



Endline Evaluation of PMKSY-WDC Watershed Projects

REPORT: SULTHAN BATHERY BLOCK (Wayanad District)

The project IWMP IV H5 is located in Sulthan Bathery Block Panchayath consisting of four micro watersheds covering 5 Gram Panchayaths in the Block. Sulthan Bathery Block Panchayath is acting as the PIA for the project from 2010 and the total area under this project is 4598 ha.

The IWMP IV H5 is composed of mountainous regions of Central Sahyadri. The area has rolling to undulating topography in majority of the places and intermittent with narrow valleys and broad valleys in the downstream area. The highest point is Ambukuthi Mala (1100 msl), where Edakkal caves are situated. The lowest point is at Padavayal, situated at about 770 meters above mean sea level. The Padavayal and Vattathimoola Watersheds in this Project is drained by Kabini river and its tributaries namely Kolagappara – Padavayal thodu and Malavayal – Kuppamudi thodu respectively. The Thekkankolly and Kottur watersheds are drained by Chaliyar river and its tributaries namely Thekkankolly thodu and Kottur Puzha respectively.

Project name	:	IWMP IV (Sulthan Bathery H 5)
State	:	Kerala
District	:	Wayanad
Block	:	Sulthan Bathery
Taluk	:	Sulthan Bathery
Gram Panchayaths Covered	:	Sulthan Bathery, Nenmeni, Ambalavayal and Meenangadi
Wards Included	:	Sulthan Bathery-12, 13, 14, 15 Meenangadi- 5, 6, 8 Ambalavayal -4, 5, 7, 8, 9, 10, 11 Nenmeni -1, 2, 3, 20, 21, 22, 23
Total Treatable Area	:	4598 Ha
Latitude	:	11 ⁰ 32' 33" N - 11 ⁰ 40' 42" N
Longitude	:	76 ⁰ 11' 24" E - 76 ⁰ 15' 50" E
Soil	:	Clay loam to Forest soil
Total Households	:	5257
Total Population	:	22091
Major Catchment	:	Kabani and Chaliyar Rivers



Highest Elevation : 1100 m
 Lowest Elevation Point : 770 m
 Number of Micro Watersheds : Four

Table 1 Details of micro watersheds included in the project

SI No	Name of Watershed	Code	Total area	Treatable area
1	Padavayal	27K15g	798 Ha	798 Ha
2	Vattathimoola	27K15h	1308 Ha	1295 Ha
3	Thekkankolly	24C42d	1945 Ha	1912 Ha
4	Manjalam- Kottur	24C42c	593 Ha	593 Ha
Total			4644 Ha	4598 Ha

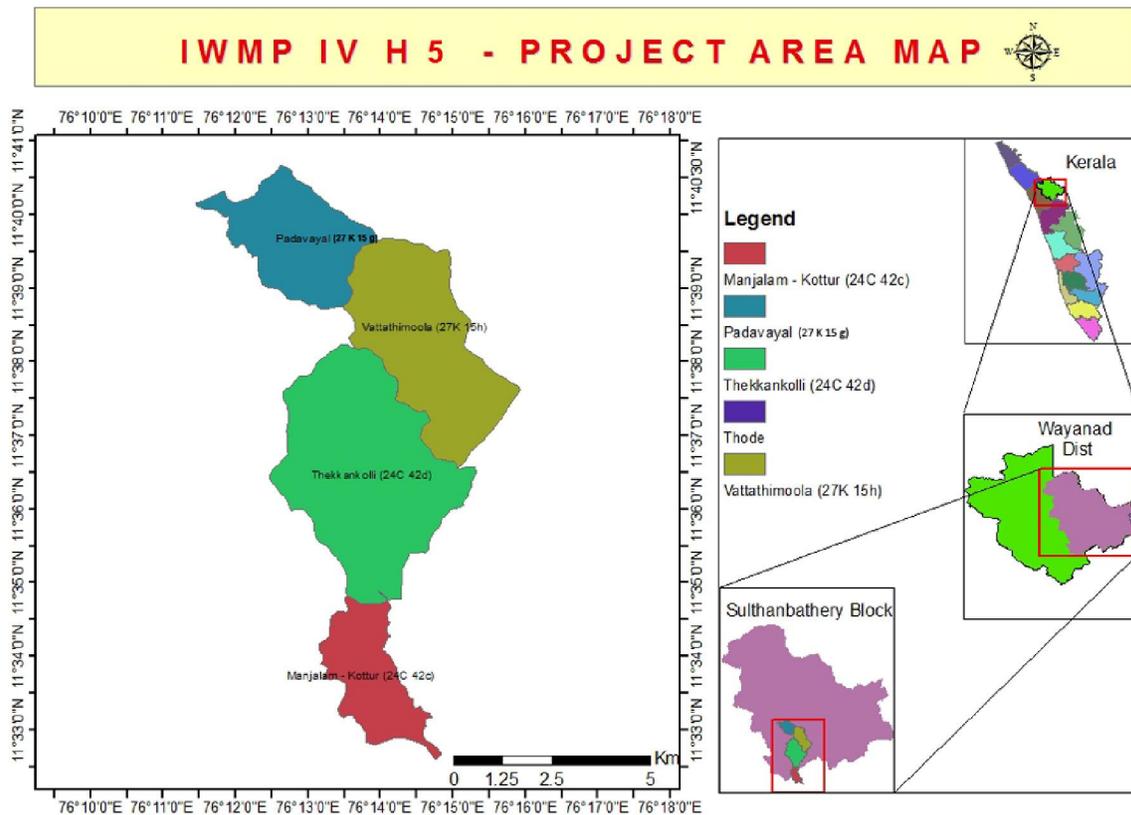


Figure 1 Location map of the project



The evaluation team from CWRDM visited the project IWMP IV H 5 in Sulthan Batheri Block on 16/01/2019. The NRM activities carried out in the project area include ponds, canals, side protection works, irrigation wells, planting of bamboos for side protection, rainwater harvesting tanks, check dams etc. As part of the livelihood activities, a total of 101 Joint Liability Groups (JLGs) were formed and a seed money of Rs. 25,000 was given to each group for supporting activities like poultry, cattle rearing etc. Also, 23 Self Help Groups (SHGs) were identified in the project area and a total of Rs. 11,25,000 was distributed among them as financial assistance under Production System Management.

The works which the team visited were:

1. Choorakkuni Check dam

The work is situated in the Vattathimoola watershed of Nenmeni Gramapanchayat. It was constructed at a cost of Rs. 11,17,004, which includes the cost of side protection of the upstream banks. The check dam has considerably improved the groundwater table of the surrounding open wells.

2. Manjaadi Check dam

This structure is also located in the Vattathimoola watershed of Nenmeni Gramapanchayat. The work was completed at a cost of Rs. 5,69,031. The quality of water in the stream is not that good. The household nearby uses a filter media made of sand, pebbles and charcoal for treating the water before use.

3. Pond in the plot of Sri. V V Mathai

The pond is located in the Thekkankolli watershed of Nenmeni Gramapanchayat. The pond is used for irrigation purpose and also a source of potable water. Nearly 15 families benefit from the pond. The cost of the work was 5,97,154.

4. Rainwater harvesting tank

The tanks constructed were of 6000 L capacity and the unit cost was Rs. 37,000. A tank has been constructed in the public school also, which uses the tank for storing pumped water during period of non-raining season.

5. Public well near the residence of Sri. M T Anil

The well is situated in the Thekkankolli watershed of Ambalavayal Gramapanchayat. It is used for the purpose of drinking and irrigation. The cost of the work was Rs. 3,01,895.



6. Pond near the residence of Sri. Sivan

The pond is situated in the Padavayal watershed of Meenangadi Gramapanchayat. It was constructed at a cost of Rs. 2,26,890. The pond is used for irrigation as well as pisciculture. Nearly 12 households reap benefit from this pond.

7. Kalappankolli Check dam renovation and Irrigation Canal

The work is located in the Padavayal watershed of Meenangadi Gramapanchayat. The canal irrigates nearly 12 acres of farm. The work was completed at a cost of Rs. 7,71,092.

Summary of the Evaluation of Outcomes of PMSKY- WDC Project

District	Wayanad	Date of visit	16/01/2019
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1. Project Details

Project No	IWMP IV H 5
Name of Block	Sulthan Bathery
Sanctioned Area (ha)	4598
Sanctioned Cost (Rs in lakh)	689.70
Actual Expenditure (Rs. in Lakh)	261.14 (37.86 %)
Name of Villages included in the project	Sulthan Bathery, Nenmeni, Ambalavayal, Meenanagadi

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	5.8	--	Post data not available. Survey revealed upto 1m rise in some wells
2	Average depth of water table in tube wells	m	15.74	--	No post data
3	Number of ground water structures (dug wells + tube wells + hand pumps) rejuvenated/created	nos.	--	86	4 farm ponds, 1 check dam and 81 others
4	Increase in Irrigation potential	ha		101ha	Additional irrigation
5	Area of Wasteland brought under productive use (like agriculture, plantation, fodder, etc)	ha		85 ha	Approx. value. Area brought under agri plants and fodder.



6	Change in cropping / land use pattern (i) Area under Agriculture Crop (ii) Area under plantation / forest cover (iii) Area Under Wastelands	ha	--	-	No recorded data. Area under plantation increased and wasteland reduced. Forest cover no change
7	Area Under Agriculture Crop (i) Area under Kharif crop (ii) Area under Rabi crop (iii) Area under double crop	ha	--	--	No information. Survey revealed increase in area under agri. crop
8	Cropping intensity	%	--	-	5% increase in cropping intensity. Double crop area increased
9	Increase in Yield /ha of crops (i) Rabi crop (ii) Kharif crop	qt/ha	20	22	Increase of 2 qt . got the data during field visit
10	Area of horticulture crop	ha		120	Horticultural crops planted in 120 ha. Mostly mixed crops
11	Employment in agriculture related activities among beneficiaries	Man days	--	--	Total of 928 man days generated
12	Employment in non- agricultural sectors	Man days	--	--	
13	Fodder production	qt	60	120	104 Farmers got benefitted in fodder cultivation
14	Fuelwood production	qt			No data
15	Number of milch cattle	nos		140	
16	Milk production	Kl/yr	120	150	30,000lit more milk.
17	Duration of flow of water in streams (upto November/December/January/February.... May)		Feb.	March	Duration of flow increased one month. Soil moisture increased.
18	Improvement of drinking water facility		March	April	About 86 RWH structures created.
19	No. of persons engaged in ancillary activities like fishery, poultry, rural craftsmanship	nos		101	JLGs formed and 10 poultry units
20	Number of children enrolled in schools in the project area	nos			All children are school going



21	Reduction in migration from rural to urban area in the project area	nos			Migration reduced. Labour generated within watershed
22	Annual mean household income	Rs	45000	50000	Rs. 5000 increase
23	Any other measureable indicator of impact assessment i) Committee and stakeholders have undergone 42 trainings ii) General increase in soil moisture content and improved greenery and biodiversity changes iii) Maximum amount (56%) is spent for NRM activities. Soil erosion and sediment load decreased after project implementation and crop production increased. iv) 308 no. of SHGs created/assisted v) Total no. of farmers benefitted : 540				



Choorakkuni check dam constructed in Vattathimoola watershed



A renovated pond in Thekkankolli watershed



Renovated irrigation canal in Padavayal watershed



Renovated Kalappankolli check dam/VCB in Padavayal watershed



Newly constructed public well in Thekkankolli watershed



Rainwater harvesting tank installed in one of the households in Thekkankolli watershed



CONCLUDING REMARKS - WAYANAD DISTRICT

- The ponds constructed in the project were well maintained and many users benefit from them, especially for the vegetable cultivation during summer season.
- In all the watersheds, it has been observed that there was improvement in the ground water table of the area due to the implementation of ground water recharge structures like check dams, ponds, wells, VCBs, soil-water conservation measures etc.
- The irrigation potential was also found to increase in certain watersheds due to the construction of structures like ponds, check dams VCBs and canals.
- The stakeholders are of the opinion that soil erosion and sediment load has decreased after project implementation and the scouring of soil was brought under check by the side protection work of several streams in the watersheds under the PMKSY project.
- Drinking water shortage was fixed by the installation of rainwater harvesting tanks and well-recharge units.
- Employment was generated both in agricultural and non-agricultural sectors during the implementation of the PMKSY project. Also, the annual mean household income was improved.
- Activities like organic farming, backyard vegetable cultivation, cattle rearing etc. were promoted under the project.
- Delay in the availability of funds was a problem reported in all the Batch II projects and the same has happened in Wayanad District also which has blocked the progress of the work towards second half of the project.
- No proper maintenance of Exit Protocol or other relevant project data was available with the Block office. The final report of the project and summary of project activities was also not traceable.
- The service of a Technical Expert was missing in Wayanad District. The appointment of an experienced person who knows the area would have been beneficial for the project for proper guidance and choosing right kind of activities.

Success stories

The Mandokkuni Check dam located in the Mangavayal watershed of Meppadi Gram panchayat was constructed at a cost of ₹ 3,00,000. The stream in which the check dam is constructed is a perennial one and nearly 25 families benefit from this structure due to the improvement in the groundwater table. However, the sediment deposited in the site creates problem, and the intended purpose will not be served if proper maintenance is not done by desilting the dam as and when needed. Side Protection of the downstream side of the check dam was also done as part of this project.



A Pond constructed in the Pozhuthana 5 watershed of Pozhuthana Gram panchayath, is used for irrigation of paddy and vegetables like cauliflower, cabbage, okra, brinjal, tomato etc. About 2.5 m depth of water was available and the quality seems to be very good. Around 20 families benefit from this pond. This is a very good perennial storage structure which ensures water supply to the fields nearby.