



# INTEGRATED WATERSHED MANAGEMENT PROGRAMME



## DETAILED PROJECT REPORT

JUNE 2015



## KOIPURAM BLOCK PANCHAYAT PATHANAMTHITTA DISTRICT

TECHNICAL SUPPORT ORGANIZATION



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**INTEGRATED WATERSHED MANAGEMENT  
PROGRAMME (IWMP)**



**DETAILED PROJECT REPORT (DPR)**

IWMP- IV /2014-15 PATHANAMTHITTA

**KOIPURAM BLOCK PANCHAYAT**

**Technical Support Organization**



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## ABBREVIATIONS

APL	Above Poverty Line
AAP	Annual Action Plan
BLCC	Block Level Co-ordination Committee
BPL	Below Poverty Line
BRGF	Backward Regions Grant Fund
CEO	Chief Executive Officer
CSES	Centre for Socio-economic and Environmental Studies
DLCC	District Level Co-ordination Committee
DPC	District Planning Committee
DPR	Detailed Project Report
EPA	Entry Point Activities
FGD	Focus Group Discussion
GIS	Geographic Information System
GP	GramaPanchayat
GW	Ground Water
IEC	Information, Education and Communication
IT	Information Technology
IWMP	Integrated Watershed Management Programme
LFA	Logical Framework Analysis
LSGD	Local Self Government Department
LSGI	Local Self Government Institutions
LSS	Livelihood Support System
MCM	Million Cubic Meters
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
MLA LAD	Member of Legislative Assembly Local Area Development scheme

MoU	Memorandum of Understanding
MPLAD	Member of Parliament Local Area Development
MSL	Mean Sea Level
NABARD	National Bank for Agriculture and Rural Development
NGO	Non-Governmental Organization
NRAA	National Rainfed Areas Authority
NRHM	National Rural Health Mission
NRM	Natural Resource Management
OBC	Other Backward Caste
PIA	Project Implementing Agency
PRA	Participatory Rural Appraisal
PRIs	Panchayati Raj Institutions
PS&M	Production System and Microenterprises
SC	Scheduled Caste
SHG	Self Help Group
SLNA	State Level Nodal Agency
SPSP	State Perspective and Strategic Plan
ST	Scheduled Tribe
TSO	Technical Support Organisation
UG	User Group
VEO	Village Extension Officer
WC	Watershed Committee
WCC	Watershed Co-ordination Committee
WCDC	Watershed Cell cum Data Centre
WDT	Watershed Development Team

## PROJECT AT A GLANCE

Name of Project:	IWMP IV 2014-15
District:	Pathanamthitta
Block:	Koipuram
No.of micro watersheds:	6
Project amount(in lakhs):	466.8
Project Implementing agency:	KoipuramBlockpanchayat
Location:	Latitude : 9°20'39.51"N Longitude : 76°35'25.65"E
Gramapanchatas:	Koipuram, Eraviperoor, Thottapuzhassery, , Kuttoor, Puramattom, Ezhumatoor
Total Geographical area(lakh hectares ):	0.579680 Hectare
<b>Project Coverage</b>	
Treatable area (lakh hectares ):	0.03890
Waste land(lakh hectares):	0.000012
Rainfed Agriculture land(lakh hectares):	0.03890
Total cropped area:	0.03399
Net sown area:	0.0201386
Total no. of water storage structures:	36
Total no.of water extracting units:	3200
No. of Households:	3985
SC:	2198
ST:	293
Others:	15380
Total population in the project area:	17871
Total no. of BPL House holds:	1296
No. of small farmers households:	100
No. of marginal farmers households:	1915
<b>Depth of ground water (meters) below ground water level</b>	
Premonsoon:	9
Post monsoon:	5.2



## INTRODUCTION

Watershed is a drainage area with well defined natural boundaries. It can be considered as a hydro-geological and bio-physical entity. It is a hydrologic and geomorphologic area of land that drains into a particular outlet. Watershed development and management is an integration of technologies within a drainage area for optimum conservation, development and management of natural resources to meet the minimum needs of the people and the life systems.

The increase in population demanded higher food production which has led to intensive and unscientific farming practices without conservation of soil fertility and soil parameters. This can be mitigated by maintaining harmony with the environment, which is the core principle of 'sustainable agriculture'. Watershed has become an acceptable unit of planning for optimum use and conservation of soil and water resources and it will help in preventing natural resources degradation resulting from interaction of physiographic features. It eliminates unscientific land use and inappropriate cropping pattern, reduces soil erosion and enhances productivity of the existing land resources. Watershed development and management is the most effective solution to mitigate the problems of flood, drought, landslides, natural disasters etc. and will help in enhancing the ground water recharge and also restoration of the eco-system.

## PROJECT BACKGROUND

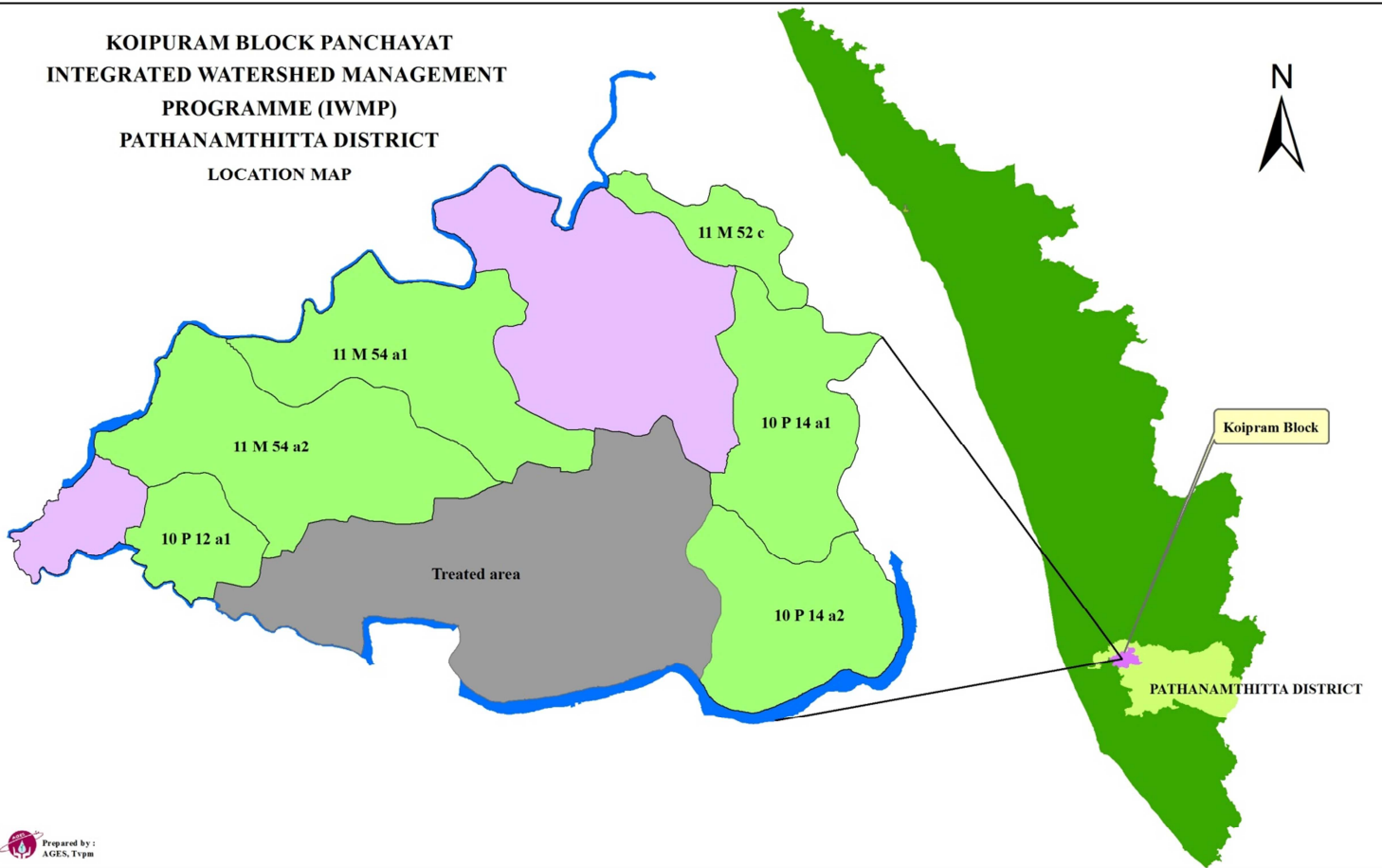
Pathanamthitta IWMP- IV /2014-15 project is located at Koipuram and Pulikeezhu block panchayats in Pathanamthitta District of Kerala. The project comprises of six micro-watersheds namely Manvettom (Pulikeezhu), Othara, Vallamkulam Kizhakke, Vennikulam, Nedumprayar and Kuravankuzhi. They are coded as 11M54a2, 10P12a1, 11M54a1, 11M52c, 10P14a2 and 10P14a1 respectively. The total study area comprises of 3890 hectares. The area is bordered in the north by Manimala Ar, in the west by Thiruvalla Municipality, in the east by Nedumprayar gramapanchayat and in the south by Pamba river.

The details of the project area are given below. The total cost of the project is Rs.466.8 lakhs. Project area is located between 9°19' 45"N & 9°25' 15"N latitudes and between 76°35' 25" & 76°42' 15"E longitudes. The present area of the Koipuram block panchayat is 123.67 sq.kms and Pulikeezhu is 68.66 sq.km.

**Table 1: Details of Individual Watersheds**

SL. no	Name of watershed	Code	Area	Gramapanchayat	Ward No	
					Complete	Partial
1	Othara	10P12a1	291	Kuttoor	8, 9, 10,11	
2	Kuravankuzhi	10P14a1	735.1	Koipuram	4,5,6,	7
				Thottapuzhasserry	1,13	
				Ezhumattoor	7,8	
3	Nedumprayar	10P14a2	687.3	Koipuram	7,8	9
				Thottapuzhasserry	1,6,7,8,9,10	1,11,12
4	Vennikulam	11M52c	240.2	Puramattom	7	3
				Ezhumattoor	9,10,11	
5	Vallamkulam Kizhakke	11M54a1	875.2	Koipuram	17	1
				Puramattom	12,13	
				Eraviperoor	1,2,4,15,16,17	3
6	Manvettom	11M54a2	1061.2	Eraviperoor	5,6,7,12,13,14	15,16
				Kuttoor	5,6,7	4
				Koipuram	17	
<b>Total</b>			<b>3890</b>			

**KOIPURAM BLOCK PANCHAYAT  
INTEGRATED WATERSHED MANAGEMENT  
PROGRAMME (IWMP)  
PATHANAMTHITTA DISTRICT  
LOCATION MAP**



Prepared by :  
AGES, Tvm

## CRITERIA FOR SELECTION OF THE PROJECT

The weightage and criteria for selection of the watershed management programme is given in Table 3. The weightage under different criteria for Pathanamthitta IWMP- IV /2014-15Koipuramwatershed is given in Table 4.

**Table 2: Criteria for Selection of the Project**

Sl No	Criteria	Maximum score	Score		
1	Poverty index (% of poor to population)	10	> 80% (10)	50 to 80 %(7.5)	50 to 50%(5)
2	% of SC/STpopulation	10	>40% (10)	20 to 40%(5)	< 20%(3)
3	Actual wages	05	Actual wages are significantly lower than minimum wages(5)	Actual wages are equal to or higher than minimum wages(0)	
4	% of small and marginal farmers	10	> 80%(10)	50 to 80%(5)	< 80%(3)
5	Ground water status	05	Over exploited(5)	Critical(3)	Sub critical(2)
6	Moisture index/DPAP/DDP Block	15	-66.7 & below (10)DDP Block	0 to -32.2(10)Non DPAP/DDP Block	0 to -32(0)Non DPAP/DDP Block
7	Area under rain-fed agriculture	15	> 90%(15)	80 to 90(10)	70 to 80%(5)
8	Drinking water	10	No source(10)	Problematic village(7.5)	Partially covered(5)
9	Degraded land	15	> 20%(15)	10 to 20%(10)	< 10% (5)
10	Productivity potential of the land	15	Lands with low production & where productivity can be significantly enhanced with reasonable efforts(15)	Lands with moderate production & where productivity can be enhanced with reasonable efforts (10)	Lands with high production & where productivity can be 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 projects (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 watershedsin the project (0)
12	Cluster approach in the plains (more than one contiguous micro watersheds in the project)	15	Above 6 micro-watersheds in cluster(15)	4 to 6 micro watersheds in cluster(10)	2 to 4 micro watersheds in cluster(5)
13	Cluster approach in the hills (more than one contiguous micro watersheds in the project)		Above 5 micro-watersheds in cluster(15)	3 to 5 micro watersheds in cluster(10)	2 to 3 micro watersheds in cluster(5)
	<b>Total</b>	<b>150</b>	<b>150</b>	<b>93</b>	<b>43</b>

**Table 3: Score as per SPSP and presently identifies**

Name of Project	Score as per SPSP													Total
	i	ii	iii	iv	v	vi	vii	viii	ix	x	xi	xii	xiii	
IWMP- IV, 2014-15Pathanamthitta	7.5	03	00	10	02	00	15	05	10	10	10	15	0	87.5
	Presently identified score													
	7.5	03	00	10	00	00	15	05	5	10	00	15	0	70.5

### Major Reasons for Selection of Watershed

The following criteria were used in the selection of the watershed

- (i) Acuteness of drinking water scarcity.
- (ii) Over exploitation of ground water resources.
- (iii) Preponderance of degraded lands/wastelands.
- (iv) Contiguity of another watershed that has already been treated/developed.
- (v) Willingness of village community to make voluntary contributions, enforce equitable social regulations for sharing of common property resources, make equitable distribution of benefit, create arrangements for operation and maintenance of assets created.
- (vi) Proportion of SC/ST.
- (vii) Area not covered under assured irrigation.
- (viii) Productivity potential of the land.

### CLIMATE

#### Rainfall

The area receives an average annual rainfall of 2900 mm. major contribution of the annual rainfall is from south west monsoon, which is 63%, north east monsoon about 19% and summer showers 18%, as per records from the tiruvallaraingauge station. This is a high humidity region with humidity about 87% during the monsoon period i.e. from June to September. Generally March and April months record the hottest temperatures and December

and January are the coldest. The maximum temperature in the area ranges from 28.5° to 32.7°C whereas the minimum temperature ranges from 22.6° to 25.5°C.

**Table 4: Monthly Rainfall Details (mm)**

Year	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
2004	14.1	12.5	123.3	159.6	723.6	549.8	270.6	274.3	257.5	373.6	169.2	4	2932.1
2005	20	0.9	77.3	358.8	278.5	651.8	670.2	154.9	421.3	219.9	404.7	90.9	3349.2
2006	16.3	0	148.3	135.6	488.7	452	476	271.3	320.9	480.4	253.7	0	3043.2
2007	0	10	24.5	261.6	156.8	632.8	755.2	325.6	444.1	456.2	176.5	8.1	3251.4
2008	0	65.3	157.7	198.4	61.5	287	644.1	346.1	368.2	345.9	142.9	40.7	2657.8
2009	5.5	12	105.7	115.4	156.8	378	454	227.4	290.3	222.7	299.9	34.9	2302.6
2010	31	0.7	66.3	210	268.2	502.5	432.5	402.2	259.4	454.9	526.4	89.1	3243.2
2011	46	74.3	92.5	269.7	175.5	591.2	305.7	286.2	334.2	165.7	132.8	176	2649.8
2012	9.1	13	84.6	281.5	84.6	179.5	270.6	451.6	138.4	158.9	120.1	26	1817.9
2013	9	24.4	92	47	154	728.7	608.4	281	310.3	268.4	306.1	18	2847.3

**Table 5: Monthly high temperature**

**Temperature**

High temperature (°C)												
Year	Jan	Feb	Mar	April	May	June	Jul	Aug	Sept	Oct	Nov	Dec
2005	31.2	33.57	34.72	34.4	35.51	33.16	33.24	32.97	32.45	32.27	32.25	32.29
2006	33.38	32.66	32.58	31.23	31.92	31.49	30.45	30.03	30.27	29.34	31.42	31.65
2007	31.93	30.44	32.26	31.2	30.38	30.42	30.16	31.80	27.67	25.8	26.7	-
2008	33.4	33.2	31.96	32.5	32.48	29.06	33.5	30.2	31	31.4	30.8	32.3
2009	32.19	33.4	33.6	33.11	32.5	32.07	29.98	31.04	30	31.92	31	33.5
2010	33.5	35	34.7	34.2	31.9	29.5	21	29.3	30.6	20.7	24.9	23.97
2011	30.7	30.47	31.25	31.24	29	29.35	28.37	29.10	29.15	30.96	30.12	29.99
2012	31.49	33.1	32.54	32.81	31.53	29.8	29.66	28.63	29.79	31.5	31.2	30.87
2013	32.25	32.37	33.34	34.82	35.96	26.14	27.74	29.2				

**Table 6: Monthly low temperature**

Low temperature (°C)												
Year	Jan	Feb	Mar	April	May	June	Jul	Aug	Sept	Oct	Nov	Dec
2005	20.54	20.21	23.5	23.26	24.20	22.45	24.11	23.41	22.65	23.16	23.87	23.55
2006	29.64	20.58	19.69	20.82	24.61	24.22	24.76	24.86	23.96	23.01	24.21	21.32
2007	23.81	22.99	23.74	22.9	28.77	23.85	22.61	23.9	24.74	35.8	32.5	-
2008	19.8	21.45	22.1	22.2	23.09	22.2	21.57	22.7	22.4	22.8	21.6	20.2
2009	18.6	20.86	23.4	22.5	23.7	23	22	23	22.5	22.4	22	21.5
2010	20	28	24.7	26.8	26	21.5	29.2	21.2	19.9	30.4	30	30.45
2011	24.02	24.34	26.71	27.52	28.27	25.59	25.30	25.56	26.34	27.49	26.73	25.05
2012	23.86	22.85	26.8	27.41	28.08	26.33	26.21	24.7	25.5	24.4	21.8	20.41
2013	20.54	20.98	22.90	23.93	28.37	25.36	24.9	26.03				

## Wind

The wind is predominantly from east and northeast during morning hours and during the evening hours the predominant wind direction is from west and northwest. The table below shows that the project area experiences very low velocity wind. The highest velocity of wind is experienced during southwest monsoon and northeast monsoon.

**Table 7 : Wind Speed**

Month	Wind speed (m/s)				
	2009	2010	2011	2012	2013
January	1.48	NA	2.16	1.5	1.46
February	2.4	1.47	2.41	1.93	1.5
March	1.84	2.27	2.62	2.8	2.34
April	1.74	2.01	2.29	2.6	2.48
May	NA	2.4	2.19	2.7	2.56
June	NA	1.89	2.16	NA	1.47
July	1.76	2.23	2.01	2.43	2.84
August	2.13	2.35	2.12	2.22	
September	2.56	1.83	1.82	1.73	
October	NA	2.12	1.80	1.13	
November	NA	1.58	1.14	1.28	
December	NA	1.48	1.27	1.08	

Source: Agrometeorological Observatory, Agricultural Research Station, Thiruvalla

## Humidity

The humidity is higher (about 99.8%) during the monsoon period, June to September.

**Table 8: Relative Humidity**

Year		Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec
2009	min	44.5	46.7	NIL	60.5	70.4	63.2	81.1	75.9	78.6	75.3	NA	NA
	max	77.4	77.4	NIL	80.5	90.5	91.7	95.7	87.6	90.8	94.6	NA	NA
2010	min	NA	61.1	56.3	68	79.2	90.4	88.2	89.1	82.5	75.8	75	74.2
	max	NA	83.3	93.1	98	99.4	99.8	99.3	99.1	96.4	83.3	85.3	83.4
2011	min	62	60	63.7	67.3	69	77.4	78.5	77.3	76.7	71.2	69.1	66.4
	max	85.6	83.5	82.5	82.9	81.8	88.4	84.7	84	83.3	80.4	77.5	80.6
2012	min	61.6	60.1	68.2	70.3	73.5	76.1	76.2	75.5	77.1	69.6	69.7	62.4
	max	77.4	81.3	82.4	81.8	85.2	84	84.3	84.8	84.3	74.6	79.3	76
2013	min	20.6	21	24	23.9	28.4	25.4	23.5	26	NA	NA	NA	NA
	max	32.3	30.1	33.3	33.4	36	26.1	24.7	37.2	NA	NA	NA	NA

Source: Agrometeorological Observatory, Agricultural Research Station, Thiruvalla

## **Geology**

The watershed area is part of the peninsular shield of Indian subcontinent. Precambrian rocks predominate the geology of the area. These Precambrian rocks have undergone extensive laterization. Laterite have a thickness up to 10m. Laterites display the relict structures of parent rocks. Quartz bands are seen occasionally. In the valleys recent alluvial formations are seen. In some locations colluviums debris are also noted. Both these are of recent origin and overlay the Precambrian.

## **. Hydrology**

Ground water occurrence in any area is controlled by topography, geology, rainfall and structure. The study area in Koipuram block has wide valleys, gentle to moderate sloping hill flanks, with laterites and quaternary sediments cover, all of which adds to ground water availability. Open wells in the topographical lows are 3.50 to 9.0 m deep, and water table is 1.5 to 5.0 m bgl. Along the side slopes and Interjunction of side slopes with valleys the wells are 6.0 to 12 m deep and water levels are 4.0 to 11.0 m deep bgl. The topographical lows, viz., valleys and Interjunction areas of valleys and side slopes are perennial in ground water availability, whereas along the upper reaches the wells tend to dry up in summer season.

## **SOCIO-ECONOMIC AND DEMOGRAPHIC CHARACTERISTICS OF THE POPULATION**

### ***Demography***

Detailed baseline survey was conducted in the area with a view to generate required data base in connection with the preparation of DPR. The main source of income is from agriculture. A small fraction of the Watershed Community is engaged in Government jobs. The details are given in table below.



**Table 9: Details of the population in the project area**

Name of the watershed	Population General category			BPL Families			Population			
	Male	Female	Total	General	SC	ST	SC		ST	
							Male	Female	Male	Female
<b>Othara</b>	690	734	1796	140	86	2	177	183	6	6
<b>Manvettom</b>	2020	2208	5144	342	63	10	382	433	50	51
<b>Vallamkulam Kizhakke</b>	1191	1298	2810	166	38	4	136	165	10	10
<b>Vennikkulam</b>	273	414	778	86	7	1	42	46	0	3
<b>Kuravankuzhi</b>	495	520	1227	60	15	1	84	104	15	9
<b>Nedumprayar</b>	1466	1580	3625	243	32	0	205	241	60	73
<b>Total</b>	6135	6754	15380	1037	241	18	1026	1172	141	152

Source: Baseline Survey

**Table 10: Number of households in the project area**

Sl.No	Name of WS	Number of households
1	Othara	441
2	Manvettom	1291
3	VallamkulamKizhakke	719
4	Vennikkulam	226
5	Kuravankuzhi	304
6	Nedumprayar	954
	<b>Total</b>	<b>3935</b>

Source: Baseline Survey

**Table 11: land holding of households in the project area**

Name of WS	Landless	1 to 5 cent	5.1 to 100 cent	100.1 to 250 cent	250.1 to 500 cent
Othara	48	144	388	16	4
Manvettom	102	305	576	29	7
VallamkulamKizhakke	63	118	384	9	2
Vennikkulam	18	136	14	9	0
Kuravankuzhi	31	27	93	2	10
Nedumprayar	20	141	460	11	1
<b>Total</b>	282	871	1915	76	24

Source: Baseline Survey

**Table 12 : Details of livestock and poultry in the project area**

Sl.No	Name of WS	Cow	Goat	Buffalo	Rabbit	Chicken	Duck
1	Othara	185	82	3	5	650	50
2	Manvettom	210	170	3	20	1000	
3	VallamkulamKizhakke	100	53			575	
4	Vennikkulam	50	45			155	5
5	Kuravankuzhi	40	65			225	
6	Nedumprayar	140	77			250	
	<b>Total</b>	725	492	6	25	2855	55

Source: Baseline Survey

**Table 13: Institutions in the project area**

Institutions	Nos	Institutions	Nos
Temple	21	Library	2
Church	25	VEO Office	1
Sisumandiram	1	Block Panchayat Office	1
L.P. School	21	GramaPanchayat Office	4
U.P. Schools	6	Village Office	3
High School	7	Bank	13
Anganwadies	22	Milk Society	4
Pharmacy College	1	Cooperative Bank	7
.-Polytechnique	1	Post Office	9
College	1	Community Hall	1
Veterinary Hospital	2	K.S.E.B.	1
Allopathy hospital	3	Akshayakendram	1
Ayurveda Hospital	2	Agriculture Office	1
PHC	4	Krishivigyana kendram	1
Homeo hospital	2		

Source: Baseline Survey

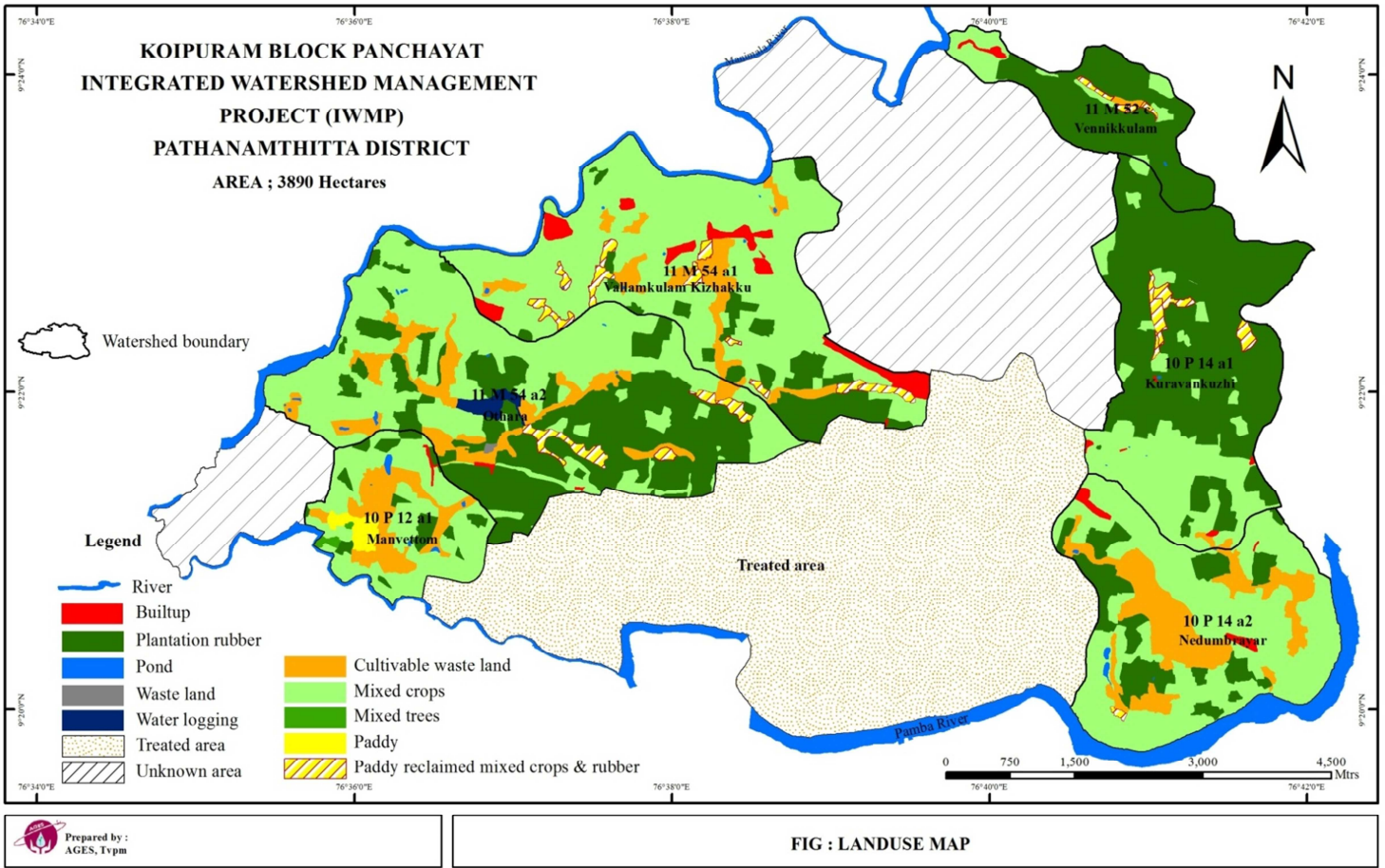
**AGRICULTURE AND PRESENT LAND USE**

Land use/land cover of a project area which plays an important role in the watershed management programme consists of both natural and man-made types. Hence the analysis of the different types of landuse/land cover is very important. The landuse/land cover condition also reflects about the terrain condition of the area. The watershed development programmes mainly focus on the development of agricultural sector in the area.

The present study area is under varying types of landuses. The main landuse in the watershed area is mixed crops predominantly coconut. The details of landuse in the watershed area are given below

**Table 14: Present land use in the project area**

	<b>Land use</b>	<b>10 P12a1</b>	<b>11M54a2</b>	<b>11M54a1</b>	<b>11M52c</b>	<b>10P14a1</b>	<b>10P14a2</b>
1	Builtup land	1.70	1.62	52.30	3.33	2.53	9.05
2	Cultivable wasteland	67.21	105.13	72.95	2.32	3.46	147.10
3	Mixed crops	170.41	504.84	598.31	41.30	199.95	419.40
4	Mixed trees	3.10					
5	Paddy	16.40					
6	Rubber plantation	29.64	407.5	114.85	187.37	508.79	107.56
7	Paddy reclaimed to mixed crops		22.25	24.29	2.68	7.92	1.70
8	Paddy reclaimed to rubber plantation		2.74	11.40	3.06	12.23	
9	Wasteland		1.29				
10	Waterlogged area		13.75				
11	Ponds	2.54	2.08	1.10	0.14	0.22	2.49
	<b>Total</b>	<b>291.00</b>	<b>1061.2</b>	<b>875.2</b>	<b>240.2</b>	<b>735.1</b>	<b>687.3</b>



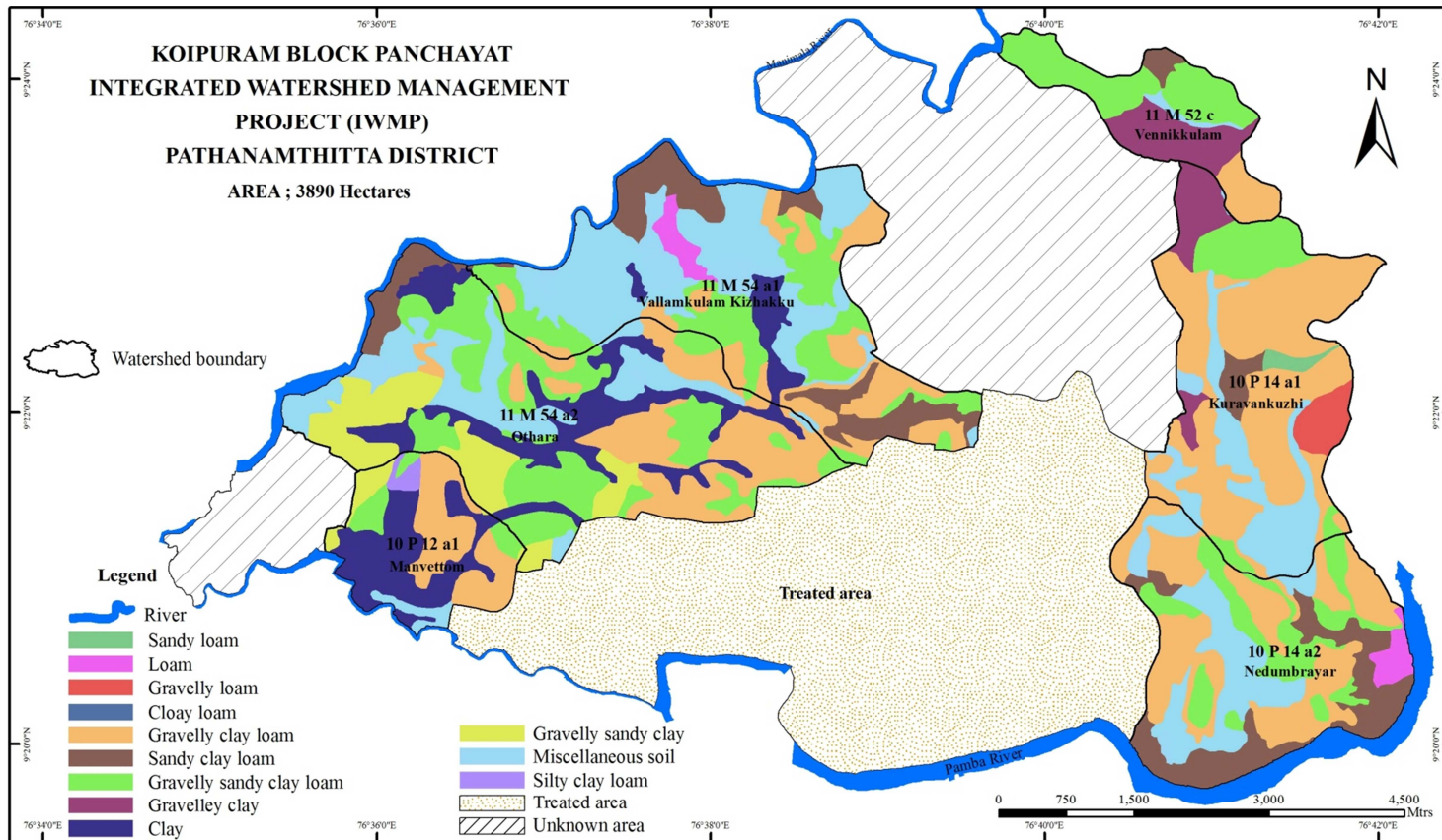
## MAJOR SOILS IN THE PROJECT AREA

Soil is a major component of the Earth's ecosystem. It is the mixture of minerals, organic matter, gases, liquids and countless number of organisms. It undergoes dynamic development by way of numerous physical, chemical and biological processes which include weathering with associated erosion. Soil formation is the combined effect of physical, chemical, biological and anthropogenic processes working on soil parent material. Soil consists of both topsoil and subsoil. It is a medium for plant growth, a means of water storage and it is a habitat for organisms that take part in decomposition of organic matter and the creation of a habitat for new organisms.

The details of the different types of soils are given in table below.

**Table 15: Type of soil in the project area**

Sl.No	Type of soil	10 P12a1	1M54a2	11M54a1	11M52c	10P14a1	10P14a2
1	Clay	120.50	184.30	41.52			
2	Clay loam	13.74	165.21	267.71		129.16	132.72
3	Gravelly clay loam	102.34	227.65	159.00	33.89	392.18	252.82
4	Gravelly sandy clay loam	26.03	271.24	186.02	117.04	77.82	125.07
5	Silty clay loam	9.94					
6	Gravelly sandy clay loam	18.45					
7	Gravelly sandy clay		157.94				
8	Sandy clay loam		37.64	134.45	10.99	20.22	140.31
9	Loam			22.35			22.13
10	Gravelly clay				70.77	54.79	
11	Gravelly loam					36.31	
12	Sandy loam					10.89	
13	others		17.22	64.15	7.51	13.73	14.25
	<b>Total</b>	<b>291.00</b>	1061.2	<b>875.2</b>	<b>240.2</b>	<b>735.1</b>	<b>687.3</b>



Prepared by :  
AGES, Iyym

## **APPROACH AND METHODOLOGY OF PREPARING THE DETAILED PROJECT REPORT (DPR)**

Watershed based developmental efforts undertaken globally had revealed that this philosophy has great scope for implementation in varied situations in other countries also. Conservation, Development and Management of watershed involves integration of technology within a drainage area for rational utilization of natural resources to meet the minimum needs of the people and the life systems depending on them. Each watershed has its own carrying capacity within which it limits its function and is the most effective solution to mitigate the calamities such as problems of flood, drought, landslides and other natural disasters. It integrates the biophysical, social and economic inputs for optimum results from the developmental efforts undertaken for sustainable development. Integrated watershed management approach can help to bring out a dynamic and constructive balance between man and environment since such a management considers micro-planning, resource use integration and acceptance by local communities. Realizing the possibilities of natural resource conservation on watershed basis, the Government of India has issued a set of Common Guidelines for all integrated watershed management projects in the Country. This watershed development project under IWMP, meant for the Koipram Block Panchayat also follows these Common Guidelines. Various steps involved in the development of a DPR for the area is described hereunder.

### ***i) Block level Seminar***

A Block level Seminar conducted the beginning of the process for the preparation of the DPR. The aim was to create general awareness of IWMP among the people's representatives of the PRIs, officials of line departments, progressive farmers etc concerned with the project area and for familiarizing them with the Common Guidelines of the programme. Officials of , WCDC members, Block/gramapanchayat members, Department officials, WDT members and representatives from Technical Support Organization participated in the seminar.

### ***ii) Transect Walk***

A set of Transect Walks was conducted in the project area to gather information on the topography, water resources, land use pattern, cropping pattern, existing resources, soil type, problematic areas etc. A team consisted of selected members from Neighbour Hood Groups (NHGs) members, concerned gramapanchayat members of the watershed area, subject experts, officials etc participated in the Transect Walks. Necessary information and data were plotted in

cadastral level maps.

***iii) Baseline Survey/ Household survey***

With the help of NHGs, a detailed baseline survey covering household socio-economic aspects too was conducted in the micro watersheds to develop necessary benchmark information required for planning various appropriate developmental interventions and implementing them in the project areas and for evaluating the impacts thereof. Information on Demographic, Socio-economic situation, Agriculture / Horticulture Activities, Animal Husbandry activities, Land ownership, Water resources, Nature of land, Agriculture productivity, Erosion problems, Present NRM activities, Drought conditions, Fertilizer used, Landuse, Cropping pattern etc were gathered.

***iv) Secondary data collection***

Required Secondary Data were also collected from Village Offices, KrishiBhavans, Kerala State land use Board, Department of Economics and Statistics, Primary Health Centres, Gramapanchayats, Veterinary Hospitals, MGNREGS, Kudumbasreeetc. Climatic information like annual rainfall with monthly distribution and temperature have been gathered from records of Indian Meteorological Department. The Soil Survey data base of Department of Soil Survey and Soil Conservation has been used to study the soil, magnitude of soil erosion and land capability status with regard to the project area.

***v) Field Survey***

To update certain information on water harvesting structures in the area, crops grown, cropping pattern, fertilizer used and various sources of irrigation in the field etc..Field surveys were also carried out in the project area by the team members of the Technical Support Organisation with the involvement of local people/ farmers.The field surveys were also helpful in demarcating the terrain features in the cadastral map for a realistic ridge-to-valley approach in planning. A ride-to-valley approach, particularly in the case of adopting NRM activities in watersheds, will provide a situation to ensure the cost effectiveness of structures, to improve overall efficacy and longevity of the structural measures.

***vi) Participatory Rural Appraisal (PRA)***

People's participation is the most important process for the watershed development planning and management. For this Participatory Rural Appraisal is an important tool for the overall development especially the degraded watersheds. Participatory Rural Appraisal (PRA) were conducted in the project area to assess the resources locally available, potential and extent of local and, indigenous skills, livelihood status, wealth structure, social dynamics and needs of the



concerned communities

***vii) Focused Group Discussion***

Another major event in the process was the sessions of Focused Group Discussions with specifically identified groups of stakeholders from the project area. The Group of participants included farmers, skilled labourers, Kudumbasree groups, political leaders, officials, members of support organization etc. Discussions on the problems and potentials of the area relating to water, agriculture, NRM activities etc were held. The discussions focused on NRM, Agricultural development, Livelihood activities, Sustainable development etc. with respect to the project area.

***viii) Problems Identification***

All the information collected during Baseline survey, PRA exercise, Field survey and Focused Group Discussions were thoroughly analyzed and the major problems prevailed in the project area were detected. The problems consisted of shortage of drinking water, low agricultural production, unscientific methods of cultivation, poor economic condition, soil erosion from farm lands, lack of value addition practices etc.

***ix) Scope of convergence with other schemes***

IWMP envisages enough opportunities to converge and integrate the resources and components of other parallel schemes and programmes like MGNREGS, RKVY, Soil and Water Conservation Schemes under RIDF, Biodiversity programmes, Projects under Plan Schemes of PRIs, LADSs etc implemented in the project area. There is ample scope for converging suitable elements from schemes of MGNREGS, VFPC, HortiCorp, SHM etc and all efforts shall be made to converge the resources and interventions of other programmes in the area for more cost effectiveness and sustainability of the impacts of IWMP and vice versa.

***x) Use of GIS and Remote Sensing for planning***

Remote Sensing and GIS plays an important role in the study of natural resource and in planning natural resources development and management. The potential of using remote sensing data for investigations and monitoring in spatial and temporal domain is very crucial for successful analysis, prediction and validation. Various thematic layers related to the different aspects like cadastral, geo-morphology, soil, water resources, slope etc. pertaining to the project area have been created on Geographical Information System (GIS) platform in the preparation of this document.

***xi) Watershed Sabha (WS)***

The Grama Sabha (GS) is the grass root level institution in the structure of democracy in our

country. The creation of GS/WS was considered as a solemn step to make democracy direct to the extent possible at the tier of governance remaining closest to the people. This is essential for transparency and accountability in administration, enhancing people's participation in planning and implementation of schemes and paving way for social audit. No doubt, GS/WS is a vital component of the local Government which provides a constitutional platform for the local people to engage in local governance and development. Likewise, Watershed Sabha forms most important platform in the context of IWMP also. But this body is also sometimes commonly mentioned as Grama Sabha. This document envisages the constitution of a Watershed Sabha with all adult individuals holding landed property in and/or inhabiting the micro watersheds under this project as its members in each micro watershed as stipulated in the Common Guidelines. The related portions of this Plan Document has been got approved in the concerned Watershed Sabhas after detailed discussions and necessary modifications. But IWMP envisages another social institution at the virtual grassroots level of the organizational structure below the watershed sabha. It is comprised of the User's Groups and the Self Help Groups

## BUDGET

**Table 16: Financial Plan**

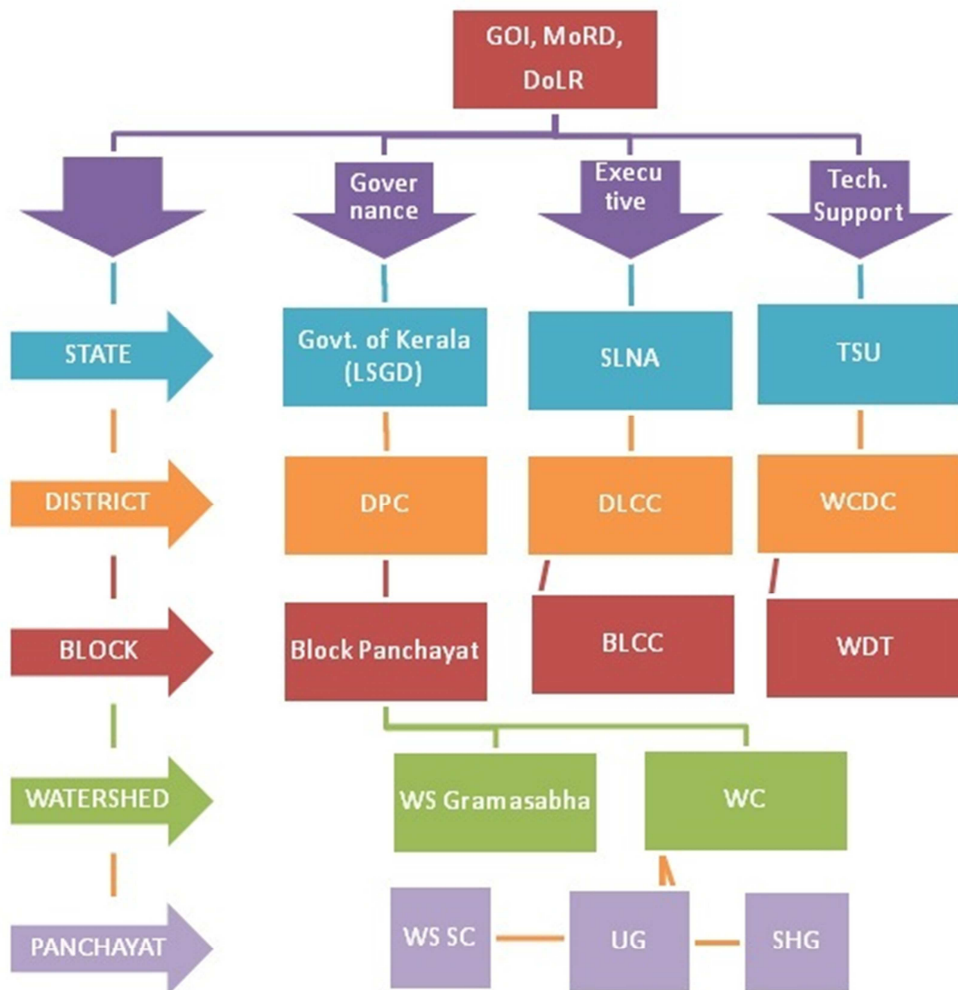
Category	Fund Distribution (%)	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year	Amount (Rs)
<b>MANAGEMENT COST</b>						
Administrative cost	10	1167000	1167000	1167000	1167000	4668000
Monitoring	1	116700	116700	116700	116700	466800
Evaluation	1	116700	116700	116700	116700	466800
<b>Preparatory Phase</b>						
Entry point activities	3.6	1680480				1680480
Institution and Capacity Building	5	574000	545000	660000	555000	2334000
DPR Preparation	0.9	420120				420120
Watershed Development Activities	56.5	6752185	7723795	5894670	6003550	26374200
Livelihood Activities	9	753800	772900	1786904	887596	4201200
Production System	10	1176996	1561212	1082371	847421	4668000

and micro enterprises						
<b>Consolidation Phase</b>	3	70020	210060	560160	560160	1400400
<b>Total</b>	<b>100</b>	<b>12828001</b>	<b>12213367</b>	<b>11384505</b>	<b>10254127</b>	<b>46680000</b>

### INSTITUTIONAL ARRANGEMENTS OF IWMP

By adopting the principles and guidelines of Integrated Watershed Management Programme (IWMP), appropriate institutional arrangements are made at various levels in order to have an effective and professional management of watershed projects.

#### Institutional set up of IWMP



### **Institution Building at State and District Level**

Department of Rural Development 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. District Level Coordination Committee has been set up under the chairmanship of District Panchayath President, Pathanamthitta. District Collector is functioning as Member Secretary and Principal Agriculture Officer as Member Convener. All the district level officers of the line departments are functioning as members.

### **Institution Building at Block Level**

Koipuram Block Panchayat is the Project Implementation Agency (PIA) for this IWMP project. They are responsible for all the activities under the project starting from the preparation of Detailed Project Report (DPR) till the completion of project. A Block Level Coordination 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. President of Koipuram block panchayatis the chairman of the BLCC. President of Pulikeezhu block panchayat is the co-chairman. Watershed Development Team (WDT) has been formed and started working under the PIA. Details of PIA are given below.

**Table 17: Details of Project Implementation Agency (PIA)**

<b>Name of the Project</b>	IWMPI IV/ 2014-15, Pathanamthitta
<b>Programme Implementation Agency</b>	Koipuram Block Panchayat
<b>Implementation Officer</b>	Block Development Officer, Koipuram Block Panchayat
<b>Address of PIA</b>	Koipuram Block Panchayat, PulladPO, Pathanamthitta. 689685
<b>Telephone</b>	0469 2662364
<b>Email</b>	<a href="mailto:iwmpkoipuram@gmail.com">iwmpkoipuram@gmail.com</a> , <a href="mailto:bdokpm@gmail.com">bdokpm@gmail.com</a>

### **Institution Building at GramaPanchayat (GP) Level**

Watershed management works are implemented at GramaPanchayat level. The GPs supervise, support and advise Watershed Committee. The different institutions formed as part of IWMP are given below.

#### **Watershed Committee (WC)**

The Watershed Committee (WC) registered under the Societies Act is the executive body to implement the Project. The president of the panchayat having the largest extend of geographical area is the chairman of the Committee. It shall consist of 15 members with representation from Small and Marginal Farmers, SCs, STs and Women. WC shall open a separate bank account in the nearest nationalized banks for the purpose of the project. The WC shall perform as per the directions contained in the Common Guidelines.

**Table 18: Details of micro watershed committees**

<b>Nedumprayar Watershed(10P14a2)</b>					
Chairman: Mr.Ramachandran Nair(President, Thottapuzhassery GP)					
Co Chairman: Ajitha Teacher(President, Koipuram GP)					
Convener: Rajith (VEO, Thottapuzhassery GP)					
<b>Sl.No</b>	<b>Name &amp; address</b>	<b>Gramapanchayat</b>	<b>Ward</b>	<b>M/F</b>	<b>Telephone</b>
1	Dr.Sindhu, Ikaraveedu, Maramon	Thottapuzhassery	7	F	9495068605
2	Sri.Kunjukunju, Cheruvilavil, Chirayirambu	Thottapuzhassery	7	M	
3	Sri.P S George, Parayil house, Maramon	Thottapuzhassery	8	M	
4	Sri.Vargheese Thomas, Kochukulathoor, Maramon	Thottapuzhassery	8	M	9847368532
5	Sri. Vijayachandran Nair, Thumbilmattath, Maramon	Thottapuzhassery	9	M	
6	Smt.Leelamma George, Keezhvaram, Maramon	Thottapuzhassery	9	F	8129295255
7	Sri.Gopalan Nair, Gopasadanam, Vellayoor	Thottapuzhassery		M	9947889851
8	Sri.Sukumaran, Ravoor, Vellayoor	Thottapuzhassery		M	9947889851

9	Sri.Thomas Abraham, Chakolamannil, Maramon	Thottapuzhassery		M	94472572207
10	Sri. Mathew Vadavath, Pulad	Koipuram		M	9446170956
11	Sri.V M Vargheese, Marathon, Chirayarambu	Thottapuzhassery	12	M	
12	Sri. VV Thomas, Vavth, Maramon	Thottapuzhassery	11	M	0469 2661050
13	Sri.Shaji Mathew, Veesupalaparambil, Pullad	Koipuram	8	M	9746804680
14	Sri.Jayan, KT, Kundathkalayil, Varayanoor	കോയിലം	8	M	9961625366
15	Smt. Radha, Melethadimurik, Maramon	തോട്ടപ്പുഴശ്ശേരി		F	9656012412

**Kuravankuzhi Watershed (10P14a1)**

Chairman: Smt.Ajitha teacher (President, Koipuram GP)

Co Chairman: Sri.Ramachandran Nair (President, Thottapuzhassery GP)  
Smt.SugathaKumari (President, Ezhumatoor GP)

Convenor: Sri.Biju (VEO, Koipuram GP)

Sl.No	Name & address	Gramapanchayat	Ward	M/F	Telephone
1	T.M. Abraham, Thannikal	Koipuram	4	M	9947397767
2	C.V.Mathai, Mannathukzhiyil	Koipuram	4	M	9447561411
3	Radhakrishnan Nair, Kannamkattil	Koipuram	5	M	9446911030
4	Thulsidharan Nair	Koipuram	5	M	
5	JayaKumar, Kandathil	Koipuram	7	M	997082672
6	SubhashThankachan, Ezhumatoor	Ezhumatoor	8	M	9048789877
7	Rajesh, P	Ezhumatoor	8	M	9645530804
8	Mini Mathew, Nirakath, Kuriyannar,	Thottapuzhassery	13	F	

	Thottapuzhassery				
9	Ajith, Malambarakkal	Koipuram	5	M	9446124484
10	Ramesh Kumar	Koipuram	5	M	9495683351
11	Ramani	Koipuram	5	F	9946379774
12	SanthaKumari, Thottapuzhassery	Thottapuzhassery	1	F	9526112664
13	Sukumaranicker	Thottapuzhassery	4	M	9495569293
14	Sumathi Krishnan Kutty, Kuriyannur	Thottapuzhassery	8	F	
15	SosammaIssac, Nellimala, Kuriyannur	Thottapuzhassery	1	F	
<b>Vennikulam Watershed (11M52c)</b>					
Chairman: Smt. Sugathakumari (President, Ezhumatoor GP)					
Convenor: Akshik.V.Thangal (VEO, Ezhumatoor GP)					
Sl.No	Name & address	Gramapanchayat	Ward	M/F	Telephone
1	Somasekharan Nair, Sandhyabhavanam, Ezhumatoor	Ezhumatoor	9	M	9744884903
2	OmanaPrasannan, Kochupurakkal, Praveen nivas	Ezhumatoor	9	F	8606219915
3	RadhamaniAmmam, Vadakkikalikulath	Ezhumatoor	9	F	9744684378
4	Anandavalli, Parappattu	Ezhumatoor	9	F	
5	JessyVargheeseAngadipattu	Ezhumatoor	9	F	
6	ChackoEappen, Thiruvattal	Ezhumatoor	9	M	9947016730
7	Dr.George Thomas, Thundiyl	Ezhumatoor	10	M	9496326286
8	George Vargheese, Thundiyl	Ezhumatoor	10	M	9446186159
9	Suresh Kumaran Nair, Arapurayil	Ezhumatoor	10	M	9446124484
10	K.M.John, Evupathanjazyil	Ezhumatoor	10	M	9847201413

11	Alice George, Areekkad	Ezhumatoor	10	F	9142008471
12	Bindhu, C.B	Ezhumatoor	9	F	8111972509
13	Jippa Daniel	Ezhumatoor	11		9526492108
14	Ammini John	Puramattom	7	F	9656314857
15	Smitha Joy	Puramattom	7	F	
<b>Vallamkulam Watershed (11M54a1)</b>					
Chairman: Sri.Rajeev(President (Eraviperoor GP)					
Convenor: Sri.Jijesh (VEO, Eraviperoor GP)					
Sl.No	Name & address	Gramapanchayat	Ward	M/F	Telephone
1	SyamalaThankachan, Mundakkal	Eraviperoor	1	F	9961906107
2	SanthammaPrabhakaran, Swarnamala	Eraviperoor	2	F	2666744
3	Nelson, Casino Cottage, Kumbanaḍ	Eraviperoor	3	M	04692665788
4	MadhavanKutty, Ambika, Vallamkulam	Eraviperoor	3	M	9947685127
5	RadhamaniBabu, Padipurakkal	Eraviperoor	4	F	9567523449
6	Babu Peter, Puthanparambil	Eraviperoor	4	M	
7	RajasekharanPillai	Eraviperoor	16	M	9447103652
8	RajuVargheese, Kutiyil	Eraviperoor	16	M	9447450782
9	Sathi, Alolil	Eraviperoor	17	F	9744640168
10	Mini Santosh, Kunnathumalayil	Eraviperoor	17	F	
11	SeenaRaju, Vongakootathil, Puramattom	Puramattom	13	F	9656640607
12	Sreekumari, Pothiyil	Puramattom	13	F	
13	Thomas Jacob, Plaveliparambil, Kumbanad	Koipuram	17	M	9447219566
14	Shaji Philip, Thundiyl, Vallamkulam	Koipuram	17	M	9961757708



<b>ManvettomWatershed (11M54a2)</b>					
Chairman: Sri.Rajeev(President (Eraviperoor GP)					
Convenor: Sri.Lijon(VEO, Eraviperoor GP)					
Sl.No	Name & address	Gramapanchayat	Ward	M/F	Telephone
1	K.K.Abraham, Thodiyuzhathil, West Othara	Kuttoor	6	M	9048038826
2	UshaRajan, Pandisseriyil	Kuttoor	6	M	9744546982
3	Thankappan, K.,K, Choolipadiyil	Kuttoor	5	M	9446016787
4	E.C.Abraham, Elakuttoor, Pdiyarathil	Kuttoor	10	M	9447803131
5	Sumathi, K.K, Deepthibhavan	Kuttoor	11	F	9605269235
6	Raju, Peediyil	Kuttoor	7	M	9447026384
7	Bindhu, B, Najattukalayil, West Othara	Kuttoor	5	F	7025928242
8	Mahilamani, Kavungalkizhekke, Vallamkulam	Eraviperoor	14	F	9400608427
9	NirmalaRamachandran	Eraviperoor	14	F	9562995076
10	M.K.Baby, Madathingal, Koipuram	Eraviperoor	17	M	04692668898
11	MariyammaJosekutty, Chungathil, Kozhimala	Eraviperoor	12	F	9446186111
12	RosammaKunjumon, Thullakalathilae house, Nellimala	Eraviperoor	6	F	9544609829
13	GeethaVamadevan, Vettaikunnil house	Eraviperoor	7	F	9747654539
<b>OtharaWatershed (10P12a1)</b>					
Chairman: Sri. Jo Elanjimoottil (President, Kuttoor GP)					
Convenor: Smt.Ambili (VEO Kuttoor GP)					
Sl.No	Name & address	Gramapanchayat	Ward	M/F	Telephone
1	Rajasekharan, Puthanpurakkal	Kuttoor	9	M	9995244304
2	K.T.Thomas, Koyikkalodath, Kuttoor	Kuttoor	10	M	9447040095

3	Abraham, K.S, Maruthara, Kuttoor	Kuttoor	10	M	9747992153
4	Ramakrishna Pillai, K.K	Kuttoor	10	M	04692614111
5	Joseph Jacob, Maruthara, Kuttoor	Kuttoor	10	M	9947063314
6	Abraham Thomas, Maruthara	Kuttoor	10	M	04692615622
7	N.Thomas, Nellatt	Kuttoor	10	M	9400014925
8	M.M.Abraham, Maruthara	Kuttoor	10	M	
9	Krishnan, K.K, Thombithara	Kuttoor	10	M	
10	Thulsidas, Purayattu	Kuttoor	9	M	9189430581
11	Valsamma, P.K, Palathumpattu	Kuttoor	9	F	974675874
12	Sujatha, MalayilPoikayil, Kuttoor	Kuttoor	9	F	9961582964
13	Mary Scaria, Kudathum	Kuttoor	8	F	9961633095
14	SaralammaBabu, Puliparayil	Kuttoor	10	F	7559076790
15	Vilasini Benny, Modiyil	Kuttoor	10	F	9656297534

### **Self Help Groups (SHGs)**

The poor, small and marginal farmers, landless agricultural labourers, SC/ST persons etc in the Watershed Communities shall be organised into small groups, each with 8-20 persons, on the basis of homogeneity in interests, skills and socio-economic status. Livelihood Activities of these groups shall be appropriately identified, technically systematized and supported under the project. Five members each are selected to form Joint Liability Groups(JLG).Each of these groups shall be provided with Seed Money up to RS 25,000 after proper grading and ranking them on the basis of their level of performance and compliance.

### **User Group(UGs)**

The UGs are homogenous groups of farmers / beneficiaries with common activities r objectives and shall have the land holdings within the watershed area. The UGs will be responsible for the operation and maintenance of all assets generated under the project in close collaboration

with the GramaPanchayat and GramaSabhaeven after the withdrawal phase. The UGs shall facilitate resource-use agreements based on the principles of equity and sustainability.

## **IWMP PROJECT MANAGEMENT**

**Table 19: Implementation phases of IWMP**

<b>Phase</b>	<b>Name</b>	<b>Duration</b>
I	Preparatory Phase	1-2 years
II	Watershed Works Phase	2-3 years
III	Consolidation and Withdrawal Phase	1-2 years

Activities under each phase are mentioned below.

### **Preparatory Phase:**

The major objective of this phase is to build appropriate mechanisms for adoption of participatory approach and empowerment of local institutions (WC,SHG, and UG). PIA and WDT will assume a facilitating role during this phase. This phase will include:

1. To support the PIA for planning and implementation an efficient WDT is to be appointed.
2. Base line survey for DPR preparation, PRA, identification of beneficiaries
3. DPR preparation through maximum people's participation and using modern technologies.
4. Formation of grass root level institutions such as UGs, SHGs, WC and capacity building of different stakeholders on institutional and work related aspects.
5. Selection and implementation of the Entry Point Activities to establish credibility of the Watershed Development Team.
6. Capacity building to take up and implement various developmental works.
7. Environment building, awareness generation, undertaking of intensive IEC activities, creating involvement and participatory responses.
8. Building up a network of technical support agencies.
9. Working out detailed resource-use agreements (for surface water, groundwater and common/forest land use) among User Group members in a participatory manner based on principles of equity and sustainability.
10. Participatory monitoring of progress and processes.

### **Watershed Works Phase:**

This phase is the heart of the programme in which the DPR will be implemented.

Some of the important activities to be included in this phase are:

- a. Ridge Area Treatment: All activities required to restore the health of the catchment area by reducing the volume and velocity of surface runoff including regeneration of vegetative cover in forest and common land, afforestation, staggered trenching, contour and graded bunding, bench terracing etc.
- b. Drainage line treatment with a combination of vegetative and engineering structures, such as earthen checks, brushwood checks, gully plugs, loose boulder checks, gabion structures, underground dykes etc.
- c. Development of water harvesting structures such as low-cost farm ponds, nalla bunds, check-dams, percolation tanks and ground water recharge through wells, bore wells and other measures.
- d. Nursery raising for fodder, fuel, timber and horticultural species giving priority to local species.
- e. Land development including in-situ soil and moisture conservation and drainage management measures like field bunds, contour and graded bunds fortified with plantation, bench terracing in hilly terrain etc.
- f. Crop demonstrations for popularizing new crops/varieties, water saving technologies such as drip irrigation or innovative management practices. As far as possible varieties based on the local germplasm may be promoted.
- g. Pasture development, sericulture, bee keeping, back yard poultry, small ruminant, other livestock and micro-enterprises.
- h. Veterinary services for livestock and other livestock improvement measures
- i. Fisheries development in village ponds/tanks, farm ponds etc.
- j. Promotion and propagation of non-conventional energy saving devices, energy conservation measures, bio-fuel plantations etc.

#### **Consolidation and Withdrawal Phase:**

This is an important phase of the IWMP and will be spread over the last two years of this project.

This phase is very important as it is comprehensively concerned with the sustainability of IWMP in the project area.

#### **Major activities under this phase include:**

Completion of various works under taken during work phase

Preparation of Project completion report

Documentation of success stories and experiences for future guidance

Derive mechanisms for user right over common property resources

Derive mechanisms to collect user charges for common property resources

Derive mechanisms to improve the sustainability of various development activities

Derive consensus among the villagers to take up any new works out of any unspent amount

Awareness and capacity building of the community for repairs, maintenance and conservation of common property resources

Capacity building of user groups for optimum use of the developed natural resources.

Popularising successful experiences related to farm production system and off farm livelihood activities undertaken using revolving fund under the project as well as credit and technical support from external institutions

Evolving markets for farm produce as well as the off-farm and other micro enterprises

Formation of Farmers Groups for credit, input procurement, sale of produce etc

Inter linkages of the SHGs and User groups for sustainable livelihoods

Empowering Watershed Committee and its smooth management on a long term basis

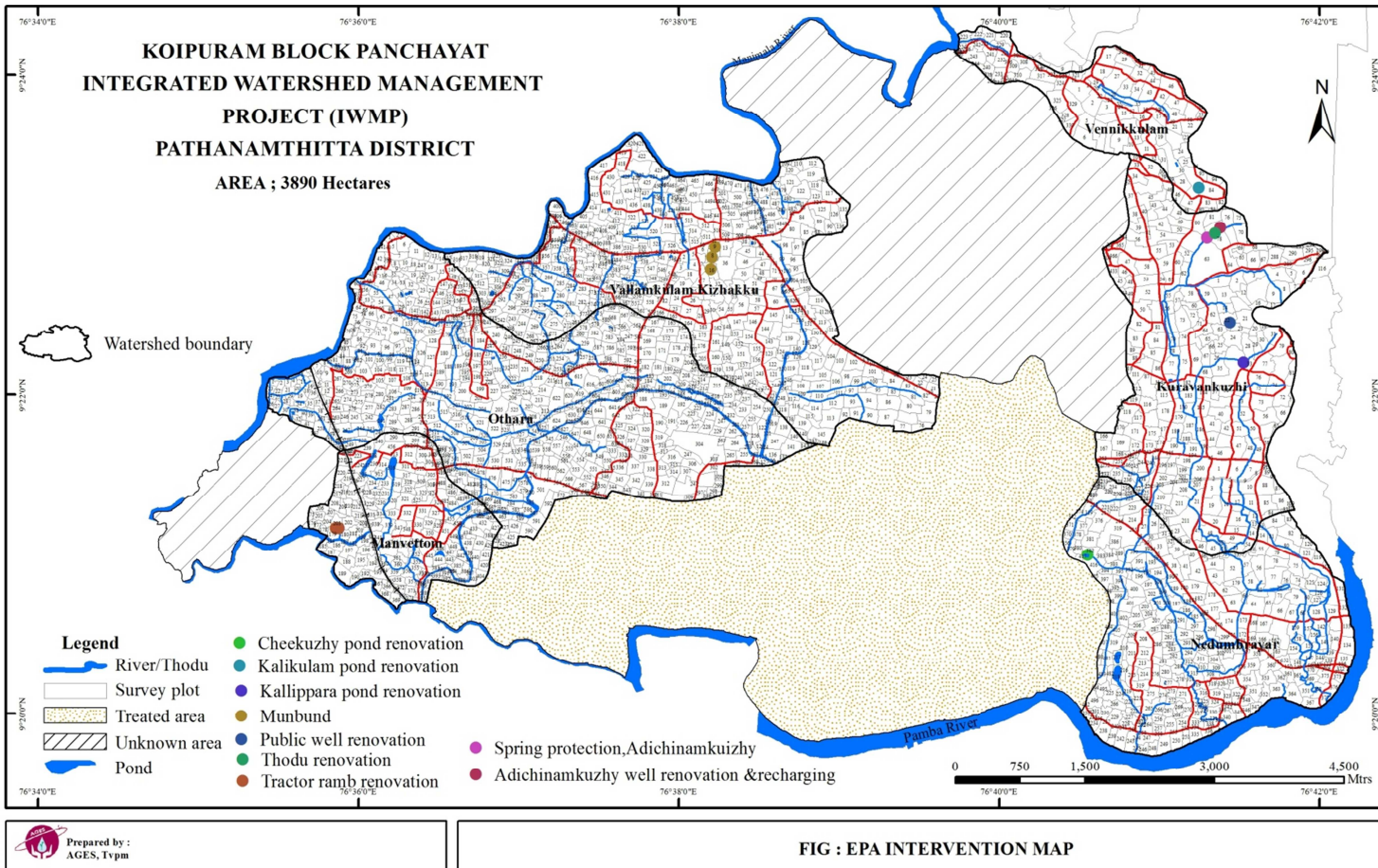
## ENTRY POINT ACTIVITY

Taking up entry point activities to establish credibility of the Watershed Development Team (WDT) and create a rapport with the watershed community. The entry point activities are suggested in the project area are given below.

**Table 20: List of Entry Point Activities in the project area**

EPA -Physical & Financial Targets and Achievements											
Amount Allotted : 1680000 Rs.(in Lakhs)											
Sl. No	Activity	Watershed	Ward No	GramaPanchayath	Physical		Runni ng meter	Financial		Latitude	Longitude
					Area Benefi tted (ha)	Capacity		No of Persons/ Families Benefitted	Estimated Amount		
1	Renovation of Kalikulam	Vennikulam	9	Ezhumattoor	5	216000		500	513960	9 21'12"N	76 35'54"E
2	Renovation of public well in Kallippara colony	Kuravankuzhi	1	Thottapuzhasserry	8			200	47218		
3	Renovation of Kallippara pond	Kuravankuzhi	1	Thottapuzhasserry	8	80000		200	91775		
4	Renovation of public well, spring in Adichinamkuzhy colony	Kuravankuzhi	8	Thottapuzhasserry	4	13500		150	63610	9 22'58"N	76 41'17"E
5	Renovation of Cheekuzhy pond	Nedumprayar	8	Koipuram	5	4500000		500	303290	9 21'00"N	76 40'30"E
6	Renovation of two rambas in Kothavaruthypa	Othara	10	Kuttoor	20			500	70775	9 21'12"N	76 35'54"E

	ddy field										
7	Recharging of public well in Adichinamkuzhy colony	Kuravankuzhi	8	Ezhumattoor	4			150	99255	9 23'04"N	76 41'22"E
8	Recharging of public well in Adichinamkuzhy colony	Kuravankuzhi	8	Ezhumattoor	4	40000		150	129820	9 23'03"N	76 41'27"E
9	Construction of mud bund in Mannettu paddy field	Vallamkulam Kizhekke	4	Ezhumattoor	18		500	500	365635		
<b>Total</b>					<b>76</b>	<b>4849500</b>	<b>500</b>	<b>2850</b>	<b>1685338</b>		





## **Major Problems of the project area**

The six micro watersheds in the project area face many common problems because of the similarities existing among the micro watersheds. The major problems identified through PRA techniques, group discussion with local people, elected members and field survey are given below

- 1 Severe Water Scarcity
- 2 Soil erosion
- 3 Lack of proper soil and water conservation activities
- 4 Lack of initiatives for the protection of water bodies
- 5 Lack of adoption of proper soil erosion prevention measures in drainages.
- 6 Inadequate protection and management of water conservation structures.
- 7 Low water storage capacity of water bodies due to the deposit of silt.
- 8 No proper waste management facilities
- 9 Lack of adoption of innovative adaptive farming systems in the production sector.

## **Suggested watershed management activities**

### **Natural Resource Management Activities**

- 1 Well Recharging
- 2 Construction of stone pitched Contour wall
- 3 Construction of Rain Pits
- 4 Water harvesting Structures
- 5 Afforestation
- 6 Protection of Natural springs (Oli)
- 7 Renovation and Conservation of water bodies
- 8 Check dams
- 9 Protection and Renovation of natural Drainages

### **Production System and Micro enterprises**

- 1 Nursery Formation
- 2 Promotion of Horticulture and paddy cultivation a... progressive farming system
- 3 Bio- fertilizer and pesticide production unit
- 4 Promotion of cattle rearing
- 5 Fodder Grass cultivation
- 6 Vermi compost manufacturing unit
- 7 Mushroom Cultivation
- 8 Pisciculture

### **Livelihood Activities**

- 1 Manufacturing of eco-friendly alternative products
- 2 Collection and marketing of vegetables, milk, egg etc.
- 3 Unit for value added production of vegetables, milk, Egg etc.
- 4 Cattle rearing
- 5 Back yard poultry
- 6 Pisci culture
- 7 Production unit of pickles, squash, jam etc.
- 8 Marketing of eco-friendly products

### **SCOPE FOR CONVERGENCE**

**Table 21: Scope for Convergence**

<b>Sl. No.</b>	<b>Type of intervention</b>	<b>Department/Schemes which can be converged with IWMP</b>
1	Renovation of Pond (Desilting)	MGNREGA
2	Contour bunding, Mud bund, Rain pits, Desiltation of Thodu	MGNREGA
3	Aforestation	MGNREGA, LSGI Department of Social Forestry
4	Horticulture	Department of Agriculture MGNREGA, LSGI
5	Dairy development	Department of Dairy development LSGI
6	Waste Management Activities	Swachh Bharat Mission, NRHM, LSGI
7	Mechanisation in agriculture sector	MKSP
8	Public market	HADA / NRLM/ SHM

## CAPACITY BUILDING PLAN

**Table 22: IEC Plan**

Sl. No.	Activity	Estimated Amount (Rs)				Total
		Year 1	Year 2	Year 3	Year 4	
1	Preparation of Slogans for biodiversity	5000				5000.00
2	Brochure printing and releasing of IWMP-IV/2014-15	10000				10000.00
3	Street Play	20000				20000.00
4	Wall writing	25000				25000.00
5	Pre -monsoon water levels studies from the wells	2500				2500.00
6	Preparation of Njattuvela calender and distribution	10000				10000.00
7	Water quility analysisw	8000				8000.00
8	Vision 20170 campaign	1000				1000.00
9	Exposure visit	5000				5000.00
10	Debate in media about IWMP-III/2013-14		7000			7000
11	Post -monsoon water levels studies from the wells		500			500.00
12	Erection of watershed boards		60000			60000.00
13	World Forest day		5000	5000	5000	15000.00
14	World Earth day		8000	9000	8000	25000.00
15	World Enviroment day		6000	7000	7000	20000.00
16	Distribution of Name Slip, Time tableCard		3000	3000	4000	10000.00
17	Quiz programme and drawing competetion for school children		2000	2000		4000.00
18	Soil testing	5000				5000.00
	<b>Total</b>	<b>91500</b>	<b>91500</b>	<b>26000</b>	<b>24000</b>	<b>233000</b>

**Table 23: Plan for capacity building activities**

<b>SI No .</b>	<b>Training Programme</b>	<b>Expected Outcome</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Expected Expense</b>
1	Training for Elected Representatives in the watershed area	Ensuring the public participation	68000	40000	90000	40000	<b>238000</b>
2	Training for Members of the watershed committee	Ensuring the participation of the watershed committee members along the Programme..	60000	65000	65000	15000	<b>205000</b>
3	Training for Political leaders, activists, members of various organisations etc.	Ensuring the participation of all social activists for the better watershed management	105000	100000	15000	15000	<b>235000</b>
4	Skill Development and up gradation training programme for progressive farmers and micro entrepreneurs	Promotion of progressive farming and allied activities and help to develop micro entrepreneurs	17000	20000	0	0	<b>37000</b>
5	Exposure Visit	Understanding best Practices in other similar areas.	0	0	200000	200000	<b>400000</b>
6	Training for SHGs, JLGs and Federation	Development of livelihood activities	50000	195000	115000	130000	<b>490000</b>
7	Training for UG Members	Ensuring the sustainability better management of assets.	31000	0	45000	45000	<b>121000</b>
8	Training for Watershed Community	Enhancing awareness about the scheme as well the watershed management	0	0	100000	80000	<b>180000</b>
9	Training on progressive agriculture practices for Farmers, CDS & ADS members	Increased level of organic farming within the families.	10000	40000	15000	15000	<b>80000</b>

10	Skill development training for workers of MGNREGS who completed 100 days of work	Ensuring quality soil and water conservation works in MGNREGA	0	70000	15000	15000	<b>100000</b>
11	Street play	To give awareness to watershed community about water conservation	0	15000	0	0	<b>81200</b>
	<b>Total</b>		<b>341000</b>	<b>545000</b>	<b>660000</b>	<b>555000</b>	<b>2101000</b>

## ANNUAL ACTION PLAN

**Table 24: Watershed wise action plan**

Type of Activity		1ST YEAR		2ND YEAR		3RD YEAR		4TH YEAR		TOTAL	
		IWMP	Expecting WDF	IWMP	Expecting WDF	IWMP	Expecting WDF	IWMP	Expecting WDF	IWMP	Expecting WDF
<b>Watershed Development Works</b>	<b>10P12a1</b>	553960	22000	850000	85000	299020	16053	270000	27000	1972980	150053
	<b>10P14a1</b>	1150000	55000	2861878	265000	441050	64210	531050	32105	49833978	416315
	<b>10P14a2</b>	1553415	110000	495954	53595	1670525	156053	540000	51000	4259894	370648
	<b>11M52c</b>	443750	24237	644281	68600	190525	8026	35000	24500	1628556	125363
	<b>11M54a1</b>	935000	82500	1553856	146052	2132500	201250	1312500	91250	5933856	521052
	<b>11M54a2</b>	2116060	198000	1317826	60000	761050	52105	3000000	300000	7194936	610105
<b>Total</b>		<b>6752185</b>	<b>491737</b>	<b>7723795</b>	<b>678247</b>	<b>5494670</b>	<b>497697</b>	<b>5688550</b>	<b>525855</b>	<b>70824200</b>	<b>2273536</b>
<b>Production System and Micro Enterprises</b>	<b>10P12a1</b>	14455	14646	126703	12670	33548	3355	42494	4249	217200	34920
	<b>10P14a1</b>	215525	21553	305150	30515	196950	19695	164495	16450	882120	88213
	<b>10P14a2</b>	177625	17762	270250	27025	206200	20620	170685	17069	824760	82476
	<b>11M52c</b>	84221	8422	90611	9061	69973	6997	43435	4344	288240	28824
	<b>11M54a1</b>	280950	28095	351663	35166	244850	24485	172778	17278	1050241	105024
	<b>11M54a2</b>	272220	27222	416835	41684	330850	33085	253535	25354	1273440	127345
<b>Total</b>		<b>1044996</b>	<b>117700</b>	<b>1561212</b>	<b>156121</b>	<b>1082371</b>	<b>108237</b>	<b>847422</b>	<b>84744</b>	<b>4536001</b>	<b>466802</b>
<b>Revolving Fund to SHGs for starting Micro enterprises and enhance the livelihood of Landless people.</b>		<b>Grant/SM</b>	<b>No. of Group benefit</b>	<b>Grant/SM</b>	<b>No. of Group benefit</b>	<b>Grant/SM</b>	<b>No. of Group benefit</b>	<b>Grant/SM</b>	<b>No. of Group benefit</b>	<b>Grant/SM</b>	<b>No. of Group benefit</b>
	<b>10P12a1</b>	50000	2	50000	3	50000	2	49800	3	199800	10
	<b>10P14a1</b>	157200	7	165100	7	209600	10	102900	6	634800	30
	<b>10P14a2</b>	157200	7	165100	7	209600	10	102900	6	634800	30
	<b>11M52c</b>	50000	2	37500	2	50000	2	32400	3	169900	9
	<b>11M54a1</b>	157200	8	165100	9	234600	11	185300	9	742200	37
	<b>11M54a2</b>	182260	9	190100	10	234600	11	210300	10	817200	40
<b>Total</b>		<b>753860</b>	<b>35</b>	<b>772900</b>	<b>38</b>	<b>988400</b>	<b>46</b>	<b>683600</b>	<b>37</b>	<b>3198700</b>	<b>156</b>

**Table 25: Action plan for natural resource management**

<b>Action Plan for NRM activities for the year 2015 - 2016.</b>							
Name of Project : IWMP - IV / 2014 -2015				Name of Watershed : VENNIKULAM			
SI No	Name of the work	Nature of work as per MIS	Measurement	Unit	Estimate Amount	IWMP	WDF Contribution
1	Pond Renovation	Water Harvesting structures (Renovated) - Farm ponds	1(no)	No	223750	223750	2237
2	Rain pits (1x1x0.60)	Soil and Moisture conservation Activities	100(no)	Ha	11829		
3	Renovation of thodu	Vegetative and engineering structures (Drainage Line Treatment-desilting)	600(m)	Cum	79800		
4	Well recharging	Water Harvesting Structures (New)	20(no)	No	224020	220000	22000
<b>Total</b>					<b>539399</b>	<b>443750</b>	<b>24237</b>
<b>Action Plan for NRM activities for the year 2016 - 2017.</b>							
1	Pond Renovation	Water Harvesting structures (Renovated) - Farm ponds	1(no)	No	94281	64281	
2	Well recharging	Water Harvesting structures (Renovated)	30(no)	No	336000	330000	33600
3	Renovation of well	Water Harvesting structures (Renovated)	25(no)	No	250000	250000	<b>17500</b>
4	Renovation of thodu	Vegetative and engineering structures (Drainage Line Treatment-desilting)	1000(m)	Cum	<b>133000</b>		
<b>Total</b>					<b>1063281</b>	<b>644281</b>	<b>68600</b>
1	loose boulder checks	Vegetative and engineering structures	5(no)	cum	30000	30000	
2	Stone pitched Contour bunding	Soil and Moisture conservation Activities	100(m)	Ha	160525	160525	8026
3	Mud bund	Soil and Moisture conservation Activities	1000(m)	Ha	100000		
6	Centripetal terracing	Soil and Moisture conservation Activities	200(no)	Ha	40000		
<b>Total</b>					<b>360525</b>	<b>190525</b>	<b>8026</b>

1	loose boulder checks	Vegetative and engineering structures	5(no)	cum	30000	30000	
2	Renovation of well	Water Harvesting structures (Renovated)	25(no)	No	250000	250000	<b>17500</b>
3	Well construction	Water Harvesting structures (Renovated) - Farm ponds	1(no)	No	70000	70000	<b>7000</b>
<b>Total</b>					<b>350000</b>	<b>350000</b>	<b>24500</b>
<b>Action Plan for NRM activities for the year 2015 - 2016</b>							
<b>Name of Watershed : KURAVANKUZH</b>							
1	Pond Renovation	Water Harvesting structures (Renovated) - Farm ponds	1(no)	No	600000	600000	
2	Rain pits (1x1x0.60)	Soil and Moisture conservation Activities	100(no)	Ha	11829		
3	Renovation of thodu	Vegetative and engineering structures (Drainage Line Treatment)	1000(m)	Cum	133000		
4	Well recharging	Water Harvesting Structures (New)	50(no)	No	560050	550000	55000
<b>Total</b>					<b>1304879</b>	<b>1150000</b>	<b>55000</b>
1	Renovation of well	Water Harvesting structures (Renovated)	150(no)	No	1200000	1000000	100000
2	Well recharging	Water Harvesting Structures (New)	150(no)	No	1680150	1650000	165000
3	Renovation of pond	Water Harvesting structures (Renovated) - Farm ponds	5(no)	No	61878	61878	
4	Renovation of thodu	Vegetative and engineering structures (Drainage Line Treatment - desilting)	1000(m)	Cum	<b>150000</b>	<b>150000</b>	
<b>Total</b>					<b>3783150</b>	<b>2861878</b>	<b>265000</b>
1	Stone pitched contour bunding	Soil and Moisture conservation Activities	200(m)	Ha	321050	321050	32105
2	Brushwood check dam	Vegetative and engineering structures	20(no)	cum	120000	120000	
3	Mud bund	Soil and Moisture conservation Activities	200(m)	Ha	321050		32105
4	Centripetal terracing	Soil and Moisture conservation Activities	200(no)	Ha	40000		
<b>Total</b>					<b>589550</b>	<b>441050</b>	<b>64210</b>



<b>Action Plan for NRM activities for the year 2018 - 2019</b>							
1	Stone pitched contour bunding	Soil and Moisture conservation Activities	200(m)	Ha	321050	321050	32105
2	Well construction	Water Harvesting structures (Renovated) - Farm ponds	3(no)	No	210000	210000	
<b>Total</b>					<b>531050</b>	<b>531050</b>	<b>32105</b>
<b>Action Plan for NRM activities for the year 2015 - 2016</b>							
Name of Watershed : OTHARA							
1	Construction of chapath	Vegetative and engineering structures	1(no)	cum	223960	223960	
2	Rain pits (1x1x0.60)	Soil and Moisture conservation Activities	100(no)	Ha	11829		
3	Ramb construction	Vegetative and engineering structures	1(no)	cum	110000	110000	
4	Well recharging	Water Harvesting Structures (New)	20(no)	No	224020	220000	22000
<b>Total</b>					<b>569809</b>	<b>553960</b>	<b>22000</b>
<b>Action Plan for NRM activities for the year 2016 - 2017</b>							
1	Well recharging	Water Harvesting Structures (New)	50(no)	No	560000	550000	55000
2	Renovation of well	Water Harvesting structures (Renovated)	30(no)	No	300000	300000	30000
3	Centripetal terracing, mulching	Soil and Moisture conservation Activities	200(no)	Ha	40000		
<b>Total</b>					<b>1110000</b>	<b>850000</b>	<b>85000</b>
<b>Action Plan for NRM activities for the year 2017 - 2018</b>							
1	Stone pitched contour bunding	Soil and Moisture conservation Activities	100(m)	Ha	160525	160525	16053
2	Brushwood check dam	Vegetative and engineering structures	20(no)	cum	60000	60000	
3	Mud bund	Soil and Moisture conservation Activities	1000(m)	Ha	100000		
4	Renovation of thodu	Vegetative and engineering structures (Drainage Line Treatment - desilting)	1000(m)	Cum	<b>150000</b>		
5	Pond	Water Harvesting structures	1(no)	No	78495	78495	

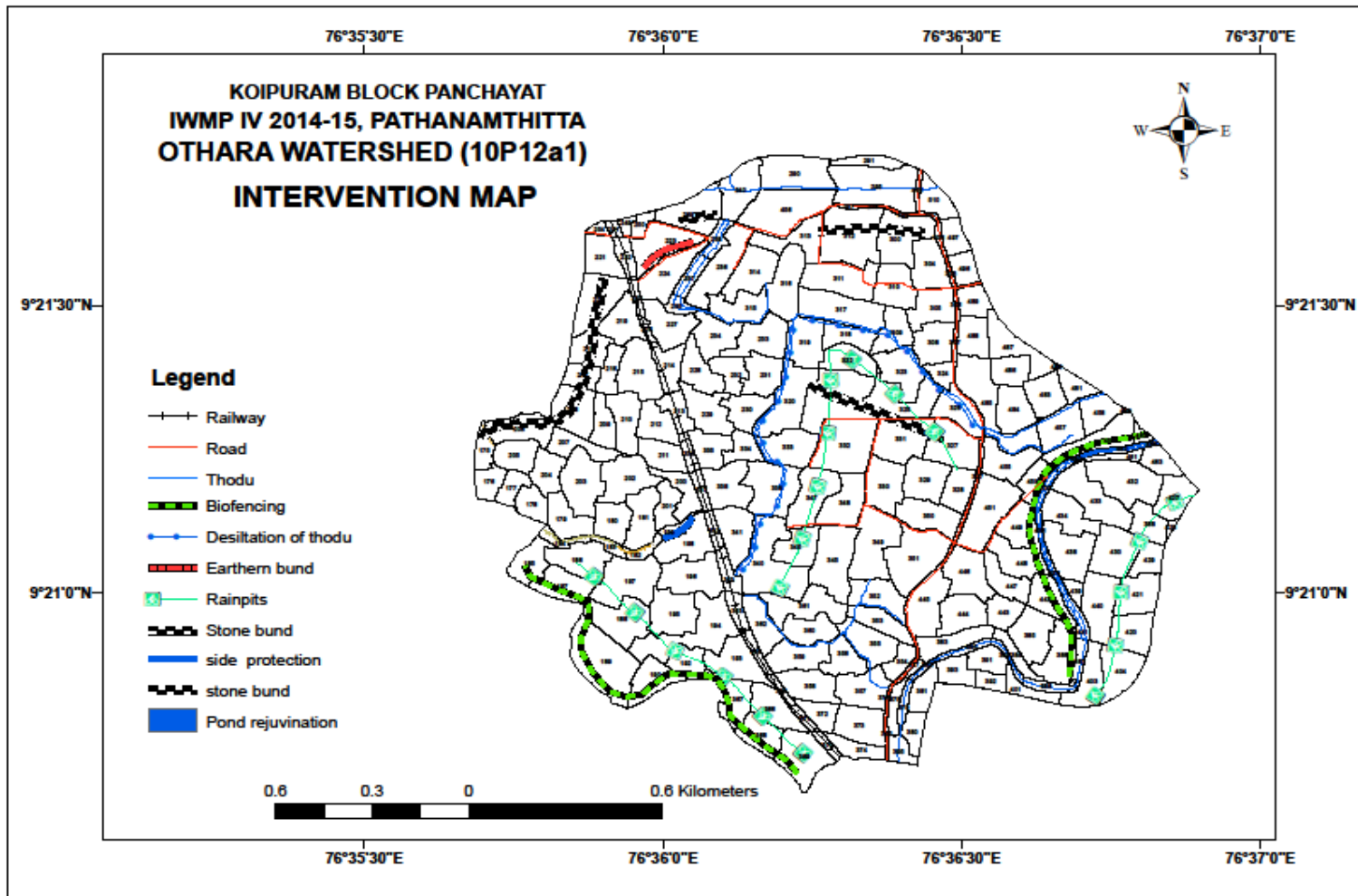
	Renovation	(Renovated) - Farm ponds					
Total					<b>549020</b>	<b>299020</b>	<b>16053</b>
<b>Action Plan for NRM activities for the year 2018 - 2019</b>							
1	Renovation of well	Water Harvesting structures (Renovated)	20(no)	No	200000	200000	20000
2	Well construction	Water Harvesting structures (Renovated) - Farm ponds	1(no)	No	70000	70000	7000
Total					<b>270000</b>	<b>270000</b>	<b>27000</b>
<b>Action Plan for NRM activities for the year 2015 - 2016</b>							
<b>Name of Watershed : MANVETTAM</b>							
1	Pond Renovation	Water Harvesting structures (Renovated) - Farm ponds	1(no)	No	136060	136060	
2	Rain pits (1x1x0.60)	Soil and Moisture conservation Activities	100(no)	Ha	11829		
3	Renovation of thodu	Vegetative and engineering structures (Drainage Line Treatment)	800(m)	Cum	106400		
4	Well recharging	Water Harvesting Structures (New)	180(no)	No	1980000	1980000	198000
Total					<b>2234289</b>	<b>2116060</b>	<b>198000</b>
<b>Action Plan for NRM activities for the year 2016 - 2017</b>							
1	Pond Renovation	Water Harvesting structures (Renovated) - Farm ponds	3(no)	No	497826	497826	49000
2	Renovation of well	Water Harvesting structures (Renovated)	60(no)	No	600000	600000	60000
3	Construction of ramb	Vegetative and engineering structures	2(no)	cum	220000	220000	
4	Centripetal terracing, mulching	Soil and Moisture conservation Activities	200(no)	Ha	40000		
5	Mud bund	Soil and Moisture conservation Activities	1500(m)	Ha	150000		
Total					<b>1507826</b>	<b>1317826</b>	<b>60000</b>
<b>Action Plan for NRM activities for the year 2017 - 2018</b>							
1	Stone pitched contour bunding	Soil and Moisture conservation Activities	200(m)	Ha	321050	321050	32105
2	Brushwood check dam	Vegetative and engineering structures	15(no)	cum	90000	90000	
5	Construction of Rain	Water Harvesting structures (new)	1(no)	No	200000	200000	20000

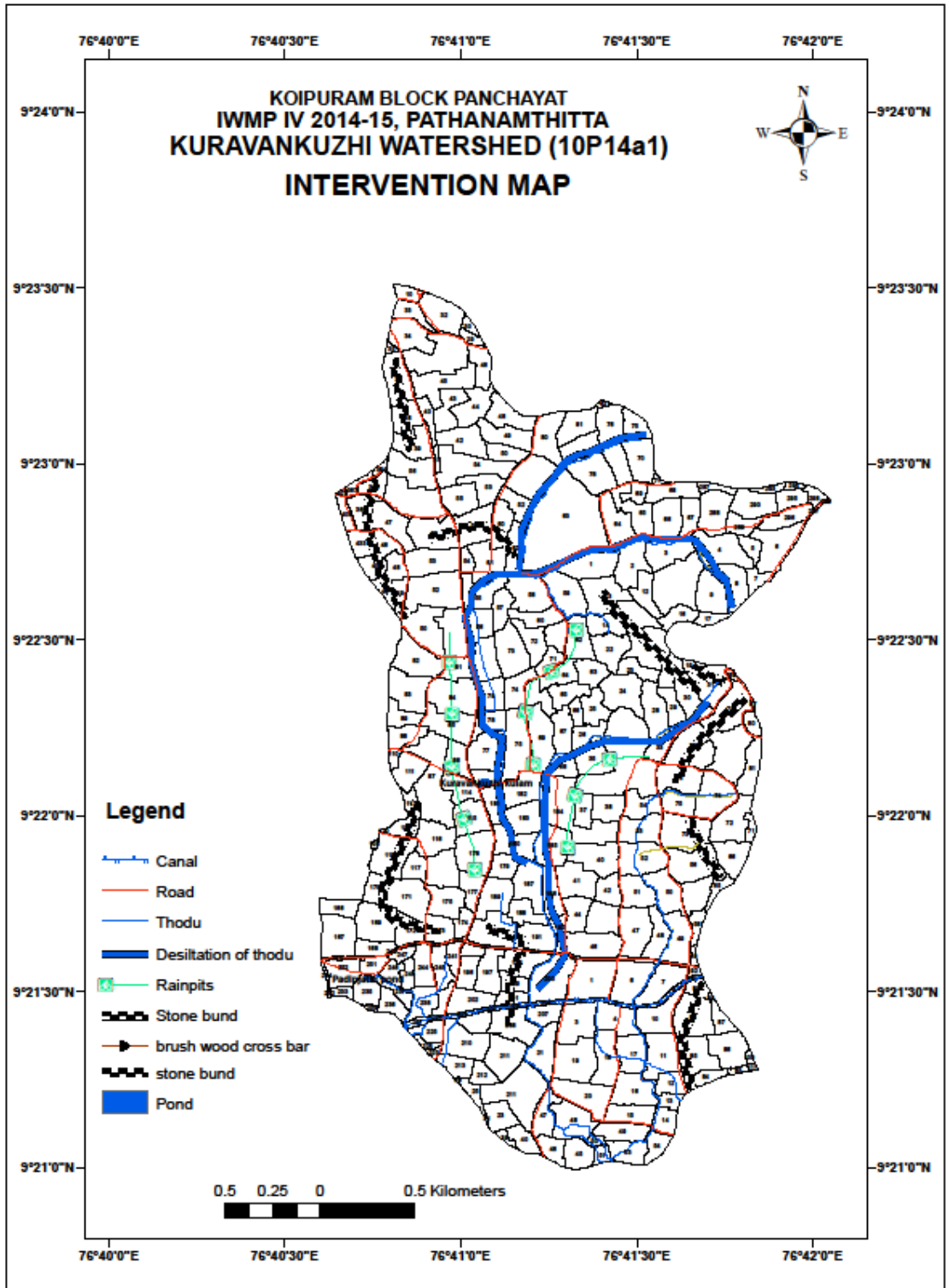
	water harvesting structure						
6	Renovation of thodu	Vegetative and engineering structures (Drainage Line Treatment)	1000(m)	Cum	300000	150000	
Total					<b>911050</b>	<b>761050</b>	<b>52105</b>
<b>Action Plan for NRM activities for the year 2018 - 201</b>							
1	Construction of Rain water harvesting structure	Water Harvesting structures (new)	1(no)	No	200000	200000	20000
2	Well construction	Water Harvesting structures (Renovated) - Farm ponds	40(no)	No	2800000	2800000	280000
Total					<b>3000000</b>	<b>3000000</b>	<b>300000</b>
<b>Action Plan for NRM activities for the year 2015 - 2016</b>							
<b>Name of Watershed : Vallamkulam kizakke</b>							
1	Rain pits (1x1x0.60)	Soil and Moisture conservation Activities	100(no)	Ha	11829		
2	Renovation of thodu	Vegetative and engineering structures (Drainage Line Treatment)	1000(m)	Cum	133000		
3	Construction of ramb	Vegetative and engineering structures	1(no)	cum	110000	110000	
5	Well recharging	Water Harvesting Structures (New)	75(no)	No	840000	825000	82500
Total					<b>1094829</b>	<b>935000</b>	<b>82500</b>
1	Pond Renovation	Water Harvesting structures (Renovated) - Farm ponds	7(no)	No	893331	893331	80000
2	Renovation of well	Water Harvesting structures (Renovated)	50(no)	No	500000	500000	50000
3	Centripetal terracing, mulching	Soil and Moisture conservation Activities	200(no)	Ha	40000		
4	Stone pitched contour bunding	Soil and Moisture conservation Activities	100(m)	Ha	160525	160525	16052
Total					<b>1593856</b>	<b>1553856</b>	<b>146052</b>
1	Brushwood	Vegetative and engineering	20(no)	cum	75000	120000	

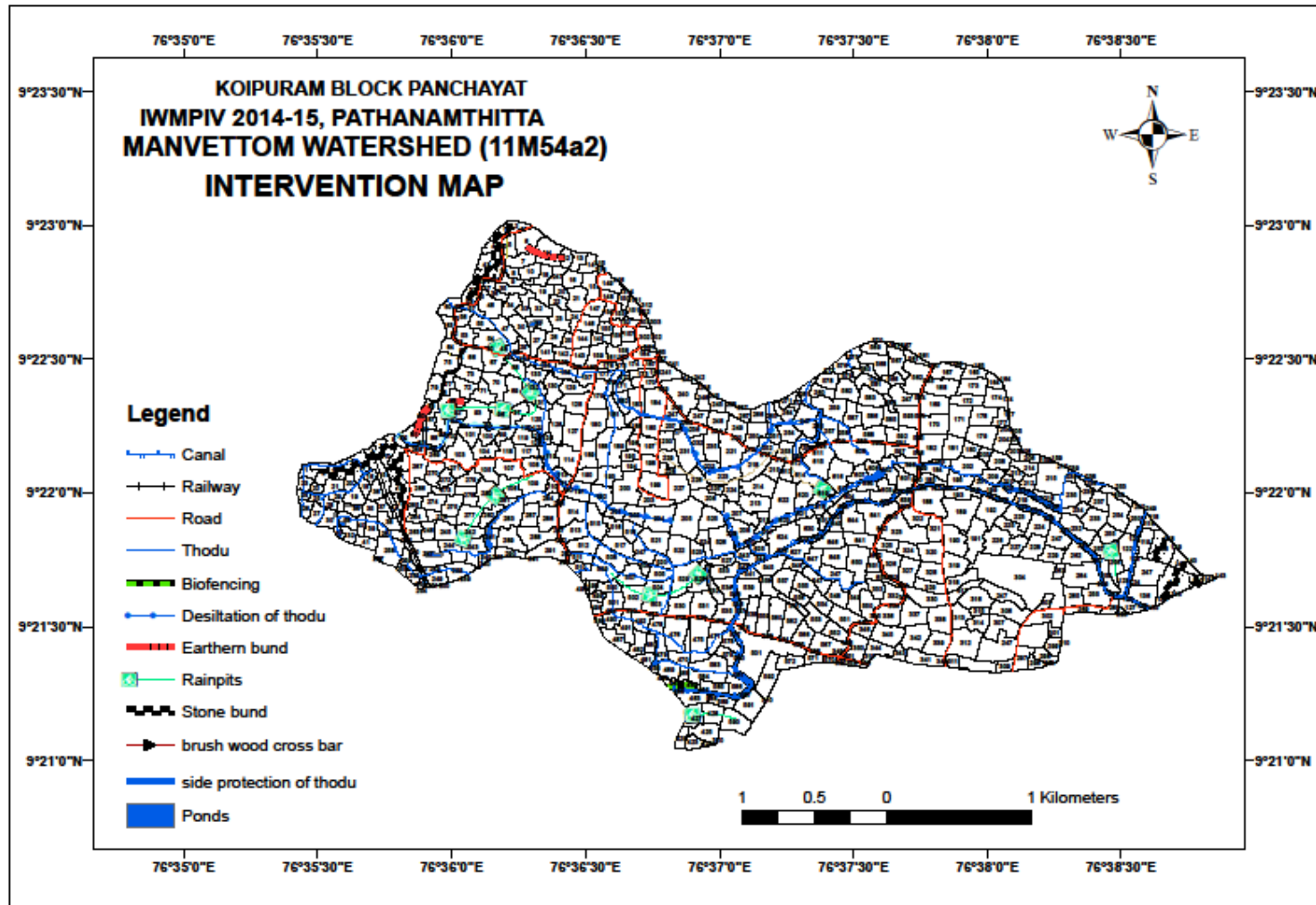
	check dam	structures					
2	Mud bund	Soil and Moisture conservation Activities	1500(m)	Ha	150000		
3	Well construction	Water Harvesting structures (Renovated) - Farm ponds	15(no)	No	787500	787500	78750
4	Renovation of well	Water Harvesting structures(Renovated)	40(no)	No	400000	400000	40000
5	Well recharging	Water Harvesting Structures (New)	75(no)	No	840000	825000	82500
Total					<b>2252500</b>	<b>2132500</b>	<b>201250</b>
<b>Action Plan for NRM activities for the year 2018 - 2019</b>							
1	Renovation of well	Water Harvesting structures (Renovated)	10(no)	No	100000	100000	10000
2	Well construction	Water Harvesting structures (Renovated) - Farm ponds	5(no)	No	262500	262500	26250
3	Construction of Rain water harvesting structure	Water Harvesting structures (new)	2(no)	No	400000	400000	0
4	Mud bund	Water Harvesting Structures (New)	50(no)	No	560000	550000	55000
Total					<b>1322500</b>	<b>1312500</b>	<b>91250</b>
<b>Action Plan for NRM activities for the year 2015 - 2016</b>							
<b>Name of Watershed : NEDUMPRAVAR</b>							
1	Renovation of thodu	Vegetative and engineering structures (Drainage Line Treatment)	500(m)	Cum	153415	153415	
2	Construction of shutter	Vegetative and engineering structures	2(no)	Cum	300000	300000	
3	Rain pits (1x1x0.60)	Soil and Moisture conservation Activities	200(no)	Ha	23658		
4	Mud bund	Water Harvesting Structures (New)	100(no)	No	1120100	1100000	110000
Total					<b>1597173</b>	<b>1553415</b>	<b>110000</b>
<b>Action Plan for NRM activities for the year 2016 - 2017</b>							
1	Pond Renovation	Water Harvesting structures (Renovated) - Farm ponds	2(no)	No	135954	135954	13595

2	Renovation of well	Water Harvesting structures (Renovated)	30(no)	No	240000	240000	24000
3	Centripetal terracing, mulching	Soil and Moisture conservation Activities	200(no)	Ha	40000		
4	Mud bund	Soil and Moisture conservation Activities	1500(m)	Ha	150000		
5	Brushwood check dam	Vegetative and engineering structures	20(no)	cum	120000	120000	
Total					<b>875954</b>	<b>495954</b>	<b>53595</b>
<b>Action Plan for NRM activities for the year 2017 - 2018</b>							
1	Construction of ramb	Vegetative and engineering structures	2(no)	cum	110000	110000	
2	Stone pitched contour bunding	Soil and Moisture conservation Activities	100(m)	Ha	160525	160525	16053
3	Construction of Rain water harvesting structure	Water Harvesting structures (new)	2(no)	No	400000	400000	
4	Well construction	Water Harvesting structures (Renovated) - Farm ponds	20(no)	No	1400000	1400000	140000
Total					<b>2070525</b>	<b>1670525</b>	<b>156053</b>
1	Well construction	Water Harvesting structures (Renovated) - Farm ponds	5(no)	No	350000	350000	35000
2	Brushwood check dam	Vegetative and engineering structures	5(no)	cum	30000	30000	
3	Renovation of well	Water Harvesting structures (Renovated)	20(no)	No	160000	160000	16000
Total					<b>540000</b>	<b>540000</b>	<b>51000</b>

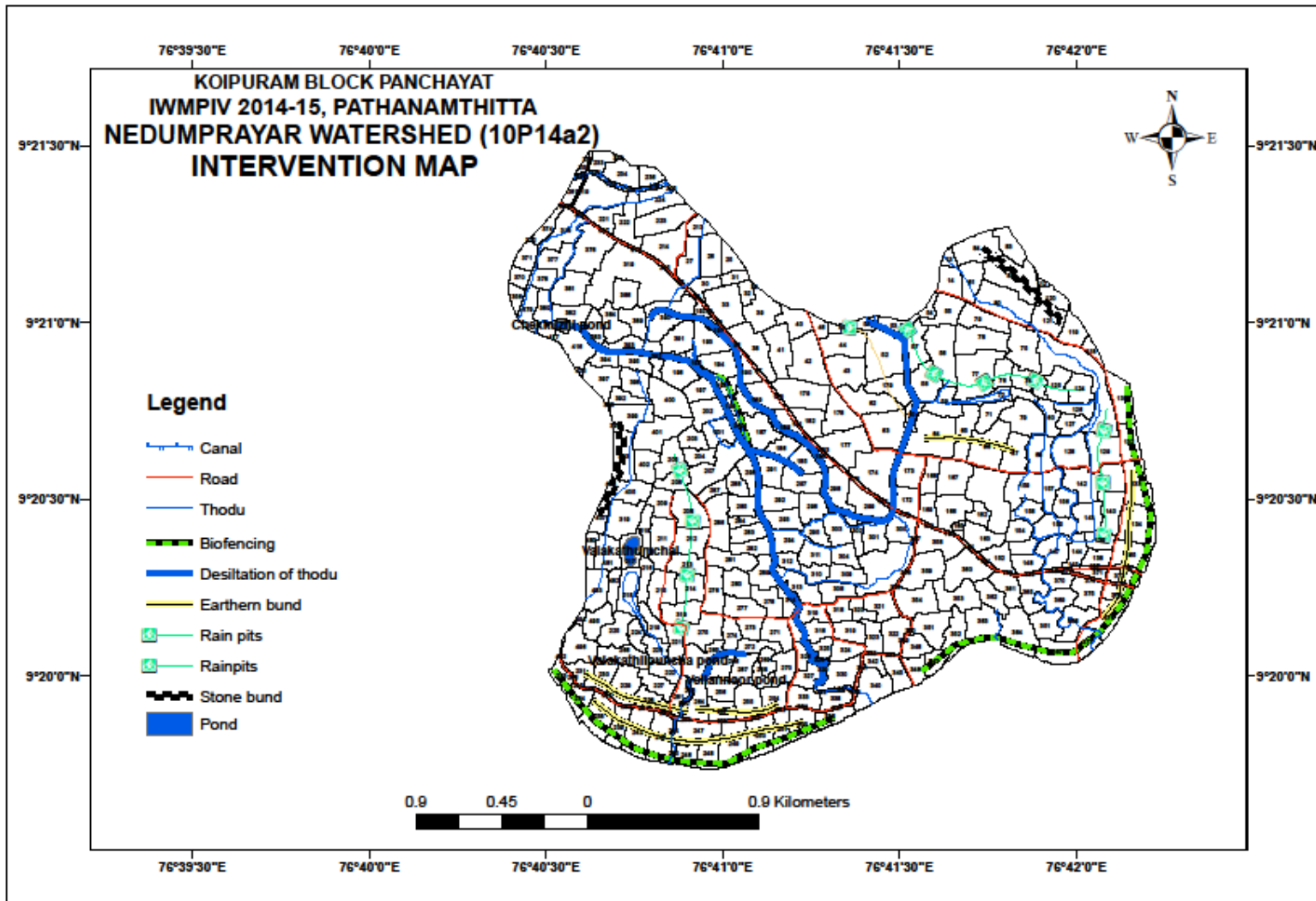
### Intervention maps

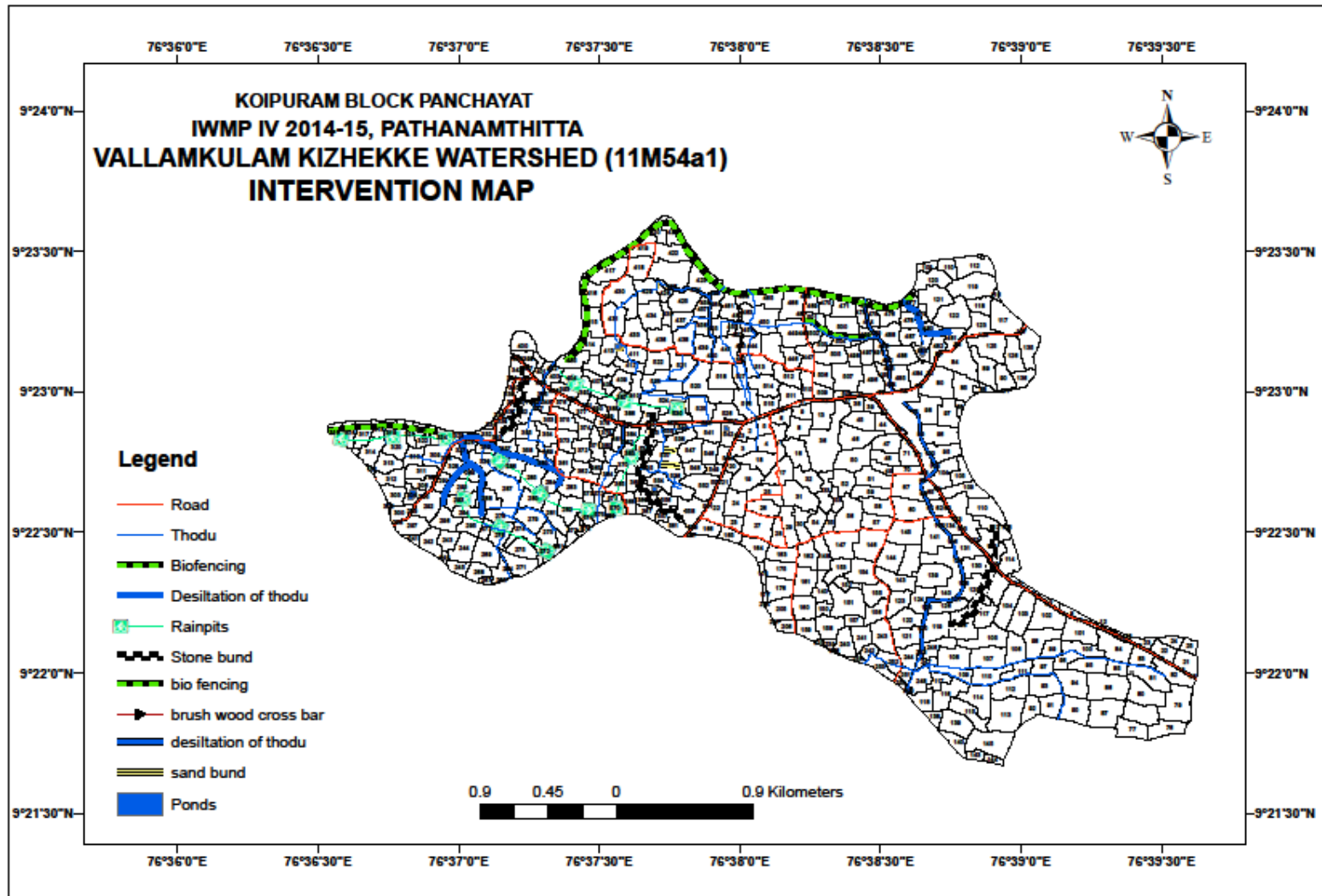


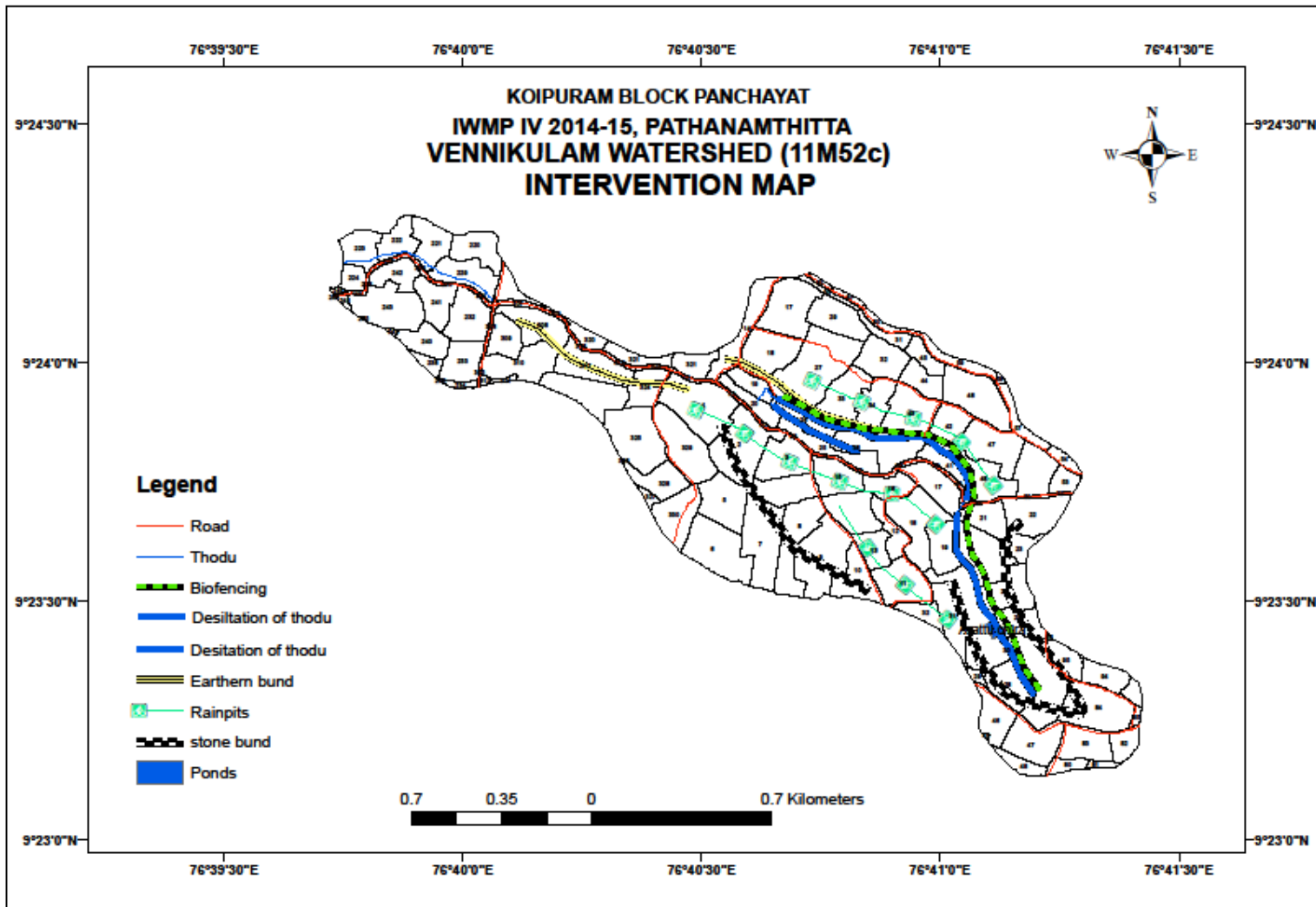












**Table 26: Fund distribution of livelihood action plan**

1	Total Project Coast									46680000
2	Fund for livelihood plan (Rs)									4201200
3	Fund for Seed money distribution (Rs)									3198700
4	Fund for Grant to SHG federations and Major activities									1002500
<b>Seed Money Distribution</b>										
	Seed Money	No. of Group benefit	Seed Money	No. of Group benefit	Seed Money	No. of Group benefit	Seed Money	No. of Group benefit	Seed Money	No. of Group benefit
10P12a1	50000	2	50000	3	50000	2	49800	3	199800	10
11M54a2	182260	9	190100	10	234600	11	210300	10	817200	40
11M54a1	157200	8	165100	9	234600	11	185300	9	742200	37
11M52c	50000	2	37500	2	50000	2	32400	3	169900	9
10P14a1	157200	7	165100	7	209600	10	102900	6	634800	30
10P14a2	157200	7	165100	7	209600	10	102900	6	634800	30
	<b>753860</b>	<b>35</b>	<b>772900</b>	<b>38</b>	<b>988400</b>	<b>46</b>	<b>683600</b>	<b>37</b>	<b>3198700</b>	<b>156</b>
<b>Grant for Major Activities</b>										
	Grant	No. of Group benefit	Grant	No. of Group benefit	Grant	No. of Group benefit	Grant	No. of Group benefit	Grant	No. of Group benefit
10P12a1							114480	1		
11M54a2					328896	1				
11M54a1					203016	1				
11M52c							89516	1		
10P14a1					159108	1				
10P14a2					107484	1				
					<b>798504</b>	<b>4</b>	<b>203996</b>	<b>2</b>	<b>1002500</b>	<b>6</b>

**Table 27: Micro watershed wise livelihood action plan**

<b>Othara ws (10P12a1)</b>							
Sl. No.	Activity	Unit Cost	Physical Quantity	IWMP	Financial		
					Beneficiary Contribution	Bank Loan	Total
<b>First year</b>							
	<b>Seed Money for JLGs</b>						
1	Collection and Marketing of locally available products	25000	1	25000			25000
2	Goat rearing	40000	1	25000		15000	40000
	<b>Total</b>		<b>2</b>	<b>50000</b>		<b>15000</b>	<b>65000</b>
<b>Second year</b>							
1	Manufacturing of Eco-friendly products	12500	2	25000			25000
2	Goat rearing	40000	1	25000		15000	40000
	<b>Total</b>		<b>3</b>	<b>50000</b>		<b>15000</b>	<b>65000</b>
<b>Third year</b>							
1	Calf rearing (5 Nos. in 1 Unit)	40000	1	25000		15000	40000
2	Jam and squash production unit	25000	1	25000			25000
	<b>Total</b>		<b>2</b>	<b>50000</b>		<b>15000</b>	<b>65000</b>
<b>Fourth year</b>							
1	Pisciculture	15000	1	15000			15000
2	Horticulture	17400	2	34800			34800
	<b>Total</b>		<b>3</b>	<b>49800</b>			<b>49800</b>
	<b>Grant in aid for JLGs</b>						
1	Flour mill unit	220000	1	114480	11448	94072	220000
			<b>1</b>	<b>114480</b>	<b>11448</b>	<b>94072</b>	<b>220000</b>
<b>Manvettom ws (11 M 54a2)</b>							
<b>First year</b>							
	<b>Seed Money for JLGs</b>						
1	Collection and Marketing of locally available products	25000	1	25000			25000
2	Goat rearing	40000	1	25000		15000	40000
3	Horticulture	17400	3	52200			52200

4	Pisciculture	15000	2	30000			30000
5	Calf rearing (5 Nos. in 1 Unit)	40000	2	50000		30000	80000
	<b>Total</b>		<b>9</b>	<b>182200</b>		<b>45000</b>	<b>227200</b>
<b>Second year</b>							
1	Manufacturing of Eco-friendly products	12500	2	25000			25000
2	Goat rearing	40000	1	25000		15000	40000
3	Back yard poultry	20500	1	20500			20500
4	Horticulture	17400	4	69600			69600
5	Calf rearing (5 Nos. in 1 Unit)	40000	2	50000		30000	80000
	<b>Total</b>		<b>10</b>	<b>190100</b>		<b>45000</b>	<b>235100</b>
<b>Third year</b>							
1	Calf rearing (5 Nos. in 1 Unit)	40000	2	50000		30000	80000
2	Jam,Squash production unit	25000	2	50000			50000
3	Horticulture	17400	4	69600			69600
4	Pisciculture	15000	1	15000			15000
5	Goat rearing	40000	2	50000		30000	80000
	<b>Total</b>		<b>11</b>	<b>234600</b>		<b>60000</b>	<b>294600</b>
<b>Grant in aid for JLGs</b>							
1	Production of value added products using locally available resources	436100	1	328896	32890	74314	436100
	<b>Total</b>	<b>436100</b>	<b>1</b>	<b>328896</b>	<b>32890</b>	<b>74314</b>	<b>436100</b>
<b>Fourth year</b>							
1	Pisciculture	15000	2	30000			30000
2	Horticulture	17400	2	34800			34800
3	Jam,Squash production unit	25000	2	50000			50000
4	Back yard poultry	20500	1	20500			20500
5	Pickles production	25000	2	50000			50000
6	production of detergents, lotion etc	30000	1	25000		5000	30000
	<b>Total</b>		<b>10</b>	<b>210300</b>		<b>5000</b>	<b>185300</b>

<b>Vallamkulam Kizhekke ws (11 M54a1)</b>							
<b>First year</b>							
	<b>Seed Money for JLGs</b>						
1	Production of value added products using locally available resources	25000	1	25000			25000
2	Goat rearing	40000	1	25000		15000	40000
3	Horticulture	17400	3	52200			52200
4	Pisciculture	15000	2	30000			30000
5	Calf rearing (5 Nos. in 1 Unit)	40000	1	25000		15000	40000
	<b>Total</b>		<b>8</b>	<b>157200</b>		<b>30000</b>	<b>187200</b>
<b>Second year</b>							
1	Manufacturing of Eco-friendly products	12500	2	25000			25000
2	Goat rearing	40000	1	25000		15000	40000
3	Back yard poultry	20500	1	20500			20500
4	Horticulture	17400	4	69600			69600
5	Calf rearing (5 Nos. in 1 Unit)	40000	1	25000		15000	40000
	<b>Total</b>		<b>9</b>	<b>165100</b>		<b>30000</b>	<b>195100</b>
<b>Third year</b>							
1	Calf rearing (5 Nos. in 1 Unit)	40000	2	50000		30000	80000
2	Jam,Squash production unit	25000	2	50000			50000
3	Horticulture	17400	4	69600			69600
4	Pisciculture	15000	1	15000			15000
5	Goat rearing	40000	2	50000		30000	80000
	<b>Total</b>		<b>11</b>	<b>234600</b>		<b>60000</b>	<b>294600</b>
<b>Grant in aid for JLGs</b>							
1	Production of value added products using locally available resources	514000	1	203016	20302	290682	514000
	<b>Total</b>	<b>514000</b>	<b>1</b>	<b>203016</b>	<b>20302</b>	<b>290682</b>	<b>514000</b>
<b>Fourth year</b>							

1	Pisciculture	15000	2	30000			30000
2	Horticulture	17400	2	34800			34800
3	Jam,Squash	25000	2	50000			50000
4	Back yard poultry	20500	1	20500			20500
5	Pickles production	25000	2	50000			50000
	<b>Total</b>		<b>9</b>	<b>185300</b>			<b>185300</b>
<b>Vennikulam ws (11M52c )-</b>							
<b>First year</b>							
	<b>Seed Money for JLGs</b>						
1	Collection and Marketing of locally available products	25000	1	25000			25000
2	Goat rearing	40000	1	25000		15000	40000
	<b>Total</b>		<b>2</b>	<b>50000</b>		<b>15000</b>	<b>65000</b>
<b>Second year</b>							
1	Manufacturing of Eco-friendly products	12500	1	12500			12500
2	Goat rearing	40000	1	25000		15000	40000
	<b>Total</b>		<b>2</b>	<b>37500</b>		<b>15000</b>	<b>52500</b>
<b>Third year</b>							
1	Calf rearing (5 Nos. in 1 Unit)	40000	1	25000		15000	40000
2	Jam,Squash Production unit	25000	1	25000			25000
	<b>Total</b>		<b>2</b>	<b>50000</b>		<b>15000</b>	<b>65000</b>
<b>Fourth year</b>							
1	Pisciculture	15000	1	15000			15000
2	Horticulture	17400	1	17400			17400
	<b>Total</b>		<b>3</b>	<b>32400</b>			<b>32400</b>
	<b>Grant in aid for JLGs</b>						
1	Flour mill unit	220000	1	89516	8952	121532	220000
			<b>1</b>	<b>89516</b>	<b>8952</b>	<b>121532</b>	<b>220000</b>
<b>Kuravankuzhi ws (10 P14a1)</b>							
<b>First year</b>							
	<b>Seed Money for JLGs</b>						
1	Collection and	25000	1	25000			25000



	Marketing of locally available products						
2	Goat rearing	40000	1	25000		15000	40000
3	Horticulture	17400	2	34800			34800
4	Pisciculture	15000	2	30000			30000
5	Calf rearing (5 Nos. in 1 Unit)	40000	1	25000		15000	40000
	<b>Total</b>		<b>7</b>	<b>157200</b>		<b>30000</b>	<b>187200</b>
<b>Second year</b>							
1	Manufacturing of Eco-friendly products	12500	2	25000			25000
2	Goat rearing	40000	1	25000		15000	40000
3	Back yard poultry	20500	1	20500			20500
4	Horticulture	17400	2	34800			69600
5	Calf rearing (5 Nos. in 1 Unit)	40000	1	25000		15000	40000
	<b>Total</b>		<b>7</b>	<b>165100</b>		<b>30000</b>	<b>195100</b>
<b>Third year</b>							
1	Calf rearing (5 Nos. in 1 Unit)	40000	2	50000		30000	80000
2	Jam,Squash Production unit	25000	2	50000			50000
3	Horticulture	17400	4	69600			69600
4	Pisciculture.	15000	1	15000			15000
5	Goat rearing	40000	1	25000		15000	40000
	<b>Total</b>		<b>10</b>	<b>209600</b>		<b>45000</b>	<b>254600</b>
<b>Grant in aid for JLGs</b>							
1	Flour mill unit	220000	1	159108	15911	44981	220000
	<b>Total</b>	220000	<b>1</b>	<b>159108</b>	<b>15911</b>	<b>44981</b>	<b>220000</b>
<b>Fourth year</b>							
1	Pisciculture.	15000	1	15000			15000
2	Horticulture	17400	2	17400			17400
3	Jam,Squash Production unit	25000	1	25000			25000
4	Back yard poultry	20500	1	20500			20500
5	Pickles production	25000	1	25000			25000
	<b>Total</b>		<b>6</b>	<b>102900</b>			<b>102900</b>

**Nedumprayar ws (10P14a2)**

**First year**

	Seed Money for JLGs						
1	Collection and Marketing of locally available products	25000	1	25000			25000
2	Goat rearing	40000	1	25000		15000	40000
3	Horticulture	17400	2	34800			34800
4	Pisciculture.	15000	2	30000			30000
5	Calf rearing (5 Nos. in 1 Unit)	40000	1	25000		15000	40000
	<b>Total</b>		<b>7</b>	<b>157200</b>		<b>30000</b>	<b>187200</b>
<b>Second year</b>							
1	Manufacturing of Eco-friendly products	12500	2	25000			25000
2	Goat rearing	40000	1	25000		15000	40000
3	Back yard poultry	20500	1	20500			20500
4	Horticulture	17400	2	34800			69600
5	Calf rearing (5 Nos. in 1 Unit)	40000	1	25000		15000	40000
	<b>Total</b>		<b>7</b>	<b>165100</b>		<b>30000</b>	<b>195100</b>
<b>Third year</b>							
1	Calf rearing (5 Nos. in 1 Unit)	40000	2	50000		30000	80000
2	Jam,Squash Production unit	25000	2	50000			50000
3	Horticulture	17400	4	69600			69600
4	Pisciculture.	15000	1	15000			15000
5	Goat rearing	40000	1	25000		15000	40000
	<b>Total</b>		<b>10</b>	<b>209600</b>		<b>45000</b>	<b>254600</b>
<b>Grant in aid for JLGs</b>							
1	Flour mill unit	220000	1	107484	10748	101768	220000
	<b>Total</b>	220000	<b>1</b>	<b>107484</b>	<b>10748</b>	<b>101768</b>	<b>220000</b>
<b>Fourth year</b>							
1	Pisciculture.	15000	1	15000			15000
2	Horticulture	17400	2	17400			17400
3	Jam,Squash Production unit	25000	1	25000			25000
4	Back yard poultry	20500	1	20500			20500
5	Pickles production	25000	2	50000			25000
	<b>Total</b>		<b>6</b>	<b>102900</b>			<b>102900</b>

**Table 28: Micro watershed wise action plan for production system and micro enterprises**

<b>Othara ws (10P12a1)</b>											
<b>Sl.No</b>	<b>Production sector</b>	<b>Unit</b>	<b>Unit cost</b>	<b>First year</b>		<b>Secondyear</b>		<b>Third year</b>		<b>Fourth year</b>	
				<b>Target</b>	<b>IWMP</b>	<b>Target</b>	<b>IWMP</b>	<b>Target</b>	<b>IWMP</b>	<b>Target</b>	<b>IWMP</b>
<b>1</b>	Distribution of coconut palms	Nos	50	180	9000	210	10500	62	3100	62	3100
<b>2</b>	Horticulture	Ha	15000	0.3	4500	0.35	5250	0.1	1500	0.1	1500
<b>3</b>	Pulses	Ha	15000	0.6	9000	0.7	10500	0.2	3000	0.2	3000
<b>4</b>	Cow rearing ( 6 months old)	Nos	12500	5	62500	3	37500	1	5000	1	5000
<b>5</b>	Growbag	Nos	80	134	10720	300	24000	70	5600	100	8000
<b>6</b>	Fodder cultivation	Ha	62375	0.4	24950	0.2	12475	0.1	6238	0.2	12475
<b>7</b>	Distribution of chicken	Nos	103	60	6180	35	3605	25	2575	28	2884
<b>8</b>	Pisciculture	Ha	6250	0.9	5625	1.05	6563	0.3	1875	0.3	1875
<b>9</b>	Pepper cultivation	Ha	24000	0.3	7200	0.35	8400	0.1	2400	0.1	2400
<b>10</b>	Tuber crops	Ha	22600	0.3	6780	0.35	7910	0.1	2260	0.1	2260
	Total				<b>146455</b>		<b>126703</b>		<b>33548</b>		<b>42494</b>
<b>Manvettom WS (11 M 54a2)</b>											
<b>1</b>	Distribution of coconut palms	Nos	50	1000	50000	1200	60000	1000	50000	842	42100
<b>2</b>	Tuber crops (single crop type)	Ha	10000	0.5	5000	1	10000	0.25	2500	0.25	2500
<b>3</b>	Horticulture	Ha	15000	1	15000	2	30000	1	15000	1	15000
<b>4</b>	Pulses	Ha	15000	1	15000	1	15000	0.5	7500	0.5	7500
<b>5</b>	Cow rearing ( 6 months old)	Nos	12500	6	75000	12	150000	10	125000	6	75000
<b>6</b>	Fodder cultivation	Ha	62375	0.4	24950	0.2	12475	0.2	62375	0.2	62375
<b>7</b>	Mushroom cultivation	10 beds	1000	2	2000	3	3000	2	2000	1	1000
<b>8</b>	Distribution of chicken	Nos	103	90	9270	120	12360	125	12875	100	10300
<b>9</b>	Vermicompost	10 beds	18000	2	36000	2	36000	2	36000	1	18000
<b>10</b>	Growbag	Nos	80	200	16000	500	40000	100	5600	97	7760
<b>11</b>	Tuber crops	Ha	12000	2	24000	4	48000	1	12000	1	12000

	Total				272220		416835		330850		253535
<b>Vallamkulam Kizhekke WS (11 M54a1)</b>											
1	Distribution of coconut palms	Nos	50	1000	50000	1000	50000	600	30000	555	27750
2	Tuber crops (single crop type)	Ha	10000	0.3	3000	0.3	3000	2500	2500	2500	1500
3	Horticulture	Ha	15000	1	15000	2	30000	15000	15000	15000	15000
4	Pulses	Ha	15000	1	15000	1	15000	7500	7500	7500	7500
5	Cow rearing ( 6 months old)	Nos	12500	5	62500	5	62500	5	62500	4	50000
6	Fodder cultivation	Ha	62375	0.4	24950	0.3	18712.5	0.2	12475	0.1	6237.5
7	Mushroom cultivation	10 beds	1000	5	5000	10	10000	10	10000	5	5000
8	Distribution of chicken	Nos	103	100	10300	150	15450	125	12875	50	5150
9	Pulses- Horticulture	Ha	6000	3	18000	3	18000	18000	18000	18000	6000
10	Tuber crops	Ha	12000	1	12000	3	36000	12000	12000	12000	12000
11	Vermicompost	10 beds	18000	2	36000	3	54000	2	36000	1	18000
12	Growbag	Nos	80	240	19200	300	24000	200	16000	108	8640
13	Pady cultivation	Ha	5000	2	10000	3	15000	2	10000	2	10000
	Total				280950		351663		244850		172778
<b>Vennikulam WS (11M52c )</b>											
1	Cow rearing ( 6 months old)	Nos	12500	3	37500	2	25000	2	25000	1	12500
2	Goat rearing	2 Nos	12500	2	25000	3	37500	2	25000	1	12500
3	Tuber crops	Ha	22920	0.2	4584	0.2	4584	0.3	6876	0.2	4584
4	Mushroom cultivation	10 beds	1000	2	2000	2	2000	1	1000	1	1000
5	Distribution of chicken	Nos	103	20	2060	30	3090	20	2060	18	1854
6	Pulses- Horticulture	Ha	6000	0.5	3000	1.5	9000	0.5	3000	0.5	3000
7	Fodder cultivation	Ha	62375	0.1	6237	0.1	6237	0.1	6237	0.1	6237
8	Growbag	Nos	80	48	3840	40	3200	10	800	22	1760
	Total				84221		90611		69973		43435
<b>Kuravankuzhi WS (10 P14a1)</b>											
1	Distribution of coconut palms	Nos	50	608	30400	708	35400	505	25250	207	10350
2	Tuber crops (single crop type)	Ha	10000	0.3	3000	0.3	3000	0.25	2500	0.15	1500

3	Horticulture	Ha	15000	1	15000	1	15000	0.5	7500	0.5	7500
4	Pulses	Ha	15000	0.5	7500	0.5	7500	0.5	7500	0.5	7500
5	Cow rearing ( 6 months old)	Nos	12500	3	37500	5	62500	3	37500	2	25000
6	Goat rearing	2 Nos	12500	3	37500	5	62500	3	37500	3	37500
7	Fodder cultivation	Ha	62375	0.2	12475	0.4	24950	0.2	12475	0.2	12475
8	Mushroom cultivation	10 beds	1000	3	3000	3	3000	3	3000	2	2000
9	Distribution of chicken	Nos	103	50	5150	100	10300	75	7725	50	5150
10	Growbag	Nos	80	300	24000	300	24000	200	16000	194	15520
11	Pady cultivation	Ha	5000	2	10000	3	15000	2	10000	2	10000
12	Vermicompost	10 beds	18000	1	18000	1	18000	1	18000	1	18000
15	Tuber crops	Ha	12000	1	12000	2	24000	1	12000	1	12000
Total					<b>215525</b>		<b>305150</b>		<b>196950</b>		<b>164495</b>
<b>Nedumprayar WS (10P14a2)</b>											
1	Distribution of coconut palms	Nos	50	600	30000	700	35000	500	25000	200	10000
2	Tuber crops (single crop type)	Ha	10000	0.3	3000	0.3	3000	0.25	2500	0.15	1500
3	Horticulture	Ha	15000	1	15000	1	15000	0.5	7500	0.5	7500
4	Pulses	Ha	15000	0.5	7500	0.5	7500	0.5	7500	0.5	7500
5	Cow rearing ( 6 months old)	Nos	12500	3	37500	5	62500	5	62500	4	50000
6	Fodder cultivation	Ha	62375	0.2	12475	0.4	24950	0.2	12475	0.2	12475
7	Mushroom cultivation	10 beds	1000	3	3000	3	3000	3	3000	2	2000
8	Distribution of chicken	Nos	103	50	5150	100	10300	75	7725	50	5150
9	Growbag	Nos	80	300	24000	350	28000	250	20000	207	16560
10	Pady cultivation	Ha	5000	2	10000	3	15000	2	10000	2	10000
11	Vermicompost	10 beds	18000	1	18000	3	54000	2	36000	2	36000
12	Tuber crops	Ha	12000	0.3	12000	1	12000	1	12000	1	12000
Total					<b>177625</b>		<b>270250</b>		<b>206200</b>		<b>170685</b>

**EXPECTED OUTCOME**

**Table 29: Expected outcomes from the project area**

Sl.No	Activity	Target Group	Pre project period status	Post project period Status
01	Water conservation(Stone/Earthen Bund	Watershed community	Severe soil erosion, drinking water scarcity	In-situ rain water conservation in the project area of 1900. Ha. Control of the erosion ofvaluable top soil. Enhance productivity of the land in a sustainable manner.Protection of farm land Enhancement of gross cropped area by 20%
02	Construction of Rain pits, Well recharging	Watershed community	Severe drinking water problem, Water table is decreasing, Acute shortage of drinking water summer	The level of water table can increase by 1.5 to 2 m. 40% Increase in drinking water.
03	Construction and conservation of Pond, Check dams	Farmers	Helps to recharge surface water	To increase the storage efficiency of the surface water body ഉപരിതല
		Production sector		
04	Horticulture	Farmers	Presently low production	Can produce more than 3 tons from the present condition.
	Coconut	Farmers	Maximum 40 nuts from a coconut tree	Can increase 60 nuts from 40
	Tapioca Pulses	Farmers	Presently low production	20-25 % increase in production
		Livelihood activities		
05	Employment oppertunities	Poor people (landless or asset less)	Lot of families live below poverty line	Make employment opportunities for 780 people through 156

				JLGs in 5 years
06	Biodiversity	Watershed community		Conservation of biodiversity
07	Environment	Watershed community		To increase the efficiency of the water sources by controlling the drought, flooding, soil erosion, bank failure of streams.

### **WATERSHED DEVELOPMENT FUND & EXIT PROTOCOL**

Through out the planning, implementation and monitoring process the Integrated Watershed Management Programme (IWMP) is essentially a People’s Programme. It envisages organizing the community inhabiting the project area into various interest Groups and to plan, implement and monitor the project to derive and deliver the desired results on a sustainable manner. So many social institutions are constituted and various assets are created under the project, the maintenance and management of which are of utmost importance with regard to the sustainability of the out puts. So also, the project sets aside nearly 9% of its Budget as revolving fund to be provided to deserving Self Help Groups for running microenterprises of their choice and interest. The guidelines of the programme very seriously describe the relevance and scope of Post Project Management of the assets, institutions and investments of the Project. The provision for constituting a Corpus Fund called Watershed Development Fund – WDF- for the Post Project Management expenses as envisaged in the Guidelines.

The WDF can be augmented with the revenue generated out of the Project. However, the contributions collected from the beneficiaries shall be the major portion of the WDF. The Guidelines of the programme leaves the matter of envisaging suitable social mechanism to operate this fund in an appropriate manner to the State Level Nodal agency and the State Government. Presumably various interest Groups-SHGs and UGs shall be federated in an effective manner to undertake the management responsibilities during the Post project under the Programme.

## **CONCLUSION**

Integrated Watershed Management Programme (Pathanamthitta WMPIV/2014-15 Koipuram) is essentially a People's Programme all throughout. The project stipulates to organize the community inhabiting the project area into various interest Groups and to plan, implement and monitor the project to derive and deliver the desired results in a sustainable manner. The main objective of the project is to improve the life of the people in the project area through conserving soil, water and biomass. Conserving these so many activities are included in the project. Constructing stone pitched bunds, mud bunds etc will help to control the soil erosion. Activities are proposed for desilting the major ponds in the watershed area because water is one of the major component of the agriculture activity.. The ground water table is decreasing throughout the project area. To overcome this problem the project envisage water harvesting methods like constructing check dams, taking rain pits, well recharging etc. Through interventions under the project, production of vegetables, banana and coconut will improve. Livelihood opportunities by promoting manufacturing and marketing of eco-friendly alternative products, collection and marketing of local products, value added production, cattle rearing, back yard poultry, pisciculture, production unit of pickles, squash, jam etc., The scopes for convergence with other schemes and programmes have been examined in identifying interventions under IWMP. The interventions under IWMP are expected to help in restoring the ecological balance of the project area, conserving the natural resources and in improving the livelihood opportunities of the people