

Endline Evaluation of PMKSY-WDC Batch II Watershed projects

REPORT: KODAKARA BLOCK(Thrissur Dist.)

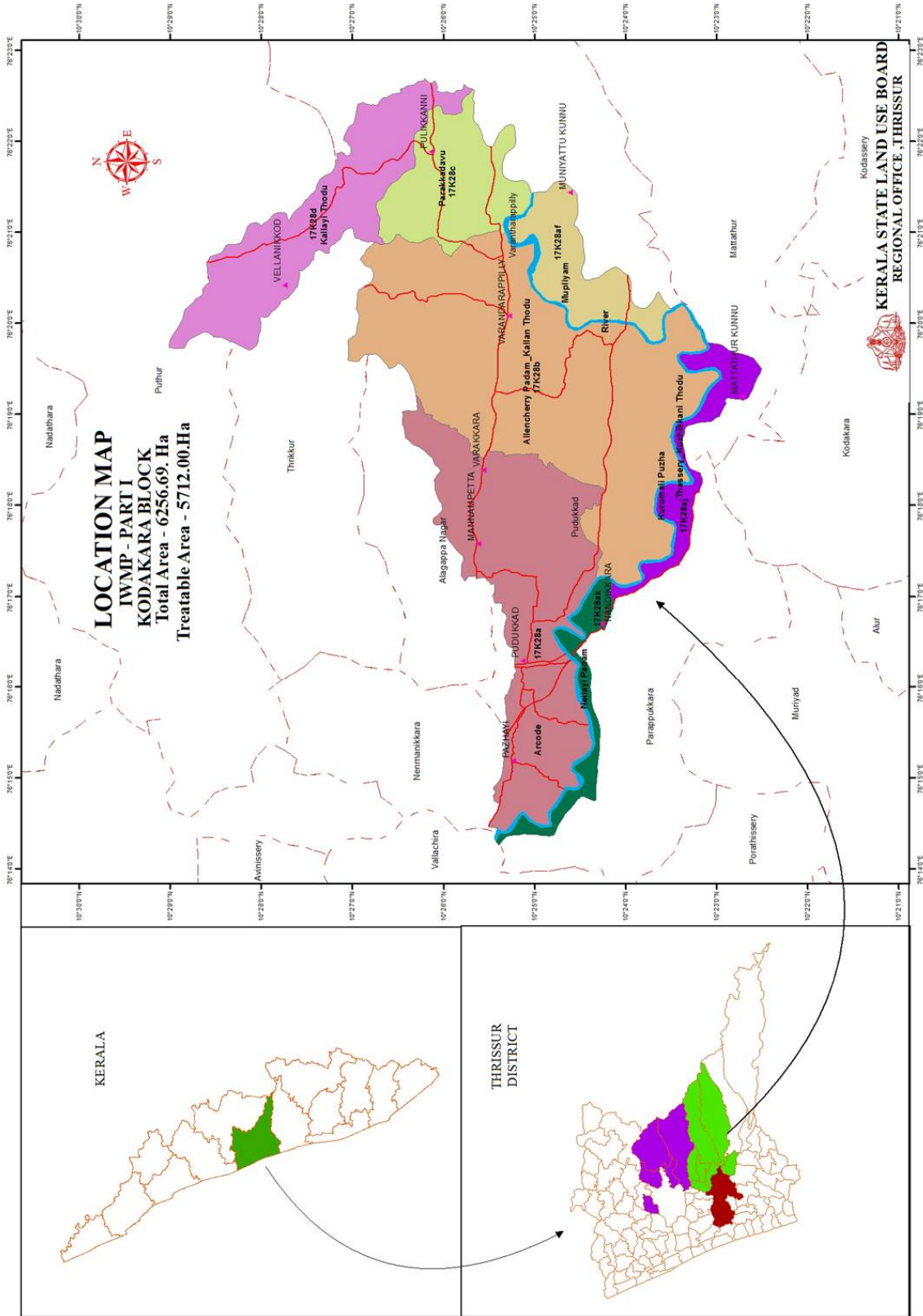
Kodakara (IWMP-1) project area is mainly located in Mukundhapuram Taluk of Thrissur district of Kerala State. A small portion of the project area is also located in the Thrissur Taluk. The project is a cluster of seven micro watersheds viz. Arcodepadam, Allencherrydam – Kallanthodu, Parakkadavu, Kallayithodu, Mupliyam, Thessery – Kuzhikkanithodu and Nellayipadam. These watersheds are situated on either banks of Kurumali River from Parakkadavu, in Varandharapilly Panchayat, to Palakkadavu, in Parappukkara Panchayat. The total area of the project is 6256.69 ha. Of which 5712 ha was proposed to be treated under Integrated Watershed Management Programme (IWMP)

The project area falls in 8 Grama Panchayats viz. Alagappanagar, Pudukkad, Varandharapilly, Puthur, Thrikkur, Nenmanikkara, Mattathur, Parappukkara coming under three Block Panchayats viz. Kodakara, Ollukkara, and Irinjalakuda. The Project area is located between $76^{\circ} 14'$ and $76^{\circ} 23'$ E longitudes and $10^{\circ} 22'$ and $10^{\circ} 29'$ N latitudes. The major town in the project area is Pudukkad which lies in the National Highway 47 and connects with other major towns of the district. The project area lies in the edges of the Palappilly Reserve Forest. The livelihood of the people is primarily based on agriculture, animal husbandry and daily wage labor. Cows and buffaloes are reared for the milk production.

Table 1. Details of the Project

| | |
|------------------------------|---|
| Location | $10^{\circ}23'N$ to $10^{\circ}29'$ N and $76^{\circ}14'E$ to $76^{\circ}23'$ E |
| Block | Kodakara |
| District | Thrissur |
| Type of project | Midland |
| Total Villages | 14 |
| Total Gram Panchayat | 8 |
| No. of micro watersheds | 7 |
| Total Watershed Committee | 8 |
| Total Geographical Area | 6256.69 Ha |
| Area available for treatment | 6256.69. Ha |
| Sanctioned Area | 5712.00 Ha |

| | |
|---|--|
| Total Sanctioned Cost | 685.44 Lakhs |
| Proposed Budget on Works | 514.08 Lakhs |
| Proposed budget on NRM | 383.85 Lakhs |
| Proposed budget on Livelihood Enhancement | 61.69 Lakhs |
| Proposed budget on Productivity Enhancement | 68.54 Lakhs |
| Cost per Ha (IWMP project) | 12000 per Ha |
| From Project Cost | 383.85 Lakhs |
| From Convergence | 80.99 Crores |
| Agro climate zone | Central midland laterite zone |
| Major crops | Coconut, Rubber, Banana, Nutmeg |
| Major slope range | 50% with gentle slope and 50% with steep slope |
| Major streams | Kallayithodu, Vallanjupadamthodu, Vadamthole – Thottumughamthodu, Palambrathodu, Kallupalamcanathodu, Uzinjalpadamthodu, Nandipulamthodu, Pathikkirichirathodu |
| River Basin | Karuvannur |
| Major soil series | Pallappilly – Chelakkara association deep with a solum thickness of more than 100 cm dark reddish brown, sandy clay loam to clay loam texture, strongly acidic |
| Rainfall | 2780.5 mm |
| Per capita availability of land | 0.29 Ha |
| Small and Marginal farmers | More than 99% |
| Major option of livelihoods | Agriculture, Animal husbandry, Wage employment |
| Source of drinking water | Mainly Open wells, Few Bore wells also |
| Quality of drinking water | Good |
| Irrigation source | River, Ponds and Open wells |
| Cattle | Cow, Goat, Backyard poultry |



Location map of Kodakara project area

The evaluation team from CWRDM visited the projects in Kodakara Block on 07/02/2019. NRM activities conducted in the watershed include well recharge system, rainwater harvesting tanks, side protection of streams and field channels, irrigation canal bunds, sluice etc. The works that the team visited were:

1. Uzhinjalpadam sluice valve

The structure is located in Aarkkottpadam watershed of PudukkadGramapanchayat. The work was completed at a cost of Rs. 25,00,000 and was intended to regulate the flow of water through the stream and thereby improve the water table of the local area and generation of additional water for stabilizing paddy crop.

2. Palambrathodu tractor passage and side protection

The work is done in the Alancherypadam watershed of VarantharappalliGramapanchayat at a cost of Rs. 13,24,503. The work was executed owing to the need of the farmers to provide access for heavy machinery to the fields. The beneficiary residing near the structure claimed side protection work also aided in reducing the damage during the flood in the month of August 2018.

3. VCB and side protection at Kuttalipadam

About 15 ha of paddy fields in Kuttanchirapadasekharam were benefitted by the construction of this structure.

4. Rainwater Harvesting Tank at Matha High School, Mannampetta

The work is done in Aarkkottpadam watershed of AlagappanagarGramapanchayat at a cost of Rs. 3,68,700. The school has a total strength of 1140 students. The tank is of 90,000L capacity and serves the water requirement of the school for 2-3 months.

5. Rooftop Rainwater Recharge Structures

This system is an effective method to replenish the aquifer of an area. A total of 704 structures have been implemented in the project area, but some of the works which the team visited were in poor condition due to lack of maintenance. Some were not completed due to the stoppage of fund flow. However, the beneficiaries have expressed positive change in water table and increased water availability after the implementation.



Some of the NRM works visited by the team

Apart from Natural Resource Management(NRM) activities, production systems like backyard poultry, aqua culture in paddy fields, cattle rearing, floriculture, rabbit rearing, goat rearing etc. were also promoted under the project.

The team had a discussion with the officials from the PIA (Kodakara Block) and they reported that the main problem faced by them during the implementation of the project was the non-availability of funds after the initial phase due to which the activities/works which were promised to the beneficiaries could not be sanctioned and the ones which were sanctioned were delayed. Even though fund was made available towards the fag end of the project period, certain programmes like well recharge in open dug wells could not be completed.

Summary of the Evaluation of Outcomes of PMSKY-WDC Project

District THRISSUR Date of Visit 07.02.2019

1. Project Details

Project No: IWMP II 2010-2011

Name of Block: Kodakara

Sanctioned Area (ha) - 5712

Sanctioned Cost (Rs in lakh) – 685.44

Actual Expenditure (Rs. in Lakh) : 214.03 (31.22 %)

Name of Villages included in the project - Alagappanagar,

Trikur, Pudukad, Varadarapilly, Mattathur, Nenmanikara, Puthur, Parappukara

2. Impact Details

| Sl. No | Items | Unit | Pre-project | Status at the end of | Remarks |
|--------|-------|------|-------------|----------------------|---------|
| . | | | | | |

| | | | status | project | |
|----|--|----------|--------|---------|--|
| 1 | Average depth of water table in dug wells | m | 8.68 | 7.58 | 1.1 m increase in water table. Depth of water measured from Ground level |
| 2 | Average depth of water table in tube wells | M | - | - | Data not available. Tube/Bore wells are less. |
| 3 | Number of ground water structures (dug wells + tube wells + hand pumps) rejuvenated | nos. | Nil | 708 | Open dugwells were recharged using Rain water harvesting. |
| 4 | Increase in Irrigation potential | ha | -- | 183.04 | Pre project data not available. Irrigation potential increased due to sluice reconstruction, VCB repair and pond renovation. |
| 5 | Area of Wasteland brought under productive use (like agriculture, plantation ,fodder ,etc) | ha | - | 19 ha | More area brought under vegetables and fodder from additional water potential created |
| 6 | Change in cropping / land use pattern (i) Area under Agriculture Crop (ii) Area under plantation / forest cover (iii) Area Under Wastelands | ha | - | 290 ha | New plants/seedlings/grow bags / banana /fodder planted in a total of 290 ha |
| 7 | Area Under Agriculture Crop (i) Area under Kharif crop (ii) Area under rabi crop (iii) Area under double crop | ha | - | - | Only one crop was taken. The yield of paddy showed an increase of 10 % due to increased water availability |
| 8 | Cropping intensity | % | - | - | No change |
| 9 | Increase in Yield /ha of crops (i) rabi crop (ii) Kharif crop | qt/ha | 27 | 30 | An increase of more than 10% in yield recorded in Rabi crop. |
| 10 | Area of horticulture crop | ha | - | 270 | Banana crop, vegetables in grow bags, other horticulture crops were planted in 270 ha. |
| 11 | Employment in agriculture related activities among beneficiaries | Man days | - | 37,614 | Total No of employment generated in Agri and Non Agri sector |

| | | | | | |
|----|---|----------|---------|----------------------|---|
| 12 | Employment in non- agricultural sectors | Man days | - | - | Included (As above) |
| 13 | Fodder production | qt | - | 19 ha | Fodder produced in 19 ha |
| 14 | Fuelwood production | qt | - | - | Mostly gas ovens |
| 15 | Number of milch cattle | nos | - | - | Five percent change in cattle population |
| 16 | Milk production | Kl/yr | | 3.0 | Due to improved fodder production |
| 17 | Duration of flow of water in streams (upto November/December/January/February.... May) | | Jan-Feb | Feb-March | One month Duration of extended flow of water in streams of Kallayithodu, Palabrathodu, Uzhijalpadam were noted |
| 18 | Improvement of drinking water facility | | - | 704 wells recharged. | Availability of water was only for 8 months at Maximum. The activities of watershed has increased the ground water table so that the status of drinking water was enhanced from 8 months to 10 months on an average |
| 19 | No. of persons engaged in ancillary activities like fishery , poultry ,rural craftsmanship | nos | - | - | No change |
| 20 | Number of children enrolled in schools in the project area | nos | | | No new enrollment in schools because of project. No school drop outs in this area. |
| 21 | Reduction in migration from rural to urban area in the project area | nos | | | 37614 man days generated. Migration has reduced to that extent. |
| 22 | Annual mean household income | Rs | 36,000 | 42,000 | 49 SHGs were assisted by giving 12 Lakhs of project cost . |
| 23 | <p>Any other measureable indicator of impact assessment</p> <p>i) Greenery/vegetation/Biodiversity A slight improvement in greenery / vegetation and biodiversity was noted by stakeholders because of project</p> <p>ii) Total No. of farmers benefitted : 16767</p> <p>iii) Set up one unit of poultry</p> <p>iv) 186 ha of land was treated with geotextiles to arrest soil erosion.</p> | | | | |

