

INTEGRATED WATERSHED MANAGEMENT PROGRAMME (IWMP III /2013-14 ALAPPUZHA)



DETAILED PROJECT REPORT

BHARANIKKAVU BLOCK PANCHAYATH

2014 AUGUST

TECHNICAL SUPPORT BY



Centre for Socio-economic and Environmental Studies(CSES)

Khadi Federation Building, NH Bye-Pass, Padivattom, Kochi- 682 024,
Kerala, India. Tel: 91-484-2805107, Telefax:91-484-2808108
url: www.csesindia.org

Integrated Watershed Management Programme (IWMP)



Detailed Project Report (DPR)

IWMP III/2013-14

Bharanikkavu Block Panchayath

Technical Support Organization



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Khadi Federation Building, NH By-Pass, Padivattom, Kochi - 682 024, Kerala, India

Tel: +91-484-2805107, 2805108 Email: cses@dataone.in Url: www.csesindia.org

Study Team

Jayan K.M.

Bibin Thambi

K.K. Krishnakumar

Ajith P A

Sinu Joseph

Dinoop K K

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ABBREVIATIONS

APL	Above Poverty Line
AAP	Annual Action Plan
ATMA	Agricultural Technology Management Agency
BLCC	Block Level Co-ordination Committee
BPL	Below Poverty Line
BRGF	Backward Regions Grant Fund
CEO	Chief Executive Officer
CSES	Centre for Socio-economic and Environmental Studies
DLCC	District Level Co-ordination Committee
DPC	District Planning Committee
DPR	Detailed Project Report
EPA	Entry Point Activities
FGD	Focus Group Discussion
GIS	Geographic Information System
GP	Grama Panchayat
GW	Ground Water
IEC	Information, Education and Communication
IT	Information Technology
IWMP	Integrated Watershed Management Programme
LFA	Logical Framework Analysis
LSGD	Local Self Government Department
LSGI	Local Self Government Institutions
LSS	Livelihood Support System
MCM	Million Cubic Meters
MGNREGS	Mahatma Gandhi National Rural Employment Guarantee Scheme
MLA LAD	Member of Legislative Assembly Local Area Development scheme
MoU	Memorandum of Understanding
MPLAD	Member of Parliament Local Area Development
MSL	Mean Sea Level
NABARD	National Bank for Agriculture and Rural Development
NGO	Non-Governmental Organization
NRAA	National Rainfed Areas Authority
NRHM	National Rural Health Mission
NRM	Natural Resource Management
OBC	Other Backward Caste
PIA	Project Implementing Agency
PRA	Participatory Rural Appraisal
PRIs	Panchayati Raj Institutions

PS&M	Production System and Microenterprises
SC	Scheduled Caste
SHG	Self Help Group
SLNA	State Level Nodal Agency
SPSP	State Perspective and Strategic Plan
ST	Scheduled Tribe
TSO	Technical Support Organisation
UG	User Group
VEO	Village Extension Officer
WC	Watershed Committee
WCC	Watershed Co-ordination Committee
WCDC	Watershed Cell cum Data Centre
WDT	Watershed Development Team
WW	Women Welfare

INTRODUCTION

The Integrated Watershed Management Programme (IWMP), initiated by the Ministry of Rural Development (MoRD), Government of India, is a unique watershed programme calling for multidisciplinary approach to natural resource management for ensuring continuous benefit on a sustainable basis. Watershed Management brings about the best possible balance between natural resources on the one side and human beings on the other. IWMP not only helps in land, water and biomass management of degraded areas but also in the conservation of the protected areas so that biodiversity and genetic resources are available for future generations. The programme is implemented through Panchayati Raj Institutions thereby ensuring people's participation in different stages such as planning, implementation, monitoring, evaluation and post project activities.

Project Background

Bharanikkavu (IWMP batch III) project is located at Bharanikkavu block panchayat in Mavelikkara Taluk of the Alappuzha district in Kerala. The project comprises of eight micro-watersheds namely *Cheethazha WS (8P5a)*, *Cherupallam WS (8P6a)*, *Vallikunnam WS (8P6b)*, *Kannanchaal WS (8P6c)*, *Chathiyara Puncta WS (8P7a)*, *Chathiyara Puncta Nadumthodu WS (8P7b)*, *Palamkuzhi Thodu WS (8P7c)*, *Chooralvayal WS (8P8b)*. The details of the project area is given below. There are 19208 households in the project area and the total population is 76574. The total cost of the project is Rs.650.52 lakhs. All the eight microwatersheds are the catchment area of Pallickal Thodu. The project area lies in between the longitudes of 76°32'26.88"E to 76°40'26.88"E and latitudes of 9°8'2.4"N to 9°10'10.2"N

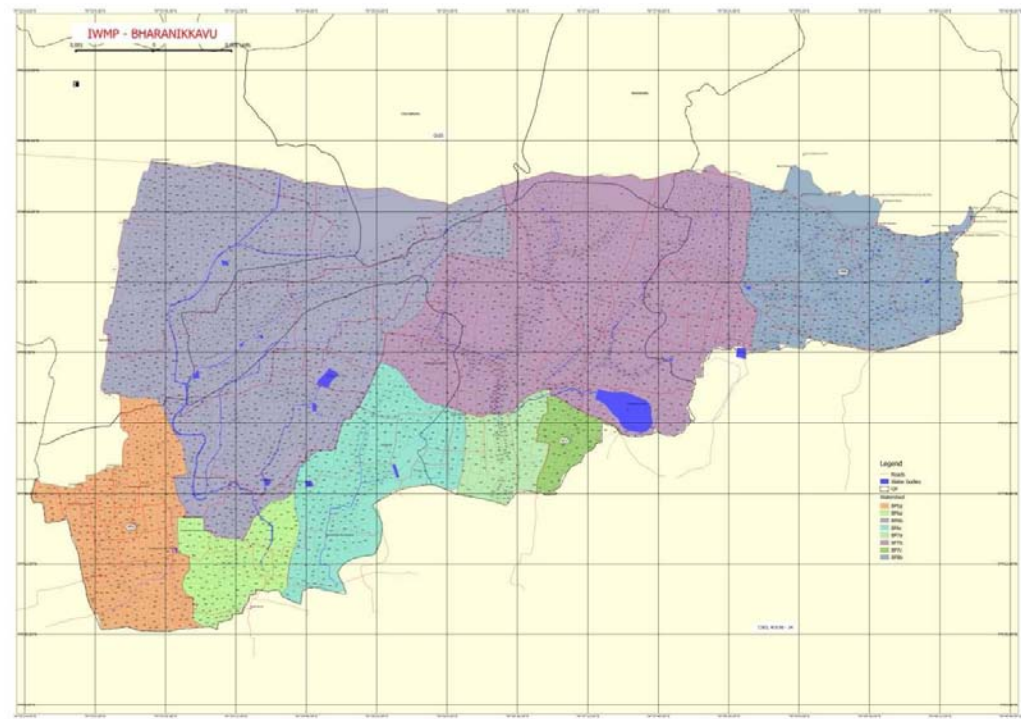
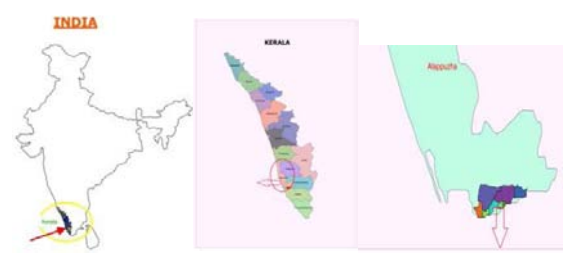
Table: 1: Project Back Ground of IWMP III/2013-14

Location	Micro Watersheds		GP	Wards		Total Area (in ha)	Treatable Area (in ha)	Project Amount (in Lakh)
	WS	Code No.		Full	Partial			
State: Kerala, District- Alappuzha Taluk: Mavelikkara, Block: Bharanikkavu	Cheethazha	8P5a	Vallikunnam	14,15,16,17	1,2,13,18	594.1	584.32	70.1184
			Bharanikkavu	-	13			
	Cherupallam	8P6a	Vallikunnam	12	10,13	169.51	169.51	20.3412
	Vallikunnam	8P6b	Vallikunnam	3,4,5,6	1,2,11,7	1920.01	1733.51	208.0212
			Bharanikkavu	8,9,10	11,12			
			Thamarakkulam	1,2,3	4			
			Chunakkara	-	9			

Table: 1.1 Continues

Location	Micro Watersheds		GP	Wards		Total Area (in ha)	Treatable Area (in ha)	Project Amount (in Lakh)
	WS	Code No.		Full	Partial			
State: Kerala, District- Alappuzha Taluk: Mavelikkara, Block: Bharanikkavu	Kannanchal	8P6c	Vallikunnam	8,9	10,7	509.12	423.65	50.838
			Thamarakkulam	-	14,15			
	Chathiyara Puncha	8P7a	Thamarakkulam	12	14	174.77	174.77	20.9724
	Chathiyara Puncha Nadumthodu	8P7b	Thamarakkulam	5,6,7,8,9,10,13,16,17	15,4	1785.11	1575.42	189.0504
			Palamel	16	1,15,17,18,19			
			Nooranad	-	10			
	Palamkuzhithodu	8P7c	Thamarakkulam	11	-	57.33	57.33	6.8796
Chooralvayal	8P8b	Palamel	11,13,14	3,4,9,12,10,15,17,18,19	812.59	702.49	84.2988	
Total						6022.55	5421	650.52

Location Map



Physiography, Relief and Drainage

Project area is in the agroclimatic zone of Southern Midland with a maximum base in relief from 1 metre to 17 metres and maximum relief from 20 to 68 metres. Topographically the area is nearly level to very gently sloping. A number of drainages and streams enriching the project area and drain to Pallickal thodu.

Table 2: Physiography

Name of Project	Physiography	Maximum Relief (M)	Maximum Base in Relief (M)	Slope Range(%)	Major Drainage
IWMP III/2013-14Bharanikkavu	Midland	20 to 68	1 to 17	Nearly level to very gently sloping	Pallickal Thodu

Criteria for Selection of the Project

The scores and criteria for selection of the watershed management programme is given in Table 3. The weightage under different criteria for IWMP III/2013-14 Bharanikkavu watershed is given in Table 4

Table 3: Criteria for selection of the project

No	Criteria	Maximum Score	Ranges & scores			
i	Poverty index (% of poor to population)	10	Above 80 % (10)	80 to 50 % (7.5)	50 to 20 % (5)	Below 20 % (2.5)
ii	% of SC/ ST population	10	More than 40 % (10)	20 to 40 % (5)	Less than 20 % (3)	
iii	Actual wages	5	Actual wages are significantly lower than minimum wages (5)	Actual wages are equal to or higher than minimum wages (0)		
iv	% of small and marginal farmers	10	More than 80 % (10)	50 to 80 % (5)	Less than 50 % (3)	
v	Ground water status	5	Over exploited (5)	Critical (3)	Sub critical (2)	Safe (0)
vi	Moisture index	15	-66.7 & below (15)	-33.3 to -66.6 (10)	0 to -33.2 (0)	
	DPAP/ DDP Block		DDP Block	DPAP Block	Non DPAP/ DDP Block	Above 70 % (Reject)
vii	Area under rain-fed agriculture	15	More than 90 % (15)	80 to 90 % (10)	70 to 80% (5)	Fully covered (0)

viii	Drinking water	10	No source (10)	Problematic village (7.5)	Partially covered (5)
ix	Degraded land	15	High – above 20 % (15)	Medium – 10 to 20 % (10)	Low-less than10% of TGA(5)
x	Productivity potential of the land	15	Lands with low production & where productivity can be significantly enhanced with reasonable efforts (15)	Lands with moderate production & where productivity can be enhanced with reasonable efforts (10)	Lands with high production & where productivity can be marginally enhanced with reasonable efforts(5)
xi	Contiguity to another watershed that has already been developed/ treated	10	Contiguous to previously treated watershed & contiguity within the micro watersheds in the project (10)	Contiguity within the micro watersheds in the project but non contiguous to previously treated watershed (5)	Neither contiguous to previously treated watershed nor contiguity within the micro watersheds in the project(0)
xii	Cluster approach in the plains (more than one contiguous micro-watersheds in the project)	15	Above 6 micro-watersheds in cluster (15)	4 to 6 micro watersheds in cluster (10)	2 to 4 micro watersheds in cluster (5)
	Cluster approach in the hills (more than one contiguous micro-watersheds in the project)		Above 5 micro-watersheds in cluster (15)	3 to 5 micro watersheds in cluster (10)	2 to 3 micro watersheds in cluster (5)

Table 4: Scores as per SPSP

Name of Project	Score													Total
	i	ii	iii	iv	v	vi	vii	viii	ix	x	xi	xii	xiii	
IWMP 3	5	3	0	10	0	0	9	5	5	10	5	10	0	62

Major Reasons for Selection of Watershed

- Water scarcity and insufficient irrigation system
- Low productivity of land

- Strong presence of SC/ ST, BPL families and marginal farmers
- Poor adaptation to climate change

Climate

Rainfall

The project area experiences humid tropical climate with a bountiful rainy season through the northeast and southwest monsoons and severe summer. The hot season is from March to May and it is followed by South West monsoon season from June to September. South west monsoon contributes the major part of the annual rainfall. Average annual rainfall is 2920mm. There is no drought or dry spells. The South-West monsoon contributes nearly 59% of annual rainfall followed by 21% of North-East monsoon. Summer showers contribute remaining 20%. The humidity is higher during the monsoon period (from June to September).

Table 5: Annual Rainfall from 1997 to 2010

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
1997	0	2.2	79.2	169.7	49	473.5	845	460	554	359	179	198	3368.6
1998	28	0	7.4	123	195.2	795.5	386	608.1	699.9	466.9	55.4	150.4	3515.8
1999	0	0	36	335.8	507.3	759.9	445.4	266.5	130.9	690.5	161.7	0	3334
2000	20	176.4	72	90.4	128.4	608.2	234.5	549.7	301	243.8	121	41	2586.4
2001	81.7	63.6	13	177.6	368.6	627.6	845	248	426.2	340.8	95.2	14.2	3301.5
2002	0	3	22.2	96.2	445.7	568.6	220.2	375.6	85	448.5	302	0	2567
2003	0	59	60	161.7	110.4	504.2	430.2	345.2	93.8	496.9	95.4	0	2356.8
2004	3.8	0	53.4	100.4	827.8	519.8	324	306.5	195.8	508.5	253	0	3093
2005	16.4	63.6	37.4	200.2	206.8	602.6	451.7	132.1	312.8	251.2	119.4	73.4	2467.6
2006	43	0	46	107.4	511	505.5	430.4	309.2	349.1	407.6	188.2	0	2897.4
2007	0	22.2	3.6	200.4	264.4	596.9	861.3	418.8	363.4	279.7	168	13	3191.7
2008	0	60	200.9	145.8	62	392.8	641.5	236.8	273.1	308.9	171	8.8	2501.6
2009	0	0	78.2	99.1	286.7	629.9	563.8	207	214.4	165.7	299.2	97.2	2641.2

2010	23.4	0	42.2	191.8	346.5	537.4	469.4	253.2	253.6	561.4	241.8	131	3051.7
Average during 1997 to 2010	15	32	54	157	308	580	511	337	304	395	175	52	2920
Share of different seasons 1997-2010 (%)	20 Jan-May					59 (June-Sept)				21 (Oct-Dec)			100

Source: Agriculture Contingency Plan, National Initiative on Climate Resilient Agriculture (NICRA)

Temperature

The minimum temperature ranges from 22.0⁰ C to 24.5⁰ C whereas the maximum temperature ranges from 29.1⁰ C to 33.1⁰ C. Hottest month is April and coldest is January.

Table 6: Monthly Mean Temperature during 2002 - 2011(° C)

Year		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2002	Min	22.6	23.2	24.1	25.1	24.2	23.2	22.9	22.6	23.3	22.9	23.1	22.1
	Max	32.2	32.0	33.5	33.6	31.7	29.5	29.4	29.0	30.8	31.9	31.9	33.2
2003	Min	22.0	23.4	23.9	24.9	24.6	22.8	21.7	22.1	22.1	22.1	22.3	20.6
	Max	32.6	33.0	34.0	34.1	32.9	30.8	28.8	29.5	30.7	31.3	32.2	32.6
2004	Min	20.7	21.7	23.6	23.5	22.1	22.0	21.5	21.3	22.0	21.6	21.6	20.9
	Max	32.0	34.2	34.0	33.7	30.1	29.7	29.3	28.9	30.8	30.8	32.3	32.9
2005	Min	23.8	23.8	25.5	23.7	24.1	21.9	21.3	22.6	23.9	23.7	23.7	23.1
	Max	32.6	32.9	32.8	32.9	33.6	30.4	29.2	30.4	29.7	31.1	31.2	31.2
2006	Min	22.4	22.8	24.7	25.7	24.9	23.8	22.7	23.0	23.2	23.1	22.9	21.8
	Max	32.1	32.4	32.7	33.1	32.1	30.5	29.1	29.2	30.0	30.4	30.9	32.1
2007	Min	21.6	22.5	24.9	24.5	25.0	23.0	22.0	22.4	22.9	22.9	22.7	22.1
	Max	31.8	31.7	32.5	32.8	32.3	29.2	28.4	29.1	30.0	30.9	31.4	32.1
2008	Min	21.2	22.8	22.7	23.6	24.2	23.0	22.2	22.6	22.9	22.9	22.8	22.0
	Max	31.9	31.2	31.6	31.8	32.1	30.0	29.0	29.5	30.3	31.1	31.1	32.0
2009	Min	20.5	22.2	23.6	24.7	24.3	23.2	22.5	22.8	23.0	23.6	23.0	22.7

	Max	32.8	32.4	33.1	33.3	32.1	30.7	29.8	30.5	30.1	31.7	32.3	32.8
2010	Min	21.9	23.2	24.6	24.4	24.2	23.6	23.1	24.3	24.6	24.3	24.6	23.7
	Max	32.2	32.8	34.2	34.0	33.0	30.2	29.1	28.3	29.3	30.4	30.4	30.8
2011	Min	23.0	23.1	24.9	24.5	25.7	24.2	23.3	23.1	23.0	23.9	23.1	22.5
	Max	31.5	31.6	32.7	32.8	32.6	30.9	29.3	29.2	29.6	31.6	31.5	32.2

Source: Indian Meteorological Department, for Alappuzha, Thiruvananthapuram.

Wind

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

Table 7: Wind Speed

Month	Wind Speed (m/s)				
	2009	2010	2011	2012	2013
January	0.4	NA	0.6	0.4	0.4
February	0.7	0.4	0.7	0.5	0.4
March	0.5	0.6	0.7	0.8	0.7
April	0.5	0.6	0.6	0.7	0.7
May	NA	0.7	0.6	0.8	0.7
June	NA	0.5	0.6	NA	NA
July	0.5	0.6	0.6	0.7	0.8
August	0.6	0.7	0.6	0.6	0.9
September	0.7	0.5	0.5	0.5	
October	NA	0.6	0.5	0.3	
November	NA	0.4	0.3	0.4	
December	NA	0.4	0.4	0.3	

Source: Agrometeorological Observatory, Agricultural Research Station, Thiruvalla

Humidity

The humidity is higher during the monsoon period, June to September. It is around 84% at Kayamkulam. All through the year, the humidity is high during the morning hours.

Geology

As per geological survey of India the project area falls in the following geological categories.

1. Undifferentiated fluvial/Coastal Sediments and pebble beds (Q) - Quarternary,
2. Warkalli Formation (N12w) – Tertiary,

3. Laterite (Czl) – Undifferentiated Calnozoic.

Ground Water

Ground water is mainly extracted through open dug wells and bore wells. Open dug wells are the main drinking water resources in the watershed area. There are 16358 open dug wells, 749 bore wells and 620 ponds are existing in the project area. Depth of the open dug ranges between 2m to 20m from the ground level and the diameter between 1.75 m to 3.50m. The open dug wells in hilly area will dry up during summer season. In 6.69% of the total open dug wells, the water availability duration is less than 6 months. Water availability duration is up to 11 months in 47.35% open wells. 45.96% open dug wells are providing drinking water throughout the year. Details of the water sources in the project area are given in the following tables.

Table 8: Number of water sources in the project area

Watershed	Bore well	Pond	Open Well
8P5a	174	78	1855
8P6a	5	12	475
8P6b	180	128	4514
8P6c	4	18	1122
8P7a	55	0	689
8P7b	130	339	4760
8P7c	0	1	411
8P8b	201	44	2532
Total	749	620	16358

Source: Baseline Survey

Table 9: Water availability in Open Well

Watershed	Less than 6 months	6 to 11 months	Throughout the year	Total
	Count	Count	Count	Count
8P5a	63	1089	703	1855
8P6a	2	228	245	475
8P6b	256	1741	2517	4514
8P6c	37	676	409	1122
8P7a	22	372	295	689
8P7b	213	2422	2125	4760
8P7c	5	360	46	411
8P8b	496	858	1178	2532
Total	1094	7746	7518	16358

Source: Baseline Survey

Table 10 : Ground Water Resource of Bharanikkavu Block as on 31st December 2004

Total Annual GW recharge (MCM)	57.65
Natural discharge during non-monsoon season(MCM)	5.77
Net annual GW availability(MCM)	51.88

Existing gross ground water draft for irrigation (MCM)	5.29
Existing gross ground water draft for domestic & industrial water supply(MCM)	6.34
Existing gross ground water draft for all uses (MCM)	11.63
Allocation for domestic and industrial water supply up to next 25 years(MCM)	7.45
Requirement for domestic and industrial water supply up to next 25 years(MCM)	8.96
Net GW availability for future irrigation development (MCM)	39.15
Stage of development, %	22.41
Category	safe

Source: Central Ground Water Board, Ministry of Water Resources, Government of India.

Surface Water Resources and Irrigation

The project area has a number of public and private ponds and channels which are the main source of irrigation. Paddy is generally grown in the valleys. Besides, cash crops like coconut, banana, cocoa etc are also growing. Irrigation is not required during June to November, as good rainfall is recorded.

Table 11: Ponds and Drainages in the Project Area

Watershed	8p5a	8p6a	8p6b	8p6c	8p7a	8p7b	8p7c	8p8b
Public Pond	4	3	17	6	5	16	0	12
Capacity of Ponds (M ³)	6136	7683	144001	33969	5514	45000	0	398325
Drainages (Nos)	22	2	25	8	2	17	2	17

Source: Baseline Survey

Socio-economic and Demographic Characteristics of the Population

The socio-economic characteristics of the population in the project area have been obtained by conducting a census survey of the households in the project area.

Table 12: Details of the Population in the Project Area

Watershed Code	Male	Female	Total
8P5a	4701	5145	9846
8P6a	1084	1199	2283
8P6b	11344	11528	22872
8P6c	2443	2574	5017
8P7a	1500	1629	3129
8P7b	10162	10232	20394
8P7c	883	901	1784
8P8b	5384	5865	11249
Total	37501	39073	76574

Source: Baseline Survey

Table 13: Age Distribution of Population in the Project Area

Watershed Code	No.members below 15 yrs	No.Members above 60 yrs	No.Members between 15-60 yrs	Total
8P5a	2110	1514	6222	9846
8P6a	483	288	1512	2283
8P6b	3838	3179	15855	22872
8P6c	985	656	3376	5017
8P7a	666	540	1923	3129
8P7b	3701	2946	13747	20394
8P7c	378	212	1194	1784
8P8b	1455	1489	8305	11249
Total	13616	10824	52134	76574

Source: Baseline Survey

Table 14: Number of Households in the Project Area

Watershed	Gramapanchayath						Total
	Bharanikavu No.	Palamel No.	Thamarakkulam No.	Vallikkunnam No.	Nooranad No.	Chunakkara No.	
8P7c			436				436
8P5a	406			1977			2383
8P6a				522			522
8P6b	1695		1298	2497		242	5732
8P6c			235	1040			1275
8P7a			785				785
8P7b		1030	4321		15		5366
8P8b		2709					2709
Total	2101	3739	7075	6036	15	242	19208

Source: Baseline Survey

Table 15: Social Classification of Households in the Project Area

Code	SC	ST	OBC	General	Total
	No.	No.	No.	No.	No.
8P5a	281		1413	689	2383
8P6a	73		384	65	522

8P6b	777	1	2146	2808	5732
8P6c	120	1	447	707	1275
8P7a	149		373	263	785
8P7b	603	1	2051	2711	5366
8P7c	49		383	4	436
8P8b	714	3	1039	953	2709
Total	2766	6	8236	8200	19208

Source: Baseline Survey

Table 16: Poverty status of households

Watershed Code	Poverty status				Total	
	BPL		APL		No.	%
	No.	%	No.	%		
8P5a	883	37.05	1500	62.95	2383	100.00
8P6a	211	40.42	311	59.58	522	100.00
8P6b	2509	43.77	3223	56.23	5732	100.00
8P6c	597	46.82	678	53.18	1275	100.00
8P7a	283	36.05	502	63.95	785	100.00
8P7b	2137	39.82	3229	60.18	5366	100.00
8P7c	190	43.58	246	56.42	436	100.00
8P8b	1303	48.10	1406	51.90	2709	100.00
Total	8113	42.24	11095	57.76	19208	100.00

Source: Baseline Survey

Table 17: Main Source of Income of Households in the Project Area

Source		8P7c	8P6b	8P5a	8P8b	8P7a	8P6c	8P6a	8P7b	Total
Agriculture	No.	81	783	392	214	125	267	53	1344	3259
	%	18.6	13.7	16.4	7.9	15.9	20.9	10.2	25.0	17.0
Fishing	No.	44	271	30	28	2	1	3	72	451
	%	10.1	4.7	1.3	1.0	0.3	0.1	0.6	1.3	2.3
Daily labour	No.	179	2689	1194	1369	379	597	303	2082	8792
	%	41.1	46.9	50.1	50.5	48.3	46.8	58.0	38.8	45.8
Agriculture labour	No.	22	483	23	48	3	173	11	477	1240
	%	5.0	8.4	1.0	1.8	0.4	13.6	2.1	8.9	6.5
Salary - Govt.	No.	15	361	191	196	74	61	27	343	1268
	%	3.4	6.3	8.0	7.2	9.4	4.8	5.2	6.4	6.6
Salary - Private	No.	4	99	25	85	6	12	5	112	348
	%	0.9	1.7	1.0	3.1	0.8	0.9	1.0	2.1	1.8

Self employed/ Business	No.	59	144	98	139	31	32	25	171	699
	%	13.5	2.5	4.1	5.1	3.9	2.5	4.8	3.2	3.6
Income from abroad	No.	23	360	232	349	92	53	58	244	1411
	%	5.3	6.3	9.7	12.9	11.7	4.2	11.1	4.5	7.3
Pension	No.	9	409	143	220	46	50	32	417	1326
	%	2.1	7.1	6.0	8.1	5.9	3.9	6.1	7.8	6.9
Others	No.		133	55	61	27	29	5	104	414
	%		2.3	2.3	2.3	3.4	2.3	1.0	1.9	2.2
Total	No.	436	5732	2383	2709	785	1275	522	5366	19208
	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

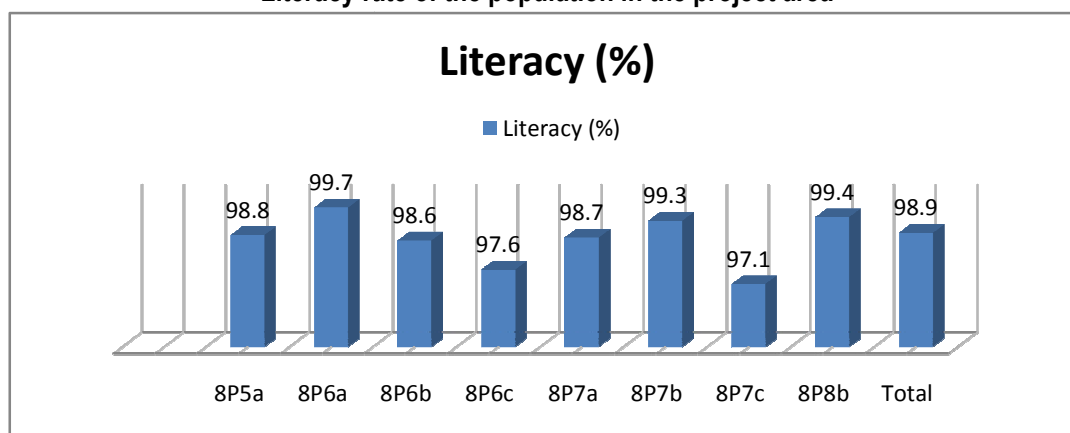
Source: Baseline Survey

Table 18: Details of landless Households in the project area

Watershed Code	No.	% to total
8P5a	133	5.58
8P6a	28	5.36
8P6b	322	5.62
8P6c	40	3.14
8P7a	28	3.57
8P7b	296	5.52
8P7c	4	0.92
8P8b	80	2.95
Total	931	4.85

Source: Baseline Survey

Literacy rate of the population in the project area



Source: Baseline Survey

Table 19: Proportion of households with electric connection

Watershed Code	Electricity connection				Total	
	Yes		No			
	No.	%	No.	%	No.	%
8P5a	2355	98.83	28	1.17	2383	100.00
8P6a	513	98.28	9	1.72	522	100.00
8P6b	5624	98.12	108	1.88	5732	100.00
8P6c	1252	98.20	23	1.80	1275	100.00
8P7a	773	98.47	12	1.53	785	100.00
8P7b	5296	98.70	70	1.30	5366	100.00
8P7c	433	99.31	3	0.69	436	100.00
8P8b	2670	98.56	39	1.44	2709	100.00
Total	18916	98.48	292	1.52	19208	100.00

Source: Baseline Survey

Table 20: Main fuel used for cooking in the households

Watershed Code	Main fuel						Total	
	LPG		Electricity		Wood			
	No.	%	No.	%	No.	%	No.	%
8P5a	1124	47.17	21	0.88	1238	51.95	2383	100.00
8P6a	57	10.92	1	0.19	464	88.89	522	100.00
8P6b	3079	53.72	25	0.44	2628	45.85	5732	100.00
8P6c	497	38.98			778	61.02	1275	100.00
8P7a	242	30.83			543	69.17	785	100.00
8P7b	1827	34.05	18	0.34	3521	65.62	5366	100.00
8P7c	312	71.56	2	0.46	122	27.98	436	100.00
8P8b	1455	53.71	4	0.15	1250	46.14	2709	100.00
Total	8593	44.74	71	0.37	10544	54.89	19208	100.00

Source: Baseline Survey

Table 21: Toilet facilities of families in the project area

Watershed Code	Type of latrine								Total	
	Septic tank		Pit latrine		Public toilet		No toilet			
	No.	%	No.	%	No.	%	No.	%	No.	%
8P7c	4	0.92	432	99.08					436	100.00
8P5a	915	38.40	1429	59.97	13	0.55	26	1.09	2383	100.00
8P6a	108	20.69	414	79.31					522	100.00
8P6b	2466	43.02	3074	53.63	63	1.10	129	2.25	5732	100.00
8P6c	289	22.67	921	72.24	8	0.63	57	4.47	1275	100.00
8P7a	272	34.65	487	62.04	1	0.13	25	3.18	785	100.00
8P7b	2030	37.83	3132	58.37	24	0.45	180	3.35	5366	100.00
8P8b	358	13.22	2254	83.20	6	0.22	91	3.36	2709	100.00
Total	6442	33.54	12143	63.22	115	0.60	508	2.64	19208	100.00

Source: Baseline Survey

Table 22: Number of families joined in Self Help Group

Watershed Code	Kudumbasree		Block SHG		Others		No membership		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
8P7c	195	44.72			1	0.23	240	55.05	436	100.00
8P5a	1348	56.57			58	2.43	977	41.00	2383	100.00
8P6a	181	34.67	3	0.57	8	1.53	330	63.22	522	100.00
8P6b	3098	54.05	50	0.87	87	1.52	2497	43.56	5732	100.00
8P6c	485	38.04	31	2.43	6	0.47	753	59.06	1275	100.00
8P7a	288	36.69			15	1.91	482	61.40	785	100.00
8P7b	2291	42.69	168	3.13	156	2.91	2751	51.27	5366	100.00
8P8b	1207	44.56	55	2.03	56	2.07	1391	51.35	2709	100.00
Total	9093	47.34	307	1.60	387	2.01	9421	49.05	19208	100.00

Source: Baseline Survey

Table 23: Main source of drinking water in the project area

Watershed Code	8P7c		8P6b		8P5a		8P8b		8P7a		8P6c		8P6a		8P7b		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Own Water Connection	15	3.44	227	3.96	32	1.34	17	0.63	3	0.38	19	1.49	1	0.19	114	2.12	428	2.23
Public Tap	21	4.82	363	6.33			390	14.40	387	49.30	242	18.98	2	0.38	736	13.72	2141	11.15
Well (Pvt)	374	85.78	4905	85.57	2297	96.39	2168	80.03	379	48.28	964	75.61	482	92.34	4217	78.59	15786	82.18
Public Well	21	4.82	131	2.29	9	0.38	27	1.00			26	2.04	15	2.87	156	2.91	385	2.00
Bore well			32	0.56	43	1.80	17	0.63	16	2.04	2	0.16	2	0.38	15	0.28	127	0.66
Tanker	1	0.23	2	0.03											19	0.35	22	0.11
Buying	1	0.23	5	0.09			1	0.04			1	0.08			19	0.35	27	0.14
Rain Water Harvesting Tank	1	0.23					1	0.04									2	0.01
Pond			20	0.35	1	0.04	2	0.07			6	0.47			10	0.19	39	0.20
Others	2	0.46	47	0.82	1	0.04	86	3.17			15	1.18	20	3.83	80	1.49	251	1.31
Total	436	100.00	5732	100.00	2383	100.00	2709	100.00	785	100.00	1275	100.00	522	100.00	5366	100.00	19208	100.00

Source: Baseline Survey

Table 24: Details of livestock and poultry in the project area

Watershed Code	Cow	Duck	Chicken	Goat	Total
8P5a	512	669	2940	396	4517
8P6a	143	197	457	75	872
8P6b	1234	1235	5776	1115	9360
8P6c	335	710	1819	352	3216
8P7a	118	139	525	178	960
8P7b	1376	584	3602	987	6549
8P7c	88	30	254	167	539
8P8b	471	367	1849	335	3022
Total	4277	3931	17222	3605	29035

Source: Baseline Survey

Table 25: Institutions in the project area

Institutions	Nos
Anganwadi	69
L.P School	20
U.P School	3
High School	6
HSS	4
College	2
Ventenary Hospital	5
PHC	4
Sub Cnetre	10
Dispensary	1
Govt. Ayurveda Hospital	1
Govt. Hospital	1
Pvt. Hospital	5
Govt. Homeo Hospital	2
Telephone Exchange	2
Post Office	13
Library	13
Ration Shops	39
Banks	29
Panchayat Office	2
Agriculture Office	1
Knowledge Centre - Agriculture	1
Grave Yard	4
Nanma Stores	21
IPP Centre	0
Water Tank	5
KSEB Office	1
Club	29
Pump House	16
Village Office	2
Mini Stadium	2

Spinning Mill	1
Vanitha Vyavasaya Kendram	2
Maveli Store	3
Milk collection Centre	16
Literacy Mission Office	1

Source: Baseline Survey

Table 26: Educational institutions in the project area

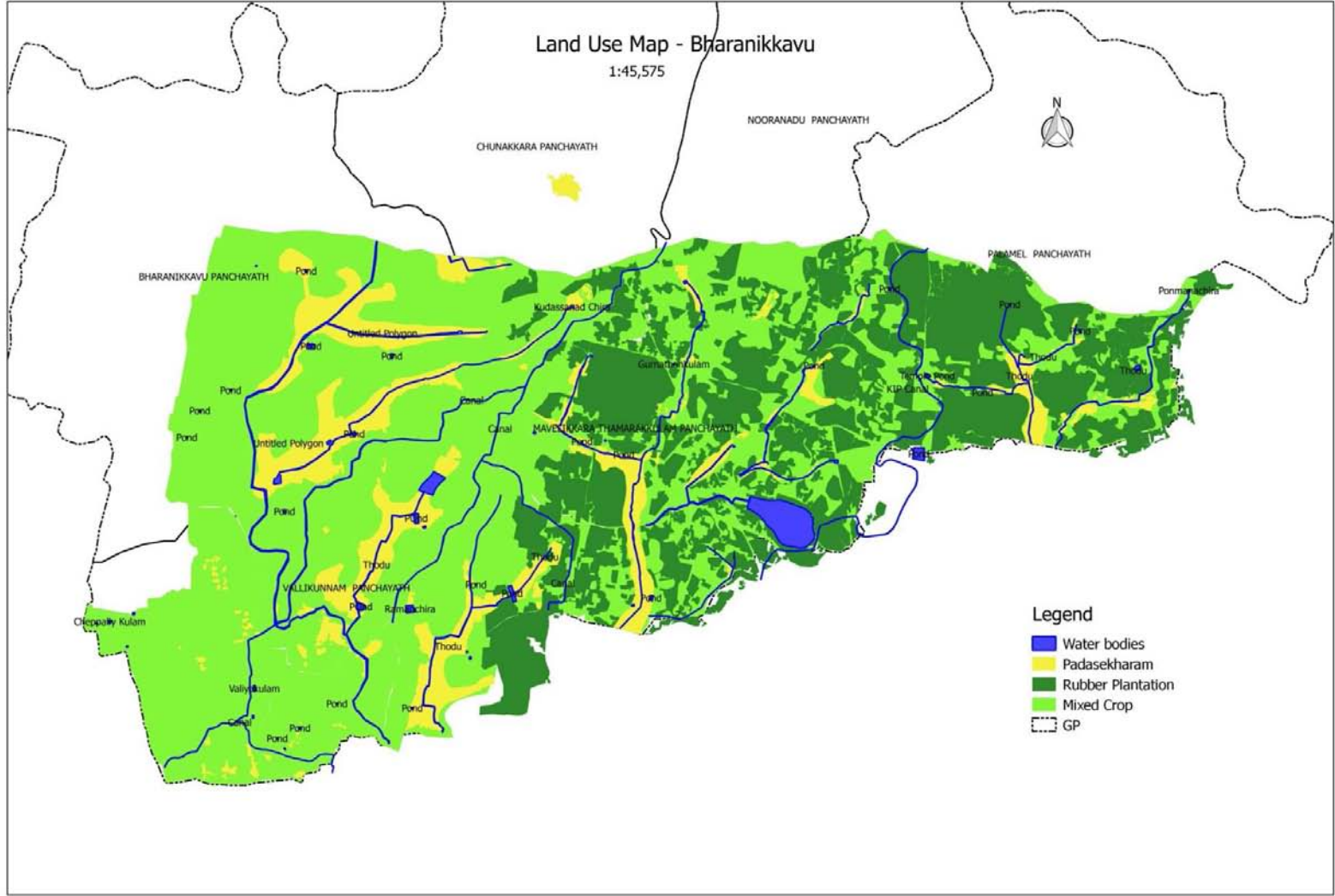
No.	Watershed code	Ward No.	Name of School	Govt- 1/Aided- 2/Un Aided-3	LP/UP/HS/HSS	No. of Students		No. of Teachers		Sufficient Toilet Y/N	Drinking Facility Y/N	Electrified Y/N	Smokeless Choolah Y/N
						Male	Female	Male	Female				
1	8p6b	4	Viswa vilasini H.S.S, Thmarakulam	2	H.S.S	1161	1040	31	52	Y	Y	y	N
2	8p6c	15	G.V.H.S.S Chathiyara	2	H.S.S			11	35	N	Y	Y	N
3	8p6c	15	G.L.P.S Chathiyara	1	L.P	65	86	1	5	y	Y	N	Y
4	8p7b	16	G.LPS Vedara plavu	1	LP	7	9	nil	4	Y	Y	Y	N
5	8p7a	12	Welfare L PS thamarakkulam	1	LP	40	40	2	3	Y	Y	Y	
6	8p7b	9	P Neelakandappillai memmorial school	2	LP	46	37	nil	9	Y	Y	Y	N
7	8p6c	4	St.Mary's LPS Charumood	2	LP	155	137	1	1	Y	Y	Y	N
8	8p6c	8	Welfare L PS kaduvinal	1	LP	37	34	nil	6	Y	Y	Y	N
9	8p6b	8	A.G Rakhavan memmorial school	2	HSS	645	602	15	41	Y	Y	Y	N
10	8p5a	18	Karimbassery karunakaran memmorial school	1	H.S.S	595	567	12	22	Y	Y	Y	Y
11	8p5a	1	UPS Elippikulam	2	UP	208	219	12	3	N	Y	Y	N
12	8p6b	9	meny memmorial school kaduvinal	2	LP	34	37	nil	5	Y	Y	Y	N
13	8p5a	8	SNDP Sanskrit HS vallikunnam	2	HS	165	171	7	14	Y	Y	Y	Y

14	8p5a	5	N.VIJAYALAKS HMI AMMA Memorial school vallikunnam	2	LP	24	25	nil	4	Y	Y	Y	N
15	8p8b	14	Gvt. Sree kandala vilasaLPS School pallikkala	1	LP	49	47	nil	4	Y	Y	Y	N
16	8p7b	18	Gvt.LPS Erumakkuzhy	1	LP	33	35	nil	5	Y	Y	Y	N
17	8p8b	19	C.Bhargavann pillai memorial school	2	H.S. S	1010	946	16	5 5	Y	Y	Y	Y
18	8p8b	13	Gvt.HS payyanallor	1	HS	148	164	4	1 4	Y	Y	Y	N
19	8p8b	13	Gvt.LPS payyanallor	1	LP	42	42	nil	4	Y	Y	Y	N
20	8p8b	13	Gvt.Welfare LPS payyanallor	1	LP	22	23	nil	5	Y	Y	Y	N
21	8p7b	16	Babuji junior school	2	LP	18	18	nil	4	Y	Y	Y	N
22	8p7b	15	Mahamaya vidhya mandir	3	LP	33	20	nil	5	Y	Y	Y	N
23	8p6a	12	Areekkara LPS	2	LP	43	66	1	1 1	N	Y	Y	N
24	8p6b	2	Gvt LPS kannanamkuzhy	1	LP	22	20	2	3	Y	Y	Y	N
25	8p6b	9	Gvt. LPS vettikkodu	1	LP	2	3	nil	2	Y	Y	Y	N
26	8p6b	10	Mother Sarah memorial school kattanam	2	LP	13	10	1	3	Y	Y	Y	N
27	8p6b	9	Marthoma UP School	2	UP	73	63	nil	1 0	Y	Y	Y	N
28	8p5a	17	mannakad lps	1	LP	45	60	2	9	N	Y	Y	N
29	8p7b	17	sree sabari central school, pannil	3	HSS	500	400	5	3 5	Y	Y	Y	N

Source: Baseline Survey

Agriculture and Present Land Use

Present land use of the project area is given below. Major portion of the area is coconut dominated mixed crop. Rubber is also growing largely. Vegetables, arecanut, spices, fruit trees and hard wood trees like teak, mahogany etc are also growing in the project area. Paddy is cultivated in one season depending on the rains.

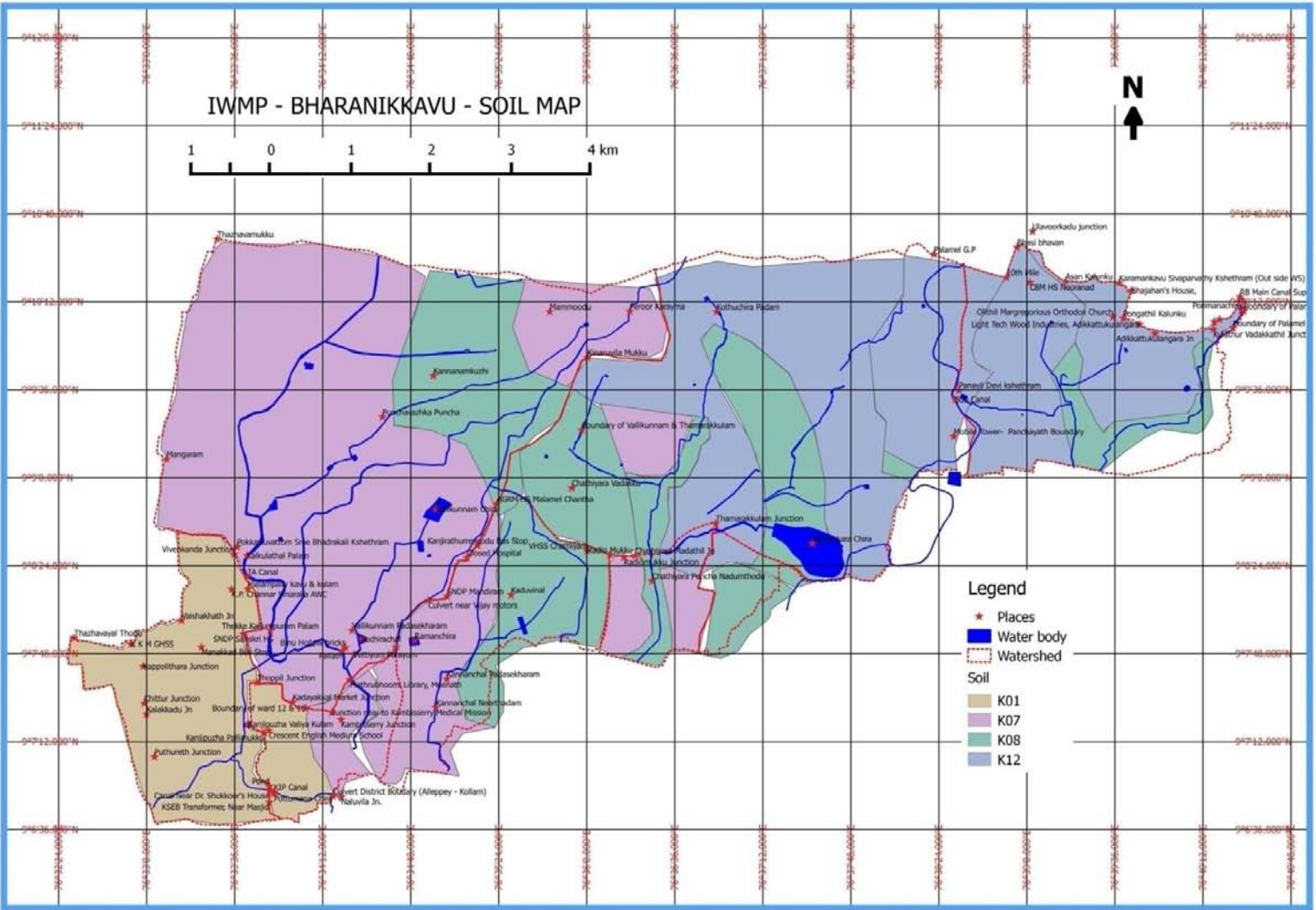


Major Soils in the Project Area

Coastal Alluvium soils are seen at the western part of the project area and have been developed from recent marine and estuarine deposits. The texture is dominated by sand fraction and is extensively drained with very high permeability. These soils have low content of organic matter and of low fertility level. Laterite soil is found in the midland area which is at the eastern part of the watershed. Laterite stone mining for construction is extensively found. Valleys (Paddy fields) are dominated with clay content. There are mainly four types of soils in the project area as per Kerala State Land Use Board records. Details are given below.

Soil Type	Description of Soil Type	Classification	
		Major Soil	Inclusions
K07	Very deep, well drained, gravelly clay soils on gently sloping coastal laterites, with moderate erosion; associated with very deep, well drained, gravelly clay soils with moderate surface gravelliness.	Clayey-skeletal, kaolinitic, Typic kandiuults clayey-skeletal, kaolinitic, Typic kanhaplustult	Loamy-skeletal, mixed, Ustoxic Dystropepts clayey, kaolinitic, Typic kandiuults
K08	Very deep, moderately well drained, clayey soils with moderately shallow water table in nearly level narrow valleys, with slight erosion; associated with very deep, imperfectly drained, clayey soils with moderately shallow water table on nearly level lands	Fine, mixed, Typic Dystropepts Fine, mixed, Typic Trophaquepts	Clayey, Kaolinitic, Typic Kanhaplustults Fine, mixed, Typic Ustropepts
K 12	Very deep, well drained, gravelly clay soils with moderate surface gravelliness on gently sloping midland laterites with valleys of southern kerala, with moderate erosion; associated with very deep, well drained, clayey soils	Clayey-skeletal, kaolinitic. Ustic kanhaplohumults clayey, kaolinitic, Typic kandiuults	Fine-loamy, mixed, Aquic Ustifluvents Clayey-skeletal, kaolinitic, Typic kanhaplustults
K01	Very deep, moderately well drained, sandy soils with moderately shallow water table on very gently sloping subdued sand dunes, with slight erosion; associated with very deep, moderately well drained, sandy soils.	Mixed. Aquic Ustipsamments mixed, Typic ustipsamments	Fine-loamy, mixed, Typic Dystropepts coarse-loamy, mixed Aquic ustorthents

IWMP - BHARANIKKAVU - SOIL MAP



Legend

- ★ Places
- Water body
- Watershed

Soil

- K01
- K07
- K08
- K12

Approach and Methodology of Preparing the Detailed Project Report (DPR)

The project area lies in Bharanikkavu Block Panchayat of Alappuzha district. The common guidelines provide a flexible framework for the preparation of the Detailed Project Report of the projects under IWMP. The methodology for the preparation of the Detailed Project Report of IWMP – III/2013-14 of Alappuzha District is outlined below:

- The project comprises of Eight micro watersheds. A cluster approach has been followed in the preparation of DPR.
- Review of the official documents on MGNREGS at the national and state levels was done prior to the field level activities.
- Preliminary discussions with elected representatives and officials at the block and district level were conducted.
- Secondary Data: The DPR has to be based on a situation analysis of secondary data and information available from various sources. Basic information about the watershed such as rainfall, temperature, location, topography, hydrology, hydrogeology, soils, geology and geomorphology, demographic and socio-economic characteristics of the population, land-use pattern, major crops and productivity, soil and water conservation practices adopted, irrigation, livestock and microenterprisers were collected from different sources such as Census of India, development reports, publications of government departments etc.
- Baseline Survey: A detailed baseline survey was conducted covering all households in the project area. The database thus created is expected to facilitate the assessment of the impact of the watershed development programme on the project area during and after the implementation of the project.
- Participatory Rural Appraisal (PRA): The participation of stakeholders is essential in identifying the problems and needs of the people in the project area and in identifying suitable watershed development activities. A Logical Framework Analysis was done at the project level for identifying the important problems (through problem tree analysis) as well as for the purpose of assessing the present situation. Other PRA techniques like transect walk, social mapping, resource mapping, seasonal calendar, etc., were employed in each micro watershed area.
- Use of GIS and Remote Sensing for Planning: GIS and remote sensing devices have used in the preparation of DPR. Quantum GIS Software was used for preparation of maps. Google

Earth images of the project area were also used for the planning. 1: 4000 scale cadastral maps of each village were the base map for planning.

- Indepth interviews, Focused Group Discussions with officials, farmers, entrepreneurs of micro-enterprises etc. were undertaken.
- An assessment of the resources likely to be available from other sources and schemes was done in the initial stages of the plan preparation.
- Field level verification of the identified interventions was undertaken by the DPR preparation team which includes the Technical Support Organisation, Watershed Development Team and Watershed Cell come Data Centre.
- Prioritisation: Prioritisation of the interventions was done taking into account the scientific and technical inputs.
- Identification of Entry Point Activities: The entry point activities were identified taking into account its potential as a model for replication.
- IEC and Capacity Building: IEC and capacity building plan has been formulated to achieve the desired results from watershed management programmes.

Budget

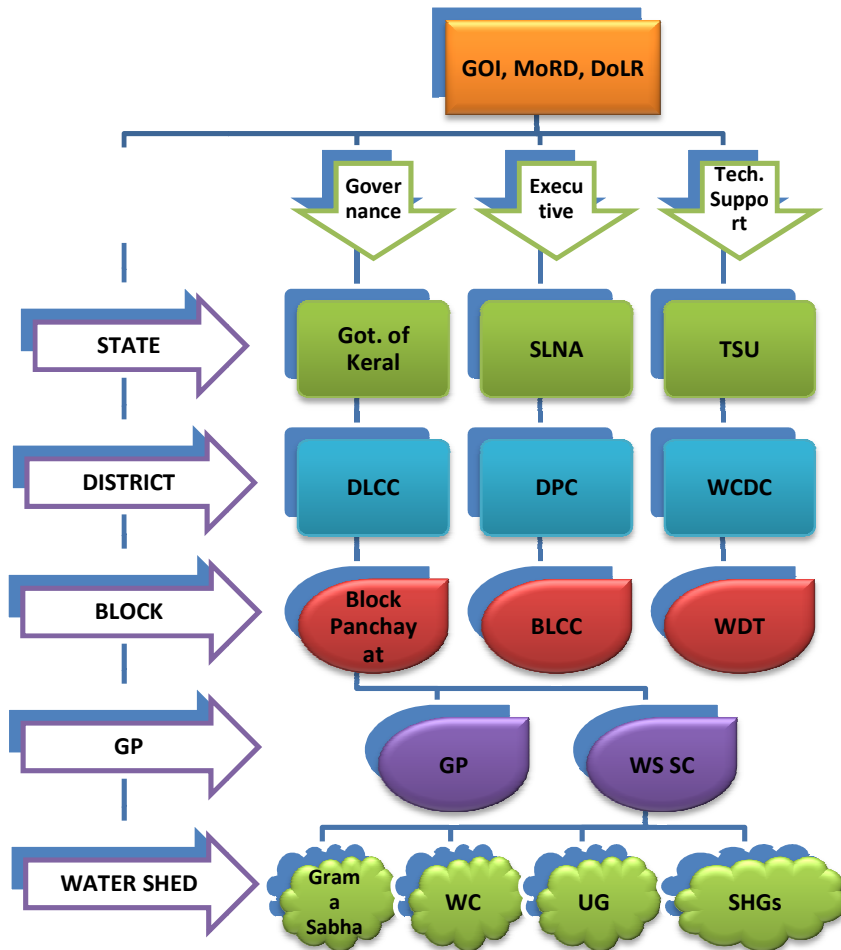
Table 27 : Financial Plan

No.	Head	Amount (Rs)
1	Administrative (10%)	6505200
2	Capacity Building(5%)	3252600
3	Monitoring(1%)	650520
4	Preparation of DPR(1%)	650520
5	EPA(4%)	2602080
6	Evaluation (1%)	650520
7	Watershed Development Works (56%)	36429120
8	Production System and Micro-enterprises (10%)	6505200
9	Livelihood Activities for assetless Persons (9%)	5854680
10	Consolidation (3%)	1951560
Total		65052000

Institutional Arrangements of IWMP

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

Institutional set up of IWMP



Institution Building at State and District Level

Department of Rural Development is the nodal department for the implementation of IWMP at the state level. State Level Nodal Agency (SLNA) is coordinating and providing guidelines for the effective planning and implementation of the individual IWMP projects. District Planning Committee (DPC) is responsible for the planning and implementation of the projects at the district level. To help the DPC and to coordinate the project level activities Watershed Cell Cum Data Centre (WCDC) is working at the District level. District Level Coordination Committee has been set up under the chairmanship of District Panchayath President, Alappuzha. District Collector is functioning as Member Secretary and Principal

Agriculture Officer as Member Convener. All the district level officers of the line departments are functioning as members.

Institution Building at Block Level

Bharanikkavu Block Panchayat is the Project Implementation Agency (PIA) for this IWMP project. They are responsible for all the activities under the project starting from the preparation of Detailed Project Report (DPR) till the completion of project. A Block Level Coordination Committee (BLCC) has been formed for the timely implementation of the project and to provide help to the PIA in technical and administrative matters related to the project. Watershed Development Team (WDT) has been formed and started working under the PIA. Details of PIA are given below.

Table 28: Details of Project Implementation Agency (PIA)

Name of the Project	IWMPI II/ 2013-14
Programme Implementation Agency	Bharanikkavu Block Panchayat
Implementation Officer	Block Development Officer, Bharanikkavu Block Panchayat
Address of PIA	Bharanikkavu Block Panchayat, Charumoodu PO, Charumoodu, Alappuzha.690 505
Telephone	0479 - 2382351
Email	bdobkv@yahoo.com

Table 29: Details of Watershed Development Team (WDT)

No.	Name	Age	Sex	Designation	Qualification
1	Rahana Raveendran	23	Female	WDT Civil Engineer	B Tech in Civil Engineering
2	Rashmi Mohan	26	Female	Social Mobiliser	MSW-Rural Development
3	Raji T	26	Female	Agriculture Assistant	VHSC Agriculture
4	Vidya Vijayan	26	Female	Data Entry Operator	B Com, PGDCA

Institution Building at Grama Panchayat (GP) Level

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

Watershed Committee (WC)

Watershed Committee has a pivotal role to play during and after the project implementation period. The dates of Neerthada Grama Sabha convened in each watershed are given below. These Grama Sabhas constitutes the WCs for each watershed. These WCs will work as the subcommittees of GPs. In the case of Micro Watersheds spread over more than one GP, separate subcommittees are formed in each GP to manage the watershed development project in the GP.

Table 30 : Dates of Neerthada Gramasabha

Sl.No	Code of Micro Watershed	Date of Watershed Grama sabha
1	8P7c	22/02/2014
2	8P7a	22/02/2014
3	8P5a	04/03/2014
4	8P6a	02/03/2014
5	8P6b	05/03/2014
6	8P8b	26/02/2014
7	8P6c	02/03/2014
8	8P7b	04/03/2014

Self Help Groups (SHGs)

There are 581 SHGs working in the project area already. Under IWMP III/ 2013-14 project, the registration process is going on. These groups are organized through credit and thrift activities. Some of the groups are also engaged in micro- enterprises . Both women and men SHGs are active in the project area. Details of the SHGs in the project area are given below.

User Groups (UGs)

User groups are proposed to be formed to manage the different activities or assets created under the programme on a long term basis. The user groups are expected to collect user charges from their members, oversee the works and manage the benefits. At present, user groups to implement Entry Point Activities have been formed. Later on, it will be formed for each work.

IWMP Project Management

Table 31: Implementation phases of IWMP

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

Activities under each phase are mentioned below.

Preparatory Phase:

- Institution building, training and empowerment of institutions like watershed committee (WC), user groups (UGs) and self help groups (SHGs) through Capacity Building and IEC activities.
- Preparation of Detailed Project Report with detailed action plans through participatory exercises
Entry Point Activity shall be taken up during this phase to establish credibility of the Watershed Development Team (WDT) and create a rapport with the village community.

Watershed Works Phase:

- This phase is the heart of the programme in which the DPR will be implemented.
- Execution of yearly action plans (NRM works, Production System and Micro-enterprises and Livelihood activities will be implemented)

Consolidation and Withdrawal Phase:

- In this phase the resources augmented and economic plans developed in watershed work phase becomes the foundation to create new nature-based, sustainable livelihoods and raise productivity levels.
- Bridging the gaps for post project sustainability.
- Building the capacity of the community based organizations to carry out the new agenda items during post project period.
- Preparation of project completion report with details about status of each intervention.
- Documentation of successful experiences as well as lessons learnt for future use.

Entry Point Activity

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

Table 32: List of Entry Point Activities in the Project Area

Sl.No.	Panchayath	WS. Code	Name of Work	Estimate Amount
1	Thamarakkulam	8p7b	Renovation of Kothuchira	3,41,000
2	Thamarakkulam	8p7b	Retaining wall for Nediyanikkal Temple Pond	4,70,000
3	Thamarakkulam	8p8b	Rain Water Harvesting tank at CBM HSS, Nooranad (50000L)	3,48,000
4	Thamarakkulam	8p7b	Rain Water Harvesting tank at VV HSS, Charumoodu (50000L)	3,48,000
5	Thamarakkulam	8p7b	Rain Water Harvesting tank at VHSS, Chathiyara (50000L)	3,48,000
6	Thamarakkulam	8p7b	Rain Water Harvesting tank at Block Panchayat Office, Charumoodu (20000L)	1,36,280
7	Vallikunnam	8p6b	Renovation of public well at Vivekanada Junction	20000
8	Vallikunnam	8p7b	Retaining wall for Gurunadhan Kulangara Thodu and formation of Tractor way	5,50,000
9	Vallikunnam	8P5a	Nursery formation	40,800
			Total	26,20,800

Major Problems Identified

The eight micro watersheds in the project area face many common problems because of the similarities existing among the micro watersheds. The major problems identified through PRA techniques which have led to the identification of the interventions to be undertaken under the IWMP project are Drinking water shortage, Soil erosion, Inefficient conservation measures of soil and moisture, Lack of proper waste management, Waste dumping into the water bodies, Fields kept uncultivated, Shortage of agricultural labourers, Unscientific construction of roads and foot paths, etc.

Watershed Work Phase

The major activities in this phase are

- i. Watershed Development Works or Natural Resource Management (NRM)
- ii. Livelihood Activities for the poor people
- iii. Production System and Microenterprises

The main watershed development interventions are as follows,

Watershed Development Works/Natural Resource Management (NRM) Activities

Natural resource management aims to maintain and improve natural resource base. People in the project area depend upon agriculture and allied activities for their livelihood. Management of natural resources helps to enhance livelihood of the local community on a sustainable basis. The main NRM activities identified for the project area are given below

- (a) Construction of ferrocement rain water harvesting tanks
- (b) Maintenance of wells and ponds for the availability of fresh water
- (c) Recharging of open wells from roof tops
- (d) Contour bunding
- (e) Maintenance of irrigation channels
- (f) Nursery formation
- (g) Construction of subsurface dykes in the drainages
- (h) Installation of biogas plants

Livelihood Support

Common Guidelines for Watershed Development Projects gives priority to livelihood support for landless/assetless persons. Nine per cent of the total project cost is assigned to support the livelihood activities of landless/assetless households. This aims to maximize the utilization of potential generated by watershed activities and in creating sustainable livelihoods for households within the watershed area.

The guiding principles for livelihood improvement initiatives are:

1. Livelihood improvement initiatives emphasize on natural resource based activities and conform to principles of equity, gender sensitivity and transparency. It strives to:-
 - a) Enhance livelihood opportunities for the poor through investment for asset creation and improvement in productivity and income.

- b) Improve access of the marginalized communities including SC/ST, landless/ assetless people, women etc to the benefits.
- c) Select the beneficiaries in a transparent manner.

2. Livelihood initiatives for landless/assetless households should aim at improved household income, participation and division of labour, access to information, knowledge, appropriate technologies and resources. Improving livelihood opportunities by promoting homemade food processing units, supply of cow, goat, duck, chicks etc. is also another objective.

Production System and Microenterprises

According to the Common Guidelines for Watershed Development Projects 10 per cent of the total project cost is to be assigned to support the production system and micro enterprises. This component aims to: (a). promote diversified production/farming system based livelihood activities/ interventions (b). encourage farmers to adopt and upscale successful experiences of proven technologies, integrated farming systems and improved farming practices for livelihood augmentation. (j) Agricultural production enhancement is planned by supporting the progressive farmers in Horticulture, Paddy cultivation, Dairy, Poultry, Fodder cultivation, innovative farming, irrigation, etc.

The scope for convergence with other schemes and programmes has been examined in identifying interventions under IWMP. The interventions under IWMP are expected to help in restoring the ecological balance of the project area, conserving the natural resources and in improving the livelihood opportunities of the people.

Scope of Convergence

Table 33: Scope of Convergence

Sl. No.	Type of intervention	Department/Schemes which can be converged with IWMP
1.	Renovation of Pond	1. MGNREGA
2.	Bund Strengthening of Paddy fields	1. MGNREGA
3	Rain water harvesting Pit	1. MGNREGA
4	Afforestation	1. MGNREGA 2. LSGI 3. Department of Social Forestry

Sl. No.	Type of intervention	Department/Schemes which can be converged with IWMP
5	Horticulture	1. Department of Agriculture 2. MGNREGA 3. LSGI 4. Vegetable and Fruit Promotion Council
5.	Dairy development	1. Department of Dairy development 2. LSGI
6.	Waste Management Activities	1.Total Sanitation Campaign 2.Nirmal Bharat Abhiyan 3.NRHM 4.LSGI
7.	Exposure Visit	1. ATMA

Table 34: Financial Plan Yearwise

Item	(%)	2013-14	2014-15	2015-16	2016-17	Amount in Lakhs
MANAGEMENT COST						
Administration	10	16.263	16.263	16.263	16.263	65.052
Monitoring	1	1.6263	1.6263	1.6263	1.6263	6.5052
Evaluation	1	0	1.95156	1.95156	2.60208	6.5052
Preparatory Phase						
Entry point activities	4	26.0208	0	0	0	26.0208
Institutions & Capacity Building	5	14.6367	8.1315	4.8789	4.8789	32.526
Preparation of Detailed Project Report	1	2.92734	1.6263	0.97578	0.97578	6.5052
Watershed Works Phase						
Watershed Development Works	56	153.70	160.61	31.72	18.26	364.29
Production System and Micro-enterprises	9	22.23	16.95	10.09	9.28	58.55
Livelihood Activities for assetless Persons	10	0	31.70	23.95	9.40	65.05
Consolidation Phase	3				19.5156	19.5156

No	Item	Number of Activities	Estimated Amount (Rs)
1	User Group Formation	112	116435
2	SHG Formation	75	75000
3	Formation of Federation	8	120000
4	Watershed Committee Formation	8	16000
Total			327435

Table 36: IEC Plan

Activity	Estimated Amount (Rs)				
	Year 1	Year 2	Year 3	Year 4	Total
International Day – Water Day Celebration	10000	10000	10000	10000	40000
Environment Day	10000	10000	10000	10000	40000
Earth Day	5000	1000	1000	1000	8000
Street Play	15000	5000	5000		25000
Exposure visit	3965	25000		40000	68965
Brochure	15000	15000	2000	3000	35000
Wall Painting	2000	20000	20000	8000	50000
Camp for School Children on Environment	20000	20000	20000	20000	80000
Total	80965	106000	68000	92000	346965

Training & Capacity Building for NRM Activities

Programme1: Empowering Elected Representatives for IWMP

1	Rationale	Awareness among the elected representatives on the need for watershed based development programme, concepts involved in watershed management, IWMP - its objectives, steps involved in the implementation of the programme, financial management, technological know how etc. is essential for the success of the programme.					
2	Objectives	To create awareness among the elected representatives on (a). The need for watershed based development programmes. (b). Concept of IWMP. (c). Projects involved in the programmes. (d). Scope of projects. (e). Roles and responsibilities. (f). Financial Management aspects.					
3	Target Group	District, Block and Grama Panchayat members of the project area.					
4	Duration	1 day					
5	No. of Participants	70					
6	No. of Batches	16					
7	Plan	Year	2013-14	2014-15	2015-16	2016-17	Total
		Physical Plan	4	4	4	4	16
		Financial Plan (Lakh)	0.288	0.288	0.288	0.288	1.152
8	Expected Outcomes	Smooth and effective implementation of the projects, through solving any issues pop up while implementation, with regard to financial transparency, peoples participation etc.					
9	Area of Training	Watershed Management					

Programme 2: Training Programme on IWMP

1	Rationale	The watershed community must be made aware of the programme, its concepts, the need of the hour and motivate them to become part of the programme.
2	Objectives	(a). To familiarize the concept of watershed. (b). The scope of watershed development in the area. (c). To familiarize the concept of IWMP. (d). Various activities proposed under NRM, PS&M and LSS. (e). To ensure participation of the people. (f). Provide need based training as and when required.
3	Target Group	Watershed Community (Progressive Farmers, Kudumbasree members, Other SHGs, MGNREGS workers, Club/ Residence Association / School Students etc.)
4	Duration	1 Day

5	No. of Participants	125 Per batch					
6	No. of Batches	35					
7	Plan	Year	2013-14	2014-15	2015-16	2016-17	Total
		Physical Plan	10	10	10	5	35
		Financial Plan (Lakh)	1.5	1.5	1.5	0.75	5.25
7	Expected Outcomes	Increased community awareness and people's participation					
8	Area of Training	Watershed Management					

Programme3: Training Programme for Watershed Committee Members

1	Rationale	Impart awareness among the watershed committee members regarding the concept of watershed management, roles and responsibilities, operational guidelines, financial management etc. is essential for effective implementation.					
2	Objectives	(a). To create awareness among the WC members regarding the concept of watershed management. (b). To make aware the roles and responsibilities of WC. (c). To train on the aspects of financial management of the project. (d). To train on the management of WDF.					
3	Target Group	WC members					
4	Duration	1 day					
5	No. of Participants	32 per batch					
6	No. of Batches	42					
7	Plan	Year	2013-14	2014-15	2015-16	2016-17	Total
		Physical Plan	14	14	7	7	42
		Financial Plan (Lakh)	1.26	1.26	0.63	0.63	3.78
7	Expected Outcomes	Empowered of watershed committee which is necessary for effective implementation of the project and proper maintenance of created common assets under the programme.					
8	Area of Training	Watershed Management					

Programme 4: Training Programme for User Groups

1	Rationale	Creating awareness among UGs regarding the mode of creation of common assets is essential for the success of the programme.				
2	Objectives	(a). Create awareness on responsibility of UGs. (b). The need for establishing common assets. (c). Mode of operation in establishing common assets. (d). Financial procedures involved in the process. (e). Account Maintenance and Book Keeping (f). Future conservation of assets				
3	Target Group	UGs				
4	Duration	1 day				
5	No. of Participants	30				
6	No. of Batches	34				

7	Plan	Year	2013-14	2014-15	2015-16	2016-17	Total
		Physical Plan	10	10	10	4	34
		Financial Plan (Lakh)	1.00	1.00	1.00	0.40	3.40
7	Expected Outcomes	Awareness among the UGs to take up the responsibility of creating common assets as well as their future maintenance					
8	Area of Training	Watershed Management					

**Programme 5: Training programme on Production System and
Micro enterprises (PS&M)**

1	Rationale	The beneficiary groups /farmers are need to aware about various innovative methods farming . Provide in time consultation on various opportunities and threats in the field					
2	Objectives	a) To introduce best practices of farming b) Introduction of innovative technologies in the various farming activities (Integrated farming/zero budget farming/Organic farming etc) c) To train them on Lease farming and vegetable cultivation d) To train them on mushroom cultivation e) To train them on fisheries					
3	Target Group	SHGs: Cattle management, fodder preservation, Pisciculture, Horticulture, etc.					
4	Duration	1 Day					
5	No. of Participants	100 per batch					
6	No. of Batches	14					
7	Plan	Year	2013-14	2014-15	2015-16	2016-17	Total
		Physical Plan	4	4	4	2	14
		Financial Plan (Lakh)	1.00	1.00	1.00	0.50	3.50
7	Expected Outcomes	Increase the standard of living through increase in per capita income, attain self sustainability etc.					
8	Area of Training	Livelihood					

Programme 6: Training programme for Beneficiaries of Seed Money on Livelyhood Activities

1	Rationale	To train the livelihood beneficiaries on various job opportunities and to give on hand training to ensure a sustainable income.					
2	Objectives	a) To train the beneficiaries on selected livelihood activities which are suitable for the locality b) To generate additional income from such activities. c) To attain self sustainability. d) To train them on marketing e) To train them on value addition f) Women empowerment.					

3	Target Group	SHGs: Cattle management, fodder preservation, Pisciculture, Horticulture, Ornamental Fish farming, etc.					
4	Duration	1 Day					
5	No. of Participants	100					
6	No. of Batches	19					
7	Plan	Year	2013-14	2014-15	2015-16	2016-17	Total
		Physical Plan	5	5	5	4	19
		Financial Plan (Lakh)	1.00	1.00	1.00	0.80	3.80
7	Expected Outcomes	Increase the standard of living through increase in per capita income, attain self sustainability etc.					
8	Area of Training	Livelihood					

Programme 7: Training Programme on Major livelihood Activities

1	Rationale	Indepth understanding of market and feasibility of the selected Major livelihood livelihood activity and its operation.					
2	Objectives	(a). Introduce innovative technologies suitable to our environment (b). Introduce out put oriented work culture (c). Develop good managerial skill (d). Future planning to develop the started major livelihood activity.					
3	Target Group	Cluster/Federation Members					
4	Duration	3 Days					
5	No. of Participants	10					
6	No. of Batches	10					
7	Plan	Year	2013-14	2014-15	2015-16	2016-17	Total
		Physical Plan	4	4	2	0	10
		Financial Plan (Lakh)	1.00	1.00	0.50	0	2.50
7	Expected Outcomes	Improved standard of living through increase in per capita income, attain self sustainability, protection of natural resources and better practice for plastic waste management.					
8	Area of Training	Livelihood					

Programme 8: Training on Accounting and Book Keeping

1	Rationale	Maintenance of documents are necessary for transparency .				
2	Objectives	To create awareness among the user groups a. Roles and responsibilities. b. Financial Management aspects.				
3	Target Group	User group members				
4	Duration	1 day				
5	No. of Participants	10				
6	No. of Batches	20				

7	Plan	Year	2013-14	2014-15	2015-16	2016-17	Total
		Physical Plan	5	6	6	3	20
		Financial Plan (Lakh)	0.60	0.72	0.72	0.36	2.40
8	Expected Outcomes	Smooth and effective implementation of the projects, with regard to financial transparency.					
9	Area of Training	Accounting and Book Keeping					

Table 37: Livelihood Action Plan

	8P5a	8P6a	8P6b	8P6c	8P7a	8P7b	8P7c	8P8b
Seed Money (70%)	441504	128520	1310904	320544	132300	1190700	43092	530712
Grant in aid to Enterprising SHGs (30%)	189216	55080	561816	137376	56700	510300	18468	227448
<u>Vegetable Retail Shop</u>								
Beneficiary Groups No:	1	0	2	0	0	1	1	0
Expenditure	25000	0	50000	0	0	25000	25000	0
<u>Food Processing Unit - Home made Rice Powder :</u>								
Beneficiary Groups No	2	1	6	2	1	6	1	3
Expenditure	46000	23000	138000	46000	23000	138000	23000	69000
<u>Backyard Poultry</u>								
Beneficiary Groups No	8	2	22	5	2	20	1	11
Expenditure	164000	41000	451000	102500	41000	410000	20500	225500
<u>Backyard Duckery-</u>								
Beneficiary Groups No	1	0	5	1	0	4	1	2
Expenditure	25000	0	125000	25000	0	100000	25000	50000
<u>Goat Rearing –</u>								
Beneficiary Groups No	4	1	13	3	1	12	0	5
Expenditure	100000	25000	325000	75000	25000	300000	0	125000
<u>Food Processing Unit - Home made Chips</u>								
Beneficiary Groups No	2	1	8	1	2	10	0	3
Expenditure	41613.02	20806.51	166452.08	20806.51	41613.02	208065.1	0	62419.53
<u>Handicrafts Unit –</u>								
Beneficiary Groups No	1	0	2	2	0	0	0	0
Expenditure	25000	0	50000	50000	0	0	0	0
Total Amount Livelihood	441504	128520	1310904	320544	132300	1190700	43092	530712
Total beneficiary group	19	5	58	14	6	53	4	24

Table 38: Livelihood Action Plan (8P5a)

	Unit Cost	2014-15		2015-16		2016-17		2017-18	
	(Rs)	Physical (Nos)	Financial (Rs)	Physical (Nos)	Financial (Rs)	Physical (Nos)	Financial (Rs)	Physical (Nos)	Financial (Rs)
Vegetable Retail Shop	25000	1	25000	-	-	-	-	-	-
Food Processing Unit - Home made Rice Powder	23000	1	23000	1	23000	-	-	-	-
Backyard Poultry	20500	3	61500	3	61500	2	41000	-	-
Backyard Duckery	25000	-	-	1	25000	-	-	-	-
Goat Rearing /Calves Rearing	25000	2	50000	2	50000	-	-	-	-
Food Processing Unit - Home made Chips	20807	2	41614	-	-	-	-	-	-
Handicrafts Unit	25000	1	25000						
Total		10	226114	7	159500	2	41000	-	-

Table 39: Livelihood Action Plan (8P6a)

	Unit Cost	2014-15		2015-16		2016-17		2017-18	
	(Rs)	Physical (Nos)	Financial (Rs)	Physical (Nos)	Financial (Rs)	Physical (Nos)	Financial (Rs)	Physical (Nos)	Financial (Rs)
Food Processing Unit - Home made Rice Powder	23000	1	23000	-	-	-	-	-	-
Backyard Poultry	20500	2	41000	-	-	-	-	-	-
Goat Rearing /Calves Rearing	25000	1	25000	-	-	-	-	-	-
Food Processing Unit - Home made Chips	20807	1	20807	-	-	-	-	-	-
Total		5	109807	-	-	-	-	-	-

Table 40: Livelihood Action Plan - 8P6b

	Unit Cost	2014-15		2015-16		2016-17		2017-18	
		(Rs)	Physical (Nos)	Financial (Rs)	Physical (Nos)	Financial (Rs)	Physical (Nos)	Financial (Rs)	Physical (Nos)
Vegetable Retail Shop	25000	2	50000	-	-	-	-	-	-
Food Processing Unit - Home made Rice Powder	23000	2	46000	2	46000	2	46000	-	-
Backyard Poultry	20500	7	143500	7	143500	4	82000	4	82000
Backyard Duckery-	25000	2	50000	3	75000	-	-	-	-
Goat Rearing /Calves Rearing	25000	5	125000	5	125000	3	75000	-	-
Food Processing Unit - Home made Chips	20807	2	41614	2	41614	2	41614	2	41614
Handicrafts Unit	25000	2	50000	-	-	-	-	-	-
Total		22	506114	19	431114	11	244614	6	123614

Table 41: Livelihood Action Plan- 8P6c

	Unit Cost	2014-15		2015-16		2016-17		2017-18	
	(Rs)	Physical (Nos)	Financial (Rs)	Physical (Nos)	Financial (Rs)	Physical (Nos)	Financial (Rs)	Physical (Nos)	Financial (Rs)
Vegetable Retail Shop	25000	-	-	-	-	-	-	-	-
Food Processing Unit - Home made Rice Powder	23000	2	46000	-	-	-	-	-	-
Backyard Poultry	20500	2	41000	3	61500	-	-	-	-
Backyard Duckery	25000	1	25000	-	-	-	-	-	-
Goat Rearing /Calves Rearing	25000	3	75000	-	-	-	-	-	-
Food Processing Unit - Home made Chips	20807	1	20807	-	-	-	-	-	-
Handicrafts Unit	25000	2	50000	-	-	-	-	-	-
Total		11	257807	3	61500	-	-	-	-

Table 42: Livelihood Action Plan - 8P7a

	Unit Cost (Rs)	2014-15		2015-16		2016-17		2017-18	
		Physical (Nos)	Financial (Rs)	Physical (Nos)	Financial (Rs)	Physical (Nos)	Financial (Rs)	Physical (Nos)	Financial (Rs)
Food Processing Unit - Home made Rice Powder	23000	1	23000	-	-	-	-	-	-
Backyard Poultry	20500	2	41000	-	-	-	-	-	-
Goat Rearing /Calves Rearing	25000	1	25000	-	-	-	-	-	-
Food Processing Unit - Home made Chips	20807	2	41614	-	-	-	-	-	-
Total		6	130614	-	-	-	-	-	-

Table 43: Livelihood Action Plan - 8P7b

	Unit Cost (Rs)	2014-15		2015-16		2016-17		2017-18	
		Physical (Nos)	Financial (Rs)	Physical (Nos)	Financial (Rs)	Physical (Nos)	Financial (Rs)	Physical (Nos)	Financial (Rs)
Vegetable Retail Shop	25000	1	25000	-	-	-	-	-	-
Food Processing Unit - Home made Rice Powder	23000	3	69000	3	69000	-	-	-	-
Backyard Poultry	20500	5	102500	5	102500	5	102500	5	102500
Backyard Duckery	25000	2	50000	2	50000	-	-	-	-
Goat Rearing /Calves Rearing	25000	6	150000	6	15000	-	-	-	-
Food Processing Unit - Home made Chips	20807	5	104035	5	104035	-	-	-	-
Total		22	500535	21	340535	5	102500	5	102500

Table 44: Livelihood Action Plan - 8P7c

	Unit Cost (Rs)	2014-15		2015-16		2016-17		2017-18	
		Physical (Nos)	Financial (Rs)	Physical (Nos)	Financial (Rs)	Physical (Nos)	Financial (Rs)	Physical (Nos)	Financial (Rs)
Vegetable Retail Shop	25000	1	25000	-					
Food Processing Unit - Home made Rice Powder	23000	1	23000						
Backyard Poultry	20500	1	20500						
Backyard Duckery-	25000	1	25000						
Handicrafts Unit	25000								
Total		4	93500						

Table 45: Livelihood Action Plan - 8P8b

	Unit Cost (Rs)	2014-15		2015-16		2016-17		2017-18	
		Physical (Nos)	Financial (Rs)	Physical (Nos)	Financial (Rs)	Physical (Nos)	Financial (Rs)	Physical (Nos)	Financial (Rs)
Food Processing Unit - Home made Rice Powder	23000	3	69000						-
Backyard Poultry	20500	5	102500	5	102500	1	20500		-
Backyard Duckery-	25000	2	50000						-
Goat Rearing /Calves Rearing	25000	5	125000						-
Food Processing Unit - Home made Chips	20807	3	62421						-
Total		18	408921	5	102500	1	20500		-

Table 46: Proposed Activities under Grant in Aid

Activity	Expected Unit Cost (Rs.)	Amount From IWMP (Rs.)	Other Sources(B ank) (Rs.)	Beneficiary Contribution (Rs.)	Convergence
Kopra Processing Unit	450000	200000	100000	150000	Khadi & Village Industries
Milk Collection and Selling Centre	619300	200000	1257900	125790	Khadi & Village Industries
Production of artefacts and marketing	564000	200000	454910	45491	Animal Husbandry/ Bank

Table 47: Annual Action Plan for Production System & Micro Enterprises 8P5a

	Items	Unit Cost (Rs)	Amount from IWMP(Rs)	Physical(Nos)	Financial (Rs)	WDF Expected (Rs)	Year of Implementation
1	Nursery formation with the facilities for Budding, Tissue Culture (Converge with MGNREGA)	300000	24000	1	24000	4800	2014-15
2	Horticulture/Paddy Cultivation	17400	17400	4	69600	13920	2014-15
3	BioManure/Bio Pesticide production	50000	24000	1	24000	4800	2015-16
4	Assistance to High tech farm	100000	24000	6	144000	28800	2014-15
5	Assistance to Poultry farm	161500	24000	4	96000	19200	2015-16
6	Fodder Cultivation (10 cents)	6469	6469	10	64690	12938	2015-16
7	Production of Earth worm compost	368000	24000	1	24000	4800	2016-17
8	Awua Ponics, Polyfarming etc	100000	24000	4	96000	19200	2015-16
9	Assistance to drip irrigation and for distribution of sprinkler	10000	10000	5	50000	10000	2014-15
10	Distribution of tricho cards (per acre)	1000	1000	101	101000	20200	2015-16
12	Mushroom Cultivation	6775	6775	1	6775	1355	2016-17
	Total Amount				700065	140013	

Table 48: Annual Action Plan for Production System & Micro Enterprises – (8P6a)

	Items	Unit Cost (Rs)	Amount from IWMP(Rs)	Physical (Nos)	Financial (Rs)	WDF Expected (Rs)	Year of Implementation
1	Horticulture/Paddy Cultivation	17400	17400	4	69600	13920	2014-15
2	Assistance to High tech farm	100000	24000	2	48000	9600	2014-15
3	Assistance to Poultry farm	161500	24000	1	24000	4800	2015-16
4	Fodder Cultivation (10 Cents)	6469	6469	4	25876	5175.2	2015-16
5	Aqua Ponics, Polyfarming etc	100000	24000	1	24000	4800	2015-16
6	Assistance to drip irrigation and for distribution of sprinkler (per acre)	10000	10000	1	10000	2000	2014-15
7	Distribution of tricho cards (per acre)	1000	1000	2	2000	400	2015-16
	Total			15	203476	40695	

Table 49: Annual Action Plan for Production System & Micro Enterprises - 8P6b

	Items	Unit Cost (Rs)	Amount from IWMP(Rs)	Physical (Nos)	Financial (Rs)	WDF Expected (Rs)	Year of Implementation
1	Nursery formation with the facilities for Budding, Tissue Culture (Converge with MGNREGAv)	300000	24000	3	72000	14400	2014-15
2	Horticulture/Paddy Cultivation	17400	17400	41	713400	142680	2014-15
3	BioManure/Bio Pesticide production	50000	24000	2	48000	9600	2015-16
4	Assistance to High tech farm	100000	24000	10	240000	48000	2014-15
5	Assistance to Poultry farm	161500	24000	6	144000	28800	2015-16
6	Fodder Cultivation (10 cents)	6469	6469	15	97035	19407	2015-16
7	Production of Earth worm compost	368000	24000	5	120000	24000	2016-17
8	Aqua Ponics, Polyfarming etc	100000	24000	6	144000	28800	2015-16
9	Assistance to drip irrigation and for distribution of sprinkler	10000	10000	6	60000	12000	2014-15
10	Distribution of tricho cards (per acre)	1000	1000	103	103000	20600	2015-16
12	Mushroom Cultivation	6775	6775	50	338750	67750	2016-17
	Total			247	2080185	416037	

Table 50: Annual Action Plan for Production System & Micro Enterprises - 8P6c

	Items	Unit Cost (Rs)	Amount from IWMP(Rs)	Physical (Nos)	Financial (Rs)	WDF Expected (Rs)	Year of Implementation
1	Horticulture/Paddy Cultivation	17400	17400	10	174000	34800	2014-15
2	Assistance to High tech farm	100000	24000	5	120000	24000	2014-15
3	Assistance to Poultry farm	161500	24000	1	24000	4800	2015-16
4	Fodder Cultivation (10 cents)	6469	6469	4	25876	5175	2015-16
5	Aqua Ponics, Polyfarming etc	100000	24000	4	96000	19200	2015-16
6	Assistance to drip irrigation and for distribution of sprinkler	10000	10000	2	20000	4000	2014-15
7	Distribution of tricho cards (per acre)	1000	1000	15	15000	3000	2015-16
8	Mushroom Cultivation	6775	6775	5	33875	6775	2016-17
	Total			46	508751	101750	

Table 51: Annual Action Plan for Production System & Micro Enterprises - 8P7a

	Items	Unit Cost (Rs)	Amount from IWMP(Rs)	Physical (Nos)	Financial (Rs)	WDF Expected (Rs)	Year of Implementation
2	Horticulture/Paddy Cultivation	17400	17400	3	52200	10440	2014-15
3	BioManure/Bio Pesticide production	50000	24000		0	0	2015-16
4	Assistance to High tech farm	100000	24000	1	24000	4800	2014-15
5	Assistance to Poultry farm	161500	24000	1	24000	4800	2015-16

6	Fodder Cultivation (10 cents)	6469	6469	2	12938	2587.6	2015-16
7	Production of Earth worm compost	368000	24000	0	0	0	2016-17
8	Aqua Ponics, Polyfarming etc	100000	24000	2	48000	9600	2015-16
9	Assistance to drip irrigation and for distribution of sprinkler	10000	10000	2	20000	4000	2014-15
10	Distribution of tricho cards (per acre)	1000	1000	4	4000	800	2015-16
12	Mushroom Cultivation	6775	6775	4	27100	5420	2016-17
	Total			19	212238	42447.6	

Table 52: Annual Action Plan for Production System & Micro Enterprises - 8P7b

	Items	Unit Cost (Rs)	Amount from IWMP(Rs)	Physical (Nos)	Financial (Rs)	WDF Expected (Rs)	Year of Implementation
1	Nursery formation with the facilities for Budding, Tissue Culture (Converge with MGNREGA)	300000	24000	1	24000	4800	2014-15
2	Horticulture/Paddy Cultivation	17400	17400	25	435000	87000	2014-15
3	BioManure/Bio Pesticide production	50000	24000	1	24000	4800	2015-16
4	Assistance to High tech farm	100000	24000	10	240000	48000	2014-15
5	Assistance to Poultry farm	161500	24000	5	120000	24000	2015-16
6	Fodder Cultivation (10 cents)	6469	6469	10	64690	12938	2015-16
7	Production of Earth worm compost	368000	24000	2	48000	9600	2016-17
8	Aqua Ponics, Polyfarming etc	100000	24000	20	480000	96000	2015-16

9	Assistance to drip irrigation and for distribution of sprinkler	10000	10000	10	100000	20000	2014-15
10	Distribution of tricho cards (per acre)	1000	1000	103	103000	20600	2015-16
12	Mushroom Cultivation	6775	6775	37	250675	50135	2016-17
	Total			224	1889365	377873	

Table 53: Annual Action Plan for Production System & Micro Enterprises - 8P7c

	Items	Unit Cost (Rs)	Amount from IWMP(Rs)	Physical (Nos)	Financial (Rs)	WDF Expected (Rs)	Year of Implementation
2	Horticulture/Paddy Cultivation	17400	17400	1	17400	3480	2014-15
4	Assistance to High tech farm	100000	24000	1	24000	4800	2014-15
5	Assistance to Poultry farm	161500	24000	1	24000	4800	2015-16
6	Fodder Cultivation (10 cents)	6469	6469		0	0	2015-16
7	Production of Earth worm compost	368000	24000		0	0	2016-17
10	Distribution of tricho cards (per acre)	1000	1000	3	3000	600	2015-16
	Total			6	68400	13680	

Table 54: Annual Action Plan for Production System & Micro Enterprises - 8P8b

	Items	Unit Cost (Rs)	Amount from IWMP(Rs)	Physical (Nos)	Financial (Rs)	WDF Expected (Rs)	Year of Implementation
1	Nursery formation with the facilities for Budding, Tissue Culture (Converge with MGNREGAv)	300000	24000	1	24000	4800	2014-15
2	Horticulture/Paddy Cultivation	17400	17400	15	261000	52200	2014-15
3	BioManure/Bio Pesticide production	50000	24000	1	24000	4800	2015-16
4	Assistance to High tech farm	100000	24000	4	96000	19200	2014-15
5	Assistance to Poultry farm	161500	24000	3	72000	14400	2015-16
6	Fodder Cultivation (10 cents)	6469	6469	10	64690	12938	2015-16
8	Aqua Ponics, Polyfarming etc	100000	24000	5	120000	24000	2015-16
9	Assistance to drip irrigation and for distribution of sprinkler	10000	10000	6	60000	12000	2014-15
10	Distribution of tricho cards (per acre)	1000	1000	53	53000	10600	2015-16
12	Mushroom Cultivation	6775	6775	10	67750	13550	2016-17
	Total			108	842440	168488	

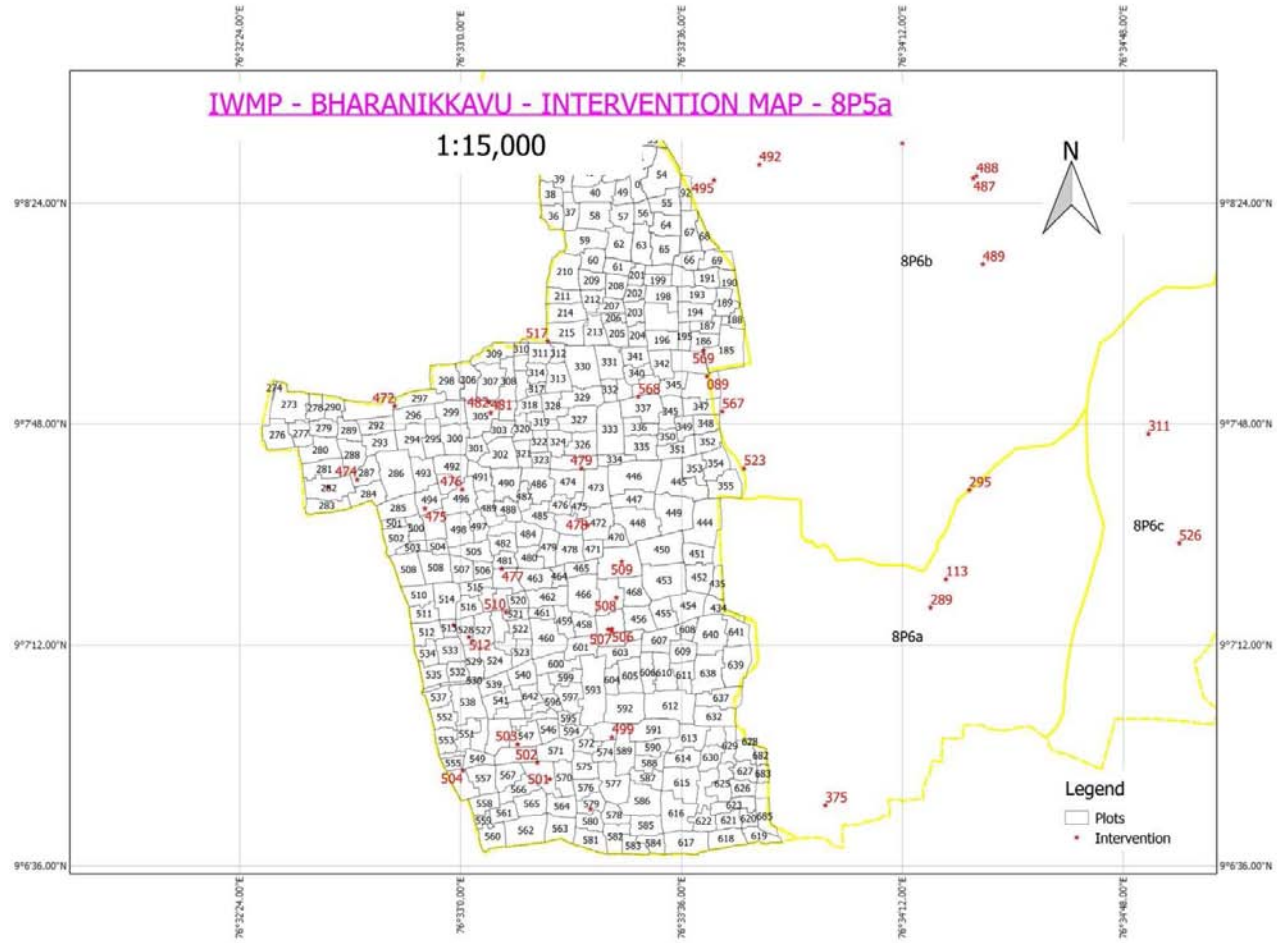
Table 55: Watershedwise&YearwiseFund Allocation

Watershed	20013-14	2014-15	2015-16	2016-17	Total
8p5a	1911076	1752889	120206	140309	3924479.9
8p6a	158700	790054	173660	19986	1142400
8p6b	6135302	4972534	208800	335844	11652480
8p6c	612440	1372840	864000		2849280
8p7a	378500	797500			1176000
8p7b	3904691.224	5387576.7	1259020.8	32712.13	10584000.9
8p7c	383040				383040
8p8b	1886038.83	987895.76	546626.7	1296879	4717440.29
Total in Lakhs	153.6979	160.6129	31.7231	18.2573	364.2912

Table 56: Consolidated amount for natural resource management

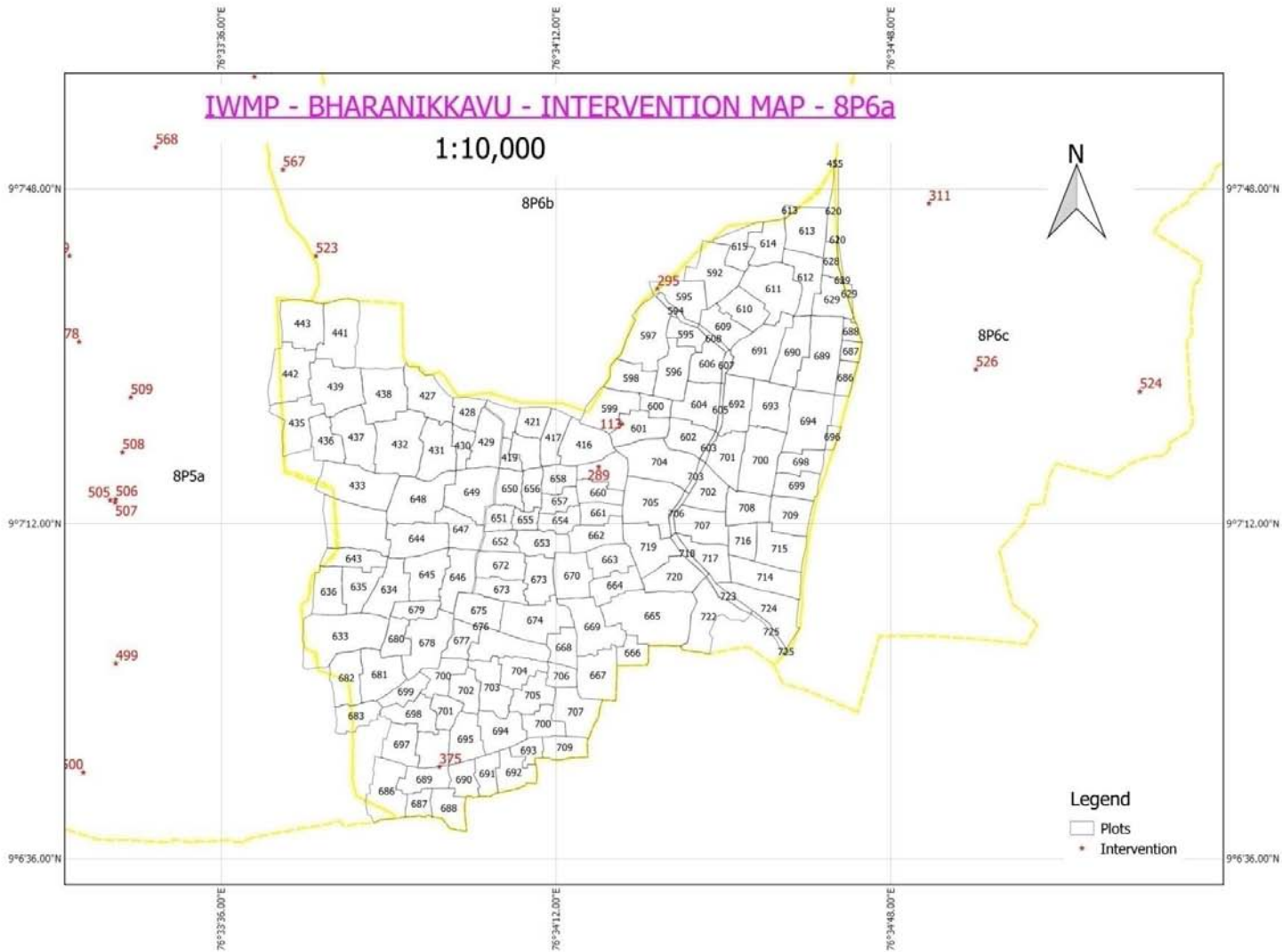
Sl.No	Category of NRM	8P5a	8P6a	8P6b	8P6c	8P7a	8P7b	8P7c	8P8b	Total
1	Ground water recharge - Open Well	810000	89100	2122200	1231200	210600	2330400	303040	939600	8036140
2	Pond Renovation	839380.2	470054	4788598	12027	167900	3113945	0	1383909	10775813
3	Drainage line treatment	734049.8	0	442838	265153	0	432419	0	174226	2048686
4	Roof water harvesting tanks	240000	80000	120000	260000	0	0	80000	0	780000
5	Portable Biogas Plant	880000	240000	0	864000	0	0	0	150000	2134000
6	Renovation of Water Extracting Units	34800	69600	783000	216900	0	1121400	0	226200	2451900
7	Water Filter	386250	0	0	0	0	0	0	0	386250
8	Check Dams	0	0	598331.32	0	0	855133.5	0	0	1453465
9	Sub Surface dyke	0	193646	1499340.75	0	0	1275462.3	0	546626.7	3515076
10	Contour Bunding	0	0	1298172	0	0	1310240	0	1296879	3905291
11	Culvert	0	0	0	0	797500	145000	0	0	942500
	Total Amount	3924480	1142400	11652480	2849280	1176000	10584000	383040	4717440	36429120

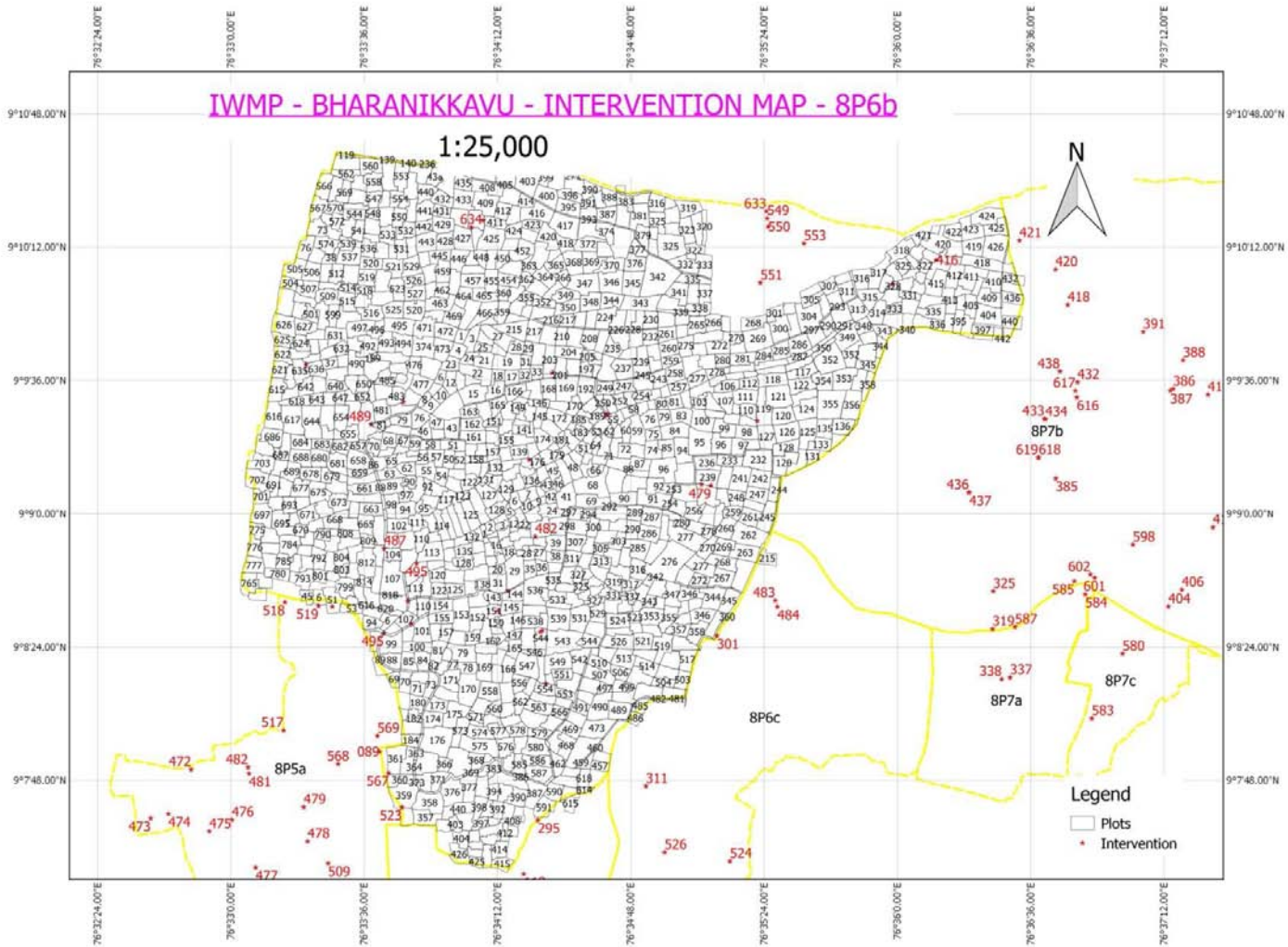
Intervention Map

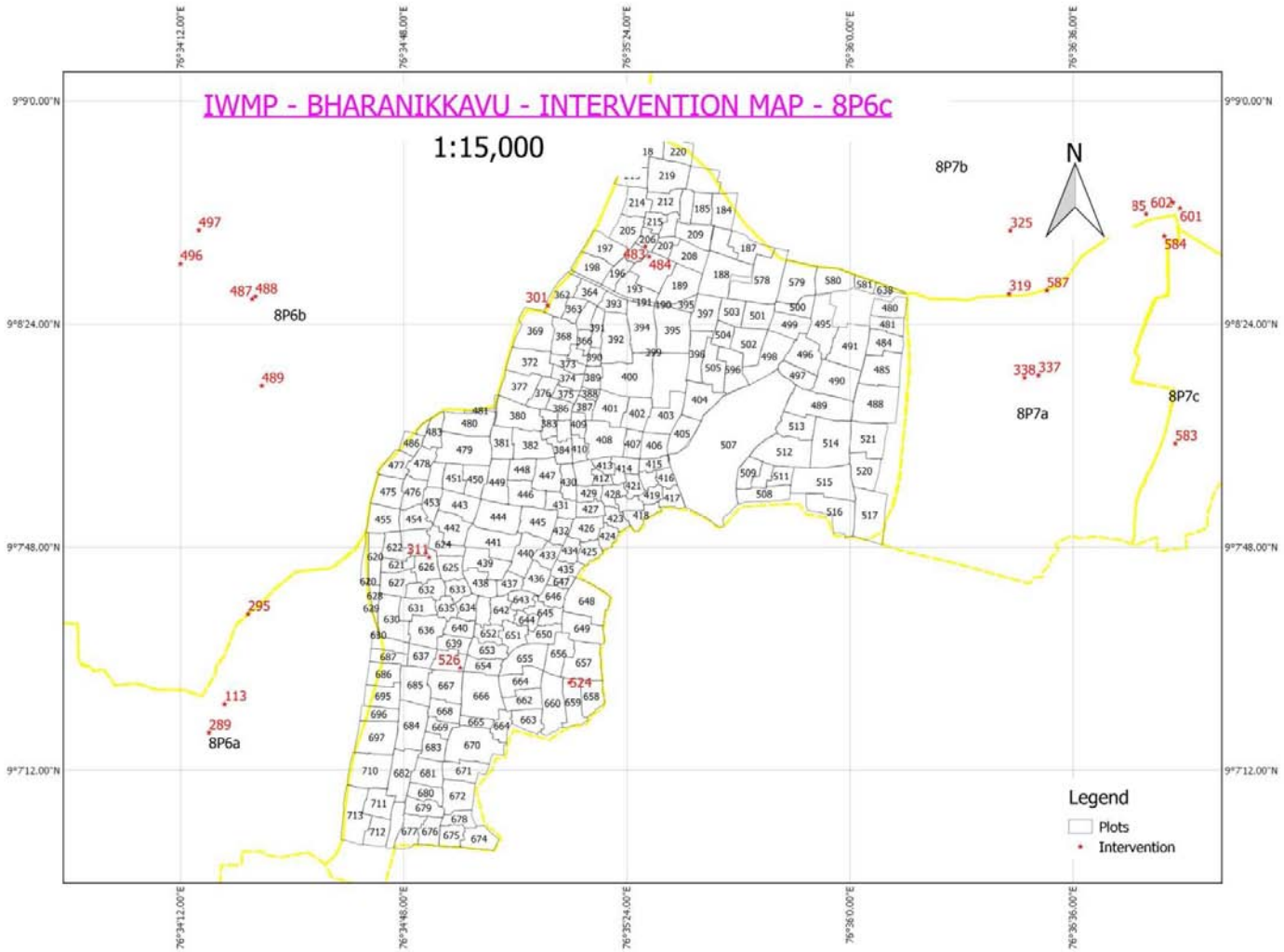


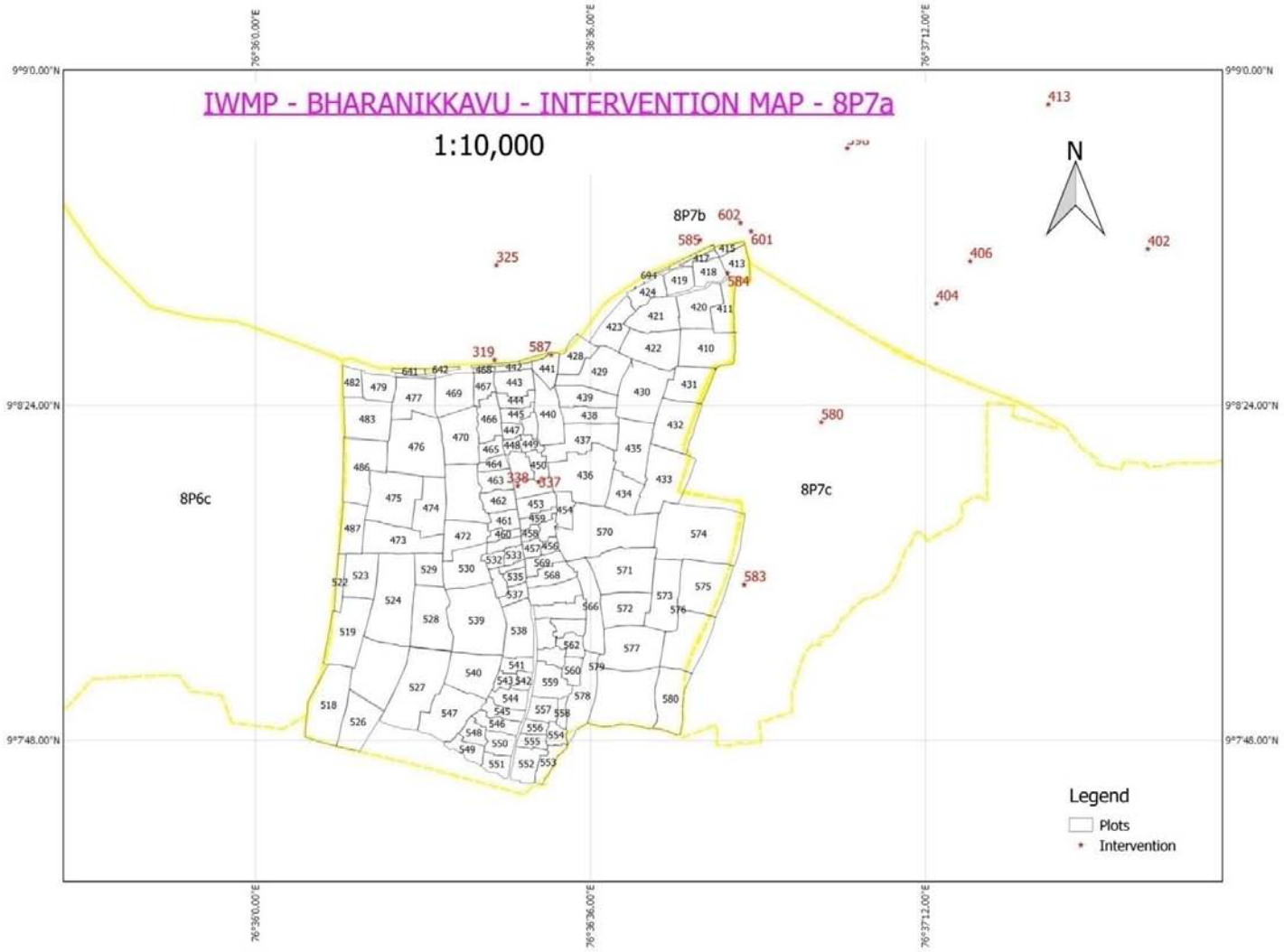
IWMP - BHARANIKKAVU - INTERVENTION MAP - 8P6a

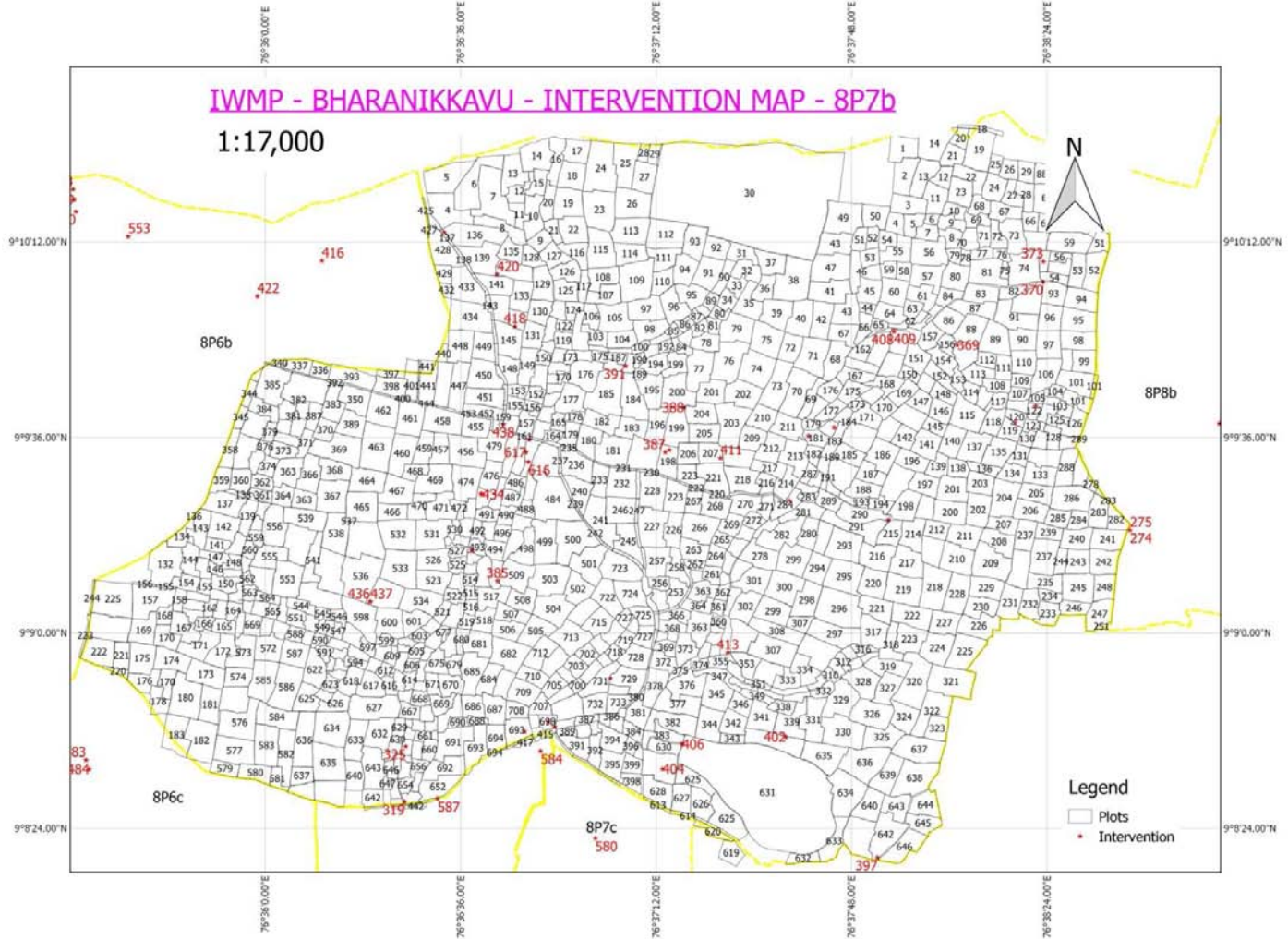
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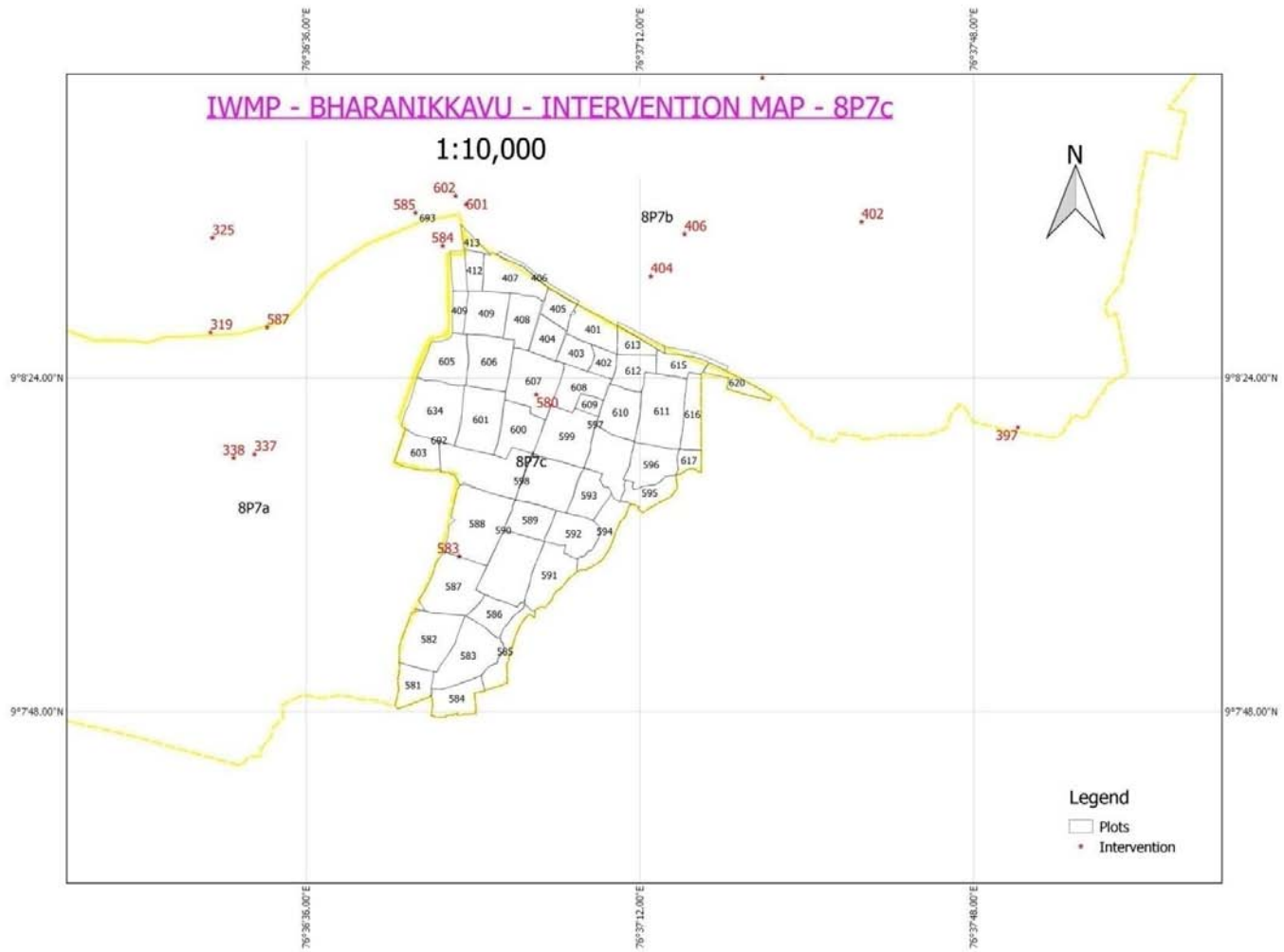


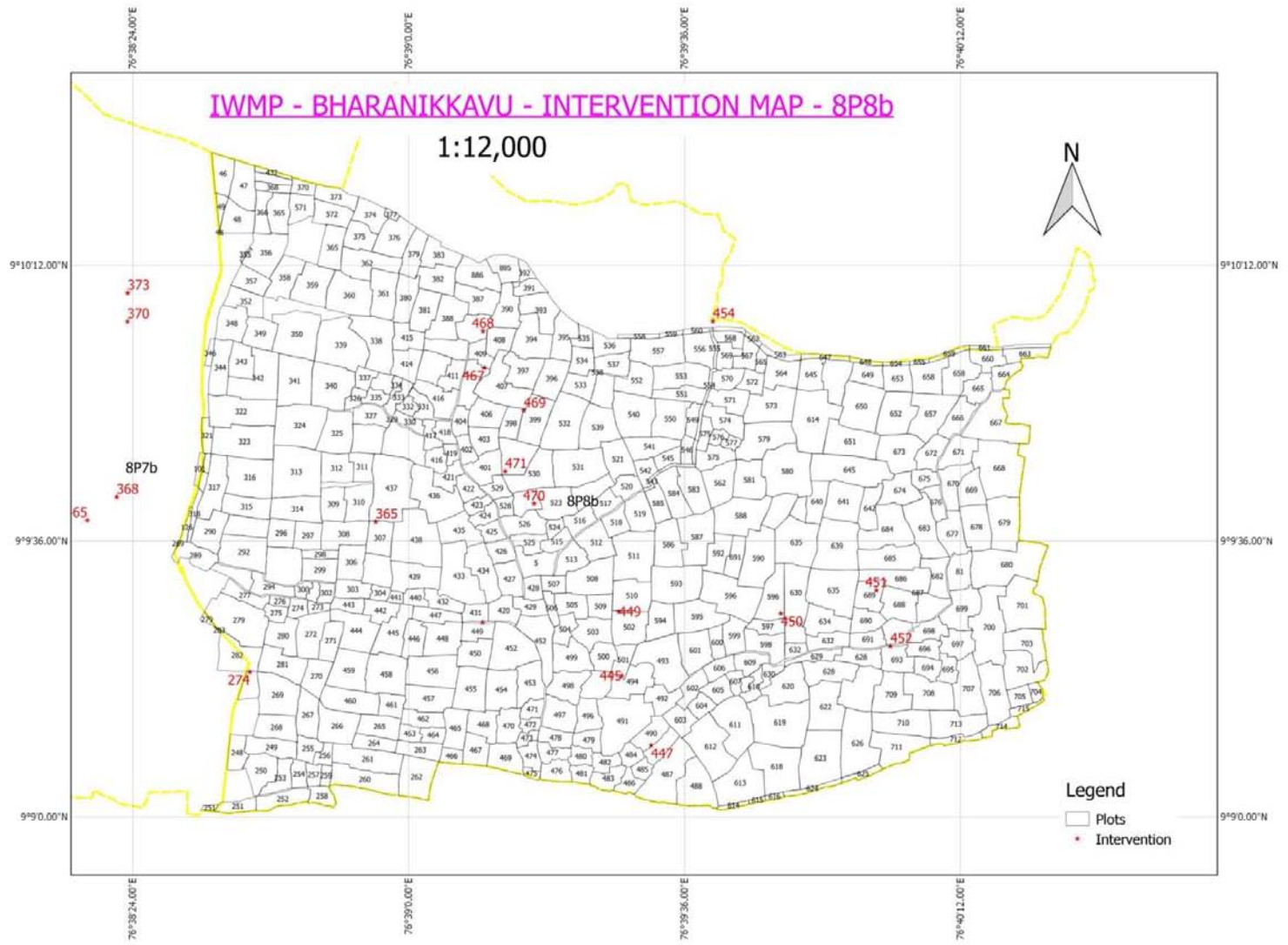












IWMP - BHARANIKKAVU - INTERVENTION MAP - 8P8b

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- Legend
- Plots
 - Intervention

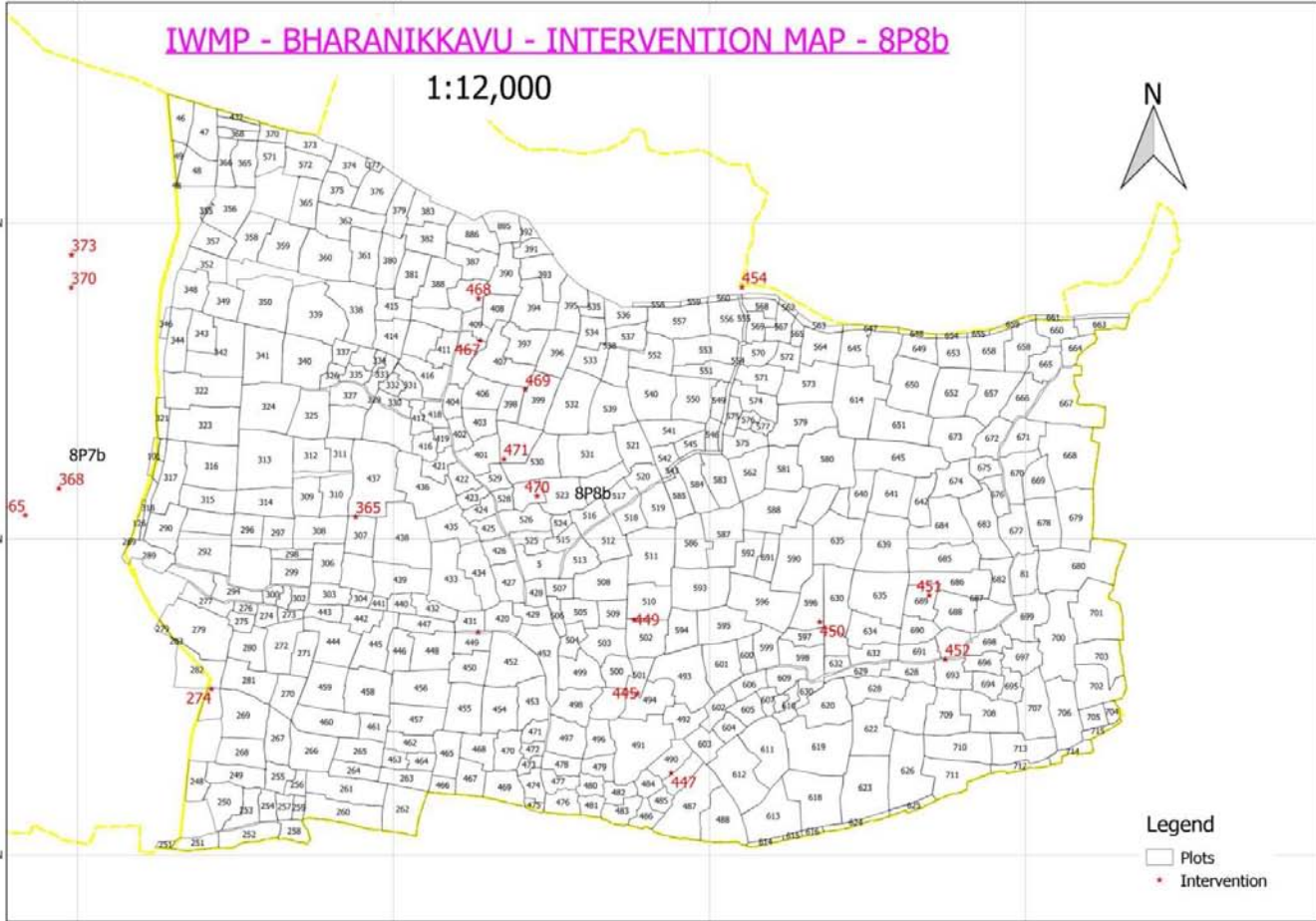


Table 57: Expected Outcomes

Sl. No	Activity	Target Group	Pre project period status	Post project period Status
1	Renovation of irrigation canals/Ponds	Farmers	<ul style="list-style-type: none"> Irrigation canals filled with sediment deposit 	<ul style="list-style-type: none"> 32 drainages and 37 ponds are deepen resulting in the following benefits Smoothen water flow Storage of excess water resulting ground water recharge Expansion of area irrigated Production enhancement(5%)
2	Construction of Check Dam/VCB	Farmers	<ul style="list-style-type: none"> Lack of adequate waterconservation measures 	<ul style="list-style-type: none"> 22 Nos of the Check Dam/VCB will bring the following benefit: Water Conservation Sufficient water availability Easy movement of agricultural implements and machines
3	Management of water resources	Watershed community	<ul style="list-style-type: none"> Inadequate water Water resources are polluted 	<ul style="list-style-type: none"> Recharging of 990 open wells, Rainwater Harvesting Ferroement Tank (10 Nos), and distribution of 515 purification devices will ensure the following results: Water availability in summer season (12 Months) Availability of pure drinking water (515 families)
4	Stone/Earthen Bund	Watershed community	<ul style="list-style-type: none"> Weak/Insufficient Soil Conservatiin measures 	<ul style="list-style-type: none"> 4600M³ Stone and Earthen bund will prevent soil erosion and conserve moisture
5	Livelihood activities	Poor people (landless or	<ul style="list-style-type: none"> 42 per cent of families live below poverty line. 	<ul style="list-style-type: none"> Atleast 183 SHGs will get aid for strengthening their livelihood activities

		asset less)		<p>every year.</p> <ul style="list-style-type: none"> • Generate employment opportunities (At least for 915 Households) • Empowerment of land less, asset less poor people especially women who are home makers without having any monetary benefit.
6	Production system	Small and marginal farmers, asset less households	<ul style="list-style-type: none"> • Shortage Agricultural production 	<ul style="list-style-type: none"> • Rise in production of paddy, milk, , eggs, vegetables etc

Watershed Development Fund & Exit Protocol

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

For other cost intensive farming system based livelihood activities/interventions such as Aquaculture, Horticulture, Agro-Forestry, Animal Husbandry etc. on private land directly benefiting the individual farmers, the contribution of farmers will be 20 percent for general category and 10 percent for SC/ST beneficiaries and the project funds will meet the cost of farming system activity to a maximum limit of an amount equal to double of the unit cost of the project for watershed development (i.e. Rs 12,000/15,000 per ha, as the case may be). Farmers' contribution i.e. 20 percent for general category and 10 percent for SC/ST of this amount (i.e. a maximum of Rs 4800/6000 and Rs 2400/3000 as the case may be, respectively for general category and SC/ST beneficiaries) will go to WDF.

The Secretary, Watershed Committee (WC) shall maintain a completely separate account of the income and expenditure of the WDF. Rules for operation of the fund should be prepared by the Watershed Committee (WC) and ratified by the Gram Sabha. The WDF bank account should be operated by the President of the Gram Panchayat and any member from the SHG nominated by the Gram Sabha. Alternatively, the guidelines for the management and utilization of the WDF may be evolved by the concerned Nodal Ministry.

After completion of Phase II, at least 50% of the WDF funds shall be reserved for maintenance of assets created on community land or for common use under the project. Works taken up on private land shall not be eligible for repairing/ maintenance out of this Fund. The remaining money may be used as a revolving fund to advance loans to the villagers of the project area who have contributed to the fund. Individuals as well as charitable institutions should be encouraged to contribute generously to this Fund.

