IRIKKUR BLOCK – IWMP -V (Kannur District)

Irikkur is one of the major blocks in Thaliparamba Taluk, Kannur District of Kerala.The name "Irikkur" was considered to be formed from the Malayalam word 'iru kara ooru' which means a village of both banks of the river.Topographically the nature of the block Panchayat is undulating with big and small hills and hillocks, moderate and heavy slopes.

Irikkur (IWMP batch V) project area lies underIrikkur Block Panchayat. Under the Iritty block panchayat, 12 watersheds were treated under PMKSY. The projectarea lies in between the longitudes of 75°30' E to 75°40'E and latitudes of11°55'N to 12°10'N. The total sanctioned project area is 4667 ha.

Table 1. Details of micro watersheds

Sl No	Name of Watershed	Watershed code	Area (in Ha)
1	Koyipra	32V16ag	223.34
2	Payyavoor	32V16ah	263.36
3	Kanjileri	32V16bd	587.92
4	Pidari	32V16i	389
5	Parakkadavu	32V16j	242.35
6	Eruvessi	32V16k	339.46
7	Ambazhathumchal	32V16m	267.05
8	Chemperi	32V16u	417.57
9	Nellikutty	32V16v	1437.92
10	Moorikkadavu	32V16w	296.28
11	Madakkal	32V16x	202.75
Total			4667

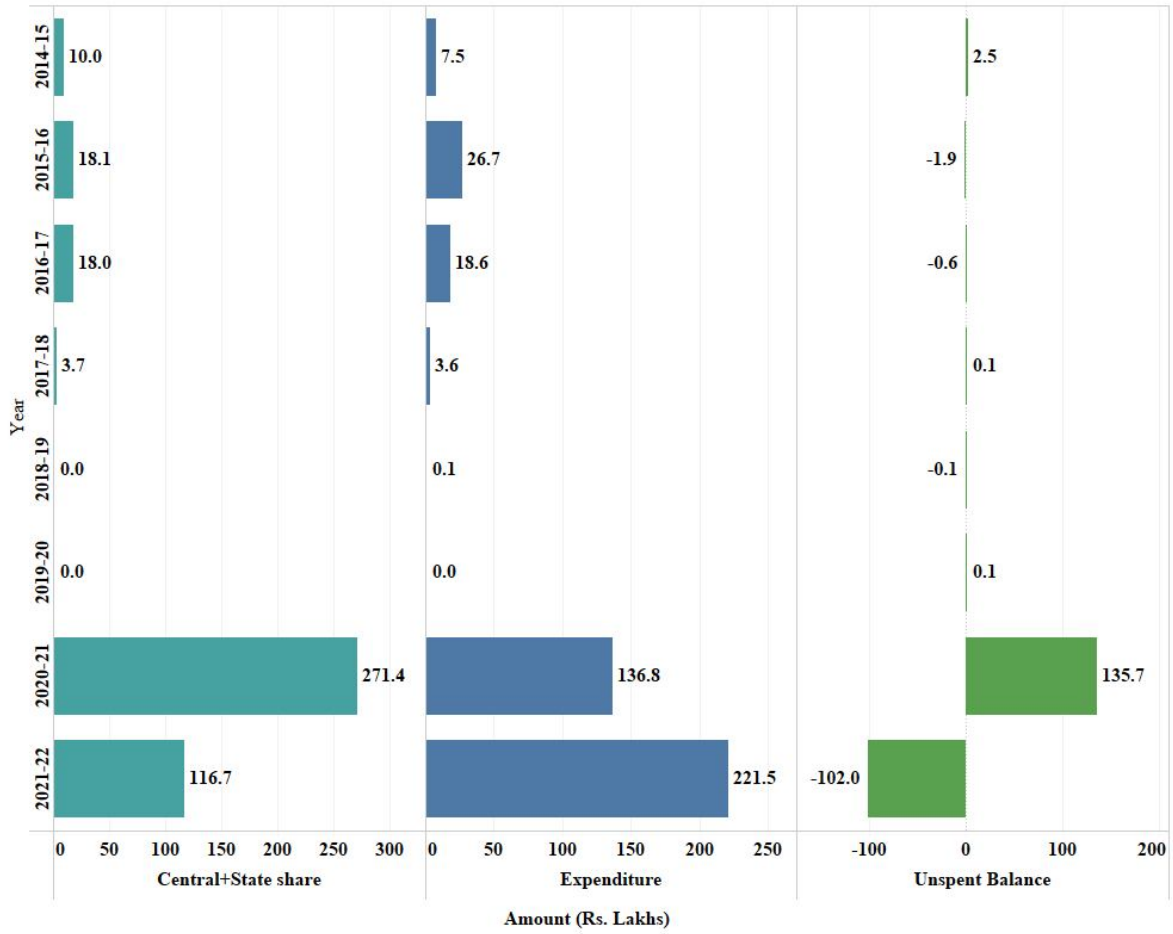

Fig 1: Financial Statement of Irikkur Block

(Note: The values in the above figure exclude PAU up to PFMS.)

It was observed from the financial records that no amount was received in the FY 2018-19 and 2019-20. The amount received was more in the FY 2020-21 followed by 2021-22. More expenditure was taken up in the last FY of the project. This kind of irregular allocation of funds hampers the watershed interventions across the Block.

On 21/6/22, the CWRDM evaluation team visited the IWMP V project area. The team then had a discussion with the group in charge of actually finishing the project. BDO, a technical expert, and VEOs were present at the meeting. The team went to the project area with the assistance of technical experts and the pertinent VEOs. On the field trip, the investigative team spoke with a number of beneficiaries and stakeholders to learn about how the programme has affected their lives.In the end, the team visited the ridge portion of the project area to see if any interventions were made.

Fig 2: CWRDM team at Irikkur Block Office

The works which the team visited are:

1. **Check dams**
    a) Check dam at Kuniyampuzha in Nellikutty watershed of Eruvessi Panchayath. The check dam has a height of 2.5m with 50m long side protection. It was completed on 27/09/2021 with a cost of Rs.15 lakhs. This work isbeneficial for more than 50 families.
    b) NellikuttyPalamkadavu lies at Nellikutty watershed of Eruvessipanchayath.The check dam is 2 m high, and the side protection is 17 m long. The check dam was constructed at a cost of Rs. 4.2 lakhs
    c) Check dam at Thuniyatikadamin Chemperi watershed of Eruvessipanchayath. It was 20m long one side protection and the work was completed at Rs.15 lakhs.
    d) Chandikolli check dam lies at Nellikutty watershed of Eruvessipanchayath. It has a 30m long side protection on one side and 8 m long side protection on the other side. This workwas also completed for Rs.15 lakhs.
    e) Vannayikadavu check dam located at Moorikkadavu watershed of Payyavoorpanchayath. It was built for a total of Rs. 15 lakhs.

Check dams can be either made of temporary materials such as rock, log, brush, etc. or ofpermanent masonry materials like stone, concrete block etc.Check-dams are small barriers built across the direction of water flow on shallow rivers and streams, for the purpose of water harvesting. The small dams retain excess water flow during monsoon in a small catchment area behind the structure. The pressure created in the catchment area helps force the impounded water into the ground. The major environmental benefit is the replenishment of nearby groundwater reserves and wells. The water entrapped by the dam, surface and subsurface, is primarily intended for domestic needs, livestock and irrigation.The construction of an adequate number of check dams in the project area helps in water conservation and increasesgroundwater levels.

In all the visited sites it was observed that the construction of check dams was done using concrete structures and the creation of more structures is needed in the project area as it is adjacent to the forest area and receives more amount of rainfall.

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<tr><td>Kuniyampuzha check dam</td><td>Nellikutty check dam</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Check dam at Chemperi watershed</td><td>Chandikolli check dam</td></tr>
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Vannayikadavu check dam

2. **PSME activity**:

A cow, which is a cross between HF and Jersey was given to 'Bincy Jose' in the Ambazhathumchal watershed of the Eruvessi panchayath. The unit cost of the activity is Rs. 30,000/- with a 20% beneficiary contribution. They are earning an additional Rs. 5000/- with this activity.

Livestock has a specific place in watershed management due to socioeconomic and biological considerations. They play an important role in the agricultural system. To raise the production of cattle in the watershed areas, the relevant technological advancements must be applied. Although raising cattle increases the income from milk production, it also results in the formation of cow waste and urine, which are used for growing organic farming. Additionally, it produces the biogas needed for home usage.

3. **Stone Pitched Contour Bunds (SPCB):**

Conservation of too steep or slope land is essential in order to maintain the top soil from surface runoff. Under PMKSY, SPCBs work was taken up in Mathew's farmland atVizhikaparain Ambazhathumchal watershed of Eruvessi panchayath.As part of this precaution, sloping land surfaces are covered with lines of stone-pitched contour bunds. In order to preserve moisture and prevent erosion, contour bunding involves blocking the runoff from the slope with an embankment that can have either open or closed ends. For consistent moisture conservation, the land treatment between the bunds is preferred.

It was observed that the maintenance of these structures is not up to the mark and needs continuous monitoring as the area is highly steep with a slope being more than 40 %. It was also observed that more area under SPCB may be treated in the watershed area. Hence, provision may be made to converge MGNREGS, the Department of soil conservation and the respective Panchayats to install SPCBs in areas where the slope is high and also change the attitude of the framers through proper capacity building about the importance of these structures in maintaining the landscape.

4. **Well renovation**

A well renovation activity was undertakenatMuthukuttiin Eruvessi watershed of Eruvessi panchayath. It has a unit cost of Rs. 68,000/-. It is mainly used for irrigation and domestic purposes.The majority of the people in the project area depend on public wells for drinking. Well renovations will help to improve the drinking water availability in the locality. This will contribute to enhancing the health and welfare of the community through improved access to

drinking water. It also significantly reduced the impact of drought and consequent public spending on the supply of drinking water in tankers to the water-stressed regions and improved agricultural production and productivity.

5. Side protection

a) Side protection of Alathur stream in Parakkadavu watershed of Eruvessi panchayath. Side protection is two-sided, 35m long, and has a height of 2m. The cost of the work was Rs. 6 lakhs.

b) Vemboova- Uravankundu side protection located atNellikutty watershed of Eruvessi panchayath.It has a two-sided and 120m long side protection. The work was finished for a cost of Rs. 10 lakhs.

c) Side protectionnear Koyipra temple inKoyiprawatershed of Payyavoorpanchayath. The total length of the side protection is 150m on both sides with a height of 2m. The work was completed for Rs. 12 lakhs.

d) Side protection at Chanokund inKoyipra watershed of Payyavoor panchayath. This was built for Rs. 7,00,000/-.

e) Side protection with checksnear Joby Poopally's home in Madakkal watershed of Payyavoor panchayath. This was built for Rs. 6,25,000/-.Side protection is two-sided and60m long.

f) Side protection at ParakadavuVayal thodu - Vijayan thodu atPayyavoor watershed of Payyavoor panchayath.Side protection is two-sided, 150m long with a height of 2 m and 1.5 m.The cost of the work was Rs.9,00,000/-.

g) Side protection at ParakadavuVayal thodu also located at atPayyavoor watershed of Payyavoor panchayath.This was built for Rs. 11 lakhs. Side protection is two-sided and 60m long with a height of 2 m and 2.5 m.

The embankment of streams is partially eroded. Side protection is needed to prevent soil erosion.Along with protecting the stream, the side protection also prevents pollution and enhances the attractiveness of the banks and restores the natural drain. The PMKSY Scheme intervention through the side protections is quite successful. This work resolved flooding and water logging issues in the region. to. The consistent flow of the drain water increased the water level in the nearby wells, ensuring the availability of drinking water. This endeavor has also benefited the agricultural sector in bringing more area under agriculture and also through intensification.

	
Side protection ofAlathur stream	Vemboova- Uravankundu side protection

Side protection near Koyipra temple

Side protection at Chanokund

Side protection near Joby Poopally's home

Side protection at ParakadavuVayal thodu - Vijayan thodu

Side protection at ParakadavuVayal thodu

6. **Pond renovations**
    a) Pond renovationat Muthukuttiwith a specification of 22×12×3 min Eruvessi watershed of Eruvessi panchayath. It is mainly used for drinking and irrigation purposes. This renovation was finished by Rs. 95,025/-.
    b) Pond renovation at Baleswarnagarwith a specification of 7.5×6×5.25m inNellikutty watershed of Eruvessi panchayath. It mostly serves drinking and irrigation needs.The work was completed on 30/03/2022 with a cost of Rs. 8 lakhs.

Rainfall in this location cannot be replenished by the locals for use in agriculture and household needs. As a result of pond renovations, the neighbourhood is significantly benefited. This elevated the water level in the nearby wells. This was also very beneficial for the expansion of agriculture in the area and improvement in the living standards of the people.

	
Pond renovation at Muthukutti	Pond renovationatBaleswarnagar

7. **Rainwaterharvesting** systemwas taken up at ‘Santy Jose’ house, Vannayikadamin Koyipra watershed of Payyavoor panchayath. This has a unit cost of Rs. 8000/-with a 10% NRM contribution and a 20% beneficiary contribution. RWHtank has a capacity of 300L.

The principle behind rainwater harvestingis the collection and usage ofprecipitation from a catchment surface. Old technology is gaining popularity in a newway. Artificial recharge to ground water is a process, by which the groundwater reservoir is augmented at a rate, exceeding that obtained under natural conditions orreplenishment.

Summary of the Evaluation of Outcomes of PMSKY-WDC Projects

District	Kannur	Date of Visit	21/06/2022

1. Project Details:

Project No	IWMP/V/2014-15
Name of Block	Iritty
Sanctioned Area (ha)	4667
Sanctioned Cost (Rs in lakh)	700.05
Name of Villages included in the project	Payyavur and Eruvessi

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	9	7	Nearly 2 m increase in water level
2	Average depth of water table in tube wells	M	--	--	No data available
3	Number of groundwater structures (dug wells + tube wells + hand pumps) rejuvenated	nos.	--	6	Pre-project data is not available. 6 structures rejuvenated
4	Increase in Irrigation potential	ha	15	40	Increase in irrigation potential due to various NRM interventions.
5	Area of Wasteland brought under productive use (like agriculture, plantation, fodder, etc.)	ha	70	20	50 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	 1138 100	 1446 30	Agricultural area increased
7	Area Under Agriculture Crop (i) Area under Kharif crop (ii) Area under rabi crop (iii) Area under double crop	ha	 1118 -- 20	 1418 -- 28	An increase in area under Kharif crop was noticed.
8	Cropping intensity	%	138	145	7 % increase in cropping intensity
9	Increase in Yield /ha of crops (i) rabi crop (ii) Kharif crop	qt/ha	 -- 260	 -- 1000	Increase of 2 qt/ha of paddy
10	Area of horticulture crop	ha	50	120	Area under horticulture

					is more than doubled
11	Employment in agriculture related activities among beneficiaries	Man days	--	2254	10254 mandays of employment generated under the project
12	Employment in non- agricultural sectors	Man days	--	8000	
13	Fodder production	ha	15	35	Fodder cultivation in 20.5 ha area
14	Fuelwood production	qt	--	--	No data available
15	Number of milch cattle	nos	7500	9500	4 nos. of cattle rearing units provided
16	Milk production	Kl/yr	5494	6280	Increase in milk production
17	Duration of flow of water in streams (upto November/December/January/February….May)		Jan	Mar	1 month increase in flow of water
18	Improvement of drinking water facility		Feb	Apr	2 months improvement in water availability
19	No. of persons engaged in ancillary activities like fishery, poultry, rural craftsmanship	nos	--	100	
20	Number of children enrolled in schools in the project area	nos	--	--	All children enrolled in schools.
21	Reduction in migration from rural to urban area in the project area	nos	--	--	Migration was reduced during the project period.
22	Annual mean household income	Rs	56000	65000	An increase of Rs. 9000/-.

23	Any other measurable indicator of impact assessment ➢ 974 farmers benefitted from the project ➢ Total rainwater harvesting structures created 333 and 6 rejuvenated ➢ Promoted plantain farming- 4378 numbers, organic vegetable cultivation in 37 ha area, apiculture, pisciculture, goat rearing, poultry and mushroom cultivation.