Integrated watershed management programme –iii - 2012/13

(BATCH – IV)

POTHENKOD BLOCK PANCHAYAT

TRIVANDRAM DISTRICT

KERALA STATE

DetaileD project report

PIA – pothenkod BLOCK PANCHAYAT

TSO – RAJIVYOUTH FOUNDATION

Contents

ABBREVIATIONS

BLCC	Block Level Co-Ordination Committee
BPL	Below Poverty Level
DDP	Desert Development Programme
DPAP	Draught prone areas programme
DPC	District Planning Committee
DPR	Detailed Project Report
EPA	Entry Point Activity
GIS	Geographical information system
GPS	Geographical Positioning System
GWD	Ground water Department
IKM	Information Kerala Mission
JBDO	Joint Block Development Officer
JLP	Joint Liability Group
KRWSA	Kerala Rural Water Supply and Sanitation Agency
KWA	Kerala Water Authority
LSGD	Local Self Government Department
LSS	Livelihood Support System
MGNREGA	Mahatma Ghandi national rural employment guarantee act
MIS	Monitoring evaluation system
NHG	Neighbour Hood Groups
NRHM	National Rural Horticultural mission
NRLM	National Rural Livelihood Mission
NRM	Natural Resource Management
PIA	Project Implementing Agency
PLCC	Panchayat Level co-ordination Committee
PPR	Preliminary Project Report
PRA	Participatory Rural Agency
PSM	Production System & microenterprises
PWD	Public Work Department
SHG	Self Help Group
SLNA	State Level Nodal Agencies
TSO	Technical Support Organization
TSU	Technical Support Unit
UG	User Group
VEO	Village Extension Officer
VFPCK	Vegetable and Fruit Promotional Council -Kerala
WCC	watershed co-ordination Committee
WCDC	Watershed Cell Data cum Centre
WDF	Watershed Development Fund
WDT	Watershed Development Team

PART – I

CHAPTER -1

INTRODUCTION

1.1 Project Background

IWMP, project aiming to the development of watersheds is started with the co-operation of both the central and state governments. This project ensures the participation of the people throughout the project and also it avoids the problems that found in the already implemented watershed programmes like Haryali, IWDP..Etc.

What is meant by a watershed? A Water body and all the areas through which the water came in to this water body known as a watershed. Thus watershed is a unique, natural unit of inco-operating factors like water, soil and bio resources. That's why, in the present scenario, firstly we have to consider our nature and to take up a watershed based development. Here, a 'Ridge to Valley' approach is applying for implementing the project. Watersheds are the basic development structures in the nature. Soil, water and bio resources are the geographical facts in cooperating to each other. Only by the scientific treatment of the soil, water and bio resources we can ensure the existence of life in earth. One main feature of IWMP is that treatment and management of watersheds as cluster instead of considering them as single. For the project works in the hilly areas, provides Rs 15000/Hr and for the plane lands, it is Rs 12000/hr. The project going through three stages namely initial phase, implementing phase, withdrawal phase. Poverty rate, SC/ST population, actual wages, living condition of farmers, ground water level, drought, flood, availability of rain, drinking water, degraded land, productivity of soil etc. are some of the criteria for including an area in to project .The Department of Land Resources Development under the Ministry of Rural Development, Government of India had implemented 4 watershed programmes viz. Integrated Wastelands Development Programme (IWDP), Drought Prone Areas Programme (DPAP), Desert Development Programme (DDP) and 'Hariyali' till 1st April 2008. Since then, these 4programmes have been brought under a comprehensive programme named Integrated Watershed Management Programme (IWMP) to be implemented under Common Guidelines on Watershed Development, 2008.

1.2 Need and scope for watershed development

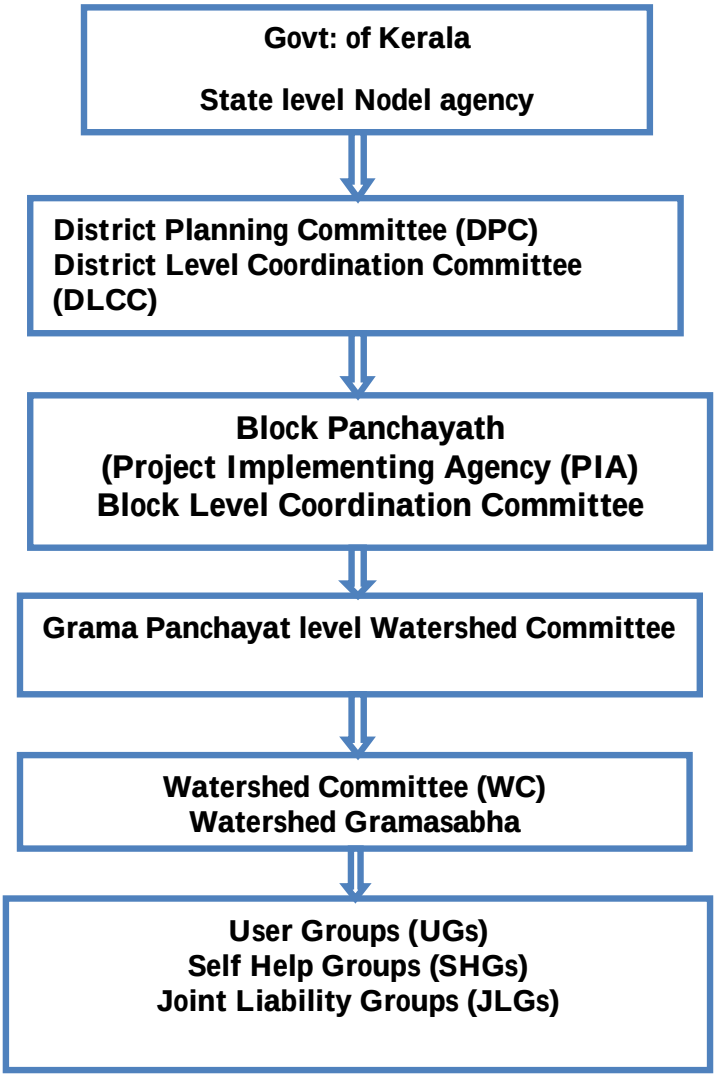
Loss of vegetative cover following by soil degradation through various forms of erosion has resulted into lands which are thirsty in terms of water as well as hungry in terms of soil nutrients. All these regions have predominantly live stock centred farming systems; less biomass for animals not only reduces animal productivity but also deteriorates the ecological balance.

Watershed management has therefore emerged as a new paradigm for planning, development and management of land water and biomass resources with a focus on social and institutional aspects apart from biophysical aspects. Watershed management becomes increasingly important as a way to improve livelihood of people while conserving and regenerating there natural resource. The role and importance of community participation is now accepted. Watershed management programmes therefore should be intimately linked with the people whose socio economic and cultural backgrounds play a decisive role in meaningful planning, implementation and operations of watershed programmes.

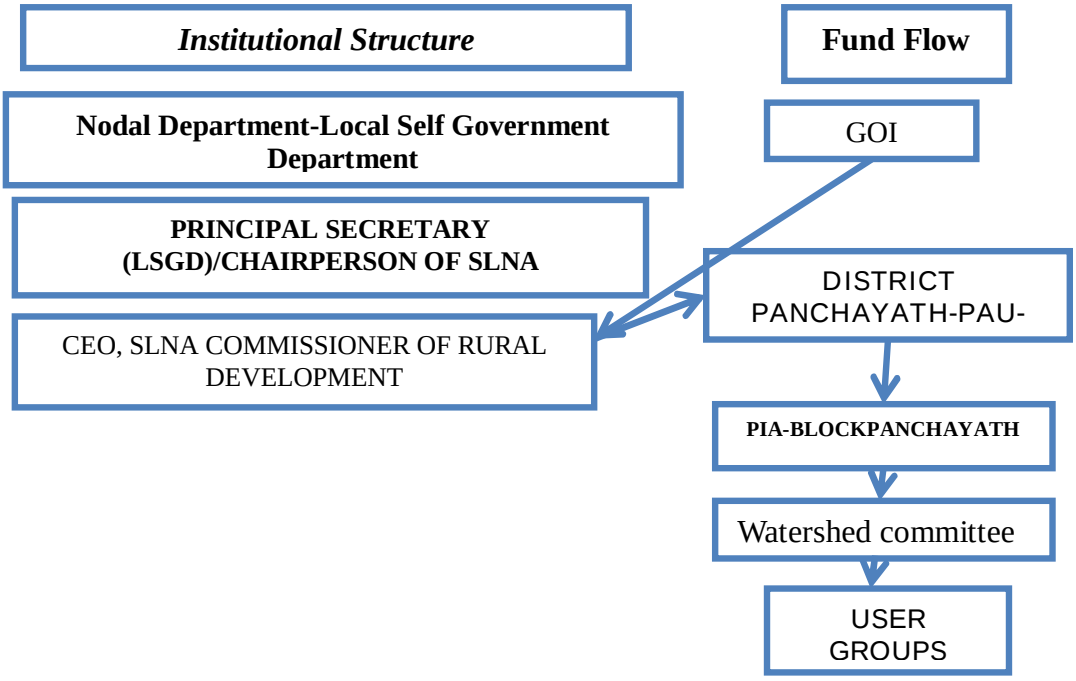
1.3 Main Objectives

1. Main objective of IWMP is to preserve and conserve the ecology, restore and develop degraded natural resources by arresting soil loss, improving soil health and soil moisture.
2. Rain water harvesting and recharging of ground water enables multi cropping and introduction of diverse agro based activities help to provide sustainable livelihood to the people residing in watershed area.
3. To promote livestock development, fishery management, and to encourage dairying and marketing of dairy products.
4. Improving the capacity of community to manage common natural resource.
5. Enhancing the efficiency and effectiveness of rain water and runoff use, improve vegetative cover and reduce soil erosion through better rain water management.
6. Conserving as much rain water as possible in the place where it falls and also increasing the ground water level to get water throughout the year and maintaining it for sustainability.
7. Utilizing the available land to its maximum productivity by adopting various or suitable measures according to the land capability and without any environmental degradation.

1.4 Organisational set up



1.5 Funding flow



1.6 Funding Pattern

Sl. No.	Particulars	Percentage of Fund	Amount
01.	Administration Cost	10.00	9138984
02.	Monitoring	1.00	913898.4
03.	Evaluation	1.00	913898.4
04.	Entry Point Activities	4.00	36,55593.6
05.	Institution & Capacity Building	5.00	45,69492
06.	DPR	1.00	913898.4
07.	Watershed Development Works	56.00	51178310
08.	Livelihood Activities	9.00	8225085
09.	Production System & Micro Enterprises	10.00	9138984
10.	Consolidation Phase	3.00	2741695.2
Total		**100%**	**9,13,89840**

CHAPTER – 2

INSTITUTIONAL BUILDING AND PROJECT MANAGEMENT

2.1 Institutional Building in project level

The IWMP project has vast potential and scope to empower socially weekend sections of the community. Considering the requirements and priorities of these sections, particular activities were considered to reduce their drudgery. This involved in a skills up gradation programme. People's organizations hold the key in ensuring the exact integration between sustainable development and social equity. Such organizations have representations from socially backward communities and women with separate special interest groups. Within group interactions across group interactions and representation in village level institutions provide a platform for the disadvantaged groups to become a part of mainstream development. It is also essential to note that it was properly ensured that these groups obtain equal opportunities to access the resources developed at the community level.

2.1.1 Institution building at state Level (state level nodal agency -SLNA)

SLNA is constituted by State Government and they doing the review of progress of projects in the state level. They prepare State Perspective and Strategic Plan (SPSP) and Work Implementation Strategy.

2.1.2 Institution Building at district level (District level coordination committee -DLCC)

DLCC oversee implementation of watershed programmes and they co-ordinates all projects in district level. The structure of DLCC given below,

Name	Designation
Chairman	District Panchayat President
Member Secretary	District Collector
Convener	Project manager IWMP (P.D of Poverty alleviation unit)
Principal of agriculture	Member
District Planning officer	Member
District Soil survey Officer	Member
District Soil conservation officer	Member
Deputy Director, Fisheries	Member
Executive engineer, Minor Irrigation/LSGD.KWA	Member
Divisional forest officer(North Division)	Member

District Officer,GWD	Member
Rep. KRWSA	Member
District mission co-ordinator,Kudumbasree	Member
District Co-ordinator,IKM	Member
District Co-ordinator, Horticulture Mission	Member
Chairman	District Panchayat President

2.1.3 Institution Building at Project implementing agency Level (PIA)

Project Implementing Agency (PIA) is responsible for implementation of watershed Projects. They provide technical guidance to Gram Panchayat under watershed area to prepare Development plans through Participatory Rural Appraisals (PRAs) also arrange physical/financial social audit of works undertaken . Details of ***block level co-ordination committee of IWMP- III -2012-13 – pothenkod block panchayat ,*** **given** below ,

Chairman	SRI.Vetturod Vijayan	Block panchayath president
member	Saritha Suni	block vice president
member	Ajith kumar k.s	Vikasana standing committee chairperson
member	SRI. Ganga R.S	Assistant Executive Engineer
member	SRI.NIZAR PARAMBILPALAM	panchayath president –Andoorkonam
member	Sreekal .v	panchayath president –Pothenkode
member	SMT.LEELA ANTONY	panchayath president –Kadinamkulam
member	Jayan .k	panchayath president –manickal
member	Ad. S. Lenin	panchayath president –Muthackal
member	SMT.S KAVITHA	Panchayath president –mangalapuram
member	R. Subash	Panchayath president –chirayinkeezh
member	Ad.V. Joy	Panchayath president –Azhoor
member	Hassan.A	WDT member-agri.assistant
member	Abraham Simon	Joint BDO(EGS)
member	Nadeera M.k	EO(WW)
member	Rooth Joseph	Technical assistant,WCDC,
member	George Alexander	ADA
Member Secretary	Aneesh. B	Block Panchayath Secretary

: Details of project implementing agency of IWMP- III -2012-13

Name of The project	**IWMP- III -2012-13 (batch IV)**
PIA	Pothenkod block panchayat
Implementation Officer	Block development officer
Address PIA	Secretary, pothenkod block Panchayat , kazhakootam . po
Telephone	0471418258
Email	bdokzmtvm@gmail.com

The WDT is an integral part of the PIA and will be set up by the PIA. Assist watershed gramasabha and organize user group, self-help group...Etc. are the main duties of them. Each WDT should have at least four members, broadly with knowledge and experience in Agriculture, soil science, water management, social mobilization and institutional Building.

- Details of Watershed development team

Name of Post	Name of Person Posted	Qualification	Date of Joining
Asst.Engineer	----------	----------	----------
Social Mobilisor	Bindu .VA	M.A sociology	13/6/13
Agriculture Asst	Hassan	VHSE – Agriculture	18/6/13

2.1.4 Institution building at Grama panchayat Level

Watershed management works are implemented at the Gramapanchayat level. The GP supervises Support and advice watershed committee.

❖ **Watershed Committee (WC)**

Watershed committee has an important role to play during and after the project implementation period. The Gramsabha will constitute the Watershed Committee (WC) to implement the Watershed project with the technical support of the WDT. The format of Watershed Committee given below.

Name	**Designation**
Chairman	Panchayat President
Panchayat Secretary	Member secretary
WDT ,Rep	Member
TSO Rep.	Member
SC	Member
Women	Member
Landless	Member
Panchayat Members	Member
SHG,Rep.	Member
User Group Rep.	Member

❖ **watershed co-ordination committee (WCC)**

The watershed co-ordination committee formation need if there a watershed area covers more than one panchayat .The format of committee given below.

Name	Designation
Panchayat president (Panchayat of Highest watershed area covered)	Chairman
Other Panchayath presidents	Co-Chairman

watershed Secretary (Panchayat of Highest watershed area covered)	Member Secretary
WDT - Rep	Member
TSO - Rep	Member
Agriculture Officer	Member
WC Secretaries	Members
Watershed area covered members	Members

❖ **Self Help Groups (SHGs)**

There are 1203 SHGs working in the project area already. These SHGs are registered in the Block. These SHGs are formed either SGSY scheme or Under Kudumbashree. Details of the SHGs in the project area are given below.

Sl.No	Total No of Existing SHGs in the Project Area	No of Men Groups in it	No of Women group in it	Total No of Newly formed for IWMP SHGs in the project area	No of Men Groups in newly formed	No of Women Groups newly formed
1	1203	48	1155	204	34	170

❖ **User groups (UG)**

User groups are proposed to be formed to manage the different activities or assets created under the programme on a long term basis. The user groups are expected to collect user charges from their members, oversee the works and manage the benefits.

2.2 Project Management

The major activities of IWMP projects sequenced in to 3 phases. They are preparatory phase, work phase, withdrawal phase.

2.2.1 Preparatory Phase

- Institution building, training and empowerment of institutions like watershed committee.
- Preparation of Detailed Project Report with detailed action plans through participatory rural appraisal (PRA)
- Entry Point Activity shall be taken up during this phase to establish creditability of the Watershed Development Team (WDT) and create rapport with the village community.

2.2.2 Work Phase

This phase is the very important of the programme in which the DPR will be implemented. Execution of action plans (Natural resource management activities, production system management activities, lively hood activities) also under go through this phase

2.2.3 Withdrawal Phase

In this phase the resource augmented and economic plans developed in Phase II are made the foundation to be create new nature-based, sustained livelihoods and raise productivity levels.

Phase	Name	Duration(Years)
I	Preparatory Phase	1
II	Watershed Works Phase	3
III	Consolidation &Withdrawal Phase	1

: Phases of IWMP

CHAPTER – 3

APPROACH AND METHODOLOGY OF PREPARING THE DETAILED PROJECT REPORT

A cluster approach has been followed in the preparation of DPR.

- Delineation of watershed map from the Toposheet
- Boundary identification
- Identification of EPA activities
- Baseline data survey
- Watershed based participatory rural appraisal
- Identification of public works and field level measurement
- Secondary data collection from various department
- Consolidation of the survey details
- discussion about convergence possibility with govt: departments
- Preparation of the DPR
- Submission of the DPR to WCDC and SLNA

3.1 Delineation of watershed map from the Toposheet

Use a Toposheet to locate the water bodies, streams and contour (elevation). Determine the direction of drainage in the area and start drawing from the mouth of the watershed which is also the lowest elevation of the watershed, connect all the elevated points. The completed line is the watershed

3.2 boundary identification of watersheds

This is the process of action of determining legal position of a cadastral boundary in the land

3.3 Baseline survey

A detailed baseline survey was conducted covering all households in the cluster area. The data base thus created is expected to facilitate the assessment of the impact of the watershed development programme of the project area during and after the implementation of the project. Details of the house hold members, about their well, drinking water facility, agriculture, erosion in their land, irrigation methods …like information will collect through the baseline survey.

3.4 participatory rural appraisal

The participation of stakeholders is essential in identifying the problems and needs of the People in the project area and identifying suitable watershed development activities. A Logical Framework Analysis was done at the project level for identifying the important problems (through problem tree analysis) as well as for the purpose of assessing the present situation. Other PRA techniques like transect walk, social mapping, resource mapping, seasonal calendar, etc., were employed in each micro watershed area.

The study mainly aims to discover the potentials of the area and local needs of the people. It has also internalized the existing crucial issues and constraints in the watershed area. Few drainage line areas of the watersheds is considered as critical area because of its undulating topography, soil erosion, degradation of the agriculture sector, poor livelihood system and water shortage and unscientific waste management etc. Most of the streams become waste carriers. There is only a bare minimum effort to tackle the issues. So IWMP aims to bring up an integrated approach in the restoration of the ecosystem and environment and finally sustainable development in all sectors. Participatory planning, formulation of the strategies, implementation, monitoring and evaluation are the major strategy to be adopted. To initiate the corrective measures we have to mobilize the baseline information from the ground level. This information is the main source to finalize the intervention strategies. Apart from these peoples participation can be ensured to analyze the ground reality.

3.5 Secondary Data:

The DPR has to be based on a situation analysis of secondary data and information available from various sources. Basic information about the watershed such as Climates, temperature, topography, hydrology, geology, Geomorphology, soils, ground water level land-use pattern, Cropping pattern and productivity, irrigation, livestock etc. were collected from different sources such as Census of India, development reports, publications of government departments etc.

3.6 Use of GIS and remote sensing for planning:

Geographical Information System (GIS) has been used for prioritization process

s. Various layer maps were created like Geo-morphological, Soil, Drainage, land use, Ground water Status, Drinking water situation and Slope percent. These were all given proper weight age according to the DoLR specification. This helped in prioritization of various watershed areas.

Remote sensing imageries are used for the identification of physical and antropogenetic changes in the watershed areas, the temporal changes can be identified with the help of Toposheet and imageries.

A action plan matrix was been formulated by taking into account various features like the slope percent, soil depth, soil texture, soil erosion in the area for wasteland, forest land and agricultural land. Global positioning System (GPS) was used to identify each and every water conservation structures available in the project area. This was used to create a map. Contour Map of vertical interval of 1 meter at a scale of 1:8000 was used for identifying various locations for soil and water conservation structures.

Quantum GIS Software was used for preparation of maps. Google Earth images of the project area were also used for the planning. 1: 4000 scale cadastral maps of each village were the base map for planning.

3.7 Planning and Implementation

- **Planning for natural resource management**

  i. An awareness drive was undertaken at Grama Panchayat level for communication &sensitization of the target beneficiaries

  ii. Prepare master plan of NRM based on the ridge to valley system

  iii. Apply general works ridge to valley in the cluster area

- **Planning for production system management**

  i. An awareness drive was undertaken at Grama Panchayat level for communication & sensitization of the target beneficiaries

  ii. Prepare master plan of PSM (agriculture) activities based on the need of the project area

- **Planning for Liveli hood activities**

  i. An awareness drive was undertaken at Grama Panchayath level for communication & sensitization of the target beneficiaries

ii. A “Livelihood Action Plan” (LAP) was prepared for availing the funds under the livelihood component.

iii. The livelihood action plan was prepared by analyzing the socio-economic conditions and existing livelihood capitals of the watershed, during the situation analysis by means of PRA and focus group discussion, in order to facilitate collection of information to feed into the livelihood action planning process. Livelihood action plan contains schedule of activities, interventions, no. of SHGs to be assisted and expected outcome.

iv. To promote convergence, the PIA has worked in close association with other Employment generating programmes such as MGNREGS, NRLM, Kudumbashree, VFPCK, NHM, etc.

CHAPTER -4
WATERSHED INTERVENTIONS

The main activities under the IWMP project classified into information, education, communication activities (IEC) , Entry point activities (EPA) , Natural resource management programme (NRM) , Production system management (PSM) , Lively Hood Activities (LSS) and Capacity building plan .

4.1 Information, Education, Communication activities (IEC)

Information, Education and Communication (IEC) is an important component and has a vital role in creating awareness, mobilizing people and lays the basis for successful implementation of integrated Watershed Management Programme. IEC plays a very crucial role in bringing in awareness about IWMP by information, Educating and persuading people about their roles and responsibilities in watershed management.

4.2 Capacity building for beneficiaries

The capacity building needs of watershed people, marginalized communities, including SC/ST, landless/asset less people, women, etc is also be included in the livelihood action plan prepared after the livelihood analysis. The capacity building aims at skill enhancement and not just knowledge and information. The expenditure for the training for livelihood component will be met from 5% of the budget component of the project cost earmarked for institution and capacity building. Detailed action plan for capacity building plan given below.

NAME OF PIA : POTHENCODE BLOCK PANCHAYATH

INSTITUTIONAL LEVEL TRAINING PROGRAMMES(AGRICULTURE & ALLIED ACTIVITIES)

Sl. No.	Name of Training	Name of Training Institution	Objectives	Target group	Place of training	Duration	No. Of Days	No.of participants	No.of batches	Amount (Rs)			Remarks
										Amount meet by PIA(each batch)	Amount meet by RSETI(each batch)	Total	
1	Vegetable Cultivation & Terrese farming	RSETI	Increase vegetable production & Income generation for JLG members	JLG members	Block panchayath hall	7 days	98 days	490	14	26,750	26,750	53,500*14=749000	Training expenditure included Rawmeterials, honorium, Refreshment,Book & Pen, Documentation & Field visit expense
2	Banana Cultivation	RSETI	Increase Banana production & Income generation for JLG members	JLG members	Block panchayath hall	7 days	35 days	175	5	25,000	25,000	50,000*5=250,000	Training expenditure included Raw materials, honorium, Refreshment, Book & Pen, Documentation & Field visit expence

3	Bee Keeping	RSETI	Increase Natural honey production & Income generation for JLG members	JLG members	Block panchayath hall	7 days	14 days	70	2	29,250	29,250	58,500*2=1,17,000	Training expenditure included Rawmeterials, honorium, Refreshment,Book & Pen, Documentation & Monitoring & evaluation expence
4	Poultry Managenent	RSETI	Increase Egg & meat production & Income generation for JLG members	JLG members	Block panchayath hall	9 days	45 days	175	5	23,750	23,750	47,500*5=2,37,500	Training expenditure included Rawmeterials, honorium, Refreshment, Book, Pen, Documentation & Field visit expence
5	Organic fertilizer & Pertiside Manufacturing	RSETI	Promote Organic farming & Income generation for JLG members	JLG members	Block panchayath hall	7 days	7 days	35	1	26,000	26,000	52,000	Training expenditure included Rawmeterials, honorium, Refreshment, Book & Pen, Documentation & Field visit expence

6	Preservation of Fruits	RSETI	Produce value added products & Income generation for JLG members	JLG members	Block panchayath hall	7 days	14 days	70	2	26,000	26,000	52,000*2=1,04,00	Training expenditure included Rawmeterials, honorium, Refreshment,Book, Pen, Documentation, Rent & haring expence
7	Floriculture & Nursery Management	RSETI	Income generation for JLG members	JLG members	Block panchayath hall	30 days	30 days	35	1	91,750	91,750	183,500	Training expenditure included Rawmeterials, honorium, Refreshment,Book & Pen, Documentation, Field visit expence
8	Preservation of Fish & Production of value added products	RSETI	Income generation for JLG members	JLG members	Block panchayath hall	7 days	7 days	35	1	26,750	26,750	53,500	Training expenditure included Rawmeterials, honorium, Refreshment,Book,Pen, Documentation, Rent & haring expence

NAME OF PIA : POTHENCODE BLOCK PANCHAYATH

INSTITUTIONAL LEVEL TRAINING PROGRAMMES(NON-FARMING SECTOR)													
Sl. No.	Name of Training	Name of Training Institution	Objectives	Target group	Place of training	Duration	No. Of Days	No.of participants	No.of batches	Amount (Rs)			Remarks
										Amount meet by PIA(each batch)	Amount meet by RSETI(each batch)	Total	
1	Garments Making	RESTI	Income generation for JLG members	JLG members	Block panchayath hall	21 days	105 days	150	5	59,500	59,500	1,19,000*5= 5,95,000	Training expenditure included Raw meterials, honorium, Refreshment, Book , Pen& Documentation expense
2	Beauty Parlour Management	RESTI	Income generation for JLG members	JLG members	RESTI training centre TVPM	30 days	30 days	30	1	84,150	84,150	168,300	Training expenditure included Rawmeterials, honorium, Refreshment, Book , Pen, Documentation and Travelling expense
3	Artificial Germ & Jewellery Making	RESTI	Income generation for JLG members	JLG members	Block panchayath hall	30 days	30 days	30	1	70,500	70,500	141,000	Training expenditure included Raw materials, honorium, Refreshment, Book , Pen & Documentation
4	Paper & Terracotta Jewels making	RESTI	Income generation for JLG members	JLG members	PIA level	7 days	35 days	150	5	25,250	25,250	50,500*5 = 2,52,500	Training expenditure included Raw materials, honorium, Refreshment, Book Pen& Documentation
5	Soap, Detergent & Lotion Manufacturing	RESTI	Income generation for JLG members	JLG members	Block Panchayat hall	6 days	30 days	150	5	21,000	21,000	42,000*5= 2,10,000	Training expenditure included Raw materials, honorium, Refreshment, Book Pen& Documentation
6	Rexin & Cloth Bag Making	RESTI	Income generation for JLG members	JLG members	Block panchayath hall	30 days	30 days	30	1	91,500	91,500	183,000	Training expenditure included Raw materials, honorium, Refreshment, Book, Pen, Documentation, Field visit & Machine rent.
7	Machine Embroidery	RESTI	Income generation for JLG members	JLG members	PIA level	30 days	60 days	60	2	81,500	81,500	1,63,000 *2=3,26, 000	Training expenditure included Raw materials, honorium, Refreshment, Book Pen, Documentation & Mechine rent.
8	Hand Embroidery	RESTI	Income generation for JLG members	JLG members	PIA level	30 days	60 days	60	2	74,250	74,250	1,48,500 *2=2,97, 000	Training expenditure included Raw materials, honorium, Refreshment, Book, and Pen & Documentation.

4.3 Entry point activity (EPA)

EPA activities are taken up under watershed projects to build a rapport with the village community at the beginning of the project; generally, certain important works which are in urgent demand of the local community are taken up**.** The Entry Point Activities of this project area are given below.

Si No	Name of Activities	Panchayat	Type	Amount	Outcome
1	Kalluvetti petta banni kulam	Pothenkod	pond renovation	150000	*Benifited area 3Ha *Benifited to 50 families
2	padukanichira	Pothenkod	Renovation of stream	275000	*Benifited area 20 Ha
3	Thudikottukonam	Pothenkod	pond renovation	400000	*Benifited area 15 ha *Benifited to 85 families
4	chirakonam	mangalapuram	pond renovation	100000	*Benifited area 12.5 ha *Benifited to 25 families
5	pattathil mundakkal madankavu	mangalapuram	pond renovation	650000	*Benifited area 33 ha * Benifited to 42 families
6	kaipillikulam	pothenkod	Pond renovation	320000	*Benifited area 18 Ha *Benefited to 23 families
7	pallipuram L.P.S	Andoorkonam	well recharge	50000	
8	Karichara G. L.P.S	Andoorkonam	well recharge	50000	
9	Adiyana construction	Manikkal	well recharge	400000	
10	G.U.P.S parakkal	Manikkal	well recharge	50000	
11	G.L.P.S vellanikkal	Manikkal	well recharge	50000	
12	G.L.P.S menamkulam	kadinamkulam	Water harvesting tank	100000	
13	G.U.P.S Kallure	Pothenkod	well recharge	80000	

14	G.U.P.S Pothenkod	Pothenkod	well recharge	50000	❖ All these water recharge system increase the ground water level and decrease the water scarcity of this institutions
15	G.H.S.S Thonnakkal	Mangalapuram	well recharge	80000	
16	G.L.P.S Thonnakkal	Mangalapuram	well recharge	50000	
17	Edavilakam G.U.P.S	Mangalapuram	well recharge	50000	
18	Perumathura G. U.P.S	Chirayinkeezhu	well recharge	40000	
19	Vailure G.H.S.S	Azhoor	well recharge	80000	
20	Perumkuzhi G.L.P.S	Azhoor	well recharge	25000	
21	G.L.P.S Manlakam	Pothenkod	well recharge	50000	
22	G.L.P.S Thachapalli	Pothenkod	well recharge	50000	
23	PHC vellanikkal	Manikkal	well recharge	50000	
24	G.U.P.S Koliakod	Manikkal	well recharge	50000	
25	G.L.P.S Channankara	kadinamkulam	Water harvesting tank	100000	
26	G.L.P.S Kadinamkulam	kadinamkulam	Water harvesting tank	100000	
27	Shanthipuram oldage home	kadinamkulam	well recharge	50000	
28	G.L.P.S Pattathil	mangalapuram	well recharge	50000	
29	PHC Mangalapuram	mangalapuram	well recharge	50000	
	TOTAL			3600000	

4.4 Natural Resource Management (NRM)

Natural resource management includes agriculture and non agriculture activities. Natural resource management refers to the management of natural resources such as land, water, soil, plants with a particular focus on how management affects the quality of life for both present and future generations. Activities under the NRM are showing below,

4.4.1 Afforestation

Afforestation is the establishment of a forest or stand of trees in an area where there was no forest. It is the re-establishment of forest cover, either naturally (by natural seeding) or artificially (by direct seeding or planting). The programs objectives are afforestation to create forests, slow down the water flow, increase carbon capture and sequestration, and help to improve biodiversity. Neem and Jack fruit are applied in this project under afforestation

4.4.2 Earthen Bund

Contour bund is a simple and low cost method of checking the velocity of runoff in the ridge area of any watershed. A contour bund is a bund constructed along a contour line. A contour line is a line, which joins together points of the same elevation. Making a bund along such a line increases the chances of containing runoff and improving soil moisture profile for a longer period of time within the bund.

4.4.3 Renovation of water harvesting structure

Means a deep water habitat created from a non-wetland site in connection with agricultural activities. Construction and renovation of pond bring the ground water table into safe stage in the project area.

4.4.4 Check dam construction

A check dam is a small dam, which can be either temporary or permanent, built across a minor channel, swale, bios wale, or drainage ditch. Similar to drop structures in purpose, they reduce erosion and gulling in the channel and allow sediments and pollutants to settle. They also lower the speed of water flow during storm events. Check dams can be built with logs, stone, or sandbags. Of these, the former two are usually permanent or semi-permanent; and the sandbag check dam is usually for temporary purposes. Also, there are check dams that are constructed with rock fill or wooden boards. This type of NRM activities also help to improve ground water level.

4.4.5 Well recharging

The broad aim of this programme is to improve the water quantity and quality levels of homestead open dug wells and small homestead ponds. This will contribute to enhanced health

and welfare of the community through improved access to drinking water and improve the ground water level. The reduction of public spending on Tanker Water Distribution to the water stressed regions which is common during summer is also envisaged as a broader goal of this programme.

4.4.6 Rain water harvesting Tank

Rain water harvesting is the accumulating and storing of rainwater for reuse before it reaches the aquifer. It has been used to provide drinking water, water for livestock, water for irrigation, as well as other typical uses. The method of rain water harvesting has been into practice since ancient times. It is as far the best possible way to conserve water and awaken the society towards the importance of water. The method is simple and cost effective too. It is especially beneficial in the areas, which faces the scarcity of water.

4.5 Production system and microenterprises (PS &ME)

One of the important components in the watershed development activities under IWMP includes support to production system management based livelihood activities and enterprises. Ten percent of the total project cost is assigned to support the production system and microenterprises for land owning households. This component aims to diversify and maximize the production and productivity of agriculture system as a whole and targets the land holders with cascading benefits to landless agriculture labour, leased in farmers and share croppers. Some of the activities under the PSM given below.

4.5.1 Psciculture

Fish farming is the principal form of aquaculture, while other methods may fall under Psciculture. Fish farming involves raising fish commercially in tanks or enclosures, usually for food. There is an increasing demand for fish and fish protein, which has resulted in widespread overfishing in wild fisheries. Fish farming offers fish marketers another source. The self-help groups can select the people who are going for the rabbit keeping.

4.5.2 vegetable garden

A vegetable garden is a garden that exists to grow vegetables and other plants useful for human consumption, in contrast to a flower garden that exists for aesthetic purposes. It is a small-scale form of vegetable growing. A vegetable garden typically includes a compost heap, and several plots or divided areas of land, intended to grow one or two types of plant in each plot. Plots may also be divided into rows with an assortment of vegetables grown in the different rows. It is usually located to the rear of a property in the back garden or back yard.

4.5.3 Spices Cultivation

Spice cultivation is the controlled growth of plants whose harvested parts are high in flavour and are used to season other foods. These include herbs, and may take the form of seeds, leaves, roots, bark, or other plant part

4.5.4 Supply of coconut seedling

An amount of Rs. 2100000 estimated for supply of 21000 D*T coconut seedling in this project

4.5.5 Coconut climber

In Kerala, it's getting increasingly difficult to hire labour to pluck coconuts. The main reason is that it is very risky. Coconut climbing device is the solution for that problem and increasing the income from that job. But the use of this device demands special training for the climbing labors. The self-help groups can select the labors for such training.

4.5.6 banana cultivation

Supply of banana seedlings and organic manure included in this project

4.5.7 Others

Tuber crops , supplying of fruit plants , fodder grass cultivation also include in this production system management

4.6 Livelihood support system (LSS)

One of the key features of the watershed development includes focused priority on livelihood activities for landless/asset less persons. Nine percent of the total project cost has been assigned to support the livelihood activities for landless/asset less households. This component aims to maximize the utilization of potential generated by watershed activities and creation of sustainable livelihoods and enhanced incomes for households within the watershed area. This will facilitate inclusiveness through enhanced livelihood opportunities for the poor through investment into assets, improvements in productivity and income, and access of the poor to common resources and benefits and augment the livelihood strategy at household level.

Diary unit, Goat rearing, mushroom cultivation, poultry unit, and tailoring unit are the selected LSS activities of this project.

4.6.1 Action plan of liveli hood activities

Sl No.	Name of Watershed	Name of entrepreneur	Total Cost for entrepreneur	Project Cost (Seed Money)	unit cost	Bank Loan
1	pothenkod kandu krishi thod Watershed	dairy 41 unit	1681000	1025000	41000	Nil
		poultry unit 50 unit	500000	1250000	10000	Nil
		Goat farming 40 unit	840000	1000000	21000	Nil
		mashroom cultivation 20 unit	600000	500000	30000	
		Tailoring unit 9 unit	405000	225000	45000	Nil
		rounded figure	1007			
			4027007	4000000	147000	0
2	Murinjapalam thod Watershed	dairy 13 unit	533000	325000	41000	Nil
		poultry unit 15	150000	375000	10000	Nil
		Goat farming 13unit	273000	325000	21000	Nil
		mashroom cultivation 10 unit	300000	250000	30000	nil
		Tailoring unit 5 nos	225000	125000	45000	Nil
		rounded figure	-2761			
			1478239	1400000		0
3	Karinjavayal Anakkapilla Thod	dairy 13 unit	533000	325000	41000	Nil
		poultry unit 17	170000	425000	10000	Nil
		Goat farming 16 unit	336000	400000	21000	Nil
		mashroom cultivation 11 unit	330000	275000	30000	nil
		Tailoring unit 5 unit	225000	125000	45000	Nil
		rounded figure	-1421			
			1592579	1550000		0
4	Paravathy Puthanar Watershed	dairy 6 unit	246000	150000	41000	Nil
		poultry unit 13	130000	325000	10000	Nil
		Goat farming 10 unit	210000	250000	21000	Nil
		mashroom cultivation 6 unit	180000	150000	30000	nil
		Tailoring unit 5 unit	225000	125000	45000	Nil
		rounded figure	-5057			
			985943	1000000		0
5	Kottaramthuruth Watershed	poultry unit nos 5	50000	125000	10000	Nil
		Goat farming 4 unit	84000	100000	21000	Nil
		rounded figure	7318			
			141318	225000		0

CHAPTER -5

GENERAL DESCRIPTION OF THE PROJECT AREA

5.1. About the project area

The word pothenkode is derived from the word Budhencode situated in the north west portion of Thiruvanathapuram Municipal Corporation .The historical background of the area was Ettuveetil Pillamar who rebelled against the Travancore king Marthandavarma in the late 18th century .After defeating pillai Marthandavarma destroyed kazhakootam pillais palace. He dug a pond and built a temple to Krishna nearby .Both the pond and the temple exist even now. Santhigiri ashram is situated here.

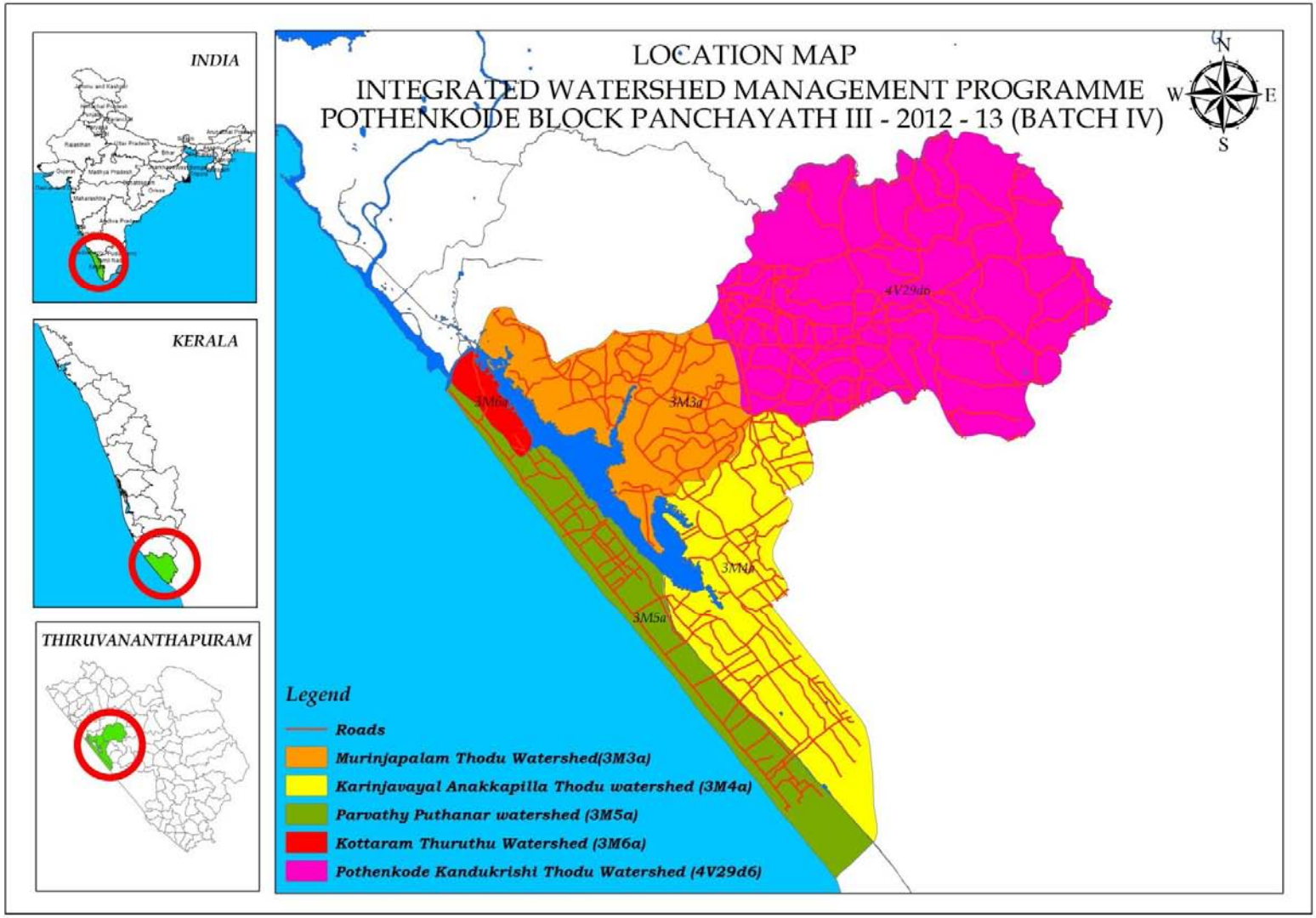
5.1.1 Location and extend

Project name	IWMP III- 2012-13 (batch- IV)
Co-ordinates	$8^0 32' 12"$ to $8^0 40' 48"$ N - 76^0 47'23" TO 76^0 55'5" E
west	Arabian sea
South	Trivandrum co-corporation
East	Nellanad panchayat
North	Muthakkal panchayath

5.1.2 Basic information of the project area

State	Kerala			Total area - 8416.64 Ha
District	Thiruvanathapuram			Treatable area - 7615.82 Ha
Taluk	Chirayinkeezh			Project amount - 9,13,89840
Block	Pothenkode ,Chirayinkeezh ,Vamanapuram			
Project name	IWMP- III- 2012-13 (batch- IV)			
Micro watersheds				
Watersheds	**Code no:**	**Area**	**Panchayath**	**Wards included**
Murinjapalam Thode	3M3a	1368.74 Ha	Azhoor & Mangalapuram	Azhoor : (2,3,11,12,13,14,15,16,17) Mangalapuram: (11,12,13,14,15,16,17,18,19)
Karinjavayal Anakkapilla thode	3M4a	1474.61 Ha	Andoorkonam Mangalapuram &Kadinamkulam	Andoorkonam:(1,2,11,12,13,14,15,16,17,18) Mangalapuram:(10,11,12,13) Kadinamkulam :(4,5,6,7,8,9,10,11,16)
Parvathy Puthanar	3M5a	912.91 Ha	Kadinamkulam chirayinkeezh	Kadinamkulam:(1,2,3,12,13,14,15,16,17,18,19,20,21,22,23) Chirayinkeezh:(10,11)
Kottaramthuruthu	3M6a	130.85 Ha	Azhoor & Kadinamkulam	Azhoor :(18,1) Kadinamkulam: (1)
Pothenkode Kandukrishi thode	4V29d6	3728.71 Ha	Pothenkode Manickal Mangalapuram Muthakkal	Pothenkode: (1,2,3,4,5,6,15,16,17,18) Manickal : (1,2,3,14,15,16,17,18,19,20,21) Mangalapuram :(3,4,5,6,7,8,9) Muthakkal : (13)

- **Location Map**



5.2. Criteria for Selection

SL NO	Criteria for selection of watershed	Max. score	Range and scores			
1	Poverty index (% of poor to population)	5	Above 80%(10)	80 to 50% (7.5)	50to 20%(5)	Below 20% (2.5)
2	%SCST population	5	More than 40%(10)	20 to 40% (5)	Less than 20%(3)	
3	Actual wages	5	Actual wages are lower than minimum wages(5)	Actual wages are equal to or higher than minimum wages(0)		
4	%of small and marginal farmers	10	More than 80%(10)	50to 80%(5)	Less than 50%(3)	
5	Groundwater status	0	Over exploited(5)	Critical(3)	Sub critical(2)	Safe(0)
6	Moisture index/DPAP/DDP block	15	-66.7 &below(15)DDP Block	-33.3 to -66.6(10) DPAP Block	0 to-33.2(0)non DPAP/DDP Block	
7	Area under rain fed agriculture	15	More than 90%(15)	80to 90%(10)	70 to 80%(5)	Above 70%(rejected)
8	Drinking water	7.5	No source(10)	Problematic village(7.5)	Partially covered(5)	Fully covered(0)
9	Degraded land	10	High-above 20%(15)	Medium-10 to 20%(10)	Low-less than 10% of TGA(5)	
10	Productivity potential of land	10	Lands with low production &where productivity can be significantly enhanced with reasonable efforts(15)	Lands with moderate production &where productivity can be enhance with reasonable efforts(10)	Lands with high production &where productivity can marginally enhanced with reasonable efforts(5)	
11	Contiguity to another watershed that has already been developed/treated	10	Contiguous to previously treated watershed &contiguity within the micro watersheds in the project(10)	contiguity within the micro watersheds in the project but non contiguous to previously treated watershed(5)	Neither contiguous to previously treated watershed nor contiguity within the micro watershed in the project(0)	
12	Cluster approach in the plains(more than one contiguous micro watersheds in the project)	10	Above 6 micro watersheds in cluster(15)	4to6microwatershed(10)	2 to 4 micro water sheds in cluster(5)	
	Cluster approach in the hills(more than one contiguous micro watersheds in the project)		Above 5 micro watersheds in the cluster(15)	3 to 5 micro watersheds in the cluster(10)	2 to 3 micro watersheds in cluster(5)	

5.2.1 Weightage under the criteria

No	Name of the project	No of micro watershed	Proposed project area	Proposed Cost	Weightage under the criteria													
					1	2	3	4	5	6	7	8	9	10	11	12	13	Average
1	IWMP 111-2012/13 (Batch – IV)	5	7615.82 Ha	91389840	5	3	0	5	1	0	10	5	5	10	5	0	10	59

5.3.Physiography

The project area is located on the coastal area of Arabian Sea and Majority of the area is constituted in Plain area 3536 Ha which is 46.42%. 2760 Ha area is comes under the Coastal Plain category. Compare to the other parts of the project area western part is elevated region and 1320 Ha area is comes under Plateau region and highest elevation in the project area is 135 m also lowest in 80m . The below table gives the slope of the entire project area.

		4V29d6		3M6a		3M5a		3M4a		3M3a		Total	
Sl No	type	Area Sqkm	Area Ha	Area Sqkm	Area Ha	Area Sqkm	Area Ha	Area Sqkm	Area Ha	Area Sqkm	Area Ha	Area Sqkm	Area Ha
1	Coastal Plain	0	0	1.31	131	9.12	912	11.46	1146	5.71	571	27.6	2760
2	Plain	24.09	2409	0	0	0	0	3.29	329	7.98	798	35.36	3536
3	Plateau	13.2	1320	0	0	0	0	0	0	0	0	13.2	1320
	Total	37.29	3729	1.31	131	9.12	912	14.75	1475	13.69	1369	76.16	7616

5.4. Name of catchment

Major Drains	1. Kilyar river 2. Parvathy puthanar 3. Kadinam kulam lake
Mamam river	

5.5. Slope

Majority of the area is constituted in gentle level 3112 Ha which is 40.86 % of the total area. Moderately sloping area covered 3088 Ha which is 40.56 %. The below table gives the details slope of the entire project area.

		4V29d69		3M6a		3M5a		3M4a		3M3a		Total	
Sl No	type	Area Sqkm	Area Ha	Area Sqkm	Area Ha	Area Sqkm	Area Ha	Area Sqkm	Area Ha	Area Sqkm	Area Ha	Area Sqkm	Area Ha
1	0 - 5	0	0	1.31	131	9.12	912	12.05	1205	8.64	864	31.12	3112
2	5% - 15%	24.09	2409	0	0	0	0	2.55	255	4.24	424	30.88	3088
3	15% - 35%	13.2	1320	0	0	0	0	0.15	15	0.8	80	14.15	1415
	35% - 50%		0	0	0	0	0	0	0	0.01	1	0.01	1
	Total	37.29	3729	1.31	131	9.12	912	14.75	1475	13.69	1369	76.16	7616

5.6.Climate

5.6.1 Rainfall

STATION: TRIVANDRUM CITY												
MONTHLY TOTAL RAINFALL (MM)												
YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2004	0.0	2.8	36.9	105.5	433.5	259.5	270.0	121.4	348.6	202.1	111.2	20.9
2005	0.8	0.0	18.4	292.4	187.4	248.3	245.0	43.1	215.3	215.4	379.4	108.5
2006	31.7	0.2	57.5	70.8	216.4	191.1	159.3	101.7	416.4	567.8	318.2	4.1
2007	1.5	2.3	1.6	202.4	196.0	329.2	311.1	147.5	279.4	318.5	209.3	7.4
2008	0.0	18.2	314.5	178.6	117.2	101.7	234.4	177.0	203.5	336.2	266.3	77.5
2009	1.8	0.0	64.3	29.0	199.0	188.5	209.8	80.5	203.8	119.9	359.3	39.1
2010	132.5	0.0	191.4	120.0	195.7	251.2	226.7	102.7	135.4	413.5	278.0	169.7
2011	28.8	107.6	1.5	162.9	41.8	271.1	101.7	69.1	156.7	109.2	275.9	278.3
2012	13.2	7.9	19.4	159.1	84.2	106.2	161.3	164.5	86.2	149.7	179.8	61.7
2013	4.2	43.1	79.7	30.5	107.2	499.0	246.5	128.1	196.4	214.0	275.2	31.7

STATION: TRIVANDRUM CITY												
NUMBER OF RAINY DAYS												
YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2004	0	0	2	7	14	18	17	6	17	12	12	2
2005	0	0	2	14	4	20	17	4	12	11	14	6
2006	3	0	5	4	10	8	12	10	13	15	13	1
2007	0	0	0	9	8	16	21	10	21	15	5	1
2008	0	3	13	10	5	12	15	8	10	12	11	3
2009	0	0	3	1	8	18	13	8	12	6	12	3
2010	2	0	2	7	15	16	15	14	11	14	17	7
2011	2	5	0	9	6	12	9	5	10	7	10	3
2012	1	1	2	8	7	12	10	12	8	10	9	6
2013	1	3	3	3	9	23	22	8	18	9	10	3

5.6.2 Temperature

STATION : THIRUVANANTHAPURAM CITY												
MEAN MAXIMUM TEMPERATURE (^{O}c)												
YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004	33.0	33.9	34.4	34.0	31.3	30.7	30.0	30.9	30.6	31.2	31.7	33.0
2005	32.8	34.0	34.3	32.9	33.2	30.9	30.2	31.8	30.9	31.7	30.6	31.3
2006	32.0	34.0	33.9	33.9	32.7	31.9	30.7	31.1	31.1	30.8	31.3	33.3
2007	33.0	33.1	34.1	33.8	32.8	31.2	30.2	30.7	30.7	31.2	32.0	32.2
2008	33.3	33.3	31.8	32.5	32.9	31.4	30.6	31.3	31.4	31.8	31.2	32.3
2009	33.1	33.9	34.3	34.1	33.5	31.0	30.4	31.2	31.1	32.3	31.5	32.5
2010	32.5	33.6	35.0	33.9	33.0	31.6	30.5	30.3	31.2	30.8	31.0	30.8
2011	32.1	33.0	33.9	33.4	32.9	31.2	30.7	31.1	31.0	32.5	31.3	31.9
2012	32.1	33.2	33.6	33.7	32.3	31.6	31.3	31.0	31.7	32.1	31.9	32.2
2013	32.7	33.4	33.8	34.6	32.9	29.3	29.7	30.6	30.9	32.4	31.8	32.6

MEAN MINIMUM TEMPERATURE(^{O}C)												
YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2004	21.4	21.9	23.6	23.9	22.6	23.2	23.5	23.6	23.7	23.9	23.5	22.6
2005	22.9	23.4	25.1	24.7	25.6	24.2	23.8	23.8	23.8	24.0	23.5	22.8
2006	22.5	22.9	24.7	25.5	25.0	24.2	23.3	23.4	23.5	23.1	22.5	21.7
2007	21.8	22.4	24.1	25.3	25.2	24.0	23.5	23.9	23.7	23.4	23.0	22.7
2008	22.3	23.2	23.8	24.7	25.1	23.9	23.3	23.6	23.0	23.8	23.3	22.6
2009	21.9	22.5	24.6	25.5	25.7	24.4	23.6	24.0	23.9	24.1	23.4	23.7
2010	22.4	23.5	24.7	25.6	25.5	24.2	23.4	23.5	23.9	23.9	23.5	22.7
2011	22.8	23.1	24.2	24.8	25.4	24.6	23.8	24.1	24.1	24.4	23.2	23.1
2012	21.6	23.2	24.8	25.2	25.7	24.4	24.3	24.0	24.3	24.2	23.8	23.6
2013	22.7	22.9	24.5	26.2	25.4	23.3	23.3	23.9	23.8	23.9	23.9	22.9

5.7 Geology

The project area is located on the coastal area of Arabian Sea and Majority of the area is Constituted under Crystalline Rock Category 3343 Ha which is 43.89 % , followed by unconsolidated Sediments 2495Ha which is 32.7 % and 1778 Ha area of the project area comes under Semi Consolidated Sediments which is 23.34% The below table gives the slope of the entire project area.

		4V29d6		3M3a		3M4a		3M5a		3M6a		Total	
Sl No	Type	Area Sqkm	Area Ha	Area Sqkm	Area Ha	Area Sqkm	Area Ha	Area Sqkm	Area Ha	Area Sqkm	Area Ha	Area Sqkm	Area Ha
1	Un consolidated Sediments	0	0	2.39	239	12.14	1214	9.12	912	1.3	130	24.95	2495
2	Semi Consolidated Sediments	3.98	398	11.3	1130	2.49	249	0	0	0.01	1	17.78	1778
3	Crystalline Rocks	33.31	3331	0	0	0.12	12	0	0	0	0	33.43	3343
	Total	37.29	3729	13.69	1369	14.75	1475	9.12	912	1.31	131	76.16	7616

5.8 Ground water

Ground Water occurs under phreatic; semi confined and confined conditions along the foliation planes and joints and mainly along the horizontal to low dipping fracture zones and vertical to sub vertical deep seated fractures in the crystalline rocks. The pore space present in the weathered rocks, lithomarge, Laterite and alluvium from potential phreatic aquifers in the area. Depth to water level pre- monsoon is 1.4 to 19.69 bgl and post monsoon is 1.26 to 19.88 bgl . Ground water prosperity is given below,

Ground Water Prosperity	Area in Ha	Area at %
Moderate	3765.23	49.44
Very good	2126.39	27.92
Very good to good	1724.38	22.64
Total	7616	100

5.9 Water supply and irrigation

Source	4V29d6	3M3a	3M4a	3M5a	3M6a	Total	% of the project area)
	Ha						
River , Streams	47.6	21	17	9	6.5	101.1	1.327
Ponds	16	10.3	5.3	4.6	2	38.2	0.502
Well	74	37	41.8	27	8	187.8	2.466
public tap	3	2.1	5.3	3.6	2.3	16.3	0.214
Canals ,Natural Springs	3.5	1.8	0	1	0	6.3	0.083
Total	144.1	72.2	69.4	45.2	18.8	349.7	4.59
	3.86	5.27	4.71	4.95	14.37	4.59	

5.10 Socio – Economic condition of the project area

5.10.1 Demographic profile

Watersheds	Family	General		population	SC family	ST family	BPL Households	Landless families	small scale farmers	marginal farmers	large scale farmers
		M	F								
4V29d6	19784	34171	35073	69244	6147	4	14032	76	13127	4017	48
3M3a	11021	18883	19690	38573	2036	2	9874	61	6314	2301	30
3M4a	13471	23089	24059	47148	1597	1	10024	44	5674	1024	21
3M5a	8067	13876	14358	28234	413	1	4691	14	7468	841	17
3M6a	411	676	790	1466	94	1	119	39	132	41	2
Total	52754	90695	93970	184665	10287	9	38740	234	32715	8224	118

Source: baseline survey

5.10.2 Infrastructure facilities in the project area

SL NO.	Infrastructure	Total
1	ANGAN WADIES	32
2	LP SCHOOL	14
3	UP SCHOOL	9
4	HIGH SCHOOL	7
6	PHC	10
7	COLLEGE	
8	POST OFFICE	12
9	RATION SHOP	8
11	TEMPLE	29
13	MOSQUE	31
15	PLAYING GROUND	4
16	CLUBS	17
17	MADRASSA	6
18	SMALL INDUSTRIES	14
21	BRIDGE	5
22	POULTRY FARM	11

(Source: baseline survey)

5.10.3 Age wise classification of the project area

Project name	Age Group										Total		Grand Total
	.1-5		.6-15		16 - 40		41 – 60		>61				
	M	FM	M	FM	M	FM	M	FM	M	FM	M	FM	
IWMP III-2012/13	4655	4980	10774	11198	64833	67193	10012	10148	421	451	90695	93970	184665

(Source: baseline survey)

5.10.4 Employment analysis **(Baseline survey)**

Sl No.	Employment	Total
1	Agriculture	41057
2	Business	2041
3	Coolie	46412
4	Government	471
5	MGNREGS labours	1315
6	Pension	784
7	Student	31607

5.10.5 Income analysis

Sl No.	Income	Total
1	0-5000	9714
2	5001-10000	2614
3	10001-25000	269
4	25001-50000	73
5	50001-100000	46
6	Above 100001	13

Source: Baseline survey

5.10.6 Type of dwelling

House type	No. of families
Concrete	12318
Tiled	35174
Huts	5245
Temporary Shelter	17
Total	52754

Source: Baseline survey

5.10.7 Land Holding Size

Project Name	0-5 Cents	5-50	50-250	250-500	Above 500 cents
IWMP - III - 2012-13	11637	40915	137	41	24

5.11 Animal husbandry and dairying (Source: baseline survey)

Watersheds	Cattle	Milk /liter/yearly	Goat	Milk /liter/yearly	Poultry (Backyard)	Duck	Rabbit	Piggery	Milk Marketing Societies
4V29d6	411	1632615.3	671	44755.7	6010	961	141	97	11
3M3a	298	1183745.4	486	32416.2	2011	901	211	69	4
3M4a	287	1140050.1	391	26079.7	3648	583	67	88	8
3M5a	176	699124.8	107	7136.9	2871	1100	258	17	4
3M6a	99	393257.7	95	6336.5	2086	249	96	9	2
Total	1271	5048793	1750	116725	16626	3794	773	280	29

5.12 Transportation

Name of panchayat	National highway	State high way	PWD roads	Panchayat road (km)		Length in kilometers
				Metalled	earthen	Railway track
Pothenkod			34.6	21	16.2	
Manikkal		4.3	28.1	16	5.7	5
Managalapuram	3.5		19.8		18.1	
Andoorkonam	10.1		27.8	20	11	8.6
Kadinakulam			17.1	14.16	9.9	1.6
Chirayinkeezhu						4.8

5.13 soil

Majority of the project area is Constituted under Sandy Clay Category 3714 Ha which is 51.39 % , followed by Loamy Sand/Clay 1986 Ha which is 26.07 % and 1247 Ha area of the project area comes under Sand which is located along the Arabian sea which is 16.37 % and 664 Ha land under Alluvial Soil category located on the paddy fields. The below table gives the slope of the entire project area.

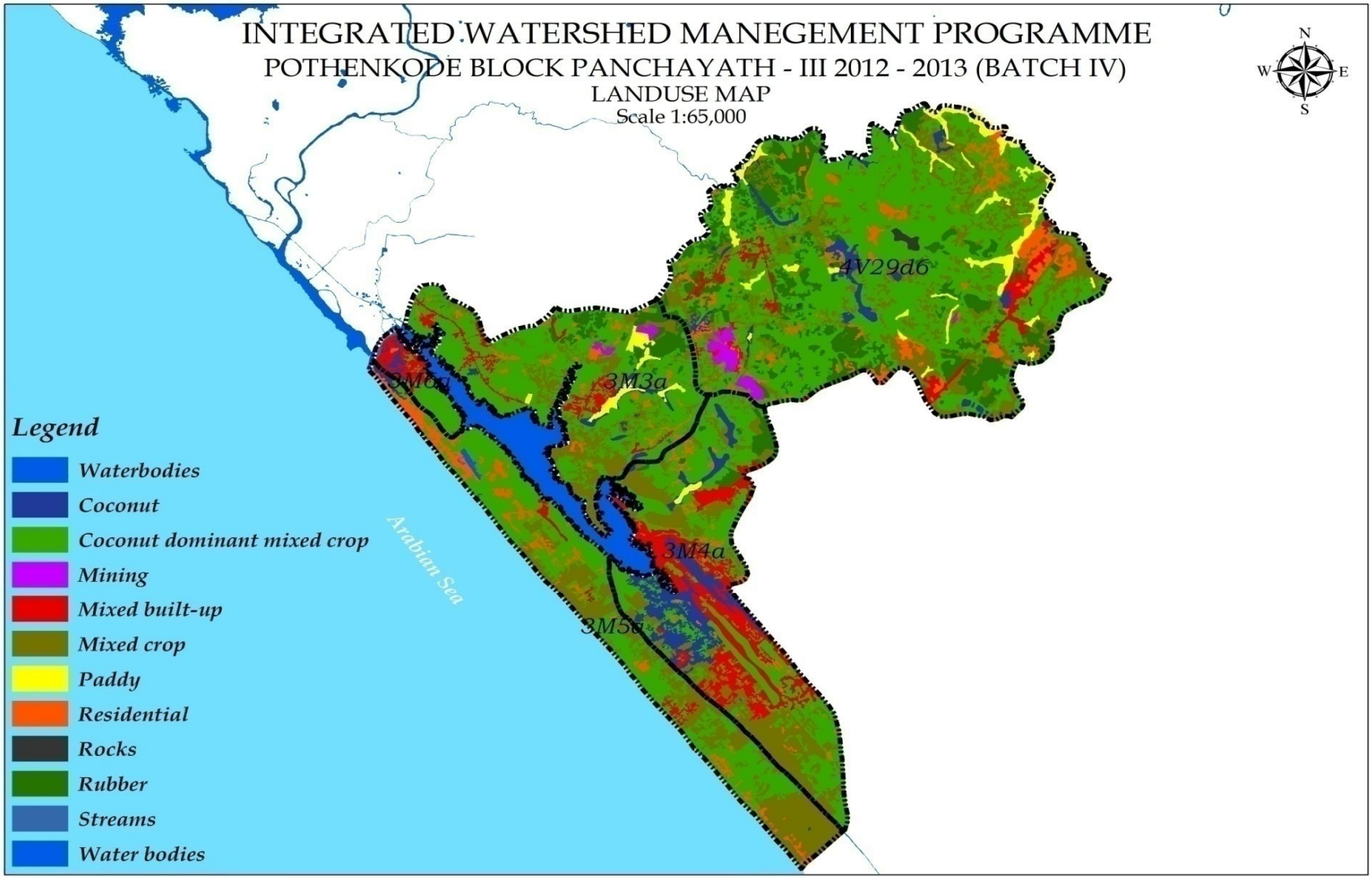
		4V29d6		**3M4a**		**3M5a**		**3M6a**		**3M3a**		Total	
Sl No	type	Area Sqkm	Area Ha	Area Sqkm	Area Ha	Area Sqkm	Are a Ha	Area Sqkm	Are a Ha	Area Sqkm	Area Ha	Area Sqkm	Area Ha
1	Loamy Sand/Clay	0	0	7.4	740	0.38	38	0	0	12.08	1208	19.86	1986
2	Alluvial	4.05	405	0.64	64	0	0	0	0	0	0	4.69	469
3	Sand	0	0	2.24	224	8.74	874	1.31	131	0.18	18	12.47	1247
4	Sandy Clay	33.24	3324	4.47	447	0	0	0	0	1.43	143	39.14	3914
	Total	37.29	3729	14.75	1475	9.12	912	1.31	131	13.69	1369	76.16	7616

5.14 Land Use

Sl No	type	4V29d6		3M3a		3M6a		3M5a		3M4a	
		Area Sq km	Area Ha	Sqkm	Area Ha	Sqkm	Area Ha	Sqkm	Area Ha	Sqkm	Area Ha
1	Coconut	1.02	102	0.27	27	0.17	17	0.1	10	2.08	208
2	Coconut Dominant Mixed Crop	19.2	1920	8.45	845	0.67	67	3.99	399	4.92	492
3	Mining	0.45	45	0.13	13	0	0	0	0	0	0
4	Mixed Built up	1.22	122	0.69	69	0.43	43	0.21	21	3.12	312
5	Mixed Crops	6.43	643	2.33	233	0	0	3.53	353	3.7	370
6	Paddy	1.57	157	0.41	41	0	0	0	0	0.07	7
7	Residential	2.1	210	0.46	46	0.01	1	1.17	117	0.37	37
8	Rock	0.11	11	0	0	0	0	0	0	0	0
9	Rubber	5.16	516	0.93	93	0	0	0	0	0.42	42
10	Streams	0.02	2	0.01	1	0.03	3	0.05	5	0.06	6
11	Water body	0.01	1	0.01	1	0	0	0.07	7	0.01	1
	Total	**37.29**	**3729**	**13.69**	**1369**	**1.31**	**131**	**9.12**	**912**	**14.75**	**1475**

5.14.1 Cropping pattern

Sl No	Type	4V29d6	3M3a	3M6a	3M5a	3M4a
		Area/ Ha	Area /Ha	Area/ Ha	Area/ Ha	Area /Ha
1	Coconut	102	27	17	10	208
3	Vegetable	63.9	37	18.7	11	8
4	tapioca	40.5	13.3	2	26	21
5	Mixed Crops	643	233	0	353	370
6	Paddy	157	41	0	0	7
7	Areacanut	18.8	7	10.8	1.5	47
9	Rubber	516	93	0	0	42
	Total	**1541.2**	**451.3**	**48.5**	**401.5**	**703**


INTEGRATED WATERSHED MANEGEMENT PROGRAMME
POTHENKODE BLOCK PANCHAYATH - III 2012 - 2013 (BATCH IV)
LANDUSE MAP
Scale 1:65,000
N
W
E
S
4V29d6
3M3a
3M6a
3M4a
3M5a
Arabian Sea
Legend
Waterbodies
Coconut
Coconut dominant mixed crop
Mining
Mixed built-up
Mixed crop
Paddy
Residential
Rocks
Rubber
Streams
Water bodies

CHAPTER -6
PROBLEMS IN THE PROJECT AREA

6.1. Agricultural Sector:

- For agriculture purposes there is wide usage of pesticides and hazardous chemicals which lead to destruction of natural enemies of pests. It also creates environmental pollution and directly affects mankind and nature.
- Ignorance about scientific agriculture methods.
- Lack of unskilled of Labours in paddy cultivation, coconut climbing and vegetable cultivation etc.
- Hike in cost of production and lack of getting fair value for crops due to following the traditional agricultural methods.
- Lack of skilled labourers

6.2. Animal Husbandry Sector:

- Scarcity of hybrid cows and goats.
- Hike in price of cattle feed.
- Lack of proper facilities for milk marketing.
- Lack of scientific, modernized cow shed.
- Production of milk is very poor from dairy farming sector due to the scarcity of fodder grass and grazing land.

6.3. Water and Soil Conservation Sector:

- Soil erosion
- Canals and other water reservoirs are being filled with sediments.
- Lack of water and soil conservation activities.
- Commonness of land filling and razing of earth.
- Water bodies are being polluted by waste disposal.
- Over use of chemical fertilizers and insecticides.
- Acute shortage of drinking water is the main problem in the project area
- Ground water depletion is also experienced in some parts due to the large number of bore well

6.4 Suggestion

- Applying scientific agricultural method.
- Increase irrigation facilities by preservation of canals and ponds.
- Encourage group farming system.
- Production of bio fertilizers and vermicompost.
- Use of bio-insecticides instead of chemical insecticides.
- Construction of new ponds and water reservoirs to encourage, summer vegetable cultivation.
- Implement school vegetable garden project.
- Encourage reclamation of barren land for cultivation.
- Form labour force to reduce scarcity of labours and provide them with adequate training to understand the latest technology in agriculture. Provide monitory help to buy machinery.
- Extend help for self-employment for "Kudumbasree Members".
- Encourage mushroom cultivation, apiculture, cattle breeding.
- Plant medical plants and fruit bearing trees on schools and other institution.
- Construction of rain water harvesting pits, and reservoirs and biogas plants.
- Make high yielding cattle available.
- Encourage fodder grass - azolIa cultivation.
- Undertake floriculture and sericulture.
- Farm vegetative cover along slope areas and thereby form bio belt.
- Protection of side walls of lakes.
- Formation of scientific cowshed and artificial milk machinery.
- Establishment of factories for the production of cattle feed at government

CHAPTER - 7

BUDGET OF THE PROJECT AREA

7.1 Budget plan of the cluster area

Year	Administration	Monitoring	Evaluation	Entry Point Activity	Institution & Capacity Building	DPR Preparation	Natural Resource Management	Livelihood support system	Production System and Micro Enterprises	Consolidation Phase	Total
2012-13	1142373	182780	137085	3655594	228475	913898	0	0	0	0	6260204
%	1.25	0.20	0.15	4.00	0.25	1.00	0.00	0.00	0.00		6.85
2013-14	3198644	274170	274170	0	1827797	0	24135320	0	4569492	0	28997996
%	3.50	0.30	0.30		2.00		26.39	0.00	5.00		31.73
2014-15	3198644	274170	274170	0	1370848	0	16520320	4569492	4569492	0	33110539
%	3.50	0.30	0.30		1.50		18.06	5.00	5.00	0.00	36.23
2015-16	1599322	182780	228475	0	1142373	0	51216379	3655594	0	2741695.2	23021101
%	1.75	0.20	0.25		1.25		11.55	4.00	0.00	3.00	25.19
Total	9138984	913898	913898	3655594	4569492	913898	51178311	8225086	9138984	2741695.2	91389840
%	10.00	1.00	1.00	4.00	5.00	1.00	56.00	9.00	10.00	3.00	100.00

7.2 Budget plan of Pothenkod Kandukrishithod watershed

Year	Administration	Monitoring	Evaluation	Entry Point Activity	Institution & Capacity Building	DPR Preparation	Natural Resource Management Activities	Livelihood Activities	Production System Micro Enterprises	Consolidation Phase	Total
2012-13	559306.5	89489.04	44744.52	1789781	111861	447445	0	0	0	0	3042627
%	1.25	0.20	0.10	4.00	0.25	1.00	0.00	0.00	0.00		6.8
2013-14	1566058.2	111861.3	111861.3	0	894890	0	14180000	0	2237226	0	13830531
%	3.50	0.25	0.25		2.00		31.64	0.00	5.00		30.9
2014-15	1566058.2	111861.3	111861.3	0	894890	0	6565000	2237226	2237226	0	16058808
%	3.50	0.25	0.25		2.00		14.6	5.00	5.00	0.00	35.9
2015-16	783029.1	134233.56	178978.08	0	335584	0	4350000	1789781	0	1342336	11814030
%	1.75	0.30	0.40		0.75		9.70	4.00	0.00	3.00	26.4
Total	4474452	447445.2	447445.2	1789781	2237226	447445	25056932	4027007	4474452	1342336	44745997
%	10.00	1.00	1.00	4.00	5.00	1.00	56.00	9.00	10.00	3.00	100

7.3 Budget plan of Murinjapalam thod watershed

Year	Administration	Monitoring	Evaluation	Entry Point Activity	Institution & Capacity Building	DPR Preparation	Natural Resource Management Activities	Livelihood Activities	Production System Micro Enterprises	Consolidation Phase	Total
2012-13	205311	32849.76	16424.88	656995	41062	164249	0	0	0	0	1116892
%	1.25	0.20	0.10	4.00	0.25	1	0	0.00	0.00		7
2013-14	574870.8	41062.2	41062.2	0	328498	0	3284976	0	821244	0	5091713
%	3.50	0.25	0.25		2.00		20	0	5		31
2014-15	574870.8	41062.2	41062.2	0	328498	0	3284976	821244	821244	0	5912957
%	3.50	0.25	0.25		2.00		20	5	5	0.00	36
2015-16	287435.4	49274.64	65699.52	0	123187	0	2627981	656995	0	492746.4	4303319
%	1.75	0.30	0.40		0.75		16	4	0	3.00	26
Total	1642488	164248.8	164248.8	656995	821244	164249	9197933	1478239	1642488	492746.4	16424880
%	10.00	1.00	1.00	4.00	5.00	1	56	9	10	3.00	100

7.4 Budget plan of Karinjavayala Anakkapilla thod watershed

Year	Administration	Monitoring	Evaluation	Entry Point Activity	Institution & Capacity Building	DPR Preparation	Natural Resource Management Activities	Livelihood Activities	Production System Micro Enterprises	Consolidation Phase	Total
2012-13	221191.5	35390.64	17695.32	707812.8	44238.3	176953.2	0	0	0	0	1203281.76
%	1.25	0.20	0.10	4.00	0.25	1.00	0.00	0.00	0.00		6.80
2013-14	619336.2	44238.3	44238.3	0	353906.4	0	3539064	0	884766	0	5485549.2
%	3.50	0.25	0.25		2.00		20.00	0.00	5.00		31.00
2014-15	619336.2	44238.3	44238.3	0	353906.4	0	3539064	884766	884766	0	6370315.2
%	3.50	0.25	0.25		2.00		20.00	5.00	5.00	0.00	36.00
2015-16	309668.1	53085.96	70781.28	0	132714.9	0	2831251.2	707812.8	0	530859.6	4636173.84
%	1.75	0.30	0.40		0.75		16.00	4.00	0.00	3.00	26.20
Total	1769532	176953.2	176953.2	707812.8	884766	176953.2	9909379.2	1592578.8	1769532	530859.6	17695320
%	10.00	1.00	1.00	4.00	5.00	1.00	56.00	9.00	10.00	3.00	100.00

7.5 Budget plan of Paravathy Puthanar watershed

Year	Administration	Monitoring	Evaluation	Entry Point Activity	Institution & Capacity Building	DPR Preparation	Natural Resource Management Activities	Livelihood Activities	Production System Micro Enterprises	Consolidation Phase	Total
2012-13	136936.5	21909.84	10954.92	438196.8	27387.3	109549.2	0	0	0	0	744934.56
%	1.25	0.20	0.10	4.00	0.25	1.00	0.00	0.00	0.00		6.80
2013-14	383422.2	27387.3	27387.3	0	219098.4	0	2738730	0	547746	0	3943771.2
%	3.50	0.25	0.25		2.00		25.00	0.00	5.00		36.00
2014-15	383422.2	27387.3	27387.3	0	219098.4	0	2738730	547746	547746	0	4491517.2
%	3.50	0.25	0.25		2.00		25.00	5.00	5.00	0.00	41.00
2015-16	191711.1	32864.76	43819.68	0	82161.9	0	657295.2	438196.8	0	328647.6	1774697.04
%	1.75	0.30	0.40		0.75		6.00	4.00	0.00	3.00	16.20
Total	1095492	109549.2	109549.2	438196.8	547746	109549.2	6134755.2	985942.8	1095492	328647.6	10954920
%	10.00	1.00	1.00	4.00	5.00	1.00	56.00	9.00	10.00	3.00	100.00

7.6 Budget plan of Kottaramthuruth watershed

Year	Administration	Monitoring	Evaluation	Entry Point Activity	Institution & Capacity Building	DPR Preparation	Natural Resource Management Activities	Livelihood Activities	Production System Micro Enterprises	Consolidation Phase	Total
2012-13	19627.5	3140.4	1570.2	62808	3925.5	15702	0	0	0	0	106773.6
%	1.25	0.20	0.10	4.00	0.25	1.00	0.00	0.00	0.00		6.80
2013-14	54957	3925.5	3925.5	0	31404	0	392550	0	78510	0	565272
%	3.50	0.25	0.25		2.00		25.00	0.00	5.00		36.00
2014-15	54957	3925.5	3925.5	0	31404	0	392550	78510	78510	0	643782
%	3.50	0.25	0.25		2.00		25.00	5.00	5.00	0.00	41.00
2015-16	27478.5	4710.6	6280.8	0	11776.5	0	94212	62808	0	47106	254372.4
%	1.75	0.30	0.40		0.75		6.00	4.00	0.00	3.00	16.20
Total	157020	15702	15702	62808	78510	15702	879312	141318	157020	47106	1570200
%	10.00	1.00	1.00	4.00	5.00	1.00	56.00	9.00	10.00	3.00	100.00

PART -II

CHAPTER -8
INDIVIDUAL WATERSHEDS

8.1 Pothenkod kandukrishi thod watershed (4V29d6)

8.1.1 Introduction

Pothenkode kandukrishithodu is the largest watershed in this project whose total project area is3732.81 h in which the total treatable area is 3728.71 Ha .This watershed covers the areas of Pothencode Block Panchayath and Vamanapuram Block Panchayath. Pothencode kandukrishithode watershed lies on 4 panchayaths namely mudakkal,Manikkal,Mangalapuram,Pothencode. The watershed boundaries of this watershed are in north side Mamam River and elanjimood temple is the boundary .in South side pothencode junction and panchayath market. In west side Thonnakkal bus stop and in east velavoor bridge.

8.1.2 Physiography

4V29d6 micro watershed located on the eastern part of the Project area and most of the area 2409Ha coming under plain region which is about 64.59 % of the total area and other part of the project area constituted in plateau region 1320 which is about 35.39 % of the total area. Highest elevation in the plateau region is 135m and lowest elevation is 80m. Below table showing Physiography of 4V29d6 watershed.

	4V29d6		
Sl No	type	Area Sqkm	Area Ha
1	Coastal Plain	0	0
2	Plain	24.09	2408.71
3	Plateau	13.2	1320
	Total	37.29	3729

8.1.3 Annual action plan of natural resource management activities

Activities	Name of panchayat	unit	Target	convergence amount (MGNREGS)	I year-2012-13	Target	II Year	Target	III Year (2014-15)	Target	IV Year (2015-16)
SOIL & MOISTURE CONSERVATION											
stone pitched bund		**Ha**	**9**	108000	0	9	108000		0		0
Earthen Bund		**Ha**	**76.8**	921600	0	12.5	150000	23	276000	41.3	495600
Centripetal Terracing		**Nos**	**192**	11556	0	192	11556		0		0
Mulching		**Nos**	**192**	1926	0	192	1920				
	Total			**1043082**	0						

Activities	Name of panchayat	unit	Target	convergence MGNREGS	IWMP amount	WDF	I year-2012-13	Target	II Year (2013-14)	Target	III Year (2014-15)	Target	IV Year (2015-16)
WATER HARVESTING STRUCTURE(NEW CREATED)		**Nos**											
plakeezhu check dam construction	manikkal	**Nos**	1	22735	1100000	110000	0					1	1100000
pattathil thod check dam	mangalapuram	**Nos**	1	241121	700000	70000	0	1	700000				
WELL RECHARGE in anganawadi	manikkal	**Nos**	13		195000	19500	0	13	195000				
Well recharges Type - 1		**NOS**	70		490000	49000		50		20	490000		
Well recharges - Type - 2		**Nos**	**551**		5510000	551000	0	381	3810000	170	1700000		
puthayam (adiyana construction)	manikkal	**Nos**	**1**	200000	400000	40000			400000				
nellikad (adiyana construction)	manikkal	**Nos**	**1**	165000	400000	40000			400000				

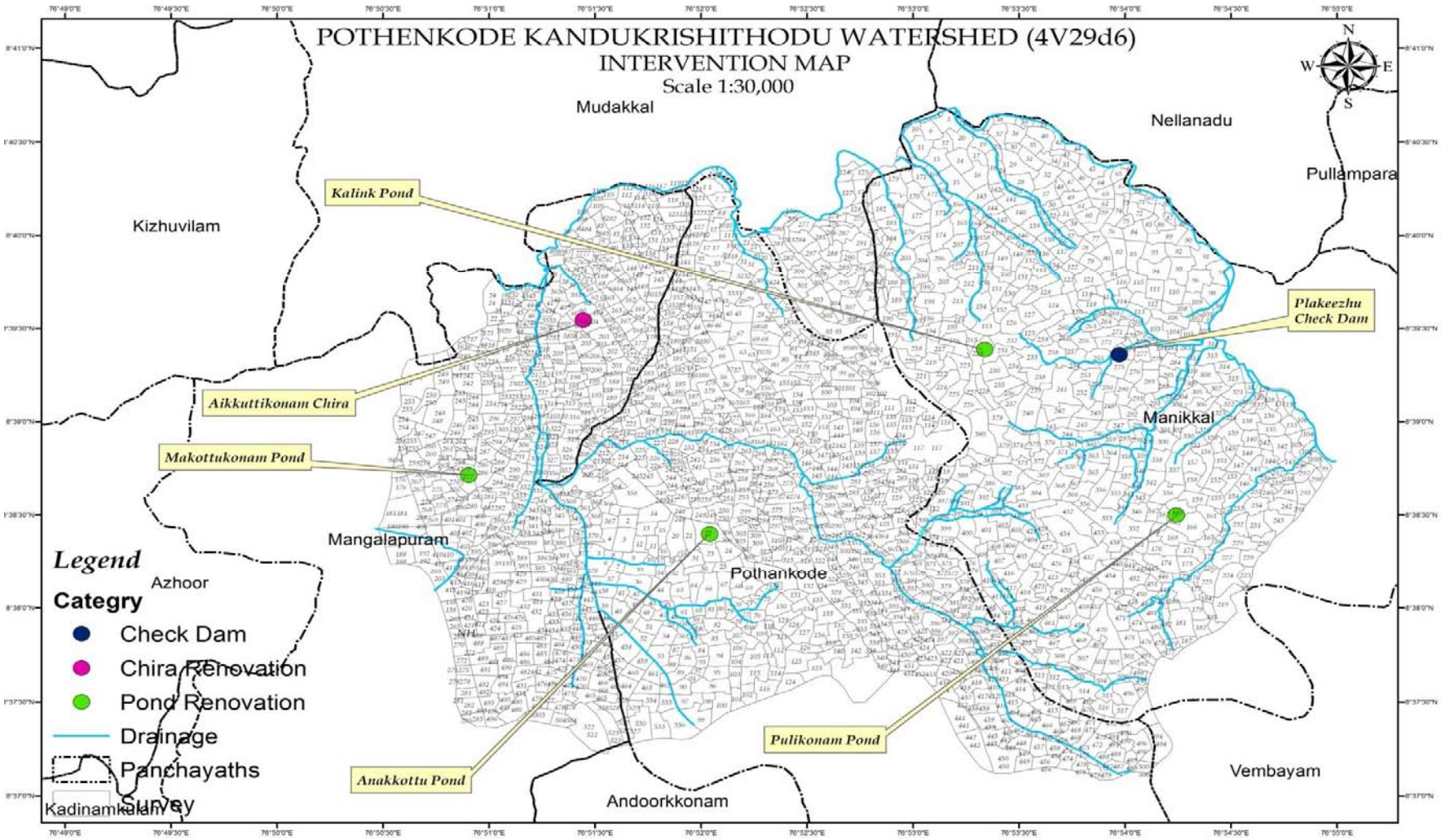
janmabhoomi (adiyana construction)	manikkal	**Nos**	**1**	220000	400000	40000							400000
pathekkar (adiyana construction)	manikkal	**Nos**	**1**	444000	400000	40000							400000
Munamb chira check dam	mangalapuram	**Nos**	1	44948	300000	30000	0					1	300000
WATER HARVESTING STRUCTURE(RENOVATION)													
Pulikonam pond	manikkal	**Nos**	1	173900	1450000	145000	0					1	1450000
Thamarabagam pond	manikkal	**Nos**	1	31357	200000	20000	0	1	200000				
Thalakonam pond	manikkal	**Nos**	1		175000	17500	0			1	175000		
Thoppil pond	manikkal	**Nos**	1	166272	900000	90000	0	1	900000				
Mathanad temple pond	manikkal	**Nos**	1	54468	800000	80000	0	1	800000				
Muttukonam pond	manikkal	**Nos**	1	428293	2150000	215000	0	1	2150000				
Kalink pond	manikkal	**Nos**	1		200000	20000	0	1	200000				
cheruavzhi pond	manikkal	**Nos**	1		700000	70000	0					1	700000
pulinthanam pond	manikkal	**Nos**	1		700000	70000	0			1	700000		
Anakottu pond	pothenkod	**Nos**	1	70672	275000	27500	0	1	275000				
Thachapalli valiya pond	pothenkod	**Nos**	1	228090	1525000	152500	0	1	1525000				
chakkam pond	pothenkod	**Nos**	1	71213	350000	35000	0	1	350000				
kaloor pond	pothenkod	**Nos**	1	644160	850000	85000	0			1	850000		
Makottukonam pond	mangalapuram	**Nos**	1	100000	500000	50000	0	1	500000				
kudavoor mahadeva temple pond	mangalapuram	**Nos**	1	298560	1200000	120000	0	1	1200000				
Aikuttikonam chira	mangalapuram	**Nos**	1	203026	1450000	145000	0			1	1450000		
kunnath temple pond	pothenkod	**Nos**	1	52236	575000	57500	0	1	575000				
lakshmipuram pond	manikkal	**Nos**	1		1200000	120000				1	1200000		
TOTAL					**25095000**				**14180000**		**6565000**		**4350000**

8.1.4 Annual action plan of production system management activities

						II Year (2013-14)			III Year (2014-15)			IV Year (2015-16)		
Sl:No	ACTIVITIES	COMPONENTS WISE SPLIT UP	No. Of units	Unit cost (Rs.)	Amount	**No. Of units**	**Unit cost (Rs.)**	**Amount**	**No. Of units**	**Unit cost (Rs.)**	**Amount**	**No. Of units**	**Unit cost (Rs.)**	**Amount**
1	Supply of coconut seedlings	1 unit = 1 coconut seedling including its transportation + 5 naphthalene balls	15000	100	1500000	**7000**	**100**	**700000**	**8000**	**100**	**800000**	**0**	**100**	**0**
2	Supply of coconut climbing device	1 Unit = 1 device	21	4000	84000	**5**	**4000**	**20000**	**16**	**4000**	**64000**	**0**	**4000**	**0**
3	Banana cultivation	1 unit = 4 TC banana plantlets + 20 kg Vermicompost and 50 ml Pseudomonas	2400	175	420000	**1200**	**175**	**210000**	**1200**	**175**	**210000**	**0**	**175**	**0**
4	Vegetable gardens	1 Unit = 25 seedlings / seed packets worth Rs. 50 + 50 ml	6000	150	900000	**3000**	**150**	**450000**	**3000**	**150**	**450000**	**0**	**150**	**0**

		pseudomonas + 5 kg Vermicompost												
5	Tuber cultivation	1 Unit = 5 EFY+5 Colocasia + 5 yam Planting materials	623	150	93450	**300**	**150**	**45000**	**323**	**150**	**48450**	**0**	**150**	**0**
6	Supply of fruit plant grafts	1 Unit = 1 jack + 1 mango graft	7500	90	675000	**4000**	**90**	**360000**	**3500**	**90**	**315000**	**0**	**90**	**0**
7	Spices cultivation	1 Unit = 20 rooted pepper cuttings + 1 kg Trichoderma	450	200	90000	**200**	**200**	**40000**	**250**	**200**	**50000**	**0**	**200**	**0**
8	Fodder cultivation	1 Unit = 20 slips of Fodder grass	130	100	13000	**60**	**100**	**6000**	**70**	**100**	**7000**	**0**	**100**	**0**
9	Medicinal plant cultivation	1 Unit = 5 varieties of plants	1752	125	219000	**850**	**125**	**106250**	**902**	**125**	**112750**	**0**	**125**	**0**
10	Homestead farming and terrace cultivation	1 unit = 20 growbags	240	2000	480000	**150**	**2000**	**300000**	**90**	**2000**	**180000**	**0**	**2000**	**0**
	Rounded figure				2			-24			26			
					4474452			**2237226**			**2237226**			

8.1.6 Interventions Map



8.2 Murinjapalam thod watershed (3M3a)

8.2.1 Introduction

Murinjapalam thod Neerthadam covers the areas of two gramapanchayaths named Azhoor and Mangalapuram of Pothencode block panchayath. The total project area of the watershed is 1552.19h and in this total treatable area is 1368.74 hecters. This area was famous for coir in earlier times. Clay mining was very prominent in this watershed area. This watershed area includes the areas coming under azhoor,Chirayinkeezhu,Kadinamkulam,Veyiloor villages.The watershed boundaries of Murinjapalam watershed is in the North Azhoor bhagavathy temple and Azhoor-perumathura thodu in South-Murukkumpuzha Kadinamkulam lake,in East-Kanyakumari –Panavel Road,in West-Kadinamkulam lake and perunguzhi kadavu.

8.2.2 Physiography

3M3a micro watershed is coastal region located on the Western part of the project area and due to the influence of the Arabian sea and the backwater most of the region is coming under Plain region category 798Ha which is about 58.29% of the total area and the remaining area of the watershed coming under Coastal plain category 571Ha which is about 41% of the total area. Below table showing Physiography of 3M3a

	3M3a		
Sl No	type	Area Sqkm	Area Ha
1	Coastal Plain	5.71	571
2	Plain	7.98	798
3	Plateau	0	0
	Total	13.69	1369

8.2.3 annual action plan of natural resource management activities

Activities	unit	Target	convergence (MGNREGS)	IWMP amount	WDF	I year-2012-13	Target	II Year 2013-14	Target	III Year 2014-15	Target	IV Year 2015-16
Afforestation						0						
Jack friut		20		40000	4000	0	8	16000	10	20000	2	4000
Neem	**Ha**	14		28000	2800	0			4	8000	10	20000
Soil & Moisture Conservation	**Ha**				0	0						
Earthen Bund	**Ha**				0	0						
Centripetal Terracing	**Nos**	254		15240	1524	0	16	960	6	360	232	13920
Mulching	**Nos**	311		3110	311	0	297	2970	2	20	12	120
Water Harvesting Structure(New Created)					0	0						
well recharge - Type 1	**Nos**	50		350000	35000				50	350000		
well recharge - Type 2	**Nos**	347		3470000	347000		125	1250000			222	2220000
parayil thod check dam	**Nos**	1	18061	800000	80000	0	1	800000				
pirmukk kozhimada thod check dam	**Nos**	1	116798	750000	75000	0	1	750000				
chilamb kalink check dam	**Nos**	1		500000	50000	0	1	500000				
Water Harvesting Structure(Renovation)					0	0						
vellam pond	**Nos**	1	314309	225000	22500	0			1	225000		
mathasserikonam pond	**Nos**	1	230585	500000	50000	0			1	500000		
karikulam	**Nos**	1	125000	700000	70000	0			1	700000		
Ottukuzhi urava protection	**Nos**	1		316575	31657.5	0			1	316575		

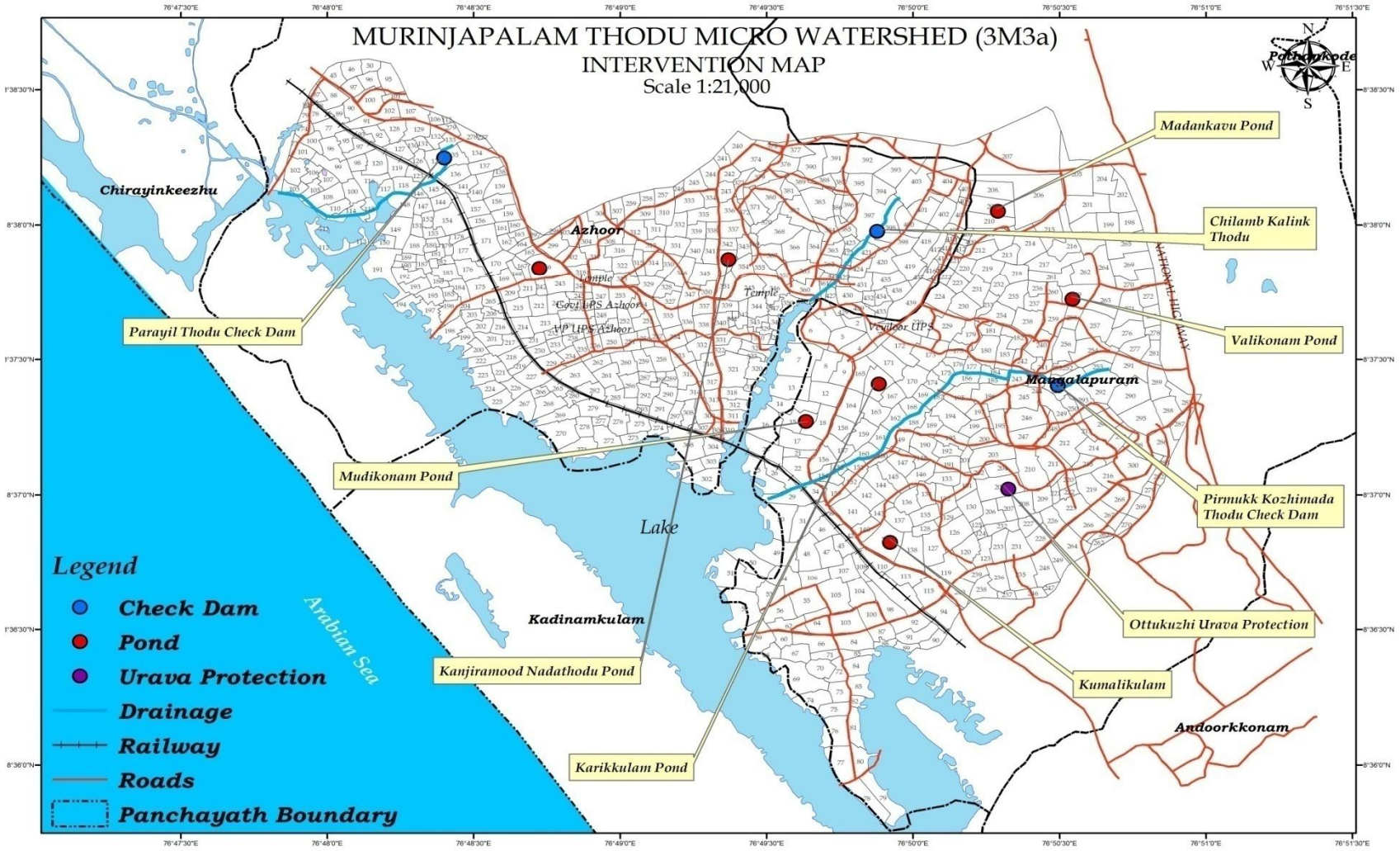
mudikonam pond	**Nos**	1	100000	750000	75000	0					1	750000
madankavu pond	**Nos**	1	80000	400000	40000	0					1	400000
valikonam pond	**Nos**	1	100000	350000	35000	0					1	350000
Rounded Figure				8				46		21		-59
Total				**9197933**				**3319976**		**2119976**		**3757981**

8.2.4 annual action plan of production system management activities

			II Year (2013-14)			**III Year (2014-15)**			**IV Year (2015-16)**					
SI:No	ACTIVITIES	COMPONENTS WISE SPLIT UP	No. Of units	Unit cost (Rs.)	Amount	No. Of units	Unit cost (Rs.)	Amount	No. Of units	Unit cost (Rs.)	Amount	No. Of units	Unit cost (Rs.)	Amount
1	Supply of coconut seedlings	1 unit = 1 coconut seedling including its transportation + 5 naphthalene balls	2400	100	240000	1000	100	100000	1400	100	140000	0	0	0
2	Supply of coconut climbing device	1 Unit = 1 device	5	4000	20000	5	4000	20000		4000	0	0	0	0
3	Banana cultivation	1 unit = 4 TC banana plantlets + 20 kg vermicompost and 50 ml Psuedomonas	1000	175	175000	1000	175	175000		175	0	0	0	0

4	Vegetable gardens	1 Unit = 25 seedlings / seed packets worth Rs. 50 + 50 ml psuedomonas + 5 kg vermicompost	4000	150	600000	2000	150	300000	2000	150	300000	0	0	0
5	Tuber cultivation	1 Unit = 5 EFY+5 Colocasia + 5 yam Planting materials	213	150	31950	100	150	15000	113	150	16950	0	0	0
6	Supply of fruit plant grafts	1 Unit = 1 jack + 1 mango graft	833	90	74970	300	90	27000	533	90	47970	0	0	0
7	Spices cultivation	1 Unit = 20 rooted pepper cuttings + 1 kg Trichoderma	61	200	12200	20	200	4000	41	200	8200	0	0	0
8	Fodder cultivation	1 Unit = 20 slips of Fodder grass	121	100	12100	40	100	4000	81	100	8100	0	0	0
9	Medicinal plant cultivation	1 Unit = 5 varieties of plants	1650	125	206250	594	125	74250	1056	125	132000	0	0	0
10	Homestead farming and terrace cultivation	1 unit = 20 grow bags	135	2000	270000	51	2000	102000	84	2000	168000	0	0	0
	Rounded figure				-16			-6			4			
					1642488			**821244**			**821224**			

8.2.6 Intervention map



8.3 Karinjavayal Anakkapillathod watershed (3M4a)

8.3.1 Introduction

Karinjavayal anakkapilla thodu neerthadam coveres the areas of Andoorkonam gramapanchayath,kadinamkulam gramapanchayath,Mangalapuram gramapanchayath s of pothencode block panchayath. The total area of 3M3a watershed is 1794.15 hecters and total treatable area of this watershed is1474.61 hecters, in this 721.73 hecter belongs to kadinankulam gramapanchayath,492.08 hecters of Andoorkonam Grama Panchayath and 275.55 hecters of Mangalapuram Grama Panchayath. The watershed boundaries in the north is kunnil thodu and chembakamangalam in the south sideof the watershed id pallipuram junction and coporation boundary, the eastern boundary of karinjavayal anakkapilla watershed is kaniyapuram railway station andin western side the parvathyputhanar neerthadam is the boumdary. In karinjavayal Anakkapilla thod watershed there are 24 wards of three panchayaths.And this watershed covers the areas coming under seven villages.

8.3.2 Physiography

3M4a micro watershed is coastal region located on the Western part of the project area and due to the influence of the Arabian sea and the backwater most of the region is coming under Coastal Plain region category 1146Ha which is about 77.69 % of the total area and the remaining area of the watershed coming under plain category 329Ha which is about 22.30 % of the total area. Below table showing Physiography of 3M4a watershed

	3M4a		
Sl No	type	Area Sqkm	Area Ha
1	Coastal Plain	11.46	1146
2	Plain	3.29	329
3	Plateau	0	0
	Total	14.75	1475

8.3.3 Annual action plan of Natural resource management activities

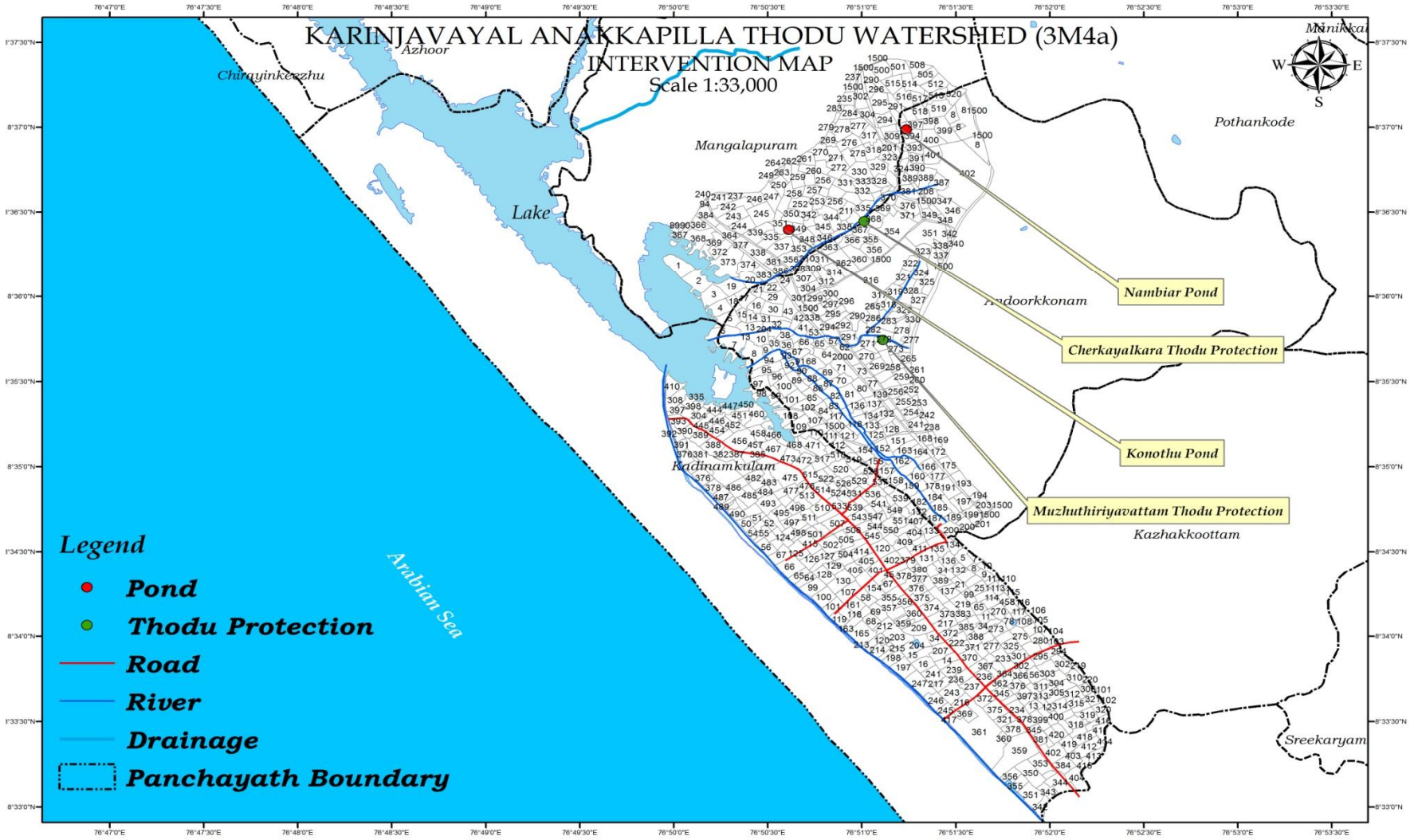
Activities	unit	Target	convergence (MGNREGS)	IWMP amount	WDF	I year-2012-13	Target	II Year 2013-14	Target	III Year 2014-15	Target	IV Year 2015-16
Afforestation												
Jack fruit		25		50000	5000		10	20000			15	30000
Neem	**Ha**	10		20000	2000	0	4	8000	4	8000	2	4000
Soil & Moisture Conservation	**Ha**				0	0						
Earthen Bund	**Ha**				0	0						
Centripetal Terracing	**Nos**	**281**		16860	1686	0	184	11040	97	5820		
Mulching	**Nos**	**248**		2480	248	0	2	20			246	2460
Water Harvesting Structure(New Created)												
cherukayalkara thod	**Nos**	1	75000	800000	80000	0	1	800000				
well recharge type 1	**Nos**	75		525000	52500				75	525000		
Well recharge -type 2	**Nos**	338		3380000	338000	0	138	1380000	100	1000000	100	1000000
Water Harvesting Structure(Renovation)					0	0						
muzhuthiriyavattam thod	**Nos**	1	300000	2500000	250000	0			1	2500000		
Nambiar pond	**Nos**	1	200000	2000000	200000	0	1	2000000				
konothupond	**Nos**	1	Nill	615000	61500	0					1	615000
Rounded Figure				39				4		244		-208.8
TOTAL				**9909379**				**4219064**		**4039064**		**1651251**

8.3.4 Annual action plan of production system management activities

			II Year (2013-14)			III Year (2014-15)			IV Year (2015-16)					
Sl:No	ACTIVITIES	COMPONENTS WISE SPLIT UP	No. Of units	Unit cost (Rs.)	Amount	No. Of units	Unit cost (Rs.)	Amount	No. Of units	Unit cost (Rs.)	Amount	No. Of units	Unit cost (Rs.)	Amount
1	Supply of coconut seedlings	1 unit = 1 coconut seedling including its transportation + 5 naphthalene balls	2400	100	240000	1000	100	100000	1400	100	140000	0	0	0
2	Supply of coconut climbing device	1 Unit = 1 device	5	4000	20000	5	4000	20000		4000	0	0	0	0
3	Banana cultivation	1 unit = 4 TC banana plantlets + 20 kg Vermicompost and 50 ml Pseudomonas	1000	175	175000	1000	175	175000		175	0	0	0	0
4	Vegetable gardens	1 Unit = 25 seedlings / seed packets worth Rs. 50 + 50 ml psuedomonas + 5 kg vermicompost	4000	150	600000	2000	150	300000	2000	150	300000	0	0	0

5	Tuber cultivation	1 Unit = 5 EFY+5 Colocasia + 5 yam Planting materials	213	150	31950	100	150	15000	113	150	16950	0	0	0
6	Supply of fruit plant grafts	1 Unit = 1 jack + 1 mango graft	833	90	74970	300	90	27000	533	90	47970	0	0	0
7	Spices cultivation	1 Unit = 20 rooted pepper cuttings + 1 kg Trichoderma	61	200	12200	20	200	4000	41	200	8200	0	0	0
8	Fodder cultivation	1 Unit = 20 slips of Fodder grass	121	100	12100	40	100	4000	81	100	8100	0	0	0
9	Medicinal plant cultivation	1 Unit = 5 varieties of plants	1650	125	206250	594	125	74250	1056	125	132000	0	0	0
10	Homestead farming and terrace cultivation	1 unit = 20 grow bags	135	2000	270000	51	2000	102000	84	2000	168000	0	0	0
	Rounded figure				-16			-6			4			
					1642488			**821244**			**821224**			

8.3.6 **Interventions** Map



8.4 Parvathyputhanar watershed (3M5a)

8.4.1 Introduction

Parvathy puthanaar watershed covers the areas of Kadinamkulam grama panchayath of Pothencode block panchayath and Chirayinkeezhu gramapanchayath of Chirayinkeezhu Block Panchayath. The total extent of project area of Parvathy puthanaar watershed is 1157.88 hector, in which treatable area is only 912.91 Ha. This watershed includes the areas of Aatipra, Azhoor,Chirayinkeezhu,Kadinamkulam,Kazhakkoottam-menamkulam villages. The watershed boundaries were i the North Perumathura Juma Masjid is the boundary and in South Pallithura bus stop and thiruvananthapuram corporation boundary in East parvathy puthanar and kadinamkulam lake, finally in the west Arabian Sea is the boundary.

8.4.2 Physiography

3M5a micro watershed is coastal region located on the Western part of the project area and is a coastal plain region. 912 Ha land of the watershed is comes under coastal land. Below table showing Physiography of 3M5a.

	3M5a		
Sl No	**Type**	**Area Sqkm**	**Area Ha**
1	Coastal Plain	9.12	912
2	Plain	0	0
3	Plateau	0	0
	Total	**9.12**	**912**

8.4.3 Annual action plan of Natural resource management activities

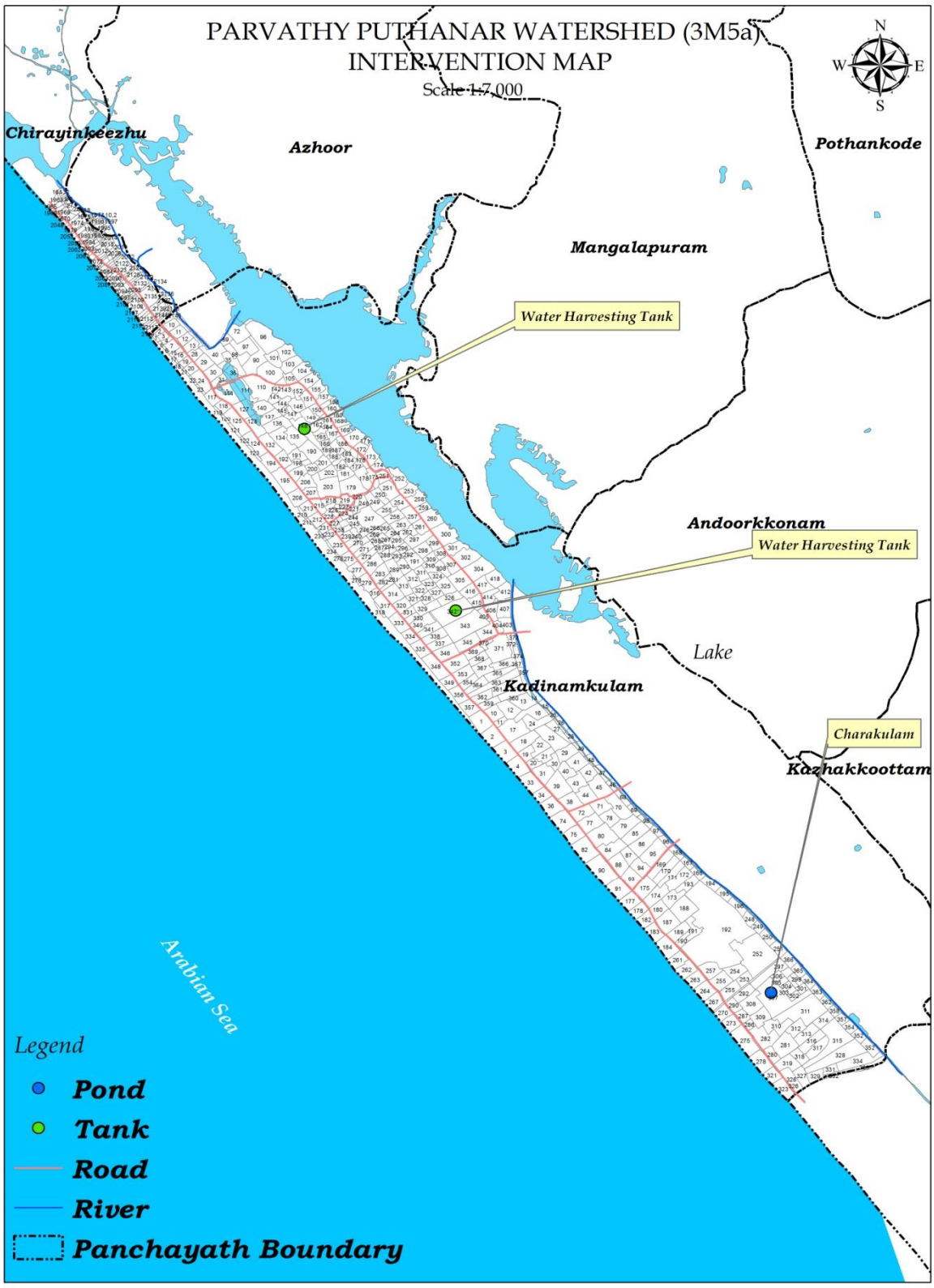
Activities	unit	Target	convergence (MGNREGS)	IWMP amount	I year-2012-13	Target	III Year 2013-14	Target	III Year 2014-15	Target	IV Year 2015-16
Afforestation					0						
Jack friut	Ha	25.99		51980		4.23	8460	14.87	29740	6.89	13780
Neem	Ha	10		20000	0	5	10000			5	10000
Soil & Moisture Conservation	Ha				0						
EARTHERN BUND	Ha				0						
CENTRIPETAL TERRACING	Ha	310	18600		0						
MULCHING	Ha	334	3340		0						
Water Harvesting Structure(New Created)					0						
Anganvadi recharage	Nos	13		195000	0	13	195000				
water harvesting Tank (st. mikel's HSS)	Nos	1		49637	0	1	49637				
waterharvesting tank(Shanipuram oldage home)	Nos	1		49637	0	1	49637				
public well recharge (fishermen colony)	Nos	1		23500	0					1	23500
water conservation tanks	Nos	20		1500000		20	1500000				
well recharge - Type 1	Nos	50		350000		28	196000	22	154000		
well recharge -Type 2	Nos	253		2530000		73	730000	119	1190000	61	610000
Water Harvesting Structure(Renovation)					0						
choorakulam	Nos	1	625000	1365000	0			1	1365000		
Rounded Figure				1.2			-4		-10		15.2
Total				**6134755**			**2738730**		**2738730**		**657295**

8.4.4 Annual action plan for production system management activities

			II Year (2013-14)			III Year (2014-15)			IV Year (2015-16)					
Sl:No	ACTIVITIES	COMPONENTS WISE SPLIT UP	No. Of units	Unit cost (Rs.)	Amount	No. Of units	Unit cost (Rs.)	Amount	No. Of units	Unit cost (Rs.)	Amount	No. Of units	Unit cost (Rs.)	Amount
1	Supply of coconut seedlings	1 unit = 1 coconut seedling including its transportation + 5 naphthalene balls	1600	100	160000	900	100	90000	700	100	70000	0	0	0
2	Supply of coconut climbing device	1 Unit = 1 device	9	4000	36000	5	4000	20000	4	4000	16000	0	0	0
3	Banana cultivation	1 unit = 4 TC banana plantlets + 20 kg Vermicompost and 50 ml Pseudomonas	1200	175	210000	700	175	122500	500	175	87500	0	0	0
4	Vegetable gardens	1 Unit = 25 seedlings / seed packets worth Rs. 50 + 50 ml pseudomonas + 5 kg Vermicompost	1300	150	195000	800	150	120000	500	150	75000	0	0	0

5	Tuber cultivation	1 Unit = 5 EFY+5 Colocasia + 5 yam Planting materials	210	150	31500	100	150	15000	110	150	16500	0	0	0
6	Supply of fruit plant grafts	1 Unit = 1 jack + 1 mango graft	750	90	67500	500	90	45000	250	90	22500	0	0	0
7	Spices cultivation	1 Unit = 20 rooted pepper cuttings + 1 kg Trichoderma	300	200	60000	200	200	40000	100	200	20000	0	0	0
8	Fodder cultivation	1 Unit = 20 slips of Fodder grass	110	100	11000	60	100	6000	50	100	5000	0	0	0
9	Medicinal plant cultivation	1 Unit = 5 varieties of plants	500	125	62500	202	125	25250	298	125	37250	0	0	0
10	Homestead farming and terrace cultivation	1 unit = 20 grow bags	51	2000	102000	32	2000	64000	19	2000	38000	0	0	0
11	psciculture		16	10000	160000	0	10000	0	16	10000	160000	0	0	0
	Rounded figure				**-8**			**-4**			**-4**			
					1095492			**547746**			**547746**			

8.4.6 Intervention map



8.5 Kottaramthuruth watershed (3M6a)

8.5.1 Introduction

Kottaramthuruthu Watershed was the smallest watershed in this project. This watershed covers two panchayaths namely Azhoor and Kadinamkulam of Pothencode Block panchayath. The total extent of the project area is 179.61 Ha. And the treatable area is 130.85 hectors. This watershed is surrounded by water bodies in three sides. The watershed boundaries were in north Kadinamkulam Lake in South-cheraman thuruthu and in east-kadinamkulam Lake in West kottaramthuruthu.

8.5.2 Physiography

3M6a micro watershed is coastal region located on the Western part of the project area and is a coastal plain region. 131 Ha land of the watershed is comes under coastal land. Below table showing Physiography of 3M6a watershed.

	3M6a		
Sl No	**type**	**Area Sqkm**	**Area Ha**
1	Coastal Plain	1.31	131
2	Plain	0	0
3	Plateau	0	0
	Total	**1.31**	**131**

8.5.3 Annual action plan for natural resource management

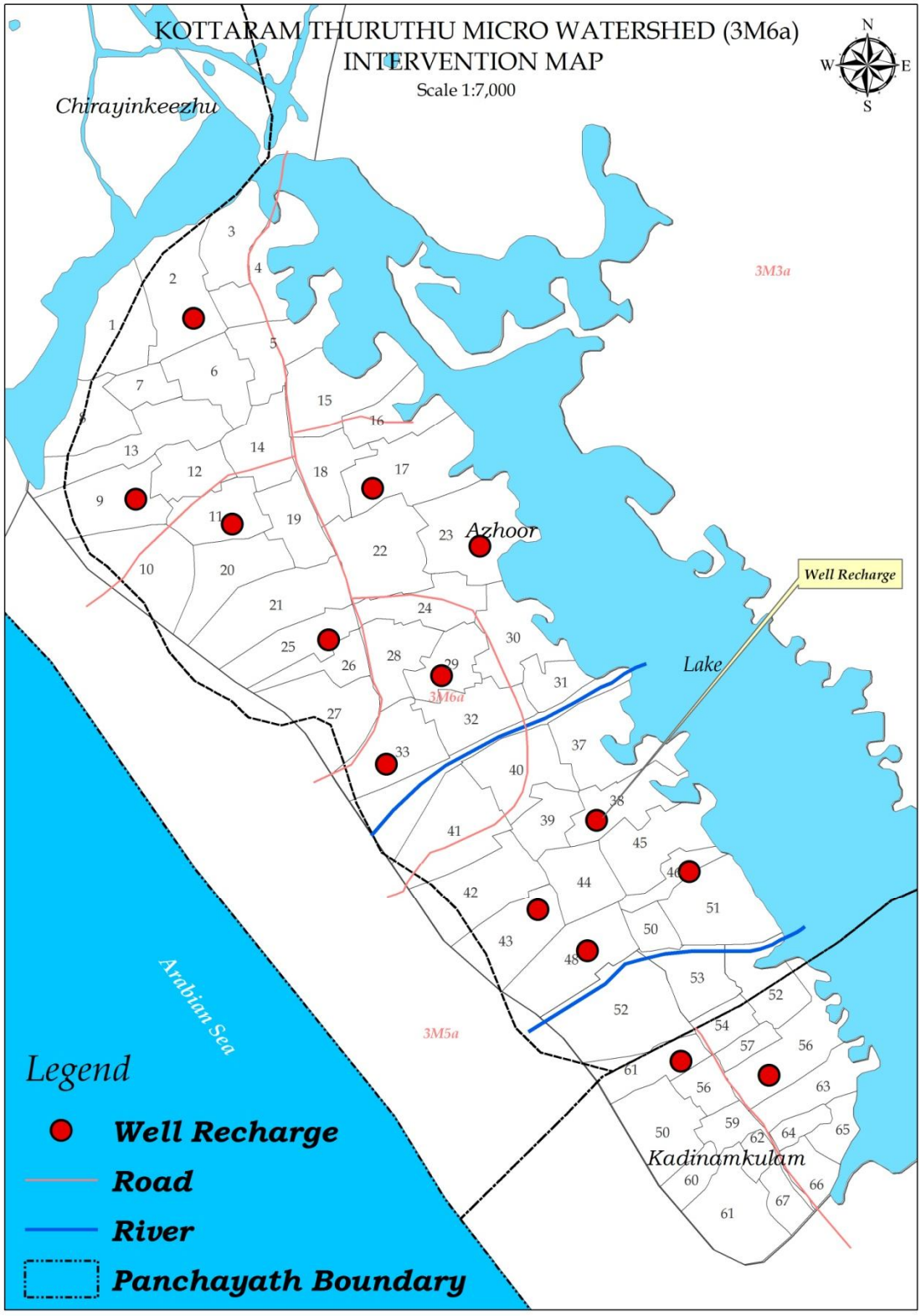
Activities	unit	Target	convergence	IWMP amount	I year- 2012-13	Target	II Year 2013-14	Target	III Year 2014-15	Target	IV Year 2015-16
Afforestation					0						
Cassurina	Ha	20		59312	0	13.84	41043.9	3.4	10083.04	2.76	8185.056
Jack friut	Ha	15		79995		9	47997	3	15999	3	15999
Soil & Moisture Conservation					0						
Centripetal Terracing	nos	250	15000		0						
Mulching	nos	31	310		0						
Water Harvesting Structure(New Created)					0						
well recharge Type 1	nos	25		175000		18	126000	7	49000		
well recharge - Type 2	nos	41		410000		10	100000	24	240000	7	70000
watr harvesting tanks	nos	2		155005		1	77502.5	1	77502.5		
Rounded Figure					0		6.596		-34.54		27.944
TOTAL				**879312**			**392550**		**392550**		**94212**

8.5.4 Annual action plan for production system management activities

						II Year (2013-14)			III Year (2014-15)			IV Year (2015-16)		
Sl:No	ACTIVITIES	COMPONENTS WISE SPLIT UP	No. Of units	Unit cost (Rs.)	Amount	No. Of units	Unit cost (Rs.)	Amount	No. Of units	Unit cost (Rs.)	Amount	No. Of units	Unit cost (Rs.)	Amount
1	Supply of coconut seedlings	1 unit = 1 coconut seedling including its transportation + 5 naphthalene balls	400	100	40000	300	100	30000	100	100	10000	0	0	0
2	Supply of coconut climbing device	1 Unit = 1 device		4000			4000	0		4000	0	0	0	0
3	Banana cultivation	1 unit = 4 TC banana plantlets + 20 kg Vermicompost and 50 ml Pseudomonas	117	175	20475	51	175	8925	66	175	11550	0	0	0
4	Vegetable gardens	1 Unit = 25 seedlings / seed packets worth Rs. 50 + 50 ml pseudomonas + 5 kg Vermicompost	220	150	33000	100	150	15000	120	150	18000	0	0	0

5	Tuber cultivation	1 Unit = 5 EFY+5 Colocasia + 5 yam Planting materials		150		0	150	0		150	0	0	0	0
6	Supply of fruit plant grafts	1 Unit = 1 jack + 1 mango graft	150	90	13500	51	90	4590	99	90	8910	0	0	0
7	Spices cultivation	1 Unit = 20 rooted pepper cuttings + 1 kg Trichoderma		200			200	0		200	0	0	0	0
8	Fodder cultivation	1 Unit = 20 slips of Fodder grass		100			100	0		100	0	0	0	0
9	Medicinal plant cultivation	1 Unit = 5 varieties of plants		125			125	0		125	0	0	0	0
10	Homestead farming and terrace cultivation	1 unit = 20 growbags	20	2000	40000	10	2000	20000	10	2000	20000	0	0	0
	Rounded figure				**45**			**-5**			**50**			
					157020			**78510**			**78510**			

8.5.6 Intervention map



PART – III

EXPECTED OUTCOME, WATERSHED DEVOLOPMENT FUND, EXIT PROTOCOL, PROJECT SUMMARY AND CONCLUSION,

1. Expected Outcomes

Projects under IWMP are a multi disciplinary which include Natural Resource Management, Production System, Micro enterprises and Livelihood activities. The project conceives to bring in holistic and sustainable development in the concerned areas. This programme mainly focus on activities which create employment opportunities, enhance income, decrease migration, increase productivity, which would ensure sustainable livelihood opportunities for the community. The expected outcomes are given in the table below.

Nos	Major components	Outputs
1	Entry point activities	➢ 20 well recharging and 5 pond renovations bring the ground water level to stable in that area. ➢ 18 schools and their pupils will get a relief from water scarcity ➢ 2 primary health centre also get a relief from water scarcity ➢ By the renovation of 5 pond motivate the agriculture production through irrigation in that project area
2	NRM/Watershed works /soil & water management interventions	➢ 139.99 Ha afforestation , renovation of 2 streams , construction of 11 check dams , 1827 well recharge ,247 water harvesting tank , 25 pond renovation and protection of springs applied in this project . All these activities should reduce or remove water scarcity and erosion in the project area ➢ Improvement in crop production
3	Production system & micro enterprises	➢ Supply of 21000 nos coconut seedling , 21668 nos of banana seedlings ,20466 nos of mango and and jackfruit seedlings ,14853 units of vegetable garden , 28 units of Psciculture , 1271 units of tuber crops cultivation , 1810 units of spice cultivation , 566 unit of fodder cultivation ,supply of 22030 nos of medicinal plant ,646 unit of Homestead farming and terrace cultivation will encourage the production sector in the project area .

4	Livelihood activities	➢ 250 families in the SHG or other group will get an additional income and families earn income meet their daily expense in this project. 73 units of dairying ,95 unit of poultry ,79 unit of goat rearing ,47 unit of mushroom cultivation and 24 unit of tailoring unit like activities included in this project
6	Capacity building/skill building of the Community based organizations, farmers ,the officials, and people's representatives	➢ Micro level community organization are strengthened ➢ Community mobilize themselves for the success of the project and O&M of the assets and results generated ➢ Best practices and norms for using water, soil and other natural Resource is developed by the community. ➢ Development of positive mind set among different stakeholders and their willingness to accept a facilitating role ➢ Good governance, improved coordination and cooperation among Various stakeholders and convergence of schemes ➢ Increased people participation in developmental activities

2. Watershed Development Fund (WDF)

One of the mandatory conditions for the selection of villages for watershed projects is people's contribution towards the Watershed Development Fund (WDF). The contribution of WDF shall be a minimum 10 % of cost of NRM works executed on private land only. However, in case of SC/ST, small and marginal farmers, the minimum contribution shall be 5 % of cost of NRM works executed on their land. These contributions would be acceptable either in cash at the time of execution of works or voluntary labour. A sum equivalent to the monetary value of the voluntary labour would be transferred from the watershed project account to the WDF bank account that will be distinct from the Watershed Committee (WC) bank account. Income earned form the assets created under the project on common property resources shall be credited to WDF.

3. Exit Protocol

The main source of financial assistance for the post implementation period is Watershed Development Fund (WDF). One of the mandatory conditions for the selection of villages for watershed projects is people's contribution towards WDF. The Contribution to WDF shall be a minimum 10 % of the cost of NRM works executed on private land only. However, in case of SC/ST, small and marginal farmers, the minimum contribution shall be 5 % of cost of NRM works executed on their land. These contributions would be acceptable either in cash at the time of execution of works or voluntary labour. A sum equivalent to the monetary value of the voluntary labour would be transferred from the watershed project account to the WDF bank account that will be distinct from the Watershed Committee (WC) bank account. User charges, sales proceeds and other contributions, disposal amounts of intermediate usufruct rights shall also be deposited in the WDF bank account. Income earned from assets created under the project on common property resources shall also be credited to WDF. For other cost intensive farming system based livelihood activities/interventions such as Aquaculture, Horticulture, Agro-Forestry, Animal Husbandry etc. on private land directly benefiting the individual farmers, the contribution of farmers will be 20 percent for general category and 10 percent for SC/ST beneficiaries and the project funds will 96 meet the cost of farming system activity to a maximum limit of an amount equal to double of the unit cost of the project for watershed development (i.e. Rs 12,000/15,000 per ha, as the case may be). Farmers' contribution i.e. 20 percent for general category and 10 percent for SC/ST of this amount (i.e. a maximum of Rs 4800/6000 and Rs 2400/3000 as the case may be, respectively for general category and SC/ST beneficiaries) will go to WDF. The Secretary, Watershed Committee (WC) shall maintain a completely separate account of the income and expenditure of the WDF. Rules for operation of the fund should be prepared by the Watershed Committee (WC) and ratified by the Gram Sabha. The WDF bank account should be operated by the President of the Gram Panchayath and any member from the SHG nominated by the Gram Sabha. Alternatively, the guidelines for the management and utilization of the WDF may be evolved by the concerned Nodal Ministry. After completion of Phase II, at least 50% of the WDF funds shall be reserved for maintenance of assets created on community land or for common use under the project. Works taken up on private land shall not be eligible for repairing/ maintenance out of this Fund. The remaining money may be used as a revolving fund to advance loans to the villagers of the project area who have contributed to the fund. Individuals as well as charitable institutions should be encouraged to contribute generously to this Fund.

4. Project Summary and conclusion

IWMP-III-2012/13 (Batch –IV) project is located in Pothenkod, chirayinkeezhu and vamanapuram blockPanchayath of Trivandram district. The project comprises of five micro-watersheds namely pothenkod kandu krishi thod watershed (4V29d6), murinjapalam thod watershed (3M3a), karinjavayal anakkapilla thod watershed (3M4a), parvathyputhanar watershed (3M5a) ,kottaram thuruth watershed (3M6a) . The project area covers the Grama Panchayats of azhoor ,managalapuram ,andoorkonam ,kadinakulam,chirayinkeezhu,pothenkod.manikkal. There are 52754 households in the project area and the total population is 184665. The total project cost is Rs. lakhs. 9,13,89840. Department of Local Self Government is the nodal department for the implementation of IWMP at the state level. State Level Nodal Agency (SLNA) is coordinating and providing guidelines for the effective planning and implementation of the individual IWMP projects. District Planning Committee (DPC) is responsible for the planning and implementation of the projects at the district level. To help the DPC and to coordinate the project level activities, Watershed Cell Cum Data Centre (WCDC) is working at the district level. Pothenkod block Panchayath is the Programme Implementing Agency (PIA) of the IWMP-III-2012/13 (Batch –IV) project. A Block Level Co-ordination Committee (BLCC) has been formed for the timely implementation of the project and to provide help to the PIA in technical and administrative matters related to the project. Watershed Development Team (WDT) has been formed under the PIA. Rajiv Youth Foundation is the Technical Support Organisation (TSO). A cluster approach was followed in the preparation of DPR. The preparation of the DPR involved several rounds of discussions with elected representatives, officials and other stakeholders. A situational analysis was undertaken using secondary data and information collected from different sources. A baseline survey covering all the households in the project area was also conducted. A Logical Framework Analysis was done at the project level for identifying the important problems as well as for the purpose of assessing the present situation. Other PRA techniques like transect walk, social mapping, resource mapping, seasonal calendar, etc., were employed in each micro watershed area. GIS and remote sensing devices have been made use in the preparation of DPR. 1: 4000 scaled cadastral maps of each village formed the base map for planning.. Field level verification of the identified interventions was undertaken by the DPR preparation team. The 5 micro watersheds in the project area face many common problems because of the similarities existing among the micro watersheds.