



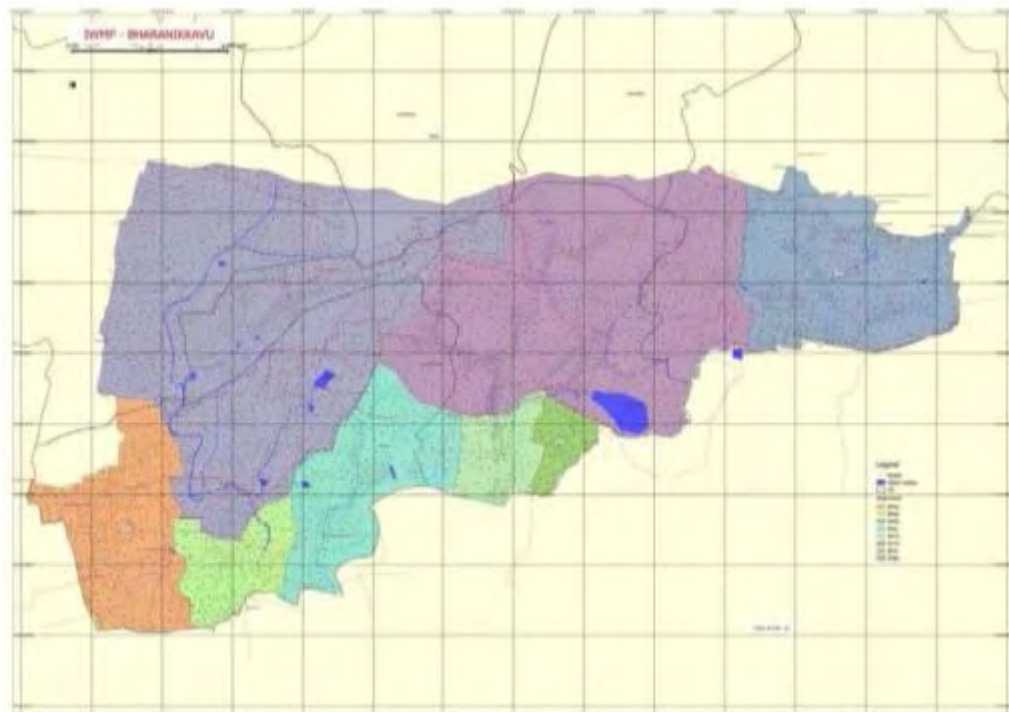
## **BHARANICKAVU BLOCK – IWMP -III (ALAPPUZHA District)**

Bharanickavu (IWMP batch III) project is located at Bharanikkavu block panchayat in Mavelikkara Taluk of the Alappuzha district in Kerala. The project comprises eight micro-watersheds namely Cheethazha, Cherupallam, Vallikunnam, Kannanchaal, Chathiyarapuncha, Chathiyara PunctaNadumthodu, Palamkuzhi Thodu and Chooralvayal spread across four gram panchayaths namely Palamel, Bharanickavu, Vallikunnam and Thamarakkulam

All the eight micro watersheds are the catchment area of Pallickal Thodu. The project area lies in between the longitudes of 76°32'26.88"E to 76°40'26.88"E and latitudes of 9°8'2.4"N to 9°10'10.2"N. The total sanctioned project area is 5421 ha.

**Table 1. Details of micro watersheds**

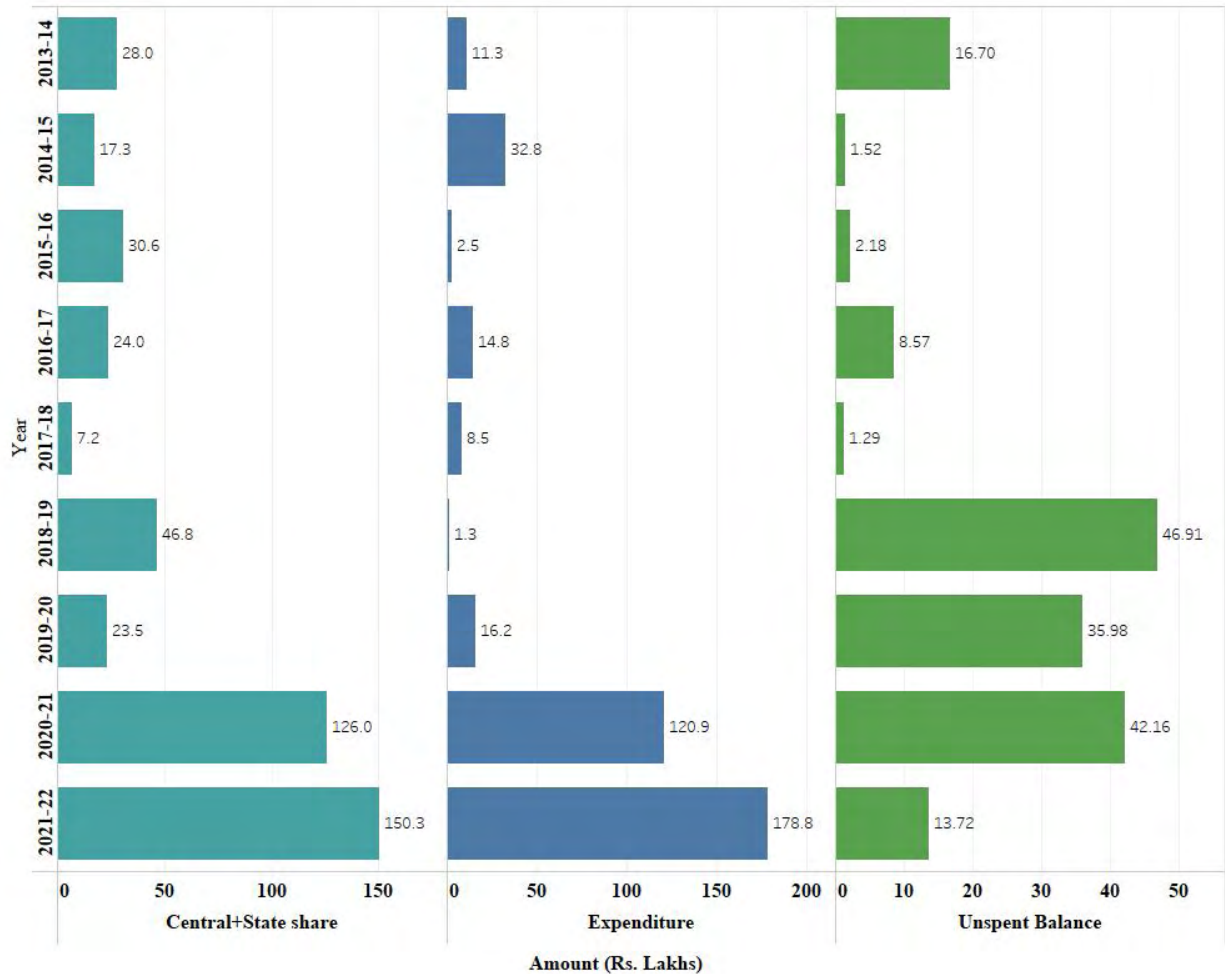
Sl No	Name of Watershed	Watershed code	GPs covered	Area (in Ha)
1	Kannanchal	8P6c	Vallikunnam and Thamarakkulam	509.12
2	Chathiyara Puncta	8P7a	Thamarakkulam	174.77
3	Chathiyara Puncta Nadumthodu	8P7b	Nooranad, Palamel and Thamarakkulam	1785.11
4	Palamkuzhi Thodu	8P7c	Thamarakkulam	57.33
5	Chooralvayal	8P8b	Palamel	812.59
Total				6022.55



**Fig 1: Map of the Watershed area**

The evaluation team from CWRDM first visited the IWMP 3 project on 06/07/2022 and later held discussions with the project implementation team. BDO, Technical experts 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.

Year	Amount (Rs.lakhs)		
	Central+State share	Expenditure	Unspent Balance
2013-14	28	11.3	16.7
2014-15	17.25	32.79	1.52
2015-16	30.63	2.5	2.18
2016-17	24	14.8	8.57
2017-18	7.2	8.5	1.29
2018-19	46.84	1.28	46.91
2019-20	23.52	16.2	35.98
2020-21	125.96	120.85	42.16
2021-22	150.3	178.8	13.72



**Fig 2. Overview of the Financial statement**

The financial allocation varies from year to year as noticed from the above graph and the allocation is more from the financial year 2020-21 onwards. This improper and irregular allocation hampers the watershed interventions and the overall health of the watershed. Frequent and regular allocation of money increases the chance of covering all the activities that were planned during the DPR.

The works which the team visited are:

**1) Well renovations**

- (a) Gurunadhan Well renovation at Chathiyarapuncha Nedumthodu watershed of Thamarakulam panchayath. This work was finished at a cost of Rs. 17,400/-.



- (b) Thaleeradi Harijan welfare department well renovation in the Cherupallam watershed of the Vallikunnam panchayath. This renovation work was completed at a cost of Rs. 66,730/-.

The well renovations are a very successful intervention under PMKSY Scheme. The wells, which were in inoperable/degraded condition were renovated under this scheme and made available for public usage. Altogether 74 wells were renovated and the majority of these are located in areas where there is a summer water shortage. Therefore, the project was successful in ensuring access to drinking water for a few families in the summer months. The water quality seems to be good and these wells are cleaned and have well coverings installed. It was noted that the maintenance of the activity by the households was not consistent in some of the visited areas. Consequently, regular monitoring of these wells by the Panchayath is needed for sustainable management of water bodies. Moreover, a sense of community ownership for public property like ponds or wells is missing. So, it is better to create a sense of ownership among the public for successful management of the newly created or rejuvenated structures.

## 2) Renovation of Water Harvesting Structures

- a) Gurunadhankulangara thodu renovation situated at the Chathiyarapuncha Nedumthodu watershed of the Thamarakkulam panchayath. The work includes the construction of side protection for 300m in length with a height of 1.5m. The renovation cost was Rs. 14.73 lakhs. This work mainly protects the flood water that enters the surrounding area.
- b) Parayattuvayal – Alakkukadavu check dam along with the side protection of 20 m long lies in the Chooralvayal watershed of the Palamel Panchayath. This helps in the flow of control of water to the valley portion and also provides a source of water to the agricultural crops during the lean periods. Around 2.5 acres of agricultural land is getting benefitted from this intervention.
- c) Mandathu pond renovation in the Chooralvayal watershed of Palamel panchayath. The work was completed at a cost of Rs. 4.62 lakhs with a dimension of 19X17X1.5m. A separate entry is provided for the livestock to enter the pond for



drinking/cleaning. Water is pumped from this pond for agriculture purposes to an area of 5.5 acres.

- d) Nattuvathukkal thodu side protection located at the Vallikunnam Puncha watershed in Chunakkara panchayath. The side protection work is carried out on both sides for a distance of 250 m. This construction was finished at a cost of Rs. 17.37 lakhs. This intervention helps in controlling flood water in the surrounding areas.

These interventions helped in solving flood and water logging situations in the area. In order to restore the natural drain, desiltation and sidewall protection of the drain were carried out under the PMKSY project. Streams experience improved water flow and the drinking water infrastructure of the region was also improved. Due to the continuous flow of water through the drain, the water level in the nearby wells increased and thus ensuring the drinking water requirement of the houses located there. This action has also enhanced agricultural activities. The project has assisted in turning wasteland into arable land, which has benefited most of the farmers. The agricultural operations in the surrounding areas were also improved by the pond renovation. Under the IWMP project, 20 farm ponds were renovated and about 46 acres of wasteland were brought under productive use. Even the productivity increase was also reported to the tune of 1 qt/ha in the case of paddy.

### 3) Well recharge structures

- a) A well recharge work was carried out at 'Venu Jayabhavan' house in Chooralvayal watershed of Palamel panchayath. It has a three-ring well recharge that was completed with a unit cost of Rs. 8000/-.
- b) A well recharge work was carried out at 'Rajamma C' at Vallikunnam Puncha watershed in Bharanickavu panchayath.
- c) A groundwater recharge activity was carried out at the 'Bina' house in Cheethazha thodu watershed of Vallikunnam panchayath. It was completed with a unit cost of Rs. 8000/-.

The well recharge project increased the amount of water in wells by 8 to 10 times compared to before, allowing households to catch more rainwater. Under the IWMP project, 448 well recharging structures were done. Due to this intervention, a significant rise in groundwater table



was observed, and water is now readily available for drinking and irrigation. The average depth of the water table in the dug wells was reduced by 0.5m, while the depth of the water column increased by 2m in this area as a result of these activities.

When there is intense drought and groundwater sources are stressed, well recharge has made a substantial contribution to meeting the water requirements of people. Prior to well recharge activities, the wells used to dry up in the summer months but now the water is available round the year.

#### 4) **Production system management**

- a) Under this production system, a Jersey cow was provided in the form of subsidy at a cost of Rs. 24,000/- to a resident named 'Girija Thadathil' of Chathiyarapuncha Nedumthodu watershed in Thamarakkulam panchayath. Milk obtained from the cow is sold for Rs. 38/L in milk society.
- b) Under production system management, an amount of Rs. 24,000/- as subsidy has been paid to 'Retnamma, Ratheesh Bhavanam' for the purchase of 4 goats in Vallikunnam Pancha watershed of Bharanickavu panchayath.

The production system initiative under the IWMP scheme provided an excellent opportunity for the self-employment of unemployed people. It became an important source of subsidiary income for farmers and agricultural labourers. The project was a blessing for dairy farmers and goat farmers in the region. A total of 102 units of dairy and 163 units of Goat were provided under the project and this led to an increase in milk production in the project area.

#### 5) **Check dam construction**

A check dam was constructed at Parayattuvayal – Alakkukadavu along with the side protection of 20 m long lies in the Chooralvayal watershed of the Palamel Panchayath. This helps in the flow of control of water to the valley portion and also provides a source of water to the agricultural crops during the lean periods. Around 2.5 acres of agricultural land is getting benefitted from this intervention.

The people of this region used to depend on rainfall for agricultural and household needs. Water scarcity was a significant issue in this region even in the middle of the year, negatively



affecting agricultural practices. Therefore, the construction of the check dam has a significant impact on the area. The check dam raised the water level in the nearby wells. Additionally, this is highly beneficial for the development of agriculture. This resulted in an increase in the quality of life of the farmers. There were four check dams built as part of the IWMP project and the impact of this on the developments in the agricultural sector was evident. The area under cultivation of horticulture and agriculture crops increased considerably after this intervention.

#### 6) JLG

- a) 'Harithadeepa' JLG is located at Cheethazha thodu watershed in Vallikunnam panchayath. A revolving fund of Rs. 25,000/- is provided to the JLG and with this money, the group has taken up agricultural activity in 60 cents of land. They used to cultivate yam, ginger, floriculture plants like Chrysanthemum, and different olericulture crops. The revolving fund helped the group to take up intensive cultivation of different crops in their field.

This programme had a significant impact on the empowerment of women as well as expanded economic options for those living in watershed areas. The household income in this region has increased by Rs. 10000/- at the end of the project.

### **Summary of the Evaluation of Outcomes of PMSKY-WDC Projects**

District	Alappuzha	Date of Visit	06/07/2022
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#### 1. Project Details:

Project No	IWMP/III/2012-13
Name of Block	Bharanickavu
Sanctioned Area (ha)	5421
Sanctioned Cost (Rs in lakh)	650.52
Name of Villages included in the project	Thamarakkulam, Bharanickavu, Kattanam, Palamel, Nooranad, Chunakkara and Vallikunnam

**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	10	9.5	A decrease of 0.5 m
2	Average depth of watertable in tube wells	m	19	17	Depth of water column - 2mincrease
3	Number of groundwater structures (dug wells + tube wells + hand pumps) rejuvenated	nos.	74	168	94 structures rejuvenated
4	Increase in Irrigation potential	ha	1350	1500	Increase of 150 ha
5	Area of Wasteland brought under productive use (like agriculture, plantation, fodder,etc.)	ha	226	180	Around 46 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	3981 412 226	4310 520 180	Afforestation in 108 ha
7	Area Under Agriculture Crop (i) Area under Kharif crop (ii) Area under rabi crop (iii) Area under double crop	ha	132 - -	238 - -	Increase of 106 ha
8	Cropping intensity	%	108	110	2 % increase
9	Increase in Yield /ha of crops (i) rabi crop (ii) Kharif crop	qt/ha	- 123	- 250	Increase of 1qt/ha of paddy
10	Area of horticulture crop	ha	186	217.5	Increase of 31.5ha
11	Employment in agriculture related activities among beneficiaries	Man days	5000	6000	22130 mandays generated from the project
12	Employment in non- agricultural sectors	Man days	597	689	
13	Fodder production	qt	1220	1420	Increase of 200 qt
14	Fuelwood production	qt	100	121	Marginal increase
15	Number of milch cattle	nos	7322	9975	102 units of dairy received from the project alone
16	Milk production	Kl/y	2153	3164	10,11,000liters of





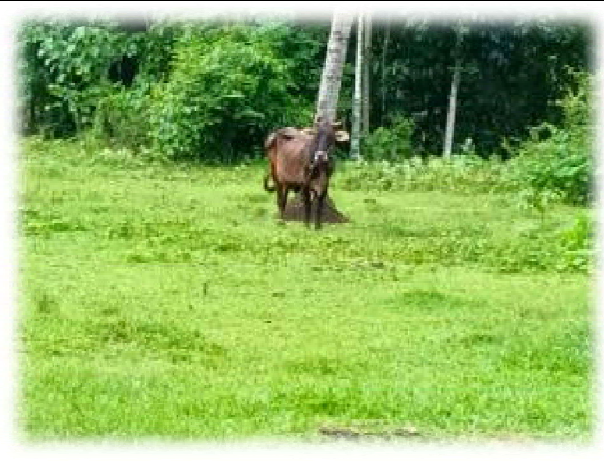
		r			increased milk production
17	Duration of flow of water in streams (upto November/December/January/February....May )		February	April	Two months enhanced flow of water in streams
18	Improvement of drinking water facility		February	April	Drinking water availability for extra two months
19	No. of persons engaged in ancillary activities like fishery, poultry, rural craftsmanship	nos	300	355	Considerable increase in population under ancillary activities
20	Number of children enrolled in schools in the project area	nos	1346	1433	Cent percent enrollment was noticed
21	Reduction in migration from rural to urban area in the project area	nos	254	235	Marginal reduction in migration
22	Annual mean household income	Rs	20000	30000	Rs 10000/- increase in household income
23	Any other measurable indicator of impact assessment i) 102 units of dairy and 652 number Goats were distributed under the project. ii)456 rainwater harvesting structures were created and 94 rejuvenated iii) SHGs assisted: 74 iv) 15258 farmers benefitted from the project.				



Gurunadankulam well



Gurunadankulangara thodu renovation



Dairy farming by GirijaThadathil



Parayattuvayal – Alakkukadavu check dam



Mandathu pond renovation



Well recharging, Venu Jayabhavan



Nattuvathukal thodu side protection



Dairy farming by Retnamma



Well recharging by Rajamma



Harithadeepam JLG



Well recharging at Bina's house





Thaleeradi Harijan welfare department well renovation

## Success story

### Renovation of Gurunathankulangara Pond

This Pond was one of the major needs of 50 families in ward 5 of Thamarakkulam Grama Panchayat from time to time. Although instructions were given to many grama sabhas for renovation, the gram panchayat was not able to renovate the pond due to a lack of funds and many other technical issues. Then the work was taken under PMKSY in the 2019-20 financial year and completed with an expenditure of Rs 14.98 lakhs. Renovation procedures were more difficult and challenging to complete within the allotted time assigned. However, all the needy families in the area were helped to complete the project in the best possible way and the work was completed within the stipulated time. The psychological distress these 50 families living below the poverty line experienced before completing this work was immense. Bringing supplies and water to the houses was not easy with the earlier situation. With the completion of this work, now people are devoid of mental and physical hardships and this work helped the farmers for irrigation purposes as well.

