

PAMPAKUDA – IWMP -IV (ERNAKULAM District)

Pampakuda block panchayat is located in the Muvattupuzha Taluk of Ernakulam district. The project area covering this block panchayath is 4428 ha. Pampakuda is the main agricultural region in the district of Ernakulam. The project area is located between 9°54'18''N to 9°48'01''N latitude and 76°28'02''E to 76°28'02''E to 76°33'32''E longitude

Table 1. Details of micro watersheds

SI No	Name of watershed	Watershed code	Area (in Ha)	GPs covered	Villages covered
1	Mulakkulam - vadakkekkara	13M60b	884.07	Elanji and Piravam	Elanji
2	Mulakkulam	13M60f	171.55	Elanji	Elanji
3	Elanji	13M60c	404	Elanji	Elanji
4	Valiyathode	13M64c	158.31	Elanji	Elanji
5	Perumbadavom	13M60e	364.67	Elanji	Elanji
6	Onakkoor	13M59j	1066.6	Pampakuda	Pampakuda
7	Piravam	13M60a	1378.6	Piravam and Onakkoor	Piravom
TOTAL			6128		



Fig 1: Map of the Watershed area

The evaluation team from CWRDM visited the project IWMP -IV/2012-13 in Pampakuda Block on 27/06/2022 and later held discussions with the project implementation team. BDO, Technical expert and VEOs were present at the meeting. Technical Experts and respective VEOs

have accompanied the team for field visits in the project area. The investigating team also held discussions with the various beneficiaries and stakeholders during the field visit, to know their perceptions regarding the impact of the project.

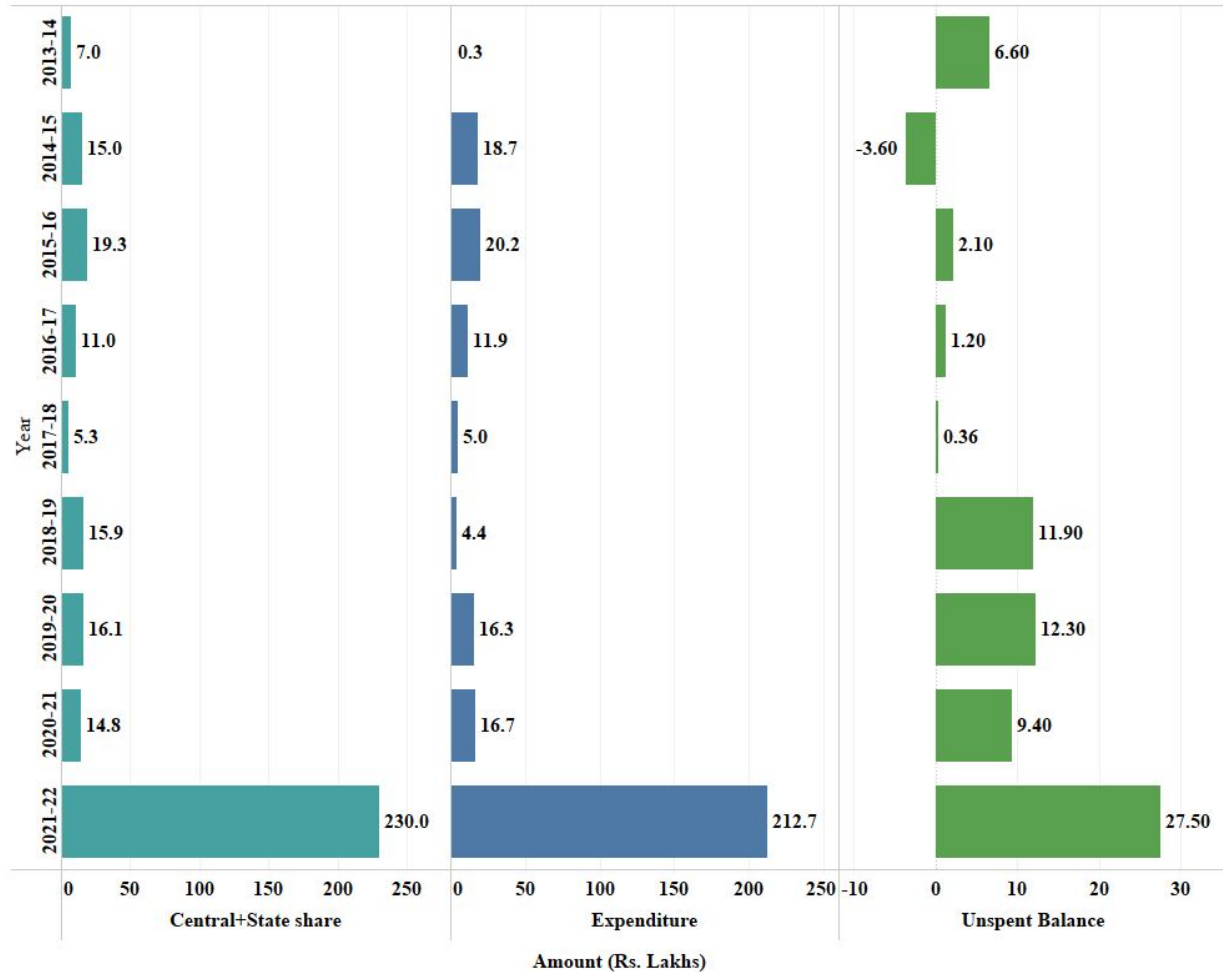


Fig 2: Financial overview of the Project

It was observed that the amount received was more in the last FY 2021-22 and in all the other FYs the amount received was very meagre. The expenditure also follows the same pattern. The availability of funds at regular intervals is very crucial for taking up the necessary interventions in the project area. In the last FY, the fund was received in the month of December and it lead to a very short time in completing the works planned, and thereby the unspent balance is more.

The works visited by the team are:

1. Side protections

- a) Side protection of Valavanthod at Pambakuda Grama Panchayat in Onakkoor watershed. Side protection was constructed for approximately 400 m on both sides of Valavanthode at a height of nearly 2.25 m with a cost of Rs. 18 Lakhs. This protection was constructed mainly to prevent water logging in the areas and enable the land on both sides to be used for the cultivation of agricultural crops.

Valavanthod, also known as KulavayalThod, is a thodu located in the 8th, 9th, 10th and 11th wards of the Pambakuda Grama Panchayat, in Pambakuda Block Panchayat, Onakkoor watershed. Although there is an extensive paddy field and other farmland around the creek, the excessive flow of water from the creek during the monsoon season has caused crop damage. The silt that accumulated in the creek for years had significantly reduced the depth of the creek and impeded the natural flow of the creek. Hence, desiltation of Valavanthod was carried out under the project as EPA.

- b) Side protection at Perumbadavam watershed in Elanji Grama Panchayat. The work has a length of 120 m and width of 2 m and a height of 2m and 3m in certain places. It was completed for a cost of Rs. 10.06 Lakhs. It is mainly for controlling the flood of Kothalithodu.

The side protections constructed in the watershed area helped in reducing inundation and also brought more fallow areas under agriculture.



Side protection of Valavanthod

Side protection at Perumbadavam watershed

2. Livelihood activities

- a) JLG named 'Evergreen' at Pampakuda Grama Panchayat in Onakkoor watershed has been given seed money of Rs. 25,000/-. The group used the money to cultivate different agricultural crops like Banana, Yam, and other vegetables. The JLG group cultivated agriculture with an area of 1.5 acres.

This programme significantly increased the economic opportunities for people living in watershed areas and contributed to the empowerment of women. The average annual income of the households also increased by Rs. 6000/- through these activities.

**3. Nannialkunne Spring at Periyapuram:**

Spring protection work of Nannialkunne was carried out during 2016-17 at a cost of Rs. 0.11 Lakhs to harvest the spring water at Pampakuda Grama Panchayat in Onakkoor watershed. The water from this spring was used during the scarcity periods, especially during the summer months for drinking and household purposes. Nearly about 15 families located around the spring use this water.



4. Pond renovation

- a) Renovation of Thiruveeshamkulam pond at Mulakkulam -Vadakkekkarawatershed in Piravom municipality. The pond was renovated in 2 phases with its area occupying 40X30X4m. The work has been completed in two phases. In the first phase, Rs. 1175000/- has been allocated for distillation, and sidewall protection (42 m). In the second phase, Rs. 475000/- was provided for the construction of the ramp and steps. The storage capacity of the pond was increased. The water from this pond is being used to irrigate agricultural land of about 15 Ha. The crops that are cultivated using this water were Paddy, Banana, Coconut, Vegetables etc.

- b) Pond renovation at Alappattuthazhe with specification of 20X20X3.4 m lies in the Piravam watershed of PiravamGram panchayath. The work was completed at a cost of Rs. 14.9 Lakhs and was constructed in March 2022. The pond was mainly used for irrigation and domestic purpose. More than 40 families are using this for their daily activities.

	
Pond renovation at Mulakkulam - vadakkekkara	Pond renovation at Alappattuthazhe

5. Afforestation through Miyawaki




Miyawaki is a technique pioneered by Japanese botanist Akira Miyawaki, that helps build dense, native forests in a short time. It has revolutionised the concept of urban afforestation by turning backyards into mini-forests. The approach is supposed to ensure that plant growth is 10 times faster and the resulting plantation is 30 times denser than usual.

- Miyawaki at GHSS, Namakkuzhy at Mulakkulam -vadakkekkara watershed in Piravom municipality. Neem, Guava, Ber etc. were the saplings planted in an area of 3 cent land with a cost of Rs. 3.47 Lakh and drip irrigation was also installed for the plot.
- Miyawaki by 'Sasindran' at Kakkad in 3 cents of land. It was completed for Rs. 3.0 Lakh on March 2022.
- Miyawaki of 'Shine Joseph' at Elanji Panchayath. It was planted in an area of 3 cents of land with an amount of Rs. 3.29 Lakh with a 10 % beneficiary contribution.

As a part of the PMKSY project in Pampakuda Block Panchayath, 5 Miyawaki afforestation activities were adopted, 3 of them are located at the Piravom watershed and the other two at Mulakkulam vadakkekkara and Elanji watershed.

A central tenet in creating these forests is its use of indigenous species for plantations. The overall density of the forest is beneficial in lowering the temperature, making soil nutritious, supporting local wildlife and sequestration of carbon. Loss in green cover and increased

concretisation in urban areas has led to cities becoming ‘urban heat islands’, which pose significant threats to not just human populations but also contribute to global climate change. By planting Miyawaki plantations we are planning to reduce the impact of climate change and make the environment greener. Hence, it is recommended to promote this kind of forest in all the public schools and areas in the watershed.

	
Miyawaki at GHSS, Namakkuzhy	Miyawaki of Sasindran at Kakkad
	
Miyawaki of Shine Joseph at Elanji	

6. Stone Pitched Contour Bunds

- a) SPCB practiced in the land of ‘Om Prakash’ located at Veliyathode watershed of Elanji Panchayath. The work has 25 m in length and 2.5m in height and it was completed at a cost of Rs. 5500/- (Rs. 114 per sqm).

- b) SPCB in the land of George P.Aat Mulakkulam watershed, Elanji Panchayath. It has a length of 60 m and was built for Rs. 15,000/- in the year of 2019.

Stone Pitched Contour Bunds help in reducing soil erosion and increase the soil moisture content of the soil. Sloped areas can be protected in this method, and it is especially ideal for laterite soil or other locations where the availability of stone is not a constraint.



SPCB at Veliyathode watershed

7. **Well renovation** at Payyinkombu Colony in Valiyathode watershed of Elanji Panchayath.

It was mainly used for drinking and domestic purposes. 15 houses getting benefit from this pond. The renovation was completed for Rs. 1.5 Lakhs. Under this plan, the wells, which were in a degraded condition, are restored and made accessible to the general population. The IWMP project resulted in the renovation of 3 wells. The initiative was successful in ensuring drinking water for many families throughout the year.



8. Well recharge by Karunakaran K P at Perumbadavam watershed of Elanji panchayath.

This was completed at a unit cost of Rs. 8000/- with a 10 % beneficiary contribution. The well recharge project significantly improved the amount of water in the wells, as it improves the groundwater table. Water is now easily accessible for drinking and irrigation. Well recharge has significantly helped to meet the needs of people during periods of severe drought and exhausted groundwater sources.

It was observed that the rainwater harvesting structures were undertaken not for the entire roof but only for 2 sides and the maintenance of the structure was also poor. Frequent monitoring is to be performed by the respective panchayath offices to ensure proper maintenance of these units.

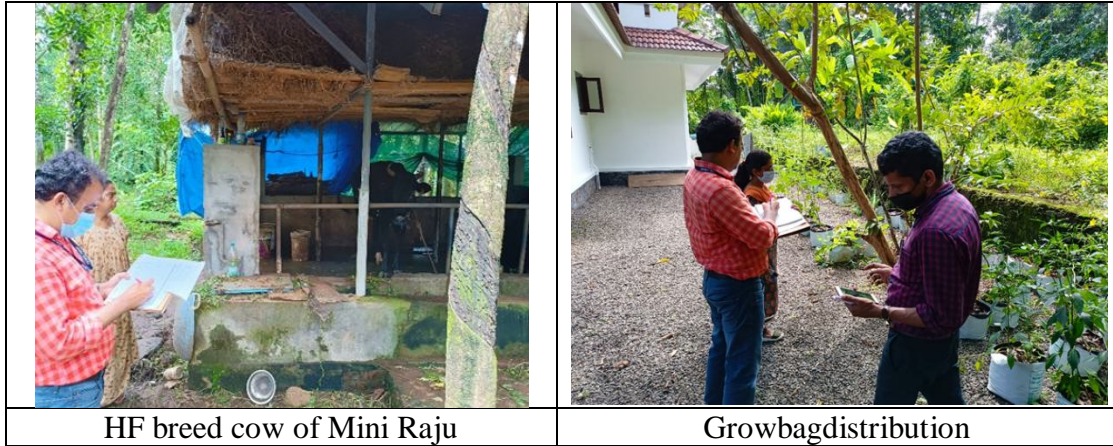


9. Production system

- a) PSME of George P. A. at Mulakkulam watershed, Elanji Panchayath: 2 goats of Malabari breed were provided at Rs. 30,000/- with a 20 % beneficiary contribution.
- b) Jersey cow was distributed to 'Raji C T' with a total unit cost Rs. 30,000/- and the unit is located in Palachodu, Piravom watershed & Municipality.
- c) An HF breed cow provided to 'Mini Raju'. An amount of Rs. 24,000/- is the subsidy component under this scheme.
- d) Growbag distribution to Banumathi K Pin Elanji watershed of Elanji Panchayath, the backside of Elanji Grama panchayath. A total of 30 grow bags were distributed for an amount of Rs. 2400/- with Rs. 600/- as beneficiary contribution. The main cultivating vegetables are tomato, okra, chilli, and brinjal.

A good possibility for self-employment was provided to unemployed persons through the production system. For farmers and agricultural workers, it became a sizable source of additional income. Goat and dairy farmers benefited from the scheme. Altogether 38 grow bag units (750 numbers), 16 cattle rearing and 193 goat units were provided by the IWMP programme.





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	Pampakkuda Block Development Office
Sanctioned Area (ha)	4428 ha
Sanctioned Cost (Rs. in lakhs)	664.2
Name of Villages included in the project	Piravom, Onakkoor, Elanji

2. Impact Details

Sl.	Items	Unit	Pre-	Status at	Remarks
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No			project status	the end of project	
1	Average depth of watertable in dug wells	m	5.36	4.17	An average increase of 1 m
2	Average depth of watertable in tube wells	m	24	20	Increase of water column by 2 m
3	Number of groundwater structures (dug wells + tube wells + hand pumps) rejuvenated	nos.	0	19	19 waterbodies rejuvenated under the project
4	Increase in Irrigation potential	ha	1500	3672	Increase of 2172 ha. Very good change
5	Area of Wasteland brought under productive use (like agriculture, plantation, fodder, etc)	ha	42	3	40 ha 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	2977 1050 42	3150 1200 3	An increase of 173 ha under agriculture. 150 ha of plantation
7	Area Under Agriculture Crop (i) Area under Kharif crop (ii) Area under rabi crop (iii) Area under double crop	ha	616 -- 2361	790 -- 2380	Total Area increased under Kharif season
8	Cropping intensity	%	118	124	6 % increase
9	Increase in Yield /ha of crops (i) rabi crop (ii) Kharif crop	qt/ha	-- 175	-- 225	Approximate increase of 9 qt/ha
10	Area of horticulture crop	ha	0.75	3.75	Marginal increase
11	Employment in agriculture related activities among beneficiaries	Man days	6441	9450	12060 mandays of employment generated
12	Employment in non- agricultural sectors	Man days	12930	24365	
13	Fodder production	qt	30000 qt/ha	36000 qt/ha	Fodder production increased



14	Fuelwood production	qt	--	--	No data
15	Number of milch cattle	nos	1918	2396	Increase in milch cattle. 161 cattles were distributed in the project.
16	Milk production	Kl/y r	691.2	2187.08	
17	Duration of flow of water in streams (upto November/December/January/FebruaryMay)	Months	February	April	Prolonged flow for two months
18	Improvement of drinking water facility	Days	February	April	Availability of water up to April end. Two months.
19	No. of persons engaged in ancillary activities like fishery , poultry ,rural craftsmanship	nos	235	268	Slight improvement was noticed
20	Number of children enrolled in schools in the project area	nos	4363	4638	All children were enrolled in schools
21	Reduction in migration from rural to urban area in the project area	nos	--	--	Nearly 12,000 man-days created
22	Annual mean household income	Rs	68000	74000	An increase ofRs.6000/-.
23	Any Other measurable indicator of impact assessment <ul style="list-style-type: none">➤ Works done through convergence with MGNREGS➤ No. of farmers benefitted: 14560				