and reports.

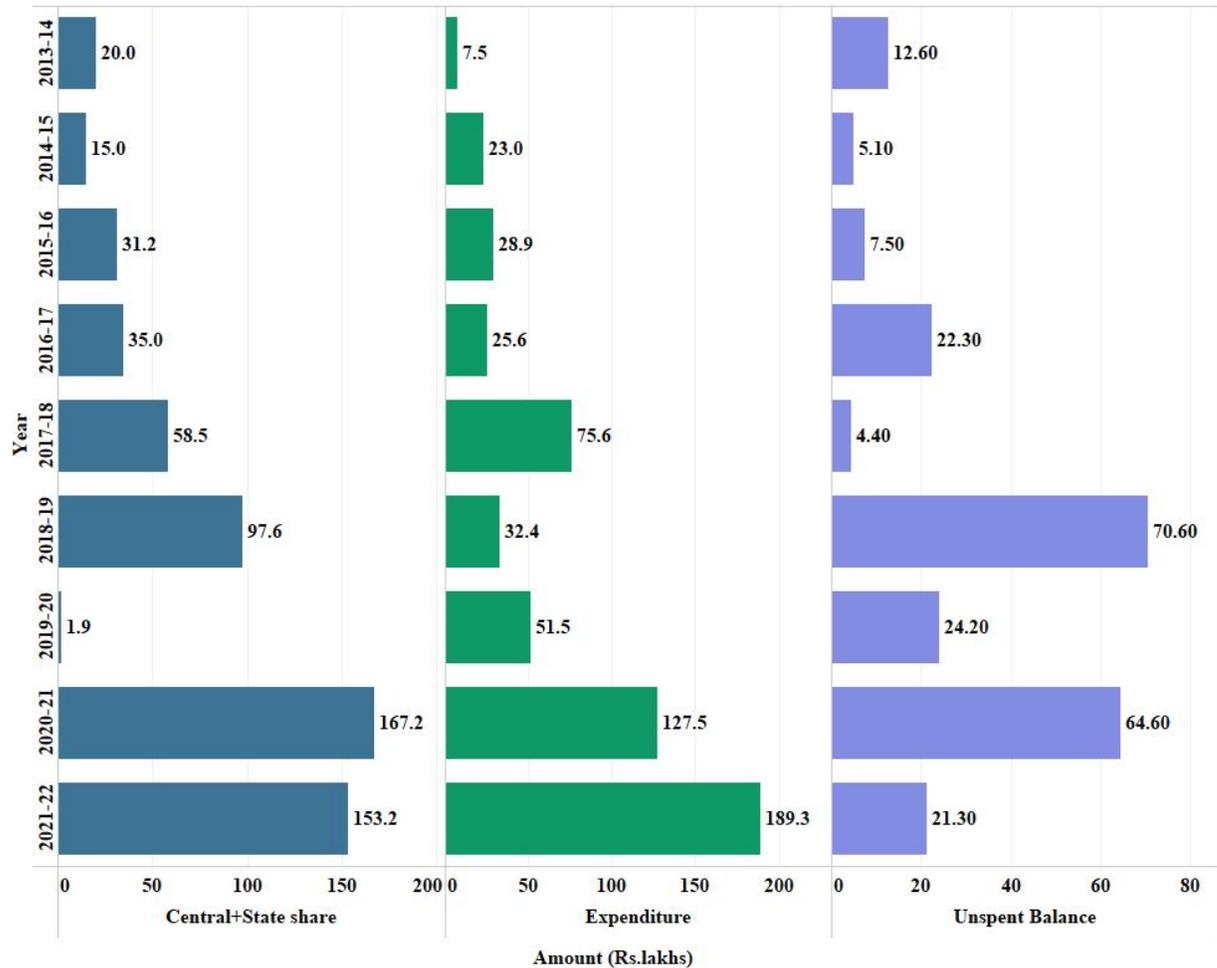


Fig 2: Financial overview of the Project

As the project progresses, the share of the amount received also increases in an increasing trend except for the FY 2019-20. The amount received for this watershed project is comparatively better when compared to the other watersheds. This is ultimately reflected in the activities that were being carried out here.

The activities visited by the investigation team include:

1. Wick Irrigation:

- a) A demonstration plot of wick irrigation activity has been carried out at the entrance of the BDO office at Parakkadavu. This will have a significant impact on the visitors and instigate them to take up wick irrigation.

- b) Wick irrigation practiced by 'Poli' in Kurumasseri watershed of Kunnukara panchayath.

The wick irrigation method is highly cost-effective and one can save more water compared to drip irrigation. Moreover, it is very easy to practice at the household level, hence, this kind of practice can be promoted on a larger scale to reap its benefits. By practicing the wick irrigation method, one can get sustainable and pest-free vegetables for the family. Under the IWMP project, 329 units of wick irrigation were provided.

The demonstration followed in the Block level and other household-level used small plastic pipes connected to individual plastic boxes of less thickness. The life of this structure may be increased if one can practice using a continuous PVC pipe of a larger diameter like 50 mm with openings for keeping pots or grow bags as per the spacing. It was also observed that a normal wick was used in the field, in its place a glass wool type wick gives more life to the wick.

This kind of practice needs more awareness among the rural as well as urban communities, so that everyone can at least have their own choice of vegetables to be grown either on land or even on the terrace of the house. As the more rural area is getting urbanised, this activity will surely win the hearts of the people if promoted properly. Hence, separate awareness camps/drives will be arranged by the Panchayaths at least during World food day or World water day, so that the activity can be practiced on a large scale.

It was also observed during the field visit that the maintenance of the activity is not regular by the households. Hence, frequent monitoring from the Block office to the units is necessary for sustainable management. And also, the individuals who were practicing will be motivated to scale up the practice of wick irrigation in their land or house terraces.

2. Lift Irrigation:

- a) **Renovation of Choondamthuruth Lift Irrigation (LI)** located at Kaprasseri watershed in Nedumbasseri panchayath. The renovation work was carried out with a total cost of Rs. 8.3 lakhs. This lift irrigation increased the area under agriculture and also improved the crop yield.
- b) Pipe Extension of Anayakkad LI Scheme located at Kurumasseri watershed in Kunnukara panchayath. Pipe extension work was carried out underground from the lift irrigation to

the farmer fields with a cost of Rs. 1.8 lakhs. Nearly 75 farmers benefitted from this activity, now they can go for intensive cultivation of different crops on 10 acres of land.

The Lift Irrigation scheme practiced in this watershed has a tremendous impact on the people as it enhanced the physical access to water on the farm and expanded cultivable area under assured irrigation.

3. Well recharge: A well recharge structure was installed at ‘Shaji’ house, inKaprassseri watershed ofChengamanadpanchayath with an expenditure of Rs. 8000/-.

Around 365 well recharges in the watershed area were completed. This enhanced the access of water on the farm and expanded the cultivable area under assured irrigation. Well recharges improved on-farm water use efficiency as well. An average 2 m increase in the water column was observed in the watershed area due to the implementation of this intervention.

4. Visit to JLG's:

- a) ‘Akshay’ JLG -a group consists of 5 members maintaining a Quail rearing unit located at Kaprassseri watershed in Chengamanadpanchayath. Seed money of Rs. 25000/- was used to purchase and setup this unit. This unit fetches a good income for the group and an average of Rs.15,000/- profit they are getting per month.
- b) ‘Nirapara’ JLG- This group used the seed money to cultivate Banana cultivation and it is located at Kurumasseri watershed ofKunnukara panchayath.
- c) ‘Nirapara-II’ JLG- Six Malabari breeds of Goats were received under the project. This activity is situated atKurumasseri watershed in Kunnukara panchayath. They sell 3 litres of goat milk daily at Rs.120 per litre.
- d) Nursery of coconut seedlings by ‘Sneha’ JLG located atParakkadavu watershed in Parakkadavu panchayath. An amount of Rs. 25,000/- was provided to set up this unit. Different varieties of coconut seedlings were raised and each sapling was sold at a price of Rs. 35/-.

In the Livelihood sector, 115 SHGs were assisted by giving seed money for doing Agricultural and allied activities to increase their income. They were involved mostly in

cultivating agricultural products, Banana plantation, Goat rearing, Poultry, Mushroom cultivation, Fish Farming, etc.

5. **Check dam construction** at Vattachalmanjali thodu located in Kunnukara watershed in Kunnukara panchayath. Constructed at a cost of Rs. 4.0 lakhs. This check dam has a significant impact on the overall wellbeing of the individuals. As this check dam prevents saltwater intrusion before monsoon and improves groundwater recharge of the surrounding wells. In addition to this, the check dam also helps in increasing the area under agriculture and nearly 20 acres of area is benefitted out of this.

It was noted that wooden planks were used to block the water instead of that, manually operated shutters would have been better as it is very easy to operate and control the flow of water.

6. Renovation works:

- i. Renovation of Kulambupuramattom thodu located at Kunnukara watershed in Kunnukara panchayath. Renovation work mainly includes desiltation of the channel and increasing the depth of the drainage channel at a cost of Rs. 7.9 lakhs. This work mainly helped in reducing the inundation of the surrounding area as well as flood control.
- ii. Renovation of Chettikulampond located at Kaippillikkunnu watershed in Parakkadavu panchayath with a cost of Rs. 5.9 lakhs.
- iii. Side protection at Puthenkavuchal watershed in Parakkadavu panchayath. 45 m on both sides with 3 m height and an estimate of Rs. 6.7 lakhs.

For the conservation of moisture in this region, field bunds were constructed in 38400m, 30 stream bank protection structures, 2 check dams and 365 percolation tanks. The new water harvesting structures used in this place were 6 farm ponds and 13 lift irrigation structures. This enhanced the availability of water in the region and also increased the area under agriculture by bringing more fallow land for cultivation.

7. Rainwater harvesting structures:

- a) This tank is constructed on the premises of GUPS School Kurumasseri situated in the Puthenkavuchalwatershed of Parakkadavu Gram Panchayath. The capacity of the tank is 10,000L and the total cost of construction was Rs. 1.8 lakhs.
- b) Rainwater harvesting Tank Construction at Block Panchayath Office in Kaipillikunnu Watershed. The capacity of the tank is 10,000 L and the total cost of construction was Rs. 2.3 lakhs.

In the project, 433 works were selected as NRM works in DPR and out of which 424 of them have been successfully completed. They include well Recharging, Farm Ponds, Well Construction, Construction of Rainwater Harvesting tanks, Nalla bunds, Check dams, Lift Irrigation, pond renovation, canal renovation, etc.

8. **Butterfly Garden:** A Butterfly Garden was developed with a unit cost of Rs.0.33 lakhs at St. Antony's UP school located at Mambra watershed in Parakkadavu panchayath. This is maintained by the school children and different assignments related to butterfly plants as well as species were given to school children to create awareness about butterfly attracting plants and different butterfly species.

9. Poultry unit:

A poultry unit consisting of 10 chicks (Grama Priya breed) in the ratio of 6:4 (hen:rooster) was provided to 'Lili Chako' of Kaipillikkunnu watershed in Parakkadavu panchayath with a unit cost of Rs. 1200/- (Rs. 120 per chick). This activity provides additional income to the family. Under PSME, 3819 poultry units, 739 Coconut seedling sets and 329 Wick irrigation systems were provided.

Summary of the Evaluation of Outcomes of PMSKY-WDC Projects

District	Ernakulam	Date of Visit	01/07/2022
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1. Project Details:

Project No	IWMP -IV/2012-13
Name of Block	Parakadavu Block Development Office



Sanctioned Area (ha)	5161.88
Sanctioned Cost (Rs.lakhs)	619.42
Name of Villages included in the project	Puthenvelikkara, Kunnukara, Parakkadavu, Nedumbassery, Chengamanad

2. Impact Details

Sl. No.	Items	Unit	Pre-project status	Status at the end of project	Remarks
1	Average depth of watertable in dug wells	m	13	11	2m increase in water table level
2	Average depth of watertable in tube wells	m	80	78	Increase of 2 m in water column
3	Number of ground water structures (dug wells + tube wells + hand pumps) rejuvenated	nos.	--	365	Addition of 365 structures in the after period
4	Increase in Irrigation potential	ha	361	402.1	Increase in irrigation potential was observed
5	Area of Wasteland brought under productive use (like agriculture, plantation, fodder, etc.)	ha	385	265	120 ha of wasteland was brought under 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	8073 -- 385	4099 -- 265	Due to urbanization 50 % reduction in the area under agriculture
7	Area Under Agriculture Crop (i) Area under Kharif crop (ii) Area under rabi crop (iii) Area under double crop	ha	3520 -- --	3880 -- --	Increase in Kharif crop area
8	Cropping intensity	%	132	109	decrease in cropping intensity due to more area



					being converted to urban settlements
9	Increase in Yield /ha of crops (i) rabi crop (ii) Kharif crop	qt/ha	-- 1612	-- 1305	
10	Area of horticulture crop	ha	554	929	A tremendous increase in horticultural crop area
11	Employment in agriculture related activities among beneficiaries	Man days	8218	18628	Nearly 28,000 mandays were generated under the project.
12	Employment in non- agricultural sectors	Man days	5848	8858	
13	Fodder production	Ha	3000	5000	The area under fodder crops increased
14	Fuelwood production	qt	2500	3200	
15	Number of milch cattle	nos	3080	3930	Increase in the number of milch cattle
16	Milk production	Kl/yr	9709	12410	
17	Duration of flow of water in streams (upto November/December/January/February....May)		10 months	12 months	Availability of water was increased throughout the year in certain places
18	Improvement of drinking water facility	nos	3355	4387	Around 365 well recharges in the watershed area were created.
19	No. of persons engaged in ancillary activities like fishery,poultry, rural craftsmanship	nos	--	4100	
20	Number of children enrolled in schools in the project area	nos	13975	16194	All children enrolled in schools
21	Reduction in migration from rural to urban area in the project area	nos	--	--	Migration is reduced to a larger



					extent during the project period.
22	Annual mean household income	Rs	51780	61000	An increase in annual income is observed.
23	Any other measurable indicator of impact assessment i. Assisted 115 SHGs by giving seed money for doing Agricultural and allied activities ii. 329 units of wick Irrigation were distributed iii. 3819 poultry units were allotted under the scheme				



Wick Irrigation at the entrance of BDO office



Renovation of Choondamthuruth Lift Irrigation



Well recharge structure at 'Shaji' house



Quail rearing by 'Akshay' JLG



Anayakkad LI Scheme



Banana Cultivation by 'Nirapara' JLG



Wick Irrigation at Poli's house



Goat rearing by 'Nirapara-II' JLG



Check dam construction at Vattachalmanjali thodu



Renovation of Kulambupuramattom thodu



Rainwater harvesting structure at GUPS School, Kurumasseri



Rainwater harvesting structure at Block office



Renovation of Chettikulam



Tree Plantation at St. Antony's UPS



Nursery by 'Sneha' JLG



Side protection at Puthenkavuchal watershed



Poultry unit of 'Lili Chako'





Success Story:

Parakkadavu block panchayath has given seed money of Rs. 25,000/- for JLGs formed in the watershed area for doing different kinds of income-generating activities as a support for their livelihood. One of the JLGs named 'Akshay' in Kaprasseri watershed was planning to start a quail rearing unit. For that, they were given training from Kudumbasree. There are 5 women in the BPL category in this group. The Kaprasseri watershed committee recommended to give seed money to the group and the seed money is sanctioned for them. At first, they started with 100 numbers of quails and now they are running the unit by holding about 1500 quails at a time. They sell the quail bird and its eggs. Now they are getting a profit of Rs.15000/- monthly. They are repaying the seed money without dues. And they get a better income now and through which they can support their families. This unit has become an inspiration for others in the watershed area.