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**Government of Kerala**

Western Ghat Development Programme  
Thiruvananthapuram District  
A Comprehensive Study  
2014-16

**The Report**

Evaluation Division  
Kerala State Planning Board  
October 2017

## **Preface**

The Western Ghat region of Kerala covers 450 kms out of the total length of 1600 kms. It plays an important role in providing substantial rainfall as well as the maintenance and preservation of ecology of the state. The objectives of the WGDP programme include integrated development of Western Ghat region on compact watershed basis with priorities of eco-development and eco-restoration, preservation of bio-diversity of the region etc.

The Committee on Public Account opines that WGDP is an utter failure and expressed its displeasure in not evaluating the outcome. So the Committee recommends to evaluate the outcome of the programme. Then the Government has entrusted Kerala State Planning Board to prepare a comprehensive evaluation study report of WGDP - 2014-16 Thiruvananthapuram district.

I am happy to thank Dr. V. Vijayakumar, Chief, Sri. C. R. Madhusoodhanan Pillai, Joint Director, Sri. Tomy Joseph, Assistant Director, Sri. Sudesh T. P, Research Officer and Manjusha S Nair, Research Assistant, Evaluation Division, Kerala State Planning Board for preparing this report.

Sd/-

P. Venugopal, IAS  
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I place on record my gratitude to all those who have associated with this endeavour.

Sd/-

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## **Chapter 1**

### **Introduction**

The Western Ghats Region of Kerala covers 450 km (28.12%) of the total length of 1600 km. The Kerala region (“Sahyadri”) of Western Ghats comprises of 72% of the total geographical area of the state and around 50% of the state’s population. The region covers 90 block panchayats and 561 grama panchayats of the state. The Western Ghats play an important role in providing substantial rainfall in the state. The “Sahyadri” is the birthplace of 44 major rivers flowing through the state. The rich natural forests of this region are a treasure house of plants, animals, minerals and rare species. The influence of Western Ghats has been remarkable in the maintenance and preservation of ecology of the state.

The National Development Council (NDC) accepted the adoption of area approach for accelerated development of important regions in the country with a view to develop them at par with the adjoining developed areas. One such region identified by the Planning Commission was the Western Ghats Region, which lies in Maharashtra, Karnataka, Kerala, Tamil Nadu and the Union Territory of Goa under the Chairmanship of Chief Minister of Maharashtra. The Committee gave priority to the economic well-being of the local population and emphasized on programmes in key sectors like Agriculture, Animal Husbandry,

Forestry, Dairy Development, Minor Irrigation and Roads.

Western Ghat Development Programme, as a 90% Centrally Sponsored Programme with 10% state share gathering its experience in implementation during the Fifth Five Year Plan revealed that the area development approach alone couldn't meet the development needs of Western Ghat region. The need for a balancing between beneficiary oriented and infrastructure development schemes was keenly felt, keeping in mind the vital importance of ecological restoration, preservation and conservation.

Hence the Sixth Five Year Plan suggested an integrated strategy for development of hill areas based on sound principles of ecology and economics, marking a shift of emphasis.

During the Seventh Five Year Plan, the Planning Commission released an approach paper, which called for harmonious socio-economic growth with eco-preservation, eco-restoration and eco-development. Harnessing of the natural resource endowments like water, soil, forest, minerals and biological resources on a watershed basis along with development of human resources became the core strategy. Large projects (particularly capital intensive projects), which have adverse and often irreversible impact on the ecology and

environment of hill areas, were to be appraised with extreme care before being permitted.

Apart from the general strategy outlined for the development of hill areas in the country, some specific recommendations were made for the development of Western Ghats Region by the Area sub-group on Western Ghats constituted by the Planning Commission which highlighted the need to arrest the degradation of forests in the hills and to bring as much area as possible under green cover. It was further noted that the success of eco-conservation projects largely depends on the extent of public co-operation and involvement in the planning process. Scientific land management practices in the hill slopes, switch-over from annual crops to perennial plantation crops, successful implementation of social forestry schemes and integrated watershed management projects, all require the willing co-operation of the community.

The Eighth Five Year Plan more or less followed the same strategy as the 7<sup>th</sup> Plan. Its general approach was that of taking up integrated development programme on compact watershed basis keeping in view the overriding priorities of eco-preservation and eco-restoration as well as the basic needs of the hilly people. A sub plan approach was advocated instead of the earlier schematic approach. During the Eighth Plan more than 60 per cent of the outlay was used for undertaking various integrated



development programmes in the selected priority watersheds.

A common approach for watershed development activities was adopted for the 9<sup>th</sup> Five Year Plan. The key features of this approach were:

- a) Participatory approach for empowerment of community
- b) Implementation of watershed projects through responsive watershed communities
- c) Facilitation, co-ordination and supervision by Programme Implementation Agency (PIA), a development as well administrative component for watershed programme
- d) Project proposals to be demand driven reflecting the felt needs of the community
- e) Replication of successful watershed development projects
- f) Development of Common Property Resources (CPRs) and forest lands in watershed
- g) Linkage of watershed communities with PRIs and credit institution
- h) Promoting equity for the resources of the poor and women
- i) Integrated development of natural resources and promoting water harvesting structures
- j) Strengthening linkages between conservation measures and livelihood systems
- k) Flexibility in choice of technology, research input in watershed development and extension support through line departments

The report of the working group on WGDP for 10<sup>th</sup> plan has stated that the main objective of the programme would continue to be eco-preservation and eco-restoration. However the needs of the people particularly their economic needs also have to be considered, as these would have to be addressed in particular if the eco-system has to be preserved.

During the 11<sup>th</sup> Five Year Plan, major thrust was laid on developing the untreated areas and the Western Ghats Development Programmes were formulated, implemented and monitored as per the Operational Guidelines, G. O (MS) No. 43/2002/PLG dated 05/10/2002 and its subsequent amendments.

The Twelfth Five Year Plan of the state was a strategic intent to lay the foundation for creating an economy which was productive, competitive, sustainable and inclusive so as to attain an average growth rate in GSDP, 9.50% (at constant prices). Some of the focus areas of the Twelfth Five Year Plan, seen as applicable to WGDP were:-

- a) The 12<sup>th</sup> Plan will be people-centric, based on the needs of the citizen and aimed at improving the status of each individual and each group of people by ushering in strong, focused, modernized and result oriented governance.
- b) Focus will be on a bottom-up approach, starting from the people in the lowest strata to achieve the

objective of inclusive growth and Panchayat Raj Institutions will be strengthened to make them capable to take the ‘Next Step’ issues in decentralization. The complexities of plan formulation, vetting and approval will be simplified.

- c) The plan must build on the gains of the past, retaining such policies and programmes as are beneficial and making changes wherever necessary. Monitoring of implementation will be a key objective, so as to make most effective use of resources within given time frames.
- d) Top priority will be given to improve the status of Public Health since the shine of the Kerala model has been diminishing of late. Waste management and provision of drinking water will receive the highest priority so that there is overall improvement in hygiene all over the state.
- e) The economic and social status of the marginalized sections like SCs, STs, Fisher men, Artisans and others will be improved with more focused state spending and effective interventions.
- f) Appropriate mechanism will be developed for Public-NGO partnership in developmental activities.
- g) Traditional knowledge in all areas will be preserved, encouraged and put to use.

- h) More resources will be set apart of addressing disability related problems.

The Operational Guidelines for implementing WGDP programmes in the state was revised as per G.O. (MS) No. 16/2014/Plg dated 30.04.2014 and enforced w.e.f. 01/06/2014.

### **Programme Objectives**

- a) Integrated development of Western Ghats Region on compact watershed basis keeping in view the over-riding priorities of eco-development and eco-restoration.
- b) Preservation of bio-diversity of the Western Ghats Region.
- c) Restoration of ecological damage caused by human inter-action in Western Ghat Region.
- d) Awareness creation among the people of Western Ghats and educating them on the far-reaching implications of ecological degradation and promotion of a change in their mindset for preservation of the “Resource Trinity-Land, Water and Biomass”. Development of an approach for sustainable utilization of natural resources to prevent further ecological degradation in Western Ghat region.
- e) Promotion of simple, easy and affordable technological solutions for eco-friendly development of Western Ghats Region and

providing institutional arrangements for propagation and documentation of such local technical knowhow.

- f) Development of degraded forest lands through “Participatory Forest Management Programmes” on watershed basis.
- g) Promotion of application research in eco-restoration and eco-preservation of Western Ghats Region.

### **Selection of watershed**

The following criteria are being used for selection of watersheds for implementation of WGDP:

- a) Cluster of contiguous micro watersheds in the grama panchayats are included in the prioritized list of watersheds available with the District Soil Survey Offices in the state. District Perspective Plan should be prepared for identification of grama panchayat and Cluster of Watersheds.
- b) Watersheds with large Tribal/Scheduled Caste/Agricultural Labour population.
- c) Watersheds with preponderance of degraded lands.
- d) Watersheds with acute shortage of drinking water.
- e) Watersheds with sizable livestock population.
- f) Contiguity to another watershed that has already been developed/treated.

- g) Productivity potential of the land.
- h) Watersheds where people's participation is assured through cash, material or labour contribution for development and maintenance of assets created under the programme.

Profile project report and detailed project report should be prepared on the basis of the above features.

### **Organizational set up for implementation**

- a) The Western Ghats Cell in the Planning and Economic Affairs Department is in charge of coordinating the implementation of the programme with special reference to release of funds, issue of guidelines and clarifications, monitoring and evaluation of the programme and reporting to Government of India. The Cell will monitor both the quality of the programme as well as physical and financial progress.
- b) The District Level Co-ordination Committee will identify the watersheds, approve the DPR, approve the action plan of approved DPR and review the progress of implementation.
- c) A District Level Technical Committee (DLTC) for WGDP chaired by District Planning Officer will be constituted for vetting of WGDP Profile Project Report (PPR), Detailed Project Report (DPR), action plan and issue of technical sanction

before the approval of DLCC and monitoring and review.

- d) The grama panchayat is responsible for preparing the detailed project report for implementation under the guidance of the Watershed Development Team and implementation is done by Watershed Committee and Agricultural Officer.
- e) Grama panchayat may decide on selecting dependable Non-Governmental Organizations (NGOs)/Voluntary Agencies who have the infrastructure, commitment and vision for intervention in developmental activities in Western Ghats region as NGO's for implementing projects under WGDP.
- f) The roles, functions and responsibility of Watershed Community (Watershed Grama Sabha), Watershed Committee, Watershed Development Team, Accredited Non-Governmental Organizations etc. are also incorporated in the guidelines in detail

### **Sectorial priority**

The overall sectorial priority of investment under WGDP in the state will be as follows:

(i) Watershed Development	-	80%
(ii) Forestry	-	10%
(iii) Other Activities (Admin, Research, Training, M&E etc)-		10%

Further the development component consists of 81% of the total project cost and the remaining 19% is set apart as managerial component. The sharing pattern of funds for the sub components of Development Component is as given below:

- (a) Natural Resource Management - 73%
- (b) Production System Management - 5%
- (c) Livelihood Support System - 3%

Natural Resource Management component includes activities for conservation and development of natural resources namely land, water and vegetation. Structural and vegetative measures for soil, moisture and water conservation, drainage line treatment, checking of land degradation, rejuvenation of water sources, rainwater harvesting and micro irrigation measures are some examples of activities under this head.

Production System Management component includes testing and demonstration of low cost technologies in agriculture and allied activities for increasing production and productivity and for value addition and diversification or production system like horticulture, agroforestry, integrated household production system, animal husbandry, aqua culture etc.

Livelihood Supporting System component includes activities for improving income from existing as well as of new individual/group activities and micro enterprises.



### **The Genesis, Objective and Methodology of the Study**

The Committee on Public Accounts (2014-16), Secretariat of Kerala Legislature conducted District Centric Audit of Thiruvananthapuram District to examine the status and implementation of various development programmes/schemes of Revenue Department. Among other schemes, the committee also examined the status of Implementation of Western Ghat Development Programmes in the district and came to the conclusion that it is a failure. In the report dated 18/02/2016, the committee recommended that Planning and Economic Affairs Department should evaluate the outcome of the programme and report the same to the committee.

Accordingly, vide letter no. F-RO/32/2017/Plg. dated 05/06/2017 of the Planning & Economic Affairs Department requested the Member Secretary, State Planning Board to depute a competent team to carry out a comprehensive evaluation of outcomes in agricultural fields of WGDP in Thiruvananthapuram district for the year 2014-16. Thus the study was undertaken by Evaluation Division of State Planning Board as directed by the Member Secretary.

In the fag end of the financial year 2014-15, vide G.O. (Ms) No. 15/15/Plg dated 23/03/2015, Western Ghats share to the tune of ₹ 9,92,300 (Rupees Nine Lakh Ninety Two Thousand Three Hundred only), ₹ 11,65,000 (Rupees Eleven Lakh Sixty Five Thousand

only) were respectively allocated for the integrated development of four Watersheds in the District namely, Vengamala in Pullampara Grama Panchayat, Maranalloor in Maranalloor Grama Panchayat, Kallara in Kallara Grama Panchayat and Therummel in Poovachal Grama Panchayat.

The action plan for the said amounts have been vetted, approved and accorded sanction for implementation by the District Level Co-ordination Committee chaired by the District Collector, Thiruvananthapuram during 2015-16 observing the norms and procedures as stipulated in the revised Operational Guidelines of WGDP, enforced w.e.f. 01/06/2014 and the activities thus sanctioned are in different stages of implementation.

The Western Ghats Share released for the 1<sup>st</sup> year programmes in these watersheds was only 21% of the total share and the time schedule for completion of activities as in the action plan from April to March of every financial year was incorporated in the page 27 of the Operational Guidelines. The action plan for the 2<sup>nd</sup> and 3<sup>rd</sup> year activities of these watersheds are yet to be approved and thus the objective of this study is as given below:

### **Objective**

The specific objective of this study is to evaluate the provision earmarked for agricultural activities in the first year approved action plan of four watersheds as mentioned above, its outcomes and shortcomings. An

insight into whether the activities proposed were in tune with the revised Operational Guidelines of WGDP and time schedule for completing the activities could be adhered to is also incorporated.

### **Methodology**

Since the study has to be completed within the stipulated time limit of one month from its inception, this evaluation report is purely based on secondary data as collected from Western Ghats Development Cell, Thiruvananthapuram, District Planning Office, Thiruvananthapuram and authenticated status report of Agricultural Officers concerned, they being the implementing officers of WGDP scheme in the state. The reference period of the study is (2014-16). Simple statistical rules such as averages and percentages are only used for analysis.

### **Limitations of the study**

1. The study was based on secondary data only.
2. Lack of field level information.
3. Lack of time is the main constraint which limited the scope of a wide and scientific study.

The detailed analysis of watershed-wise programmes as envisaged in their first year action plan along with a brief profile, findings and recommendations to Government are dealt within section to follow:

## **Chapter 2**

### **Watershed-wise status of programme implementation**

The watershed-wise status of programme implementation as envisaged in the approved action plan through peoples participatory approach of watershed grama sabhas based on secondary data sources till 22/07/2017 is as detailed below. It may be born in mind that the first year allocation comprising of 21% WGDP share alone was released and the approval of second and third year action plan and its implementation is pending.

Moreover the provisions for agriculture and allied activities were to form part of production system management. The focus of the guideline in this regard were on activities such as testing and demonstration of low cost technologies in agriculture and allied activities for increasing production, productivity, value addition and diversification or for production system like Horticulture, Agro-forestry, Aqua-culture, Animal husbandry etc. But only 5% of the total allocation could be ear marked for the purpose as per the guidelines.

### **Vengamala watershed - Pullampara GP**

Vengamala watershed is a mountain region, consisting of elevations, slopes and valleys located in Pullampara grama panchayat of Thiruvananthapuram district. Vengamala watershed surrounded with 15 small and big hills, shares its boundaries on the northern side with Vamanapuram river. The region is very fertile due

to abundant water resources. One of the two tributaries of Vamanapuram river namely the chittar stream flows through this region, in addition to other streams and rivers. The watershed comprises of 65% of the 10 wards. It includes places like Mannayam, Mankuzhi, Paluvally, Kottavarambu, Muthikavu and Vengad. The boundaries of this watershed are Maruthummood thod on the north junction, Vengamala on the east, Munnankuzhi on the south and Mannayam on the west.

**Profile 2.1**  
**Vengamala watershed**

<b>I. Basic Information</b>	
1	Name of Watershed : Vengamala
2	Name of Panchayat : Pullampara
5	Name of Block : Vamanapuram
6	Name of District : Thiruvananthapuram
9	Population of Watershed 951
	Male : 441
	Female : 510
10	Watershed Geographic Region: Hilly area
11	Ayacut area : 324 hectares
12	Treatable area : 315 ha.
13	Year of Commencement of the Project : 2015-16
14	Implementing Agency : Krishi Bhavan, Pullampara GP
16	Duration of Project : 3 years
	Geography
	Soil : Gravel clay soil
	Climate : Tropical
	Average Temperature : 27.97°C
	Average Rainfall : 154.6 m.m
	Location : 08°39 '21" to 08°40'52"N,
	76°57'08"E to 76°58'38"E

*Source: Detailed Project Report, WGDP, Vengamala Watershed*

**Physical features**

The region comprises mostly slopes. Paluvally thod, Kodalakuzhi thod, Muthikavu thod, Meenmood thod, Nanjipara thod, Thottinkarapullampara thod are the

major water resources of the watershed. There are two private ponds and four public wells in this watershed. The crop diversity include plantation crops like rubber, coconut, spices like pepper, ginger, fruit crops like banana, pineapple, tuber crops like tapioca and vegetable crops. Rubber is the major commercial crop grown here. Majority of the project area comes under gravel clay soil category. Here the soil erosion is less than moderate. Rainfall is high in June and July. There is water scarcity during the months of March, April and May. The area receives low rainfall in September and October.

### **Land use pattern**

The total area of the watershed is 315 hectares which is 12% of the grama panchayat. Rubber is the main commercial crop grown in this watershed area. Banana and intercrops are cultivated in this watershed for three hectares each and 136.2 ha (43.2%) belongs to coconut dominant mixed crop. Lack of proper irrigation facilities decrease the price of products, high production charges, ignorance of scientific farming techniques are the major problems faced in agriculture sector.

### **Socio-economic status**

The main occupation of people in this region is rubber which has replaced paddy cultivation. Vegetable farming is also done by the people belonging to this watershed. Poverty among the Scheduled Castes is as high as 65% and 50% of them live without basic necessities of life. Women depend on small jobs of

meagre wages. Out of the total 254 households, 36 families were benefitted by MGNREGS jobs.

As per the Detailed Project Report (DPR) of Vengamala watershed of Pullampara grama panchayat, the sanction is accorded vide Order No. 876/2014-15/DPO/WGDP/TVPM/2 dated 01.08.2015 of District Collector, Thiruvananthapuram for an amount of ₹ 12,40,362 out of this ₹ 9,92,300 was WGDP share, ₹ 1,24,031 was PRI share and ₹ 1,24,031 was Beneficiary Contribution.

The action plan of Vengamala watershed 2014-15 consisted of activities like well recharge, stream-side protection, kitchen garden and poultry. The status of activities as on 22/07/2017 is as given in Table 2.2.



**Table 2.2**  
**Status of activities (2014-15)**  
**Vengamala watershed**

Sl. No	Name of activity	Financial target (₹)	Financial achievement (₹)	%	Physical target	Physical achievement (₹)	%
<b>Natural Resource Management</b>							
1	Well recharge	270000	--	--	18	--	--
2	Stream-side protection	406437	293292	72	122.20m	122.20m	100
<b>Production System Management</b>							
3	Kitchen garden	42500	42500	100	85	85	100
<b>Livelihood Supporting System</b>							
4	Poultry	25300	22000	86	55	55	100

*Source: Status report of AO, Krishibhavan, Pullampara, DPR & A.S Order of Vengamala watershed*

As can be presumed from table 2.1 above, full expenditure has been booked for the agricultural activity viz, kitchen garden under Production System Management and the desired physical target covered.

An amount of ₹ 2,70,000 was provided under NRM for the recharge of 18 number of wells, but the proposal is seen submitted for Technical Sanction. Also the provision for stream-side protection was ₹ 4,06,437, but the expenditure booked as on 22/07/2017 is only ₹ 2,93,292 (72%) and corresponding physical achievement is shown as cent percentage. However the

livelihood supporting activity proposed is seen completed by utilizing 86% of the provision provided.

The total utilization of funds in the watershed is ₹ 6,28,136 (Rupees Six Lakh Twenty Eight Thousand One Hundred and Thirty Six only) as against the WGDP share of ₹ 9,92,300 (63.30%) as per the utilization certificate as furnished by the Agricultural Officer, Pullampara on 23/06/2017.

### **Maranalloor watershed – Maranalloor GP**

The Maranalloor watershed in Maranalloor grama panchayat is situated on the foothill of Western Ghats, with rare species of flora and funa with favourable climatic conditions. But the gravity and intensity of indiscriminate human intervention has caused environmental degradation and thus an upset to the ecological balancing. The WGDP programme 2014-17 is proposed with an overall objective to address this problem and to uplift the socio-economic status of the watershed community.

The watershed is bounded by Kattakada grama panchayat on the north part of Maranalloor grama panchayat (Thoongampara ward), Neyyattinkara municipality on the east, Malayankeezhu and Pallichal grama panchayats on the south and Neyyattinkara municipality on the west.

## Profile 2.3 Maranalloor watershed

<b>I. Basic Information</b>	
1	Name of Watershed : Maranalloor
2	Name of Panchayat : Maranalloor
3	Name of Block : Nemom
4	Name of District : Thiruvananthapuram
5	Population of Watershed : 14038
	Male : 7137
	Female : 6901
6	Watershed Geographic Region: Midland
7	Ayacut area : 989 hectares
8	Year of Commencement of the Project : 2014-17
9	Project Implementing Agency : Krishi Bhavan, Maranalloor GP
10	Duration of Project : 3 years
	<b>Geography</b>
	Soil : Gravel sandy clay
	Climate : Humid Tropical
	Temperature : 26.5°C
	Rainfall : 290 mm

*Source: Detailed Project Report, WGDP, Maranalloor Watershed*

*\*The basic information such as SC population, treatable area, geographic location in longitude and latitude etc as directed in the revised guideline of WGDP 2014 are not seen incorporated in the DPR.*

### **Physiography**

The Maranalloor watershed comes under midland. The topography of the area is highly undulating with gentle, moderate to steeply lopping terrain. During summer season the area suffers very severe drought

problem. The elevation of Maranalloor watershed varies from 20 m to 160 m above mean sea level.

### **Land use pattern**

Out of the total watershed area of 989 ha, an area of 63.15 ha is under rubber cultivation, 148.98 ha is under coconut cultivation, 136.43 ha is under mixed cropping, 24.69 ha is fallow land and ponds constitute 0.40 ha.

### **Socio-economic status**

Majority of farmers in the watershed are engaged in rubber and banana cultivation. Around 3495 families are residing within the watershed and 90% of them own land below 10 cents. Cattle rearing is one among the employment generating activities of the residents.

Administrative Sanction was accorded to the Agricultural Officer, Maranalloor for an amount ₹ 11,65,500 (Rupees Eleven lakh sixty five thousand five hundred only) as WGDP share, ₹ 1,45,688 (Rupees One lakh forty five thousand six hundred and eighty eight only) as PRI share and ₹ 1,50,048 (Rupees One lakh fifty thousand and forty eight only) as Beneficiary Contribution for implementing the action plan (2014-15) as envisaged in the DPR, vide Order No. 876/2014-15/DPO/WGDP/TVPM/3 dated 20.06.2015.

The physical and financial performance of the Agriculture and allied activities in the development component is given in table 2.4 below:

**Table 2.4**  
**Status of activities (2014-15)**  
**Maranalloor watershed**

Sl. No.	Name of activity	Financial target (₹)	Financial achievement (₹)	%	Physical target	Physical achievement	%
<b>Natural Resource Management</b>							
1	Stock pit	189000	189000	100	54	54	100
2	Renovation of wells	544488	538932	99	98	97	99
<b>Production System Management</b>							
3	Coconut inter cropping	90000	90000	100	60	60	100
<b>Livelihood Supporting System</b>							
4	Cattle feed	55000	55000	100	22	22	100

*Source: Status report of AO, Krishibhavan, Maranalloor, DPR & AS order dtd 20/06/2015*

From the status as furnished above, it is observed that the financial as well as physical performance of development activities proposed during 2014-15 is cent per cent. Also the activities taken up were almost in tune with the operational guidelines of WGDP.

However, the activities could be completed only by 18<sup>th</sup> January 2016 and an inordinate delay is seen in booking the full expenditure, which is 30<sup>th</sup> May 2017. The total amount utilized as per the utilization certificate of the Agricultural Officer, Maranalloor as on

30/06/2016 is ₹ 9,09,511 (Rupees Nine Lakh Nine Thousand Five Hundred and Eleven only) as against the WGDP share, ₹ 11,65,500 (78.04%), which a discrepancy.

### **Kallara watershed – Kallara GP**

Kallara watershed, a midland area forms a part of Western Ghats and is located in Kallara panchayat of Vamanapuarm block in Thiruvananthapuram district. The watershed is bounded on the north by Pullippara watershed, on the east by Paluvally watershed, Kurinchilakkad & Poothakuzhy watersheds on the south and Kolluvila watershed on the west. This watershed was selected for watershed management under the Western Ghat Development Programme 2014-17.

## Profile 2.5 Kallara watershed

<b>I. Basic Information</b>	
1	Name of Watershed : Kallara
2	Name of Panchayat : Kallara
5	Name of Block : Vamanapuram
6	Name of District : Thiruvananthapuram
9	Population of Watershed : 4000
10	Watershed Geographic Region : Mid land
11	Area of Watershed Programme Region : 376 hectares
12	Treatable Area : 370 ha.
13	Year of Commencement of the Project : 2015-16
14	Implementing Agency : Krishi Bhavan, Kallara GP
16	Duration of Project : 3 years
Geography	
	Soil : Gravel clay sandy
	Climate : Humid Tropical
	Average Temperature : 27.09°C
	Average Rainfall : 1917.85 mm
	Location : 8°44' and 8°45' north latititude, 76°5' east longitude

*Source: Detailed Project Report, WGDP, Kallara Watershed*

Kallara watershed spreads in ward no.1 (Kallara) and ward no.2 (town ward) of Kallara panchayat and ward no.1 (Pullippara) of Pangode panchayat of

Vamanapuarm of Thiruvananthapuram district. There are two distinct monsoons viz; south west monsoon, which commences by the first week of June and continues up to July or August and north east monsoon which sets in by the middle of October and extends up to December.

### **Land use pattern**

Agriculture and allied activities form the main occupation of the people in this watershed. A vast area of Kallara watershed is under rubber cultivation West cost tall and TxD are the major varieties cultivated. Banana, areca nut, tapioca, nutmeg, cocoa, pepper, vegetables etc are taken as inter crops. Paddy is not cultivated at present in the watershed. All the paddy fields are either converted for construction purposes or cultivated with crops like coconut, banana, tapioca, vegetables etc that yield high returns to farmers. Livestock rearing is also practiced by farmers of the watershed.

### **Socio-economic status**

The people here are mainly occupied in agriculture and allied activities. Rubber is the major crop of this area. Coconut, banana, pepper cultivation and livestock rearing is also prevalent in this area. The literacy rate is 90%. There are two SC colonies in this watershed constituting about 100 families. Only small scale industries exist in this watershed and the marketing facilities are inadequate. Credit facilities are met through



scheduled banks and co-operative banks located in this watershed.

As per the A.S Order No. 876/2014-15/DPO/WGDP/TVPM/4 dated 27.02.2016, of District Collector, Thiruvananthapuram, the total sanctioned amount for implementing the action plan of the watershed 2014-15 as prepared by the DLCC was ₹ 14,57,095, comprising of ₹ 11,65,500 as WGDP share ₹ 1,45,788 as PRI share and ₹ 1,45,807 as beneficiary contribution of watershed community.

**Table 2.6**  
**Status of activities (2014-15)**  
**Kallara watershed**

Sl. No	Name of activity	Financial target (₹)	Financial achievement (₹)	%	Physical target	Physical achievement	%
<b>Natural Resource Management</b>							
1	Rain pits	22651	17898	79	201 nos.	158 nos.	78
2	Strip terracing	140599	112418	79	1680 M3	1147.4 M3	68
3	Digging of new irrigation well	244280	196340	80	8 nos.	6 nos.	75
4	Renovation of existing well	134368	105000	78	8 nos.	7 nos.	87
5	Earthen bunds	87520	34080	38	14155 Rm	663 Rm	46
6	Stone bunds	100016	74630	74	696.87 m <sup>2</sup>	676.9 m <sup>2</sup>	97
<b>Production System Management</b>							
7	Fruit plants	114909	45250	39	270 nos.	181 nos.	67

*Source: Status report of AO, Kallara, DPR & A.S Order of Kallara watershed*

From the table above, it can be inferred that the Natural Resource Management Component consisted of six activities namely rain pits, strip terracing, digging of new irrigation well, renovation of existing well, earthen bunds and stone bunds and more than 75% of the provision is seen utilized for all activities except earthen bunds (utilization 38%). The physical achievements of the above said activities are 78, 68, 75, 87, 46 and 97 per cent respectively.

Thus the total expenditure booked under Natural Resource Management is 74.08% of the total provision, but no specific agricultural activity or animal husbandry schemes has been included in under NRM.

So also in the production system management the activity taken up was 'fruit plants' and its financial achievement is only 39%, physical achievement being 67%. It is also noticed that there is no provision for livelihood supporting system activity is included in the first year action plan.

However, the activities as above would be completed only by 17/08/2017 and an inordinate delay is seen in booking the expenditure of completed schemes which ranged in between 15/11/2016 and 10/04/2017. The total amount utilized as against the WGDP share of ₹ 11,65,000 is 87.66%.

### **Therummel watershed – Therummel GP**

Therummel watershed is located in the Agasthya mountain tracts and the region is hilly with the scenic green agricultural fields spread over 380 hectares with

abundant water resources. This watershed covers Kuzhakkad, Pulimkode, Kovilvila and Anakkod wards of Poovachal grama panchayat in Vellanand block of Thiruvananthapuram district, south-east portion of Nedumangaud taluk. Around 30% of the grama panchayat area comes under the purview of implementation of Western Ghats Development Programme.

## Profile 2.7 Therummel watershed

<b>I. Basic Information</b>	
1	Name of Watershed : Therummel
2	Name of Grama Panchayat : Poovachal
3	Name of Block : Vellanad
4	Name of District : Thiruvananthapuram
5	Population of Watershed : 6934
	Male : 3383
	Female : 3551
	SC Population : 532
6	Watershed Geographic Region : Hilly area
7	Ayacut area : 380 hectares
8	Treatable Area : 79.8 ha.
9	Year of Commencement of the Project : 2015-16
10	Programme Implementing Agency : Krishibhavan, Poovachal GP
11	Duration of Project : 3 years
12	Geography
	• Soil : Laterite
	• Climate : Tropical
	• Average Temperature : 27.5°C
	• Average Rainfall : 200 mm
	• Location : 8°54'41" - 8°59'47" North latitude 76°57'45"- 76°59'59" East longitude

*Source: Detailed Project Report, WGDP, Therummel Watershed*

### **Land use pattern**

According to the DPR, 191.31 Ha (50.34%) of total cultivable area is under rubber plantation and 105.59 hectares in under mixed cropping (27.79%) consisting of coconut, areca nut, other plantations, vegetables, fruit trees etc. Paddy cultivation is deteriorating due to conversion and non-cultivation and is limited to 26.47 hectares (6.9%). The area occupied by building is 11.32 Ha (2.98 %) and quarry rock is spread over 0.09 acres(0.02%).

### **Socio-economic status**

The main occupation of the people here is agriculture and allied activities and 75% of them are small and marginal farmers. There are 1810 households in this watershed, of which 22 households are landless. Also 67% of the total population is Below Poverty Line (BPL) and the literacy rate is 85%.

The activities envisaged in the action plan 2014-15 of Therummel watershed was accorded sanction vide A.S Order No. 876/2014-15/DPO/WGDP/TVPM/5 dated 08.07.2015 of District Collector, Thiruvananthapuram for an amount of ₹ 15,60,000 (Rupees Fifteen lakh sixty thousand only) of which ₹ 11,97,000 (Rupees Eleven lakh ninety seven thousand only) was the WGDP share, ₹ 1,52,725 (Rupees one lakh fifty two thousand seven hundred and twenty five only) the Panchayat Raj Institution (PRI) share and ₹ 2,10,275 (Rupees two lakh ten thousand two seventy five only) as beneficiary

contribution. The beneficiary contribution is not collected in terms of money but form part of wage component.

The components included in the action plan were Natural Resource Management, Production System Management, Livelihood Supporting System as well as Management Component with respective allocation in the ratio 73:5:3:19. The components exclusive of the Management Component constitute the Development Component with total allocation of 81%.

The core objective of WGDP is the preservation of bio-diversity in Western Ghat region and provisions for agriculture and allied activities are included in the development component with special focus on R&D activities and value addition. The physical and financial status of the activities thus taken up in the watershed is as shown in table given below:

**Table 2.8**  
**Status of activities (2014-15)**  
**Therummel watershed**

Sl. No	Name of activity	Financial target (₹)	Financial achievement (₹)	%	Physical target	Physical achievement	%
<b>Natural Resource Management</b>							
1	Improvement of existing wells	250000	218925	87.57	50	50	100
2	Rain water harvesting	175000	--	--	25	--	--
3	Stone bunding (32)	179400	32074	17.87	1250 sqm	250 sqm	20
4	Construction of new wells	225000	135000	60	15	15	100
<b>Production System Management</b>							
5	Homestead vegetable cultivation	82100	49260	60	821	821	100
<b>Livelihood Supporting System</b>							
6	Goat rearing	50000	15805	31.61	10	6	60

*Source: Status report of AO, Krishibhavan, Poovachal, DPR & A.S Order of Therummel watershed*

From table 2.8 above, it is seen that cent per cent physical progress is achieved with respect to improvement of existing wells, construction of new wells and homestead vegetable cultivation. But the average unit cost of new wells as well as homestead vegetable cultivation as per actual expenditure incurred is only 60% of the proposed estimated cost.

On the contrary, rainwater harvesting, an essential activity of WGDP was proposed for an amount

of ₹ 1,75,000 (25 units), but same could not be implemented at all as the beneficiaries were reluctant to implement the scheme with the existing subsidy rate/norms. (Report: A.O, Krishibhavan, Poovachal GP). Also stone bunding for an area of 1250 sqm was proposed, but the physical achievement is only 20%.

Unlike irrigation ponds and check dams, construction of wells is not a preferred activity of WGDP, but it is not clearly specified in the guidelines as to whether such schemes can be taken up or not.

It is also noteworthy that the facilitation, co-ordination and supervision of activities proposed in the watershed is being executed by a PIA (NGO) approved by DLTC and an amount of ₹ 1,60,312 (first installment) has been allotted as administrative cost for implementing the action plan 2015-16.

The total fund utilization in Therummel watershed together by the Poovachal grama panchayat and Programme Implementing Agency (PIA) as on 23/06/2017 is ₹ 9,85,265 as against the total Administrative Sanction for ₹15,60,000 (63.16%).



## **Summary of findings and recommendations**

The brief findings of the study based on the revised operational guidelines of WGDP and the analysis of the secondary data are given below:-

- a) The agriculture and allied activities as envisioned in the guidelines include testing and demonstration of low cost technologies so as to increase production, productivity and diversification of products and agro-forestry, horticulture, aqua-culture, animal husbandry were the priorities. The programmes implemented in the watersheds namely kitchen garden, homestead vegetable cultivation, coconut intercropping and planting fruit plants were routine activities of the agriculture department. Animal husbandry is not included in the first year action plan of four watersheds in NRM component. However nominal provision is seen included for poultry, goat rearing, cattle feeds under livelihood support system, the provision for it being 3% of the total WGDP share released.
- b) The activities as proposed and approved by the DLCC in the action plans namely, Recharge of wells in Vengamala watershed and rainwater harvesting in Therummel watershed are not implemented so far.
- c) The physical performance of stone bunding activity proposed and as approved by the DLCC

in Therummel watershed is not satisfactory (20%).

- d) The utilization certificates furnished by Agricultural Officer except Poovachal are based only on the Western Ghats share released to them. It should have been based on the total project cost as approved by DLCC.
- e) Though the first installment of Western Ghats share was released to the four watersheds at the fag end of the financial year 2014-15 and Administrative Sanction was accorded during the 1<sup>st</sup> quarter of 2015-16, the programmes included in the action plans and as consented by the respective Watershed Grama Sabhas remain incomplete and full utilization of funds is pending.

### **Specific Recommendations**

- a) Decision may be taken at Government Level as to whether the period of implementation of 3 years, as prescribed in the Revised Operational Guidelines, for above said watersheds be relaxed.
- b) The Western Ghats Cell, which is in charge of coordinating, monitoring and evaluating the WGDP programmes sanctioned in watersheds and the District Level Coordination Committee may go through the analysis and findings of this report and initiate appropriate remedial measures.