INTEGRATED WATERSHED MANAGEMENT PROGRAMME (IWMP)

IWMP III (Kalpetta D I)

DETAILED PROJECT REPORT (DPR)

P I A

KALPETTA BLOCK PANCHAYATH

Prepared and Submitted by

T S O – ARSHABHARATH

Central Office – Nathamkuni Post, Meppadi, Wayanad-673577, Ph: 04936 282500, Fax: 282700
E-mail: arshabarath@sify.com, mail@arshabharath.org
www.arshabharath.org

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AND

GENERAL DISCRIPTION

INTRODUCTION

India, one of the largest countries in the world, is blessed with diverse and abundant resources. India is facing unprecedented crisis and challenges on the agricultural front. Watershed development approach has been advocated as the best strategy for conserving the natural resources of water, soil and bio-mass. Eleventh Five Year Plan has proposed Watershed management activities for ensuring rural development. It was in this context that Govt. of India decided to implement watershed development projects in the distressed districts in India. Wayanad is among the 31 districts declared by the central government as distressed.

The IWMP III D I project, comprising seven micro watersheds and covering mainly four Grama Panchayaths in a total of 5175 Ha in Kalpetta Block Panchayat, in the Western Ghat region, is inhabited by 5226 families, mostly of small and marginal farmers. Kalpetta Block Panchayath has been selected as the Implementing Agency of this project.

This project is the most relevant and effective response to the crisis experienced by the farming community in the seven micro watersheds namely, Muthappankundu, Thrikkaipetta, Chepottukunnu, Malakkad, Varyad, Thondupaly and Muranikkara. It has the potential of turning out a shining example and replicable model of participatory sustainable rural development. It is also a good example of what partnership among government departments, banks, local governments, voluntary agencies and community based organizations can achieve for our country.

GENERAL DESCRIPTION OF THE PROJECT AREA

The Integrated Watershed Management Program is aimed at the restoration of natural resources by harnessing conserving and managing the degrading natural resources of soil, water and biomass. The project IWMP III D I is located in Kalpetta Block Panchayath containing seven micro watersheds covering mainly the areas of 4 Grama Panhatyats in the Block. Kalpetta Block Panchaytah is acting as the PIA for the project from 2010 and the total area under this project is 5175 ha.


IWMP III D I - CLUSTER
Location Map
0 0.75 1.5 3 4.5
Km
KERALA
WAYANAD DISTRICT
LEGEND
Major location
Road
Drain
Watershed Boundary
Integrated Watershed Management Programme
PIA - Kalpetta Block Panchayath

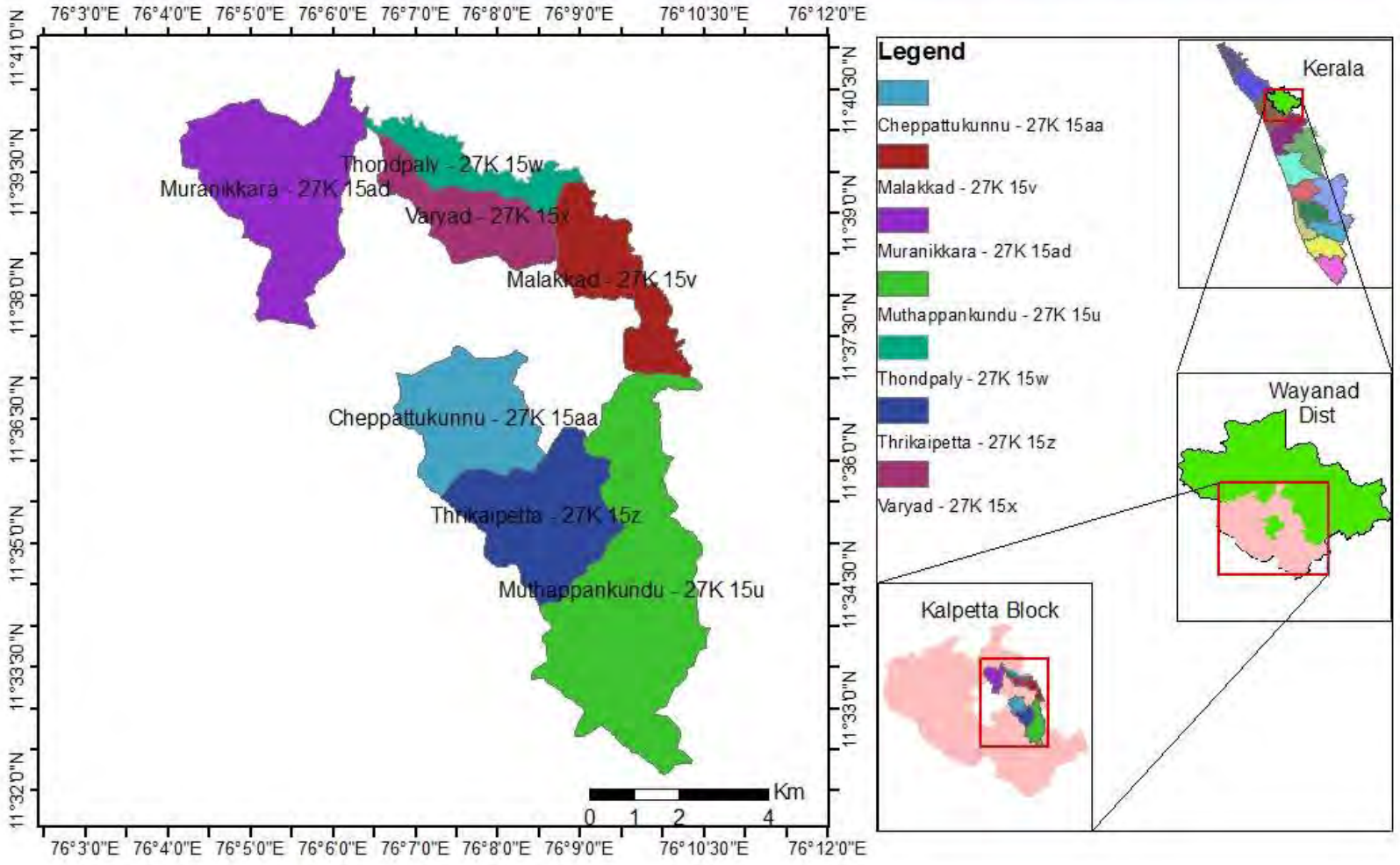
General Description

District	:	Wayanad
Block	:	Kalpetta
Project name	:	IWMP III (Kalpetta DI)
Number of Micro Watersheds	:	Seven
Grama Panchayats Covered	:	Moopainad, Meppadi, Meenangadi, Muttil, Kottathttara, Ambalavayal
Wards Included	:	Moopainad(1,3,16), Meppadi(1,2,3,4), Muttil(1,2,4,6,7,8,9,11,19), Meenangadi(11,12,13) Kottathara(5,6), Ambalavayal(15)
Total Treatable Area	:	5175 Ha
Latitude	:	11^0 32' 48'' N - 11^0 40' 12'' N
Longitude	:	76^0 04' 12'' E - 76^0 10'12'' E
Soil	:	Clay loam to Forest soil
Total Households	:	5226
Total Population	:	20904
Major Catchment	:	Kabani River
Highest Elevation	:	1380 m
Lowest Elevation Point	:	730 m

Details of Micro Watersheds coming under the Block

Sl No	Name of Watershed	Code	Total area	Treatable area
1	Muthappankundu	27K15u	1997 Ha	1225 Ha
2	Thrikkaipetta	27K15z	782 Ha	705 Ha
3	Chepottukunnu	27K15aa	702 Ha	582 Ha
4	Malakkad	27K15v	514 Ha	514 Ha
5	Varyad	27K15x	500 Ha	500 Ha
6	Thondupaly	27K15w	343 Ha	343 Ha
7	Muranikkara	27K15ad	1306 Ha	1306 Ha
Total			**6144 Ha**	**5175Ha**

IWMP III D I - PROJECT AREA MAP



Criteria for selection

The following criteria may broadly be used in selection and prioritization of watershed development projects:

a. Acuteness of drinking water scarcity.

b. Extent of over exploitation of ground water resources.

c. Preponderance of wastelands/degraded lands.

d. Contiguity to another watershed that has already been developed/treated.

e. Willingness of village community to make voluntary contributions, enforce equitable social regulations for sharing of common property resources, make equitable distribution of benefits, create arrangements for the operation and maintenance of the assets created.

f. Proportion of scheduled castes/scheduled tribes.

g. Area of the project should not be covered under assured irrigation.

h. Productivity potential of the land.

ABOUT THE PROJECT

Foreword

Most of the people of the IWMP III D I area are migrants from different parts of Kerala, especially from Central Travancore. The intensity of migration was from 1950 to 1974. No basic amenities were available in the area till recent years. The main livelihood of the people was agriculture. Several people died by starvation, acute diseases and attack of wild animals. Roads and other communication facilities were totally absent in the area at that time.

The objectives of the PRA report are the presentation of the result or outcome of Participatory Rural Appraisal exercise taken up in IWMP III D I Project in Wayanad District for the planning & development interventions for the integrated development for a period of 3 years under the I.W.M.P. This report may throw light into the problems and potentialities in the watershed with possible intervention plans for sustainable & integrated development.

Location and Area

IWMP III D I is located in the eastern part of Kalpetta Block Panchayath which covers the areas of Moopainad(1,3,16), Meppadi(1,2,3,4), Muttil(1,2,4,6,7,8,9,11,19), Meenangadi(11,12,13), Kottathara(5,6) and Ambalavayal(15) of Wayanad District, Kerala and it spreads over 6144 Ha. The main drainage line is the Karapuzha- Malakkad- Thonupaly Puzha, Varyad-Koodlamoola Thodu and Muranikkara-Cherunellur-Koodalmoola Thodu.

Project Area Boundaries

North - Kambalakad, Paralikunnu, Kumbalad, Koodalmoola areas of Muttil Gram Panchayat

South – Thinapuram Arapetta areas of Moopainad Gram Panchayat

West – Manikunnu mala of Meppadi Gram Panchayat

East - Karapuzha-Malakkad-Thondupaly Puzha

Micro Watershed Boundaries

Sl No	Name of Watershed	Watershed boundaries
1	Muthappankundu	North - Vazhavatta, Karapuzha Dam South - Moopainad, Arapetta Kunnu West - Nedumpala, Mamalakunnu Kunnu East - Eyyempara, Malayachamkolly Kunnu
2	Thrikkaipetta	North - Ezhamchira, Kuzhivayal Area South - Nedumpala Kunnu West - Manikunnu Mala East - Mamala Kunnu

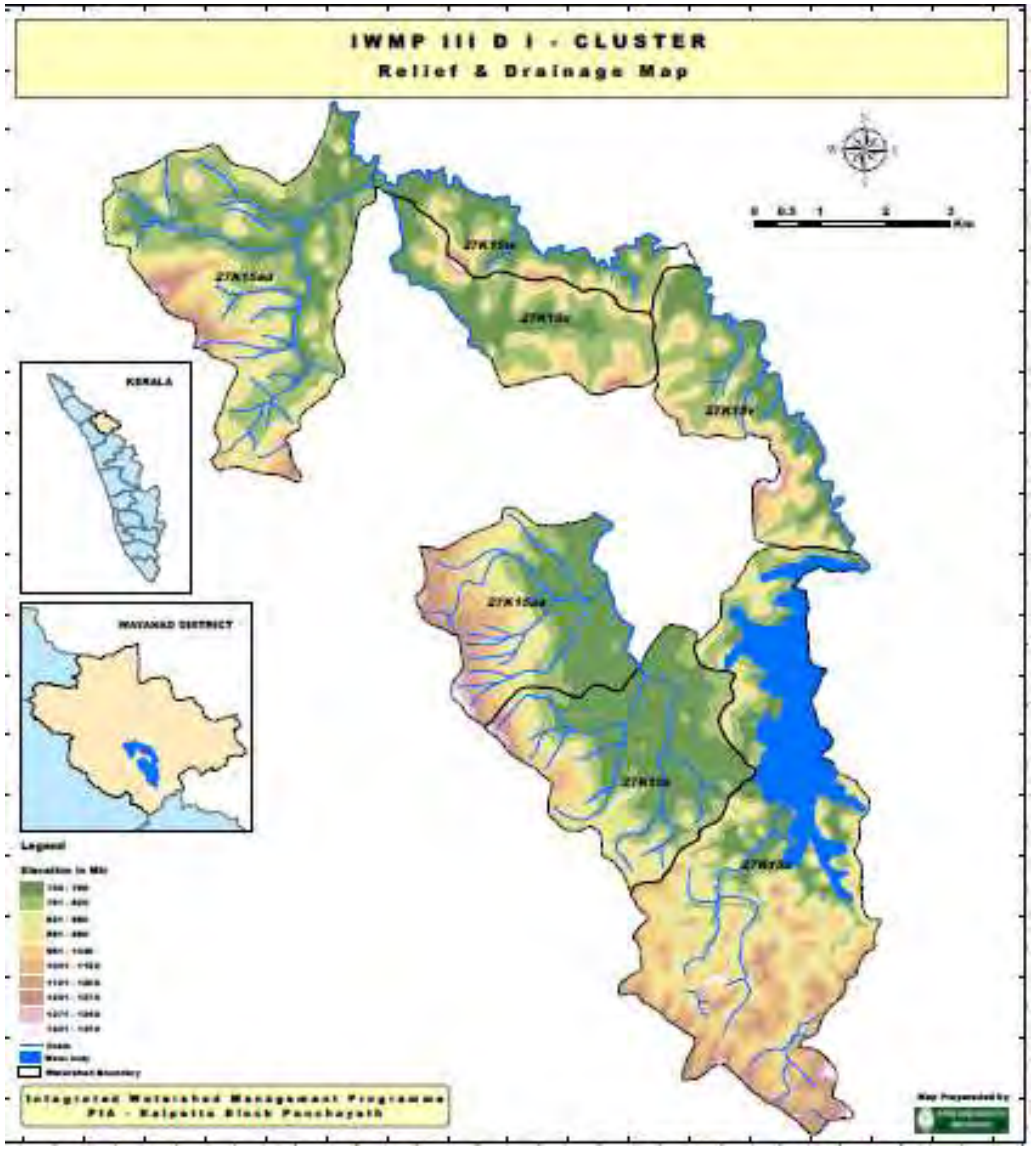
3	Chepottukunnu	North	-	Manikunnu 100 Acre Estate
		South	–	Nellimalam
		West	–	Manikunnu Mala
		East	-	Chepottu- Thoomulli Puzha
4	Malakkad	North	–	Kakkavayal, Puthiyidam Kunnu
		South	–	Vazhavatta Kunnu
		West	–	Kallupadi, Theneri Kunnu
		East	-	Karapuzha-Malakkad Puzha
5	Varyad	North	-	Malanthottam Estate, Kamalamandhiram Kunnu
		South	–	Varyad Estate
		West	–	Varyad-Koodalmoola Puzha
		East	-	Kakkavayal, Theneri Kunnu
6	Thondupaly	North	-	Vellithodu-Koodalmoola Puzha
		South	–	Malanthattam Estate, Vellithodu Kunnu
		West	–	Kamalmandhiram Kunnu, Koraladi Kunnu
		East	-	Kakkavayal Kunnu
7	Muranikkara	North	-	Paraliknnu, Kumbald Kunnu
		South	–	Kainatty, Edappatty Kunnu
		West	–	Puliyarmala Estate
		East	-	Pariyaram Kunnu

Physiography

The project area is composed of mountainous regions of Central Sahyadri. The area has rolling to undulating topography in majority of the places and intermittent with narrow valleys and broad valleys in the downstream area. The highest point is Manikunnu Mala, situated at about 1380 meters above mean sea level.

Relief and Drainage

The project area is drained by the Kabani River and its tributaries. The relief is normal in the hilly areas and normal to sub normal in the valley portion. The general slope direction is towards north. Highest point is at Manikunnu Mala. The major drains are the Karapuzha- Malakkad- Thonupaly Puzha, Varyad-Koodlamoola Thodu and Muranikkara-Cherunellur-Koodalmoola Thodu which are having the lengths of 11 km, 8 km and 5 km respectively.


IWMP III D I - CLUSTER
Relief & Drainage Map
KERALA
WAYANAD DISTRICT
Legend
Integrated Watershed Management Programme
PIA - Kalpetta Block Panchayath

Hydro Geology

All the three projects in Wayanad have the same hydro geological conditions. Hence it is not discussed project wise. The major water bearing formations in the district are weathered/fractured crystallines, alluvium and valley fills.

Water supply and Irrigation

Major irrigation project in this area is Karapuzha Irrigation Project. It is one of the first irrigation project taken up in Wayanad. But it is not much adequate. In short we can say irrigation facilities in the project area are very less. Also no major drinking water supply programmes are at present in the area. The Block is drained by Kabani River.

Climate

The project area has a salubrious climate. The mean average rainfall in this area has been 2998.33 mm during the past ten years. High velocity winds are common during the southwest monsoon and dry winds blow in March–April. High altitude regions experience severe cold. The mean maximum and minimum temperatures for the last five years were 29°C and 18°C respectively. This place experiences a high relative humidity, which goes even up to 95 per cent during the Southwest Monsoon period. Generally the year is classified in four seasons, namely, cold weather (December–February), hot weather (March–May), Southwest monsoon (June–September) and Northeast monsoon (October–November).

Table: Rainfall data for the past ten years

Sl No	Year	June-Sept	Oct-Dec	Jan-May	Total
1.	2000	2637.2	260.0	188.4	3085.6
2.	2001	1600.2	274.6	525.4	2400.2
3.	2002	1362.6	530.6	409.8	2303
4.	2003	1503.8	318.8	268.1	2090.7
5.	2004	2187.3	297.8	555.4	3040.5
6.	2005	2734.1	421.4	403.0	3558.5
7.	2006	2651.2	347.6	785.8	3784.6
8.	2007	3431.0	304.8	690.1	4425.9
9.	2008	2312.5	489.4	327.0	3128.9
10.	2009	1399.4	505.4	265.8	2170.6
11.	2010	1934.6	489.4	372.4	2796.4
12.	2011	2836.6	367.0	326.4	3530.0
Average		2106.64	395.35	419.983	2921.98
%		70.35	13.91	15.74	100.00

Ground Water

Ground water recharge from rainfall during monsoon in Kalpetta Block is 79.52 MCM and that during non-monsoon season is 22.43 MCM. Among the four Blocks, Mananthavadi and Kalpetta are considered safe whereas Sulthan Bathery and parts of Panamaram Block categorized as semi-critical and it is due to the decline in the water level.

Ground Water Details of the Project Area

Sl. No.	Name of Micro Watershed	Type of Well	Height of Measuring point(in meters)	Water Level	
				Monsoon	Summer
1	Muthappankundu	Dug Well	.70	8.57	8.95
		Bore Well	.40	15.34	14.74
2	Thrikkaipetta	Dug Well	.72	2.18	2.98
		Bore Well	.40	9.39	9.95
3	Chepottukunnu	Dug Well	.72	2.18	2.98
		Bore Well	.40	9.39	9.95
4	Malakkad	Dug Well	.85	1.31	1.68
		Bore Well	.40	1.51	1.91
5	Varyad	Dug Well	.85	1.31	1.68
		Bore Well	.40	1.51	1.91
6	Thondupaly	Dug Well	.85	1.31	1.68
		Bore Well	.40	1.51	1.91
7	Muranikkara	Dug Well	.85	1.31	1.68
		Bore Well	.40	4.27	4.35

(Source: - Kerala State Ground Water Department - Well locations are the nearest measuring points identified by KSGWD)

Ground Water Management Strategies

Wayanad, a hilly district, the district, especially Kalpetta Block needs specific and accurate ground water management strategies. Kalpetta Block, categorized as semi-critical and the percentage of run-off is ranked as very high and the ground water levels in the valleys are shallow needs more care and scientific management of resources and there is an emergency to implement appropriate civil structures

Socio - Economic Details

Demographic Particulars

The total geographic area and population of the Block are 582.23 Sq Km and 224216 respectively. The male and female populations are 111316 and 112900 respectively. The male female sex ratio is 1000: 986. The density of population is 385 per sq km

Demographic Details of the Project Area

Sl. No	Reference Year				2012	
1	Total No. of households/families				**5226**	
2	Average Family size				4	
Population						
Age - Group	**O<5**	**5<15**	**15<40**	**40<60**	**60 and above**	**Total**
Males	594	1684	4194	3019	1007	10498
Females	608	1600	4501	2984	713	10406
Total	1202	3284	8695	6003	1720	20904

Education		
	Male	**Female**
Read and write only	232	272
Primary	4272	3876
Secondary	4680	492
Matriculate	938	1346
Graduate and above	376	446

Details of Households				
Category	**SC**	**ST**	**Other**	**Total**
No. of households	759	573	3894	5226
% to Total	15	11	75	100

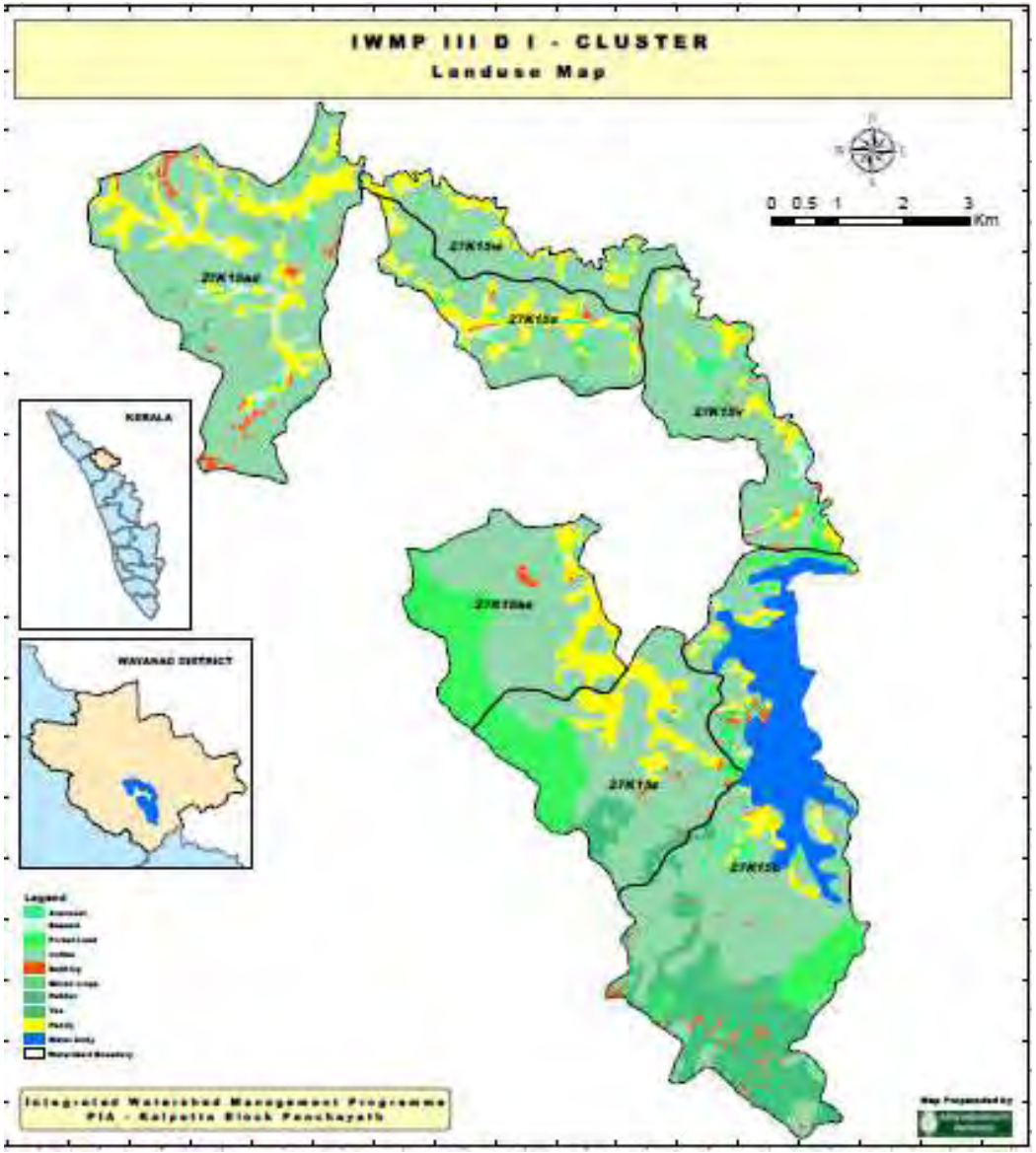
Land Holding pattern

Sl. No.	Land Holding Class	House holds		Land held	
		Number	% to Total	Ha.	% to Total
1	Landless	822	16	0	0
2	0 to <1 ha.	2680	51	2136	41
3	1 to <2 ha.	1474	28	2104	41
4	2 to <4 ha.	132	3	426	8
5	4 to <8 ha.	92	1.5	289	6
6	More than 8 ha.	26	0.5	220	4
TOTAL		**5226**	**100**	**5175**	**100**
Average gross land holding per household = .99 ha.					

Agriculture and Land Use

Agriculture is the principal occupation of the people in the project area. The major crops are coffee, tea, paddy, pepper, arecanut, banana etc. The other important cash crops are Rubber, Cofee, Cardamom, Ginger and Turmeric. The back bone of the economy of this district is plantation crops- Tea, Coffee, Pepper, Rubber etc. Coffee based farming system is a notable feature of area. Coffee is grown both as pure crop and mixed crop along with pepper.

The lowlands of the project area are the valleys formed by hillocks. At present Paddy growing area is remarkably decreasing. Ginger cultivation in the area has substantially increased in recent times. Ginger produced is mainly marketed in the form of green ginger. The frequent drought alternated by flood since 2000 has affected the production of different crops very severely. Banana is cultivated abundantly in this area.


IWMP III D I - CLUSTER
Landuse Map
0 0.5 1 2 3
Km
KERALA
WAYANAD DISTRICT
Legend
Integrated Watershed Management Programme
PIA - Kalpetta Block Panchayath

Present Land Use and Agricultural Production of the Project Area

Sl. No.	Name of Micro Watershed	Present Land Use		
		Major Crops	Extend of Crop *(Area in ha.)*	Present Level of Production
1	Muthappankundu	Coffee	542	10840
		Banana	15	1860
		Jack	5	125
		Arecanut	5	375
		Cocunut	7	1750
		Pepper	7	280
		Mixed Tubers	4	500
		Tea	290	72500
2	Thrikkaipetta	Coffee	212	4240
		Banana	5	620
		Jack	2	50
		Arecanut	5	375
		Cocunut	4	1000
		Pepper	4	160
		Mixed Tubers	2	250
		Tea	83	20750
3	Chepottukunnu	Coffee	123	2460
		Banana	4	496
		Jack	3	75
		Arecanut	3	225
		Cocunut	2	500

		Pepper	3	120
		Mixed Tubers	2	250
		Tea	0	0
4	Malakkad	Coffee	122	2440
		Banana	4	496
		Jack	2	50
		Arecanut	4	300
		Cocunut	3	750
		Pepper	2	80
		Mixed Tubers	2	250
		Tea	0	0
5	Varyad	Coffee	195	3900
		Banana	4	490
		Jack	2	50
		Arecanut	4	300
		Cocunut	3	750
		Pepper	2	80
		Mixed Tubers	2	250
		Tea	0	0
6	Thondupaly	Coffee	143	2860
		Banana	3	372
		Jack	1	25
		Arecanut	2	150
		Cocunut	2	500
		Pepper	5	200
		Mixed Tubers	2	250
		Tea	0	0

7	Muranikkara	Coffee	542	10840
		Banana	15	1860
		Jack	8	200
		Arecanut	12	900
		Cocunut	15	3750
		Pepper	10	400
		Mixed Tubers	2	250

Details of land in the Project Area*(Area in ha.)*

Sl. No.	Name of Micro Watershed	Area under Irrigation	Extent of degraded land	Details of fallow land	Area under single crop	Area under double crop	Waste land	Land put under non agricultural use	Present level of management
1	Muthappankundu	There are no notable irrigation facilities in the project area. But in major plantation areas, especially tea plantation areas seasonal irrigation is practicing.			290	1218		489	Natural resource management practices are following in the area mainly concentrating on area treatments and drainage line treatments but these are not sufficient.
2	Thrikkaipetta				83	547		152	
3	Chepottukunnu					518		184	
4	Malakkad					512		2	
5	Varyad					498		2	
6	Thondupaly					341		2	
7	Muranikkara					1303		3	

Soil Types

The soil types in the project area can be classified into four. The texture of these soil ranges from Clay loam, Gravelly Clay loam, Sandy Clay Loam and Gravelly Sandy clay loam. The four categories may be subcategorized into nine major soil series are identified viz. Anchukunnu (Aku), Chundakkara (Cdk), Ezhamchira (Ezc) Meenangadi (Mgd), kambalakkadu (Kbd), Madakkimala (Mkm), nayikkolli (Nyk), and Palliyora (Plr) and Thariyode (Prd). (Soil Survey Organization 2007) The soil depth is identified as Deep (100-150cm) and Very Deep (>150cm) (*Soil Survey Organization 2007)*

Soil Depth

The thickness of the soil is more than 150 cm, often limited by water table in Pulpally, Battuwadi, Sulthan Bathery, and Periya series. In Meppadi series the thickness of the solemn is identified as 170 to 200 cm.

Soil Problems and Limitations

Battuwadi soils are very strongly acidic in reaction. The nutrient holding capacity of this soil is generally low. Hence split application of fertilizers at critical stages with controlled irrigation is required. Pulpally soils occurring on moderately sloping to steep hill slopes are susceptible to soil erosion. This series have now become less productive due to intensive cropping. Sulthan Bathery series are acidic in nature and are prone to severe soil erosion. Meppadi series is also prone to severe soil erosion.

Details of area under irrigation *Area in ha.*

Sl.No.	Name of watershed	Existing area under irrigation (A)						Additional area expected to be brought under irrigation (B)						Total area (A+B)
		Source of Irrigation						Source of Irrigation						
		Well	Tank	Pond	Canal	Check Dam	Total	Well	Tank	Pond	Canal	Check Dam	Total	
1	Muthappankundu	-	-	-	-	-	-	15	-	50	-	55	120	120
2	Thrikkaipetta	-	-	-	-	-	-	20	-	25	5	20	70	70
3	Chepottukunnu	-	-	-	-	-	-	15	-	25	-	30	70	70
4	Malakkad	-	-	-	-	-	-	-	-	40	10	-	50	50
5	Varyad	-	-	-	-	-	-	20	-	-	-	-	20	20
6	Thondupaly	-	-	-	-	-	-	15	-	15	10	-	40	40
7	Muranikkara	-	-	-	-	-	-	35	-	35	15	40	125	125
Total		-	-	-	-	-	-	**120**	**0**	**190**	**40**	**145**	**495**	**495**

Details of area under paddy cultivation *Area in ha.*

Sl. No.	Name of watershed	Area under paddy cultivation				Additional area expected to be brought under paddy cultivation			
		First Crop	Second Crop	Third Crop	Net Area	First Crop	Second Crop	Third Crop	Net Area
1	Muthappankundu	0	-	-	0	2	-	-	2
2	Thrikkaipetta	76	-	-	76	100	60	-	160
3	Chepottukunnu	64	-	-	64	80	35	-	115
4	Malakkad	50	-	-	50	60	25	-	85
5	Varyad	57	-	-	57	70	20	-	90
6	Thondupaly	34	-	-	34	40	15	-	55
7	Muranikkara	110	-	-	110	125	75	-	200
Total		**391**	**-**	**-**	**391**	**477**	**230**	**0**	**707**

Resource Details in the Project Area as a Whole

Anganwadies	:	26
Temple	:	15
Church	:	8
Mosque	:	12
Private resort	:	11
Milk society & Collection centre	:	18
Industries	:	0
Community centers	:	5
Play ground	:	5
Gramapanchayat Offices	:	0
Banking institution	:	2
LP, UP, HS School	:	5
Hospital including Ayurvedic homeo	:	5
Veterinary centre	:	2
Police station	:	0

Tourist places	:	1
Sales tax check post	:	0
Village office	:	1
Krishibhavan	:	0
KSEB section office	:	0
Post Office	:	5
Telephone exchange	:	0
Soil testing unit	:	0
Krishi vijnhan Kendra	:	0

CHAPTER - II

METHODOLOGY

METHODOLOGY

Grama Sabha

As a prelude to the preparation of the Detailed Project Report Neerthada Samooha Sabhas were convened in all the four watersheds and in the watershed community meeting SHGs and UGs were constituted.

SHGs and UGs

The Grama Sabha formed SHGs and UGs in the project area with the help of WDT and TSO from amongst poor, small and marginal farmer households, land/asset less poor agriculture laborers, women and SC/ST persons. In IWMP III D I, 54 numbers of SHGs have been formed and the watershed wise details are as follows.

Table - Total SHGs in the Project

Sl No	Name of Watershed	Name of Panchayath	No. of SHGs formed
1	Muthappankundu	Moopainad, Ambalavayal, Meppadi, Muttil	12
2	Thrikkaipetta	Meppadi	4
3	Chepottukunnu	Meppadi	8
4	Malakkad	Muttil, Meenangadi	9
5	Varyad	Muttil, Meenangadi	7
6	Thondupaly	Muttil, Meenangadi	4
7	Muranikkara	Muttil, Kottathara	10
Total			**54**

Watershed Committee

The Gramasabha has constituted the watershed committee in the seven watersheds to implement the project with the technical support of the WDT. The majority of the watershed committee members are the office bearers of the SHGs who are representatives from SC/ST communities, women and landless persons in the villages.

Capacity building

The various capacity building activities will have relevant themes for their content, including:

- Concept of watershed and integrated watershed development
- Urgency for NRM activities
- Roles and responsibilities of participants/beneficiaries
- Group dynamics
- Sustainability of the program
- Community participation and community organization
- Leadership role of W.C.
- Communication and leadership development
- Gender mainstreaming and development
- Project accounting
- Social auditing

Integrated Approach

People should be involved in all the stages of planning, implementation and post project management. The study was conducted from December 2011 to June 2012 by a team composed of watershed community, members of the SHG, external experts and WDT members as well as T.S.O (ARSHABHARATH) personnel. The study was, we can say "of the people for the people and by the people".

In order to ensure efficiency, transparency and accountability a participatory approach is essential. For ensuring people's participation, the programme should be need-based. Hence the primary step was to initiate PRA to identify the problems and priorities of the community. The process built trust in the participatory people and generated interest in these for managing their problems in a long- term perspective.

Participatory Rural Appraisal

A detailed PRA was conducted with the maximum involvement of the watershed community, in collaboration with development experts, WDT, TSO and WC members. Transect walk in the watershed, focus group discussion, different mappings, timeline, diagramming and ranking methods were used to develop the data regarding the problems and existing methods of agricultural practices. The detailed report on PRA will be discussed in the following chapters.

Social Mapping

Social mapping revealed how the institutions and civic amenities were unevenly distributed across the watershed, indicating a clear social imbalance, which needs to be corrected.

Flow Chart

It was an exercise in charting the inflow and outflow patterns of the watershed. The patterns that emerged helped the team to identify the imbalances in the watershed, namely the preponderance of inflow of commodities into the watershed over the outflow of resources from the watershed.

Focus Group Discussion

Focus group discussions were conducted for identifying the major problems and their remedies as observed by the people. The participants came up with observations and new understanding they developed as a result of the exercise. The important learning, consolidated by the facilitator, included:

- Natural resources of the watershed are being severely depleted.
- Paddy fields are fast disappearing to give way to cash crops and other land uses.
- Water scarcity in the area is becoming increasingly acute by the day.

Transect Walk

The PRA team was taken on a walk across the watershed. This exercise was aimed at rechecking the findings of the previous exercises by physically verifying them.

Micro Planning

After the PRA the next step taken was Micro Planning which included the following components.

Socio Economic and Technical Survey

A socio-economic survey was conducted in the watershed. The primary data and other technical details were collected during the process. Along with this, detailed drainage line survey was also carried out in the watershed. Experts from the line departments also participated in the process.

Preparation of Various Maps

Plot base cadastral map, LCC map, google maps and other GIS maps, Toposheet of the watershed etc. were collected from the concerned departments. Contour mapping of the watershed was also done. Plot base cadastral map is prepared with the help of surveying experts.

Well Inventory

A well inventory was conducted as part of the socio-economic survey. This was done by the village resource team with the help of SHG and WDT and TSO. About 25% of the total wells were surveyed and the data recorded. The depth, water table level and diameter of wells were checked as part of the survey.

Livelihood Support System Planning

During the PRA Exercise, several livelihood support activities were proposed. Experts in various departments were also consulted, with focus on viable and more sustainable options. Various production system management methods were also proposed like Bio Gas Plants, Homestead mixed tuber crops cultivation, Homestead vegetable cultivation and Paddy threshing yards etc. to make the watershed stakeholders self reliant.

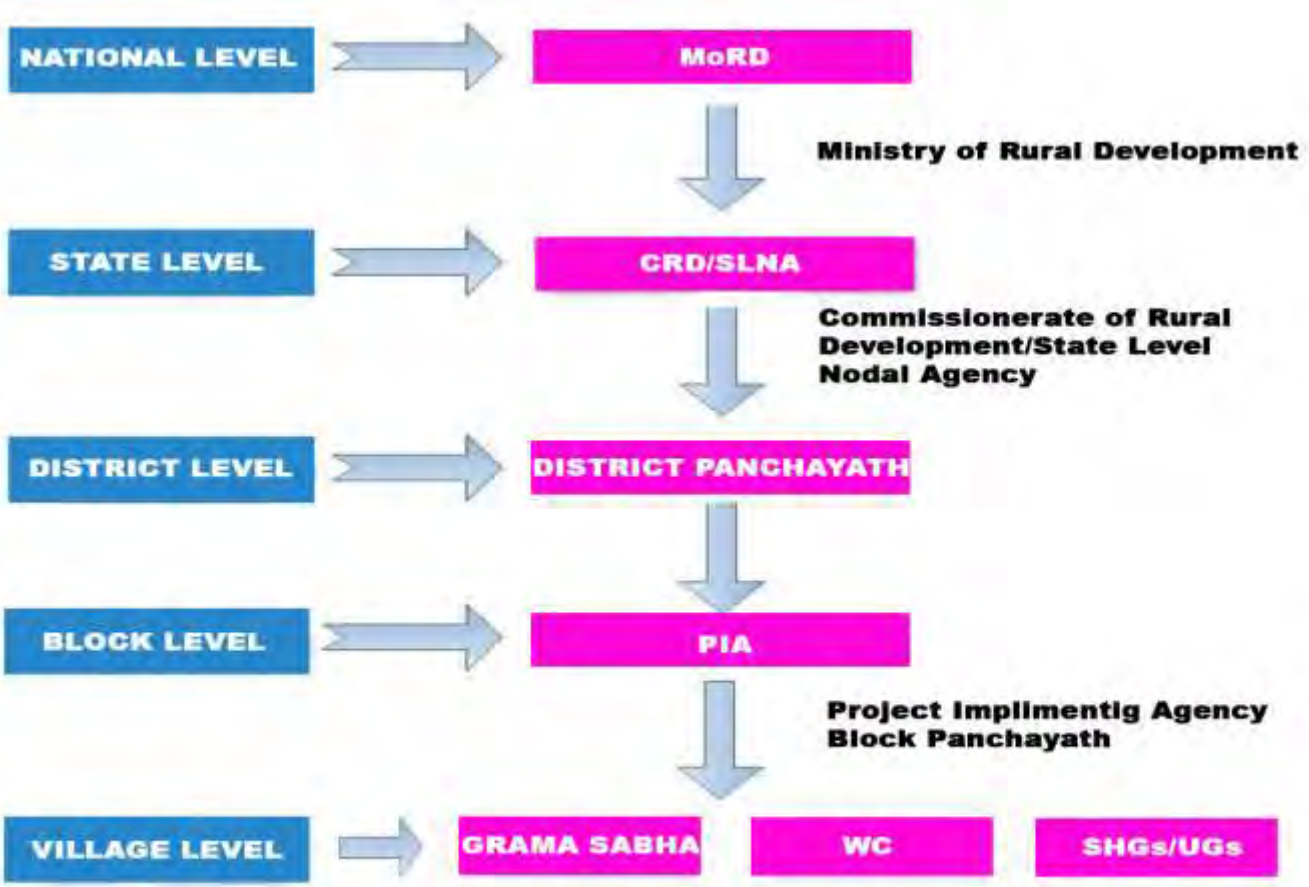
Data Analysis and Report Generation

The collected primary and secondary data were coded, computerized and analyzed. The farmer-wise net plan was prepared with the help of experts. Simultaneously digitization of the various maps was also undertaken.

CHAPTER - III

INSTITUTIONAL ARRANGEMENTS

INSTITUTIONAL ARRANGEMENTS FOR IWMP AT A GLANCE



Institutional Arrangements at State and District Levels

Appropriate institutional arrangements are made at various levels for effective and professional management of watershed development projects. Peoples organizations coupled with the smooth functioning of the government institutions hold the key to the successful implementation and completion of the project. NRAA has formed a State Level Nodal Agency to coordinate and look after the progress of the program. The various institutional arrangements at the state level are as following:

State Level Nodal Agency

A dedicated State Level Nodal Agency (SLNA is constituted by the State Government having an independent bank account. The state should be given the flexibility to utilize or strengthen an existing state level agency/department/organization. Central assistance for SLNA will be transferred directly to the account of SLNA and not into the State Government budget. There would be multi-disciplinary professional support team at the State level to implement the programme. The Agricultural Production Commissioner is nominated by the State Government as the Chairperson of the SLNA. The State Level Nodal Agency will have a full-time CEO in order to ensure the smooth functioning of the program

Watershed Cell cum Data Centre (WCDC)

A separate Cell, called the Watershed Cell cum Data Centre (WCDC) is established at the district level, which will oversee the implementation of watershed programme in the district and will have separate independent accounts for this purpose. WCDC will function in close co-ordination with the District Planning Committee.

Institutional Arrangements at Project Level

Project Implementing Agency (PIA)

The Block Panchayath in which the project lies is selected as the Project Implementing Agency (PIA) by the SLNA for IWMP in Kerala. PIAs are implanting the project. For IWMP III D I, Kalpetta Block is selected as the Project Implementing Agency. The Project Implementing Agency (PIA) is constituted to provide necessary technical guidance to the Gram Panchayat for preparation of development plans for the watershed through Participatory Rural Appraisal (PRA) exercise, undertake community organization and training for the village communities, supervise watershed development activities, inspect and authenticate project accounts, encourage adoption of low cost technologies and build upon indigenous technical knowledge, monitor and review the overall project implementation and set up institutional arrangements for post-project operation and maintenance and further development of the assets created during the project period. The PIA, after careful scrutiny, shall submit the Action Plan for Watershed Development Project for approval of the WCDC/PAU and other arrangements.

The PIA shall submit the periodical progress report to WCDC. The PIA shall also arrange physical, financial and social audit of the work undertaken. It will facilitate the mobilization of additional financial resources from other government programmes, such as MGNREGA, BRGF, SGRY, National Horticulture Mission, Tribal Welfare Schemes, Artificial Ground Water Recharging, Greening India, etc.

Watershed Development Team

The WDT is an integral part of the PIA and will be set up by the PIA. Each WDT should have at least four members, broadly with knowledge and experience in agriculture, soil science, water management, social mobilization and institutional building. At least one of the WDT members should be a woman it must be ensured that the WDT should function in close collaboration with the team of experts at the district and state level. The expenses towards the salaries of the WDT members shall be charged from the administrative support to the PIA. The WDT will guide the Watershed Committee (WC) in the formulation of the watershed action plan and assist Gram Panchayat / Gram Sabha in constitution of the Watershed Committee and their functioning. They are also entrusted with the duty of organizing and nurturing User Groups and Self-Help Groups and Mobilizing women to ensure that the perspectives and interests of women are adequately reflected in the watershed action plan. They undertake engineering surveys, prepare engineering drawings and cost estimates for any structures to be built. Other duties of the WDT include monitoring, checking, assessing, undertaking physical verification and measurements of the work done.

Watershed Committee (WC)

The Gram Sabha will constitute the Watershed Committee (WC) to implement the Watershed project with the technical support of the WDT in the village. The Gram Sabha may elect/appoint any suitable person from the village as the Chairman of Watershed Committee. The secretary of the Watershed Committee (WC) will be a paid functionary of the Watershed Committee (WC). In Kerala it is decided that the President of Gram Panchayat will act as the Chairman and Village Extension

Officer (VEO) as the Secretary. The Watershed Committee (WC) will comprise of at least 9 members, half of the members shall be representatives of SHGs and User Groups, SC/ST community, women and landless persons in the village. One member of the WDT shall also be represented in the Watershed Committee (WC). Where the Panchayat covers more than one village, they would constitute a separate subcommittee for each village to manage the watershed development project in the concerned village. Where a watershed project covers more than one Gram Panchayat, separate committees will be constituted for each Gram Panchayat. In IWMP III D I seven watershed committees have been formed in the gramasabhas. The Watershed Committee has a separate bank account to receive funds for watershed projects and will utilize the same for completing the activities.

Institutional Arrangements at the Village Level

Self Help Groups

The Watershed Committee has constituted SHGs in the watershed area with the help of WDT from amongst poor, small and marginal farmer households, landless/asset less poor agricultural laborers, women, and SC/ST persons. These Groups shall be homogenous groups having common identity and interest who are dependent on the watershed area for their livelihood. Each Self Help Group will be provided with a revolving fund of an amount to be decided by the Nodal Ministry.

With a view of developing the capacities of the above said groups, Steps have been taken place to form these stakeholders in to SHGs and planned to impart trainings at various levels for the integrated development of the community.

User Groups

The Watershed Committee (WC) shall also constitute User Groups in the watershed area with the help of WDT. These shall be homogenous groups of persons most affected by each work/ activity and shall include those having land holdings within the watershed areas. Each User Group shall consist of those who are likely to derive direct benefits from a particular watershed work or activity. The Watershed Committee (WC) with the help of the WDT shall facilitate resource-use agreements among the User Groups based on the principles of equity and sustainability. These agreements must be worked out before the concerned work is undertaken. It must be regarded as a pre-condition for that activity. The user group is maintaining the assets by collecting user charges from the beneficiaries. The User Groups will be responsible for the operation and maintenance of all the assets created under the project in close collaboration with the Gram Panchayat and the Gram Sabha.

List of Watershed Records to be maintained:

Records/ Registers to be maintained at PIA Level:

1. Register for Grant received
2. UC Register (UC to be submitted)
3. UC Register (UC received from Committee)
4. Cheque Register
5. Bank Reconciliation Register
6. Cash Book
7. Advance Ledger

8. Honorarium Register
9. Meeting Register at PIA Level
10. Training Register- Block Level (PIA Level)
11. Training Register (Individual WS Wise)
12. Project Control Register
13. Stock Register (i) Consumable (ii) Permanent
14. Letter received Register
15. Letter Issue Register
16. Money Receipt
17. MB
14. Distribution Register
15. Contigency bill Register
16. Community Mobilization
17. Plan and Estimate
18. Register of Registers
19. Physical and Financial progress register

Records/ Registers to be maintained at WC Level:

1. Cash Book
2. Stock Book - i. Consumable stock ii. Permanent stock
3. Contingency bill Register
4. Project Control Register
5. Voucher Register
6. Bank Reconciliation Register
7. Advance/Adjustment Register
8. Bank cheque book Register
9. Asset Register
10. UC Register (UC submitted)
11. Income Register showing income coming from watershed asset
12. WDF Account Register
13. Revolving fund Register
14. Physical & Financial progress Register
15. Grant received Register
16. Letter Receive Register
17. Letter Issue Register
18. Register of Register

CHAPTER - IV

CAPACITY BUILDING

CAPACITY BUILDING

The effective delivering of required services in any project basically depends upon the human capacity along with the capacity to manage appropriately such inputs and their dynamics. Capacity endowment at institutional and personal front is always regarded as vital for accelerating the process of a project and initiating the successful criteria in achieving all the necessary spheres of project activities. Capacity, inherited or acquired plays a significant role in performing the activities and succeeding amicably in the work front. In the changing scenario and emerging trend it is highly essential for the development facilitators and for the community to cope with the changing face and challenges and acquire necessary capacity to address the required needs of the project environment. Besides skill formation, skill up gradation, skill perfection of human capital as primary stakeholders of the project is essential to drive the efforts towards achieving development agenda.

Capacity building primarily thrust upon developing human resources associated with project at different level. It is a process of key intervention for strengthening and overall improvement of the skill in implementation of the plan in a meaningful way. Social mobilization, trainings, group discussion, exposure and demonstration are the basic processes of the Capacity building. Various trainings focus on building the confidence of the communities and creating an environment bringing the communities to the forefront.

The Capacity building strategy thus focuses on facilitating process that help to build a positive approach to peoples knowledge in technology ,management , sensitivity to equity and gender issue, peoples' empowerment, understanding the programme language and developing skill necessary for project implementation.

Capacity Building Strategy

Capacity building support is a crucial component to achieve the desired results from watershed development projects. Various awareness and training programs were organized as part of the DPR preparation, Organization of SHGs and UGs and Entry point activities. Themes like importance of watershed development in the present scenario, Natural resource management, Entrepreneurship development etc were discussed in the awareness and training programmes. A detailed plan is also prepared with the participation of WDT, WC, SHGs and UGs with an aim of enhancing the skills and capacities of the stakeholders of the project. It is planned to conduct these training and awareness programs in the second, third and final year of the project.

Important aspects will be touched upon, such as:

- Concept of watershed and integrated watershed development
- Urgency for NRM activities
- Roles and responsibilities of participants/beneficiaries
- Group dynamics
- Community participation and community organization
- Leadership role of W.C.
- Communication and leadership development
- Gender mainstreaming and development
- Project accounting
- Social auditing

Fund Allocation for Capacity Building in IWMP III D I

Sl. No.	Name of Micro Watershed	Fund Allocated (in Rs.)
1	Muthappankundu	` 918750.00
2	Thrikkaipetta	` 528750.00
3	Chepottukunnu	` 436500.00
4	Malakkad	` 385500.00
5	Varyad	` 375000.00
6	Thonduply	` 257250.00
7	Muranikkara	` 979500.00
Total for IWMP III D I		` **3881250.00**

Strategic Action Plan for Capacity Building

Level of Stake holders	During the Year 2012-13	During the Year 2013-14	During the Year 2014-15	Total
	Target	Target	Target	
SLNA	2	1	1	4
WCDC	2	2	2	6
WDT	3	3	3	9
WC	4	4	4	12
SHG	4	4	4	12
UG	4	4	4	12

Topics of training	Level for which it was meant (SLNA,WCDC,WDT,WC etc)	Name of institution
Project planning, Implementing and Monitoring	WDT	SLNA
Record keeping of the project	WDT	SLNA
Community participation and community organization	WDT	SLNA
Empowering peoples representatives for IWMP	District, block and gramapanchayath members	WCDC, PIA
Awareness programme of IWMP	WC	PIA, WDT
Concept of watershed management, roles and responsibilities	WC	PIA, WDT
Roles and responsibilities of participants/beneficiaries Leadership role of W.C.	WC	PIA, WDT
Social auditing	WC	PIA, WDT
Project accounting	WC	PIA, WDT
Planning and implementation of project related to creation of common assets	SHGs, UGs	PIA, WDT
Awareness program on Production System Microenterprises (PS&M) and Livelihood Support System (LSS)	SHGs	WC, PIA, WDT
Gender mainstreaming and development	SHGs, UGs	PIA, WDT
Communication and leadership development	SHGs, UGs	PIA, WDT
Group dynamics	SHGs, UGs	PIA, WDT

Details of important trainings as planned are following;

I. Empowering peoples representatives for IWMP

1.	Title of the training programme	Empowering peoples representatives for IWMP
2.	Rationale	The need for watershed based development programs, concepts involved in watershed development, IWMP – its objectives, steps involved in the implementation of the program, financial management etc.
3.	Objectives	1. To create awareness among the peoples representatives regarding the need for watershed based development programs 2. Concept of IWMP 3. Project involved in the programs 4. Scope of the project 5. Roles and responsibilities 6. Financial management
4.	Target group	District, block and Gramapanchayat members
5.	Duration	2 days
6.	No. of participants	200
7.	No. of batches	5 batches
8.	Expected outcomes	Ensure smooth implementation of the projects, interfere with issue if any while implementation, financial transparency, ensure peoples participation etc.

Number of participants (One batch) : 40
Total Programs : 5

II. Awareness programme of IWMP

1.	Title of the training program	Awareness programme of IWMP
2.	Rationale	The watershed community must be made aware of the programme, its concept, the need of the hour, motivate them to become part of the programme
3.	Objectives	a. To familiarize the concept of IWMP b. To familiarize the basics of watershed c. The scope of watershed development in their area. d. Various activities proposed under NRM, PSM and LSS. e. To ensure their participation for the success of the project
4.	Target group	Watershed community
5.	Duration	1 day
6.	No. of participants	50/60
7.	No. of batches	10
8.	Expected outcomes	Community awareness and ensure peoples participation.

Target Group : Members of Watershed Committee
Duration : One Day
Number of Participants : 60
Number of Batches : 10

III. Concept of watershed management, roles and responsibilities

1.	Title of the training program	Concept of watershed management, roles and responsibilities
2.	Rationale	Impart awareness among the watershed committees regarding the concept of watershed management, roles and responsibilities, operational guidelines, financial management etc.
3.	Objectives	1. To create awareness among the WCs regarding the concept of watershed management 2. To define the roles and responsibilities of WC 3. Financial management of the project 4. Management of WDF
4.	Target group	WCs
5.	Duration	1 day
6.	No. of participants	30 per batch
7.	No. of batches	2
8.	Expected outcomes	Empowerment of WCs proper for effective implementation of the project and proper maintenance of commonly created assets

IV. Planning and implementation of project related to creation of common assets

1.	Title of the training program	Planning and implementation of project related to creation of common assets
2.	Rationale	Create awareness among UGs regarding the mode of creation of common assets
3.	Objectives	1. Make aware the UGs regarding their responsibility 2. The need for establishing common assets 3. The mode of operation in establishing common assets 4. Financial procedures involved
4.	Target group	UGs
5.	Duration	1 day
6.	No. of participants	2-3 persons from each UG
7.	No. of batches	One per watershed
8.	Expected outcomes	Empower the UGs to take up the responsibility of creating common assets as well as their future maintenance

Number of participants for one programme 15 x 3 = 45

V. Awareness program on Production System Microenterprises (PS&M) and Livelihood Support System (LSS)

1.	Title of the training program	Awareness program on Production System Microenterprises (PS&M) and Livelihood Support System (LSS)
2.	Rationale	The watershed community must be made aware of the various PS&M and LSS programs envisaged in the project, group formation, credit support through banks, Accounting procedures etc.
3.	Objectives	a. To motivate the community to initiate various PS&M b. To generate additional income from such activities

		c. To attain self sustainability d. To ensure women empowerment
4.	Target group	SHGs: rearing cattle, fodder cultivation, Pisiculture, Apiculture, Horticulture, Mushroom cultivation, food processing etc
5.	Duration	1 day
6.	No. of participants	10-25
7.	No. of batches	For each of the above group one batch (10 batch or more)
8.	Expected outcomes	Increase the standard of living through increase in per capita income, attain self sustainability etc.

Number of participants : 25

Exposure Visit

No. of programme : 1

Number of participants : 35

Target group : Block Panchayat members, Panchayat Presidents, WDT members, TSO representatives etc

Duration : 4 days

MAJOR PROBLEMS IDENTIFIED

Major problems identified in the study are briefly discussed below.

Soil Erosion and Heavy Surface Run off

Soil erosion and unscientific use of water resources have been identified as the key problems in the watershed area. The small hills on either boundaries of the watershed cause excessive surface runoff, resulting in soil erosion. Most of the farmers have adopted certain primitive and unscientific methods of soil and soil conservation models in a scattered manner and the impact on the area is insignificant and invisible. Large-scale deforestation in the Watershed and introduction of plantation crops in highlands replacing the natural vegetation reduced the storage capacity of soil and resulted in surface soil erosion in watersheds and sedimentation in streams and rivers. Years ago, there were perennial streams and head ponds. Now most of them have dried up or are neglected by the people. A coordinated attempt is required for their rejuvenation and maintenance. Scientific mass programmes are to be launched with maximum participation of the people for the implementation of various water conservation measures including rain water harvesting.

Bio-mass

Break down of agriculture, climate change, unscientific agricultural practices, environmental degradation, deforestation; rising population density, low knowledge level of people and exploitation etc. have increased the rate of depletion of bio-mass. The future of food security depends on the success of our efforts in the conservation of agro-biodiversity. Wayanad is

in the tropical and sub-tropical regions and is home to many indigenous species which are fast becoming extinct and watershed development may support conservation of such resources. Traditional knowledge dissemination will also help to protect and use biodiversity sustainably. The major obstacles to the conservation of biodiversity are under valuation of living natural resources, ruthless exploitation of biological and genetic resources for profit, poor knowledge of species and eco-systems, insufficiency in using applied management practices etc.

Disappearance of Paddy fields

Economically, the area is dominated by the primary sector. More than 80 % of the population directly or indirectly is connected to agriculture. There is a trend in conversion of paddy fields for the construction of residential buildings, commercial establishments etc. in Kerala prices of land under food crops like paddy etc. are found to be relatively lower than the prices of land under cash crops. The mere conversion of land from the cultivation of food crops to cash crops in itself enhances the property value. The comparatively lower prices of land under food crops lead to its widespread conversion for non-agricultural uses. Changes in land use pattern can also be attributed to the growing number of absentee landowners in the state. Since the food crops need more care and personal supervision than cash crops, landowners are more inclined to cultivate the latter which tends to the decline of area under food crops.

Unscientific Cultivation and Growing Cost of Production

Unscientific agricultural practices are a major problem faced by the community. Effective information dissemination and capacity development should be taken up to address these problems.

Poor Soil Fertility

Soil erosion and unscientific use of soil are the main causes behind the poor soil fertility. This will lead to low productivity and many other problems.

Shortage of Agricultural Laborers

Acute shortage of agricultural labourers is severely felt in the area. Attractive wages and social status in other fields force workers to switch their occupation. This compels the farmers to limit their farming options.

Pests and Diseases

Unscientific use of pesticides and chemical fertilizers has led not only to nutrient deficiency of soil and health problems of the farmers, but also to low production and productivity. Non-availability of organic manures is another problem in the area.

Stream Bank Erosion

Wrong agricultural practices by the side of streams and on river banks during rainy season cause stream bank erosion and sedimentation in rivers and lead to lowering of water table and environmental problems. The drainage line must be protected and the treatment deserves first priority under the programme.

Insufficient Income

The area is dominated by small and marginal farmers. Low agricultural productivity and increasing cost of production, rising prices, unemployment are leading to insufficient income. The only way to overcome this issue will be adequate livelihood support, capacity building of the farmers, promotion of multi tier cropping, farm technology transfer from lab to land etc.

Low Level of Human Resource Development

Low capacity of the stakeholders is another problem which demands more attention in the watershed area. The low level of knowledge base about new technologies, lack of knowledge regarding the protection of environment, and overexploitation of natural resources like Soil, Water and Bio-mass, non availability of frequent trainings and capacity building on new practices in the agricultural sector, lack of interventions by agricultural experts etc. make the farmers more vulnerable.

Low Status of Women

Women are facing growing challenges due to fall in agricultural income, unemployment etc. They are deprived of fundamental needs and rights. Low levels of participation in agricultural practices and increasing atrocities have made them the most vulnerable group. Low levels of social consciousness, participation are the reason behind the backwardness of women community. Awareness and trainings for skill development, formation and strengthening of women groups in the area will surely enhance the status of women stakeholders in the watershed area.

CHAPTER - V
ACTIVITIES PROPOSED

ENTRY POINT ACTIVITY

Entry Point Activity plays a major motivational role in the proper implementation and management of the watershed project. It aims at Innovative and needful ideas which are capable to bring about a positive air in the project area.

Sl No.	Name of Micro watershed	Name of Activity	Area Bene fitted	No. of Beneficiaries	Total Cost (in Rs)
1	Muthappankundu	Stream Bank Protection and Farm Land Protection	60 ha	300	` 1198200.00
2	Malakkad	Formation of Irrigation Canal	30 ha	150	` 308400.00
3	Varyad	Farm Land Protection	15 ha	50	` 300000.00
4	Thondupaly	Farm Land Protection	15 ha	50	` 205800.00
5	Muranikkara	Stream Bank Protection and Farm Land Protection	30 ha	100	` 783600.00
6	Muthappankundu	Formation of Check Dam at Thazhe Arapetta	10 ha	100	` 309000.00
Total					**` 3105000.00**

Entry Point Activity - Muthappankundu Watershed

1. **Stream Bank Protection at Lukky Hill Thodu**
2. **Stream Bank Protection at Rippon 52-Thinapuram Vayal Thodu**
3. **Farm Land Protection at Arapetta**
4. **Stream Bank Protection and Farm Land Protection at Puttad-Peelimoola Thodu**

Block	:	Kalpetta
Watershed	:	Muthappankundu
Grama Pachayat	:	Moopainad, Ambalavayal, Meppadi, Muttil
Maximum EPA Cost	:	`1198200/-

Introduction

Based on the wish of the people and the resolution of the concerned neighborhood groups and grama sabhas and the approval of the Watershed Committee, the Panchayat level Committee as well as the Block Panchayat Committee, it has been decided by the Kalpetta Block Panchayat to approve four EPA projects which include protection of stream banks and farm lands in the Muthappankundu watershed.

Justification

- The stream banks and farm lands are in a degraded condition, causing the ruin of the stream. Protecting the banks will help save the stream, which serves many water-related purposes in the watershed.
- The implementation of the proposed project will enhance the self-confidence of the people and ensure their whole-hearted involvement in the project activities.

Objectives

- To protect the identified streams and farm lands.
- To encourage the participation of the people in the project activities.

Beneficiaries

The inhabitants of the watershed.

Activities

Work for strengthening the banks of the stream and protecting the farm lands.

Organization

The Block Panchayat Committee approves the project formulated by the watershed committee on the basis of suggestions made by the people and grama sabha. The Block Technical Committee gives technical sanction. The project is implemented by the UG under the supervision of the W.C. and with the guidance of the WDT.

Monitoring

Monitoring will be done by the WDT.

Budget

1. Stream Bank Protection at Lukky Hill Thodu	: ` 300000/-
2. Stream Bank Protection at Rippon 52-ThinapuramVayal Thodu	: ` 200000/-
3. Farm Land Protection at Arapetta	: ` 300000/-
4. Stream Bank Protection and Farm Land Protectionat Puttad-Peelimoola Thodu	: ` 398200/-
Total Cost	**: ` 1198200/-**

Entry Point Activity Malakkad Watershed

Formation of Irrigation Canal at Thottamkolly

Block	:	Kalpetta
Watershed	:	Malakkad
Grama Pachayat	:	Muttil, Meenangadi
Entry point Activity	:	Formation of Irrigation Canal at Thottamkolly
Maximum EPA Cost	:	`308400/-

Introduction

Based on the wish of the people and the resolution of the concerned neighborhood groups and Grama sabhas and the approval of the Watershed Committee, the Panchayat level Committee as well as the Block Panchayat Committee, it has been decided by the Kalpetta Block Panchayat to approve the project for the formation of irrigation canal at Thottamkolly in the Malakkad watershed.

Justification

- Formation of irrigation canal at Thottamkolly will trigger intensive farming, particularly paddy cultivation in the watershed.
- The implementation of the proposed activity will enhance the self-confidence of the people and ensure their whole-hearted involvement in the project activities.

Objectives

- To form the irrigation canal in the watershed.
- To encourage the participation of the people in the project activities.

Beneficiaries

Inhabitants of the watershed, particularly farmers and SC/ST communities.

Activities

Work for forming the farm irrigation canal.

Organization

The Block Panchayat Committee approves the project formulated by the watershed committee on the basis of suggestions made by the people and Grama sabha. The Block Technical Committee gives technical sanction. The project is implemented by the UG under the supervision of the W.C. and with the guidance of the WDT.

Monitoring

Monitoring will be done by the WDT.

Budget

Total cost : `308400/-

Entry Point Activity - Varyad Watershed

Farm Land Protection Work at Thekkumpadi

Block	:	Kalpetta
Watershed	:	Varyad
Grama Pachayat	:	Muttil, Meenangadi
Entry point Activity	:	Farm Land Protection at Thekkumpady
Maximum EPA Cost	:	`300000/-

Introduction

The preservation of farmland is an important issue. Many rural, non-farm residents want to preserve farmland. However, as development increases and agricultural commodity prices decline, the challenges to preserving the farmland become greater. The accelerating loss of farmland due to soil erosion, land sliding and other ecological imbalances is creating a tremendous decrease in the agriculture production in Wayanad especially in its hilly area. In order to control this problem various traditional and scientific methods have to adopt in micro level. So in this project we are trying to protect farm land at Thekkumpady in Varyad watershed.

Objectives

- To protect the farm land at Thekkumpady.
- To encourage the participation of the people in the project activities.

Beneficiaries

The inhabitants of the watershed.

Activities

Work for protect farm land at Thekkumpady.

Organization

The Block Panchayat Committee approves the project formulated by the watershed committee on the basis of suggestions made by the people and grama sabha. The Block Technical Committee gives technical sanction. The project is implemented by the UG under the supervision of the W.C. and with the guidance of the WDT.

Monitoring

Monitoring will be done by the WDT.

Budget

Total cost : `300000/-

Entry Point Activity - Thondupaly Watershed

Farm Land Protection Work at Iroormal Vayal

Block	:	Kalpetta
Watershed	:	Thondupaly
Grama Pachayat	:	Muttil
Entry point Activity	:	Farm land protection work at Iroormal Vayal
Maximum EPA Cost	:	`205800/-

Introduction

Based on the wish of the people and the resolution of the concerned neighborhood groups and Grama sabhas and the approval of the Watershed Committee, the Panchayat level Committee as well as the Block Panchayat Committee, it has been decided by the Kalpetta Block Panchayat to approve the project for the farm land protection work at Iroormal vayal in the Thondupaly watershed.

Justification

- Farm Land protection work at Iroormal vayal will trigger intensive farming, particularly paddy cultivation in the area.
- The implementation of the proposed activity will enhance the self-confidence of the people and ensure their whole-hearted involvement in the project activities.

Objectives

- To protect the farm lands in the watershed.
- To encourage the participation of the people in the project activities.

Beneficiaries

Inhabitants of the watershed.

Activities

Work for protecting farm land.

Organization

The Block Panchayat Committee approves the project formulated by the watershed committee on the basis of suggestions made by the people and Grama sabha. The Block Technical Committee gives technical sanction. The project is implemented by the UG under the supervision of the W.C. and with the guidance of the WDT.

Monitoring

Monitoring will be done by the WDT.

Budget Total cost : `205800/-

Entry Point Activity - Muranikkara Watershed

1. **Farm Land Protection Work at Mundakutty Vayal**
2. **Steam Side Protection Work at Kumbathode**

Block	:	Kalpetta
Watershed	:	Muranikkara
Grama Pachayat	:	Muttil, Kottathara, Kalpetta Muncipality
Entry point Activity	:	1. Farm Land Protection Work at Mundakutty Vayal 2. Steam Side Protection Work at Kumbathode
Maximum EPA Cost	:	`783600/-

Introduction

Based on the wish of the people and the resolution of the concerned neighborhood groups and Grama sabhas and the approval of the Watershed Committee, the Panchayat level Committee as well as the Block Panchayat Committee, it has been decided by the Kalpetta Block Panchayat to approve the project for the protection of farm land at Mundakutty Vayal and stream side protection at Kumbathodu in the Muranikkara watershed.

Justification

- Protection of farm land and stream side protection will trigger intensive farming, particularly paddy cultivation in the watershed.
- The implementation of the proposed activity will enhance the self-confidence of the people and ensure their whole-hearted involvement in the project activities.

Objectives

- To protect farm land and stream side protection in the watershed.
- To encourage the participation of the people in the project activities.

Beneficiaries

Inhabitants of the watershed.

Activities

Work for protect farm land and stream side protection at Mundakutty Vayal and Kumbathodu respectively.

Organization

The Block Panchayat Committee approves the project formulated by the watershed committee on the basis of suggestions made by the people and Grama sabha. The Block Technical Committee gives technical sanction. The project is implemented by the UG under the supervision of the W.C. and with the guidance of the WDT.

Monitoring

Monitoring will be done by the WDT.

Budget

1. Farm Land Protection Work at Mundakutty Vayal	:	`283600/-
2. Steam Side Protection Work at Kumbathode	:	`500000/-
Total cost	**:**	**` 783600/-**

NATURAL RESOURCE MANAGEMENT

Earthen Bund with Vegetative Cover

The earthen bunds will check soil erosion by reducing the erosive velocity of water. The focus of water conservation structures must be to make water walk rather than run. Annual repair of these is very important. These bunds may be stabilized with fodder crops such as guinea grass, Congo Signal and wild vetiver grass. Under no circumstances grazing by live stock should be allowed over the earthen bunds.

Mulching

Mulching can be done for in-situ conservation of soil moisture. Locally available materials like leaves, tree branches or any suitable organic waste materials can be spread in thick layers on soil surface. Mulching will also help in the absorption of morning dew drops, thus enriching the soil moisture.

Centripetal Terracing/ Crescent Bunding

Crescent bunding reduces soil loss, surface runoff and nutrient loss. Also it improves soil moisture content, growth of plants, yield of plants etc. In addition to this, it will improve ground water levels in nearby wells and ponds.

Rain Water Harvesting Structures

In this era of rapid climate changes and drought; popularization of proper rain water harvesting mechanisms is the need of the hour. A tank of 6000-liter capacity will serve the requirement of water for cooking and drinking. For long term activity, conversion of dried up wells or unused wells for ground water recharge can be adopted.

Stream Embankment

The main drainage lines are eroded due to the river bank agricultural practices of the farmers. Agricultural practices on the stream banks during rainy months add to sedimentation in the streams and lead to lowering of water table and create several environmental problems. Stabilization of stream banks with vegetative methods is needed to conserve the precious flora and fauna in and around the streams. Planting vetiver grass is a way of protecting the soil against erosion through its deep roots. It may become an additional income source for the watershed stakeholders as vetiver is one of the major medicinal plants. Construction of retaining walls, stone pitching, DR packing etc may be done wherever necessary.

Revitalization of Head Ponds

There are existing farm ponds which have perished due to non-maintenance by the people and these ponds could be a good source for irrigation for around 120 acres of paddy field in the watershed. Ground water recharge will also be done through these programs.

PRODUCTION SYSTEM MANAGEMENT

The growth in agriculture could be achieved through mainly by increasing the production and enhancing the production. It is possible through managing and developing new production systems.

Bio-gas Plants

The opportunity to exploit and develop bio gas plants along with the distribution of Milch Cows as part of the livelihood support activities will be enhancing and managing the production from the diary sector. Hence the construction of Bio-gas plants will surely help to develop or increase the productivity and to manage the major production system in the watershed area.

Homestead Mixed Tuber Crop Cultivation

Rationale

Wayanad traditionally was noted for its tuber crops. For instance, the type of turmeric known as 'Waynadan Manjal' is celebrated world-wide for its brilliant color, flavor and high quality medicinal properties. However, tuber crop cultivation has been neglected during the past few decades. Tuber crops include food crops, such as tapioca, yam and cash crops such as ginger and turmeric. From the angles of both food security and economic security, reviving tuber crop cultivation is of paramount importance.

Objectives

The project revolves round objectives, including:

- To revive the cultivation of tuber crops especially food crops such as tapioca, yams, sweet potato etc. for ensuring crop diversity as well as bio-diversity
- To promote local food security
- To ensure additional income for farmers

Activities

Project activities will include:

- Orientation for participating farmers
- Distribution of seeds
- Planting and supervision of cultivation

Methodology

Scientific methods advocated by the State Agricultural Universities will be used in the cultivation of selected tuber crops suited to the agro-climatic conditions of the area.

Management

The Watershed Committee, with the support of the WDT, will organize and supervise the operations.

Budget

1. Land development 2-5 cent of land	=	`350.00
2. Cost of Cultivation		
Cost of seed and seedlings -	=	`1000.00
Labour Charges	=	`625.00
4. Irrigation at 1000/month	=	`200.00
5. Tools and implements	=	`325.00
Total Cost	=	`**2500.00**
Total Grand 75 %	=	`1875.00
Total Beneficiary Contribution 25 %	=	`625.00

Total Cost for the program including Beneficiary Contribution = `2500.00

(Rupees Two Thousand and Five Hundred Only)

Promotion of Endangered Native Rice Varieties

Rationale

Wayanad, once upon a time, was the homeland of varieties of rice plants with high nutritional, medicinal as well as aesthetic value. The much sought after and highly remunerative Jeerkasala and Gandhakasala are examples. These varieties are on the verge of extinction. It is important to conserve them and propagate them with a view to conserving bio-diversity as well as improving the income of rice farmers.

Objectives

The objectives of the project include:

- To motivate farmers to conserve and propagate the special varieties of rice found in Wayanad
- To help improve the earnings of rice farmers

Activities

- Orientation and training for farmers
- Procurement of seeds
- Planting and care of selected rice varieties

Methodology

Proper farmer education and motivation will be the foundation of the project. Selection and procurement of seeds will be done under the supervision of experts. Constant monitoring will ensure best results.

Management

The Watershed Committee, supported by the WDT, will organize and supervise the operations.

Budget

Cost of seed and seedlings -	=	` 380.00
Labour Charges	=	`700.00
Bullock Labour	=	`850.00
Fertilizer & Manure	=	`550.00
Irrigation at 1000/month	=	`250.00
Total Cost	=	` 2730.00
Total Grand 75 %	=	`2040.00
Total Beneficiary Contribution 25 %	=	`690.00

Total Cost for the program including Beneficiary Contribution = ` 2730.00

(Rupees Two Thousand Seven Hundred and Thirty Only)

Homestead Vegetable Cultivation

Introduction/Rationale

Vegetables constitute a major chunk of healthy food. Not only Kerala, but even Wayanad, with almost ideal agronomic conditions, including fertile soils and adequate water, depends on supplies from other states for meeting its vegetable consumption needs. Add to this the fact that most of the vegetable items are sprayed with deadly pesticides, posing serious threat to the health of the populations. Encouraging small scale home-based vegetable cultivation is the best answer to this challenge. Besides bringing much needed income for the families steeped in poverty and financial insecurity, the project will also help improve food security as well as health of the people.

Objectives

- To help the participants to improve their family income through the sale of vegetables
- To help mitigate the growing problem of food insecurity in the watershed
- To promote healthy eating habits and ensure protection from the side-effects of consuming chemically grown vegetables

Activities

The activities contemplated in the project consist of:

- Training in organic vegetable cultivation
- Distribution of seeds

- Monitoring and supervision of vegetable gardens

Variety of Seedlings

1. Leafy Vegetables (*Amaranthus virids*)

No.	Variety	Special Features
1	Kannara Local	More adaptable to climate
2	CO-1, CO-2	High resistance capacity, Green Leafs
3	Arun	Red Leafs
4	Sreekrishna	Increase Production

2. Ladies Finger (*Hibiscus oscolantus*)

Sl. No	Variety	Special Features
1	Salkeerthi	High Yield
2	Susthira	High resistance capacity
3	Kiran	Adaptable to changing climate

3. Bitter gourd (*Memordia scerncia*)

Sl. No	Variety	Special Features
1	Priya	High resistance capacity
2	Preethi	High resistance capacity

4. Cucumber *(Cucumis melo, Cucumis sativa)*

Sl. No	Variety	Special Features
1	Mudikkod Local	Better Production

5. Brinjal *(Solanum malungna)*

Sl. No	Variety	Special Features
1	Surya	2 year yield
2	Haritha	4 year yield
3	Swetha	3 year yield

6. Tomato *(Lycodersicum esculentum)*

Sl. No	Variety	Special Features
1	HS 101	Big in size
2	Sakthi	High Yield
3	Mukthi	High Yield
4	Anaga	High resistance capacity

7. Chilly *(Capscicum anum*)

Sl. No	Variety	Special Features
1	Jwala	High Yield
2	CO-1, CO-2	High resistance capacity
3	Ujwala	2 year yield
4	Jwalamuki	Better Production

8. Pulses (*Picus setaiva*)

Sl. No	Variety	Special Features
1	Kanakamani	Bush type
2	Kairali	Semi cranes
3	Vyjayanthi	Semi cranes

Budget

1. Land development 2-5 cent of land	=	` 250.00
2. Fencing and supporting structures	=	`450.00
3. Cost of Cultivation		
Cost of seed and seedlings -	=	` 650.00
Labour Charges	=	` 625.00
4. Irrigation at 1000/month	=	` 200.00
5. Tools and implements	=	` 325.00
Total Cost	=	` 2500.00
Total Grand 75 %	=	` 1875.00
Total Beneficiary Contribution 25 %	=	` 625.00

Total Cost for the program including Beneficiary Contribution = ` 2500.00

(Rupees Two Thousand and Five Hundred Only)

Paddy Threshing Yard

Paddy is one of the major crops in most of the micro watershed areas. The cultivation and its management become very much difficult to the farmers in the area. One of the vital problem in paddy cultivation is that the harvest. At the time of harvesting farmers are facing problems concerned with climate change, especially with heavy rain. This situation affects the process of paddy threshing in the area. In order to overcome this issue, a common place for threshing paddy in which it is free from mud has to form. So in Thrikkaipetta and Muranikkara micro watersheds which have more paddy are, proposed a common Paddy Threshing Yard under the production development sector.

LIVELIHOOD SUPPORT SYSTEM

A Detailed Action Plan of Livelihood Support for Landless

Milch Cow Rearing

Rationale

Landlessness, in the rural setting, begets several issues of poverty- unemployment/under employment, food insecurity, low educational status and so forth. The landless are basically asset-less, with no assured source of income. Normally they depend on seasonal farm labor for their sustenance. In the absence of farm work in the locality, they are compelled to migrate or starve.

A blessing in watershed in Wayanad is that even the landless/asset-less can eke out a living, given a chance to take to farm-related alternative occupations. Small dairying is such an occupation. Milk and milk products are in high demand and the rural folk have the know-how on small dairy management. In fact, Wayanad largely depends on milk brought from other neighboring states to meet its domestic requirement. Fodder, both green and concentrate, are locally available. The efficient milk marketing network in the district assures prompt sale and good price. The project will also effectively address the issue of food insecurity and scarcity of bio-manure. In every way this project is feasible and worthy of our support.

Objectives

1. To help the beneficiaries to augment their income and tide over persisting economic insecurity
2. To improve the availability of milk and milk products in the watershed
3. To help generate high quality organic fertilizer
4. To improve the socio-economic condition of the beneficiaries of the watershed

Participatory Livelihood Planning

This plan has the merit of having been prepared in full participation of the concerned people. As part of the PRA, conducted by the PIA, group learning exercises, including resource mapping, focus group discussion, were conducted for identifying and prioritizing the feasible livelihood options. The ideas for this plan evolved during these intensive sessions of participatory learning.

Situational Analysis

	Table – Category Wise Population							
Sl No	Name of Watershed	Population			Households			
		Male	Female	Total	SC	ST	General	Total Households
1	Muthappankundu	2735	2525	5260	224	154	937	1315
2	Thrikkaipetta	1517	1443	2960	124	54	562	740
3	Chepottukunnu	1128	1048	2176	112	64	368	544
4	Malakkad	1088	1132	2220	34	53	468	555
5	Varyad	657	711	1368	18	42	282	342
6	Thondupaly	666	614	1280	12	32	276	320
7	Muranikkara	2707	2933	5640	235	174	1001	1410
	Total	**10498**	**10406**	**20904**	**759**	**573**	**3894**	**5226**

Beneficiaries/Participants

The beneficiaries belong to the lowest socio-economic strata of the watershed community. Priority has been given to SC/ST, women in general and to women in distress in particular. The selection is done jointly by the watershed general body and by the Watershed Committees with the support of the PIA and WDT on the basis of certain parameters. The selected beneficiaries will be mobilized into Self Help Groups (SHG). The Groups, thus formed will be appraised on the basis of social, technical and economical parameters.

Beneficiary Selection

The beneficiaries of this project are the poor families in the project area

The beneficiaries will be selected on the basis of following criteria including:

- Priority to landless and women, women-headed families.
- Priority will be given to widows.
- Priority to those who are in the BPL category.
- Priority for those who work outside the watershed as agricultural laborers.
- Priority for those who have not got any assistance from any government departments, NGOs or other institutions for Milch Cow rearing.
- Priority for those who have interest, skill and experience in cow rearing.
- Priority for those with unsustainable land holding (below one acre of agricultural land).

Organization

The selected beneficiaries will be organized into small Joint Liability Groups of 5 or 7. The revolving fund assistance will be transferred to a jointly managed account of the JLGs on the basis of certain security documents and a legally binding agreement after the reception of an application in the prescribed format.

Group Appraisal

Groups in the watershed will be appraised on the basis of social, technical and financial parameters. The socially as well as financially backward stakeholders will be given priority. The technical appraisal of the group and the area will also be considered.

Activities

The contemplated activities include:

- Capacity building: Training in micro-enterprise management, with focus on small dairying and other technical matters.
- Purchase of cows: Each beneficiary will be given loan from a revolving fund for purchasing two cows, the second one being supplied after six months of giving the first cow (during the dry period).
- Marketing: The respective groups will organize the marketing of the milk produced by the members of the group. There is a MILMA unit nearby.

Management

A field visit to the scheme area will be undertaken for conducting the feasibility of the programme. The following documents will be maintained for the sake of monitoring and evaluation:

- Application in prescribed format
- Legally binding agreement
- SHG resolution
- WC resolution
- Collateral security as decided by the WC

Financial Management

The required finance will be provided by PIA and the WC by way of loan. The loan will be repaid by the beneficiaries in suitable monthly installments from the income from sale of milk and other products.

Monitoring Strategy and Mechanism

A monitoring committee, composed of representatives of WC, PIA and WDT, will be in charge of monitoring. Monitoring will be conducted on monthly basis.

Repayment Strategy

1. The amount in full has to be repaid in EMI within a maximum of 36 months
2. Normal interest rate will be 5%
3. Defaulters within the time limit will be charged a fine as decided by VWC
4. Those who complete the repayment period before the term of 36 months will be given an incentive of 1% reduction in the interest rate

Total Loan	30,000.00
Rate of Interest (%)	5.00
Interest	1,500.00
Instalment Repay	11,500

Repayment Shedule

Year	Income	Expenses	Gross Surplus	Equated Annual Instalment	Net Surplus
I	79,920.00	62,645.00	17,275.00	11,500	5,775
II	86,580.00	61,675.00	24,905.00	11,500	13,405
III	87,080.00	61,030.00	26,050.00	11,500	14,550

Operation

The repaid amounts will be given to other members of the JLGs in the waiting list. This rotation will continue indefinitely, so that more and more poor people will be able to avail of the benefits.

Sustainability of the Programme

The programme will be appraised on the basis of Institutional, Technical and Economic parameters.

Institutional Sustainability/Feasibility

Involvement of the stakeholders and the cluster committees are ensured by the VWC during the project period. The formed JLGs will be further strengthened, thereby ensuring the equitable distribution of project benefits.

Technical Sustainability/Feasibility

The watershed stakeholders have accessibility to a well equipped veterinary hospital which is situated in the watershed area itself. The basic training and a breeding center are also associated with the hospital. The majority of the stakeholders are small and marginal farmers and they are engaging in farming activities. So the availability of green /dry fodder will not be a problem. There is a milk collection center situated in the watershed area for the effective marketing of their produce.

Table - Economic Feasibility

Cash Flow Analisis				
		Yerars		
Sl. No.	Purticulers	I	II	III
I	Costs			
1	Capital Cost	26,000.00		
2	Recuring Cost			
a	Feeding during Lactation Period			
	Dry Fooder	8,960.00	9,800.00	7,840.00
	Consentrate	22,400.00	22,680.00	21,840.00
	Sub Total	**31,360.00**	**32,480.00**	**29,680.00**
b	Feeding during Dry Period			
	Dry Fooder	7,000.00	7,000.00	7,000.00
	Concentrate	1,360.00	1,445.00	1,275.00
	Sub Total	**8,360.00**	**8,445.00**	**8,275.00**
c	Veterinary Aid	2,500.00	2,500.00	3,000.00
	Transportation	2,500.00		
d	Insurance for 3 Years	1,500.00	-	-
e	Labour cost	16,425.00	18,250.00	20,075.00
	Total	**62,645.00**	**61,675.00**	**61,030.00**
II	Benefits			
1	Milk Yeild (Average 12 Lts/ Day @ Rs. 22/-)	73,920.00	80,080.00	80,080.00
2	Sale of Manure (Cowdung @ Rs. 600/Ton)	6,000.00	6,500.00	7,000.00
	Total	**79,920.00**	**86,580.00**	**87,080.00**
	Totla Benefits	**79,920.00**	**86,580.00**	**87,080.00**
	Total Cost	**62,645.00**	**61,675.00**	**61,030.00**
	Profit	**17,275.00**	**24,905.00**	**26,050.00**

Expected Results

- Income from the sale of Milk, Cow- Dung and Calf
- Milk and Milk products for the family
- Organic Manure
- Increased soil fertility
- Enhanced health Status for the family
- Enhanced living standard for the family
- Controlled cash outflow from the watershed

Conclusion

This is a highly need-based and feasible plan, scoring high on relevance and sustainability. Multiple benefits are expected from this eco-friendly and gender-sensitive plan. The watershed approach in itself has the potential to generate the spirit of cooperation, sharing, self help, and self reliance and would be helpful in the integration of Social Resource Management and Natural Resource Management. The livelihood plan will cover the needed beneficiaries of the watershed and this will pave the way to increase their self reliance capacity and also this will add to the protection of natural resources especially soil and biomass.

Backyard Poultry

Introduction/ Rationale

Backyard poultry has been identified as a highly profitable, woman-friendly as well as environment-friendly occupation that can be promoted among the poor women-folk in the watershed, with focus on the most needy, such as destitute women and women-headed families. Besides eggs and meat, the poultry will also produce high quality organic manure, not only ensuring steady income and economic security, but also boost agricultural productivity as well as contribute to food security. It is a well-known fact that Kerala is heavily dependent on other states for eggs and other poultry products. This project at promoting back yard poultry has several socio-economic advantages and will be critical in ensuring the economic security of poor women and their families.

Objectives

- To encourage back yard poultry micro-enterprise among the most vulnerable women in the watershed as an effective measure of promoting their economic security
- To help mitigate the acute problem of food insecurity, in the area of poultry products
- To contribute to the promotion of organic farming by way of producing high quality organic fertilizers

Activities

The contemplated activities include:

- Construction of chicken coups
- Procurement and distribution of good quality fowls
- Management of the poultry units

Table - Budget for Backyard Poultry

Sl. No.	Particulars	Unit	Rate	Quantity	Unit Cost of Labour	Unit Cost of Material	Total Labour Cost	Total Material Cost
1	Cost of Pullets/fowls	No	73	25	-	73	-	1825
2	Cage (25sqf x 200/1sqf)	No	200/sqf	1	168	4496	504	4496
3	Feeds	Kg	15/Kg	12.50 Kg	-	15/Kg		187.5
4	Vaccination	1	2	25	-	2/Pullet	-	50
5	Plastic Net	M2	180	15		2700		2700
6	Insurance cost (6%of the total material cost)					110		110
	Total						504	9318.5

Pullet Variety

Gramasree – 40 days old

Total Project Cost of one unit of Backyard Poultry - 9822.50

CHAPTER - VI

BUDGET

IWMP III D I- TOTAL BUDGET								
Sl. No.	**Activities**	**1st Year**	**2nd Year**	**3rd Year**	**4th Year**	**IWMP Share**	**Total**	**WDF**
A	**Natural Resources Management (56%)**							
1	Earthen Bunding	8,656,000				8,656,000	8,656,000	865,600
2	Stone Pitched Bunding	742,000				742,000	742,000	74,200
3	Roof Water Harvesting	608,800				608,800	608,800	60,880
4	Mulching	3,224,000				3,224,000	3,224,000	322,400
5	Farm Pond	5,308,000	1,900,000			7,208,000	7,208,000	720,800
6	Stream Side Protection	3,690,000				3,690,000	3,690,000	369,000
7	Paddy Land Protection		170,000	100,000	632,000	902,000	902,000	90,200
8	Farm Land Protection	802,000	3,681,000	757,000		5,240,000	5,240,000	524,000
9	Check Dam			2,388,800	3,850,000	6,238,800	6,238,800	623,880
10	Irrigation	890,400	2,595,000	735,000	2,450,000	6,670,400	6,670,400	667,040
11	Flood Prevention Programme				70,000	70,000	70,000	7,000
12	Field Bund Protection		70,000	150,000		220,000	220,000	22,000

	Sub Total NRM	**23,921,200**	**8,416,000**	**4,130,800**	**7,002,000**	**43,470,000**	**43,470,000**	**4,347,000**
B	**Production System Management (10%)**					-	-	-
1	Promotion of Mixed Tuber Crop Cultivation	384,375	384,375	384,375	393,750	1,546,875	1,546,875	154,688
2	Promotion of Homestead Vegetable Farming	403,125	393,750	393,750	403,125	1,593,750	1,593,750	159,375
3	Promotion of Endangered Varieties of Paddy Cultivation	42,790	38,690	38,690	30,680	150,850	150,850	15,085
4	Biogas Plants	1,027,827	997,826	997,826	603,546	3,627,025	3,627,025	362,703
5	Paddy Threshing Yard		439,500	404,500		844,000	844,000	84,400
	Sub Total PSM	**1,858,117**	**2,254,141**	**2,219,141**	**1,431,101**	**7,762,500**	**7,762,500**	**776,250**
C	**Livelihood Support System (9%)**							
1	Diary Unit	1,237,362	1,177,296	1,177,296	965,846	4,557,800	4,557,800	455,780
2	Backyard Poultry	632,266	632,266	632,266	531,652	2,428,450	2,428,450	242,845
	Sub Total LSS	**1,869,628**	**1,809,562**	**1,809,562**	**1,497,498**	**6,986,250**	**6,986,250**	**698,625**
D	**Entry Point Activity (4%)**	**3,105,000**				**3,105,000**	**3,105,000**	**310,500**
E	**Management (21%)**							
1	Consolidation (3%)				2,328,750	**2,328,750**	**2,328,750**	**232,875**

2	Administration (10%)	1,940,625	1,940,625	1,940,625	1,940,625	**7,762,500**	**7,762,500**	**776,250**
3	Capacity Building (5%)	1,940,625	1,940,625			**3,881,250**	**3,881,250**	**388,125**
4	Detailed Project Report (1%)	776,250				**776,250**	**776,250**	**77,625**
5	Monitoring (1%)	194,063	194,063	194,063	194,063	**776,250**	**776,250**	**77,625**
6	Evaluation (1%)				776,250	**776,250**	**776,250**	**77,625**
	Sub Total Management	**4,851,563**	**4,075,313**	**2,134,688**	**5,239,688**	**16,301,250**	**16,301,250**	**1,630,125**
	Grand Total (A+B+C+D+E)	**35,605,508**	**16,555,016**	**10,294,191**	**15,170,287**	**77,625,000**	**77,625,000**	**7,762,500**

Muthappankundu Micro Watershed

Sl. No.	Activities	1st Year	2nd Year	3rd Year	4thYear	IWMP Share	Total	WDF
A	**Natural Resources Management**							
I	**Mulching -** 92768 Cents - Rs 25 per Cent	**2,319,200**	**-**	**-**		**2,319,200**	**2,319,200**	**231,920**
II	**Roof Water Harvesting**		**-**	**-**				
1	Community RWH tank at 5 Acre line Arapetta(30000 litre Capacity)	150,000	-	-		150,000	150,000	15,000
2	Roof Water Harvesting Tanks -15 Units - Rs - 30587/Unit	458,800	-	-		458,800	458,800	45,880
	Total	**608,800**	**-**	**-**		**608,800**	**608,800**	**60,880**
III	**Farm Pond**							
1	Construction of Farm pond near by Chellamma's Paddy Land	-	170,000	-		170,000	170,000	17,000
2	Construction of Farm pond near Anthoni Manjali	-	120,000	-		120,000	120,000	12,000
3	Construction of Farm pond near Annamma Mundackal	-	250,000	-		250,000	250,000	25,000
4	Construction of Farm pond near Nelsonkutty	-	250,000	-		250,000	250,000	25,000
5	Construction of Farm pond at Arapetta near Thressia, Pinro house	-	170,000	-		170,000	170,000	17,000
6	Construction of Farm pond near by James Ambros	-	170,000	-		170,000	170,000	17,000
7	Construction of Farm pond at Malayachamkolly near Thankachan Kochupurachal	-	200,000	-		200,000	200,000	20,000

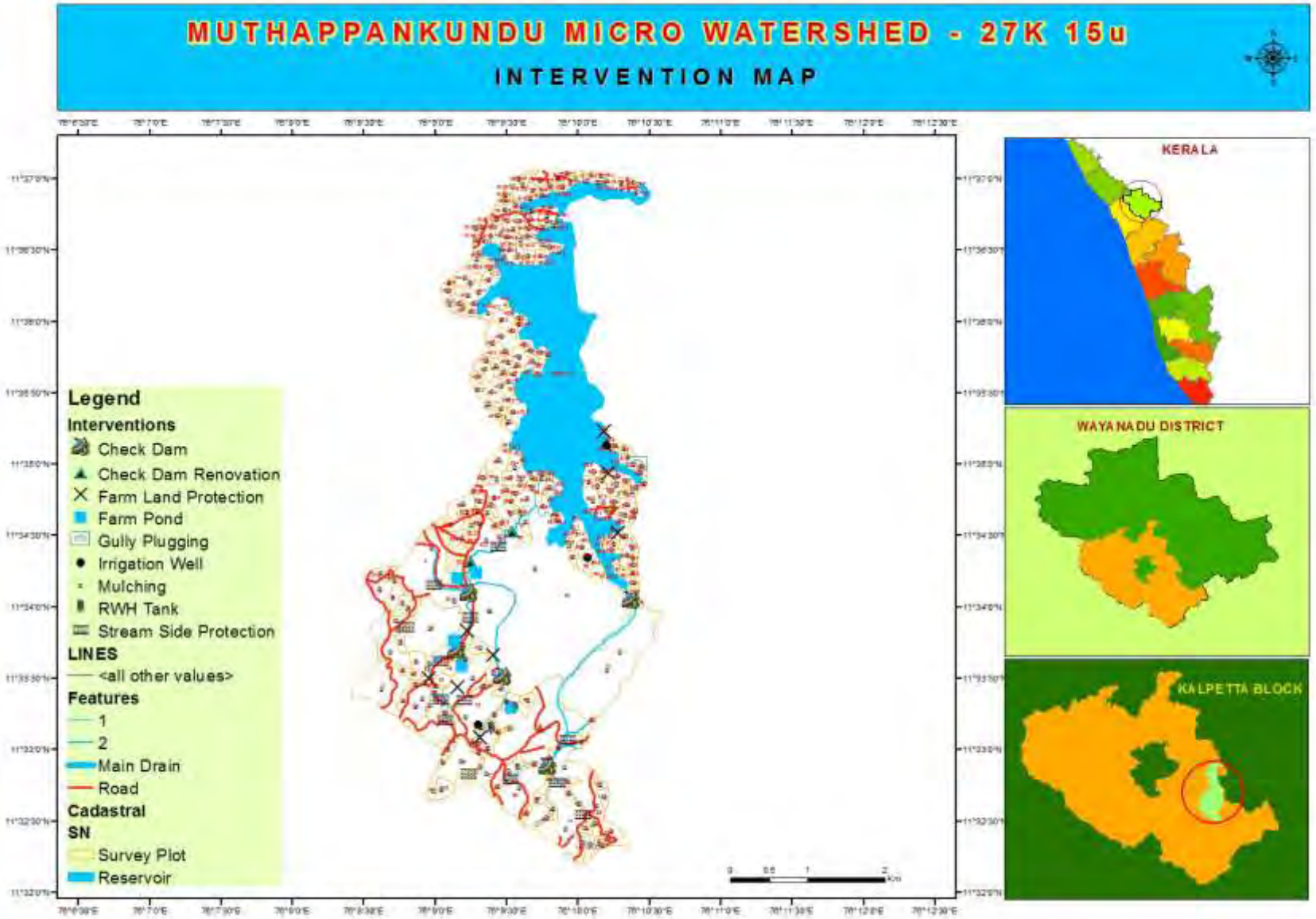
8	Construction of Farm Pond at Palat Vayal	-	200,000	-		200,000	200,000	20,000
9	Construction of Farm Pond at Jaihind near John Angadiyath	-	170,000	-		170,000	170,000	17,000
10	Construction of Farm Pond at Kettakali near Lakshmi	-	200,000	-		200,000	200,000	20,000
		-	-	-		-	-	-
	Total	**-**	**1,900,000**	**-**		**1,900,000**	**1,900,000**	**190,000**
IV	**Stream Side Protection**							
1	Stream side protection at mooppainad -Lucky hill thodu. Nearby Soumini, Shamsu, Balan and Vinod	160,000	-	-		160,000	160,000	16,000
2	Stream side protection Near Lucky hill Thazhe thode near Siril	105,000	-	-		105,000	105,000	10,500
3	Stream side protection with Bamboo, Screw Pine etc.at Moopainad-Lucky Thodu and Anavalavu	35,000	-	-		35,000	35,000	3,500
4	Stream side protection at Anavalavu-Lucky Thodu near by Aanavalu Meenakshi and Cable Ashraf	90,000	-	-		90,000	90,000	9,000
5	Stream side protection near Ramesh plackal, Lakshmanan pazhoor, Sulaikha, Unni	90,000	-	-		90,000	90,000	9,000
6	Stream side protection near Thinapuram colony thazhe	80,000	-	-		80,000	80,000	8,000
7	Stream embankment with bamboo at Mooppanmoola – Koleri thodu	70,000	-	-		70,000	70,000	7,000

8	Stream embankment with Bamboo at Arapetta thamizhathipalam	75,000	-	-		75,000	75,000	7,500
9	Stream embankment with Bamboo nearby Thinapuram Hamsa, Balakrishnan	70,000	-	-		70,000	70,000	7,000
10	Stream side protection nearby Arapetta culvert	70,000	-	-		70,000	70,000	7,000
11	Stream side protection with Babmoo nearby Kallingal colony thodu	40,000	-	-		40,000	40,000	4,000
12	Stream Side Prirection at Arapetta Kallingal thodu	120,000	-	-		120,000	120,000	12,000
13	Stream enbankment with bamboo, Screw pines at Arapetta Thodu	70,000	-	-		70,000	70,000	7,000
14	Stream enbankment with bamboo near Thazhe thodu to Jemini	40,000	-	-		40,000	40,000	4,000
15	Stream side protection nearby Jose Kavumpuram at Jaihind	120,000	-	-		120,000	120,000	12,000
16	Stream enbankment with bamboo near Madhavan to M K Moithu	75,000	-	-		75,000	75,000	7,500
17	Stream side protection nearby Enthikka to Lakshmi at Kettakali	120,000	-	-		120,000	120,000	12,000
	Total	**1,430,000**	**-**	**-**		**1,430,000**	**1,430,000**	**143,000**
V	**Farm Land Protection**					-	-	**-**
1	Farm land protection near Krishnan Padisseri	-	-	63,000		63,000	63,000	6,300
2	Farm land protection near Ali Kappurathu and Lizy Chembankodan at Luckyhill-Koleri Thodu	-	-	57,000		57,000	57,000	5,700

3	Farm land protection near Rosely Chemaliparambil	-	-	17,000		17,000	17,000	1,700
4	Farm land protection at Malechamkolly near Raghavan	-	-	100,000		100,000	100,000	10,000
5	Farm land protection at Pulpady Paniya Colony Near Channan	-	-	150,000		150,000	150,000	15,000
6	Farm land protection with coir mat at Arapetta 15th road	-	-	100,000		100,000	100,000	10,000
7	Farm land protection at Kallingal colony thazhe Thodu	-	-	40,000		40,000	40,000	4,000
8	Farm land protection at Karakolly-Puttad Thodu	-	-	230,000		230,000	230,000	23,000
	Total	-	-	**757,000**		**757,000**	**757,000**	**75,700**
VI	**Check Dam**	-	-					
1	Construction of Check dam near Muringakudiyil Sijo at Arapetta -Koleri Thodu	-	-		350,000	350,000	350,000	35,000
2	Construction of Check dam at Arapetta near Kunjimuhammed Chalapuram	-	-		200,000	200,000	200,000	20,000
3	Construction of Check dam near Cheriyaka Mathew at Arapetta Thodu	-	-		200,000	200,000	200,000	20,000
4	Construction of Check dam near by Arangil Ashraf at Arapetta	-	-		250,000	250,000	250,000	25,000
5	Construction of Check dam and side protection near Kunjimuhammed Arapetta	-	-		250,000	250,000	250,000	25,000

6	Construction of Check dam and side protection near Hamsa Thattarathodika at 8 th No Arapetta	-	-		200,000	200,000	200,000	20,000
7	Construction of Check dam at Eyyempara Thodu near Karakolly Waterfalls	-	-		350,000	350,000	350,000	35,000
8	Construction of Check Dam near P. A Joseph, Babu at Jaihind	-	-		200,000	200,000	200,000	20,000
9	Renovation of Check Dam near Jaihind Panchayath Irrigation Well	-	-		75,000	75,000	75,000	7,500
10	Construction of Check Dam near B Kunjumuhammed	-	-		200,000	200,000	200,000	20,000
		-	-		-	-	-	-
11	Renovation of Check Dam near Jaihind Community Hall	-	-		300,000	300,000	300,000	30,000
	Total	**-**	**-**		**2,575,000**	**2,575,000**	**2,575,000**	**257,500**
VII	**Irrigation Canal & Well**					-	-	
1	Renovation irrigation well at 15th Pady	-		-	100,000	100,000	100,000	10,000
2	Construction of Irrigation well at pulpady near Sivanandhan Murani	-		-	300,000	300,000	300,000	30,000
3	Construction of Irrigation well at Pandyamkunnu near Raman	-		-	300,000	300,000	300,000	30,000
	Total	**-**		**-**	**700,000**	700,000	**700,000**	**70,000**
	Sub Total NRM	**4,358,000**	**2,600,000**	**3,332,000**		**10,290,000**	**10,290,000**	**1,029,000**
B	**Production System Management**							

I	Homestead Mixed Tuber Crop Cultivation -247 Units - Rs 1875 per unit	116,250	116,250	116,250	114,375	463,125	463,125	46,313
II	Homestead Vegetable Farming -247 Units - Rs 1875 per unit	116,250	116,250	116,250	114,375	463,125	463,125	46,313
III	Bio Gas Plants (2 m3 Capacity)-30 Units - Rs 30375 per unit	303,750	303,750	303,750	-	911,250	911,250	91,125
	Sub Total PSM	**536,250**	**536,250**	**536,250**	**228,750**	**1,837,500**	**1,837,500**	**183,750**
C	**Livelihood Support System**							
I	Diary Unit - 25 units -Rs 30150 per unit	211,050	211,050	211,050	120,600	753,750	753,750	
II	Homestead Backyard Poultry - 90 units -Rs 10000 per unit	220,000	220,000	220,000	240,000	900,000	900,000	
	Sub Total LHS	**431,050**	**431,050**	**431,050**	**360,600**	**1,653,750**	**1,653,750**	
D	**Entry Point Activity**	**1,198,200**	**-**	**-**		1,198,200	**1,198,200**	
	Grand Total (A+B+C+D)	**6,523,500**	**3,567,300**	**4,299,300**	**589,350**	**14,979,450**	**14,979,450**	**1,212,750**

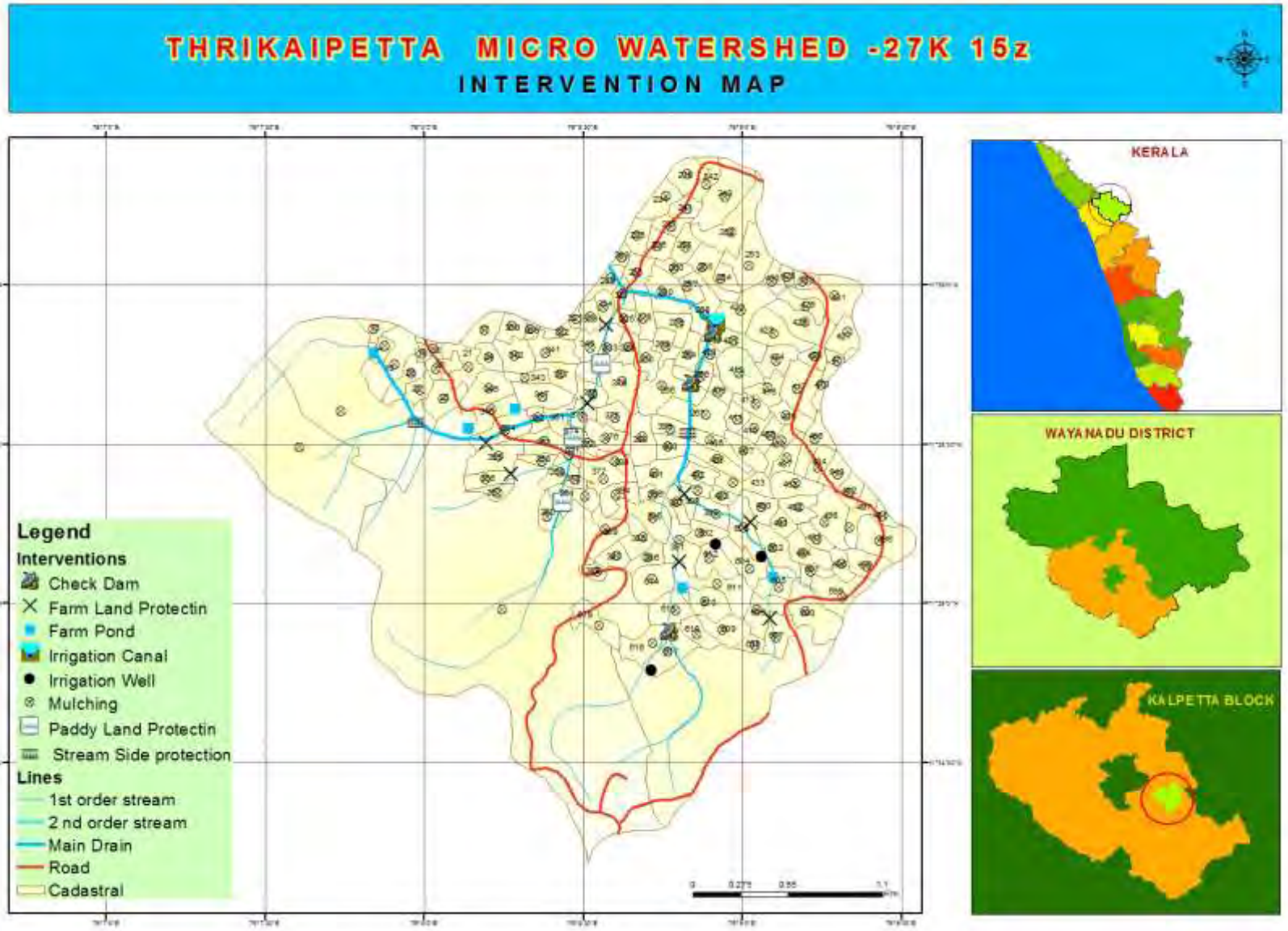

MUTHAPPANKUNDU MICRO WATERSHED - 27K 15u
INTERVENTION MAP
Legend
Interventions
Check Dam
Check Dam Renovation
Farm Land Protection
Farm Pond
Gully Plugging
Irrigation Well
Mulching
RWH Tank
Stream Side Protection
LINES
<all other values>
Features
1
2
Main Drain
Road
Cadastral
SN
Survey Plot
Reservoir
KERALA
WAYANADU DISTRICT
KALPETTA BLOCK

Thrikkaipetta Micro Watershed								
Sl. No.	**Activities**	**1st Year**	**2nd Year**	**3rd Year**	**4th Year**	**IWMP Share**	**Total**	**WDF**
A	**Natural Resources Management**							
I	**Mulching** - 11520 Cents - Rs 25 per Cent	288,000				288,000	288,000	28,800
II	**Earthen Bunding** - 12902 m3 - Rs 82 per Cubic Metre	1,058,000				1,058,000	1,058,000	105,800
	Total	**1,346,000**	**-**	**-**		**1,346,000**	**1,346,000**	**134,600**
III	**Farm Pond**					-	-	-
1	Head pond renovation near chelerikavu	400,000				400,000	400,000	40,000
2	Renovation of Irrigation pond near by Manaloth John	20,000				20,000	20,000	2,000
3	Construction of irrigation pond at Vazhakandy Colony near Janaki	250,000				250,000	250,000	25,000
4	Construction of irrigation pond near by Krishnan Chelerikkavu	170,000				170,000	170,000	17,000
5	Construction of irrigation pond near by Moongananiyil Varghese	170,000				170,000	170,000	17,000
	Total	**1,010,000**	**-**	**-**		**1,010,000**	**1,010,000**	**101,000**
IV	**Stream Side Protection**					-	-	-
1	Stream side protection near veettikinnu sankarappadi Thodu	35,000				35,000	35,000	3,500
2	Stream Embankment with Bamboo, Screw Pine etc. at Cherupatta-Pathramanga Thodu	70,000				70,000	70,000	7,000

	Total	**105,000**	**-**	**-**		**105,000**	**105,000**	**10,500**
V	**Farm Land Protection**					-	-	-
1	Farm land protection at Kunduvayal-Uppupara Thodu near Vandanmmakkil Devasya, Benny		80,000			80,000	80,000	8,000
2	Farm land protection near Maringanathodi Devasya, Kunduvayal Chandhu		120,000			120,000	120,000	12,000
3	Farm Land protection at Vendekkumoola thodu near Robi, Thanka		100,000			100,000	100,000	10,000
4	Farm Land Protection near by Anil Peringarapally		60,000			60,000	60,000	6,000
5	Farm Land Protection near by Chandran Mootheliyil		40,000			40,000	40,000	4,000
6	Farm Land protection work at Uppupara Kuruma colony		300,000			300,000	300,000	30,000
7	Farm Land protection work near Kunduvayal colony		150,000			150,000	150,000	15,000
8	Farm Land protection near Ramadas		46,000			46,000	46,000	4,600
9	Farm Land protection at Cherupatta Cheriya Thodu		300,000			300,000	300,000	30,000
10	Farm Land Protection near Balan,Damodharan Nair , Rukya		100,000			100,000	100,000	10,000
11	Farm Land Protection near Jalaja		60,000			60,000	60,000	6,000
	Total	**-**	**1,356,000**	**-**		**1,356,000**	**1,356,000**	**135,600**

VI	**Paddy Land Protection**					-	-	-
1	Paddy land protection near Kundvayal Ramunny, Achuthan, Ravi, Dinesh, Biju Peter				200,000	200,000	200,000	20,000
2	Paddy land protection near Mekkattuparambil Robert				52,000	52,000	52,000	5,200
3	Paddy land protection near M.L Vargese				80,000	80,000	80,000	8,000
	Total	**-**		**-**	**332,000**	**332,000**	**332,000**	**33,200**
VII	**Check Dam**					-	-	-
1	Check dam repair near Ajmadippadi			60,000		60,000	60,000	6,000
2	Construction of ckeck dam near veettikikunnu kaithakolly near Kuttappan's Land			178,800		178,800	178,800	17,880
3	Construction of Check Dam at Pathramanga Thodu near P T Devasya			200,000		200,000	200,000	20,000
4	Construction of Check Dam at Pathramanga Thodu near Mathew Kakkuzhi			200,000		200,000	200,000	20,000
				-		-	-	-
	Total	**-**	**-**	**638,800**		**638,800**	**638,800**	**63,880**
VIII	**Irrigation Canal & Well**					-	-	-
1	Construction of Irrigation Well at Ezhamchira	469,200				469,200	469,200	46,920
2	Renovation of Irrigation well at Vazhakandy Colony		15,000			15,000	15,000	1,500

3	Construction of Irrigation Well at Cherupatta Vayal Unnikrishnan		250,000			250,000	250,000	25,000
4	Construction of Irrigation Canal near Pathramanga Colony Padikkal		150,000			150,000	150,000	15,000
5	Construction of Irrigation Well at Cheriya Nedumbala		250,000			250,000	250,000	25,000
	Total	**469,200**	**665,000**	**-**	**-**	**1,134,200**	**1,134,200**	**113,420**
	Sub Total NRM	**2,930,200**	**2,021,000**	**638,800**	**332,000**	**5,922,000**	**5,922,000**	**592,200**
B	**Production System Management**							
I	Homestead Mixed Tuber Crop Cultivation - 93 Units - Rs 1875 per unit	43,125	43,125	43,125	45,000	174,375	174,375	17,438
II	Homestead Vegetable Farming - 93 Units - Rs 1875 per unit	43,125	43,125	43,125	45,000	174,375	174,375	17,438
III	Ghandhakasala Paddy Cultivation -10 Units - Rs 2040 per unit	6,120	6,120	6,120	2,040	20,400	20,400	2,040
IV	Biogas Plants (2 m3 Capacity)-23 Units - Rs 29928 per unit	179,570	179,570	179,570	149,640	688,350	688,350	68,835
	Sub Total PSM	**271,940**	**271,940**	**271,940**	**241,680**	**1,057,500**	**1,057,500**	**105,750**
C	**Livelihood Support System**							
I	Diary Unit - 15 units -Rs 30090 per unit	120,360	120,360	120,360	90,270	451,350	451,350	
II	Homestead Backyard Poultry - 50 units -Rs 10008 per unit	150,120	150,120	150,120	50,040	500,400	500,400	
	Sub Total LHS	**270,480**	**270,480**	**270,480**	**140,310**	**951,750**	**951,750**	
	Grand Total (A+B+C)	**3,202,140**	**2,292,940**	**910,740**	**573,680**	**7,931,250**	**7,931,250**	**697,950**


THRIKAIPETTA MICRO WATERSHED -27K 15z
INTERVENTION MAP
Legend
Interventions
Check Dam
Farm Land Protectin
Farm Pond
Irrigation Canal
Irrigation Well
Mulching
Paddy Land Protectin
Stream Side protection
Lines
1st order stream
2 nd order stream
Main Drain
Road
Cadastral
KERALA
WAYANADU DISTRICT
KALPETTA BLOCK

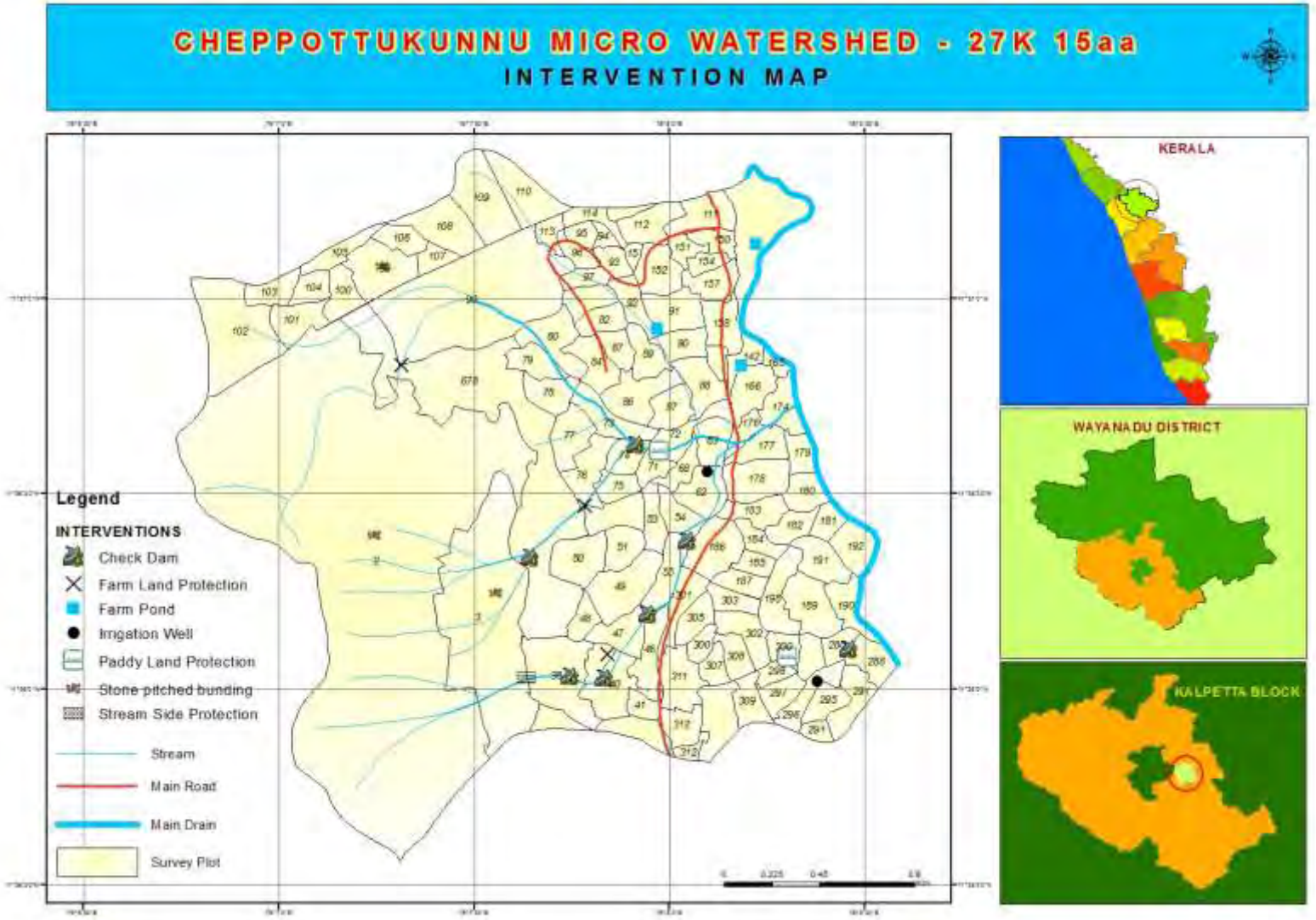
Chepottukunnu Micro Watershed

Sl. No.	Activities	1st Year	2nd Year	3rd Year	4th Year	IWMP Share	Total	WDF
A	**Natural Resources Management**							
I	**Stone Pitched Bunding** - 7203.8 m2 - Rs 103 per Square Metre	742,000				742,000	742,000	74,200
II	**Earthen Bunding** - 6556 m3 - Rs 82 per Cubic Metre	537,600				537,600	537,600	53,760
	Total	**1,279,600**	**-**	**-**		**1,279,600**	**1,279,600**	**127,960**
III	**Farm Pond**							
1	Construction of Farm pond Near Kalangattil Vayal	170,000				170,000	170,000	17,000
2	Farm pond Renovation near Mathai's Pumb House at Thoomulli thodu	33,000				33,000	33,000	3,300
3	Farm pond near by Panayi Raghavan	125,000				125,000	125,000	12,500
4	Construction of Farm pond near M.J Vargese' Paddy land	250,000				250,000	250,000	25,000
5	Construction of Farm pond at Mundupara near Prabhakaran	170,000				170,000	170,000	17,000
	Total	**748,000**	**-**	**-**		**748,000**	**748,000**	**74,800**
IV	**Stream Side Protection**							

1	Stream embankment with bamboo near Thoomully thodu	70,000				70,000	70,000	7,000
	Total	**70,000**	**-**	**-**		**70,000**	**70,000**	**7,000**
V	**Farm Land Protection**							
1	Farm land protection near Kalthikudi eliyas at vellithodu- Mundupara Thodu		100,000			100,000	100,000	10,000
2	Farm Land protection at Idinjamkolly thodu near Anganvady		75,000			75,000	75,000	7,500
3	Farm Land protection at Vengachola Kurichya Colony		500,000			500,000	500,000	50,000
	Total	**-**	**675,000**	**-**		**675,000**	**675,000**	**67,500**
VI	**Paddy Land Protection**							
1	Paddy land protection Near Thembilly Benny		70,000			70,000	70,000	7,000
2	Paddy Land protection near Mathai Kavalakkal		-			-	-	-
3	Paddy land protection near Eliyamma Nellattukandi at Mundupara Cheriya Thodu		100,000			100,000	100,000	10,000
	Total	**-**	**170,000**	**-**		**170,000**	**170,000**	**17,000**
VII	**Check Dam**					-	-	-
1	Construction of Check Dam Near Eliamma Nellattukudi				200,000	200,000	200,000	20,000
2	Formation of check dam and irrigation canal at Idinjamkolly near Rajan Chinthiri, Vellan				200,000	200,000	200,000	20,000
3	Construction of Check dam near by Yamuna Idinjamkolly				100,000	100,000	100,000	10,000

4	Construction of Check dam near by Pookombil Thommi at Idinjamkolly				100,000	100,000	100,000	10,000
5	Construction of Check dam at Manikettikunnu near Balakrishnan				100,000	100,000	100,000	10,000
6	Construction of Check dam at Mundupara				200,000	200,000	200,000	20,000
7	Construction of Check dam at Mundupara near Thrikkaipetta School				200,000	200,000	200,000	20,000
	Total	**-**	**-**	**-**	**1,100,000**	**1,100,000**	**1,100,000**	**110,000**
VIII	**Irrigation**					-	-	-
1	Construction of Irrigation well at Kallipuara Colony	421,200				421,200	421,200	42,120
2	Construction of Irrigation well at Vellithodu near Santhoshkumar			200,000		200,000	200,000	20,000
3	Construction of Irrigation well near by Angadivayal 4 cent colony			200,000		200,000	200,000	20,000
4	Protection of Water source at Mele Idijamkolly check Dam			25,000		25,000	25,000	2,500
	Total	**421,200**	**-**	**425,000**	**-**	**846,200**	**846,200**	**84,620**
	Sub Total NRM	**2,518,800**	**845,000**	**425,000**	**1,100,000**	**4,888,800**	**4,888,800**	**488,880**
B	**Production System Management**							
I	Homestead Mixed Tuber Crop Cultivation - 50 Units - Rs 1875 per unit	22,500	22,500	22,500	26,250	93,750	93,750	9,375
II	Homestead Vegetable Farming - 50 Units - Rs 1875 per unit	22,500	22,500	22,500	26,250	93,750	93,750	9,375

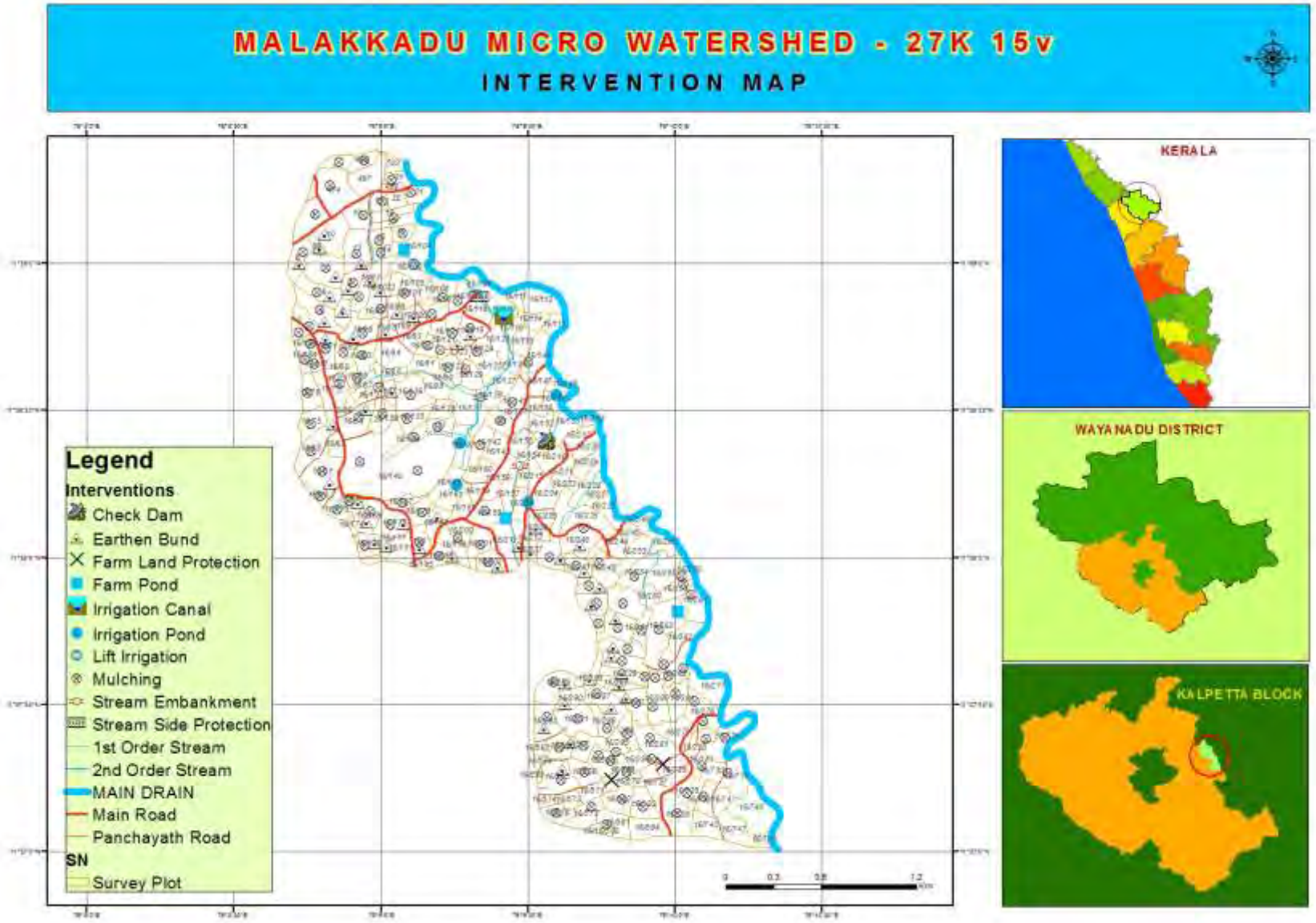
III	Paddy Thrushing yard and Store at Angadivayal	-	439,500	-	-	439,500	439,500	43,950
IV	Biogas Plants (2 m3 Capacity)-8 Units - Rs 30750 per unit	61,500	61,500	61,500	61,500	246,000	246,000	24,600
	Sub Total PSM	**106,500**	**546,000**	**106,500**	**114,000**	**873,000**	**873,000**	**87,300**
C	**Livelihood Support System**							
I	Diary Unit - 20 units -Rs 30015 per unit	150,075	150,075	150,075	150,075	600,300	600,300	
II	Homestead Backyard Poultry - 18 units -Rs 10300 per unit	51,500	51,500	51,500	30,900	185,400	185,400	
	Sub Total LHS	**201,575**	**201,575**	**201,575**	**180,975**	**785,700**	**785,700**	
	Grand Total (A+B+C)	**2,826,875**	**1,592,575**	**733,075**	**1,394,975**	**6,547,500**	**6,547,500**	**576,180**


CHEPPOTTUKUNNU MICRO WATERSHED - 27K 15aa
INTERVENTION MAP
Legend
INTERVENTIONS
Check Dam
Farm Land Protection
Farm Pond
Irrigation Well
Paddy Land Protection
Stone pitched bunding
Stream Side Protection
Stream
Main Road
Main Drain
Survey Plot
KERALA
WAYANADU DISTRICT
KALPETTA BLOCK

Malakkad Micro Watershed								
Sl. No.	**Activities**	**1st Year**	**2nd Year**	**3rd Year**	**4th Year**	**IWMP Share**	**Total**	**WDF**
A	**Natural Resources Management**							
I	**Earthen Bunding** - 16839 m3 - Rs 82 per Cubic Metre	1,380,800				1,380,800	1,380,800	138,080
II	**Mulching** - 24672 Cents - Rs 25 per Cent	616,800				616,800	616,800	61,680
	Total	**1,997,600**	**-**	**-**	**-**	**1,997,600**	**1,997,600**	**199,760**
III	**Farm Pond**							
1	Renovation of farm pond near Sreedharan Mandhankolly Colony	50,000				50,000	50,000	5,000
2	Construction of Irrigation pond at Theneri Manikandan chetty vayal	170,000				170,000	170,000	17,000
3	Construction of Irrigation pond near Theneri Vattakulathil Sabu	250,000				250,000	250,000	25,000
4	Construction of Irrigation pond near Scaria Parackal, Sadanthan Ilavumkachalil	170,000				170,000	170,000	17,000
5	Construction of Irrigation pond near Vettikkal Augusty Kallupady	170,000				170,000	170,000	17,000
6	Construction of Irrigation pond near P.T Biju Scariya at Kuppady	250,000				250,000	250,000	25,000
7	Construction of Irrigation pond near Jayaprakash Kuppadi	170,000				170,000	170,000	17,000
8	Pond Renovation and Canal Forrmation near Kuppadi Ramachandran.K	60,000				60,000	60,000	6,000
	Total	**1,290,000**	**-**	**-**	**-**	**1,290,000**	**1,290,000**	**129,000**
IV	**Stream Side Protection**							

1	Stream side protection near Kallingal Aleema, Bhajanamadom	100,000				100,000	100,000	10,000
2	Stream embankment with Vetiver, Fodder near Kallupadi - Malakkad Thodu	70,000				70,000	70,000	7,000
3	Stream embankment with bamboo at Kuppady Thottamkolly Thodu	105,000				105,000	105,000	10,500
	Total	**275,000**	**-**	**-**	**-**	**275,000**	**275,000**	**27,500**
V	**Farm Land Protection**							
1	Farm land protection and field bund protection at Oorampakkamkunnu near Paniya Colony		300,000			300,000	300,000	30,000
2	Farm land protection near Swargamkunnu-Vazhavatta-Karapuzha thodu		120,000			120,000	120,000	12,000
	Total	**-**	**420,000**	**-**	**-**	**420,000**	**420,000**	**42,000**
VI	**Check Dam**							
1	Check dam repair Near Ilavungal Sudhandhan's Land				25,000	25,000	25,000	2,500
	Total	**-**	**-**	**-**	**25,000**	**25,000**	**25,000**	2,500
VII	**Irrigation Canal & Well**							
1	Lift Irrigation near Muttilady Vayal			150,000		150,000	150,000	15,000
2	Irrigation canal repair and formation near by Kannikulathu E K Balakrishnan			160,000		160,000	160,000	16,000
	Total	**-**	**-**	**310,000**		**310,000**	**310,000**	**31,000**
	Sub Total NRM	**3,562,600**	**420,000**	**310,000**	**25,000**	**4,317,600**	**4,317,600**	**431,760**
B	**Production System Management**							
I	Homestead Mixed Tuber Crop Cultivation - 100 Units - Rs 1875 per unit	46,875	46,875	46,875	46,875	187,500	187,500	18,750
II	Homestead Vegetable Farming - 100 Units - Rs 1875 per unit	46,875	46,875	46,875	46,875	187,500	187,500	18,750

III	Ghandhakasala Paddy Cultivation -15 Units - Rs 2040 per unit	8,160	8,160	8,160	6,120	30,600	30,600	3,060
IV	Biogas Plants (2 m3 Capacity)-12 Units - Rs 30450 per unit	91,350	91,350	91,350	91,350	365,400	365,400	36,540
	Sub Total PSM	**193,260**	**193,260**	**193,260**	**191,220**	**771,000**	**771,000**	**77,100**
C	**Livelihood Support System**							
I	Diary Unit - 16 units -Rs 30825 per unit	123,300	123,300	123,300	123,300	493,200	493,200	
II	Homestead Backyard Poultry - 20 units -Rs 10035 per unit	50,175	50,175	50,175	50,175	200,700	200,700	
	Sub Total LHS	**173,475**	**173,475**	**173,475**	**173,475**	**693,900**	**693,900**	
D	**Entry Point Activity**	**308,400**				**308,400**	**308,400**	
	Grand Total (A+B+C+D)	**4,237,735**	**786,735**	**676,735**	**389,695**	**6,090,900**	**6,090,900**	**508,860**

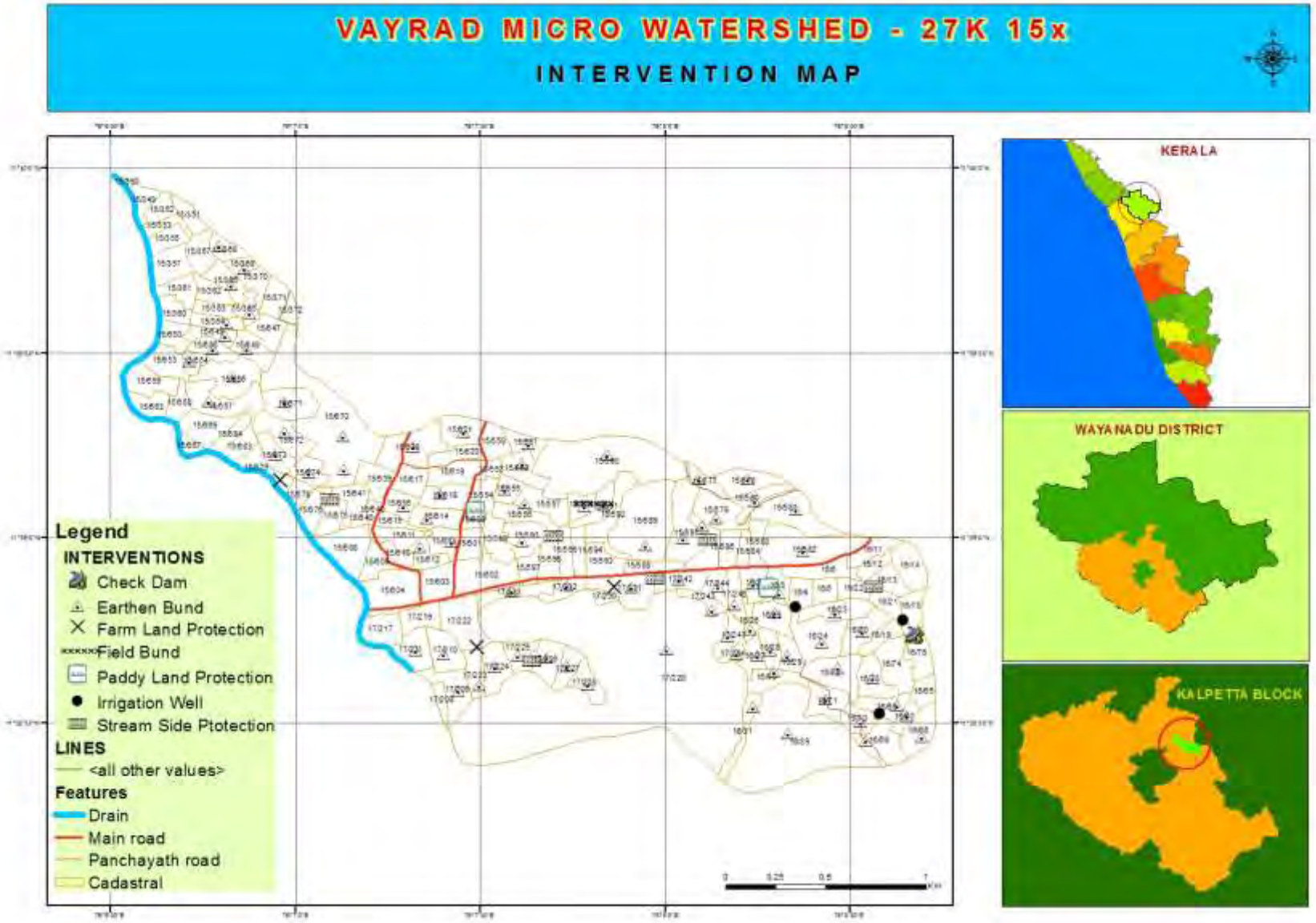

MALAKKADU MICRO WATERSHED - 27K 15v
INTERVENTION MAP
Legend
Interventions
Check Dam
Earthen Bund
Farm Land Protection
Farm Pond
Irrigation Canal
Irrigation Pond
Lift Irrigation
Mulching
Stream Embankment
Stream Side Protection
1st Order Stream
2nd Order Stream
MAIN DRAIN
Main Road
Panchayath Road
SN
Survey Plot
KERALA
WAYANADU DISTRICT
KALPETTA BLOCK

Varyad Micro Watershed

Sl. No.	Activities	1st Year	2nd Year	3rd Year	4th Year	IWMP Share	Total	WDF
A	**Natural Resources Management**							
I	**Earthen Bunding** - 9634 m3 - Rs 82 per Cubic Metre	**790,000**				790,000	**790,000**	**79,000**
II	**Stream Side Protection**							
1	Stream side ptotection at Thekkumpadi near Hajikka	300,000				300,000	300,000	30,000
2	Stream side protection with bamboo at Theneri-Varyad Thodu	490,000				490,000	490,000	49,000
3	Stream side protection at Theneri-Varyad Thodu near Salim	120,000				120,000	120,000	12,000
4	Stream side protection at Narikodanmoola Thodu	150,000				150,000	150,000	15,000
5	Stream side protection at 50th mile SC Colony Thodu	100,000				100,000	100,000	10,000
	Total	**1,160,000**	**-**	**-**	**-**	**1,160,000**	**1,160,000**	**116,000**
III	**Farm Land Protection**							
1	Farm land protection atThekkumpadi thodu near Usman		150,000			150,000	150,000	15,000
2	Farm land protection near by John Paputty Jairag		150,000			150,000	150,000	15,000
3	Farm Land protection near at Nenmeni 4 cent Colony		150,000			150,000	150,000	15,000
	Total	**-**	**450,000**	**-**	**-**	**450,000**	**450,000**	**45,000**
IV	**Paddy Land Protection**							
1	Paddy land protection at Olavathurvayal near by Ramakrishnan Adiyodi				150,000	150,000	150,000	15,000

2	Paddy land protection near Theneri-Varyad-Kakkavayal Thodu				150,000	150,000	150,000	15,000
	Total	**-**	**-**	**-**	**300,000**	**300,000**	**300,000**	**30,000**
V	**Check Dam**							
1	Construction of Check Dam at Kakkavayal School Thazhe near Nishad				150,000	150,000	150,000	15,000
	Total	**-**	**-**	**-**	**150,000**	**150,000**	**150,000**	**15,000**
VI	**Irrigation Canal & Well**							
1	Construction of Irrigation well near haris Nedumbala, Salim		300,000			300,000	300,000	30,000
2	Construction of Irrigation well near by Thithumma		300,000			300,000	300,000	30,000
3	Construction of Irrigation well near by K E Noufal Kadayingal Nhanummal		300,000			300,000	300,000	30,000
4	Construction of Irrigation well near by Noushad Azhakil kandathil		300,000			300,000	300,000	30,000
	Total	**-**	**1,200,000**	**-**	**-**	**1,200,000**	**1,200,000**	**120,000**
VII	**Field Bund Protection**							
1	Field Bund protection near by Seetha at Narikkodanmoola Vayal			150,000		150,000	150,000	15,000
	Total	**-**	**-**	**150,000**	**-**	**150,000**	**150,000**	**15,000**
	Sub Total NRM	**1,950,000**	**1,650,000**	**150,000**	**450,000**	**4,200,000**	**4,200,000**	**420,000**
B	**Production System Management**							
I	Homestead Mixed Tuber Crop Cultivation - 85 Units - Rs 1875 per unit	39,375	39,375	39,375	41,250	159,375	159,375	15,938

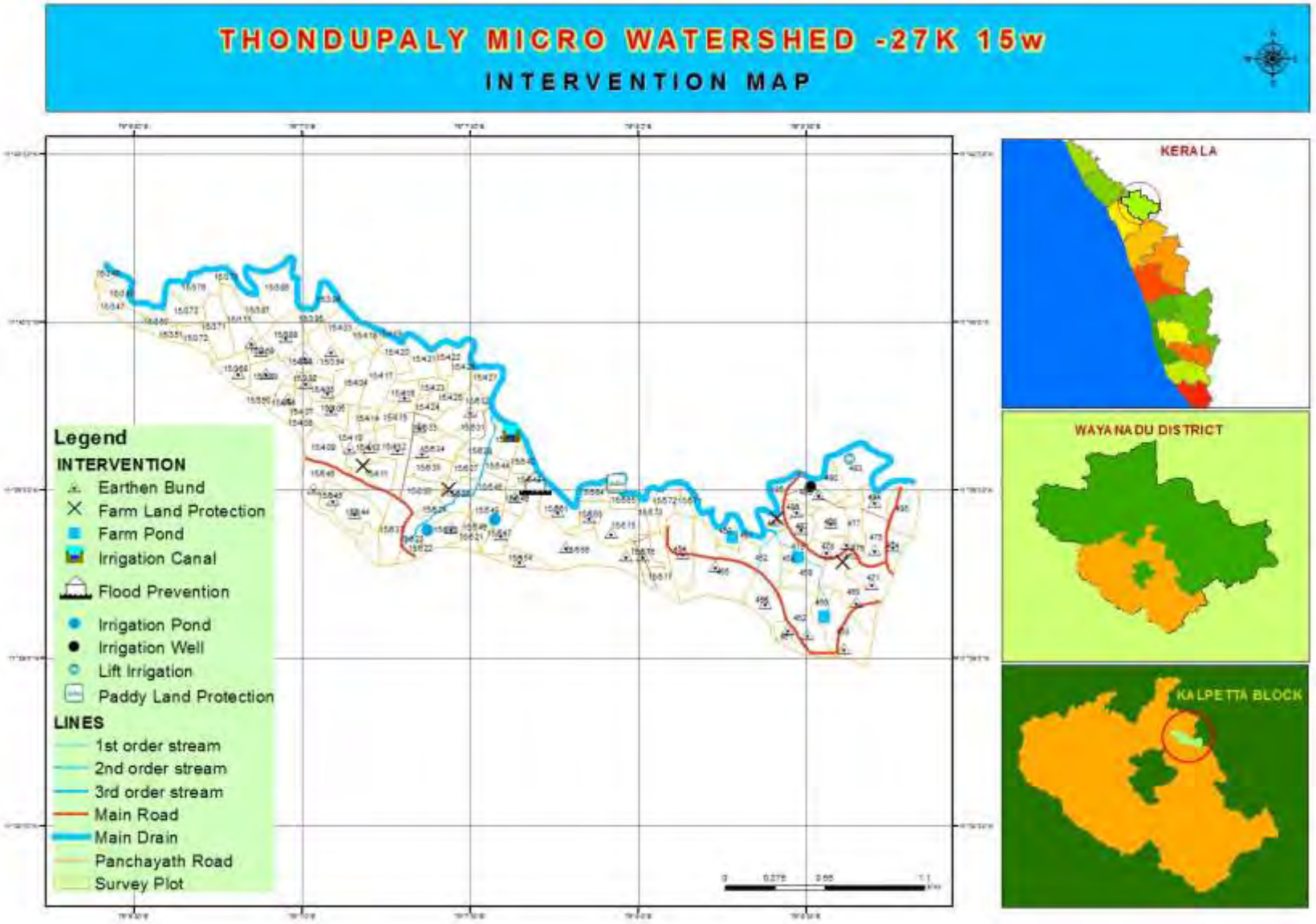
II	Homestead Vegetable Farming - 105 Units - Rs 1875 per unit	48,750	48,750	48,750	50,625	196,875	196,875	19,688
III	Ghandhakasala Paddy Cultivation -15 Units - Rs 2040 per unit	8,160	8,160	8,160	6,270	30,750	30,750	3,075
IV	Biogas Plants (2 m3 Capacity)-12 Units - Rs 30250 per unit	90,750	90,750	90,750	90,750	363,000	363,000	36,300
	Sub Total PSM	**187,035**	**187,035**	**187,035**	**188,895**	**750,000**	**750,000**	**75,000**
C	**Livelihood Support System**							
I	Diary Unit - 15 units -Rs 30300 per unit	121,200	121,200	121,200	90,900	454,500	454,500	
II	Homestead Backyard Poultry - 22 units -Rs 10022 per unit	60,135	60,135	60,135	40,095	220,500	220,500	
	Sub Total LHS	**181,335**	**181,335**	**181,335**	**130,995**	**675,000**	**675,000**	
D	**Entry Point Activity**	**300,000**				**300,000**	**300,000**	
	Grand Total (A+B+C+D)	**2,618,370**	**2,018,370**	**518,370**	**769,890**	**5,925,000**	**5,925,000**	**495,000**


VAYRAD MICRO WATERSHED - 27K 15x
INTERVENTION MAP
Legend
INTERVENTIONS
Check Dam
Earthen Bund
Farm Land Protection
Field Bund
Paddy Land Protection
Irrigation Well
Stream Side Ptotection
LINES
<all other values>
Features
Drain
Main road
Panchayath road
Cadastral
KERALA
WAYANADU DISTRICT
KALPETTA BLOCK

Thondupaly Micro Watershed								
Sl. No.	**Activities**	**1st Year**	**2nd Year**	**3rd Year**	**4th Year**	**IWMP Share**	**Total**	**WDF**
A	**Natural Resources Management**							
I	**Earthen Bunding** - 5234 m3 - Rs 82 per Cubic Metre	**429,200**				**429,200**	**429,200**	**42,920**
II	**Farm Pond**							
1	Construction of Irrigation pond at Kakkavayal near by Pathmaja Radhamndiram	200,000				200,000	200,000	20,000
2	Construction of Irrigation pond at Panthalamkunnu near by Rajeev Jayanthy Nivas	250,000				250,000	250,000	25,000
3	Construction of Irrigation pond at Kakkavayal near Raveendran Mullambalam	300,000				300,000	300,000	30,000
	Total	**750,000**	**-**	**-**		**750,000**	**750,000**	**75,000**
III	**Farm Land Protection**					-	-	-
1	Farm land protection near by Valsala kumaran	500,000				500,000	500,000	50,000
2	Farm land protection at PanthalamPaniya Colony	70,000				70,000	70,000	7,000
3	Farm Land protection work near Kolavayal-Thondupaly road	175,000				175,000	175,000	17,500
4	Farm Land Protection work near by Sundharan Vellithodu	57,000				57,000	57,000	5,700
	Total	**802,000**	**-**	**-**		**802,000**	**802,000**	**80,200**
IV	**Paddy Land Protection**							

1	Paddy land protection at Vellithodu vayal near by Kanaran, Asokan			100,000		100,000	100,000	10,000
	Total	**-**		**100,000**		**100,000**	**100,000**	**10,000**
V	**Irrigation Canal & Well**					-	-	**-**
1	Irrigation pond near by T.J Antho Poothottiyil Kolavayal		260,000			260,000	260,000	26,000
2	Irrigation pond near Thomas pindipuzha		170,000			170,000	170,000	17,000
3	Irrigation canal at Vellithodu Vayal		100,000			100,000	100,000	10,000
4	Renovation of irrigation well at Pushkarankandi Paniya Colony		50,000			50,000	50,000	5,000
5	Lift irrigation at Panthalam Vayal		150,000			150,000	150,000	15,000
	Total	**-**	**730,000**	**-**		**730,000**	**730,000**	**73,000**
VI	**Flood Prevention**							
1	Flood prevention near by Kolavayal - Pindipuzha Kunjiraman				70,000	70,000	70,000	7,000
	Total	**-**		**-**	**70,000**	**70,000**	**70,000**	**7,000**
	Sub Total NRM	**1,981,200**	**730,000**	**100,000**	**70,000**	**2,881,200**	**2,881,200**	**288,120**
B	**Production System Management**							
I	Homestead Mixed Tuber Crop Cultivation - 50 Units - Rs 1875 per unit	22,500	22,500	22,500	26,250	93,750	93,750	9,375
II	Homestead Vegetable Farming - 50 Units - Rs 1875 per unit	22,500	22,500	22,500	26,250	93,750	93,750	9,375
III	Ghandhakasala Paddy Cultivation -12 Units - Rs 2000 per unit	6,000	6,000	6,000	6,000	24,000	24,000	2,400

IV	Biogas Plants (2 m3 Capacity)-10 Units - Rs 30300 per unit	90,900	90,900	90,900	30,300	303,000	303,000	30,300
	Sub Total PSM	**141,900**	**141,900**	**141,900**	**88,800**	**514,500**	**514,500**	**51,450**
C	**Livelihood Support System**							
I	Diary Unit - 10 units -Rs 30305 per unit	90,915	90,915	90,915	30,305	303,050	303,050	
II	Homestead Backyard Poultry - 16 units -Rs 10000 per unit	40,000	40,000	40,000	40,000	160,000	160,000	
	Sub Total LHS	**130,915**	**130,915**	**130,915**	**70,305**	**463,050**	**463,050**	
D	**Entry Point Activity**	**205,800**				**205,800**	**205,800**	
	Grand Total (A+B+C+D)	**2,459,815**	**1,002,815**	**372,815**	**229,105**	**4,064,550**	**4,064,550**	**339,570**


THONDUPALY MICRO WATERSHED -27K 15w
INTERVENTION MAP
Legend
INTERVENTION
Earthen Bund
Farm Land Protection
Farm Pond
Irrigation Canal
Flood Prevention
Irrigation Pond
Irrigation Well
Lift Irrigation
Paddy Land Protection
LINES
1st order stream
2nd order stream
3rd order stream
Main Road
Main Drain
Panchayath Road
Survey Plot
KERALA
WAYANADU DISTRICT
KALPETTA BLOCK

Muranikkara Micro Watershed

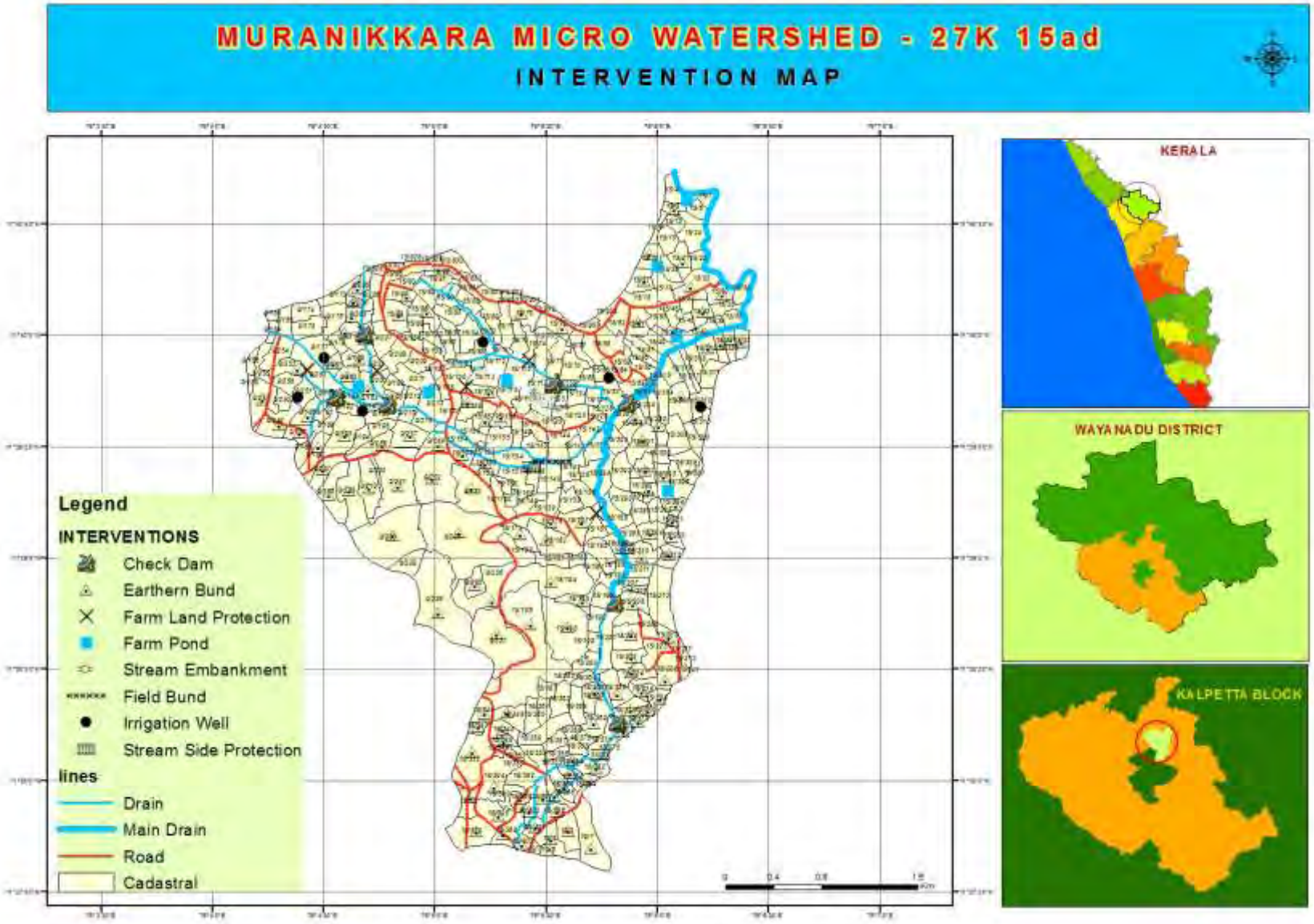
Sl. No.	Activities	1st Year	2nd Year	3rd Year	4th Year	IWMP Share	Total	WDF
A	**Natural Resources Management**							
I	**Earthen Bunding** - 54395 m3 - Rs 82 per Cubic Metre	**4,460,400**				**4,460,400**	**4,460,400**	**446,040**
II	**Farm Pond**							
1	Construction of Farm pond near Kathiri Hassan at mundakutty	350,000				350,000	350,000	35,000
2	Construction of Farm pond at Kumbalad near by Kamalakshi Pokkattu	170,000				170,000	170,000	17,000
3	Construction of Farm pond at Kumbalad near by Sunny Xavier	170,000				170,000	170,000	17,000
4	Construction of Farm pond at Kumbalad near by Girija kakkattukunnil	170,000				170,000	170,000	17,000
5	Construction of Farm pond at Madakkimala near Ramla Manalil	200,000				200,000	200,000	20,000
6	Construction of Irrigation pond at Thettupady near Appachan's paddy land	250,000				250,000	250,000	25,000
7	Construction of Farm Pond Renovation at Aneri near Raman Lalithalayam	200,000				200,000	200,000	20,000
	Total	**1,510,000**	**-**	**-**		**1,510,000**	**1,510,000**	**151,000**
III	**Stream Side Protection**							
1	Stream side protection near Alanthatta Colony	20,000				20,000	20,000	2,000

2	Stream embankment with bamboo at Muranikkara Thodu	75,000				75,000	75,000	7,500
3	Stream side protection near Edapetty Kuruma Colony	25,000				25,000	25,000	2,500
4	Stream embankment with bamboo at Cherunellur Thodu	75,000				75,000	75,000	7,500
5	Stream side protection at Padikkara thodu near by Chandra Babu	80,000				80,000	80,000	8,000
6	Steam embankment with Bamboo at Muranikkara Cherunelioor thodu	75,000				75,000	75,000	7,500
7	Stream side protection at Aavilidikunnu	300,000				300,000	300,000	30,000
	Total	**650,000**	**-**	**-**		**650,000**	**650,000**	**65,000**
IV	**Farm Land Protection**							
1	Farm Land protection near Moossa Chundappady, Nadakkal Gopalan, Mammad Alangadan		60,000			60,000	60,000	6,000
2	Farm land protction at Kindipara Paniya colony near Palan		50,000			50,000	50,000	5,000
3	Farm land protction at Madakkimala near Kalikutty		50,000			50,000	50,000	5,000
4	Farm Land protection near Muranikkara Paniya colony near Kunki, Kayama		110,000			110,000	110,000	11,000
5	Farm Land protection work near Kuthirakundu Madakkimala thodu		400,000			400,000	400,000	40,000

6	Farm Land Protection at Aneri Paniya Colony		110,000			110,000	110,000	11,000
	Total	**-**	**780,000**	**-**		**780,000**	**780,000**	**78,000**
V	**Check Dam**							
1	Construction of Check dam near Edapetty - Alanthatta Thodu			200,000		200,000	200,000	20,000
2	Construction of Check Dam near Alanthatta Mani			200,000		200,000	200,000	20,000
3	Construction of Chek dam near Vellambadi - Thirunellithodu near Balu			250,000		250,000	250,000	25,000
4	Construction of check dam at Cherunelloor Thodu near Sivadasan, Eliyas			500,000		500,000	500,000	50,000
5	Construction of check dam at Aloor thodu near Vettamoola Nalarajan Gouder, Muga Gouder			250,000		250,000	250,000	25,000
6	Construction of Check dam at Kumbathodu near by chandra babu's, Velayudhan's paddy land			200,000		200,000	200,000	20,000
7	Construction of Check Dam at Kuthirakundu-Madakkimala Thodu near Anandha Kurup			150,000		150,000	150,000	15,000
	Total	**-**	**-**	**1,750,000**		**1,750,000**	**1,750,000**	**175,000**
VI	**Irrigation Canal & Well**							
1	Construction of Irrigation well near Chakkilamkuzhi Rafeef, Pullissery Ali				250,000	250,000	250,000	25,000

2	Construction of Irrigation Canal near Cherunelloor old check dam				200,000	200,000	200,000	20,000
3	Canal repair at Kindipara Kuttirayan bridge				100,000	100,000	100,000	10,000
4	Irrigation canal formation at Kindipara vayal				250,000	250,000	250,000	25,000
5	Construction of Irrigation well at Kindippara near Nechiyan paddy field				200,000	200,000	200,000	20,000
6	Construction of Irrigation well at Avilidikkunnu near Nasar Ponnankodan				200,000	200,000	200,000	20,000
7	Irrigation Well at Aneri Mele Paloor Madom Paniya Colony				200,000	200,000	200,000	20,000
8	Renovation of Irrigation Well at Thazhe Aneri near Chandhu				50,000	50,000	50,000	5,000
9	Renovation of Irrigation Well at Aneri Paniya Colony				50,000	50,000	50,000	5,000
10	Construction of Irrigation well near Jalaludheen Chelanhjichal				250,000	250,000	250,000	25,000
	Total	**-**		**-**	**1,750,000**	**1,750,000**	**1,750,000**	**175,000**
VII	**Field Bund Protection**							
1	Field bund protection near Alanthatta colony to Narayanan Puthanpurayil		70,000			70,000	70,000	7,000
	Total	**-**	**70,000**	**-**		**70,000**	**70,000**	**7,000**
	Sub Total NRM	**6,620,400**	**850,000**	**1,750,000**	**1,750,000**	**10,970,400**	**10,970,400**	**1,097,040**
B	**Production System Management**							

I	Homestead Mixed Tuber Crop Cultivation - 200 Units - Rs 1875 per unit	93,750	93,750	93,750	93,750	375,000	375,000	37,500
II	Homestead Vegetable Farming - 205 Units - Rs 1875 per unit	103,125	93,750	93,750	93,750	384,375	384,375	38,438
III	Ghandhakasala Paddy Cultivation -22 Units - Rs 2050 per unit	14,350	10,250	10,250	10,250	45,100	45,100	4,510
IV	Biogas Plants (2 m3 Capacity)-25 Units - Rs 30001 per unit	210,007	180,006	180,006	180,006	750,025	750,025	75,003
V	Paddy Threshing Yard at Thettupady Vayal			404,500		404,500	404,500	40,450
	Sub Total PSM	**421,232**	**377,756**	**782,256**	**377,756**	**1,959,000**	**1,959,000**	**195,900**
C	**Livelihood Support System (9%)**							
I	Diary Unit - 50 units -Rs 30033 per unit	420,462	360,396	360,396	360,396	1,501,650	1,501,650	
II	Homestead Backyard Poultry - 26 units -Rs 10056 per unit	60,336	60,336	60,336	80,442	261,450	261,450	
	Sub Total LHS	**480,798**	**420,732**	**420,732**	**440,838**	**1,763,100**	**1,763,100**	
D	**Entry Point Activity**	**783,600**	**-**	**-**		**783,600**	**783,600**	
	Grand Total (A+B+C+D)	**8,306,030**	**1,648,488**	**2,952,988**	**2,568,594**	**15,476,100**	**15,476,100**	**1,292,940**


MURANIKKARA MICRO WATERSHED - 27K 15ad
INTERVENTION MAP
Legend
INTERVENTIONS
Check Dam
Earthern Bund
Farm Land Protection
Farm Pond
Stream Embankment
Field Bund
Irrigation Well
Stream Side Protection
lines
Drain
Main Drain
Road
Cadastral
KERALA
WAYANADU DISTRICT
KALPETTA BLOCK

CHAPTER - VII

CONVERGENCE

COVERGENCE UNDER IWMP III D I

INTRODUCTION

The policy decision to undertake convergence of different rural development schemes of the Government of India with Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) is one of the most significant steps towards comprehensive rural development. This will specifically help the Integrated Watershed Management Programme (IWMP) to reach its logical impact level with complementary funds from MGNREGS. Today, MGNREGS is the biggest programme of rural development in terms of scope and fund base. Other sectoral programmes relating to rural development with limited fund base can benefit immensely by converging with MGNREGS and in turn, can help MGNREGS fulfill its stated objective of providing assured wage employment to the rural poor along with creating rural infrastructure.

NEED FOR CONVERGENCE

a) Saturation approach and filling the fund gap: Watershed development involves treatment of natural resource base as well as creating meaningful livelihood opportunities. Thus there is a perceivable gap in demand for and supply of funds. Integrate Watershed Management Programme (IWMP) has been implemented throughout India since 2009-10 after the commencement of the new watershed guidelines, 2008. Prior to the Integrated Watershed Management Programme (IWMP), unit cost of a

watershed project was Rs. 6000 per hectare (approximately Rs.4500 was available for watershed treatment). Under IWMP, it has been increased to Rs. 12,000 - Rs. 15,000 per hectare depending upon the characteristic of the project area (out of the total project cost, 56% is available for watershed treatment, which amounts to Rs. 6700 to Rs. 8500). Though this increase is a great initiative, the amount is still not enough. According to a study conducted by ICRISAT (International Crops Research Institute for the Semi-Arid Tropics), scientific and holistic development of an area on watershed basis requires at an average Rs. 20,000 per hectare.

This gap can be filled by convergence with different other schemes of the government, especially, MGNREGS. MGNREGS, after becoming an act, is here to stay and has significantly large fund-base. Huge amount of fund can be released depending upon the requirement of the village community, and the labour budget. MGNREGS is very much open for convergence purpose; IWMP should take the opportunity and undertake all round development of the projects areas.

b) Covering 100% population of the project area: In earlier watershed projects, selective households got the benefits of the programme. So, a number of needy households had to be left out due to lack of sufficient funds. This can now be amended by covering all the needy households and all the needy survey numbers.

c) Holistic development: A watershed approach can be holistic when it is undertaken in three stages- (i) augmentation/conservation of natural resource base, (ii) building livelihood options based on the natural resource augmentation and then (iii) establishing linkages for sustaining the activities taken up. It requires integration with different agencies working on rural development and convergence with other schemes.

d) To stop duplication of works: Since a number of departments of the government are working for rural development and carry out similar kinds of activities, it is often observed that works are being duplicated. To stop this duplication, proper convergence of projects should be done at project implementation level.

e) Post project management: For long term benefit from a watershed development programme, appropriate post-project management has to be in place. It involves largely repair and maintenance of structures made under the programme. This in turn requires substantial money after the project period. Post- project management can be smooth if convergence takes place with a programme like MGNREGS.

SCOPE FOR CONVERGENCE

a) Water conservation and water harvesting

b) Drought proofing, including afforestation and plantation

c) Irrigation canals, including micro and minor irrigation works

d) Provision of irrigation to poor households

e) Renovation of traditional water bodies

f) Land development

g) Flood control and protection works

h) Rural connectivity

A look at the above permissible works shows that most of the watershed works under IWMP can be taken up under MGNREGS.

STRATEGY FOR CONVERGENCE

For facilitating the process of convergence, committees at different levels (state, district and Block) representing different departments can be formed. These committees oversee the planning process. The following steps can include in the process of convergence for its effectiveness:

- Issuing required circulars
- Regular information sharing mechanism
- Common workshops and training programmes
- Sharing of human resources
- Supplying GIS based thematic maps to the functionaries and the villagers
- Establishing consortium of institutions

INSTITUTIONAL MECHANISM FOR CONVERGENCE

Under IWMP micro-planning is done at village/project level by the Watershed Development Team (WDT) and Watershed Committee together. After net planning (process is briefly discussed below), the convergence plan is shared with the concerned responsible authority at Block level, which then goes to the district level for approval. For example, once the activities for convergence with MGNREGS are identified, it is placed before the Gram Sabha for approval. This approved plan then moves through the Block Panchayat to the district level where it is approved and incorporated in the Labour Budget of MGNREGS for the district.

Planning for convergence will be much more comprehensive if done in the above manner. So, we can decide to undertake a number of pilot projects in the area. This has been done in collaboration with the IWMP.

CONVERGENCE PLANNING OF IWMP

IWMP gives utmost importance to convergence. This has been made mandatory by making convergence an integral part of every Detailed Project Report (DPR). Necessary circulars have been issued to the district levels regarding the same. While preparing the DPR, the project management team has to study the total fund requirement of the village or the project area.

As stated above, the DPR preparation process is comprehensive enough to estimate the total fund requirement of the village; because it ensures every household and each survey number is surveyed. Once the survey and the net planning are completed, the physical measures required are converted into financial figures. Thus the total financial requirement comes into picture.

The gap in fund requirement is calculated by deducting the funds available from the funds required. The Watershed Committee and the Watershed Development Team then identify options for convergence.

ACTIVITES CAN BE TAKEN UP FOR CONVERGENCE IN IWMP III D I

1. Construction and renovation of check dams
2. Deepening and desilting of ponds
3. Extension and renovation of existing irrigation projects
4. Flood protection works
5. Lift irrigation works
6. Construction of new drains and renovation of existing drains
7. Construction and maintenance of other NRM works such as earthen bunding, stone pitched bunding, staggered trenching, centri pit trenching etc.

CHAPTER – VIII

ANNUAL ACTION PLAN

Annual Action Plan - IWMP II F I

Sl. No.	Name of Activity	Name of Sub activity	Unit	Target									
				First Year		Second Year		Third Year		Fourth Year		Total	
				Physical	Financial	Physical	Financial	Physical	Financial	Physical	Financial	Physical	Financial
I	Land Development	Afforestation	ha									0	0
		Horticulture	ha									0	0
		Agriculture	ha									0	0
		Pasture	ha									0	0
		Others	ha									0	0
II	Soil & Moisture Conservation	Straggred trecnching	ha									0	0
		Countour Bunding	ha	110	9398000							110	9398000
		Graded Bunding	ha									0	0
		Bench Terracing	ha									0	0
		Others	ha	1107	7716000	435	3921000	150	1007000	90	702000	1782	13346000
III	Vegetative and Engineering Structure	Earthen Checks	Cubic meter									0	0
		Brushwood Checks	Rmt									0	0
		Gully plugs	Cubic meter									0	0

		Loose bolder	Cubic meter									0	0
		Gabian structure	Cubic meter									0	0
		Others	nos									0	0
IV	Water Harvesting Structure (New created)	Farm ponds	nos	23	4745000	10	1900000					33	6645000
		Check dams	nos					11	2388800	17	3450000	28	5838800
		Nallah Bunds	nos									0	0
		Percolation tanks	nos									0	0
		Ground Water recharge structure	nos									0	0
		Others	nos	16	1499200	10	2595000	5	735000	13	2450000	44	7279200
	Water Harvesting Structure (Renovated)	Farm ponds	nos	5	563000							5	563000
		Check dams	nos							3	400000	3	400000
		Nallah Bunds	nos									0	0
		Percolation tanks	nos									0	0
		Ground Water recharge	nos									0	0

		structure											
		Others	nos									0	0
V	Livelihood activities for the asset-less persons	No. of farm activities	nos	2		2		2		2		2	0
		No. of Beneficiaries	nos	104	1869628	102	1809562	102	1809562	85	1497498	393	6986250
		No. of off farm activities	nos									0	0
		No. of Beneficiaries	nos									0	0
VI	Production system &micro-enterprises	Area	ha									0	0
		No. of Beneficiaries	nos	579	1858117	569	2254141	369	2219141	545	1431101	2062	7762500

CHAPTER – IX

WATERSHED DEVELOPMENT FUND

WATERSHED DEVELOPMENT FUND

One of the mandatory conditions for selection of villagers in Watershed Development Programme is people's contribution towards Watershed Development Fund (WDF). The contribution to WDF shall be a minimum 10% of the cost of works executed in individual lands. However, in case of SC/ST and persons identified below the poverty line, the minimum contribution shall be 5% of the cost of works executed on their lands. Contribution to the Fund in respect of community properly may come from all the beneficiaries, which shall be a minimum of 5% of the development cost incurred. It should be ensured that the contribution comes from the beneficiary farmers and is not deducted from the wages paid to the laborers who are engaged to treat the private lands. These contributions would be acceptable either in cash/voluntary labor or material.

A sum equivalent to the monetary value of the voluntary labour and materials would be taken from the watershed project account and deposited in this Fund. The Watershed Committee shall maintain the Watershed Development Fund separately. The Chairman and Secretary, Watershed Committee will operate the WDF account jointly, Individuals as well as charitable institutions should be encouraged to contribute generously to this Fund. The proceeds of this Fund shall be utilized in maintenance of assets created on community land or for common use after completion of project period Works taken up for individual benefit shall not be eligible for repair/maintenance out of this Fund.

User Charges

The Watershed Committee shall impose user charges on the User Groups for use of common utilities like water for irrigation from village tanks/ponds, grazing from community pastures etc. While one – half of the user charges so collected may be credited to the WDF for maintenance of assets of the projects, the remaining one –half may be utilized by the Watershed Committee for any other purpose as it may deem fit.

CHAPTER – X

EXPECTED OUTCOME

EXPECTED OUTCOMES

Increase in good quality water harvesting structure:

In all the watershed areas in the project there are good quality water harvesting structures have proposed for irrigation and drinking purpose of the watershed community.

Reduction in soil erosion:

There will be a reduction in soil erosion in the watershed areas. However, the variation in the percentage of reduction primarily depended on quality of soil and moisture conservation activities in the respective regions.

Increase in ground water level:

There will be a marginal increase in ground water level after the completion of the soil and water conservation measures such as earthen bunding, staggered trenching, stone pitched bunding etc. in the project.

Maintaining runoff reduction:

With the help of soil and water conservation measures such as earthen bunding, staggered trenching, stone pitched bunding etc. we can reduce the level of runoff in the project area.

Positive change in the land use pattern:

There will be a positive change in the land use pattern after the implementation process of the project. More waste land will converted for productive use by the farmers. This will result in the increase in net sown area in majority of the micro watersheds. Further, better land use pattern will help increase in agricultural intensification and thus enhance agricultural production.

Crop diversification increases:

Increase in crop diversification will result out of more irrigation facilities available in the watershed areas. However, the concern is that the people invest more in good class of land. The investment in low quality land has not received much attention.

Reducing the workload of women:

Watershed development programmes will result positively in reducing the workload of women in terms of fetching drinking water, collecting fuel wood and fodder for livestock in almost all the watershed areas.

Increase in active involvement of the community

The Watershed Committees are actively involved in the implementation of watershed programmes. NHGs are formed in all the watersheds, and their degree of involvement increase. The NHGs will visible in watershed activities after completion of the project. Some other NHGs, SHGs and UGs seem to have survived after withdrawal of the project. It was realized that

participation of local community member is key to success of the watershed projects. Participation also enhances community empowerment. The participation of beneficiaries in planning and execution of the watershed is more appreciable.

Reduction in Migration:

Migration will mostly reduce during the project implementation stage. But further attempt is necessary to stop migration completely.

Increase in women participation:

The women participation is very much adequate in watershed programmes. Mostly, women lack in mobility, voice in decision making at home or in community. Same is the case with landless members. This issue will be reduce and involve the women community in the project at its maximum especially in livelihood programmes.

Improvement in the standard of living of the households:

Majority of the households across all the watershed areas will have significant improvement in their standard of living.

Summarize Table of Expected Outcomes

Sl. No.	Item	Unit of measurement	Pre-project Status	Expected Post-project Status	Remarks
1	Status of water table (Depth to Ground water level)	Meters	8	10	Open well in the middle reach
2	Quality of drinking water	-	Moderate	Safe	Increased availability of drinking in open wells
3	Availability of drinking water	months	8 months	12 months	Through insitu conservation of rain water
4	Increase in irrigation potential	ha.	-	250 ha	Through renovation and construction of water bodies, new farm ponds.
5	Change in cropping/ land use pattern	ha.	128 ha.(Mono)	180 ha(Mixed)	Gross cropped area
6	Area under agricultural crop				
	Area under single crop	ha.	128 ha.(Mono)	180 ha(Mixed)	Mixed cropping and 2 tier cropping system in Plantation areas
	Area under double crop	ha.	-	25 ha	Paddy , Banana and vegetable in winter.
	Area under multiple crop	ha.	-	20 ha	Mixed cropping and 2 tier cropping system in Plantation areas
	Net increase in crop production area	ha.	100 ha	200 ha	Through cultivation of food crops such as tubers and vegetables
7	Increase in area under vegetation	ha.	3600 ha	5175 ha	Through area treatments which enables the stability of soil moisture

8	Increase in area under horticulture	ha.	50 ha	100 ha	Plantation of horticulture crops
9	Increase in area under fuel	ha.	40 ha	100 ha	Reduction in tree loping
10	Increase in area under Fodder	ha.	150 ha	300 ha	Through fodder cultivation as the agrostological measure on bunds
11	Increase in milk production	Liters/ Day	5	10	Importing improved varieties of milch animals
12	No. of SHGs Promoted	nos.	-	350	Through new formation
13	Increase in no. of livelihoods	nos.	-	500	Assistance for Milch cow rearing and backyard Poultry
14	Increase in income	Rs.	25000	30000	Average Annual income of the households
15	Migration	%	50% of total laborers	30% of total laborers	Through employment generation by labour oriented works and providing alternate livelihood option.
16	SHG Federations formed	nos.	-	7	Uniting all the SHG under IWMP IVH 5
17	Credit linkage with banks	%	-	100% of formed SHGs	Credit linkage of SHGs with banks for group activities
18	WDF collection & management	Rs.	-	5433750	Contribution by the beneficiaries for different activities in private lands.
19	Employment	nos.	-	85000	85000 nos of man days will be generated during the project period through different activities in the project area.

CHAPTER – XI

EXIT PROTOCOL

EXIT PROTOCOL

The last two years are the Consolidation and Withdrawal Phase of the Watershed development programme. This is the crucial phase of the project as the local institutions will be trained to manage the project independently after withdrawal of the Government Institutions from the project area.

The activities those will be under taken during this phase are:

1. Completion of various works under taken during work phase.
2. Consensus among the villagers to take up any new works out of any unspent amount.
3. Preparation of Project completion report with details about status of each asset.
4. Documentation of successful experiences as well as lessons learnt for future use.
5. Evolving mechanisms to improve the sustainability of various interventions made in the project area.
6. Formulation of mechanisms for allocation of user right over common property resources.
7. Formulation of mechanisms to collect user charges for common property resources.
8. Creation of awareness and building capacity of the community to repair, maintain and protection of common property resources.
9. Training the user groups for optimum utilization of the developed natural resources.

10. Up scaling of successful experiences related to farm production system and off-farm livelihood activities undertaken through revolving fund under the project as well as credit and technical support from external institutions.
11. Evolving marketing arrangements of the farm produce as well as the off- farm and other micro enterprises.
12. Formation of Farmers' Federation for credit, input procurement, sale of local produce etc.
13. Forward and backward linkage of the SHGs and User groups for sustainable livelihoods.
14. Formulating mechanisms for empowering Watershed Committee and its smooth management in a long run.
15. Formulating mechanism for utilizing the Watershed Development Fund.

Withdrawal Mechanism:

At the end of the project, The Watershed Committee is to take the responsibility for post project management. For which the Memorandum of Agreement is to be formulated between the PIA and Watershed Committee basing on the following terms and conditions.

1. The list of assets created under EPA, NRM, Farm production system and Livelihood support system is to be prepared with joint signature of the Chairman, Secretary of the Watershed committee and PIA. The Watershed Committee will retain one copy of the list for future reference.
2. The amount lying unspent as on closing date will be transferred to the Watershed Development Fund.
3. Watershed Committee will be authorized to use only one Bank account i.e. WDF account.
4. Yearly auditing of the accounts by the Chartered Accountant will be mandatory and to be adhered strictly.

5. The office bearer of the Watershed Committee shall involve all the community irrespective of caste, creed and religion.
6. The Gram Sabha shall have the right to decide the user charges to be collected from the beneficiaries which shall be deposited under the watershed development fund.
7. The cost of repair and maintenance of the assets created out of NRM component shall be borne out of Watershed development fund by using maximum 50% of the amount collected in a year.
8. The WDF account will primarily run as revolving fund.
9. No individual beneficiary should be granted any sort of grant or financial assistance in any form.
10. The SHGs and UGs shall have the eligibility to take loan from the WDF with marginal interest as decided by Gram Sabha.
11. The Watershed Committee is also at their liberty to start new profit making ventures by utilizing WDF as security deposit and the profit earned should go to the WDF.
12. The remuneration for the Watershed secretary will be finalized in the Gram Sabha.
13. The Watershed Committee may collect financial assistance from any other sources to augment the WDF. All donations, interests, fines and fees shall be deposited in the WDF.
14. The WDF shall be jointly operated by the Chairman and Secretary of the watershed committee.
15. All the expenditure shall be authenticated by the Watershed committee.

16. Annual meeting of the Gram Sabha is mandatory. However it may meet at any time if required.
17. The Watershed Committee should meet in every quarter to review the income and expenditure.
18. Any change in the Watershed Committee or its office bearer shall be made once it is resolved in the Gram Sabha. The Gram Sabha should believe in rotational leadership.
19. All the group representatives, at least one from each group shall be ensured in the Watershed Committee.
20. The decision approved and resolved in the Gram Sabha will only be implemented by the Watershed Committee.
21. In case of any embezzlement of fund, the Administrative system shall proceed according to Rules and Laws.
22. In the event of Gram Sabha and watershed Committee become defunct, the assets created under the project and WDF will be transferred to the Panchayat.

Conclusion

Watershed development programmes are one of the most popular development programmes implemented across the country. It is widely admitted that watershed development programmes are seen as the panacea. This programme has been directed towards the promotion of overall economic development and improvement of the socio-economic conditions of the resource poor sections of people inhabiting the programme areas through natural resource enhancement. Over the years there is much visible impact of watershed development programmes among different communities across various regions.

Water and soil management for more sustainable use of water resources should be considered in two aspects, water quality and quantity because both farmers and consumers are concerned about environment impacts derived from water consumption by agriculture. Therefore, it will be very important to protect water resources from pollution for the supply of water of high quality or to give a right direction for sustainable water use. As for water quantity, policies should be frame to raise the agricultural land in order to reduce a potential risk of soil erosion. For example, it needs to encourage farmers to maintain the shape of the paddy field though the field is idled without cropping. A national project to promote the construction of basic facilities for conservation practices that can reduce soil erosion and run-off will be also available. Watershed management is one of the best strategies for sustainable use of water to maintain the dykes and shapes of farm lands without the destruction of arable land for the construction of facilities not having water storage capacity such as roads, houses and industrial complexes. Conclusively, we think that the first step in order to minimize water scarcity and to acquire water resource for sustainable use is to compartment the watershed based on topographical characteristics of land and species of mother locks, and the second is to seize soil erosion within the watershed, the third is to identify alternate sources, the forth is to categorize land use pattern. The fifth is to assess runoff, drainage in farm land and soil erosion potential in non-paddy land and the sixth is to determine soil conservation practices depending on soil erosion grade in each field of land. The last one is to apply appropriate management practices for water, soil and biomass in each field.