

Integrated Watershed Management Programme (IWMP)



Detailed Project Report (DPR)

IWMP X-2014-15

Nedumkandam Block Panchayath

Technical Support Organization



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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

IWMP X/2014-15 Nedunkandam watershed project is located in Nedunkandam Block of Udumbanchola Taluk in Idukki district. The project comprises of seven micro-watersheds namely Rajakkad (14P40ak1), Kuthunkal (14P40ak2), NR City (14P40a1), Kumbappara (14P40a2), Rajakumari (14P40a13), Panniyar (14P40ay1) and Aruvilachal (14P40ay2). The project, with a total treatable area of 3818 hectares has been selected for treatment under the Integrated Watershed Management Programme (IWMP). The project area covers the grama panchayats of Rajakkad, Rajakumari and Senapathy. The details of the project area are given below. There are 4572 households in the project area and the total population is 17245. The total cost of the project is Rs.572.70 lakhs. Water in all the the microwatersheds drains in to Periyar River. The project area lies in between the longitudes of 77°04' 50.22" to 77°10' 19.83" E and latitudes of 9°56'03.75" to 10°00'19.83" N

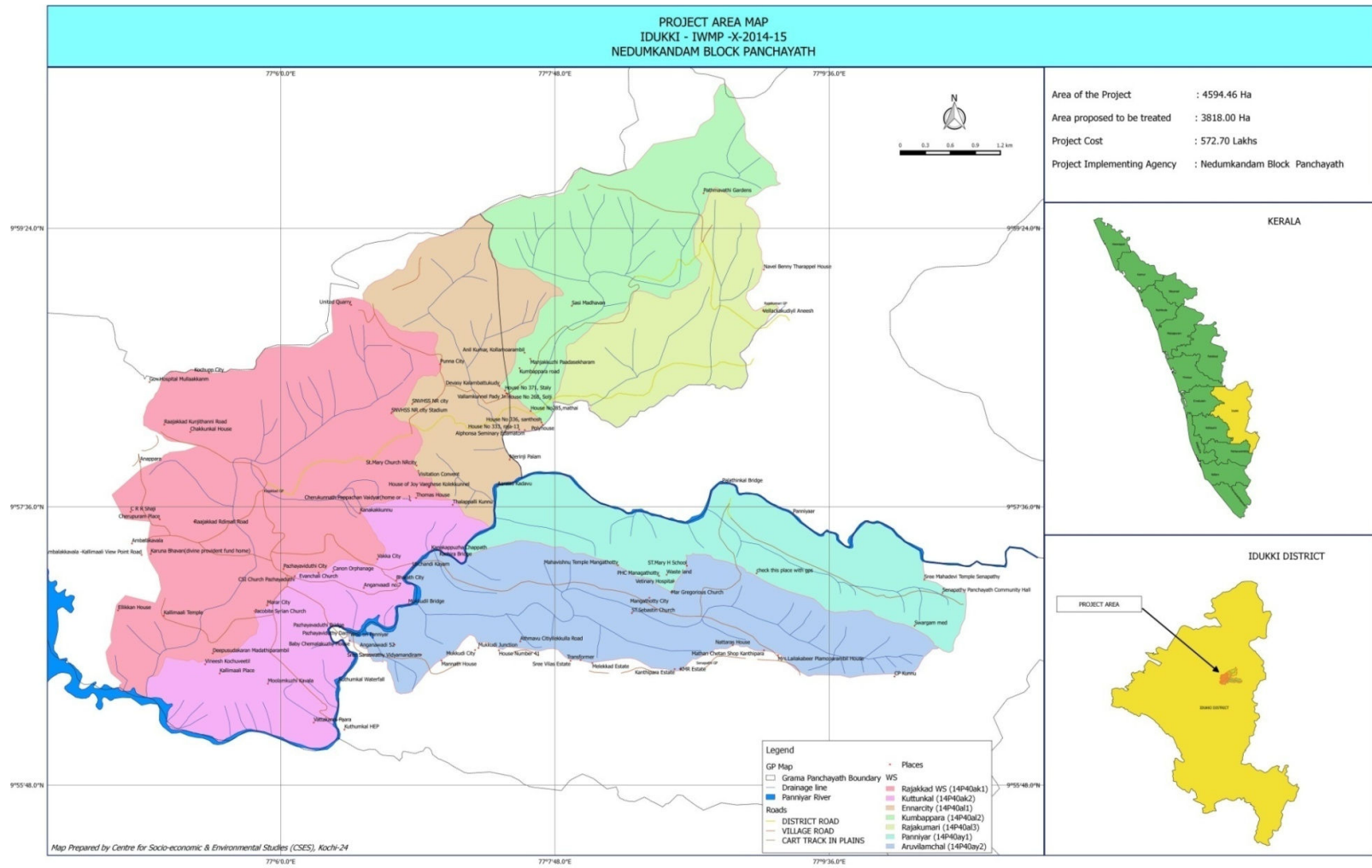
Table: 1: Project Back Ground of Idukki-IWMP X/2014-15

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- Idukki Taluk: Udumbanchola Block: Nedunkandam	Rajakkad	14P40ak1	Rajakkad	10,4	2, 3, 5,6,7,8,9,11,12	1027	1027	154.05
	Kuthunkal	14P40ak2	Kuthunkal	0	6,7,8,9	432	432	64.80
	N R City	14P40a1	Rajakkad	0	5, 3	399	399	59.85
			Rajakumari	0	1,2,13			
Kumbappara	14P40a2	Rajakumari	3	1,2,4	475	475	71.25	

	Rajakumari	14P40a3	Rajakumari	0	2,4,5,6,1 2,13	367	367	55.05
	Panniyar	14P40ay1	Senapathy	3	1,2,4	462	462	69.30
	Arivilamchal	14P40ay2	Senapathy	12	1,2, 9, 13	656	656	98.40
Total						3818	3818	572.70

Project area is located at the southern part of the famous western ghats; which stretched to a length of 1490 KM from Tapi valleys in the north to Kanyakumari in the south. The ghat descends deeply to the western coastal plain on the west but merge rather gently through a series of hills at the Deccan Plateau. Western ghat, which causes heavy rainfall on the western side enriches the area with evergreen forest. 3818 Ha of the project area is located in one of the hot spot of biodiversity. Indiscriminate anthropological activities like; land levelling deforestation, quarrying in western ghat resulting severe consequences. Map of the project area is shown hereinunder.

Location Map





Physiography, Relief and Drainage

Project area falls in the hill ranges of Western Ghats. The average elevation ranges from 710 – 1180 M above mean sea level. Maximum slope of the area is 18.9% to 42.9% and average slope 6.4 % to 9.45%. Project area is incised by a number of deep cut streams. Water in the microwatersheds drains into Panniyar which is a tributary of Periyar.

Table 2: Physiography

Name of Project	Physiography	Elevation (M)	Relief (M)	Major Drainage
IWMP X/2014-15 Nedumkandam	Highrange	710 to 1180	470	Panniyar

Criteria for Selection of the Project

The scores and criteria for selection of the watershed management programme are given in Table 3. The weightage under different criteria for IWMP X/2014-15 Nedumkandam watershed is given in Table 3

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 than 10% 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	Scores													
	i	ii	iii	iv	v	vi	vii	viii	ix	X	xi	xii	xiii	ആകെ
IWMP X/ 2014-15 Idukki	7.5	5	0	10	3	0	15	7.5	15	10	10	0	10	98

Source: Primary Project Report

Major four Reasons for Selection of Watershed

1. Heavy soil erosion and land degradation
2. Poor Socio-economic condition of people
3. High cost of production
4. Water scarcity and insufficient irrigation system

Climate

Rainfall

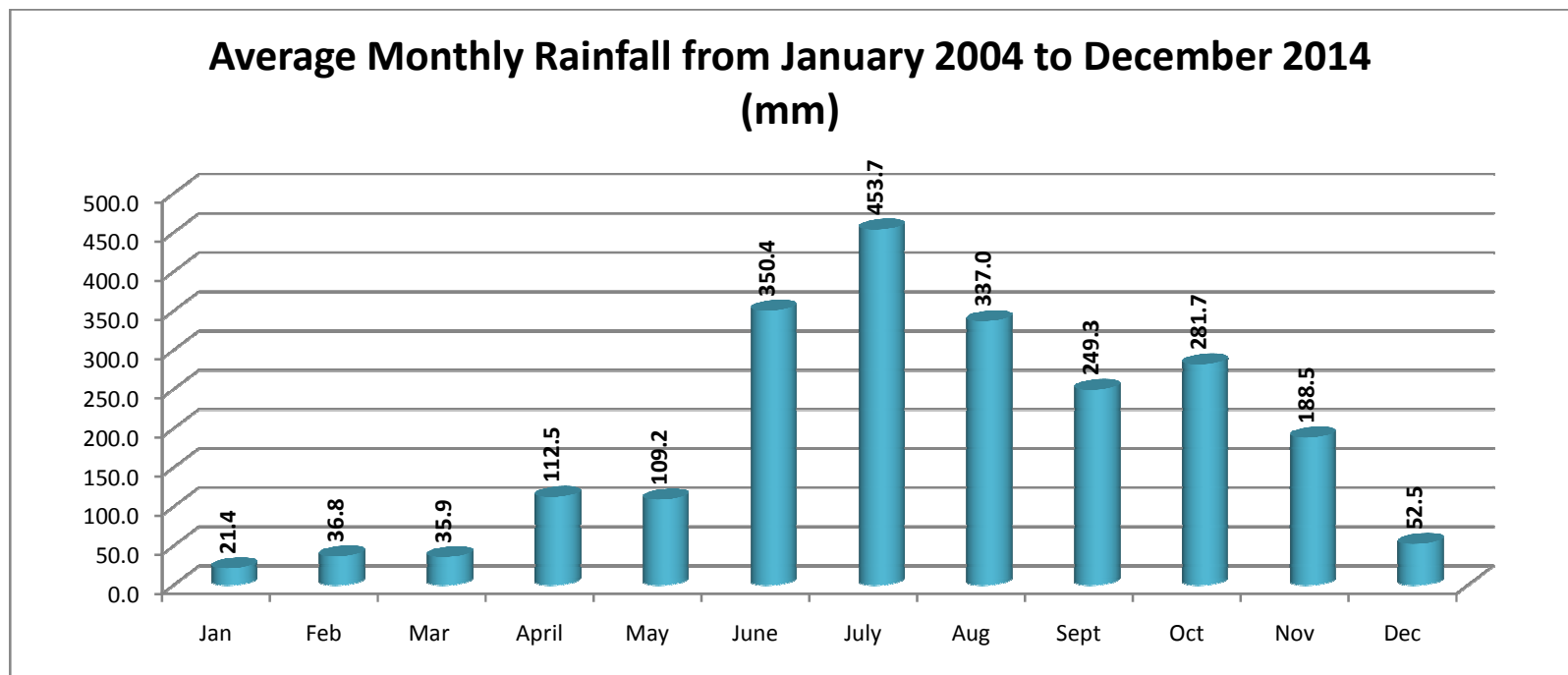
The project area experiences humid tropical climate with a bountiful rainy season through the northeast and southwest monsoons and mild summer. The hot season is from March to May and it is followed by South West monsoon season from June to September. Analysing the precipitation data below, south west monsoon contributes the major part of the annual rainfall. Average annual rainfall is 42228.8mm. There is no drought or dry spells. The South-West monsoon contributes nearly 62% of annual rainfall followed by 23% of North-East monsoon. Summer showers contribute remaining 15%. The humidity is higher during the monsoon period (from June to September). Though the district did not experience severe or most severe drought the deficient summer showers had badly affected the crops and drinking water availability.

Table 5: Annual Rainfall from 2004 to 2015 (in mm)

Month	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total Annual Rainfall	Average Annual Rainfall	Average Monthly Rainfall
2004	17.7	0	1.6	65.7	239.5	546	217	330.6	113	164.6	128.4	14.2	1838.3	2228.8	153.2
2005	40	73.4	68.6	163.2	77.1	273.8	733.3	263.9	397.1	307.3	236.9	157.9	2792.5		232.7
2006	5.9	0	42.2	48.9	303	228	387	264	307.8	223.4	175.7	1.6	1987.5		165.6
2007	20.2	37.2	11.4	120.9	52.1	539.6	596.2	276.4	416.2	402.7	101.8	123.6	2698.3		224.9
2008	0	89	149.5	38.4	26.8	203.2	330.8	431.3	188.7	290.3	59	34.2	1841.2		153.4
2009	27	0	32.6	161.2	48.7	204.6	536.6	195.2	279.6	272	338.9	84.6	2181		181.8
2010	18.9	0	12.8	98.6	82	286	419	260.4	159.4	296.2	233.8	33.4	1900.5		158.4
2011	94.2	107.4	22.2	268.8	28.6	398.6	351	410.2	188.2	298.5	237.2	14	2418.9		201.6

2012	4.7	0.2	21.3	178.6	24.9	203.3	182.2	290	148.4	327.9	150.8	12.7	1545	128.8
2013	0.4	92.1	21.5	45.7	71.2	714.6	623	425.4	272.3	139.3	253.9	47	2706.4	225.5
2014	6	5.1	11.2	47.2	247.8	256.6	614.4	559.2	272	376.6	156.6	54.2	2606.9	217.2
2015	0	35	110.6	216.8	124.4	391.4	276.3	145.86					1300.36	

Source: Kerala Agricultural University, Cardamom Research Station, Pampadumpara.



Meteorological Parameters

Since the project area does not have full fledged climatic stations, the details from Department of Ground water, Thodupuzha and Pampadumpara station maintained by Kerala Agricultural University are given below.

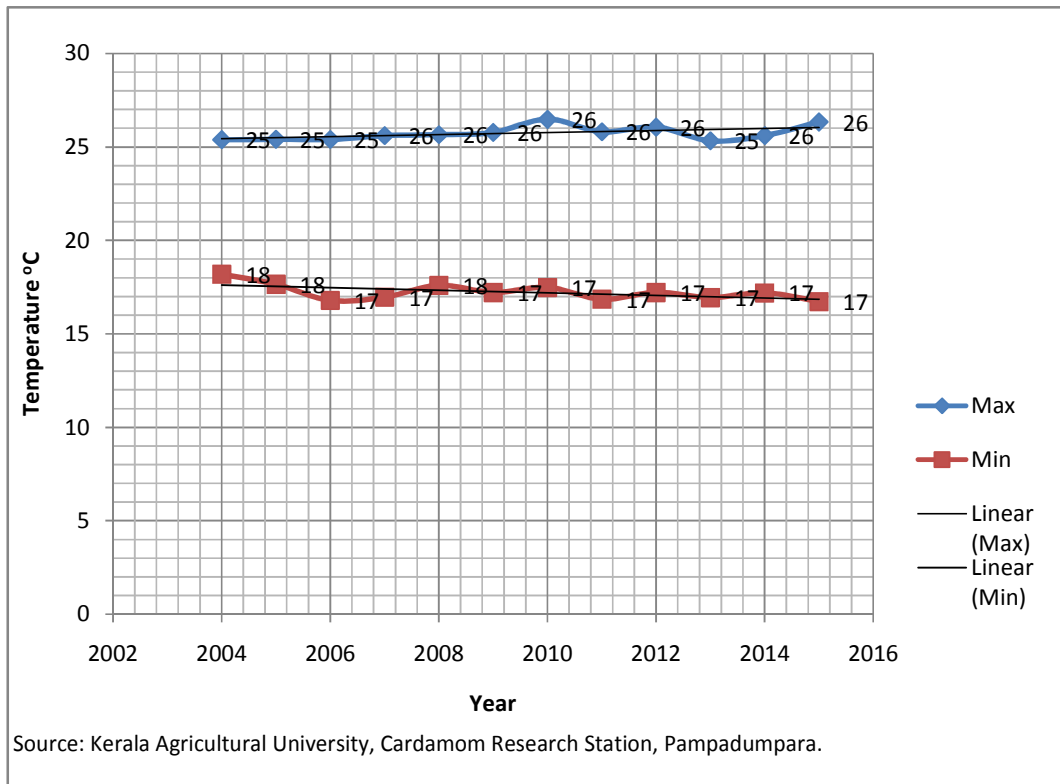
Temperature

Table 6: Temperature °C 2004 to 2014

Year		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
January	Max	25.2	25.2	24	24.3	25.15	23.73	25.19	25.3	24.67	25.9	24.7	25.2
	Min	17.2	15.48	15	14.1	15.16	14.38	16.34	14.87	14.77	14.9	14.5	14.3
February	Max	27.2	26.1	26.3	26.3	27.34	26.45	27.75	26.9	26.56	26.05	27.1	26.4
	Min	18.5	16.5	15	14.8	16.71	15.43	16.54	15.3	15.96	15.62	15.7	14.3
March	Max	30.35	28	28.1	29	26.05	27.64	30.35	28.6	29.04	28	28.1	27.4
	Min	19.14	18.7	17.2	15.9	17.59	16.94	17.56	16.2	17.23	17.5	16.6	16.1
April	Max	30.15	26.7	26.6	29.8	27.71	28.64	31.01	29	28.97	30.4	30.4	28.2
	Min	19.91	19.7	18.6	17.8	19.17	18.53	19.37	17.5	17.86	19.3	25.3	17.6
May	Max	24.72	28.9	27.8	30	28.12	28	29.21	29.4	28.31	27.9	28.1	27.8
	Min	19.34	19.4	17.9	18	18.89	18.62	19.54	18.5	19.15	19	18.4	19.8
June	Max	22.01	23.8	25.5	25.3	24.97	25.5	25.8	24.15	24.99	21.6	24.4	25.3
	Min	17.9	18.4	17.7	17	17.94	17.35	18.3	17.41	18.09	17.3	17.3	19.2
July	Max	24	21.6	23	20.8	24.73	22.73	23.81	23.5	24.68	21.2	22.6	24.6
	Min	18	17.6	17.3	17.62	17.55	17.73	17.35	16.99	17.83	16.9	16.4	16
August	Max	24	25.6	24.5	24.6	24.42	25.33	24.18	24	23.64	23.8	23.3	25.8
	Min	17.6	17.4	17.2	18.18	17.46	18	17.56	17.6	17.41	17.19	16.7	16.5
September	Max	25.5	23.2	27	23.5	26.4	25.52	25.8	24.4	25.4	24.2	25.1	
	Min	19.6	17.7	17	18.5	17.9	18.1	16.8	17.4	17.73	16.55	16.7	
October	Max	24.5	26.9	24.9	25.6	25.52	26.31	24.97	26.3	26.09	25.6	25.5	
	Min	19	17.3	16.8	17.82	18.73	17.47	16.9	17.9	17.66	17.01	17	
November	Max	23.6	24.4	23.4	25.5	24.92	25	25.04	24	26.65	25.01	24.4	
	Min	17	17	16.9	17	17.5	17.3	17.01	17	16.61	16.88	16.2	
December	Max	23.4	24.5	23.7	22.6	22.56	24.45	24.6	24.2	23.72	24.32	23.6	
	Min	15	16.6	14.8	16.8	16.48	16.7	16.5	15.5	16.27	15.15	15.5	

Source: Kerala Agricultural University, Cardamom Research Station, Pampadumpara.

Maximum and Minimum Temperature over the years from 2004 to 2014



Relative Humidity

The relative humidity is more during the morning hours and is less during evening hours. During morning hours it ranges from 85.0 to 98.45% and during evening hours it ranges from 40.8 to 87.3%.

Evaporation

Evaporation is more during summer months of March to May. In general it ranges from 1.11 to 5.0 mm/day. During the south west monsoon it ranges from 1.11 to 2.13 mm/day.

Sunshine Hours

Sunshine ranges from 1.8 to 9.5 hrs/day. Maximum sunshine is during the month of February. The months of June to August record the minimum sunshine due to cloudy sky. Generally good sunshine hours are recorded in the months of December to May.

Wind

The wind speed ranges from 3.90 to 7.95 km/hour. The wind speed is high during the months of March to July and November to January.

Geology

As per geological survey of India the project area falls completely in the Charnockite Group: Cordierite gneiss, charnockite, charnockite gneiss and pyroxene granulte.

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 3437 open dug wells, 77 bore wells and 144 ponds are existing in the project area. Depth of the open dug well ranges between 2 m to 12m 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 96 of the total open dug wells, the water availability duration is less than 6 months. Water availability duration is up to 11 months in 691 open wells. 2650 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 7: Individual water sources details in the project area

Watershed	Less than 6 months	6 to 11 months	Throughout the year	Total
Rajakkad (14P40ak1)	24	200	1246	1470
Kuttunkal (14P40ak 2)	3	52	261	316
N R City (14P40al1)	16	107	255	378
Kumbappara (14P40al2)		16	232	248
Rajakumari (14P40al3)	22	246	210	478
Panniyar (14P40ay1)	3	10	101	114
Aruvilanchal (14P40ay2)	28	60	345	433
Total	96	691	2650	3437

Source: Baseline Survey

Table 8 : Ground Water Resource of Nedumkandam Block as on March 2009

Net Annual GW Availability	1502.51
Existing Gross GW Draft for irrigation	357.49
Existing Gross GW Draft for domestic and industrial water supply	695.79

Existing Gross GW Draft for all uses	1053.28
Allocation for domestic and industrial requirement supply up to next 2025 years	768.28
Net GW Availability for future irrigation development	376.75
Stage of GW development (%)	70.10
Categorization	Semi Critical

Source: Ground Water Information Booklet of Idukki District, Central Ground Water Board, Ministry of Water Resources, Government of India.

As per the categorisation of blocks based on 2004 data computations, Nedumkandam block was critical. But the analysis of 2009 data shows that the situation improved to semi critical.

Surface Water Resources and Irrigation

The project area has a number of public and private ponds and streams which are the main source of irrigation. Cardamom is the main crop in the project area which is being irrigated using tanks, streams and ponds. Paddy and banana are irrigated by water from streams, Coffee, pepper etc are usually not irrigated

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 9: Details of the Population in the Project Area

Watershed	Male	Female	Total
Rajakkad (14P40ak1)	3596	3736	7332
Kuttunkal (14P40ak 2)	935	972	1907
Panniyar (14P40ay1)	875	961	1836
N R City (14P40al1)	540	538	1078
Kumbappara (14P40al2)	980	967	1947
Rajakumari (14P40al3)	352	368	720
Aruvilanchal(14P40ay2)	1148	1277	2425
Total	8426	8819	17245

Source: Baseline Survey

Table 10: Details of the Household in the Project Area – SC, ST& Others

Watershed	SC		ST		OBC		General		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Rajakkad (14P40ak1)	59	3.1	12	0.6	631	33.4	1188	62.85714	1890	100
Kuttunkal (14P40ak 2)	19	3.7	3	0.6	56	10.8	441	84.9711	519	100
Panniyar (14P40ay1)	45	9.8	20	4.3	92	20.0	303	65.86957	460	100
N R City (14P40al1)	6	2.2			154	55.6	117	42.23827	277	100
Kumbappara (14P40al2)	47	7.3	2	0.3	72	11.2	522	81.18196	643	100
Rajakumari (14P40al3)	25	14.3	3	1.7	37	21.1	110	62.85714	175	100
Aruvilanchal (14P40ay2)	27	4.4	37	6.1	121	19.9	423	69.57237	608	100
Total	228	5.0	77	1.7	1163	25.4	3104	67.89151	4572	100

Table 11: Agewise Distribution of Population in the Project Area

Watershed	No.members below 15 yrs	No members above 60 yrs	No illiterate members above 6 yrs	No.members b/w 15 & 60 yrs	Total
Rajakkad (14P40ak1)	1436	924	91	4972	7332
Kuttunkal (14P40ak 2)	352	165	39	1390	1907
Panniyar (14P40ay1)	265	187	17	1384	1836
N R City (14P40al1)	194	130	19	754	1078
Kumbappara(14P40al2)	301	215	16	1431	1947
Rajakumari (14P40al3)	146	105	17	469	720
Aruvilanchal(14P40ay2)	499	292	35	1634	2425
Total	3193	2018	234	12034	17245

Source: Baseline Survey

Table 12: Number of Households in the Project Area

Watersheds	Gramapanchayath			
	Senapathi	Rajakkad	Rajakumari	Total
Rajakkad (14P40ak1)	0	1890	0	1890
Kuttunkal (14P40ak 2)	0	519	0	519
Panniyar (14P40ay1)	460	0	0	460
N R City (14P40al1)	0	185	92	277

Kumbappara(14P40a2)	0	0	643	643
Rajakumari (14P40a3)	0	0	175	175
Aruvilanchal(14P40ay2)	608	0	0	608
Total	1068	2594	910	4572

Source: Baseline Survey

Table 13: Poverty status of households

Watershed	BPL		APL		Total	
	No.	%	No.	%	No.	%
Rajakkad (14P40ak1)	866	45.8	1024	54.2	1890	100
Kuttunkal (14P40ak2)	329	63.4	190	36.6	519	100
Panniyar (14P40ay1)	229	49.8	231	50.2	460	100
N R City (14P40a1)	119	43.0	158	57.0	277	100
Kumbappara(14P40a2)	343	53.3	300	46.7	643	100
Rajakumari (14P40a3)	63	36.0	112	64.0	175	100
Aruvilanchal(14P40ay2)	362	59.5	246	40.5	608	100
Total	2311	50.5	2261	49.5	4572	100

Source: Baseline Survey

Table 14: Main Source of Income of Households in the Project Area

Source	Aruvilancha I (14P40ay2)		Panniyar (14P40ay1)		Rajakkad (14P40ak1)		Kumbappara (14P40a2)		Rajakumari (14P40a3)		N R City (14P40a1)		Kuttunkal (14P40ak 2)		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Agriculture	425	69.9	37	80.9	905	47.9	201	31.3	104	59.4	147	53.1	30	58.6	245	53.8
Petty Business	19	3.1	47	10.2	127	6.7	3	0.5	21	12.0	4	1.4	61	11.8	282	6.2
Daily labour	110	18.1	27	5.9	360	19.0	408	63.5	38	21.7	75	27.1	76	14.6	109	23.9
Agriculture labour	9	1.5	5	1.1	46	2.4	13	2.0	3	1.7	3	1.1	4	0.8	83	1.8
Govt.job	12	2.0	3	0.7	83	4.4	3	0.5	1	0.6	19	6.9	9	1.7	130	2.8
Private job	1	0.2	1	0.2	57	3.0	3	0.5	3	1.7	3	1.1	1	0.2	69	1.5
Self employed/Business	9	1.5	1	0.2	140	7.4	10	1.6	2	1.1	10	3.6	14	2.7	186	4.1
Income from abroad	1	0.2			21	1.1	1	0.2	1	0.6			2	0.4	26	0.6
Pension	2	0.3	1	0.2	28	1.5	1	0.2	1	0.6	8	2.9	39	7.5	80	1.7
Estate workers	7	1.2			40	2.1			1	0.6	5	1.8	4	0.8	57	1.2
Others	13	2.1	3	0.7	83	4.4					3	1.1	5	1.0	107	2.3
Total	608	100.0	460	100.0	1890	100	643	100	175	100	277	100	519	100	4572	100

Source: Baseline Survey

Table 15: Details of landless Households in the project area

Watershed Code	Nos	%
Rajakkad (14P40ak1)	70	3.7
Kuttunkal (14P40ak 2)	3	0.6
Panniyar (14P40ay1)	3	0.7
N R City (14P40al1)	13	4.7
Kumbappara (14P40al2)	144	22.4
Rajakumari (14P40al3)	4	2.3
Aruvilanchal (14P40ay2)	13	2.1
Total	250	5.5

Source: Baseline Survey

Literacy rate of the population in the project area

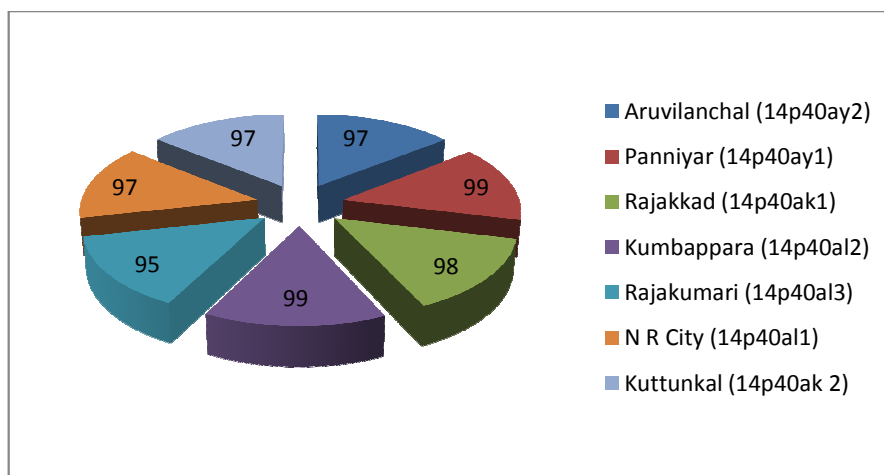


Table 16: Proportion of households with electric connection

Watershed	Yes	%	No	%	Total	%
Rajakkad (14P40ak1)	1826	96.61376	64	3.386243	1890	100
Kuttunkal (14P40ak 2)	477	91.90751	42	8.092486	519	100
Panniyar (14P40ay1)	410	89.13043	50	10.86957	460	100
N R City (14P40al1)	265	95.66787	12	4.33213	277	100
Kumbappara (14P40al2)	614	95.48989	29	4.510109	643	100
Rajakumari (14P40al3)	169	96.57143	6	3.428571	175	100
Aruvilanchal (14P40ay2)	542	89.14474	66	10.85526	608	100
Total	4303	94.11636	269	5.88364	4572	100

Source: Baseline Survey

Table 17: Main fuel used for cooking in the households

Watershed	LPG		Electricity		Wood		Others		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Aruvilanchal (14P40ay2)	304	50.0	1	0.2	297	48.8	6	1.0	608	100
Kumbappara (14P40al2)	294	45.7	2	0.3	324	50.4	23	3.6	643	100
Kuttunkal (14P40ak 2)	140	27.0	1	0.2	376	72.4	2	0.4	519	100
N R City (14P40al1)	68	24.5			207	74.7	2	0.7	277	100
Panniyar (14P40ay1)	60	13.0	1	0.2	355	77.2	44	9.6	460	100
Rajakkad (14P40ak1)	969	51.3	8	0.4	877	46.4	36	1.9	1890	100
Rajakumari (14P40al3)	61	34.9			114	65.1			175	100
Total	1896	41.5	13	0.3	2550	55.8	113	2.5	4572	100

Source: Baseline Survey

Table 18: Toilet facilities of families in the project area

Watershed	Septic tank		Pit latrine		Public toilet		No toilet		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Rajakkad (14P40ak1)	1050	55.6	798	42.2	18	1.0	24	1.3	1890	100
Kuttunkal (14P40ak 2)	310	59.7	189	36.4			20	3.9	519	100
Panniyar (14P40ay1)	117	25.4	331	72.0	1	0.2	11	2.4	460	100
N R City (14P40al1)	98	35.4	179	64.6					277	100
Kumbappara(14P40al2)	445	69.2	45	7.0	17	2.6	136	21.2	643	100
Rajakumari (14P40al3)	148	84.6	22	12.6			5	2.9	175	100
Aruvilanchal(14P40ay2)	419	68.9	171	28.1			18	3.0	608	100
Total	2587	56.6	1735	37.9	36	0.8	214	4.7	4572	100

Source: Baseline Survey

Table 19: Number of families joined in Self Help Group

Watershed	Kudumbasree		Block SHG		Others		No membership		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Rajakkad (14P40ak1)	1113	58.89	51	2.698	24	1.27	702	37.14	1890	100
Kuttunkal (14P40ak 2)	407	78.42	19	3.661	2	0.385	91	17.53	519	100
Panniyar (14P40ay1)	413	89.78	9	1.957	3	0.652	35	7.609	460	100
N R City (14P40al1)	165	59.57	15	5.415	6	2.166	91	32.85	277	100
Kumbappara (14P40al2)	196	30.48			1	0.156	446	69.36	643	100
Rajakumari(14P40al3)	104	59.43	16	9.143			55	31.43	175	100
Aruvilanchal (14P40ay2)	434	71.38	5	0.822	4	0.658	165	27.14	608	100
Total	2832	61.94	115	2.515	40	0.875	1585	34.67	4572	100

Source: Baseline Survey

Table 20: Main source of drinking water in the project area

Watershed Code	Arivilanchal (14P40ay2)		Panniyar (14P40ay1)		Rajakkad (14P40ak1)		Kumbappara (14P40al2)		Rajakumari (14P40al3)		N R City (14P40al1)		Kuttunkal (14P40ak 2)		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Private water connection	28	4.6	1	0.2	157	8.3	31	4.8	2	1.1	7	2.5	134	25.8	360	7.9
Public tap	103	16.9	21	4.6	152	8.0	175	27.2	42	24.0	1	0.4	26	5.0	520	11.4
Well(Private)	391	64.3	365	79.3	1275	67.5	387	60.2	114	65.1	248	89.5	197	38.0	2977	65.1
Well(public)	40	6.6	20	4.3	60	3.2	13	2.0			6	2.2	10	1.9	149	3.3
Bore Well	16	2.6	7	1.5	32	1.7	10	1.6	2	1.1	10	3.6			77	1.7
Stream	5	0.8	21	4.6	43	2.3			1	0.6			65	12.5	135	3.0
Buying Water	9	1.5	1	0.2	89	4.7	11	1.7	2	1.1	5	1.8	68	13.1	185	4.0
rain water harvesting	1	0.2			2	0.1							5	1.0	8	0.2
River/Pond			11	2.4	24	1.3	14	2.2	6	3.4			10	1.9	65	1.4
Trench	7	1.2			2	0.1	2	0.3					1	0.2	12	0.3
Others	8	1.3	13	2.8	54	2.9			6	3.4			3	0.6	84	1.8
Total	608	100	460	100	1890	100	643	100	175	100	277	100	519	100	4572	100

Source: Baseline Survey

Table 21: Details of livestock and poultry in the project area

Watershed	Cows (Nos.)	Buffalo/Bull (Nos.)	Duck (Nos.)	Hen (Nos.)	Goat (Nos.)
Rajakkad (14P40ak1)	514	41	377	4283	908
Kuttunkal (14P40ak 2)	164	22	32	693	338
Panniyar (14P40ay1)	144	8	66	963	326
N R City (14P40al1)	54	0	3	185	134
Kumbappara (14P40al2)	41	0	30	580	200
Rajakumari (14P40al3)	45	1	3	171	185
Aruvilanchal (14P40ay2)	196	6	92	2133	481
Total	1158	78	603	9008	2572

Source: Baseline Survey

Table 22: Institutions in the project area

Institutions	Watershed						
	14P40ak1	14P40ak2	14P40al1	14P40al2	14P40al3	14P40ay1	14P40ay2
Post office	1		1				
Library	2	1	1				1
Ration shop	1					1	
Bank	2	1				1	1
Gp Office	1						
Krishi bhavan	1						
KSEB							
Club	1		1				1
Pumbhouse							
Village Office							1
Bustand	1						
Mini Stadium	1						
Public Playground	1						1
Milma	2	1					1
Police Station	1						
Telephone Exchange	1						

Source: Baseline Survey

Table 23: Health related institutions in the project area

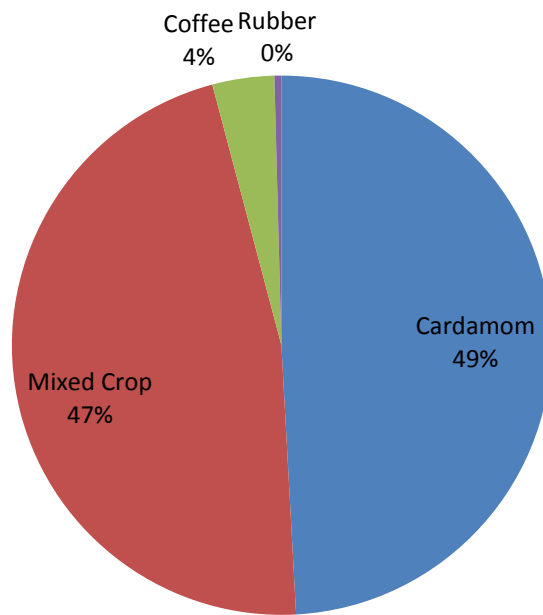
	Watershed						
	14P4 0ak1	14P4 0ak2	14P4 0al1	14P4 0al2	14P4 0al3	14P4 0ay1	14P4 0ay2
Vetinary Centre						1	
PHC						1	
Sub Centre	1					1	
Dispensary		1					
Govt. Ayurvedic Hospital	1						
Govt. Hospital	1						
Pvt. Hospital	3						
Govt. Homeo Hospital	1						

Source: Baseline Survey

Agriculture and Present Land Use

Four major estates are including in the project area. About 50 percent of the project area is cardamom plantation, which give yield for a long time. Remaining portion of the area is mainly under the category of mixed crop. Coffee, Pepper, Areca nut, tapioca, plantain, Ginger, Turmeric, Varieties of vegetables, other spices etc. are being grown.

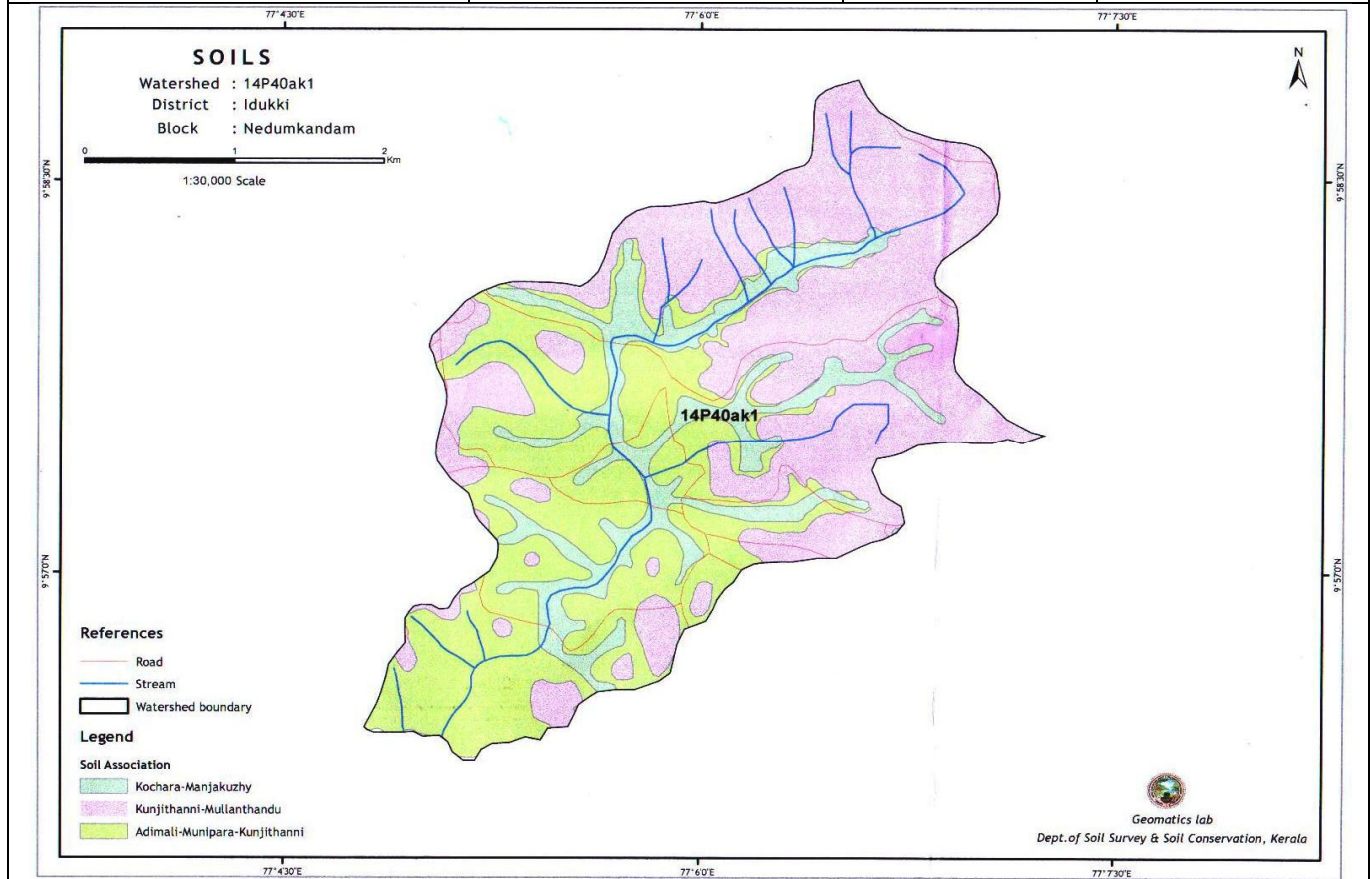
Land Use



Major Soils in the Project Area

As per the Soil association map, Department of soil survey and soil conservation, Government of Kerala and Kerala state Land Use Board the soil association, Land Capability Class and limitations are as follows.

Soil Association	Watershed	Land Capability Class*	Land Capability Sub Class Limitations
Kochara – Manjakkuzhi	Rajakkad (14P40ak1)	II & III	Wetness
Kunjithanni – Mullanthandu		III, IV	Erosion
Adimali – Munippara- Kunjithanni		IV, VI	Erosion Soil



Source: Soil association map, Department of soil survey and soil conservation, GOK.

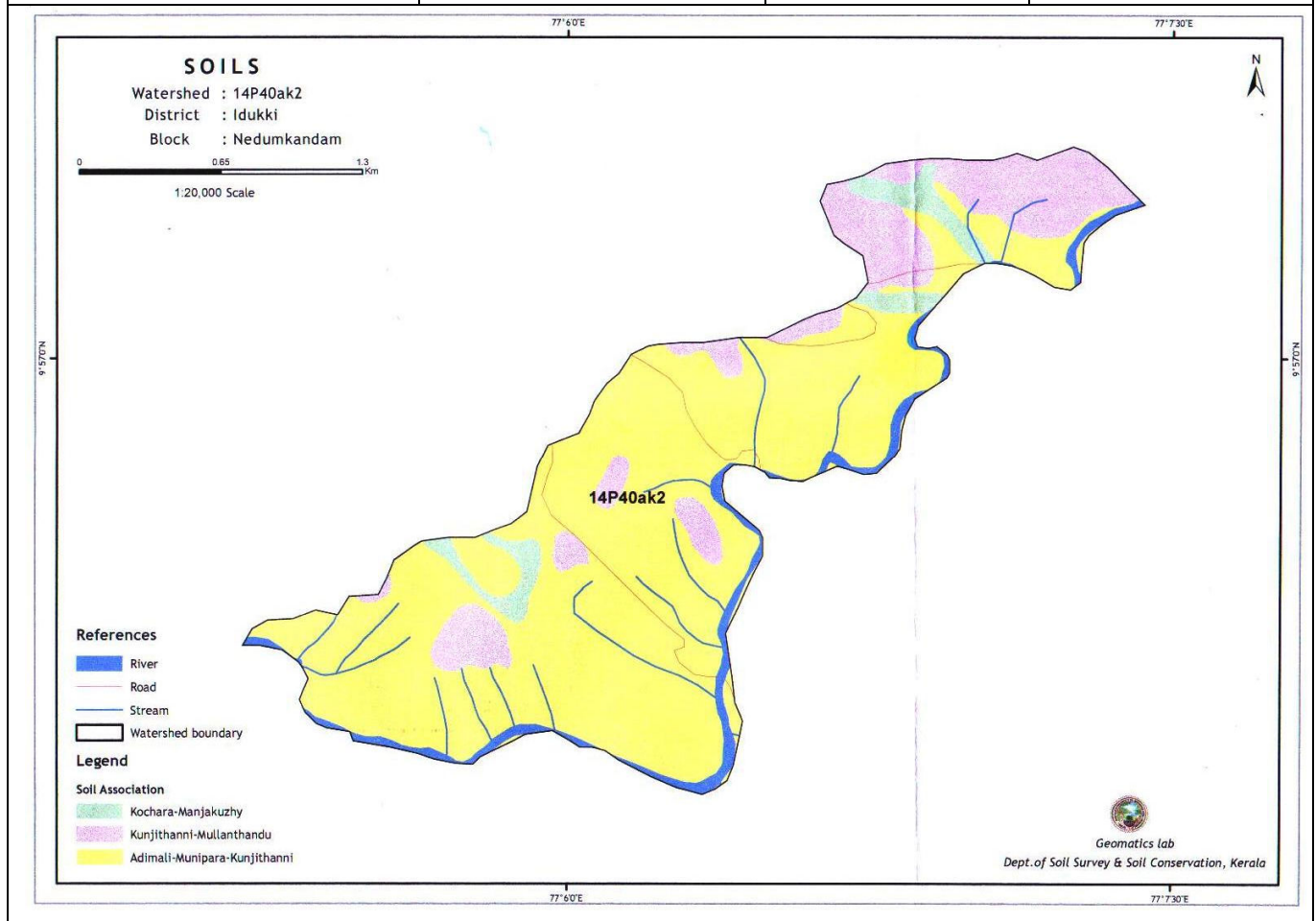
*II- Good cultivable land

III- Moderately cultivable land

IV- Fairly good cultivable land suited for occasional or limited cultivation

VI- Well suited for grazing or forestry suited for minimum tillage

Soil Association	Watershed	Land Capability Class*	Land Capability Sub Class Limitations
Kochara – Manjakkuzhi	Kuttunkal (14P40ak 2)	II & III	Wetness
Kunjithanni – Mullanthandu		III, IV	Erosion
Kunjithanni – Mullanthandu		IV, VI	Erosion Soil



Source: Soil association map, Department of soil survey and soil conservation, GOK.

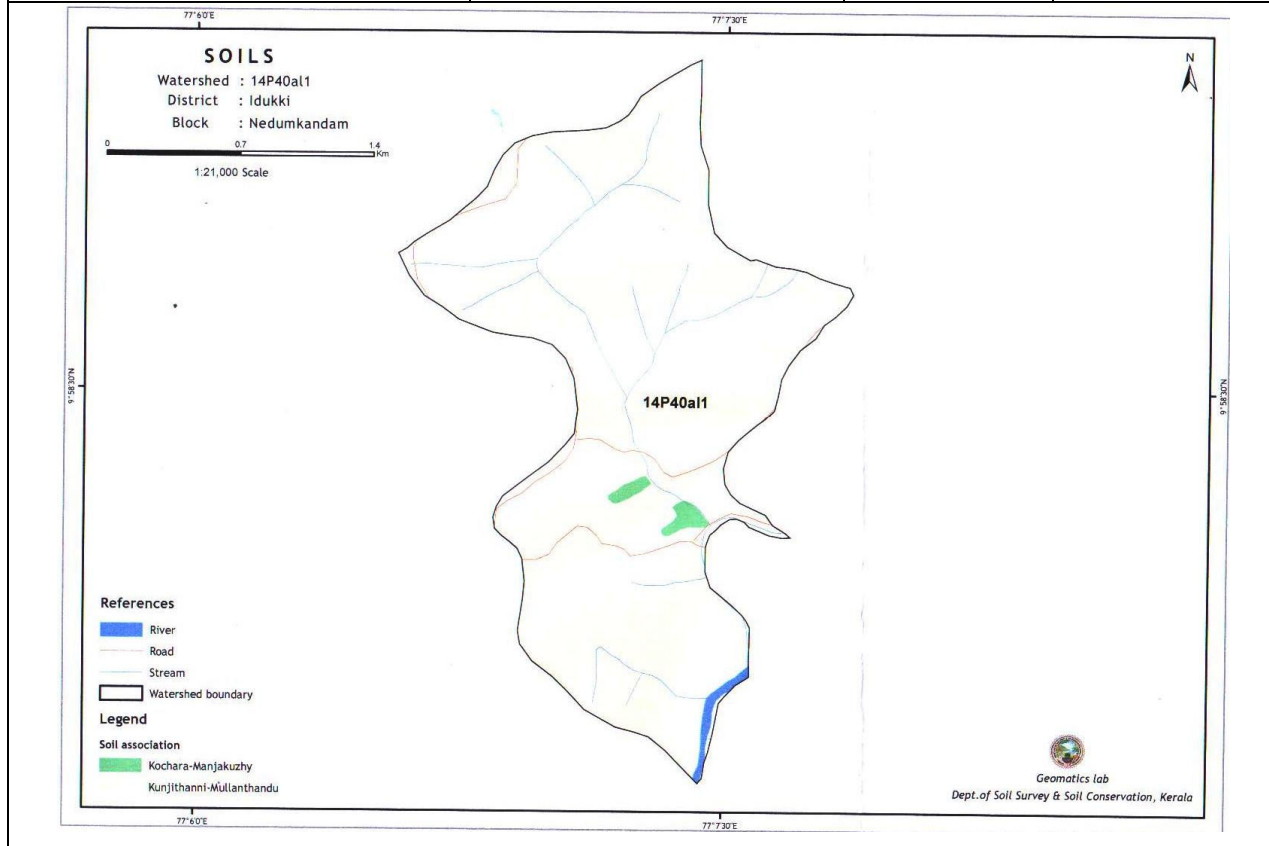
*II- Good cultivable land

III- Moderately cultivable land

IV- Fairly good cultivable land suited for occasional or limited cultivation

VI- Well suited for grazing or forestry suited for minimum tillage

Soil Association	Watershed	Land Capability Class*	Land Capability Sub Class Limitations
Kochara – Manjakkuzhi	N R City (14P40a1)	II & III	Wetness
Kunjithanni – Mullanthandu		III, IV	Erosion



Source: Soil association map, Department of soil survey and soil conservation, GOK.

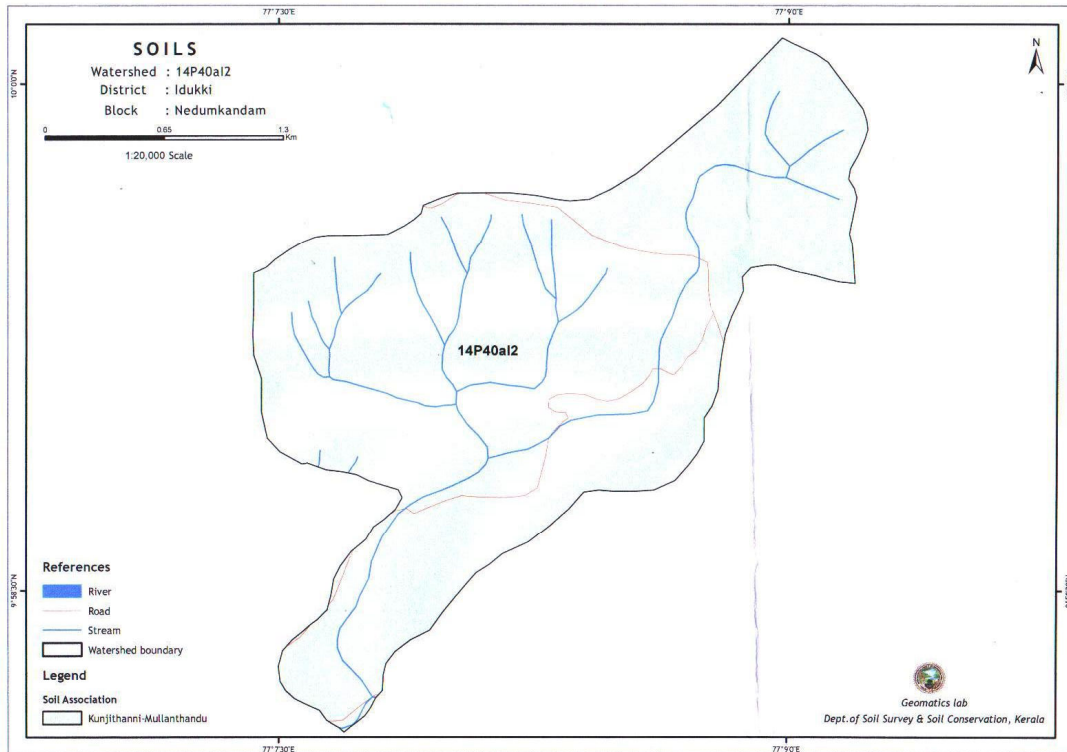
*II- Good cultivable land

III- Moderately cultivable land

IV- Fairly good cultivable land suited for occasional or limited cultivation

VI- Well suited for grazing or forestry suited for minimum tillage

Soil Association	Watershed	Land Capability Class*	Land Capability Sub Class Limitations
Kunjithanni – Mullanthandu	Kumbappara (14P40a12)	III, IV	Erosion



Source: Soil association map, Department of soil survey and soil conservation, GOK.

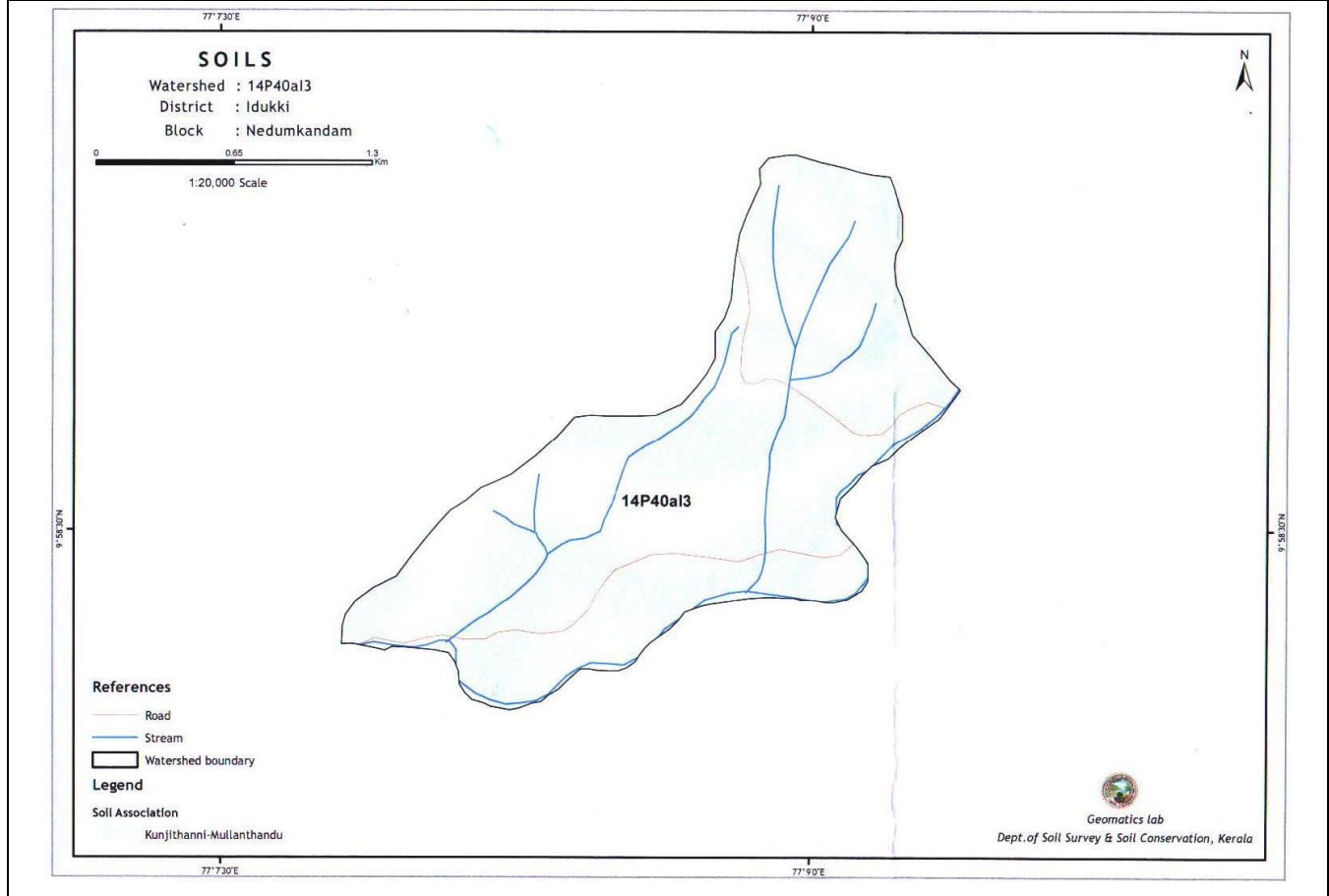
*II- Good cultivable land

III- Moderately cultivable land

IV- Fairly good cultivable land suited for occasional or limited cultivation

VI- Well suited for grazing or forestry suited for minimum tillage

Soil Association	Watershed	Land Capability Class*	Land Capability Sub Class Limitations
Kunjithanni – Mullanthandu	Rajakumari (14P40a13)	III, IV	Erosion



Source: Soil association map, Department of soil survey and soil conservation, GOK.

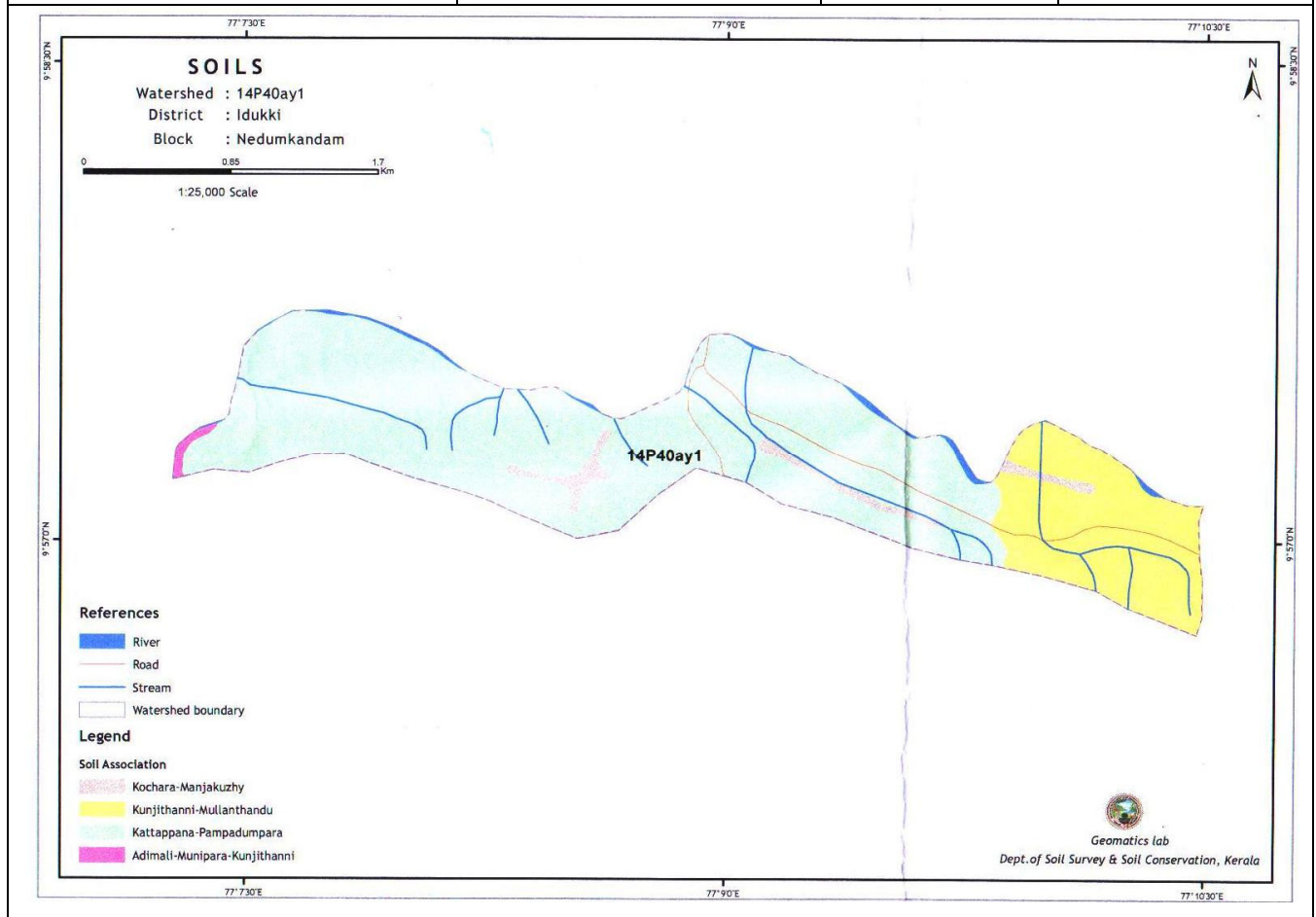
*II- Good cultivable land

III- Moderately cultivable land

IV- Fairly good cultivable land suited for occasional or limited cultivation

VI- Well suited for grazing or forestry suited for minimum tillage

Soil Association	Watershed	Land Capability Class*	Land Capability Sub Class Limitations
Kochara – Manjakkuzhi	Panniyar (14p40ay1)	IV, VI	Erosion
Kunjithanni – Mullanthandu		III, IV	Erosion
Kattappana – Pampadumpara		II & III	Wetness
Adimali – Munippara - Kunjithanni		IV, VI	Erosion Soil



Source: Soil association map, Department of soil survey and soil conservation, GOK.

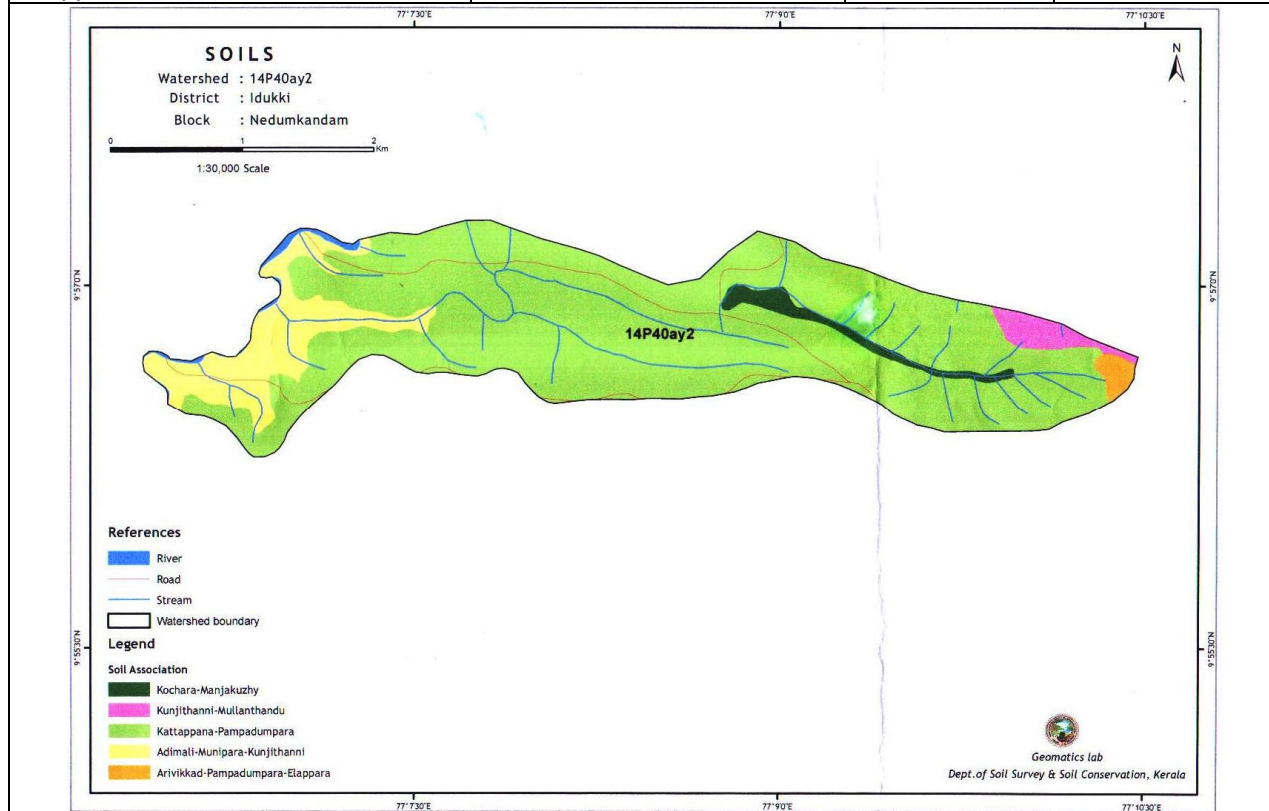
*II- Good cultivable land

III- Moderately cultivable land

IV- Fairly good cultivable land suited for occasional or limited cultivation

VI- Well suited for grazing or forestry suited for minimum tillage

Soil Association	Watershed	Land Capability Class*	Land Capability Sub Class Limitations
Kochara – Manjakkuzhi	Aruvilanchal (14P40ay2)	IV, VI	Erosion
Kunjithanni – Mullanthandu		III, IV	Erosion
Kattappana – Pampadumpara		II & III	Wetness
Adimali – Munippara - Kunjithanni		IV, VI	Erosion Soil
Arivikad – Pampadumpara – Elappara		VI	Erosion



Source: Soil association map, Department of soil survey and soil conservation, GOK.

*II- Good cultivable land

III- Moderately cultivable land

IV- Fairly good cultivable land suited for occasional or limited cultivation

VI- Well suited for grazing or forestry suited for minimum tillage

Description of Soil Series

KOCHARA SERIES

Soils of Kochara series are very deep, imperfectly drained, loamy sand to moderately textured, light grey and medium acidic. These soils are developed from fluvial deposits. They occur on valleys. The general elevation is between 900-1200 m above MSL. Surface colour ranges from light grey to pale brown and texture ranges from loamy sand to sandy clay loam. Subsurface colour is light grey and texture is sandy clay loam to sandy clay with sand pockets. These are very young soils and horizon development is poor. Often pure sand layers are seen up to a depth of 150 cm. The texture usually becomes heavy from a depth of 150 cm. These are good to moderately good cultivable lands with moderate limitations for sustained use under irrigation.

MANJAKUZHYSERIES

Soils of Manjakuzhi series are very deep, imperfectly drained, moderately fine to fine textured, dark reddish brown and strongly to medium acidic. These soils are developed from alluvium. They occur on gently to moderately sloping narrow valleys. The general elevation is between 900 to 1200 m above MSL. Surface colour ranges from dark reddish brown to dark grey and texture is sandy clay loam to clay. Subsurface colour is yellowish brown to dark grey and texture is clay. These are good to moderately good cultivable lands. These lands are marginal for sustained use under irrigation due to very severe limitations.

KUNJITHANNISERIES

Soils of kunjithanni series are deep, well drained, moderately fine textured, dark brown and very strongly acidic. These soils are developed from gneissic parent material. They occur on steeply to very steeply sloping hills and mounds. The general elevation is between 600 to 1200 m above MSL. Surface colour ranges from reddish brown to dark brown and surface texture is clay loam to sandy clay loam. Subsurface colour ranges from yellowish red to red and texture is clay loam to silty clay loam. These are moderately good to fairly good cultivable lands. These lands have severe limitations for sustained use under irrigation or are marginal for sustained use under irrigation due to very severe limitations.

MULLANTHANDUSERIES

Soils of Mullanthandu series are very deep, well drained, gravelly, moderately fine textured, dark reddish brown and medium to strongly acidic. These soils are developed from gneissic parent material. They occur on

steep to very steeply sloping hills. The general elevation is between 900 to 1200 m above MSL. Surface colour is dark reddish brown and texture is gravelly loam to gravelly silty clay loam. Subsurface colour ranges from reddish brown to yellowish red and texture is clay loam to clay. The depth of the gravelly horizon ranges from 75-100 cm. Weathering gneissic material (about 30-40%) occurs at depth below 170 cm. These are moderately good to fairly good cultivable lands. These lands are marginal for sustained use under irrigation due to very severe limitations or are not suitable for sustained use under irrigation.

ADIMALI SERIES

Soils of Adimali series are very deep, well drained, gravelly, fine textured, dark brown and strongly acidic. These soils are developed from gneissic parent material. They occur on steeply to very steeply sloping hill slopes and mounds of the high range region. The general elevation is between 300 to 900 m above MSL. Surface colour ranges from brown to dark reddish brown and surface texture from gravelly sandy clay loam to gravelly clay. Subsurface colour is yellowish red to red and texture is gravelly clay. Gneissic stones and boulders occur in the sub soil. The surface and the subsurface are with thin patchy clay cutans. They have 25-35 percent fine gravels distributed throughout the profiles. Weathering gneissic materials and stones occupy about 30-40 percent of the soil at depths below 30 cm. These are fairly good cultivable land or lands those are well suited for grazing, forestry or plantation crops which require minimum tillage. These lands are either marginal for sustained use under irrigation due to very severe limitations or are not suitable for sustained use under irrigation.

MUNIPARA SERIES

Soils of Munipara series are shallow, well drained, loamy sand, dark coloured and strongly acidic. These soils are developed from gneissic parent material. They occur on steep to very steep hill slopes of rocky areas, covered by grass and shrubs. The general elevation is between 300 to 900 m above MSL. The surface colour ranges from black to dark reddish brown and surface texture is loamy sand to loam texture. Subsurface colour is dark reddish brown and has loamy sand to sandy loam texture. Weathering gneissic rock occurs at depth below 50 cm. These are fairly good cultivable land or lands those are well suited for grazing, forestry or plantation crops which require minimum tillage. These lands are not suitable for sustained use under irrigation.

KATTAPANA SERIES

Soils of Kattapana series are deep, well drained, fine textured, dark grayish brown coloured and very strongly acidic. These soils are developed from gneissic parent material. They occur on very steeply sloping hill slopes

of high land region. The general elevation is between 600 to 1200 m above MSL. Surface colour is dark grayish brown and texture ranges from clay loam to clay. Subsurface colour is Yellowish red to red and the texture is predominantly clay. Weathering gneissic materials and stones up to 25 cm diameter are present below 100 cm. gneissic material, almost fully weathered, reddish in colour, forms the 'c' horizon, which starts at a depth of 130-150 cm. Fine gravel content up to 15% is seen up to a depth of 70 cm, but the control section is invariably non-skeletal. These are usually fairly good cultivable lands or lands those are well suited for grazing, forestry or plantation crops which require minimum tillage.

PAMPADUMPARA SERIES

Soils of Pampadumpara series are very deep, moderately well drained, fine textured, dark reddish brown to dark brown and very strongly acidic. These soils are developed from gneissic parent material. They occur on steep to very steeply sloping hills and hill top. The general elevation is between 600 to 1200 above MSL. Surface colour ranges from dark reddish brown to dark brown and texture is silty clay to clay. Soil is very strongly acidic. Subsurface colour ranges from yellowish red to red and texture is clay. Fine gravels of less than 15% are observed below a depth of 70 to 100 cm. These soils are well suited for grazing, forestry or plantation crops which require minimum tillage. These soils are not suitable for sustained use under irrigation.

ARIVIKAD SERIES

Soils of Arivikad series are deep, well drained, moderately fine textured, dark reddish brown and very strongly acidic. These soils are developed from gneissic parent material. They occur on steep to very steep mountains and ridges. The general elevation is more than 1200m above MSL. Surface colour ranges from dusky red to dark reddish brown and texture is sandy clay loam to clay loam. Subsurface colour ranges from reddish brown to yellowish red and subsurface texture is sandy loam to sandy clay loam. These soils are well suited for grazing, forestry or plantation crops which require minimum tillage and are not suitable for sustained use under irrigation.

ELAPPARA SERIES

Soils of Elappara series are very deep, moderately well drained, fine textured, dark reddish brown and very strongly acidic. These soils are developed from gneissic parent material. They occur on hill soils of the Tea growing areas. The general elevation is between 900 to 1200 m MSL. Surface colour ranges from dark reddish brown to yellowish red and texture is silt loam to clay loam. Subsurface colour is yellowish red and texture is silty loam to clay loam. Weathering gneissic stones (about 10-20%) is present from a depth of 60 to

90 cm. About 10-20% weathering gneissic materials and stones are present in the solum from a depth of 60-90 cm and about 60-80% from 130-160 cm. These soils are well suited for grazing, forestry or plantation crops which require minimum tillage. These soils have land irrigability classification ranging from 3t to 6t (lands with severe limitations to lands those are not suitable for sustained use under irrigation)

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

The project area lies in Nedumkandam Block Panchayat of Idukki 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 – X/2014-15 of Idukki District is outlined below:

- The project comprises of seven 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 microenterprises 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.

Table 24 : Financial Plan

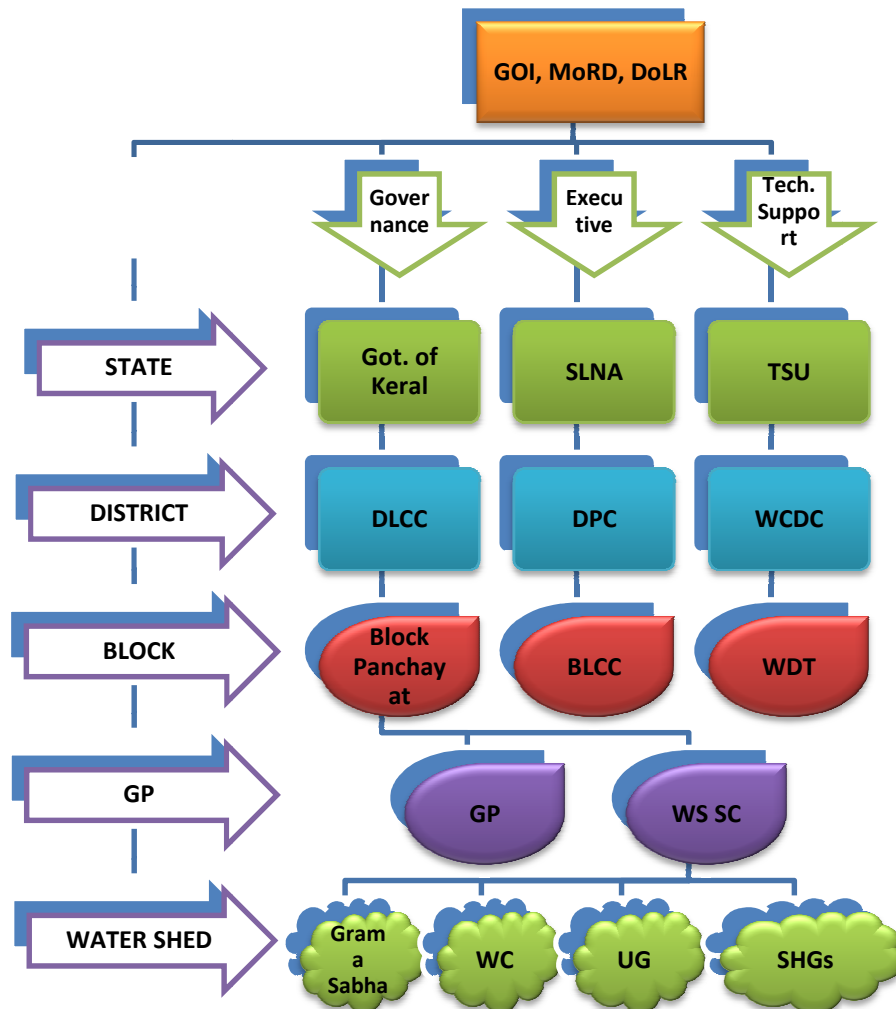
No.	Head	Amount (Rs)
1	Preparation of DPR(0.9%)	515430
2	Entry Point Activities (3.6%)	2061720
3	Institution & Capacity Building(4.5%)	2577150
4	Watershed Development Works (50.4%)	28864080
5	Livelihood Activities for assetless Persons (8.1%)	4638870
6	Monitoring(0.9%)	515430
7	Evaluation (0.9%)	515430

8	Administrative (9%)	5154300
9	Production System and Micro-enterprises (9%)	5154300
10	Consolidation (2.7%)	1546290
11	Flexi Fund (10%)	5727000
Total		57270000

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, Idukki. 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

Nedumkandam 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 25: Details of Project Implementation Agency (PIA)

Name of the Project	IWMP X/2014-15
Programme Implementation Agency	Nedumkandam Block Panchayat
Implementation Officer	Block Development Officer, Nedumkandam Block Panchayat
Address of PIA	Nedumkandam Block Panchayat, Idukki – 685 508
Telephone	04868- 232060
Email	bdondkm@gmail.com

Table 26: Details of Watershed Development Team (WDT)

No.	Name	Age	Sex	Designation	Qualification
1	Nandhakumar K V	22	Male	WDT Civil Engineer	B Tech in Civil Engineering
2	Abin John Muthukadan	22	Male	Agriculture Assistant	VHSC Agriculture BBA
3	Indhu N N	36	Female	Social Mobiliser	M A Sociology
4	Sreekala S P	28	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 27: Dates of Neerthada Gramasabha

Sl.No	Code of Micro Watershed	Date of Watershed Grama sabha
1	14P40ak1	17.3.2015
2	14P40ak2	21.4.2015
3	14P40al1	17.6.2015
4	14P40al2	28.5.2015
5	14P40al3	08.6.2015
6	14P40ay1	04.5.2015
7	14P40ay2	04.5.2015

Self Help Groups (SHGs)

62 % of the households are associated to Kudumbasree SHGs in the project area. 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.

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 28: 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 29: List of Entry Point Activities in the Project Area

Sl. No.	Name of Activity	Name of Watershed	Estimate Amount
1	Renovation of pond at Charupuram	Rajakkad	300000
2	Construction of ferrocement tank at Anganvadi near mini Stadium 20000 ltr capacity	Rajakkad	92500
3	Renovation of well and construction of baby well at parappanangaadi	Rajakkad	42500
4	Renovation of well at Adithyapuram colony	Rajakkad	36000
5	Renovation of well at Rajakkad bus stand	Rajakkad	44000
6	Renovation of well and construction of baby well at Rajakumari estate	Rajakumari	70000
7	Construction of ferrocement tank ar Govt.UP School Kajanappaara 15000 ltr capacity	Kumbappara	71000
8	Construction of ferrocement tank at St.Sebastiann HS Kanthippara 30000 ltr capacity	Arivilamchal	121000
9	Renovation of pond at Pazhayaviduthi	Kuthumkal	24500
10	Renovation pond at Avanakkumchal	Panniyar	30000
11	Renovation of well at NR City colony	N R City	17000
12	Construction of ferrocement tank at SNVHSS N R City 30000 ltr capacity	N R City	112000
13	Construction of ferrocement tank at Anganvadi NR CITY 15000 ltr capacity	N R City	83504
14	Construction of ferrocemnt tank at Anganvadi No.54, Kanankakkunu Mangathotty 10000 ltr	Panniyar	54000

15	Construction of ferrocement tank at Veterinary Hospital, Mangathotty 20000 ltr	Panniyar	87500
16	Renovation of well at near Pazhayaviduthy colony	Kuthumkal	54200
17	Construction of ferrocement tank at anganavadi near Pazhayaviduthy colony 20000 ltr capacity	Kuthumkal	100000
18	Construction of ferrocement tank Anganvadi No.40 Rajakumari 15000 ltr capacity	Rajakumari	90000
19	Vegetable Cultivation in Pzhayaviduthy Govt.UP School	Kuthumkal	125000
20	Nakshathra vanam at Bheemangal Bhaagam	Kumbappara	100000
21	Renovation of well near Kalunkucity	Rajakkad	75000
22	Vegetable cultivation at St.Sebastian School Kanthippara	Arivilamchal	54000
23	Vegetable cultivation at Gov.LPS Arivilamchal	Arivilamchal	26000
24	Renovation of well near Saraswathy School	Arivilamchal	37500
25	Construction of ferrocement tank at Avanakkumchal anganvadi	Panniyar	70000
26	Construction of ferrocement tank at Millupadi anganvadi	Kumbappara	26500
27	Renovation of well near Ramayya thevar purayidam bhaagam	Kumbappara	29504
28	Renovation of well near Dhanapalan house	Kumbappara	29504
29	Renovation of well near Eswary bhaagam	Kumbappara	29504
30	Renovation of well near Periyakaruppan Bhagam	Kumbappara	29504
	Total Amount for Entry Point Activity		2061720

Major Problems Identified

The four 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, 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) Construction of silpaulin tanks
- (d) Contour bunding
- (e) Stream protection
- (f) Nursery formation
- (g) Construction of subsurface dyke in the drainage
- (h) Bio fencing to protect stream bank

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.

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.

(i) improve livelihood opportunities by promoting homemade food processing units, supply of cow, goat, duck, chicks etc..

Production System and Microenterprises

According to the Common Guidelines for Watershed Development Projects 9 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, 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 30: Scope of Convergence

Sl. No.	Type of intervention	Department/Schemes which can be converged with IWMP
1.	Renovation/Construction/Maintenance of Ponds/wells etc.	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
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 31: Financial Plan Yearwise

Item	(%)	Year I	Year II	Year III	Year IV	Amount in Lakhs
MANAGEMENT COST						
Administration	9.0	12.88	12.88	12.88	12.88	51.52
Monitoring	0.9	1.28	1.28	1.28	1.28	5.15
Evaluation	0.9	1.28	1.28	1.28	1.28	5.15
Preparatory Phase						
Entry point activities	3.6	20.61	0	0	0	20.61
Institutions & Capacity Building	4.5	7.71	5.93	5.88	5.91	25.77
Preparation of Detailed Project Report	0.9	3.86	0.52	0.52	0.25	5.15
Watershed Works Phase						
Watershed Development Works	50.4	129.05	62.28	38.61	58.63	288.59
Livelihood Activities for assetless Persons	8.1	12.56	11.89	11.96	9.97	46.38
Production System and Micro-enterprises	9.0	14.81	13.47	15.54	8.23	51.53
Consolidation Phase	2.7	3.86	3.86	3.86	3.86	15.46

Table 32: IEC Plan

I	Institution building											1.00
II	Information, Education & Communication (IEC) Activities in the Project Area											8.15
		Year 1		Year 2		Year 3		Year 4		Total		
II	Capacity Building Programme	Physic al	Financ ial	Physic al	Financ ial	Physic al	Financ ial	Physic al	Financ ial	Physic al	Financ ial	
1	Empowering Elected Representatives for IWMP	4	0.42	4	0.42	4	0.42	4	0.42	16	1.680	
2	Training Programme on IWMP	5	1.00	5	1.00	5	1.00	5	1.00	20	4.00	
3	Training Programme for Watershed Committee Members	3	0.47	3	0.47	3	0.47	3	0.47	12	1.88	
4	Training Programme for User Groups	5	0.21	5	0.21	5	0.21	5	0.21	20	0.84	
5	Training programme on Production System and Micro	4	0.54	4	0.54	4	0.54	4	0.54	16	2.18	

	enterprises (PS&M)										
6	Training programme on Livelihood	3	1.05	3	1.05	3	1.05	3	1.05	12	4.2
7	Skill Development Training for Handicrafts production using locally available materials and plastic waste (Major livelihood activities)	2	0.25	2	0.25	2	0.25	2	0.25	8	1
8	Training on Accounting and Book Keeping	2	0.21	2	0.21	2	0.21	2	0.21	8	0.84
	Total	28	4.15	28	4.15	28	4.15	28	4.15	112	16.62
	Total Institution and Capacity building										25.77

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	Year I	Year II	Year III	Year IV	Total
		Physical Plan	4	4	4	4	16
		Financial Plan (Lakh)	0.42	0.42	0.42	0.42	1.68
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	100 Per batch					
6	No. of Batches	20					
7	Plan	Year	Year I	Year II	Year III	Year IV	Total
		Physical Plan	5	5	5	5	20
		Financial Plan (Lakh)	1.00	1.00	1.00	1.00	4.00
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	105 per batch					
6	No. of Batches	12					
7	Plan	Year	Year I	Year II	Year III	Year IV	Total
		Physical Plan	3	3	3	3	12
		Financial Plan (Lakh)	0.47	0.47	0.47	0.47	1.89
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	20					
7	Plan	Year	Year I	Year II	Year III	Year IV	Total
		Physical Plan	5	5	5	5	20
		Financial Plan (Lakh)	0.21	0.21	0.21	0.21	0.84
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 (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	16					
7	Plan	Year	Year I	Year II	Year III	Year IV	Total
		Physical Plan	4	4	4	4	16
		Financial Plan (Lakh)	0.54	0.54	0.54	0.54	2.18
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 for Beneficiaries of Seed Money on Livelihood 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	12					
7	Plan	Year	Year I	Year II	Year III	Year IV	Total
		Physical Plan	3	3	3	3	12
		Financial Plan (Lakh)	1.05	1.05	1.05	1.05	4.20
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	In depth understanding of market and feasibility of the selected Major 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	25					
6	No. of Batches	8					
7	Plan	Year	Year I	Year II	Year III	Year IV	Total
		Physical Plan	2	2	2	2	8
		Financial Plan (Lakh)	0.25	0.25	0.25	0.25	1.00
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	21					
6	No. of Batches	8					
7	Plan	Year	Year I	Year II	Year III	Year IV	Total
		Physical Plan	2	2	2	2	8
		Financial Plan (Lakh)	0.21	0.21	0.21	0.21	0.84
8	Expected Outcomes	Smooth and effective implementation of the projects, with regard to financial transparency.					
9	Area of Training	Accounting and Book Keeping					

Annual Action Plan for Livelihood Rajakkad Watershed

No.	Watershed	14P40ak1				
		Year I	Year II	Year III	Year IV	Total
1	Vegetable Retail Shop					
	SHGs/JLGs Getting Assistance	0	1			1
	Financial Assistance	0	25000			25000
2	Backyard Poultry					
	SHGs/JLGs Getting Assistance	0	3	8	3	14
	Financial Assistance	0	61500	164000	61500	287000
3	Backyard Duckery					
	SHGs/JLGs Getting Assistance	0	1	1	1	3
	Financial Assistance	0	25000	25000	25000	75000
4	Goat Rearing/Calves Rearing					
	SHGs/JLGs Getting Assistance	0	3	3	2	8
	Financial Assistance	0	75000	75000	50000	200000
5	Young buffalo/ cow (six Months old, 4/unit)					
	SHGs/JLGs Getting Assistance	0	1	1	1	3
	Financial Assistance	0	25000	25000	25000	75000
6	Piggery					
	SHGs/JLGs Getting Assistance	0	2	1	1	4
	Financial Assistance	0	50000	25000	25000	100000
7	Food Processing Unit - Home made Chips					
	SHGs/JLGs Getting Assistance	0	2	1	1	4
	Financial Assistance	0	43106	21553	21553	86212
8	Paa neythu/Artefacts					
	SHGs/JLGs Getting Assistance	0	1	0	0	1
	Financial Assistance	0	25000	0	0	25000
	Total beneficiary group	0	14	15	9	38
	Total Amount	0	329606	335553	208053	873212

Annual Action Plan for Livelihood Kuttunkal Watershed

No.	Watershed	14P40ak2				
		Year I	Year II	Year III	Year IV	Total
1	Backyard Poultry					
	SHGs/JLGs Getting Assistance	0	2	2	2	6
	Financial Assistance	0	41000	41000	41000	123000
2	Backyard Duckery					
	SHGs/JLGs Getting Assistance	0	1	0	0	1
	Financial Assistance	0	25000	0	0	25000
3	Goat Rearing/Calves Rearing					
	SHGs/JLGs Getting Assistance	0	1	1	1	3
	Financial Assistance	0	25000	25000	25000	75000
4	Young buffalo/ cow (six Months old, 4/unit)					
	SHGs/JLGs Getting Assistance	0	1	1	1	3
	Financial Assistance	0	25000	25000	25000	75000
5	Piggery					
	SHGs/JLGs Getting Assistance	0	1	0	0	1
	Financial Assistance	0	25000	0	0	25000
6	Food Processing Unit - Home made Chips					
	SHGs/JLGs Getting Assistance	0	1	0	0	1
	Financial Assistance	0	21553	0	0	21553
7	Paa neythu/Artefacts					
	SHGs/JLGs Getting Assistance	0	1	0	0	1
	Financial Assistance	0	25000	0	0	25000
	Total beneficiary group	0	8	4	4	16
	Total Amount	0	187553	91000	91000	369553

Annual Action Plan for Livelihood N.R. City Watershed

No.	Watershed	14P40a1				
		Year I	Year II	Year III	Year IV	Total
1	Backyard Poultry					
	SHGs/JLGs Getting Assistance	0	2	2	1	5
	Financial Assistance	0	41000	41000	20500	102500
2	Backyard Duckery					
	SHGs/JLGs Getting Assistance	0	1	0	0	1
	Financial Assistance	0	25000	0	0	25000
3	Goat Rearing/Calves Rearing					
	SHGs/JLGs Getting Assistance	0	1	1	1	3
	Financial Assistance	0	25000	25000	25000	75000
4	Young buffalo/ cow (six Months old, 4/unit)					
	SHGs/JLGs Getting Assistance	0	1	1	0	2
	Financial Assistance	0	25000	25000	0	50000
5	Piggery					
	SHGs/JLGs Getting Assistance	0	1	0	0	1
	Financial Assistance	0	25000	0	0	25000
6	Food Processing Unit - Home made Chips					
	SHGs/JLGs Getting Assistance	0	1	0	0	1
	Financial Assistance	0	21553	0	0	21553
7	Paa neythu/Artefacts					
	SHGs/JLGs Getting Assistance	0	1	0	0	1
	Financial Assistance	0	25000	0	0	25000
	Total beneficiary group	0	8	4	2	14
	Total Amount	0	187553	91000	45500	324053

Annual Action Plan for Livelihood Kumbappara Watershed

No.	Watershed	14P40a2				
		Year I	Year II	Year III	Year IV	Total
1	Backyard Poultry					
	SHGs/JLGs Getting Assistance	0	2	2	2	6
	Financial Assistance	0	41000	41000	41000	123000
2	Backyard Duckery					
	SHGs/JLGs Getting Assistance	0	1	0	0	1
	Financial Assistance	0	25000	0	0	25000
3	Goat Rearing/Calves Rearing					
	SHGs/JLGs Getting Assistance	0	2	1	1	4
	Financial Assistance	0	50000	25000	25000	100000
4	Young buffalo/ cow (six Months old, 4/unit)					
	SHGs/JLGs Getting Assistance	0	1	1	0	2
	Financial Assistance	0	25000	25000	0	50000
5	Piggery					
	SHGs/JLGs Getting Assistance	0	2	0	0	2
	Financial Assistance	0	50000	0	0	50000
6	Food Processing Unit - Home made Chips					
	SHGs/JLGs Getting Assistance	0	2	0	0	2
	Financial Assistance	0	43106	0	0	43106
7	Paa neythu/Artefacts					
	SHGs/JLGs Getting Assistance	0	1	0	0	1
	Financial Assistance	0	25000	0	0	25000
	Total beneficiary group	0	11	4	3	18
	Total Amount	0	259106	91000	66000	416106

Annual Action Plan for Livelihood Rajakumari Watershed

No.	Watershed	14P40a3				
		Year I	Year II	Year III	Year IV	Total
1	Backyard Poultry					
	SHGs/JLGs Getting Assistance	0	2	2	1	5
	Financial Assistance	0	41000	41000	20500	102500
2	Backyard Duckery					
	SHGs/JLGs Getting Assistance	0	1	0	0	1
	Financial Assistance	0	25000	0	0	25000
3	Goat Rearing/Calves Rearing					
	SHGs/JLGs Getting Assistance	0	2	1	0	3
	Financial Assistance	0	50000	25000	0	75000
4	Young buffalo/ cow (six Months old, 4/unit)					
	SHGs/JLGs Getting Assistance	0	1	0	0	1
	Financial Assistance	0	25000	0	0	25000
5	Piggery					
	SHGs/JLGs Getting Assistance	0	1	0	0	1
	Financial Assistance	0	25000	0	0	25000
6	Food Processing Unit - Home made Chips					
	SHGs/JLGs Getting Assistance	0	2	0	0	2
	Financial Assistance	0	43106	0	0	43106
7	Paa neythu/Artefacts					
	SHGs/JLGs Getting Assistance	0	1	0	0	1
	Financial Assistance	0	25000	0	0	25000
	Total beneficiary group	0	10	3	1	14
	Total Amount	0	234106	66000	20500	320606

Annual Action Plan for Livelihood Panniyar Watershed

No.	Watershed	14P40ay1				
		Year I	Year II	Year III	Year IV	Total
1	Backyard Poultry					
	SHGs/JLGs Getting Assistance	0	2	2	2	6
	Financial Assistance	0	41000	41000	41000	123000
2	Backyard Duckery					
	SHGs/JLGs Getting Assistance	0	1	0	0	1
	Financial Assistance	0	25000	0	0	25000
3	Goat Rearing/Calves Rearing					
	SHGs/JLGs Getting Assistance	0	2	1	0	3
	Financial Assistance	0	50000	25000	0	75000
4	Young buffalo/ cow (six Months old, 4/unit)					
	SHGs/JLGs Getting Assistance	0	2	1	0	3
	Financial Assistance	0	50000	25000	0	75000
5	Piggery					
	SHGs/JLGs Getting Assistance	0	1	0	0	1
	Financial Assistance	0	25000	0	0	25000
6	Food Processing Unit - Home made Chips					
	SHGs/JLGs Getting Assistance	0	2	0	0	2
	Financial Assistance	0	43106	0	0	43106
7	Paa neythu/Artefacts					
	SHGs/JLGs Getting Assistance	0	1	0	0	1
	Financial Assistance	0	25000	0	0	25000
	Total beneficiary group	0	11	4	2	17
	Total Amount	0	259106	91000	41000	391106

Annual Action Plan for Livelihood Aruvilanchal Watershed

No	Watershed	14P40ay2				
		Year I	Year II	Year III	Year IV	Total
1	Backyard Poultry					
	SHGs/JLGs Getting Assistance	0	3	3	3	9
	Financial Assistance	0	61500	61500	61500	184500
2	Backyard Duckery					
	SHGs/JLGs Getting Assistance	0	1	1	0	2
	Financial Assistance	0	25000	25000	0	50000
3	Goat Rearing/Calves Rearing					
	SHGs/JLGs Getting Assistance	0	2	2	1	5
	Financial Assistance	0	50000	50000	25000	125000
4	Young buffalo/ cow (six Months old, 4/unit)					
	SHGs/JLGs Getting Assistance	0	2	0	0	2
	Financial Assistance	0	50000	0	0	50000
5	Piggery					
	SHGs/JLGs Getting Assistance	0	2	1	0	3
	Financial Assistance	0	50000	25000	0	75000
6	Food Processing Unit - Home made Chips					
	SHGs/JLGs Getting Assistance	0	2	0	0	2
	Financial Assistance	0	43106	0	0	43106
7	Paa neythu/Artefacts					
	SHGs/JLGs Getting Assistance	0	1	0	0	1
	Financial Assistance	0	25000	0	0	25000
	Total beneficiary group	0	13	7	4	24
	Total Amount	0	304606	161500	86500	552606

Activity	Unit Cost	Assistance from IWMP	Annual Action Plan for Production System & Micro Enterprises 14P40ak1															
			Year 1			Year 2			Year 3			Year 4			Total			
			Physical	Financial	WDF	Physical	Financial	WDF	Physical	Financial	WDF	Physical	Financial	WDF	Physical	Financial		
Nursery formation of Fruits and Spices plants (Convergence with MGNREGA)																		
	300000	30000	1	30000	6000	0	0	0	0	0	0	0	0	0	0	1	30000	6000
Horticulture - Fruit Plants																		
	15000	15000	1	15000	3000	0	0	0	1	15000	3000	0	0	0	2	30000	6000	
Organic manure/ Organic Pesticide Unit																		
	50000	30000	0	0	0	0	0	0	1	30000	6000	0	0	0	1	30000	6000	
Formation of High tech farm for cow, goat etc.																		
	100000	30000	1	30000	6000	0	0	0	0	0	0	0	0	0	1	30000	6000	
Poultry Farm																		
	161500	30000	0	0	0	0	0	0	1	30000	6000	1	30000	6000	2	60000	12000	
Fodder Cultivation (10 Cents)																		
	6461	6461	3	19383	3876.6	3	19383	3876.6	2	12922	2584	1	6461	1292	9	58149	11629.8	
Compost Making																		
	368000	30000	0	0	0	0	0	0	0	0	0	1	30000	6000	1	30000	6000	
High tech Farming (Aquaponics, Poly farming, etc)																		
	100000	30000	0	0	0	2	60000	12000	1	30000	6000	1	30000	6000	4	120000	24000	
Distribution of instruments for innovative irrigation (Drip irrigation, sprinkler etc.)																		
	10000	10000	2	20000	4000	1	10000	2000	1	10000	2000	1	10000	2000	5	50000	10000	
Distribution of Tricho cards																		
	1000	1000	10	10000	2000	10	10000	2000	10	10000	2000	10	10000	2000	40	40000	8000	
Mushroom Cultivation																		
	6800	6800	2	13600	2720	3	20400	4080	1	6800	1360	2	13600	2720	8	54400	10880	
Bee keeping unit																		
	22000	22000	1	22000	4400	2	44000	8800	1	22000	4400	1	22000	4400	5	110000	22000	
Pepper Cultivation																		
	20400	20400	4	81600	16320	3	61200	12240	2	40800	8160	1	20400	4080	10	204000	40800	
Cadamom Cultivation																		
	50300	30000	3	90000	18000	2	60000	12000	3	90000	18000	2	60000	12000	10	300000	60000	
Banana Cultivation																		
	36600	30000	2	60000	12000	2	60000	12000	2	60000	12000	2	60000	12000	8	240000	48000	
Total			30	391583	78317	28	344983	68997	26	357522	71504.4	23	292461	58492	107	1386549	277309.8	

Activity	Unit Cost	Assistance from IWMP	Table 35: Annual Action Plan for Production System & Micro Enterprises 14P40ak2															
			Year 1			Year 2			Year 3			Year 4			Total			
			Physical	Financial	WDF	Physical	Financial	WDF	Physical	Financial	WDF	Physical	Financial	WDF	Physical	Financial	WDF	
Nursery formation of Fruits and Spices plants (Convergence with MGNREGA)	300000	30000	1	30000	6000	0	0	0	0	0	0	0	0	0	0	1	30000	6000
Horticulture	15000	15000	0	0	0	0	0	0	0	0	0	1	15000	3000	1	15000	3000	
Organic manure/ Organic Pesticide Unit	50000	30000	0	0	0	0	0	0	1	30000	6000	0	0	0	1	30000	6000	
Formation of High tech farm for cow, goat etc.	100000	30000	0	0	0	0	0	0	1	30000	6000	0	0	0	1	30000	6000	
Poultry Farm	161500	30000	0	0	0	0	0	0	1	30000	6000	0	0	0	1	30000	6000	
Fodder Cultivation (10 Cents)	6461	6461	1	6461	1292.2	2	12922	2584	0	0	0	1	6461	1292	4	25844	5169	
Compost Making	368000	30000	0	0	0	0	0	0	1	30000	6000	0	0	0	1	30000	6000	
High tech Farming (Aquaponics, Poly farming, etc)	100000	30000	1	30000	6000	0	0	0	1	30000	6000	0	0	0	2	60000	12000	
Distribution of instruments for innovative irrigation (Drip irrigation, sprinkler etc.)	10000	10000	0	0	0	3	30000	6000	0	0	0	2	20000	4000	5	50000	10000	
Distribution of Tricho cards	1000	1000	1	1000	200	1	1000	200	2	2000	400	1	1000	200	5	5000	1000	
Mushroom Cultivation	6800	6800	0	0	0	1	6800	1360	2	13600	2720	0	0	0	3	20400	4080	
Bee keeping unit	22000	22000	1	22000	4400	1	22000	4400	1	22000	4400	0	0	0	3	66000	13200	
Pepper Cultivation	20400	20400	0	0	0	0	0	0	1	20400	4080	1	20400	4080	2	40800	8160	
Cadamom Cultivation	50300	30000	1	30000	6000	1	30000	6000	0	0	0	0	0	0	2	60000	12000	
Banana Cultivation	36600	30000	1	30000	6000	0	0	0	1	30000	6000	0	0	0	2	60000	12000	
Poly House with Irrigation facility	182080	30000	0	0	0	1	30000	6000	0	0	0	0	0	0	1	30000	6000	
Total	1430141	351661	7	149461	29892	10	132722	14544	12	238000	47600	6	62861	12572	35	583044	116609	

Activity	Unit Cost	Assistance from IWMP	Table 36: Annual Action Plan for Production System & Micro Enterprises 14P40all													
			Year 1			Year 2			Year 3			Year 4			Total	
			Physical	Financial	WDF	Physical	Financial	WDF	Physical	Financial	WDF	Physical	Financial	WDF	Physical	Financial
Nursery formation of Fruits and Spices plants (Convergence with MGNREGA)																
	300000	30000	1	30000	6000	0	0	0	0	0	0	0	0	0	1	30000
Horticulture																
	15000	15000	1	15000	3000	0	0	0	0	0	0	0	0	0	1	15000
Organic manure/ Organic Pesticide Unit																
	50000	30000	0	0	0	0	0	0	1	30000	6000	0	0	0	1	30000
Formation of High tech farm for cow, goat etc.																
	100000	30000	0	0	0	0	0	0	1	30000	6000	0	0	0	1	30000
Poultry Farm																
	161500	30000	0	0	0	1	30000	6000	0	0	0	0	0	0	1	30000
Fodder Cultivation (10 Cents)																
	6461	6461	1	6461	1292	0	0	0	0	0	0	1	6461	1292	2	12922
Compost Making																
	368000	30000	0	0	0	0	0	0	1	30000	6000	0	0	0	1	30000
High tech Farming (Aquaponics, Poly farming, etc)																
	100000	30000	0	0	0	1	30000	6000	0	0	0	1	30000	6000	2	60000
Distribution of instruments for innovative irrigation (Drip irrigation, sprinkler etc.)																
	10000	10000	1	10000	2000	1	10000	2000	0	0	0	0	0	0	2	20000
Distribution of Tricho cards																
	1000	1000	0	0	0	1	1000	200	1	1000	200	0	0	0	2	2000
Mushroom Cultivation																
	6800	6800	0	0	0	1	6800	1360	1	6800	1360	0	0	0	2	13600
Bee keeping unit																
	22000	22000	1	22000	4400	0	0	0	1	22000	4400	0	0	0	2	44000
Pepper Cultivation																
	20400	20400	1	20400	4080	1	20400	4080	0	0	0	0	0	0	2	40800
Cadamom Cultivation																
	50300	30000	0	0	0	1	30000	6000	1	30000	6000	1	30000	6000	3	90000
Banana Cultivation																
	36600	30000	1	30000	6000	1	30000	6000	0	0	0	0	0	0	2	60000
Poly House with Irrigation facility																
	182080	30000	0	0	0	0	0	0	0	0	0	1	30000	6000	1	30000
Total	1430141	351661	7	133861	26772	8	158200	31640	7	149800	29960	4	96461	19292	26	538322

Table 37: Annual Action Plan for Production System & Micro Enterprises 14P40a2

Activity	Unit Cost	Assistance from IWMP	Annual Action Plan for Production System & Micro Enterprises 14P40a2													
			Year 1			Year 2			Year 3			Year 4			Total	
			Physical	Financial	WDF	Physical	Financial	WDF	Physical	Financial	WDF	Physical	Financial	WDF	Physical	Financial
Nursery formation of Fruits and Spices plants (Convergence with MGNREGA)																
	300000	30000	1	30000	6000	0	0	0	0	0	0	0	0	0	1	30000
Horticulture																
	15000	15000	0	0	0	1	15000	3000	0	0	0	0	0	0	1	15000
Organic manure/ Organic Pesticide Unit																
	50000	30000	0	0	0	0	0	0	1	30000	6000	0	0	0	1	30000
Formation of High tech farm for cow, goat etc.																
	100000	30000	0	0	0	0	0	0	1	30000	6000	0	0	0	1	30000
Poultry Farm																
	161500	30000	0	0	0	0	0	0	1	30000	6000	1	30000	6000	2	60000
Fodder Cultivation (10 Cents)																
	6461	6461	2	12922	2584.4	2	12922	2584.4	2	12922	2584	1	6461	1292	7	45227
Compost Making																
	368000	30000	0	0	0	0	0	0	1	30000	6000	0	0	0	1	30000
High tech Farming (Aquaponics, Poly farming, etc)																
	100000	30000	1	30000	6000	0	0	0	1	30000	6000	1	30000	6000	3	90000
Distribution of instruments for innovative irrigation (Drip irrigation, sprinkler etc.)																
	10000	10000	0	0	0	1	10000	2000	1	10000	2000	0	0	0	2	20000
Distribution of Tricho cards																
	1000	1000	2	2000	400	1	1000	200	2	2000	400	0	0	0	5	5000
Mushroom Cultivation																
	6800	6800	1	6800	1360	1	6800	1360	1	6800	1360	0	0	0	3	20400
Bee keeping unit																
	22000	22000	1	22000	4400	1	22000	4400	0	0	0	0	0	0	2	44000
Pepper Cultivation																
	20400	20400	0	0	0	1	20400	4080	1	20400	4080	0	0	0	2	40800
Cadamom Cultivation																
	50300	30000	1	30000	6000	1	30000	6000	0	0	0	0	0	0	2	60000
Banana Cultivation																
	36600	30000	1	30000	6000	1	30000	6000	1	30000	6000	0	0	0	3	90000
Poly House with Irrigation facility																
	182080	30000	1	30000	6000	0	0	0	0	0	0	0	0	0	1	30000
Total	1430141	351661	11	193722	38744	10	148122	29624	13	232122	46424.4	3	66461	13292	37	640427

Acti vity	Unit Cost	Assistan ce from IWMP	Table 38: Annual Action Plan for Production System & Micro Enterprises 14P40a3													
			Year 1			Year 2			Year 3			Year 4			Total	
			Physica l	Financia l	Expecte d WDF	Physica l	Financia l	Expecte d WDF	Physica l	Financia l	Expecte d WDF	Physica l	Financia l	Expecte d WDF	Physica l	Financia l
Nursery formation of Fruits and Spices plants (Convergence with MGNREGA)																
	300000	30000	1	30000	6000	0	0	0	0	0	0	0	0	0	1	30000
Horticulture																
	15000	15000	0	0	0	0	0	0	1	15000	3000	0	0	0	1	15000
Organic manure/ Organic Pesticide Unit																
	50000	30000	0	0	0	0	0	0	1	30000	6000	0	0	0	1	30000
Formation of High tech farm for cow, goat etc.																
	100000	30000	0	0	0	0	0	0	1	30000	6000	0	0	0	1	30000
Poultry Farm																
	161500	30000	0	0	0	1	30000	6000	0	0	0	0	0	0	1	30000
Fodder Cultivation (10 Cents)																
	6461	6461	1	6461	1292.2	1	6461	1292.2	0	0	0	0	0	0	2	12922
Compost Making																
	368000	30000	0	0	0	0	0	0	1	30000	6000	0	0	0	1	30000
High tech Farming (Aquaponics, Poly farming, etc)																
	100000	30000	1	30000	6000	0	0	0	0	0	0	1	30000	6000	2	60000
Distribution of instruments for innovative irrigation (Drip irrigation, sprinkler etc.)																
	10000	10000	1	10000	2000	1	10000	2000	0	0	0	0	0	0	2	20000
Distribution of Tricho cards																
	1000	1000	2	2000	400	2	2000	400	5	5000	1000	2	2000	400	11	11000
Mushroom Cultivation																
	6800	6800	1	6800	1360	1	6800	1360	0	0	0	0	0	0	2	13600
Bee keeping unit																
	22000	22000	0	0	0	1	22000	4400	0	0	0	0	0	0	1	22000
Pepper Cultivation																
	20400	20400	1	20400	4080	1	20400	4080	0	0	0	0	0	0	2	40800
Cadamom Cultivation																
	50300	30000	0	0	0	1	30000	6000	0	0	0	1	30000	6000	2	60000
Banana Cultivation																
	36600	30000	1	30000	6000	1	30000	6000	0	0	0	0	0	0	2	60000
Poly House with Irrigation facility																
	182080	30000	1	30000	6000	0	0	0	0	0	0	0	0	0	1	30000
Total	1430141	351661	10	165661	33132	10	157661	31532	9	110000	22000	4	62000	12400	33	495322

Activity	Unit Cost	Assistance from IWMP	Table 39: Annual Action Plan for Production System & Micro Enterprises 14P40ay1													
			Year 1			Year 2			Year 3			Year 4			Total	
			Physical	Financial	WDF	Physical	Financial	WDF	Physical	Financial	WDF	Physical	Financial	WDF	Physical	Financial
Nursery formation of Fruits and Spices plants (Convergence with MGNREGA)																
	300000	30000	1	30000	6000	0	0	0	0	0	0	0	0	0	1	30000
Horticulture																
	15000	15000	0	0	0	0	0	0	1	15000	3000	1	15000	3000	2	30000
Organic manure/ Organic Pesticide Unit																
	50000	30000	0	0	0	0	0	0	1	30000	6000	0	0	0	1	30000
Formation of High tech farm for cow, goat etc.																
	100000	30000	0	0	0	0	0	0	1	30000	6000	0	0	0	1	30000
Poultry Farm																
	161500	30000	0	0	0	1	30000	6000	0	0	0	1	30000	6000	2	60000
Fodder Cultivation (10 Cents)																
	6461	6461	2	12922	2584.4	2	12922	2584.4	2	12922	2584	1	6461	1292	7	45227
Compost Making																
	368000	30000	0	0	0	0	0	0	1	30000	6000	0	0	0	1	30000
High tech Farming (Aquaponics, Poly farming, etc)																
	100000	30000	0	0	0	1	30000	6000	1	30000	6000	0	0	0	2	60000
Distribution of instruments for innovative irrigation (Drip irrigation, sprinkler etc.)																
	10000	10000	0	0	0	0	0	0	1	10000	2000	1	10000	2000	2	20000
Distribution of Tricho cards																
	1000	1000	5	5000	1000	2	2000	400	1	1000	200	3	3000	600	11	11000
Mushroom Cultivation																
	6800	6800	0	0	0	1	6800	1360	2	13600	2720	0	0	0	3	20400
Bee keeping unit																
	22000	22000	1	22000	4400	1	22000	4400	0	0	0	1	22000	4400	3	66000
Pepper Cultivation																
	20400	20400	0	0	0	1	20400	4080	1	20400	4080	0	0	0	2	40800
Cadamom Cultivation																
	50300	30000	1	30000	6000	1	30000	6000	0	0	0	0	0	0	2	60000
Banana Cultivation																
	36600	30000	1	30000	6000	1	30000	6000	0	0	0	0	0	0	2	60000
Poly House with Irrigation facility																
	182080	30000	1	30000	6000	0	0	0	0	0	0	0	0	0	1	30000
Total				159922	31984		184122	36824		192922	38584		86461	17292	43	623427

Act ivity	Unit Cost	Assista nce from IWMP	Table 40: Annual Action Plan for Production System & Micro Enterprises 14P40ay1													
			Year 1			Year 2			Year 3			Year 4			Total	
			Physical	Financial	WDF	Physic al	Financial	WDF	Physical	Financial	WDF	Physic al	Financial	WDF	Physi cal	Financial
Nursery formation of Fruits and Spices plants (Convergence with MGNREGA)																
	300000	30000	1	30000	6000	0	0	0	0	0	0	0	0	0	1	30000
Horticulture																
	15000	15000	0	0	0	0	0	0	1	15000	3000	0	0	0	1	15000
Organic manure/ Organic Pesticide Unit																
	50000	30000	0	0	0	0	0	0	1	30000	6000	0	0	0	1	30000
Formation of High tech farm for cow, goat etc.																
	100000	30000	0	0	0	0	0	0	1	30000	6000	0	0	0	1	30000
Poultry Farm																
	161500	30000	0	0	0	1	30000	6000	0	0	0	1	30000	6000	2	60000
Fodder Cultivation (10 Cents)																
	6461	6461	0	0	0	2	12922	2584	0	0	0	1	6461	1292	3	19383
Compost Making																
	368000	30000	0	0	0	0	0	0	1	30000	6000	0	0	0	1	30000
High tech Farming (Aquaponics, Poly farming, etc)																
	100000	30000	0	0	0	2	60000	12000	0	0	0	1	30000	6000	3	90000
Distribution of instruments for innovative irrigation (Drip irrigation, sprinkler etc.)																
	10000	10000	0	0	0	0	0	0	1	10000	2000	1	10000	2000	2	20000
Distribution of Tricho cards																
	1000	1000	3	3000	600	3	3000	600	5	5000	1000	2	2000	400	13	13000
Mushroom Cultivation																
	6800	6800	3	20400	4080	2	13600	2720	3	20400	4080	2	13600	2720	10	68000
Bee keeping unit																
	22000	22000	0	0	0	1	22000	4400	2	44000	8800	2	44000	8800	5	110000
Pepper Cultivation																
	20400	20400	1	20400	4080	1	20400	4080	0	0	0	0	0	0	2	40800
Cadamom Cultivation																
	50300	30000	1	30000	6000	1	30000	6000	1	30000	6000	0	0	0	3	90000
Banana Cultivation																
	36600	30000	4	120000	24000	1	30000	6000	2	60000	12000	0	0	0	7	210000
Poly House with Irrigation facility																
	182080	30000	0	0	0	0	0	0	0	0	0	1	30000	6000	1	30000
Total																
	1430141	351661	13	223800	44760	14	221922	44384	18	274400	54880	11	166061	33212	56	886183

Table 41: NRM Annual Action Rajakkad Watershed (14P40ak1)

	Category of NRM	Year 1	Year 2	Year 3	Year 4
1	Ground water recharge - Open Well	3048000		213500	290687
2	Pond Renovation		204504	575983	500000
3	Drainageline treatment	567432	629512.33	114755.63	784632.78
4	Roof water harvesting tanks	75000	75000	79500	26500
5	Well Renovation		200000	229504.14	68842.96
5	Contour Bunding	200000	160000		
	Total Amount	3890432	1269016	1213243	1670663

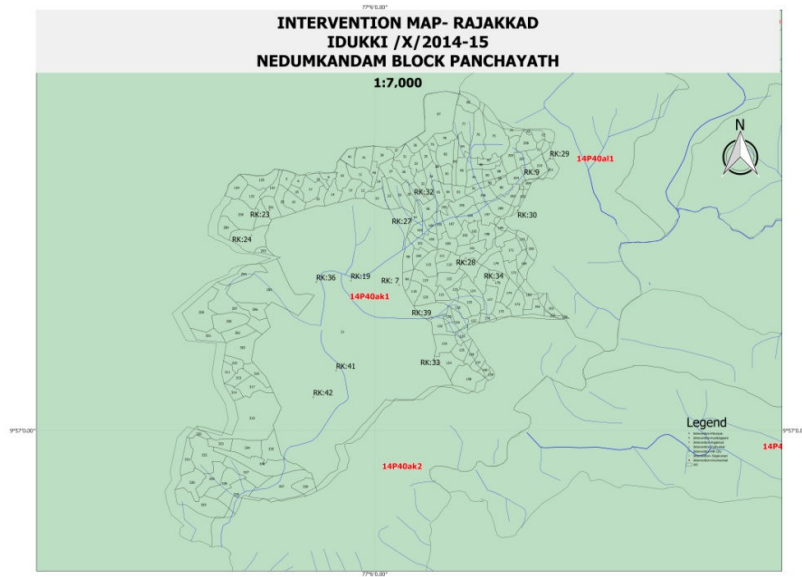


Table 42: NRM Annual Action Plan Kuttunkal Watershed (14P40ak2)

	Category of NRM	Year 1	Year 2	Year 3	Year 4
1	Ground water recharge - Open Well	216000	39504.15	124000	29504.15
2	Pond Renovation		484504	128944.8	375000
3	Drainageline treatment	183673	465175.6	77881.89	64372.76
4	Roof water harvesting tanks	79500	79500	79500	79500
5	Well Renovation	139504.1	375000	29504.15	102708.3
5	Contour Bunding				100000
6	gabion structure				12500
	Total Amount	618677.2	1443684	410326.7	763585.2

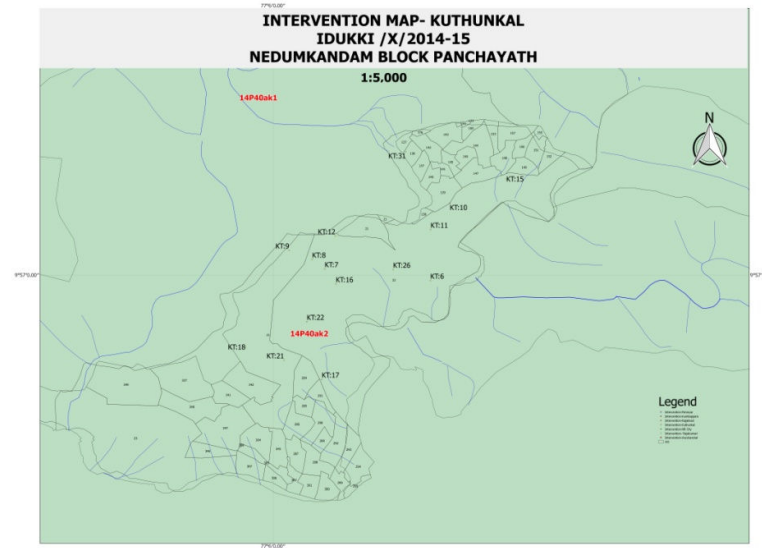


Table 43: NRM Annual Action Plan N.R. City Watershed (14P40a1)

	Category of NRM	Year 1	Year 2	Year 3	Year 4
1	Ground water recharge - Open Well	360000		122800	
2	Pond Renovation	76500	375000	200000	570004
3	Drainageline treatment		1000000		
4	Roof water harvesting tanks		79500		
5	Well Renovation	59008	25000	54504	
5	Contour Bunding		97000		
	Total Amount	495508	1576500	377304	570004

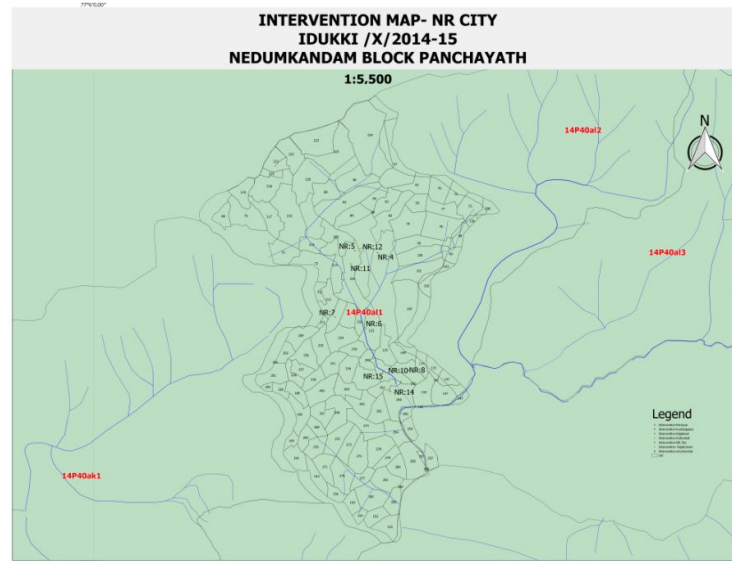


Table 44: NRM Annual Action Plan Kumbappara Watershed (14P40aI2)

	Category of NRM	Year 1	Year 2	Year 3	Year 4
1	Ground water recharge - Open Well	552000		288512	
2	Pond Renovation	1625508			150000
3	Drainageline treatment			100000	300000
4	Roof water harvesting tanks				
5	Well Renovation		88512	59008	59008
5	Contour Bunding		218452		
6	Afforastation		100000	500000	
	Total Amount	2177508	406964	497520	509008

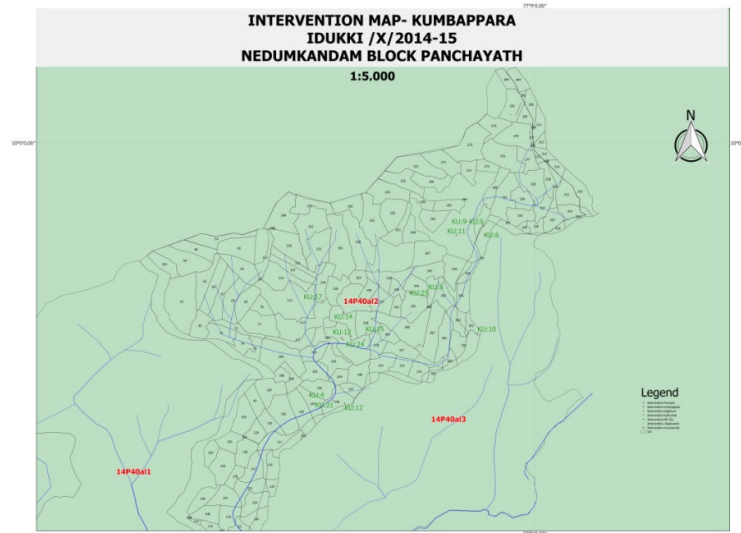


Table 45: NRM Annual Action Plan Rajakumari Watershed (14P40a13)

	Category of NRM	Year 1	Year 2	Year 3	Year 4
1	Ground water recharge - Open Well	516000		106000	
2	Drainageline treatment	1610000	200000		100000
3	Roof water harvesting tanks	79500			
4	Well Renovation				
5	Contour Bunding		100000		
6	Gabion structure			62500	
	Total Amount	2205500	300000	106000	162500

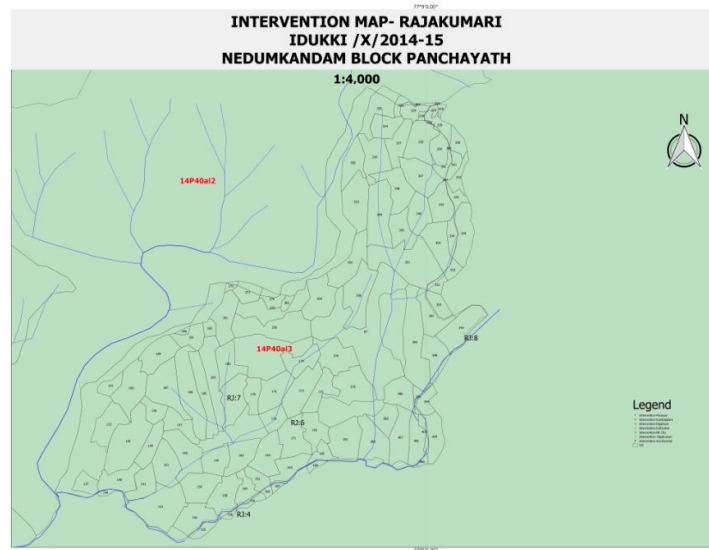


Table 46: NRM Annual Action Plan Panniyar Watershed (14P40ay1)

	Category of NRM	Year 1	Year 2	Year 3	Year 4
1	Ground water recharge - Open Well	1453500	126500	200000	100000
2	Pond Renovation	375000	26500	26500	106500.1
3	Drainageline treatment		223727.4	77881.89	25960.3
4	Roof water harvesting tanks	185500	185500	161000	53000
5	Well Renovation		29504		
6	Contour Bunding		136000		
	Total Amount	2014000	727731.4	465381.9	285460.4

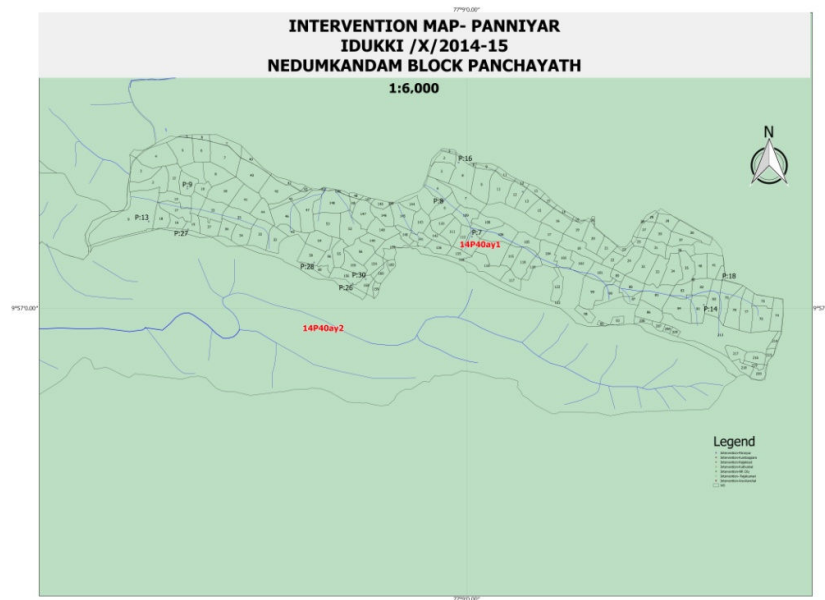


Table 47: NRM Annual Action Plan Aruvilanchal Watershed (14P40ay2)

	Category of NRM	Year 1	Year 2	Year 3	Year 4
1	Ground water recharge - Open Well	1200000	200000		558500
2	Pond Renovation	26500	37500		
3	Drainageline treatment	37500	90837	162216	1610000
4	Roof water harvesting tanks	132500	82504	53000	79500
5	Well Renovation	26500		56004	29504
6	Contour Bunding			576600	
	Total Amount	1423000	410841	847820	2277504

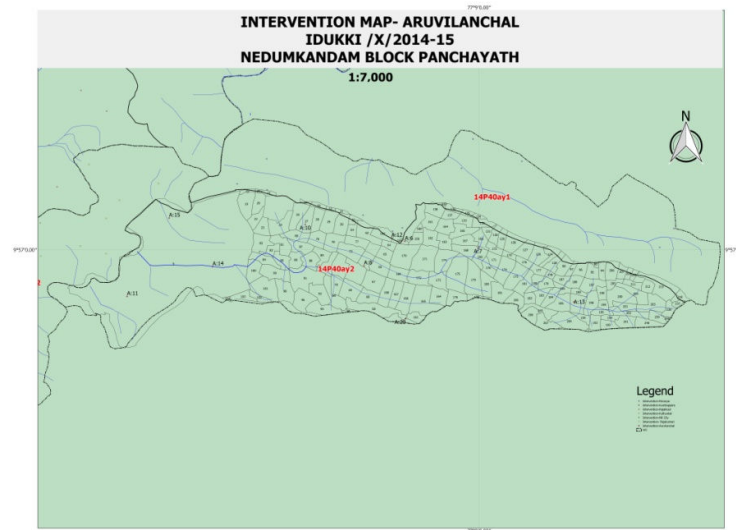


Table 48: Expected Outcomes

Sl. No	Activity	Target Group	Pre project period status	Post project period Status
1	Stone bunding	Farmers	<ul style="list-style-type: none"> • Severe soil erosion at slope and ridges of soil 	<ul style="list-style-type: none"> • stone bunding will prevent the soil erosion • Moisture conservation • Enhanced productivity by preventing loss of fertile top soil • Increased availability of fodder
2	Construction of Sub surface dyke	Farmers	<ul style="list-style-type: none"> • Lack of adequate waterconservation measures 	<ul style="list-style-type: none"> • The sub surface dyke will bring the following benefit: • Water Conservation • Ground water recharging
3	Management of water resources	Watershed community	<ul style="list-style-type: none"> • BP 	<ul style="list-style-type: none"> • Rainwater Harvesting Ferroement and construction of silpaulin tanks ensuring the following; • Water availability in summer season (12 Months) • Availability water for irrigation of homesteads from silpaulin tanks. It will be use full tofarmers.
4	Bio-fencing	Watershed community	<ul style="list-style-type: none"> • Soil erosion along the bank of stream 	<ul style="list-style-type: none"> • Bio fencing will protect the stream bank
5	Livelihood activities	Poor people (landless or asset less)	<ul style="list-style-type: none"> • About 50% per cent of families live below poverty line. 	<ul style="list-style-type: none"> • Atleast 141 SHGs will get aid for strengthening their livelihood activities every year. • Generate employment opportunities (At least

				for 705Households) <ul style="list-style-type: none"> 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.