



ERNAKULAM DISTRICT



**Endline Evaluation of PMKSY-WDC Batch II Watershed Projects****REPORT: VYPIN BLOCK (IWMP I) (Ernakulam District)**

Vypin (IWMP-1) project is located in Vypin and Paravur blocks of Ernakulam district. The project comprises of six micro-watersheds namely Pallipuram, Ezhikkara, Velanthodu, Nedungad, Nayarambalam and Edavanakkad. The project, with an area of 5897 hectares covers the Gram Panchayaths of Njarakkal, Nayarambalam, Edavanakkadu, Pallipuram, Kuzhupilly (all in Vypin block) and Ezhikkara (Paravur Block). The project area is one of the most densely populated areas in India and is located on the coast of Arabian Sea.

Table 1 Details of micro watersheds in the project area

Sl. No.	Name	Code	Gram Panchayats covered	Area (in Ha)
1.	Pallipuram	14P155a	Pallipuram	1801
			Kuzhupilly	
2.	Ezhikkara	14P157a	Ezhikkara	359
3.	Velanthodu	14P178a	Njarakkal	362
4.	Nedungaadu	14P181a	Nayarambalam	940
5.	Nayarambalam	14P182a	Edavanakkad	1167
			Nayarambalam	
			Njarakkal	
6.	Edavanakkad	14P183a	Edavanakkad	1269
			Kuzhupilly	
Total				5897

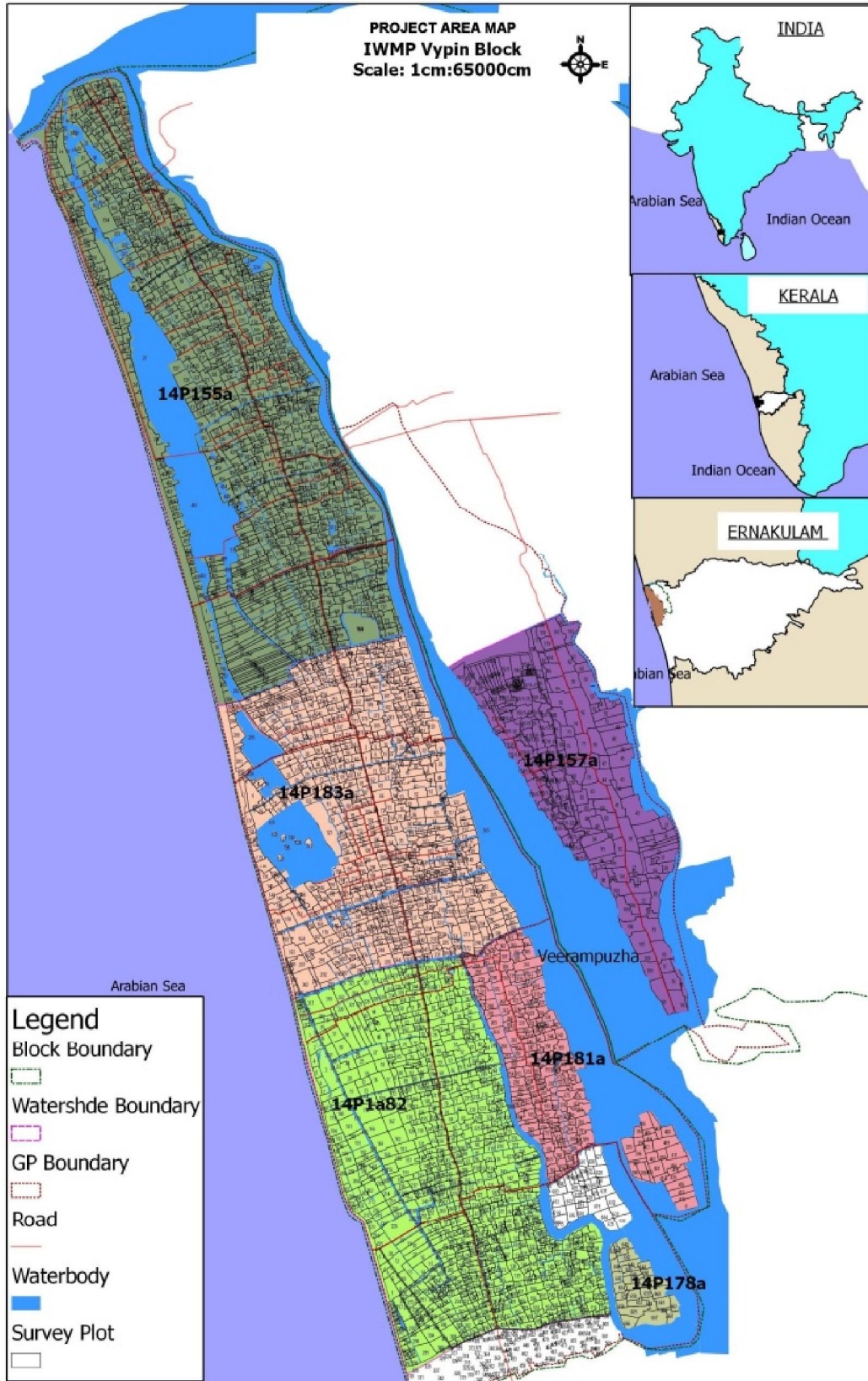


Figure 1 Watershed map of the project area



The evaluation team from CWRDM visited the IWMP project in Vypin Block on 22/02/2019. The basic details and salient features of the project was collected from the Vypin Block office. Discussion was held with the BDO and VEOs associated with the implementation of the project, to know their perceptions regarding the impact of the project. Some of the important schemes originally planned could not be taken up due to non-availability of funds. Unlike other watersheds, bund construction and proper drainage is the most necessary requirements of the area. The next important activity is production system enhancement and livelihood generation. The works visited by the team were:

1. Petti-Para

The work is located in the Edavanakkad watershed of Kuzhuppilly Gram Panchayath. This is a mechanism used to drain out water from the paddy fields in Vypin, where the elevation is below Mean Sea Level. The mechanism is operational during April -May. It takes 8 days of continuous pumping to completely drain the field which has an area of about 121 Acre. After completely draining, pumping is done intermittently to maintain the desired water level in the field. The power required to operate the pump is provided free of cost.

2. Thamaravattom Vadakkumbhagam side protection and sluice formation

This work is located in the Edavanakkad watershed of Edavanakkad Gram Panchayath. 16 families gain access to their houses through the road, the sides of which has been strengthened. Due to the intrusion of salt water the structure is getting deteriorated. The total cost of construction was Rs. 11,77,813.

3. Joint Liability Group

This group was formed in the Nayarambalam watershed of Edavanakkad Gram Panchayath. The group had received training from CMFRI and they also test new organic manure in the agricultural plot of the group. The group has also received subsidy for execution of Wormi Compost Plant.

4. Side protection and culvert at Union U P School

This work is situated in the Nedungad watershed of Nayarambalam Gram Panchayath. The work has provided proper access to the school.

5. Chathangad culvert

This work is situated in the Edavanakkad watershed of Edavanakkad Gram Panchayath. It avoids flooding in the south side of Chathangad canal. Also, provision for growing prawns is installed in the culvert.

6. Ayyampilli Paadasekharam outer bund strengthening

This work is located in the Pallippuram watershed of Kuzhuppilli Gram Panchayath.

**Summary of the Evaluation of Outcomes of PMSKY- WDC Project**

District	Ernakulam	Date of visit	22/02/2019
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1. Project Details

Project No	IWMP-1/2010-1
Name of Block	Vypin
Sanctioned Area (ha)	5897
Sanctioned Cost (Rs in lakh)	884.55
Actual expenditure	518.75 (58.64 %)
Name of Villages included in the project	Pallippurm, Kuzhuppilly, Edavanakkad, Nayarambalam, Njarakkal, Ezhikkara

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	2m	2m	The area is coastal tract and impact will not be visible
2	Average depth of water table in tube wells	m	nil	nil	
3	Number of ground water structures (dug wells + tube wells + hand pumps) rejuvenated	nos.	--	157	34 Engg. Structures, 90 percolation tanks, 33 farm ponds and other structures renovated
4	Increase in Irrigation potential	ha	950	1707	Increase of 757 ha. Very good change
5	Area of Wasteland brought under productive use (like agriculture, plantation, fodder, etc)	ha	1817	995	An area of 822 ha 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	700 - -	1482 40 -	An increase of 782 ha under agriculture. 40 ha afforestation



7	Area Under Agriculture Crop (i) Area under Kharif crop (ii) Area under Rabi crop (iii) Area under double crop	ha	--	782	Total Area increased under kharif and rabi
8	Cropping intensity	%	20%	40%	20% increase
9	Increase in Yield /ha of crops (i) Rabi crop (ii) Kharif crop	qt/ha	14/ha	23/ha	Increase of 9qt/ha
10	Area of horticulture crop	ha	150 ha	225 ha	75 ha increase
11	Employment in agriculture related activities among beneficiaries	Man days		20715	More than Twenty thousand direct employment
12	Employment in non- agricultural sectors	Man days	-	-	
13	Fodder production	qt	8000	15000	Fodder cultivation really good
14	Fuelwood production	qt			--
15	Number of milch cattle	nos	600	1403	803 cattle population increase
16	Milk production	Kl/yr	2050	5121	Very good impact on milk production
17	Duration of flow of water in streams (upto November/December/January/February....May)		--	--	Coastal low lying tract. Not applicable
18	Improvement of drinking water facility			41 well recharge	Change in water level. Quality also improved
19	No. of persons engaged in ancillary activities like fishery, poultry, rural craftsmanship	nos	3500	7787	Nearly 4300 persons
20	Number of children enrolled in schools in the project area	nos			All are school going
21	Reduction in migration from rural to urban area in the project area	nos	--	--	More than 20,000 mandays
22	Annual mean household income	Rs	38,000	47000	Rs 9000 increase
23	Any other measureable indicator of impact assessment i) Agriculture, Irrigation and other departments were also involved in project implementation. ii) Works done through convergence with MGNREGS iii) No. of farmers benefitted : 5116 iv) 128 SHGs, 83 production and micro enterprises activities started				

Some of the works visited by the Investigating Team from CWRDM



Petti and para used to drain paddy field



Thamaravattom Vadakkumbhagam side protection and sluice



Discussion with a member of Joint Liability Group



Side protection and culvert near Union U P School



Chathangad Culvert constructed



Strengthened outer bund of Ayyampilli Paadasekharam



CONCLUDING REMARKS - ERNAKULAM DISTRICT

- Unlike other watershed clusters, the project area is very close to sea coast and the water related issues are different from rest of the areas.
- Petti - para installed under the project in Edavanakkad watershed greatly helped the cultivation of indigenous Pokkali variety of rice.
- Production system management program implemented successfully. JLG got training from CMFRI and also new organic manure being tested here.
- In all the watersheds in Vypin Block, it has been observed that there was significant improvement in the drinking water availability due to the implementation of rooftop rainwater recharge units.
- Side protection and sluice formation work in the Edavanakkad II watershed has benefitted 16 families.
- Drinking water shortage to certain extent was taken care of 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, animal husbandry activities were promoted under the project.
- The BDO and her team of VEOs has accompanied the investigation team in field visit and they are committed to the task to see that the benefits of the project reach the stakeholders.
- The officers have reported that, lack of sufficient training, capacity building and orientation about the project/programmes at the starting time of the project has created conflicts and struggles among the stakeholders later. Officers are most often not able to solve this issues.
- Delay in the availability of funds was a problem reported in this Block. Even though, the fund was made available towards the end of the project, some of the important schemes could not be taken up due to scarcity of fund.
- Many of the components of work envisaged under PMKSY-WDC in this Block was implemented in convergence with the funds received from Irrigation, Agriculture and other Departments.
- The amount given to JLGs for livelihood and production system activities may be made into a revolving fund, so that this amount will benefit other groups and will ensure continuity of the project in the Block.
- Guidelines for exit protocol and maintenance fund utilization are to be issued for effectively taking up proper follow up activities.



Success stories

1. Petti-Para

The work is located in the Edavanakkad I watershed of Kuzhuppilly Gram Panchayath. This is a mechanism used to drain out water from the paddy fields in Vypin, where the elevation is below Mean Sea Level. The mechanism is operational during April -May. It takes 8 days of continuous pumping to completely drain the field which has an area of about 121 Acre. After completely draining, pumping is done intermittently to maintain the desired water level in the field. A total of 117 farmers are benefitted by this project. Many other Petti-para units are in operation in the Block. The long duration Pokkali rice has got medicinal value and fetches good price as high as Rs.100/Kg. The power required to operate the pump is provided free of cost.

2. Thamaravattom Vadakkumbhagam side protection and sluice formation

This work is located in the Edavanakkad II watershed of Edavanakkad Gram Panchayath. Sixteen families gain access to their houses through the road, the sides of which has been strengthened. Due to the intrusion of salt water the structure is getting deteriorated. The total cost of construction was Rs. 11,77,813.

3. Joint Liability Group for Production system and livelihood.

This group comprises of women was formed in the Nayarambalam watershed of Edavanakkad Gram Panchayath. The group had received training from CMFRI and they also test new organic manure in the agricultural plot of the group. Many varieties of vegetables and other crops are cultivated in the plots and on building terrace. The group has also received subsidy for erection of vermi Compost Plant.