

Integrated Watershed Management Programme (IWMP)
Irikkur Block Panchayath, Kannur Dist.



DETAILED PROJECT REPORT
IWMP - III

Prepared by

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**INTEGRATED WATERSHED MANAGEMENT
PROGRAMME - IWMP**

IRIKKUR BLOCK PANCHAYATH

KANNUR DT.

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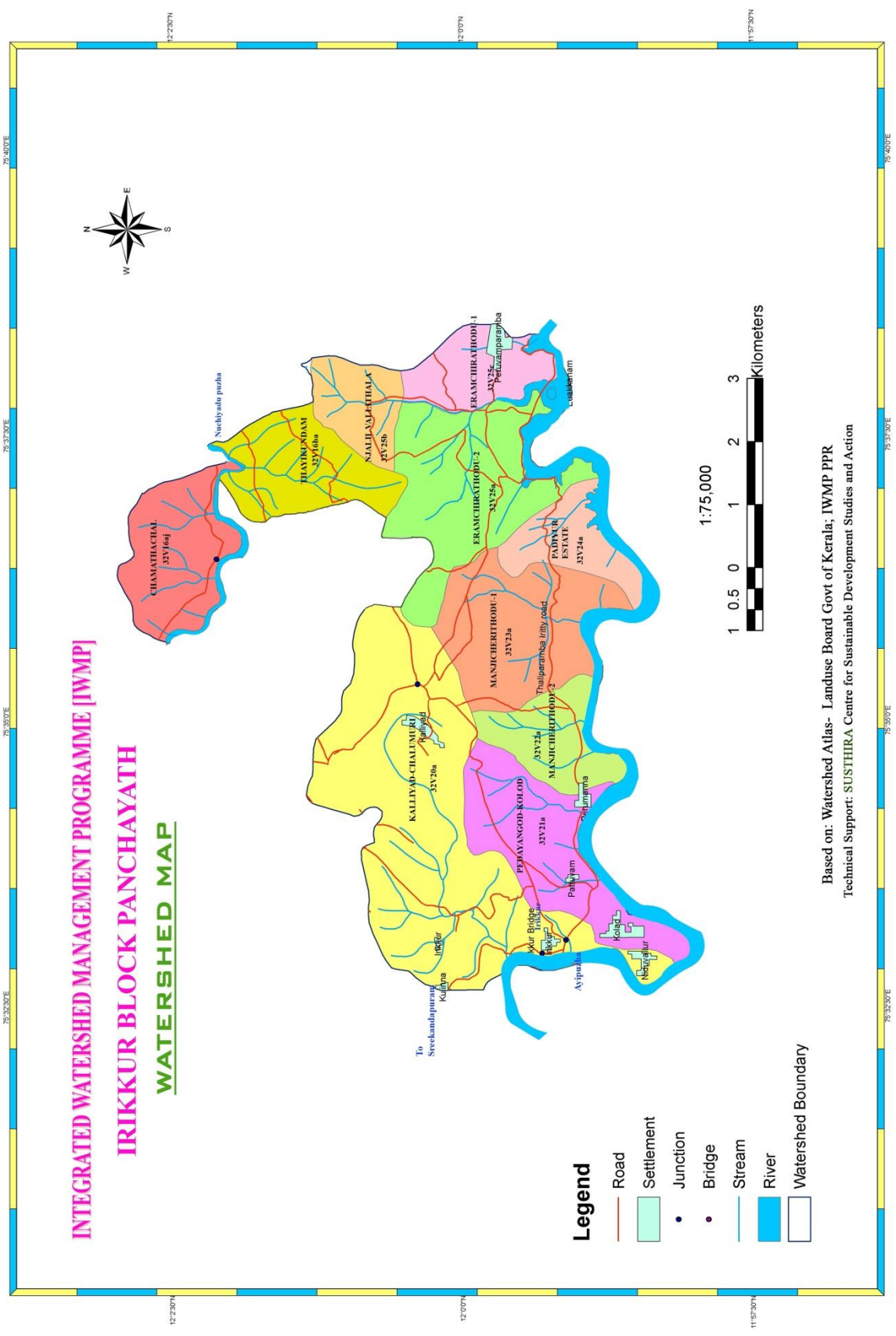
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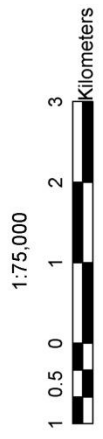
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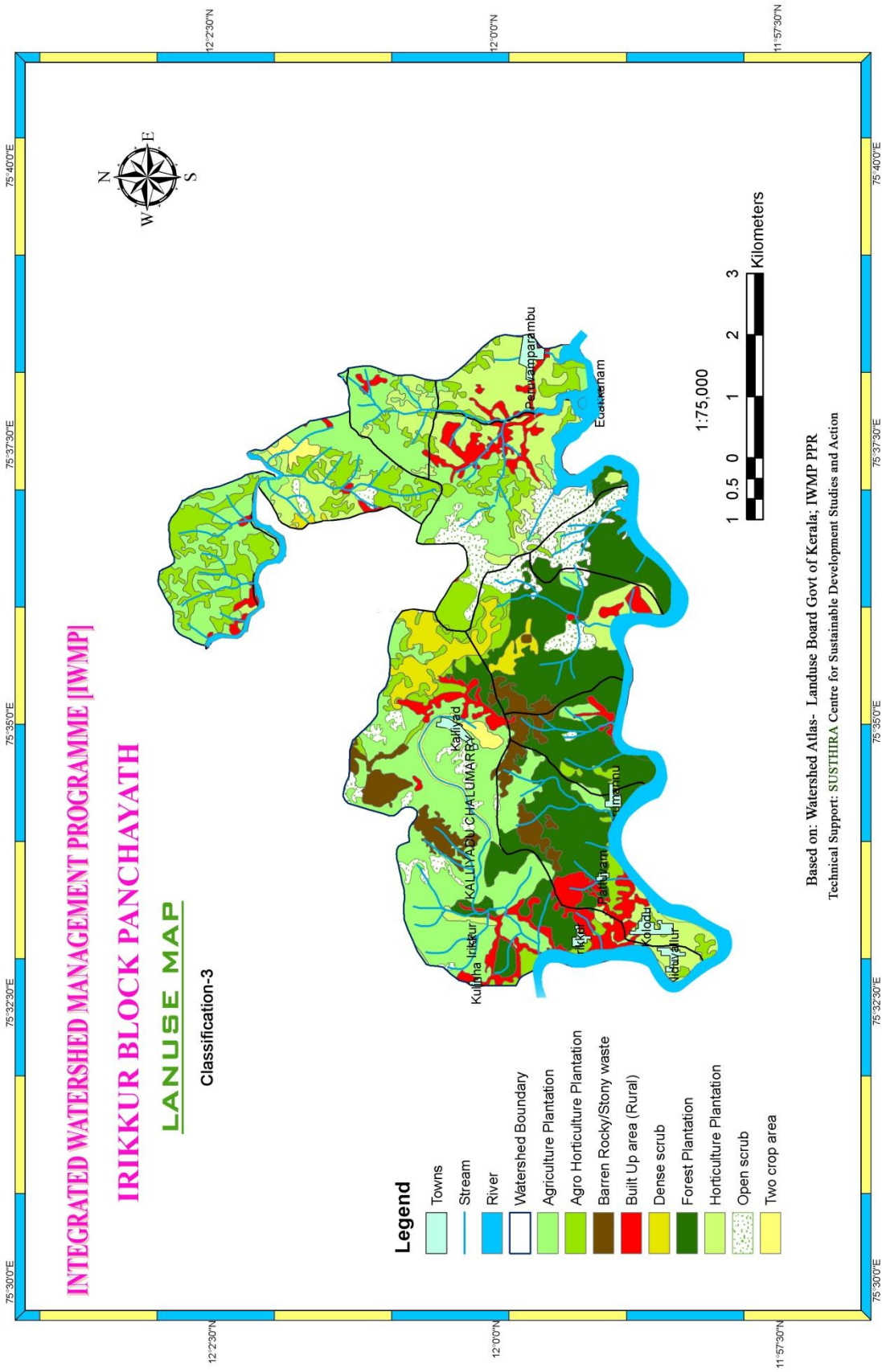


INTEGRATED WATERSHED MANAGEMENT PROGRAMME [IWMP]
IRIKKUR BLOCK PANCHAYATH
WATERSHED MAP

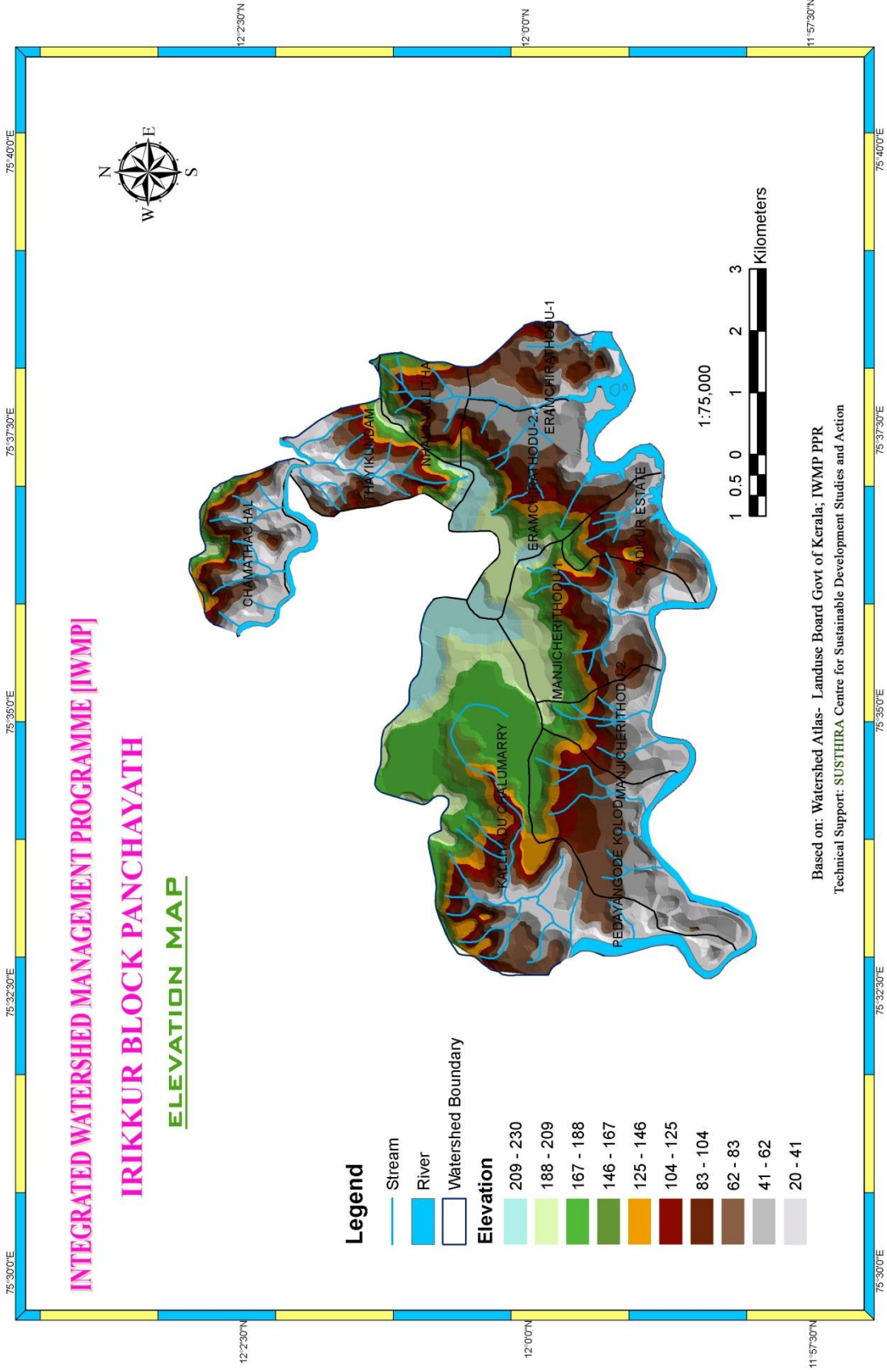
- Legend**
- Road
 - Settlement
 - Junction
 - Bridge
 - Stream
 - River
 - Watershed Boundary



Based on: Watershed Atlas- Landuse Board Govt of Kerala; IWMP PPR
 Technical Support: SUSTHIRA Centre for Sustainable Development Studies and Action



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‘Improving Access to Natural Resources for the Rural Poor’

Integrated Watershed Management Programme (IWMP)

IRRIKKUR BLOCK PANCHAYAT, KANNUR DISTRICT - KERALA

CHAPTER – 1

Introduction

Access by the poor to natural resources (land, forests, water, fisheries, pastures, etc.), is essential for sustainable poverty reduction. The livelihoods of rural people without access, or with very limited access to natural resources are vulnerable because they have difficulty in obtaining food, accumulating other assets, and recuperating after natural or market shocks or misfortunes.

Rural poverty has been accepted as both a major cause and result of degraded soils, vegetation, forests, water and natural habitats. The importance of environment-poverty links for the natural resource, health and vulnerability dimensions of the livelihoods of the poor is evident in several empirical researches. Environmental factors are responsible for almost a quarter of the entire disease burden of developing countries; unsafe water, inadequate sanitation and waste disposal, and air pollution are a major problem for the poor. Rapid deforestation and biodiversity losses are depriving people of valuable forest resources, such as fuel-wood, food and medicine. Soil degradation is a major threat to the livelihoods of 1 billion people, mostly the poor who are more likely to live in degraded or fragile areas. Projections of rural population growth, agricultural expansion and intensification and poverty in the next few decades suggest a potentially serious conflict between natural resource sustainability and poverty in rural areas.

Research has made clear that not only do the rural poor rely heavily on natural resources; they also increasingly live in areas of high ecological vulnerability and relatively low levels of resource productivity such as subtropical dry lands or steep mountain slopes. Estimates indicate that if current trends persist, by 2020 more than 800 million people could be living on marginal lands. Insecurity, risk and vulnerability to environmental stresses and shocks are thus one of the key concerns of poor people.

Environmental resource management is becoming increasingly globalised as international conventions, laws and structures seek to regulate the terms on which people access natural resources. New regulations on intellectual property rights, protocols for bio-safety and genetically modified foods as well as earlier initiatives on forests, desertification, biodiversity etc., constitute a complex globalised institutional environment for natural resource management. Harmonization of these environmental standards and agreements has become a major preoccupation of international agencies; these global measures have trickled down into national action plans and poverty reduction strategies. Global initiatives for environmental resource management have also led to widespread programs for the devolution of natural resource management arrangements to local communities. These initiatives are based on the belief that **Community Based Natural Resource Management** can build on traditional practices and knowledge in providing sustainable and locally specific management.

Integrated watershed management programme (IWMP)

Integrated Watershed Management provides a framework to integrate natural resource management with community livelihoods in a sustainable way. IWMP addresses the issues of degradation of natural resources, soil erosion, landslides, floods, frequent droughts and desertification, low agricultural productivity, poor water quantity and quality and poor access to land and related resources from an integrated watershed management perspective. From the 1990s, watershed management operations typically targeted resource use productivity, livelihood improvements, and poverty reduction objectives in addition to resource conservation. Operations aimed at these twin targets typically adopted integrated farming systems and participatory and demand-driven approaches implemented at the decentralized level. In addition, as environmental pressures increase, there are examples of local level natural resource management and rehabilitation carried out by local people with little outside encouragement. The answer to all the problems that had been envisaged in the watershed development is to formulate an integrated approach for watershed management.

Objectives of IWMP

The general objective of the IWMP is to restore the degraded rangeland and improve the production in the watersheds of Irikkur Block Panchayat by more efficient utilization of natural resources through the proper and effective implementation of Integrated Watershed

Management Programme plan. The NRM technique will control the surface runoff, increase the soil moisture content, conserve the soil, improve the natural plant cover, and improve the vegetation production.

Specific objectives include:

- Restoring and rehabilitating the degraded rangelands of the targeted ecosystems through the effective use of soil and water resources and improve livestock production.
- Improving the capacity of communities' to manage common natural resources.
- Enhancing the efficiency and effectiveness of rainwater and runoff use, improve vegetative cover and reduce soil erosion through better rainwater management.
- Spreading the use of water harvesting structures as a sustainable and renewable water resource to help in ecosystem restoration and maintain the land and livestock productivity.
- Increasing the productivity of natural vegetation and shrubs in order to decrease feed demand for livestock animal in the watershed areas and increase the income of the participating livestock owners.
- Disseminating appropriate water harvesting techniques for restoration of water table, risk management and drought mitigation.
- Improving on-site infiltration/soil-moisture.
- Reducing on-site soil erosion/soil loss.
- Reducing sediment delivery at downstream areas.

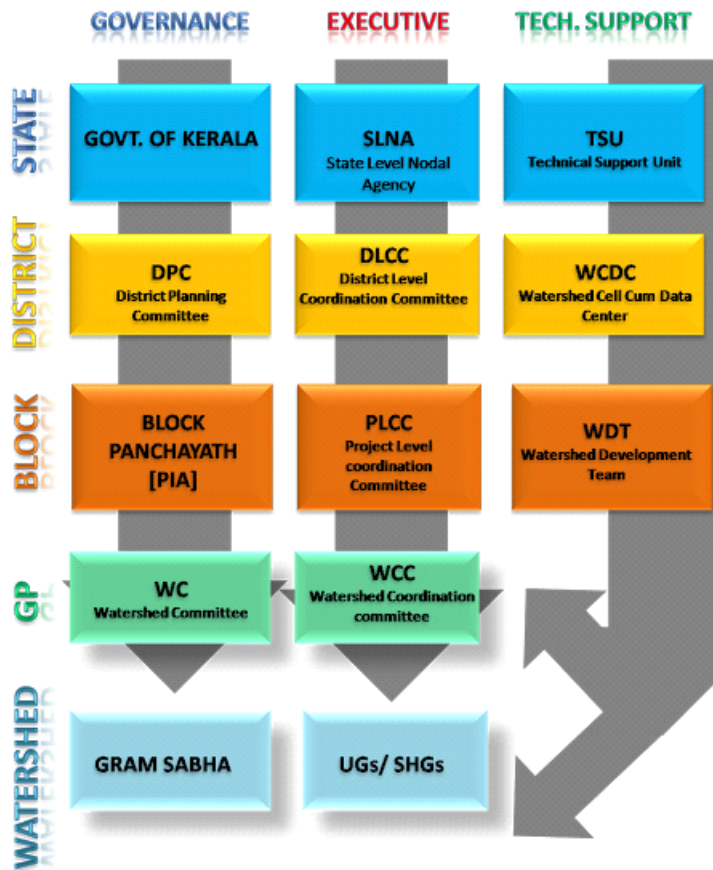
Need of the IWMP Project

Natural Resource Management is very crucial for the survival of any human society. The watershed area is prone to soil erosion and degradation. This area is required to be treated so that further degradation of the soil can be checked. As agriculture and horticulture is the major activity it will help to increase the income levels of the people in the watershed area. The livelihood promotion programmes will help to develop entrepreneurship capacity among the population and serve as an example for the villagers to come up with similar initiatives at their own. It will increase the income levels of the people. There are more than 50% of BPL families in the watershed area. Majority of the BPL households are meeting their livelihood needs from agriculture and horticulture production. Development of sustainable livelihoods for the BPL families in the watershed area is a major objective of the project. The livelihood options and income of all the BPL households will be enhanced once the project is properly implemented. The area under agriculture and horticulture and its productivity will be increased as a result of the increase in irrigation facilities and other activities aimed at expansion of the same. The lack of fodder availability will be addressed by the pasture development and nursery rising. Moreover the households practicing livestock activities will be benefited through the distribution of fodder seeds and fodder plants. The micro enterprises sector will be revived as a result of the implementation of the project. The number of working days will also be increased.

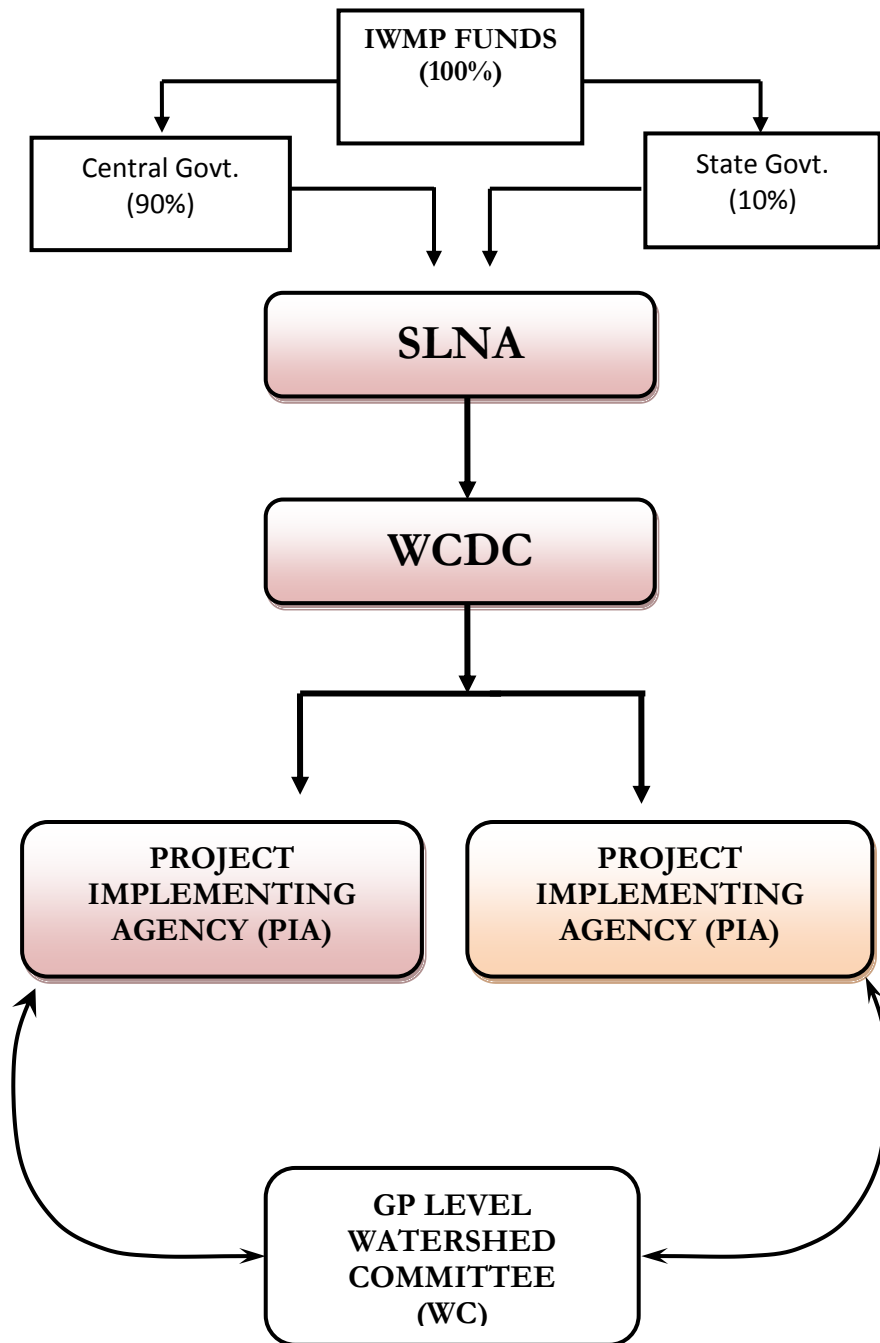
Watershed Development Programme is selected on the basis of thirteen parameter namely Poverty Index, Percentage of SC/ST. Actual wages, Percentage of small and marginal farmer, Ground water status, Moisture Index, Area under rain fed agriculture, Drinking water situation in the area, Percentage of the degraded land, Productivity potential of the land, Continuity of another watershed that has already development/treated, Cluster approach for plain or for hilly terrain, Based on these thirteen parameters a composite ranking was been given to Payyanur Watershed project as in the table given on page 21.

Flow Chart Showing Organizational Set-Up

NATIONAL RAINFED AREA AUTHORITY



FLOW CHART SHOWING FUND FLOW



Details of IWMP Project

Area of the Project (Ha)	: 4378
Area proposed to be treated (ha.)	: 4378 Ha.
Unit cost	: 12000 / Ha
Financial Year of sanction	: 2010-2011- Batch – III
Name of the Project	: IWMP – II / 2010-11
Project duration	: From 2012 to 2016
Project Cost	: 52536000

BUDGET ALLOCATION

The budget allocation of the IWMP Irikkur Block Panchayat is given below:

SL No.	Item	Percentage	Allocation
1.	Administrative Cost	10	5253600
2.	DPR Preparation	1	525360
3.	EPA	4	2101440
4.	Institution and Capacity Building	5	2626800
5.	NRM	56	29420160
6.	Production system & Micro enterprises	10	5253600
7.	Livelihood Activities	9	4728240
8.	Monitoring	1	525360
9.	Evaluation	1	525360
10.	Consolidation phase	3	1576080
Total		100	52536000

Chapter – 2

GENERAL FEATURES OF THE PROJECT AREA **ABOUT THE DISTRICT - KANNUR DISTRICT**

Kannur district derived its name from the location of its headquarters at Kannur town. The old name 'Cannanore' is the anglicized form of the Malayalam word Kannur. It is a compound of two words, 'Kannan' (Lord Krishna) and 'Ur' (place) making it the place of Lord Krishna. It is also noted that the deity of the Katalayi Sreekrishna temple was originally installed in a shrine at Katalayi Kotta in the south eastern part of the present Kannur town.

The Kannur district is bounded by the Western Ghats in the East (Coorg district of Karnataka State), Kozhikkode and Wayanad districts, in the South, Lakshadweep Sea in the West and Kasaragod, in the North. It lies between latitudes 11° 40' to 12° 48' North and longitudes 74° 52' to 76° 07' east.

Kannur district is comprised of 3 taluks and the area of the district is 2967.97 Sq Kms. This is about 7.6% of the total area of the state. There are 129 villages in the district. A break up of these details is as follows.

Sl. No.	Name of Taluk	Area (in Sq. Km.)	No. of Villages
1.	Taliparamba	1330.56	47
2.	Kannur	430.80	34
3.	Thalassery	1206.61	48
Total for the District		2967.97	129

(Source: Panchayat level Statistics-2006 Dept. of Economics and Statistics, Trivandrum)

The district is divided into three geographical regions, the highlands, the midlands and the lowlands. Kannur district is very rich in natural vegetation. The highland region comprises mainly of mountains with major plantations like coffee, rubber, tea, cardamom and other spices. Timber trees like teak, veetty, etc are also grown in plenty in this region. The midland region, lying between the mountains and the low lands, is made up of undulating hills and valleys. This area has an intense agricultural activity. Soil in the western slopes is a

ferruginous red, sandy loam. Vegetation over the whole area is of the forest type. The lowland is comparatively narrow and comprises of rivers, deltas and seashore. The coconut and paddy cultivation can be seen in this region. The coastal region is a comparatively narrow zone, characterized by secondary soil which is rather loose and sandy.

Based on the Geological features the district may be classified into three regions. Coastal region of about 157 Sq. Kms touching the Lakshadweep Sea, midland comprised of small hills, sloped area and plain surface of about 1216.82 Sq. Kms and hilly forest area of about 1594 Sq.Kms. A distribution of area according land position is as follows.

<i>Taluk</i>	<i>Coastal plain (Sq. Km)</i>	<i>High land (Sq. Km)</i>	<i>Mid land (Sq. Km)</i>	<i>Total (Sq. Km)</i>
Taliparamba	30.00	667.86	632.70	1330.56
Kannur	127.20	303.60		430.80
Thalassery	-	622.51	584.10	1206.61
Total	157.20	1593.97	1216.80	2967.97

(Source: Panchayat level Statistics-2006 Dept. of Economics and Statistics, Trivandrum)

Demographic details of the district are shown below:

General Features

Date of Formation	January 1st, 1957
District Head Quarters	Kannur
II. Administrative set-up	
• Number of Revenue Divisions	1
• Number of Taluks	3
• Number of Revenue Villages	129
• Number of Municipalities	6
• Number of Block Panchayat	11

• Number of Grama Panchayat	81
• Number of Assembly Constituencies	11
• Number of Parliament constituencies	1

Geographical particulars

Total Area (Sq.Km)	2966
Wet Area (ha.)	31385
Dry Area (ha.)	237154
Forest Area (ha.)	10815.09

Demographic Particulars

Particulars	District Data
1. Total Population (2001 Census)	2408956
Male	1152817
Female	1256139
2. Total rural population	1196058
Male	578544
Female	617514
3. Total Urban Population	1212898
Male	574273
Female	638625
9. Total Number of Households	457368
Rural Households	237932
Urban Households	219436
Density of Population	812
Growth Rate (1991 to 2001)	6.98
Sex Ratio	1090
Child sex ratio	962
Literacy Rate	92.59
Male	96.13
Females	89.4

- **Drainage, Irrigation practices**

Kannur district is mainly drained by the Valapattanam and Anjarakandy Rivers. The other rivers are Kuppam, Mahe, Thalasserry etc. Dendritic is the common drainage pattern. The Valapattanam River, which is the longest in the district, originates from Brahmagiri Reserve forest in Coorg district of Karnataka. The drainage area of the river in Kerala is 1321 sq.km. The Anjarakandy River originates from the Kannothe Reserve forest. The drainage area of the river is 412 sq. km.

Kannur district has 16,835 ha area under irrigation, which accounts about 3.24% of the gross irrigated area of the state. Kannur district is provided with one major irrigation project along with some minor irrigation projects. The major irrigation scheme of the district is Pazhassi Project. The command area fixed for Pazhassi project was 11525 ha of land. However, only 8125 ha of land have been benefited through this project as on date. Ground water is also used for irrigation purposes. In addition to this, there are private tanks to facilitate the irrigation sector.

- **Climate and Rainfall**

The period of South-West monsoon records more than 80 percent of the rainfall. In July, the rainfall is very heavy and the district receives 68 per cent of the annual rainfall during this season. According to Kerala Land Use Board, the dynamic ground water resources recharge in MCM for Kannur District is 591.89 and the total additional potential recharge under specific conditions of Kerala state as on 31st March 2004 in MCM is 96.53. The total annual ground water recharge of the district in MCM is 591.89, Natural discharge during non-monsoon season – 51.27, net annual groundwater availability- 540.62, gross ground water draft for irrigation – 107.29, gross ground water for domestic and industrial use – 76.52 and Gross ground water use for all uses 261.18. The allocation for the next 25 years for domestic and industrial waters supply is 101.38 MCM and net ground water availability for future irrigation development is 331.95 MCM. The stage of ground water development is 48.31

Kannur district receives a total annual rainfall of around 3453 mm. District experiences heavy rainfall during the South West monsoon season followed by North East monsoon. South West

monsoon during June to September contributes 70 % of the total rainfall of the year. The northeast monsoon contributes only about 30%. Rainfall is considerably less during the period from January to May.

Temperature

The temperature is more during the months of March to May and is less during December and January. The average mean monthly maximum temperature ranges from 28.4 to 36.90C and minimum temperature ranges from 19.7 to 23.90C.

Relative Humidity

Relative humidity is more during south west monsoon season (ie June to September). It is more during morning hours and is less during evening hours. Humidity ranges from 77 to 88 % in the district.

5.2. ABOUT THE BLOCK PANCHAYAT- IRIKKUR

Irikkur is one of the major blocks in Thaliparamba Thaluk, Kannur District of Kerala state, south India. It has historic and commercial importance, and is one of the largest Mappila (Muslim) majority towns (90%) in Kannur district and lies on the banks of the Irikkur River, locally known as Aayipuzha. This river was the geographical border of the former Kottayam of erstwhile Veera Pazhassi Raja'.

People residing both side of the river mingled together and this cooperation resulted in the formation of Irikkur block covering both banks of the river. The name "Irikkur" was considered to be formed from the Malayalam word 'iru kara ooru' which means a village of both banks of the river.

Muslims, Hindus, and Christians live here in harmony and Irikkur is a model village for of communal harmony. The famous Mamanam Temple, Nilamuttam Makham and Paisai Church lie side-by-side as a symbol for this. It is a joy when Buses from Kannur come to irikkur crossing the river and go inside irikkur crossing the mosque, market and shops again

returning back on the same route. "Palaga Biscuit" a tasty Rusk like bread is a famous recipe of Irrikur.

Geography and Location

Irikkur is about 29 kilometers away from Kannur and accessible directly from Kannur, Taliparamba, Sreekandapuram, Mattannur, Iritty and Chalode.

Irikkur is almost in the center of Kannur district. On the eastern side of the Irikkur Block is the Coorg Mountains. On the north is Thaliparamba Block, on the south - west is Edakkadu Block, and on the south is Iritty Block. The geographic coordinates of the Block is North latitude 11°55'to12°10' and East longitude 75°30' to 75°40'

Topography

Topographically the nature of the block Panchayat is undulating with big and small hills and hillocks, moderate and heavy slopes. The land is divided into two regions – High land and Midland. Eruvassy and Ulikkal Grama Panchayats are in Highland, Kolacherry, Malappattam, Sreekandapuram, Mayyil Kuttyattur, Padiyur, Payyavoor and Irrikur Grqama Panchayats are in midland.

The geographic area of the block Panchayat in the highland region is 123.77 Sq. Kms and the size of land in the midland region is 309.85 Sq. Kms. The whole area is included in the Northern midland agro-ecological zone. The general condition of the topography is from moderately to steeply sloping ridges and Valleys with gently sloping to flat bottom.

Climate (Temperature, Relative Humidity and Rainfall)

The climatic condition of an area is controlled by its physiographic and forest cover. The temperature and rainfall also are deciding factors of the climate. In Irrikur Block Panchayat, two rainy seasons provide the shower. Heavy shower is during the South West monsoon and comparatively moderate shower is during North West monsoon which is the retreating rain. The average rainfall in the Block Panchayat area is 3500mm.

The highest temperature as per 2009 statistics is 36.4° C and the lowest temperature is 21.9°C. The highest temperature is during the month of April and the lowest temperature is in the month of December. The relative humidity is also having a role in deciding the climate of an area. The relative humidity at its peak was in October (96%) and the lowest is in the month of January (85.64%).

Hydrology – Ground water scenario

Ground water withdrawal is taking place for irrigation, domestic and industrial purposes. The domestic and industrial requirements were computed as per the norms considering population of 2001 and also based on the projected population for the year 2025. The irrigation draft was calculated based on the number of ground water abstraction structure and the number of hours the well is in use per day and average number of day of irrigation in a year. The table given below illustrates the situation of Ground water resource.

Name of Block : Irrikkur		
Sl. No.	Parameters	Data in MCM
•	Net Annual Ground Water Availability	105.92
•	Existing Gross Ground Water Draft for irrigation	23.38
•	Existing Gross Ground Water Draft for domestic and industrial water supply	8.60
•	Existing Gross Ground Water Draft for all uses	31.98
•	Allocation for domestic and industrial requirement supply up to next 25 years	10.75
•	Net Ground water Availability for future irrigation development	71.79
•	Stage of Ground water development (%)	30.19

Comparison of Stage of development, Total gross draft and categorization

Name of Block : Irrikkur			
Sl. No.	Parameters		Data in MCM
•	Net Ground water availability (MCM)		105.92
•	Total gross draft (MCM)	1999	23.38
		2004	31.98
•	Stage of development	1999	13.45
		2004	30.19
•	Categorization of Blocks	1999	Safe
		2004	Safe

(For both the tables above courtesy: Ground Water Department of Govt of Kerala)

As per data given above, Irrikkur Block is considered to be safe in connection with ground water availability and possibility of development till 2004. But the recent trend and due to many development that had taken place in the recent years, it has to be doubted that the situation of ground water is threatening as the ground water table had gone down during the recent years.

Animal Husbandry

Cattle- Cross Breed: 11684

Cattle – Non - descript: 6630

Buffaloes: 111

Goats: 8055

Pigs: 2640

Dogs: 10370

Fowls- Desi: 1155

Fowls- Improved: 145892

Ducks: 29

Milk Cooperative Societies: 20

Veterinary Institutions: 24

General Socio-economic Situation of the Block Panchayat

Irikkur Block Panchayat is formed on April 1st 1957 and has a total area of 433.62 Sq. Kms. According to 2001 census the total population of this block is 221098 amongst which 108864 are men and 112234 are women. The Scheduled Caste (SC) population in the block is 11827 and the Scheduled Tribe (ST) population is 1707. The sex ratio is 1309.

The number of occupied residential houses is 36310 and the number of households is 45413 with a population density of 532 and an effective literacy rate of 79.22. Ten Grama Panchayats is included in Irikkur Block Panchayat and they are:

- Eruvassy
- Irikkur
- Kolacheri
- Kuttiyattur
- Malappattam
- Mayyil
- Padiyur - Kallyad
- Payyavoor
- Sreekandapuram
- Ulikkal

The former details are given in a Grama Panchayat-wise tabular form:

Sl. No.	Name of Panchayat/ Block/ Municipality	Grade	Area (in sq. Kms)	No of wards	No. of occupied residential houses	No. of house holds	Density of Population	Sex ratio	Effective literacy rate
•	Eruvassy	Ist	49.09	13	3447	4271	391	998	82.06
•	Irikkur	Ist	11.22	12	1450	1774	1115	1000	73.55
•	Malappattam	IIInd	19.30	12	1448	1911	500	1045	77.53
•	Payyavoor	Ist	67.34	15	4407	5285	345	994	81.73
•	Kolacherry	Ist	20.72	16	3269	4215	1252	1108	78.05
•	Kuttiyattoor	IIInd	35.10	15	3533	4499	699	1067	80.18
•	Mayyil	Ist	33.08	17	3531	5067	834	1072	79.29
•	Sreekandapuram	Ist	69.00	19	5555	6927	481	1020	80.59
•	Padiyoor Kalliad	Ist	54.09	14	9230	4162	380	1004	78.42
•	Ulikkal	Special	74.68	19	-	7302	460	1001	80.80
Total for IRIKKUR BLOCK			433.62	152	36310	45413	532	10309	79.22

GsP-Wise demographic details are given below

Panchayat / Ward	No. of Households	Total Population			Scheduled Castes			Scheduled Tribes			Literacy Rate (%)
		Person	Male	Female	Person	Male	Female	Person	Male	Female	
Ulikkal	7302	34318	17151	17167	1657	821	836	542	282	260	92.70
Irikkur	1774	12510	6255	6255	183	83	100	4	2	2	87.22
Malapattam	1911	9653	4720	4933	473	237	236	1	1	0	87.63
Mayyil	5067	27605	13324	14281	1432	738	694	5	2	3	90.37
Kolacherry	4215	25949	12307	13642	1485	760	725	8	5	3	89.94
Kuttiattoor	4499	24543	11876	12667	1026	532	494	0	0	0	90.78

Sreekandapuram	6927	33194	16435	16759	2327	1143	1184	0	0	0	91.95
Eruvassy	4271	19175	9599	9576	1305	654	651	3	1	2	93.45
Payyavoor	5285	23242	11655	11587	1757	889	868	413	188	225	93.18
Padiyoor Kalliad	4162	20562	10262	10300	655	315	340	732	347	385	89.63
Total		230751	113584	117167	12300	6172	6128	1708	828	880	90.68

It has been mentioned earlier that the Block is one of the Muslim Majority area in the whole district of Kannur. If the religion plays an important role in moulding the social and economic situation of a population, the best example is Irrikkur Block. It has been generally observed that the educational level of the community is comparatively low, whereas the economic situation is very high. This is traditional among the Muslim community. The total literacy rate of the Block Panchayat is 79.22% which is comparatively low considering the state average. Considering different Grama Panchayats in the block, the highest literacy is 82.06% (Eruvsassy) and the lowest literacy rate is 73.53% (Malappattam). It is observed that the education get comparatively low priority among the community, perhaps because the livelihood of the people is primarily agriculture.

The SC/ST community also is far behind in the case of education. Two Grama Panchayats are known for its ST/SC communities – Padiyur and Ulikkal. This also contributes the poor literacy rate of the Block. In most of the Grama Panchayats, there are migrant farmers from the Travancore area and they contributed to the agricultural development of the Block Panchayat to a certain extent.

The main source of income of the community is agriculture. It is also observed that many are working abroad, especially in the Middle East. They also contribute in building up the economy along with farmers and merchants. Many are also working in construction sector. In short, the block Panchayat, ever since its inception is on its road towards growth and development and every governing board and the elected members to the board by and large are dedicated for the well being of the community by developing all possible infrastructure facilities, promoting the agriculture and fostering the economic back born keeping it sound and beneficial to the communities. In this background of the development approach, the new watershed approach also complementing and the present project will certainly bring remarkable change in the situation and will definitely help people witness for the real development.

ABOUT THE GRAMA PANCHAYATS

As mentioned above, Irrikkur Block Panchayat includes ten Grama Panchayats with a total population of 230751 amongst which 113584 are men and 117167 are women. However, watershed from only four Grama Panchayats has been included under IWMP Project, i.e., Irrikkur, Padiyoor, Payyavoor and Ulikkal. Brief descriptions of the above Grama Panchayats are given below:

IRRIKKUR GRAMA PANCHAYAT

Irrikkur Grama Panchayat is formed in 1955 and situated within the Irrikkur revenue village of Irrikkur Block Panchayat and has a total geographic area of 11.38 Sq. Kms. If one goes back to history, he can see that there was a small town in the earlier Madras presidency in the Malabar District. Since then Irrikkur was known and after independence when Thaliparamba Taluk was formed, Irrikkur became an inevitable part of the taluk. Historically, Irrikkur has been another land mark. It has been the separation line of the old Kottayam Taluk and Chirakkal Taluk.

People residing both side of the river mingled together and this cooperation resulted in the formation of Irrikkur village covering both banks of the river. The name "Irrikkur" was considered to be formed from the Malayalam word 'iru kara ooru' which means a village of both banks of the river. Irrikkur is about 29 kilometers away from Kannur, the district head quarters and accessible directly from Kannur, Taliparamba, Sreekandapuram, Mattannur, Iritty and Chalode.

Irrikkur is almost in the center of Kannur district. On the eastern side of the Irrikkur Panchayath is Padiyoor. On the west is Malappattam. On the north is Sreekantapuram and on the south Irrikkur river. It is a joy when Buses from Kannur come to Irrikkur crossing the river and go inside Irrikkur crossing the mosque, market and shops again returning back on the same route. "Palaga Biscuit" a tasty rusk like bread is a famous recipe of Irrikkur. The nearest airport is Karipur (Kozhikode International Airport) and the nearest Railway station is Kannur. The road transportation is centered on Irrikkur Bus Stand and there are buses from different parts of the district. There were ferries in three different locations. The bridge

constructed across the river has reduced the ferry transportation and now has motor transportation from Irrikkur to Aayipuzha.

Muslims, Hindus, and Christians live here in harmony and Irrikkur is a model village for of communal harmony. The famous Mamanam Temple, Nilamuttam Makham and Paisai Church lie side-by-side as a symbol for this.

Boundaries

Irrikkur Grama Panchayat is bounded in its north by Sreekandapuram Grama Panchayat, in the south by Irrikkur River (Valapattnam Puzha), in the east by Padiyur Grama Panchayat and in the west by Malappattam Grama Panchayat.

Transportation Facilities

The Grama Panchayat is totally depending upon Road transportation for their mobility. One state Highway and several PWD/Grama Panchayat Roads are connecting the look and corner of the Grama Panchayat. While the state Highway and PWD roads are provided with Bus Services, majority of Panchayat roads are having private/own transport vehicle services.

Panchayat details of Demographic Particulars

Name of Panchayat	Grade	Area (in sq. Kms)	No of wards	No. of occupied residential houses	No. of households	Density of Population	Sex ratio	Effective literacy rate
Irrikkur	I	11.38	13	1450	1774	1059	922	73.55

Panchayat wise number of Households, Total Population, SC Population, ST Population & Literacy Rate (GP Data General Information – LSG Kerala)

Panchayat / Ward	No. of Households	Total Population			Scheduled Castes			Scheduled Tribes			Literacy Rate (%)
		Person	Male	Female	Person	Male	Female	Person	Male	Female	
Irrikkur	1774	11879	6179	5700	183	83	100	4	2	2	84.85

Geography, cropping pattern and Hydrology

Irikkur Grama Panchayat is in the midland agro-ecological zone of the state. The main crops are coconut, rubber, cashew nut pepper, areca nut, paddy and vegetables are the main crops in the Grama Panchayat. Valapattanam River, five major ponds and 16 public wells are the major contributors to the hydrology of the Grama Panchayat. There are 18 public taps also for providing drinking water to the Panchayat community, especially the SCs and STs.

PADIYUR GRAMA PANCHAYAT

The Grama Panchayat is spread over Four Revenue Villages – Padiyoor, Kallyad, Vyathur and Nuchiyadu and has an area 55.40 Sq. Kms. The GP is formed in 1962 and is reachable by road only.

In the beginning of the 20th century major part of the geographic area was dense forest and gradually along with the population growth deforestation had been taken place to provide agriculture land to the inmates of the area. At that time, the 45 Sq. Kms land in the Irikkur firka was under landlords and they have all the rights and privileges to control the revenue and other related assets of the area.

The present Panchayat is bounded in its north by Payyavur, Ulikkal and Sreekandapuram GPs, in its south by Kizhur – Chavassery and Irikkur GPs, in its east by Ulikkal, Kizhur – Chavassery and Payam GPs and in its west by Irikkur and Sreekandapuram GPs.

Geography

The general appearance of the Grama Panchayat is undulating with hillocks and valleys. Geographically the whole GP area can be divided into 5 zones – the upper plains, Heavy slopes (S1 type), Medium slopes (S2 types), and moderate slopes (S3 types) and coastal valley plains. The highlands consist of places like Kaikkolithattu, Panniyamkunnu, Paranthalattu Mala (Mountain) and Varmala (Mountain).

Cropping Pattern

Physiographically Padiyoor-Kalliyadu Grama Panchayatis undulating and is considered a highland area. Rubber, Areca nut, Coconut, Cashew nut, Pepper and paddy are the main crops of this GP. Rubber occupies major part of the cultivable area followed by Cashew-nut.

Water sources

Two rivers – Valapattanam River and Nuchiyadu River – are flowing through this Grama Panchayat. 24 ponds and 63 public wells along with a number of household wells enrich the hydrosphere of the Grama Panchayat. 16 public taps provides drinking water for the community.

Transport facilities

Irritty – Thaliparamba State Highway is the main pass through for the Grama Panchayat to contact outside world of the GP. There are several PWD roads and Panchayat Roads tarred and mud in intersecting the Grama Panchayat. The PWD roads are Blathur – Irrikkur road, Kalliyad – Urathur – Thermala road, Padiyur – Kombanpara –Pervuvamparambu road, Kalluvayal – Nellikampoil road, Kaniyarvayal – Kanhileri – Ulikkal road and Poovam-Kalliyadu Road. The nearest bus stations are Irrikkur and Irritty. Kannur is the nearest Railway station and Mangalore is the nearest Air Port. People also depends Karippur Air port for going abroad. There are two waterways in the GP – Perumannu – Porora and Thirur – Chamathachal.

Socio-Economic Situation

Panchayat details of Demographic Particulars

Name of Panchayat	Grade	Area (in sq. Kms)	No of wards	No. of occupied residential houses	No. of households	Density of Population	Sex ratio	Effective literacy rate
Padiyoor	I	55.40	15	9230	4162	392	979	78.42

Panchayat wise number of Households, Total Population, SC Population, ST Population & Literacy Rate (GP Data General Information – LSG Kerala)

Panchayat / Ward	No. of Households	Total Population			Scheduled Castes			Scheduled Tribes			Literacy Rate (%)
		Person	Male	Female	Person	Male	Female	Person	Male	Female	
Padiyoor	4162	20562	10262	10300	655	315	340	732	347	385	89.63

Source: Census data 2001

Majority of the people are daily wagers and small scale farmers. The average land holding are 1.12 acres and the economy, of course, built on agriculture. Some are depending on construction sector and some are daily wagers. The employment details are given below:

The education is controlled and facilitated by several educational institutions in the GP. The important are: The Government Higher Secondary School is the only one public educational institution in the GP. In private sector, there are seven UP/LP Schools and one private college. The institutions always try to keep the educational level of the GP community comparatively satisfactory and many have acquired collegiate education.

The Libraries at Padiyur, Kuyiloor, Blathur etc. and the public reading rooms at Thirur, Karavur and Chadachikundam are instruments of the cultural renaissance of the people in the Grama Panchayats, especially the youth. The cultural centers and Youth clubs functioning in the GP also fosters the cultural growth and integration of the communities.

PAYYAVOOR GRAMA PANCHAYAT

Payyavoor is a panoramic place which lies in the laps of hills and valleys which is green with springs and streams flowing along the sides of the hills and along the valleys. The village is known for its migrated farmers which had been taken place under the initiative of the Diocese of Kottayam. The famous Kunnathurpadi, which is believed to be the birth place of Lord Shiva (Muthappan) is in this Grama Panchayat. The GP is adjacent to the Karnataka State which is composed of hills and valleys.

Payyavoor GP is situated in Payyavoor Revenue Village and has a total area of 69.34 Sq. Kms. It is formed on September 14, 1972 dividing the Eruvassy Grama Panchayat into two. Payyavoor, before the formation of the Kerala State was a part of the Chirakkal Thaluk of the Malabar District in the old Madras State.

Boundaries

Payyavoor GP has its boundary in North with Karnataka Forest, in the south Nuchiyadu, Payyavoor Rivers, in the east Ulikkal GP and in the west Eruvassy GP.

Location

The GP is located at about 60 Kms. away from the District Head Quarters. The nearest railway station is Kannur and the airport is Karippur. The main waterway in the Grama Panchayat is Thonikkadavu.

Geography

Geographically the Grama Panchayat is included in the high range agro-climatic zone. The hill stations are Kanhirakkolly, Aadampara and Kunnathur. Out of the total geographic area, 9% (6.24 Sq. Kms) are dense forest. The major drains in the Grama Panchayat are Vanchiyam, Eruvessy, Nuchiyadu and Parakkadavu Rivers. In addition, there are 2 public ponds, 49 public taps and four public wells in the watershed. Kanhirakkolly and Sasipara are tourist locations.

Cropping Pattern

It has already been stated that about 9% of the total area is under forest coverage. The remaining part of the Grama Panchayat is fully green with different crops and cultivations. The main cultivation in the Grama Panchayat is rubber. The other two important crops are coconut and areca nut. Plantain including banana cultivation is slowly spreading in the Grama Panchayat.

Transportation

Three main roads and a number of village roads intersect the Grama Panchayats connecting different locations in and out of the Grama Panchayat. The major roads which had Bus Service are Irritty – Vellarikkundu, Parakkadavu – Vanchiyam and Payyavoor – Kanhirakkolly. There are buses directly from Kannur, Tellichery and Thaliparamba. The main water transport station in the Grama Panchayat is Thonikkadavu.

The GP community mainly depend the above mentioned roads for bus services. The interior village roads are mainly occupied by private four wheelers and two wheelers. The topography does not allow terrestrial transport conveyance to flourish. Nine bridges also help to connect the GP to other areas.

Socio-Economic Situation

Panchayat details of Demographic Particulars

Name of Panchayat	Grade	Area (in sq. Kms)	No of wards	No. of occupied residential houses	No. of households	Density of Population	Sex ratio	Effective literacy rate
Payyavoor	I	69.34	16	4407	5285	345	994	81.73

Panchayat wise number of Households, Total Population, SC Population, ST Population & Literacy Rate (GP Data General Information – LSG Kerala)

Panchayat / Ward	No. of Households	Total Population			Scheduled Castes			Scheduled Tribes			Literacy Rate (%)
		Person	Male	Female	Person	Male	Female	Person	Male	Female	
Payyavoor	5285	23242	11655	11587	1757	889	868	413	188	225	93.18

Source: Economic Statistics Dept -2006

The economy is basically agrarian and agriculture is the main source of income of a vast majority of the people, especially those who are migrated from mid – Travancore area.

Educationally, the community keeps good standards and majority of them have completed their secondary/higher secondary schooling. Only a few old aged farmers have gone through primary education. The educational institutions in the GP such as Sacred heart College, Paisakkari Deva Matha College and Chandanakkampara Cherupushpam college along with Govt. UP School, Payyavoor Sacred Heart School (the twelve Schools in the GP) play an important role in keeping the educational level of the GP.

The institutions, both religious and secular, facilitate the cultural growth and development of the farming community of the GP. Those who are educated migrate to other big cities and towns for want of career suitable for their educational standard. This migration and mobility between the places also promotes the cultural transformation of the community. The

Payyavoor Reading Room, PCDP Jubilee Memorial Public Library, Payyavur Sangeetha Kalakendram, Bhavana Arts & Sports Club, Friend's Arts & Sports Club etc. are the cultural centers of the Grama Panchayat.

Health of the GP community is taken care of by health institutions that are functioning in the Grama Panchayat under public as well as private managements. Mercy Hospital (which also provide ambulance services), Koyipra Sree Krishana Hospital and Gurudeva Hospital are the major health care institutions in the GP. Along with this the PHC functioning in Chandanakkampara which had sub-centres at Vanchiyam, Kakkattukavu, Paisakkari, Vathilmada, Kunnathur and Kanhirakkolly is also providing health care services to the populace. There are two Ayurveda-Homeo Clinics in the GP one is at Payyavoor and the other is at Paisakkari.

ULIKKAL GRAMA PANCHAYAT

Ulikkal Grama Panchayat came into existence on October 2, 2000, when Padiyur – Kalliadu Grama Panchayat was bifurcated to form a new Grama Panchayat. The new Ulikkal Grama Panchayat has a total geographic area of 74.79Sq.Kms.

Ulikkal GP is specifically remarkable as it is one of the GPs in the area which had implemented total drinking water & sanitation Project with WB assistance under Jananidhi Programme. An outstanding 114 water sources had been developed to provide drinking water to the whole community with an estimated total cost of Rs. 10 Crore.

The north-eastern boundary of the GP is adjacent to the Karnataka forest and elephants from the forest enter into the boundary area of the GP. Ulikkal has been one of the farm lands which are occupied by the migrants during the migration period. These migrants as well as the majority of the present population belong to Christianity. Hence the dominating religion is Christian. The present changes in the living conditions of the occupants came into existence only during the 1940s and the Christian community as well as the other religious communities from the adjacent state – Karnataka mingled well to foster the cultural formation and growth.

The important places in the GP are Ulikkal, Manikkadavu and Peratta. These are also serving as the important marketplaces of the Grama Panchayat. For big purchases, the community goes to the nearest commercial centre Irritty.

Geography

The GP is coming under the high range agro-climatic zone and has a very undulating topography. A number of huge hills and small hillocks form the physiography of the Grama Panchayat. The important hills are Kalankimala, Kurisumala, Angadisseri Thattumala and Aanaramala. These are the highest peaks in the Grama Panchayat.

Boundaries

Ulikkal is bounded in its north by Karnataka Forest, in the south by Padiyoor & Payam GPs, in the east by Payam GP and Karnataka State and in the west by Payyavoor & Padiyur GPs.

Cropping Pattern

The Grama Panchayat is once known for its Cashew plantations. Even now the leading crop in the GP is cashew-nut. But cashew plantations in many places have disappeared and gave way to rubber plantations. At present rubber has become the main crop of the GP. Other important crops are Coconut and Paddy. Recently a drastic reduction in paddy cultivation is observed. Pepper, Plantain and areca nut are found as mixed crops in the GP area.

Water Sources

The main surface water source of the GP is Nuchiyadu River and Mattara River. There are 5 big ponds also in the watershed. 36 community wells provide drinking water for the community. Jalanidhi Project which had been successfully implemented in the GP brought the Panchayat Nirmal Grama Puraskar for total sanitation and hygiene.

Socio-economic situation

Panchayat details of Demographic Particulars

Name of Panchayat	Grade	Area (in sq. Kms)	No of wards	No. of occupied residential houses	No. of households	Density of Population	Sex ratio	Effective literacy rate
Ulikkal	Special	74.68	20	-	7302	460	1001	80.80

Panchayat wise number of Households, Total Population, SC Population, ST Population & Literacy Rate (GP Data General Information – LSG Kerala)

Panchayat	No. of Households	Total Population			Scheduled Castes			Scheduled Tribes			Literacy Rate (%)
		Person	Male	Female	Person	Male	Female	Person	Male	Female	
Ulikkal	7302	34318	17151	17167	1657	821	836	542	282	260	92.70

Source: Economic Statistics Dept -2006

The socio-economic situation of the Grama Panchayat is mainly influenced by the religious and secular institutions functioning in the GP. While agriculture decides the economic status of the community, religion, cultural centers, organizations, etc. decides the social and cultural situation of the GP.

There are 8 temples, 13 Christian Churches and 6 mosques in the GP which provides the facilities to the people for worship. These religious centres also play an important role in the socio-cultural formation of the people.

The economy built on agriculture and farm labour which is considered to be the main source of income of the people. Hence, where there is a fluctuation in the price of the agricultural produce that will definitely affect the living of the people in the Grama Panchayats. There are many that depend on construction sector. Some are earning their livelihood from jobs they got in the Middle East. The foreign currency also contributes to the building up of economy of the Grama Panchayat to a certain extent.

GENERAL DESCRIPTION OF THE WATERSHED PROJECT AREA

The project area under IWMP sanctioned for Irikkur Block Panchayat has a total area of 4378 Ha among that 2289 Ha of land is considered as land under agricultural use and 755 Ha is forest land. This includes a total cultivable waste of 795 ha and the whole area is considered as rain fed. The project area is being selected for treatment based on certain criteria such as agro-climatic condition of the project area, demography and land distribution, livelihood, availability of irrigation facilities etc. Given below is a table showing the criteria and weight age for selection of watershed.

Criteria and weight age for selection of watershed

Criteria	Maxi- mum score	Ranges & scores			
		Above 80 % (10)	80 to 50 % (7.5)	50 to 20 % (5)	Below 20 % (2.5)
Poverty index (% of poor to population)	10	Above 80 % (10)	80 to 50 % (7.5)	50 to 20 % (5)	Below 20 % (2.5)
% of SC/ ST population	10	More than 40 % (10)	20 to 40 % (5)	Less than 20 % (3)	
Actual wages	5	Actual wages are significantly lower than minimum wages (5)	Actual wages are equal to or higher than minimum wages (0)		
% of small and marginal farmers	10	More than 80 % (10)	50 to 80 % (5)	Less than 50 % (3)	
Ground water status	5	Over exploited (5)	Critical (3)	Sub critical (2)	Safe (0)
Moisture index/ DPAP/ DDP Block	15	-66.7 & below (15) DDP Block	-33.3 to - 66.6 (10) DPAP Block	0 to -33.2 (0) Non DPAP/ DDP Block	

Area under rain-fed agriculture	15	More than 90 % (15)	80 to 90 % (10)	70 to 80% (5)	Above 70 % (Reject)
Drinking water	10	No source (10)	Problematic village (7.5)	Partially covered (5)	Fully covered (0)
Degraded land	15	High – above 20 % (15)	Medium – 10 to 20 % (10)	Low- less than 10 % of TGA (5)	
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)	
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)	

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)	15	Above 5 micro-watersheds in cluster (15)	3 to 5 micro watersheds in cluster (10)	2 to 3 micro watersheds in cluster (5)	
Total	150	150	90	41	2.5

The total weight age obtained by the ten watersheds under IWMP Irikkur Block Panchayat is 69.

The list of watershed proposed for treatment under IWMP is furnished below:
IWMP -IRIKKUR Block Panchayat
Details of Watersheds in the Cluster

Sl. No.	Code No.	Name of Watershed	Total Area	Forest Area	Land Under Agriculture	Rain fed Area	Waste Land		Geographic Coordinates		Elevation (m)
							Cultivable	Non-Cultivable	Longitude	Latitude	
1	32V16aj	Chamathachal	360	0	315	360	7	38	12 ⁰ 2'0" N - 12 ⁰ 3'0" N	75 ⁰ 35'30"E - 75 ⁰ 37'30"E	450
2	32V 6ba	Thayikundam	343	0	307	343	25	11	12 ⁰ 0' 30" N - 12 ⁰ 2'0" N	75 ⁰ 36'30"E - 75 ⁰ 37'30"E	183
3	32V 20a	Kalliad-Chalumari	1328	225	633	1328	301	169	11 ⁰ 57' 0" N - 12 ⁰ 1'30" N	75 ⁰ 33'0"E - 75 ⁰ 36'0"E	169
4	32V 21a	Pedayangodu-Kolodu	491	217	133	491	66	75	11 ⁰ 58'30"N - 12 ⁰ 0'0"N	75 ⁰ 33'0" E - 5 ⁰ 34'30" E	169
5	32V 22a	Manjicherithodu II	240	68	92	240	55	25	11 ⁰ 58'30"N - 12 ⁰ 0'0"N	75 ⁰ 34'30"E - 75 ⁰ 36'0"E	386
6	32V 23a	Manjicherithodu I	420	167	90	420	136	27	11 ⁰ 58'30"N - 12 ⁰ 0'0"N	75 ⁰ 36'0"E - 75 ⁰ 34'30"E	234
7	32V 24a	Padiyur Eatate	170	78	6	170	57	29	11 ⁰ 58'30"N - 12 ⁰ 0'0"N	75 ⁰ 36'0"E - 75 ⁰ 37'30"E	170
8	32V 25a	Eramchirathodu II	609	0	333	609	148	125	11 ⁰ 58'30"N - 12 ⁰ 0'0"N	75 ⁰ 36'0"E - 75 ⁰ 37'30"E	60

9	32V 25b	Njalil Vallithala	187	0	177	187	0	10	12° 0' 30" N - 12° 1' 30" N	75° 37' 0" E - 75° 38' 30" E	50
10	32V 25c	Eramchirathodu I	230	0	203	230	0	27	12° 0' 0" N - 12° 1' 30" N	75° 37' 30" E - 75° 39' 0" E	50
Total			4378	755	2289	4378	795	536			

LOCATION

The project area lies between the north latitude 12° 3' 0" and 11° 58' 30" N and the east longitude 75° 31' 30" & 75° 39' 0" E.

PHYSIOGRAPHY, RELIEF & DRAINAGE

The general feature of the watershed area with regard to physiography is undulating with moderate to steep slopes. One can observe hillocks and sloping valleys and sometimes, in some areas, plains. However, the most common nature is undulating.

In the general condition of the watershed mainly red laterite soil mixed with pebbles, black alluvial soil and sandy alluvial soils are seen in the watershed area.

The main drainage system of the watershed area is formed by the Valapattanam River. Nuchiad, Vanchiyam, Eruvessy, Parakkadavu, Mattara, etc are the other important streams which drain the watershed area.

RAINFALL & CLIMATE

The climate of the watershed area is humid with an oppressive hot season from March to the end of May. Then the South-West monsoon continues till the end of September. The post-monsoon or retreating monsoon season is marked by October and November. Later, the North East monsoon extends till the end of February. The annual average rainfall is 344 cm.

Month	Temperature		RH %	Rain fall (mm)	No. of rainy days	2001	Temperature		RH %	Rain fall (mm)	No. of rainy days
	Max	Min					Max	Min			
2000											
January	35.0	20.4	90.0	50.1	3	January	34.7	19.9	92.		
February	35.4	20.4	86.6			February	35.0	21.9	89.8	4.8	1
March	37.2	22.1	83.8	3.0	1	March	35.6	22.2	81.9		
April	36.6	24.8	85.2	105.9	7	April	35.5	23.9	84.3	155.8	12
May	35.8	24.4	86.3	197.1	9	May	33.8	24.0	90.3	276.3	12
June	29.1	22.5	94.6	850.6	29	June	28.0	22.8	95.5	1040.4	27
July	29.4	22.0	95.0	513.2	20	July	28.0	22.7	94.5	812.8	30
August	28.8	22.4	95.0	606.2	24	August	27.8	22.8	94.8	542.0	28
September	31.2	22.8	92.2	188.9	16	September	32.0	22.9	88.9	107.4	7
October	31.2	22.2	93.7	344.5	18	October	30.7	22.8	91.3	389.6	18
November	32.9	21.5	88.3	110.4	2	November	32.33	22.56	90.86	201.2	8
December	33.1	18.7	91.5	1.9	2	December	33.85	20.42	83.7		

2003	Temperature		RH %	Rain fall (mm)	No. of rainy days
	Max	Min			
January	34.5	29.2	84	-	-
February	35.8	24.5	87	-	-
March	37.2	25.8	83	7.6	1
April	36.7	27.4	81	65	4
May	35.7	27.3	78	55.8	4
June	31.4	25.4	90	972.3	20
July	28.9	24.5	94	888.9	28
August	29.8	25.0	92	459.9	24
September	31.0	24.3	90.3	105	9
October	31.2	24.5	90.1	260.5	12
November	34.0	24.5	87.5	31.1	4
December	34.5	21.9	92.4	-	-

2004	Temperature		RH %	Rain fall (mm)	No. of rainy days
	Max	Min			
January	34	22	88.1	-	-
February	35.8	23.6	80.7	-	-
March	36.5	25.8	85	-	-
April	36.5	26.5	83.5	93.3	5
May	31.4	25.3	90	829.7	21
June	29.9	25.3	92.4	1230.6	26
July	28.8	24.5	91.6	578.3	26
August	28.9	24.8	90.3	670.2	24
September	31.6	25.1	88.6	196.7	13
October	32.3	24.8	88.8	247.8	14
November	33.3	23.4	91.9	193.3	10
December	34.9	20.9	94.4	-	-

2005	Temperature		RH %	Rain fall (mm)	No. of rainy days
	Max	Min			
January 05	34.6	22.9	89.1	0.8	1
February 05	36.4	23.1	81.8	-	-
March 05	36.9	24.8	88.4	-	-
April 05	36.4	26.7	83.8	87.5	5
May 05	36.8	27.4	80.0	10.2	2
June 05	30.6	25.6	91.2	829.9	24
July 05	28.9	25.1	93.8	1024.9	29
August 05	30.4	24.9	92.1	300.7	22
September 05	29.7	24.7	93.2	406.6	20
October 05	31.7	25.1	89.9	248.4	14
November 05	32.4	24.2	85.6	147.8	9
December 05	33.5	22.6	87.4	16.0	1

2006	Temperature		RH %	Rain fall (mm)	No. of rainy days
	Max	Min			
January 06	35.2	21.9	83.5	0.3	1
February 06	36.4	21.3	77.5	-	-
March 06	37.9	25.7	80.5	-	-
April 06	34.5	24.9	82.3	-	-
May 06	34.8	26.0	85.4	777.6	11
June 06	30.0	24.8	90.6	878.6	19
July 06	29.5	24.8	92.7	921.2	30
August 06	30.2	24.6	92.0	700.6	22
September 06	32.2	25.5	92.3	586.2	19
October 06	32.5	25.1	91.8	326.8	18
November 06	32.9	25.2	89.8	79.2	6
December 06	34.2	22.5	84.7	-	-

2007	Temperature		RH %	Rain fall (mm)	No. of rainy days
	Max	Min			
January 07	34.4	22.4	72.7	-	-
February 07	35.5	22.2	88.1	-	-
March 07	36.1	25.6	89.7	-	-
April 07	36.8	26.8	83.3	43	3
May 07	35.5	26.4	81.9	137.6	7
June 07	30.7	25.8	86.9	1048.9	24
July 07	28.4	26.0	91.5	1342.8	31
August 07	28.9	24.9	91.5	846	23
September 07	29.5	25.4	91.3	812.4	27
October 07	31.2	24.6	90.6	296.1	19
November 07	33.3	22.8	*	103.8	3
December 07	34.4	22.9	*	-	-

2008	Temperature		RH %	Rain fall (mm)	No. of rainy days
	Max	Min			
January 08	33.9	21.8	89.6	-	-
February 08	34.9	21.9	84.9	-	-
March 08	34.8	24.2	84.3	329.8	11
April 08	34.4	26.4	85.4	71.4	9
May 08	33.5	25.9	84.9	130.5	7
June 08	30.2	25.3	90.2	769.9	28
July 08	28.8	24.9	89.4	607.8	23
August 08	29.3	24.8	90.9	478.5	18
September 08	30.5	24.2	90.8	433.9	19
October 08	31.4	25.1	89.7	443.9	17
November 08	30.3	25.4	90.4	3.4	1
December 08	34.4	23.2	90.6	7.4	1

Socio-Economic Details

The general socio-economic condition of the watershed community is observed to be that of the middle class, because there are no physical parameters to understand the different communities in general. The watersheds have a mixed community with farmers, agricultural labourers, government employees, people employed in private sectors, construction workers, wage labourers and casual labourers. Therefore the economic situation is also mixed. The factors that decide the social status is also confusing because nonetheless can be identified as belonging to different strata. Details regarding the factors that decide the socio-economic status of the watersheds are explained below:

- **Demography**

The total households in the watershed area are 8486. In all these households there is a total population of 41957 out of which the male population is 20759 and the female population is 21206. This coincides with the general population of the state of Kerala where the female population is more than the male population. The total SC population in the watershed area is 743 amongst which 360 are male and 383 are female. The total ST population in the watershed is 318 amongst that 153 are male and 165 are female.

- **Educational Status**

The educational status of the project area is satisfactory. Majority of the people completed their high school education. The older generation has acquired education at upper primary level, where as the new generation have gone through even college education. Perhaps this may be a reason for the higher number of teachers and government employees in the watershed area. The present generation has all the facilities for continuing education up to PG level and even for research studies.

Anganwadi: 15

L.P.School: 6

U.P.School:1

Higher Secondary School: 1

- **Health situation**

The health situation of the watershed area is comparatively good. Being interior villages, the watershed area is comparatively non-polluted and with less reported deadly diseases. The primary health centres and some village clinics run by medical practitioners are the main source for medical treatment for the watershed community.

Ayurveda Hospital: 1

Homeo Dispensary: 1

Health sub centre: 1

- **Transport and communication**

There is a very good road network that passes across almost all watersheds and these connect all the watersheds each other. There are road transport facilities including bus service in almost all the watersheds. The bus service is available through the main roads and to the interior village area auto rikshaws and Jeep services are available. The watershed is connected to the Grama Panchayat Head Quarters and to the Block Panchayat Headquarters by roads and the transport facilities is comparatively satisfactory.

All the modern communication facilities like Television, satellite communication like DTH, mobile phone and land phone are available in the watersheds. Perhaps, there is nobody without a mobile phone in the watershed. All the news papers published in the state and some local news papers and magazines are also available. People are subscribers of almost all types of news papers and Cable TV communications.

- **Credit Facilities**

The watershed community enjoys the presence of two Service Cooperative banks. Besides these the branches of State Bank is also functioning in the watershed area. These financial institutions provide necessary credit facilities to the members of the watershed community.

Another arrangement is the Kudumbasree units, which specifically arranges credit facilities for the women for enterprises development, self employment programmes and sometimes their domestic needs. In fact, the availability of credit is not at all a problem with regard to the watershed community.

- **Recreation Facilities**

The watershed community had many forums for recreation. There are Arts & Sports clubs and reading rooms (Public Libraries) and cultural centres in every nook and corner of almost all the watersheds. These clubs and reading rooms are either run by political parties or youth clubs. However, these clubs and reading rooms not only mould the cultural growth and development but also provide opportunities for recreation. Clubs and reading rooms are also provided with Televisions.

- Public Library – 5
- Clubs - 3

THE METHODOLOGY

The methodology of planning, implementation and monitoring are designed based on the approach that had been stated above. IWMP adopts a collaborative method rather than a mere participatory method in the process of the Project Cycle Management (PCM) with regard to Integrated Watershed Management Project (IWMP) under Irrikkur Block Panchayat.

Base line Survey

Baseline information and data on natural resources, human resources, agro-socio-economic details, infrastructure etc are collected at Village levels through secondary sources of information. Primary information and data are also collected from households. All the households in the villages are covered under the baseline census survey. The information and data are found to be comprehensive and encompassing all the relevant socio-economic aspects pertaining to the people of the village. The data collected from primary sources are by adopting interview method with the help of specific format prepared specifically for the purpose. The information is collected by the well trained volunteers under the supervision and guidance of TSO. The data thus collected are compiled and analyzed under the strict supervision of the Director of TSO and the findings are made use for formulating the project proposal. Besides the consolidated data sheets are kept as a bench mark for further monitoring and evaluation.

Formation of Watershed Neighbourhood Clusters

Neighbourhood clusters are formed in every watershed combining 50 families each living as clusters. These 50 families have further divided into clusters of seven from which a person/leader had been selected to represent these seven families in the watershed committee. The list of the families had been prepared by visiting individual watershed by the TSO members along with the people's representatives, (in most cases they were the ward members). Grouping had been made with the assistance of the ward members and their suggestions were also taken as a directive guideline for the selection of group leaders.

Formation of Watershed Committees

Watershed Committees are necessary to ensure timely implementation and early fund release to the individual beneficiaries. This will also ensure the transparency and subsidiarity of the

programme and the expected results will be obtained in time as it is envisaged in the project plan. Watershed committees are formed in all the watersheds taken for treatment under IWMP. The watershed Committee comprises the representatives of watershed communities and nominated representatives from the elected members of the Grama Panchayat in which the watershed is included. The General Structure of the Watershed Committee is as follows:

Sl. No.	Name	Designation	Position	Phone No.
		GP President	Chairperson	
		VEO	Secretary	
		Ward Members	Member	
		SHG Representative	Member	
		User Group Representative	Member	
		SC/ST representative Women	Member	
		Representatives of Landless person	Member	
		TSO Representative	Member	
		Representatives of Marginal Farmers	Member	
		Block Panchayat members with in the watershed boundary	Member	

If more than one Grama Panchayat is included in the watershed the second Grama Panchayat president is become the Co-chairman of the watershed committee. Besides this, the existing Self Help Groups under the Kudumbasree Mission in each watershed shall also be fostered and promoted to take up programmes coming under PSM and LHS. The SHGs are functioning properly and in a most effective manner under the supervision of the Grama Panchayats.

PARTICIPATORY RURAL APPRAISAL – PRA

Participatory Rural Appraisal is pointed out as a process of understanding people and their resource based socio-economic living conditions from their point of view and a process of exploring their problems, their aspirations and potentials in partnership with people themselves. PRA is an integral component of watershed management. Watershed Management is seen as a sustainable process of socio-economic development of communities. Results from Situation Analysis and Land use Planning Process are used for further analysis and combined with modern tools like GIS and remote sensing.

The **Technical Support Organization (TSO), SUSTHIRA** has conducted PRA in all the ten watersheds identified under the IWMP project. In each watershed Participatory Appraisals ended with a participatory planning workshop during which participants were given feedback on the information gathered during the exercise. Other activities carried out during these workshops included: identification, analysis and prioritization of problems; identification of possible solutions; and drafting a tentative community action plan. Ideas for action developed during the participatory planning workshop were subsequently reviewed by the TSO field staff and interested groups through a participatory feasibility analysis, aimed at assessing the extent to which these ideas were technically, economically and socially viable and sound. This assessment had priority-setting exercises, technical studies, on-site investigations and conflict management initiatives.



The President of Padiyoor GP Inaugurates the PRA a view of the Participants

Tools Applied in the Participatory Rural Appraisal in The Watersheds:

Though there are several tools that can be applied in assessing the situation and to carry out the situational analysis and knowledge generation, for want of time and space, four most important tools have applied in the PRA exercise conducted in the watershed. They are Mapping, Focus Group Discussion (FGD), SWOT Analysis, Seasonality calendar Problem Tree Analysis, Scoring & Ranking (Pair-wise & Matrix Ranking and Transect Walk. Given below is a brief description of the tools.

Mapping:

The basic objective of Resource Mapping was to document and understand the natural resources and the institutions of the watershed. It is the visual representation of the basic facilities and the geographical terrain of the watersheds. It also shows how far each hamlet is situated from the other and how many households are there in each hamlet. This basic grassroots level information is crucial in planning any interventions at the micro-level.



They are drawing the Map and triangulating

Focus Group Discussion

FGD deals with “why” and “how” of the issues. **Focus Groups are appropriate when one want to explore** the depth and nuances of opinions regarding an issue, understand differences in perspectives, understand what factors influence opinions or behavior, test materials or products, test reactions to actual or proposed services, design a large study or understand its results, capture opinions and perspectives of a program’s target audience and learn about participants by observing their interactions.

SWOT Analysis

SWOT analysis is a tool that identifies the **Strengths**, **Weaknesses**, **Opportunities** and **Threats** of an organization. Specifically, SWOT is used in the watershed analysis as a straight forward model that assesses what a watershed community can and cannot do as well as its potential opportunities and threats. The method of SWOT analysis is to take the information from an environmental analysis and separate it into internal (strengths and weaknesses) and external issues (opportunities and threats). Once this is completed, SWOT analysis determines what may assist the watershed community in accomplishing its objectives, and what obstacles must be overcome or minimized to achieve desired results.

Strengths are the positive tangible and intangible attributes, internal to a community or organization and they are within the community's or organization's control. **Weaknesses** are factors that are within a community's / organization's control that detract from its ability to attain the desired goal and this explains which areas the community /organization might improve.

Opportunities are external factors that represent the reason for an organization or community to exist and develop. It also explains what opportunities exist in the environment, which will propel the organization or community. **Threats** are also external factors, beyond an organization's or community's control, which could place the organization's mission or operation at risk. The organization may benefit by having contingency plans to address them if they should occur.

In summary:

- **Strengths** need to be maintained, built upon or leveraged.
- **Weaknesses** need to be remedied, changed or stopped.
- **Opportunities** need to be prioritized, captured, built on and optimized.
- **Threats** need to be countered or minimized and managed.

Seasonality Calendar

Seasonal calendars are tools for collection of information relevant to seasonal happenings of natural conditions and associated socio-economic-cultural activities of a community during a

one year cycle. Calendars help develop understanding of water availability, agricultural produce, Pests and pest control measures, behavior choice, activity patterns, local market economics and can support annual work plans and the allocate resources in a timely manner.

Problem Tree Analysis

Problem Tree is an effective tool for participatory planning, to get an understanding about pressing problems in the community and probe their causes and possible effects. The group was requested to discuss pressing issues in the community and these problems were listed and the group was ask to pick the issue that they are the most concerned about. The group members were asked to brainstorm on the first level of causes, directly leading to such a problem, then eventually go to second level, third level until repetition occurs and no further causes emerge. For each cause, it was written on another chart paper and fixed again on the wall. Similarly, the groups looked for the possible effects of the problem and different levels of these.

Scoring & Ranking

Preference ranking method helps to quickly get a good idea of what people think are the priority problem or preferences. The criteria attached to make up a choice are used to consider in the action plan. Individuals or groups vote on the items from most important to least important item. The choices could be between crop varieties, water points, food diets, livestock species, problems, solutions and many different issues, which require preferences. Pair wise ranking is used to compare between two items and make up a choice. It is more useful for exploring the reasons why people prefer one possibility over another. The moment a preference is made lots of criteria is explored to compare items using a group of criteria before a choice. Community action plans are developed on the basis of peoples preferences. The problems, solutions technical inputs etc are arranged on the interests of the users.

Transect:

Transect is one of the most important tools which is drawn up by transverse the watershed area with a group of people from upper reaches to lower reaches to study present land status, soil type, present land use pattern, Crop yield, present problems and suggestive measures.

Study of literature

The TSO team had undertaken a study on different literature available with the Grama Panchayats, Block Panchayat, Land Use Board, Soil Survey Department and other government departments concerned with land use and agriculture to collect secondary data regarding the situation of each and every watershed. MGNREGS Watershed Master Plan of the Irikkur Block Panchayat and of the four Grama Panchayats covered by IWMP is also studied seriously and relevant data are collected to incorporate in this plan document.

Capacity Building

Capacity building is an ongoing process through which individuals, groups, organizations and societies enhance their ability to identify and meet development challenges. This means that Capacity building takes place on an individual level, an institutional level and the societal level.

- **Individual level:**

Capacity-building on an individual level requires the development of conditions that allow individual participants to build and enhance existing knowledge and skills. It also calls for the establishment of conditions that will allow individuals to engage in the “process of learning and adapting to change.”

- **Institutional level**

Capacity building on an institutional level should involve aiding pre-existing institutions in the proposed geographic area for development. It should not involve creating new institutions, rather modernizing existing institutions and supporting them in forming sound policies, organizational structures, and effective methods of management and revenue control. But in this case, if found necessary, new institutions can also be formed and strengthened.

- **Societal level**

Capacity building at the societal level should support the establishment of a more “interactive public administration that learns equally from its actions and from feedback it receives from the population at large.” Capacity building must be used to develop public administrators that are responsive and accountable. Such capacity building will lead to means such as Social audit that makes the whole process of implementation transparent and will keep a subsidiarity.

NRM steps followed for planning:

The various steps are followed for NRM planning and resource mapping during boundary line delineation and geographical transect in watershed area. The summarized steps are given below:

The boundary line of the watershed is delineated in the very first step with the help of village cadastral map and Topo-sheet. Then geographical transect is being done through survey by moving from plot to plot in upper reaches, middle reaches and lower reaches.

During the transect, the major nalas, gullies and drainage lines are identified. Lands are surveyed on the basis of land type, soil type, erosion class and slope and accordingly the whole watershed land is divided into various patches which are treated as individual mapping units. Various resources like different water bodies, wells and farm ponds are identified. The present land use is also studied during transect and accordingly present land use map is prepared using different notions and symbols. In the individual patch identified, the various treatments required are also finalized in consensus with the villagers.

Chapter – 3

CONVERGENCE WITH MGNREGS & OTHER SCHEMES

Based on the objectives like conservation of natural resources, sustainable agriculture practices and allied activities like animal husbandry, improve the living condition of the rural people there are large number of programs planned and implemented by various departments. Integrated Watershed Management Programme (IWMP) is one among them and has a wide

opportunity to converge with suitable other existing schemes during its implementation phase. It should ensure that the convergence is according to the parameters of both schemes and able to conserve and protect the natural resources in addition to give employment and income to the people. IWMP can also converge with the various suitable schemes implemented by the line departments like agriculture, animal husbandry, minor irrigation, etc.

Convergence is an evolving process and while broad principles can be laid out at the centre, the actual contours of convergence will be determined by the resources at the central, state, district and the project level. Also to fully identify the possibilities of convergence, it may be necessary to make a beginning with select programmes, so that the experience of implementation may further inform and refine strategies for convergence.

Integrated Watershed Management Programme (IWMP) of the Department of Land Resources (DoLR) has been identified as an important scheme for convergence with MGNREGS as more than 50% of the MGNREGS works relate to soil and water conservation. Based on several discussions, the modalities of convergence were identified.

The objectives of this convergence will be to switch-over to sustainable agriculture specifically organic agriculture in all IWMP villages before end of the project period; and to double the income of the farmers by decreasing cost of cultivation and reaping premier prices due to the pesticide-free products.

Convergence of IWMP with MGNREGS suggests very important objectives such as:

- Strengthening democratic Decentralized decision making process which is taking place in the planning process of IWMP
- Enabling sustainable development which is envisaged in the IWMP process
- Further enhancing the benefits of MNREGS by providing the people, especially unskilled women labourers in the enhanced watershed development activities formulated for IWMP
- Enhancing economic opportunities by finding out additional sources for finance for the works assigned to the unskilled labourers from IWMP funds

The process of convergence involves following the MGNREGS guidelines and the Grama Panchayat Authorities need to be consulted for the identification of works with their written consent. In the process of convergence, the Grama Panchayat should be the focal point of implementation.

When works are selected for IWMP under MGNREGS, it should be selected very carefully so as to achieve long term sustainability. The broad areas of activities that can be undertaken for convergence with MGNRES are plantation works, de-silting of check dams and ponds and all other unskilled labour requirements of the works involved in IWMP. Other works that can be carried out through convergence are: construction of check dams, deepening and de-silting of ponds, extension and renovation of existing irrigation projects, flood protection works, lift irrigation works, construction of new drains and renovation of existing drains.

Under MGNREGS almost all the activities required for watershed development are permitted. Convergence between MGNREGS and Watershed Programmes of DoLR will be mutually beneficial for rain-fed areas. Parameters also had been set for convergence with MGNREGS and IWMP. The parameters are:

- The cost of material components of project including the wages of the skilled and semi skilled workers taken up under the scheme shall not exceed 40% of the total project costs.
- As far as practicable, a task funded under the scheme shall be performed by using manual labour and not machines.
- No contractors shall be engaged in execution of the works
- Where convergence between NREGA and watershed programme funded by DoLR is involved the tasks/structures/activities to be undertaken by NREGA will be identified by the Programme Implementation Agency (PIA) preparing the DPR for the watershed programme.

Convergence with NREGA is mainly aimed at:

- **Knowledge sharing**

This is intended for familiarizing of all the members of the group on guidelines of watershed and MGNREA Convergence. This will clarify the programme parameters for what can be converged and what cannot.

- **Planning**

The planning will be done as per the common guidelines and will reflect in the DPR prepared by the PIA of the watershed programme. Regarding the activities proposed for NREGA the group can chalk out processes, mile-stones and time frames.

- **Communication:**

Since both the programmes aims at participatory processes effective IEC with the local community, Watershed Committees, User Groups and workers will have to be planned and implemented.

- **Training:**

Training of personnel/agencies responsible for NREGS must be planned and implemented.

- **Technical Support**

Selection of works that are to be undertaken by NREGA within the watershed area will be done in consultation with the PIA implementing that watershed programme for better coordination. However, NREGA will be responsible for the technical quality of the works undertaken by it.

- **Resource Pooling**

- ★ **Human:** Under NREGA dedicated personnel is to be deployed. The responsibility of training of such personnel will lie with NREGS. The WDT may supplement such training programmes wherever feasible
- ★ **Financial:** Sharing of information on financial resources available and expected to be made available in the ensuing years. This will determine the quantum of works/activities that can be taken up and indicate where activity convergence will enable gap filling or augmentation in scale/value and which activity is to be funded under which programme.
- ★ **Informational:** DoLR already has its own MIS in place for monitoring watershed programmes funded by the department. The data on activities/structures/tasks undertaken by NREGS may be collected directly by NREGS and shared with the PIA/Watershed Cell in the DRDA/ZP/SLNA/DoLR

- ★ **Monitoring & Evaluation:** Joint monitoring and supervision of activities/structures/tasks undertaken by NREGA within the watershed funded by DoLR should be planned. Baselines assessment, concurrent appraisal, documentation and evaluation of impact of such activities/structures/tasks undertaken by NREGA within the watershed funded by DoLR on a set of indicators on ground water recharge, increase in cultivable area, cropped area, change in cropping [pattern, and productivity, etc. could be initiated. Quantification of benefits of works undertaken NREGA could also be taken up jointly

(Courtesy: Joint convergence guidelines of GoI, as per No. J-11019/2/208 – NREGA dtd: 29th May 2009)

The guidelines of MNREGA stipulate formulation of perspective plan to facilitate advance planning. The aim of perspective plan is to identify the type of works that should be encouraged and potential linkages between these works and long term employment generation and sustained development. As in the case of DPR of IWMP which includes year-wise action plans, MGNRES must also have included year-wise shelf of works to be taken up by the PIA.

When convergence has been brought into IWMP with MGNREGS care should be taken to ensure that only job card holders alone are provided with employment. Muster rolls must be maintained on work site with copies in the Grama Panchayat and to be electronically maintained on MGNREGS website. Social audit should be done on the works and records by the Grama Sabhas. Payment of wages must be carried out only through banks.

PROJECT COMPONENTS AND ACTIVITIES

The statistics calls for a well planned intervention to make the people aware and take part in the rejuvenation of the farm land by conserving soil, water and biomass which is urgently required for the sustenance of human beings on this planet earth. Different types of programmes are planned under IWMP in Irikur Block which listed below:

1. CAPACITY BULIDINGS AND IEC PROGRAMMS

Capacity building relates to a range of activities by which individuals, groups and organizations improve their capacity to achieve sustainable natural resource management. Capacity in this context includes awareness, skills, knowledge, motivation commitment and confidence. Capacity building for natural resource management, as envisaged in the IWMP plan, goes beyond the traditional, top-down approach of enhancing skills and knowledge through training and provision of technical advice. It focuses on enhancing genuine community engagement in all aspects of NRM from planning to on-ground actions. Therefore, in addition to the transfer of technology and technical capability, capacity building is fostering social cohesion within communities and builds both human and social capital

In some localities and communities, few powerful actors control key resources and political processes; whilst in other localities or communities, power is more diffused amongst several actors. Recognizing and comprehending the micro-dynamics of power exercise is an important step to work with the poorest households to strategize and maneuver the social, economic, political complexities and take advantage of existing opportunities to reduce poverty and social marginalization. This is the philosophy behind formation, institutionalization and strengthening of Community Based Organizations (CBOs) in the watersheds that comes under IWMP project in Irrikkur Block Panchayat. The first step towards achieving this target is social mobilization.

Social mobilization, that seeks to empower the poorest and marginalized individuals and groups and assist them to contribute to meaningful changes in their own and others' lives, must be strategic to enable the watershed community to question and (re-) negotiate social practices and institutional arrangements made for development. Locating initial program activities in communities or clusters of communities that are politically, socially and economically marginalized within the watershed presents an important tactical move.

General Objective of Capacity Building Programme

The overall objective of the proposed capacity building programme in IWMP is ***“Strengthen the implementing capacity of service delivery agencies and intermediaries to enable them to respond to the needs of rural communities”***

Specific objectives of Capacity Building are:

- Develop proper conceptual understanding about Integrated Participatory Watershed Management including Equity and Environmental and Social sustainability among all the implementing agencies including PRIs as well as local communities.
- Build necessary skills and competence among the project officials, PRIs, especially GPs and other Communities Based Organizations (CBOs) about planning, implementation and management of various project activities.
- Help in the institutional development of Watershed Committees at the Gram Panchayat level and organizational development of watershed perspective at the district level.
- Develop understanding about the Environmental and Social issues including application of an Environmental and Social Management Framework (ESMF).

Build and enhance the capability of all stakeholders for the sustainability of programmes initiated by the project.

Given below is the Capacity Building Frame Work which is planned to be implemented in the Irrikkur Block Panchayat under IWMP Project.

PART - I

Community Level Institution & Capacity Building Programme

COMMUNITY LEVEL TRAINING PROGRAMME No. 1

Title of the Programme	Rationale	Training Objectives	Target Group	Duration	No. of expected participants and Batches	Expected Outcome	Abstract Estimate
Awareness Generation, formation of Institutions (NFGs & UGs) and Capacity Building programme	The watershed community must be made aware of the various schemes and programmes envisaged in the project, group formation, Credit Support through banks and accounting procedures	<ul style="list-style-type: none"> • The community motivated to be formed into groups • The groups institutionalized and trained • Self sustainability attained. • Women empowerment ensued. 	SHG members, Small and marginal farmers, SC/ST community and the landless and women	One day	11 batches x 50 participants Total 550 participants	The NHGs and UGs capacitated to exercise their collective strength in the implementation of the project and enabled to keep transparency in the implementation	Food Expenses = Rs. 24375.00
							Remuneration for Resource persons = Rs.11250.00
							Training Materials /Kits = Rs. 7500.00
							Organizing Expenses like notice, banners, hall rent, mike rent, documentation, etc. = Rs.52500.00
							Total in this category = Rs. 95625.00

COMMUNITY LEVEL TRAINING PROGRAMME No. 2

Title of the Programme	Rationale	Training Objectives	Target Group	Duration	No. of expected participants and Batches	Expected Outcome	Abstract Estimate
Awareness Programme of IWMP	The watershed community must be made aware of the approach and methods of watershed development and IWMP programmes and its concepts, the need of the hour, motivate them to become part of the programme	To orient the participants on IWMP concept, basics of watershed, Scope of watershed Development, various activities for NRM, PS&M and LSS and different dimensions of participatory watershed management	Watershed Community	One day	100 participants per batch for 11 Batches = 1100	Community Participation and awareness about IWMP and need of Participation in the process ensured.	Food Expenses Rs. 66000.00
							Remuneration for Resource persons = Rs.8250.00
							Training Materials /Kits = Rs. 22000.00
							Organizing Expenses like notice, banners, hall rent, mike rent, documentation, etc. = Rs.38500.00
							Total in this category = Rs. 134750.00

COMMUNITY LEVEL TRAINING PROGRAMME No. 3

Title of the Programme	Rationale	Training Objectives	Target Group	Duration	No. of expected participants and Batches	Expected Outcome	Abstract Estimate
Planning & Implementation of Projects related to CPRs	Involvement of NHG/SHG/UG leaders in the very beginning of the planning of the IWMP will lead to increase their interest and involvement in creating Common Property Resources (CPRs)	<ul style="list-style-type: none"> • NHG Leaders made aware of their responsibilities • NHG Leaders made aware of the need of establishing common assets • NHG Leaders made aware of the mode of operation in establishing common assets • NHG Leaders made aware of the financial procedures involved 	NHG Leaders/ UG Leaders	One Day	71 Leaders 3 batches Total = 213	The NHG Leaders empowered to take up the responsibility of creating common assets as well as their future maintenance	Food Expenses = Rs. 26000.00
							Remuneration for Resource persons = Rs.15000.00
							Training Materials /Kits = Rs. 10000.00
							Organizing Expenses like notice, banners, hall rent, mike rent, documentation, etc. = Rs. 17500.00
							Total in this category for one year = Rs. 68500.00

COMMUNITY LEVEL TRAINING PROGRAMME No. 4

Title of the Programme	Rationale	Training Objectives	Target Group	Duration	No. of expected participants and Batches	Expected Outcome	Abstract Estimate
Concept of Watershed Management, Roles & Responsibilities	Imparting awareness among Watershed Committee members regarding the concept of watershed management, roles and responsibilities, operational guidelines, financial management etc. is a pre-requisite for the smooth implementation of programmes and activities	<ul style="list-style-type: none"> • Awareness created among the WC members • Roles and Responsibilities defined • Accurate and transparent financial management ensured • Management of WDF ensured. 	Watershed Community Members	One Day	60 per batch for 3 batches Total 180	People's representatives and community leaders empowered for effective implementation of the project and proper maintenance of commonly created assets.	Food Expenses =Rs. 16500.00
							Remuneration for Resource persons = Rs.6000.00
							Training Materials /Kits = Rs. 5500.00
							Travelling allowance for trainees = Rs. 33000.00
							Organizing Expenses like notice, banners, hall rent, mike rent, documentation, etc. = Rs.15000.00
							Total in this category -Rs. 76000.00

COMMUNITY LEVEL TRAINING PROGRAMME No. 5

Title of the Programme	Rationale	Training Objectives	Target Group	Duration	No. of expected participants and Batches	Expected Outcome	Abstract Estimate
Empowering People's representatives for IWMP	Involvement of the elected members to the PRIs is essential for the effective and transparent implementation of the Project components for which they should be aware of the concept, policies, strategies and functional operations.	<ul style="list-style-type: none"> • Awareness created among the People's Representatives • Roles and Responsibilities defined • Accurate and transparent financial management ensured • Management of WDF ensured. 	Elected People's Representatives	Two Days	40 per batch for 3 batches Total 200	People's representatives and community leaders empowered for effective implementation of the project and proper maintenance of commonly created assets.	Food Expenses =Rs. 70000.00
							Remuneration for Resource persons = Rs.15000.00
							Training Materials /Kits = Rs. 14000.00
							Travelling allowance for trainees = Rs. 50000.00
							Organizing Expenses like notice, banners, hall rent, mike rent, documentation, etc. = Rs.37500.00
							Total in this category =Rs. 186500.00

INSTITUTIONAL LEVEL TRAINING PROGRAMME No.1

Title of the Programme	Rationale	Training Objectives	Target Group	Duration	No. of expected participants and Batches	Expected Outcome	Abstract Estimate
MIS Training	Physical Achievements as well as financial transactions involved in the IWMP has to be registered in the MIS as and when occurred	<ul style="list-style-type: none"> • The need of MIS and its functioning disseminated • A set of human resources with the skill at different level organized and capacitated • Proper & timely MIS ensured and fostered 	MIS and Data Entry Operators	Two days	25 participants in 5 batches Total 125	Human Resource Development ensured at different level for effective MIS maintenance .	Food Expenses = Rs. 37500.00
							Remuneration for Resource persons = Rs.15000.00
							Training Materials /Kits = Rs. 9325.00
							Organizing Expenses like notice, banners, hall rent, mike rent, documentation, etc. = Rs.18750.00
							Total in this category = Rs. 80625.00

INSTITUTIONAL LEVEL TRAINING PROGRAMME No.2

Title of the Programme	Rationale	Training Objectives	Target Group	Duration	No. of expected participants and Batches	Expected Outcome	Abstract Estimate
Watershed, its concept, Planning and Implementation	Watershed development is the need of the hour. For the success of any watershed project a thorough knowledge of its concepts, methodology, planning, implementation etc. are needed. The institutions formed to meet the requisite must learn PCM & PMC as a managerial tool to ensure that the desired results are achieved	<ul style="list-style-type: none"> • PIAs as well as the officials engaged in the programme made aware about the concepts watershed development • Basics of watershed development and its methodology is familiarized • Process of Preparation of plan for the holistic development of the watershed initiated • Knowledge is created on financial management • Scope of convergence and cooperation explored • Post project management ensured 	WCDC, PIA, WDT, MNRE GS Cells and Line Departments	5 days	25 per batch for 2 batches Total = 50	<ul style="list-style-type: none"> • Smooth implementation of the project ensured • Systematic and effective project management ensured • Full professional support from line department ensured 	Food Expenses = Rs. 62500.00
							Remuneration for Resource persons = Rs.30000.00
							Training Materials /Kits = Rs. 5000.00
							Organizing Expenses like notice, banners, hall rent, mike rent, documentation, etc = Rs.37500.00
							Total in this category = Rs. 135000.00

INSTITUTIONAL LEVEL TRAINING PROGRAMME No.3

Title of the Programme	Rationale	Training Objectives	Target Group	Duration	No. of expected participants and Batches	Expected Outcome	Abstract Estimate
<p>DPR Preparation, RS and GIS and its application in Watershed Management</p>	<p>DPR preparation is a crucial activity in IWMP. Different maps have to be prepared in GIS platform. Various data need to be compiled for DPR Preparation</p>	<ul style="list-style-type: none"> • DPR Technically sound prepared • Various thematic maps on GIS platform prepared. • The relevance of PRA in IWMP disseminated • PRA based action plan prepared • Convergence and integration plan prepared • Proper exit protocol prepared 	<p>Members of TSO, PIA and WDT</p>	<p>Two Days</p>	<p>25each in two batches Total 50</p>	<ul style="list-style-type: none"> • Activities implemented time bound • Regular monitoring keeps the quality of the work done 	<p>Food Expenses = Rs. 25000.00</p>
							<p>Remuneration for Resource persons = Rs.12000.00</p>
							<p>Training Materials /Kits = Rs. 7500.00</p>
							<p>Organizing Expenses like notice, banners, hall rent, mike rent documentation, etc. = Rs.13000.00</p>
							<p>Total in this category = Rs. 57500.00</p>

INSTITUTIONAL LEVEL TRAINING PROGRAMME No.4

Title of the Programme	Rationale	Training Objectives	Target Group	Duration	No. of expected participants and Batches	Expected Outcome	Abstract Estimate
<p>IWMP Interventions - a new approach</p>	<p>Interventions are mainly grouped under three categories, NRM, PS&M and LSS. A diversified group of activities can be undertaken in the watershed management.</p>	<ul style="list-style-type: none"> • Various interventions under each category familiarized • Location specific and need based DPR prepared • Environmentally sound interventions selected and incorporated • Different class of community satisfied by selecting different interventions according to their need and satisfaction 	<p>Members of TSO, PIA and WDT</p>	<p>One day</p>	<p>50 each in two batches Total 100</p>	<ul style="list-style-type: none"> • Technically sound and economically feasible DPR prepared which is socially accepted. 	<p>Food Expenses = Rs. 20000.00</p>
							<p>Remuneration for Resource persons = Rs.6000.00</p>
							<p>Training Materials /Kits = Rs. 10000.00</p>
							<p>Organizing Expenses like notice, banners, hall rent, mike rent documentation, etc. = Rs.13000.00</p>
							<p>Total in this category = Rs. 49000.00</p>

INSTITUTIONAL LEVEL TRAINING PROGRAMME No.5

Title of the Programme	Rationale	Training Objectives	Target Group	Duration	No. of expected participants and Batches	Expected Outcome	Abstract Estimate
<p>IWMP- its concept , strategy and convergence</p>	<p>Since IWMP is an integrated programmes, line departments must know about the project , its concepts, strategy etc., so that they can define their roles themselves.</p>	<ul style="list-style-type: none"> • The concept and strategy of IWMP familiarized • The need of integration established • Roles and Responsibilities defined • Strategy for convergence established • Pucca DPR satisfying all sections of the society prepared • Strategy for future maintenance of assets created and developed 	<p>WCDC, WDT, PIA, TSO, MGNER EGS Cell, Officials from Line Departments</p>	<p>One Day</p>	<p>50 participants in two batches Total 100</p>	<ul style="list-style-type: none"> • Clarity in convergence and proper integration achieved • DPR satisfying all the technical requirements prepared • Role of the technical experts satisfactorily carried out in preparation of DPR, in Implementation of activities and valuation of engineering works 	<p>Food Expenses = Rs. 20000.00</p>
							<p>Remuneration for Resource persons = Rs.12000.00</p>
							<p>Training Materials /Kits = Rs. 10000.00</p>
							<p>Organizing Expenses like notice, banners, hall rent, mike rent documentation, etc. = Rs.13000.00</p>
							<p>Total in this category = Rs. 55000.00</p>

INSTITUTIONAL LEVEL TRAINING PROGRAMME No.6

Title of the Programme	Rationale	Training Objectives	Target Group	Duration	No. of expected participants and Batches	Expected Outcome	Abstract Estimate
Preparation of Technical and Process Manual	Technical as well as process manual without defects is necessary for the proper and successful implementation of the project	<ul style="list-style-type: none"> • Defects in the existing manual rectified. • Additional points that are not included in the existing manual incorporated • Process and technical manual familiarized among the officials. 	SLNA , WCD C and PDs	One day	10 participants each in three batches. Total 30	<ul style="list-style-type: none"> • A pucca technical and process manual devoid of all defects and drawbacks prepared and familiarized 	Food expenses = Rs. 7500.00
							Remuneration for Resource persons = Rs.4500.00
							Travelling allowance per trainee per day = Rs. 4500.00
							Organizing Expenses like notice, banners, hall rent, mike rent documentation, etc. = Rs.12000.00
							Total in this category = Rs. 28500.00

INSTITUTIONAL LEVEL TRAINING PROGRAMME No.7

Title of the Programme	Rationale	Training Objectives	Target Group	Duration	No. of expected participants and Batches	Expected Outcome	Abstract Estimate
Develop Action Plan for PS&M and LSS	More than 50% of the communities are often landless agricultural labourers. For attain self sustainability LSS is the main option	<ul style="list-style-type: none"> • Various LSS activities envisaged in the project familiarized. • The community acquainted with various LSS activities • LSS action plan suitable for each watershed depending upon their sustainability prepared and incorporated. 	PIA, members of PRIs and TSO	One day	15 participants each in two batches. Total =30	<ul style="list-style-type: none"> • Need based, location specific, economically feasible and communally acceptable Action Plan 	Food expenses = Rs. 7500.00
							Remuneration for Resource persons = Rs.3000.00
							Travelling allowance per trainee per day @ Rs. 150- for one day = Rs. 4500.00
							Organizing Expenses like notice, banners, hall rent, mike rent, documentation, etc. = Rs.8000.00
							Total in this category = Rs. 23000.00

INSTITUTIONAL LEVEL TRAINING PROGRAMME No.8

Title of the Programme	Rationale	Training Objectives	Target Group	Duration	No. of expected participants and Batches	Expected Outcome	Abstract Estimate
Training of Trainers (ToT) in IWMP	Trainers are necessary for imparting training	<ul style="list-style-type: none"> • A team of faculties build for imparting training • Awareness created among the communities and the institutional level officials. • DPR preparation and Monitoring & Evaluation assisted 	Officials from various departments and extension faculty members	Two days	10 participants each in three batches Total = 30	<ul style="list-style-type: none"> • A well trained faculty team who are capable of disseminating the concept of watershed and other activities related to watershed management 	Food expenses = Rs. 15000.00
							Remuneration for Resource persons = Rs.9000.00
							Travelling allowance = Rs. 9000.00
							Organizing Expenses like notice, banners, hall rent, mike rent, documentation, etc. = Rs.12000.00
							Total in this category = Rs. 45000.00

PART - II - SKILL DEVELOPMENT TRAINING

Training No. 1: Cow Rearing

Title of the Programme	Rationale	Training Objectives	Target Group	Duration	No. of expected participants and Batches	Expected Outcome	Abstract Estimate
Training in Cow rearing	Cow rearing is supplemental to agriculture and an income generation scheme for the landless. Training in cow rearing will help the selected beneficiaries	<ul style="list-style-type: none"> To provide skills and techniques of gainful cow rearing 	Selected Beneficiaries	One day	15 participants from a watershed 45 per batch 5 batches Total 225	<ul style="list-style-type: none"> 225 trained involved in cow rearing Increased milk production Supplementary income for 225 families Improved production system 	Food Expenses = Rs. 14625.00
							Remuneration for Resource persons = Rs. 5000.00
							Training Materials /Kits = Rs. 3375.00
							Organizing Expenses like notice, banners, hall rent, mike rent, documentation, etc. = Rs.12500.00
							Total in this category = Rs. 35500.00

Training No. 2 - Goat Rearing

Title of the Programme	Rationale	Training Objectives	Target Group	Duration	No. of expected participants and Batches	Expected Outcome	Abstract Estimate
Training in goat rearing	Goat is the one of the profitable income generating scheme that can be adopted by the landless and training is required to ensure that the selected beneficiaries acquire knowledge in scientific and systematic goat rearing easiest	<ul style="list-style-type: none"> To provide skills and techniques of gainful goat rearing 	Selected Beneficiaries	One day	35 each from Watershed Total 15 batches Total 525	<ul style="list-style-type: none"> 525 landless beneficiaries are trained in goat rearing 525 new goats reared in the watershed 525 beneficiaries increase their income Improved production system 	Food Expenses = Rs. 34125.00
							Remuneration for Resource persons = Rs.15000.00
							Training Materials /Kits = Rs. 10500.00
							Organizing Expenses like notice, banners, hall rent, mike rent, documentation, etc. = Rs.45000.00
							Total in this category = Rs. 104625.00

Training No. 3 - Commercial Poultry Farming

Title of the Programme	Rationale	Training Objectives	Target Group	Duration	No. of expected participants and Batches	Expected Outcome	Abstract Estimate
<p>Training in Commercial Poultry Farming</p>	<p>Backyard poultry farming had been a supplementary income generating programme for the household women. Recently this had been proved to be unfeasible. A commercial level farming alone would bring substantiating income to the family. In this process even the children can also be involved.</p>	<ul style="list-style-type: none"> To provide skills and techniques of gainful poultry farming 	<p>Selected Beneficiaries</p>	<p>One day</p>	<p>40 each from a watershed Total 15 batches Total 600 trainees</p>	<ul style="list-style-type: none"> 600 beneficiaries trained in Poultry Farming Increased income for 600 families Living standard of 600 landless people improved Improved production system 	<p>Food Expenses = Rs. 39000.00</p>
							<p>Remuneration for Resource persons = Rs.15000.00</p>
							<p>Training Materials /Kits = Rs. 12000.00</p>
							<p>Organizing Expenses like notice, banners, hall rent, mike rent, documentation, etc. = Rs.45000.00</p>
							<p>Total in this category = Rs. 111000.00</p>

Training No. 4 – Vermin Composting

Title of the Programme	Rationale	Training Objectives	Target Group	Duration	No. of expected participants and Batches	Expected Outcome	Abstract Estimate
Training in Vermin Composting	Production system improvement and management is very important in watershed management programme. To ensure improvement of the PS in the watershed quality organic fertilizer is required and each watershed should be self sufficient in this regard	<ul style="list-style-type: none"> To provide skills and techniques of Verm in Composting 	Selected Beneficiaries	One Day	40 each in a Batch , one batch each from a watershed 15x 40 600 trainees	<ul style="list-style-type: none"> Adequate and quality organic fertilizer available in each watershed Production system of the watershed improved Supplementary income for the involved Safe disposal of solid organic waste. 	Food Expenses = Rs. 51000.00
							Remuneration for Resource = Rs.22500.00
							Training Materials /Kits = Rs. 15000.00
							Organizing Expenses like notice, banners, hall rent, mike rent documentation, etc. = Rs.67500.00
							Total in this category = Rs. 156000.00

Training No. 9 – Rabbit Rearing

Title of the Programme	Rationale	Training Objectives	Target Group	Duration	No. of expected participants and Batches	Expected Outcome	Abstract Estimate
Training in Rabbit Rearing	Kerala depends on external market for its fat free meat requirements. Rabbit meat is considered as fat free and can be produced at lesser cost domestically. Training should be given to those who wanted to involve in rabbit rearing to ensure substantial income is raised without loss of the trade.	<ul style="list-style-type: none"> To impart knowledge and skill of Rabbit Rearing 	Selected Beneficiaries	<ul style="list-style-type: none"> One day 	30 each in a Batch , Total 4 batches Total 120 Trainees	<ul style="list-style-type: none"> Additional income for the farmers ensured Availability fat free meat in the market ensured Self sufficiency of the watershed community in meat production 	Food Expenses @ Rs. 70/per day for 120 participants for One day= Rs. 8400.00
							Remuneration for Resource persons @ Rs. 1500/day for two persons each for a batch = Rs.12000.00
							Training Materials /Kits @ Rs. 20 per participants per training = Rs. 9000.00
							Organizing Expenses like notice, banners, hall rent, mike rent, documentation, etc. @ Rs. 3600/- per training for four training a year = Rs.14400.00
							Total in this category for one year = Rs. 43800.00

Training No. 10 - Organic Farming

Title of the Programme	Rationale	Training Objectives	Target Group	Duration	No. of expected participants and Batches	Expected Outcome	Abstract Estimate
Training in Organic Farming	The whole production system in the watershed needs to be converted into humus rich soil which helps to produce increased yield. Organic cultivation is one method to improve the system and to ensure food safety and security for the watershed communities	<ul style="list-style-type: none"> To impart knowledge and skill of Organic Farming 	Selected Beneficiaries	<ul style="list-style-type: none"> One day 	100 each in a Batch , Total 15 batches Total 1500 trainees	<ul style="list-style-type: none"> The humus of the soil retained Improved production system management ensured Added income from organically produced vegetables and fruits. 	Food Expenses @ Rs. 70/per day for 1500 participants = Rs. 105000.00
							Remuneration for Resource persons @ Rs. 1500/day for two persons each for a batch = Rs.45000.00
							Training Materials /Kits @ Rs. 20 per participants per training = Rs. 56250.00
							Organizing Expenses like notice, banners, hall rent, mike rent, documentation, etc. @ Rs. 3500/- per training for four training a year = Rs.52500.00
							Total in this category for one year = Rs. 258750.00

Training No. 11- Masonry of water harvesting systems

Title of the Programme	Rationale	Training Objectives	Target Group	Duration	No. of expected participants and Batches	Expected Outcome	Abstract Estimate
<p>Masonry Training in Water Harvesting Systems</p>	<p>Watershed management specifically insists rain water harvesting systems to save water loss and soil erosion. Such structures also made compulsorily for newly constructed houses by the PRIs. Demand for masons are in this technology is ever increasing. The trained shall be offered themselves for such work undertakings.</p>	<ul style="list-style-type: none"> To impart knowledge and skill of Organic Farming 	<p>Selected Beneficiaries</p>	<p>15 days</p>	<p>15 each in a Batch , 4 batches Total 60 trainees</p>	<ul style="list-style-type: none"> Availability trained masons ensured for construction of water harvesting systems Additional earning for the trained A new+ culture of water conservation promoted and fostered in the watershed 	<p>Stipend for the trainees @ Rs. 100 per day for 15 days =60x100x15 Rs. 90000.00</p>
							<p>Remuneration for Trainer @ Rs. 750/day for 15 days x 4 batches = Rs.45000.00</p>
							<p>Training /Kits @ Rs. 500 per participants = Rs. 30000.00</p>
							<p>Organizing Expenses like notice, banners, documentation, etc. @ Rs. 25000/- per training including material costs for four training a year = Rs.100000.00</p>
							<p>Total in this category for one year = Rs. 265000.00</p>

PART- III:
GENERAL AWARENESS GENERATION CAMPAIGNS

PROGRAMME No. 1

Title of the Programme	Rationale	Training Objectives	Target Group	Duration	No. of expected participants and Batches	Expected Outcome	Abstract Estimate
Exposure Visit for different committees	The dynamism of the committee members can be make use of as peer groups for many purposes like environmental pollution and waste disposal etc., for which they must be given a proper awareness	<ul style="list-style-type: none"> • Selected members provided a living experience along with nature • Members become watch dogs against environment related issues • Members became the spokesperson about environmental protection 	Members selected from different committees within the watershed	5 days	50 in two batches total 100	<ul style="list-style-type: none"> • Timely information received against environmental pollution • Common Property Assets created in the watersheds are properly protected • Streets and roadsides kept clean and green 	Food & Accommodation Expenses = Rs. 27500.00
							Travelling expenses = Rs.38500.00
							Miscellaneous expenses Rs. 22000.00
							Total = 88000

PROGRAMME No. 2

Title of the Programme	Rationale	Training Objectives	Target Group	Duration	No. of expected participants and Batches	Expected Outcome	Abstract Estimate
Awareness Generation Campaigns/activities like Competitions for the school children and the general public	<p>Campaigns are always helpful to ensure the involvement of different group of people in any activity.</p> <p>If it is for environmental protection, School Children and youth are the best option. They should be encouraged to involve in the planned interventions</p>	<ul style="list-style-type: none"> Students and youth involved in IWMP implementation actively Message of environmental protection conveyed to properly 	Youth and High School Children in the watershed	NA	NA	<ul style="list-style-type: none"> Children and youth get opportunity to express their creativity regarding protection of nature Message of watershed management is widely propagated 	<p>Tea & Snacks Expenses = Rs. 2000.00</p> <p>Cost of Materials = Rs.5000.00</p> <p>Cost of Prizes = Rs. 2500.00</p> <p>Organizing expenses = Rs. 25000.00</p> <p>Total in this category = Rs. 34500.00</p>

PROGRAMME No. 3

Title of the Programme	Rationale	Training Objectives	Target Group	Duration	No. of expected participants and Batches	Expected Outcome	Abstract Estimate
Road Show & Exhibition	One of the reasons for the present deteriorated environmental condition is ignorance and proper orientation of the community. A visual illustration and detailed exhibition will definitely change the mentality of the people	<ul style="list-style-type: none"> • Environmental deterioration Illustrated • Message of environmental protection conveyed • Watershed Management techniques and water conservation mechanisms shown 	General Public	Two days	NA	<ul style="list-style-type: none"> • People become the spokes person of NRM 	Food Expenses for the volunteers = Rs. 10000.00
						<ul style="list-style-type: none"> • Care taken by the public towards natural resources 	Cost of Materials = Rs.50000.00
						<ul style="list-style-type: none"> • Water & Soil Conservation continued in the plots of the farmers 	Vehicle Rent including all accessories and technicians = Rs. 200000.00
							Organizing expenses = Rs. 12000.00
							Total in this category = Rs. 272000.00

Printing & Publishing of IEC Materials

Sl. No	Activities	Unit	Unit Cost	Target	IWMP Fund BC	Amount
1.	Printing of leaf lets	Nos	6	8000	48000	48000
2.	Distribution of stickers	Nos	7	6000	42000	42000
3.	Printing of book lets	Nos	21	5000	105000	105000
4.	Fixation of watershed Name Boards	Nos	10	6050	60500	60500
5.	Posters printing	Nos	6	5000	30000	30000
6.	Fixation of message boards	Nos	1500	33	49500	49500
7.	Preparation of project details boards in block Panchayat	Nos	3	5000	15000	15000
8.	Wall painting and writing	Nos	4625	8	37000	37000
9.	Distribution of name slip	Nos	1	10000	10000	10000
10.	Nattarivumela	Nos	30825	1	30825	30825
11.	Vilambara Jatha (Each watershed)	Nos	11	11000	121000	121000
	Total				548825	548825

ENTRY POINT ACTIVITIES (EPA)

Entry Point Activities (EPAs) are those subproject interventions that are first identified by villagers during the initial awareness raising carried out by the external implementing agency. Empirically, it is known that often it is easier to organize individuals around productive activities than around social activities (World Bank, 1987). In keeping with the strategy for building local organizational capacity, the entry point activities need to be positive-sum. Experience from a number of programs suggests that using entry points that are not specifically related to management of natural resources can also be effective in catalyzing the formation of a local institution. The assumption is that, once the local level institutional framework is in place, subsequent activities that are directly related to sustainable management of natural resources can be more effectively planned and implemented.

Entry-Point Activities are necessary part to orient the community members towards Integrated Watershed Management Project (IWMP). Direct dialogue about the intervention can create a negative attitude among the people and hence, some innovative method should be applied to bring about a positive air in the project area. Entry-Point Activities help us manage that. However, these activities cannot be implemented blindly. There was a need assessment carried out initially to identify the community needs. Need assessment is followed

by community mobilization meetings where consultations from the community were also included again.

The community has collectively identified the entry point activities in each watershed. Special attention has been taken up to ensure that the Entry Point Activities include creation of community assets to be maintained by them. The main objective of the entry point and other promotional activities is to elicit the willing participation of the communities in IWMP. The former would be useful in ‘breaking the ice’ and to win the trust and confidence of the people. Keeping in view the crucial motivational role of entry point activities in the IWMP project, it is proposed to allow up to 4% of the total allocation of each watershed for the purposes in the projects. A bird’s eye-view of different EPAs identified for the Block Panchayat is given below:

A Bird’s Eye View of EPAs

Sl. No	Name of Grama Panchayat	Name of Watershed	Ward No.	Problems to be solved	Name of EPA	Location	Objective
•	Payyavoor	Chamathachal	IX	Drinking Water Scarcity	Stream bank Stabilization along Chamthachal thodu	Chamthachal thodu	To ensure adequate drinking water for around 30 households
•	Padiyoor	Thaikkundam	IV	Drinking Water Scarcity and inadequate irrigation facilities	1. Construction of a shutter type check dam 2.50m width across kanthiladu thodu 2. Construction of a shutter type check dam 0.60m width across kanthiladu thodu	Aalathuparamba & Kanthaladu	Adequate water availability for Alathuparambu Mahila Anganvadi and adequate irrigation facilities for Kanthaladu Paddy field ensured, and the stream safe guarded from bank erosion

					3. Stream bank stabilization with retaining wall		
•	Padiyoor & Irikkur	Kalyadu Chalumuri	XIV	Drinking Water Scarcity	Bund construction in Blathur padashekaram using geotextile	Blathur padashekaram	Adequate Water availability for padashekaram
•	Padiyur - Irikkur	Pedayangodu - Kolodu	VIII	Drinking Water Scarcity	Stream bank Stabilization	Valavupalam thodu	Adequate drinking water for Pattakkal Anganwadi and fruit requirements of the watershed ensured
•	Padiyoor	Manjichery Thodu - II	XII	Sacred Groove destruction and extinction of rare plant species	Stream bank Stabilization	Kattayottukavu thodu	Reduced water scarcity and sustenance of rare species of plants in the sacred groove
•	Padiyoor	Manjichery Thodu - I	X & XI	Water Scarcity	Rejuvenation and reinstallation of Odayoth irrigation scheme	Odayoth	Adequate water for irrigation of farm lands ensured
•	Padiyoor	Padiyoor Estate	XI	Drinking Water Scarcity	Construction of RWH system	Padiyoor Estate	Adequate water ensured for drinking and cleaning

•	Padiyoor	Eramchirathodu- II	V	Inadequate water availability for School Students	Construction of RWH system	Padiyoor GHSS	Adequate water ensured for drinking and cleaning
•	Padiyoor	Njalil Vallithala	V & VI	Excessive stream bank erosion, sliding of road and silt deposition in the Vallithala Mankuzhi Stream	Stream Bank Stabilization of Vallithala-Mankuzhi stream	Vallithala	A stable side protection wall on both sides of the stream, Overflow of the stream causing stream bank erosion prevented, Easy flow of water through the stream ensured.
•	Padiyoor	Eramchirathodu- I	IX	Heavy sedimentation of the canal, excessive stream bank erosion and lack of proper water conservation measures	1. Construction of a Shutter type check dam 1.50 m. width 2. Stream bank stabilization 3. Stabilization of existing side wall of Nediya Thodu by providing a concrete belt	Nediya Thodu	Adequate water for irrigation of Nediya Paddy field ensured

IRIKKUR BLOCK PANCHAYATH ENTRY POINT ACTIVITY FUND
UTILIZATION PLAN AT A GLANCE

Sl. N O.	WATERSHED NAME	PANCHAYATH	AREA IN HECTARE	IWMP FUND	IWMP PROJECT FUND	TOTAL ESTIMATE FUND	NATURE OF ACTIVITY
•	Chamathachal	Payyavoor	360	172800	424040	596840	Stream bank Stabilization along Chamthachal thodu
•	Thayikundam	Padiyoor, Ulikkal	343	164640	132610	297250	1. Construction of a shutter type check dam 2.50m width across kanthiladu thodu 2. Construction of a shutter type check dam 0.60m width across kanthiladu thodu 3. Stream bank stabilization with retaining wall
•	Kalliad chalumuri	Padiyoor, Irikkur	1328	423000	410	637850	Bund construction in Blathur padashekaram using geotextile
•	Pedayangod kolod	Padiyoor, Irikkur	491	235680	310	235990	Stream bank Stabilization
•	Manjicherithodu - 2	Padiyoor	240	115200	27750	142950	Stream bank Stabilization
•	Manjicherithodu-1	Padiyoor	420	201600	51400	253000	Rejuvenation and reinstallation of Odayoth irrigation scheme
•	Padiyoor estate		170	81600	66400	148000	Construction of RWH system

		Padiyoor					
•	Erenchirathodu – 2	Padiyoor	609	292320	805	293125	Construction of RWH system
•	Njalil vallithala	Padiyoor	187	89760	-	89760	Stream Bank Stabilization of Vallithala-Mankuzhi stream
•	Erenchirathodu – 1	Padiyoor	230	110400	100	110500	1. Construction of a Shutter type check dam 1.50 m. width 2. Stream bank stabilization 3. Stabilization of existing side wall of Nedyodi thodu by providing a concrete belt
	Total			1887000	703825	2208425	

NATURAL RESOURCE MANAGEMENT (NRM) ACTIVITIES/WATERSHED DEVELOPMENT ACTIVITIES

Works component includes activities required to restore the health of the catchment area by reducing the volume and velocity of surface run-off, including regeneration of vegetative cover in common land, afforestation, staggered trenching, contour and graded bunding, bench terracing etc. Drainage line treatment with a combination of vegetative and engineering structures, such as earthen checks, brushwood checks, gully plugs, loose boulder checks, gabion structures, underground dykes etc., Development of water harvesting structures such as low-cost farm ponds, nalla bunds, check-dams, percolation tanks and ground water recharge through wells and other measures, Nursery raising for fodder, fuel, timber and horticultural species, as far as possible local species may be given priority. Land

Development including in-situ soil and moisture conservation and drainage management measures like field bunds, contour and graded bunds fortified with plantation, bench terracing in hilly terrain etc. Crop demonstrations for popularizing new crops/varieties, water saving technologies such as drip irrigation or innovative management practices. As far as possible varieties based on the local germplasm may be promoted and Pasture development are the major works to be taken up.

- **Soil and Water Conservation Works:**

Conservation works for soil and water cannot be separated from one another, because these to supplement each other and there is no existence for these components of the nature individually. When a soil conservation activity is taken up and implemented, it may also end in a water conservation work. Therefore a comprehensive approach is necessary in the case of soil and water in the watersheds.

A very thoughtful and targeted approach to achieve effective, efficient and site-specific soil and water conservation will be adopted. Ridge-to-valley treatment needs to be strictly followed. Contour trenches, staggered pits, gully control measures, drainage line treatment along with fodder development and plantations of suitable species are taken up on recharge zone. Contour bunds, earthen embankments, nalla bunds, sub-surface dykes, percolation tanks and other water conservation and harvesting structures are taken up in transition and discharge zone.

Agronomic measures like intercropping, intensive cropping etc. along with pasture development are taken up on transition and discharge zone. Intensive SWC treatment work has to be completed in the entire Grama Panchayats on a watershed basis.

Watershed Development activities, especially those related to soil and water conservation varies from watershed to watershed. These activities need further planning based on the felt need of the people, fitness to the watershed areas, feasibility, and sustainability. It should also be considered that how far such activities will contribute to make the area a self sustaining, self sufficient Green Village. A list of conventional soil and water conservation activities aimed at the watershed development is tabled below:

Water Conservation Activities	Soil Conservation Activities
<ul style="list-style-type: none"> • Centri petal Terracing • Water percolation pit • Yard water collection pit • Source recharging • ‘H’ Type check dams • Other check dams (2m, 3m, 4m etc.) • VCB • Construction of pond • Construction of open wells • Drinking Water Scheme • Renovation of pond • Roof Top rainwater harvesting • Irrigation programmes 	<ul style="list-style-type: none"> • Stone bunding • Bench Terracing • Stream Stabilization • Retaining wall construction for stream bank • Gully controlling check dams • Geotextile • Bio fencing • River bank protection

LIVELIHOOD ACTIVITIES FOR LANDLESS/ASSETLESS PERSONS

The term livelihood describes the measure of living or sustenance. An economic definition of livelihood could be ‘*the organization of productive resources of households to maximize their standard of living*’. Livelihood comprises of the capabilities, assets and activities for a means of living. Generally, five kinds of assets are identified as contributing to livelihoods. They are natural assets, physical assets, human assets, financial assets and social assets. Natural assets refer to the natural resources like land and water and other climatic factors. Physical assets are produced by means of production such as tools, technology, machines and irrigation systems. Human assets chiefly refer to the education, skill, attitude and health of the household members. Financial assets are stocks of cash and access to credit. Social assets could mean the social capital of the household members.

The ability of the rural poor to enhance their livelihoods is constrained by a range of inter-related structural, social, economic and institutional barriers. The situation of the poor is

characterized by marginal and under-productive landholdings, periodic droughts, insecure land tenure and a reliance on seasonal agricultural and forest labour. Districts with considerable tribal and scheduled caste populations typically represent the most deprived areas. Preliminary poverty and livelihoods assessments suggest three major challenges:

- Land based livelihood strategies are underproductive and insecure.
- The poorest depend upon daily wage labour and face difficulty in obtaining sufficient days, work in either their villages or in neighbouring areas to which they migrate.
- Poor access to resources, markets, information and services, presents a significant constraint to realizing the potential of available opportunities; and hinders diversification of livelihood strategies.

In this context the support offered under IWMP will be a great help to overcome the various issues related to livelihood. Providing additional resources and promoting convergence and improved effectiveness in support of poor people’s livelihood choices will contribute to address the challenges.

Given below is a list of activities chosen to be implemented under the Livelihood Support System (LSS) under IWMP as per interests shown and selection made by the watershed communities.

SL No.	Scheme
•	Tailoring Unit
•	Consumer Store
•	Dairy Farm
•	Rabbit Rearing
•	Distribution of Tailoring Machine

PRODUCTION SYSTEM & MICRO-ENTERPRISES BASED LIVELIHOOD

ACTIVITIES

Major aspects of globalization that relate to rural development include the commercialization of agriculture and expansion of agro-industries, the liberalization of international trade and markets for food and other agricultural products, the intensification of international and internal labour migration, the increasing privatization of resources and services and the wider use of information and communication technologies. The implications of globalization for rural women and the marginalized communities are complex and data remain sparse and un-indicative. For some women in rural areas, the ongoing changes present new opportunities; for others, they intensify social exclusion and marginalization.

Integrating agricultural training with enterprise training can help women smallholders to manage and market their farm production more effectively, to take advantage of new agricultural opportunities. Enterprise training can help farmers take and manage the risks involved in introducing progressive production technologies. It can also help women diversify their productive activities by branching out into non-farm enterprises, an important mechanism in reducing susceptibility to crisis and developing a more stable year-round income.

The spread of agro-industry and rural industrialization has increased the possibilities for women and the asset less to access cash income through self-employment or the setting up of rural enterprises. Wage employment allows women to get out of the relative isolation of the home or their small rural communities and gain self-esteem and confidence

But, apart from bringing financial support to the families, the migration, sometimes, results in chaos and confusion in the family life, which is considered value based and sacred in the rural areas. Many couples have separated and many families have destroyed. The migrants are forced to sell out their landed property at subsistence rate to the big real estate business people, leaving themselves having nothing and making the vulnerable groups. PS&M in the watersheds in rural area will help sustain the families and to improve their economic status by improving their income level.

The proposed PS&M activities are tabled below:

SL No.	Scheme
•	Organic Farming
•	Organic Fertilizer Distribution
•	Vermi Composting
•	OrganicVegetable Cultivation
•	Organic banana cultivation
•	Cow Rearing
•	Goat Rearing
•	Crop Rotaton
•	Bee Keping
•	Waste Management Programme

MANAGEMENT AND ADMINISTRATION OF THE PROJECT

For the effective management of the Integrated Watershed Management Programme (IWMP) several arrangements had been made at different levels. First is the institutional arrangement. This part of the administration needs further comments. At state level State Level Nodal Agency (SLNA) is formed and institutionalized. At the district level there are two bodies, one is District Level Co-ordination Committee (DLCC) and the other is Watershed Cell cum Data Centre. The Block Panchayat is the Project Implementing Agency (PIA) and in addition there is a block level coordination committee. When the Grama Panchayat takes an important role in the management of the programme there is also a watershed coordination committee. A separate Watershed Development Team (WDT) is also constituted at PIA level, which is the responsible body for technical side of the project implementation. In each watershed there is a watershed committee (WC) under the chairmanship of the concerned Grama Panchayat.

The planning and DPR preparation is entrusted with a Technical Support Organization (TSO). In the case of IWMP of Irikkur Block, Susthira is the TSO and they carry out all the initial activities like Benchmark study, Participatory Rural Appraisal and Situational

Analysis. DPR preparation is the first step and then the implementation. Monitoring and evaluation has been made integral part of the project, for which GIS platform had been established at SLNA level. To give feedback to the SLNA, there are monitoring and evaluation committees in each watershed. AT GP and Block level the responsibility is vested with WDT.

Fund flow is also arranged for a smooth implementation of the project. The Central Government fund is transferred to the state (SLNA) from where it is transferred to the account of the PIA. The PIA directly transfers this fund to the account of the Watershed Committee to avoid unnecessary proceedings which may delay the fund release to the farmers. The components of the Management and administration are Benchmark Study, Documentation, Awareness Generation Programmes and Capacity Building Trainings, Skill trainings, finance management and evaluation Studies

MONITORING, EVALUATION & DOCUMENTATION

Monitoring and Evaluation are the two words often used together and are essential ingredients of project planning and management. Monitoring is the processes of observing, measuring and reporting objectively on the benefits that appear during the project's life span. Monitoring is also applied to the systematic measuring of objectively variable project indicators to determine the gains made towards the stated objectives.

Evaluation is the process which seeks to analyses and made sense of the data compiled through monitoring. Project achievement evaluation involves determining project benefits and identifying the reasons why (problems, constraints and impediments) a project may have failed to meet its target.

Monitoring should be specific and done at frequent intervals (Monthly, quarterly, bi-annual, annually) to allow project activities to be adjusted as they go along. All the stakeholder institutions that involve in the process of monitoring should have special monitoring tools and systems and adequate arrangements to record the findings.

A continuous monitoring and periodic evaluation of the implementation of the project activities on the watershed is necessary to assess whether the activity helps to meet the

intended goal/objective. Any adjustment to be made has been discussed, agreed and endorsed by the village general assembly before they were implemented.

As per government guidelines, monitoring & evaluation is an integral part of the IWMP project. Arrangements have been already made to take up the responsibility of monitoring and evaluation. There is an inbuilt GIS based monitoring system in the programme. Apart from this the PIA or the SLNA can make necessary arrangements by making use of the service of the empanelled NGOs, (e.g. SUSTHIRA) Government Agencies/departments, academic and resource agencies, who had the capacity and expertise to conduct monitoring and evaluation study and documentation.

For any development project must be documented properly for generating further knowledge for the future planning and implementation of similar projects. IWMP is an important project which involves several processes and procedures. Every steps, right from the process of planning till the end of consolidation all that have been involved in the project need to be properly registered and documented.

Documentation can be **visual** like video documentation and photographic documentation. Documentation can also be **verbal** like process report making (Process documentation) Charts showing progress and improvements of different situation and project components (eg. Measurement of water table, progress in construction work of bunds and ponds, rainfall data and temperature data etc), display boards to illustrate the project area and project components with budget outlay (this will make the project more transparent) etc.

Since this part of the project is very important and inevitable, expertise and professional capacity is needed to carry out documentation. To meet the purpose, NGOs like SUSTHIRA can be involved and their expertise can be made use of.

Expected Outcome

After Completion of all activities, each watershed Development Project is expected to achieve the following results by the end of the project period.

- All the activities that are planned for the treatment and development of the drainage lines, arable and non-arable lands in the watershed area are completed with the active participation and contribution of the user groups and the community at large.
- The user groups have willingly taken over the operation and maintenance of the assets created and made suitable administrative and financial arrangements for their maintenance and further development.
- All the members of the Watershed Committee and staff such as Watershed Secretary and Volunteers have been given orientation and training to improve their knowledge and upgrade technical/management and community organizational skills to a level that is appropriate for the successful discharge of their responsibilities on withdrawal of the Watershed Development Team from the Project.
- The village community would have been organized into several homogeneous self-help groups for savings and other income generation activities, which would have achieved sufficient commitment from their members and built up financial resources to be self-sustaining.
- The increase in cropping intensity and agricultural productivity reflecting in overall increase in agriculture production.
- Increase in income of farmers and landless labourers in the project area.
- Increase in groundwater table due to enhanced recharge by watershed interventions.

Some quantifiable indicators for outcomes of the programme are:

- Areas brought under single/multiple cropping, productivity and production of crops, horticulture, livestock, fodder, agro-forestry, fisheries products, farming systems, land use and commodity /crop diversification, wasteland area brought under cultivation, etc.
- Changes in water availability (surface storage and ground water table), quality of water, irrigated area, per capita income, creation of livelihood opportunities, out migration, cropping intensity, feed and fodder availability, etc.
- **Employment generation:** Regular Agricultural labourers, SHGs constituted and types of livelihood activities generated.
- **Environmental impact:** Change in soil loss, the perennially of flow and reducing peak flows, recharge of ground water, drinking water availability, etc.

Consolidation Phase / Exit Protocol

Consolidation and withdrawal phase is the most important and crucial phase in the participatory development projects. This phase facilitate the users to maintain the project activities in a sustainable manner during the post project period and initiate the new activities by users themselves. In this phase the resources augmented and economic plans developed as per common guidelines are made the foundation to create new nature-based, sustainable livelihoods and raise productivity levels. The classification of activities must not be understood in a rigid manner. Many of the activities may even start in many watersheds during the third year or fourth year. Phasing of activities need to have an internal logic and integrity that must flow through the entire action plan. This will depend on a host of factors such as the prevailing initial conditions, needs and possibilities in each village, response of the community etc. Such flexibility must be built into the action plan and is to be seen as a distinguishing feature of common guidelines 2008.

Activities to be undertaken during withdrawal phase

- Consolidation and completion of various works.
- Building the capacity of the community based organizations to carry out the new agenda items during post project period.
- Sustainable management of (developed) natural resources and Up-scaling of successful experiences regarding farm production systems / off-farm livelihoods

Completion various works

- All the works initiated should be completed during first half of this phase.

Documentation of successful experiences / project interventions

- Successful stories of the farmers has to be documented either in the form of brochure or video clipping in local language.

Building the capacity of the community based organizations

- To carry out the new agenda items during post project period.
- To manage the developed natural resources.
- Improving the sustainability of various interventions under the project.
- Formal allocation of user's right over Common Property Resources (CPRs).
- Collection of user charges for CPRs.
- Repair, maintenance and protection of CPRs.

Sustainable utilization of developed natural resource.

- Intensification of farm production systems/off-farm livelihoods.
- Promotion of agro-processing and marketing enterprises.
- Maintenance of association including financial and records management.
- Farmers may also be encouraged to develop non pesticide management, low cost organic inputs, seed farms and links with wider markets to fetch competitive price.
- Project management related aspects.
- Creating awareness about various Government Schemes and facilitate them to approach appropriate organization.

Institutional linking with user groups / watershed associations

The PIA should make arrangements to link the watershed association and other user groups with appropriate external institutions for their self sustainability such as Research, Developmental and Training organizations, marketing agencies for procuring their on farm and off farm products and financial institutions for providing loan in future. Linkage with any other organizations whom the farmers needed support based on the activities implemented during the project period shall also be thought of.

Up scaling of successful interventions

Up scaling of successful experiences / interventions has to be attempted by availing revolving fund under the project as well as credit and technical support from external institutions.

Community enterprises

Community enterprises like a small agri or agro-processing units could be established by availing credit facilities from the financial institutions by watershed associations and the benefit can be used for post project management in addition to watershed development fund.

Formation of Federation

Federations could be formed at the level of a cluster of villages in order to support economic activities at scale. These would further strengthen and activate the linkages established with external resource agencies for knowledge, credit, input procurement, sale of local produce, carrying on processing activities to the point of exports.

Terminal evaluation

Terminal evaluation of project should be attempted by involving user groups for selected interventions on their impact based on pre and post project status. For example, the impact on water resources development could be gauged from additional area brought up under irrigation due to project interventions. Impact of production systems could be gauged from increase in yield. Impact of livestock and fisheries development could be gauged from additional income due to project interventions.

Consolidated Project Completion Report (CPCR) Preparation

Detailed completion report of the project which includes all intervention and activities implemented in the project has to be prepared in detail. The outline of the report will be as follows:

- Introduction and history of the watershed including special problems if any.
- Location, geographical and soils details etc. of the watershed.
- Details and maps of watershed.
- Budget allocation and utilization head wise.
- Details of the interventions, activities etc. implemented in watershed.
- Status of each intervention.
- Impact of interventions.
- Constraints.
- Any other matters PIA would like to highlight.
- Recommendations drawn based on lessons learnt for future use.

CONSOLIDATED ANNUAL ACTION PLAN

IWMP - Irikkur Block Panchayat

S l. N o.	Physic al Progr ess	U ni t	Target									
			I year		II Year		III Year		IV Year		Total	
			Phy sical	Fian ancia l	Phy sical	Fian ancia l	Phy sical	Fian ancia l	Phy sical	Fian ancia l	Phy sical	Fian ancia l
I	Land Development											
a	Affore station	H a	0	0								0
b	Hortic ulture	H a	0	0								0
c	Agricu lture	H a	0	0								0
d	Pastur e	H a	0	0								0
II	Soil &Moisture Conservation (SMC)											
a	Stagge red trench		0	0	0	0	0	0	0	0	0	0
b	Conto ur Bundi ng	R M	1124 3.13	1281 718	600	6840 0	683 1.61	7788 04	662 3.03	7550 26	2529 7.77	2883 948
c	graded bundin g		0	0	0	0	0	0	0	0	0	0
d	Bench terraci ng		0	0	0	0	0	0	0	0	0	0
e	Others	N os .	9980	1346 420	180 0	2304 80	128 40	1285 470	154 00	1737 760	4002 0	4600 130
II I	Vegetative & Engineering Structures											
a	Earthe rn checks		0	0	0	0	0	0	0	0	0	0
b	Brush wood Check s		0	0	0	0	0	0	0	0	0	0
c	Gully Plugs	N os .	0	0	0	0	55	9750 0	30	4500 0	85	1425 00
d	Loose		0	0	0	0	0	0	0	0	0	0

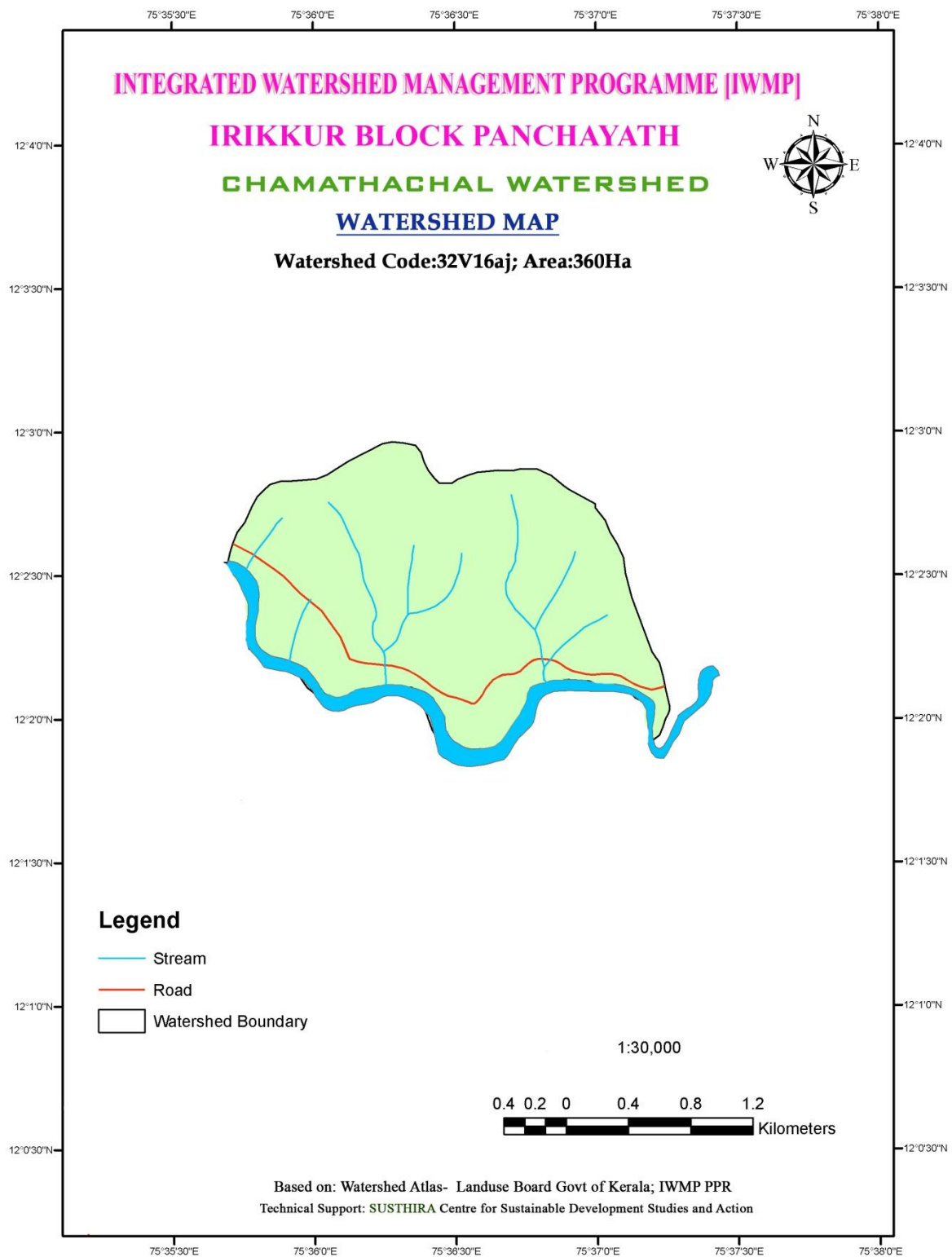
	Boulder Checks											
e	Gabion Structures		0	0	0	0	0	0	0	0	0	0
f	Others (Live fencing)	R M	1850 0	4440 00	0	0	210 00	5040 00	262 00	6288 00	6570 0	1576 800
I V	Water Harvesting Systems (WHS)											
a	Farm Ponds	N os .	1	1000 000	4	1700 504	4	8200 00	3	1650 000	12	5170 504
b	Check Dam		4	1816 10	2	2500 00	1	9000 0	3	3450 00	10	8666 10
c	Nallah Bunds		0	0	0	0					0	0
d	Percolation Tanks	N os .	0	0	0	0	0	0	0	0	0	0
e	Ground Water Recharge Structures	N os .	77	1039 500	25	1222 000	73	1048 500	46	6225 00	221	3932 500
f	Others	N os .	13	1549 676	22	4761 842	18	5358 314	16	3884 978	69	1555 4810
V	Livelihood											
a	No. of onfarm activities	N os .	0	0	0	0	0	0	0	0	0	0
b	No. of Beneficiaries	N os .	0	0	0	2364 120	17	2247 480	0	0	17	4611 600
c	No. of Off-farm activities	N os .	0	0	0	0	0	0	0	0	0	0
d	No. of	N	0	0	0	0	0	0	0	0	0	0

	beneficiaries	nos.										
V	Production System & Micro-enterprises (PSM)											
I												
a	Area	H a.	0	0					0	0	0	0
b	No. of Beneficiaries	N os.	0	0	455	2638 560	314	2626 800	0	0	769	5265 360
	Total			6842 924		1323 5906		1485 6868		9669 064		4460 4762

CHAPTER – 5
DESCRIPTION OF THE INDIVIDUAL WATERSHEDS

Integrated Watershed Management Programme had been approved for eleven (10) watersheds spread over four (4) Grama Panchayats in Irrikkur Block. Details of the watershed are given below:

SI No.	Watershed Code Nos.	Name of Watershed	Name Of Grama Panchayat	Wards covered	Area (Ha)
1.	32V16aj	Chamathachal	Payyavoor	IX	360
2.	32V16ba	Thayikkundam	Padiyur – Ulikkal	III,IV,V & VI wards of Padiyoor XV ward of Ulikkal	343
3.	32V20a	Kalliad – Chalulmari	Padiyur & Irkkur	I, II, XIII, XIV and XV wards of Padiyoor & III, IV, VI, VII and X wards of Irkkur	1328
4.	32V21a	Pedayangodu – Kolodu	Padiyur – Irkkur	XIII of Padiyur & VII & VIII of Irkkur	491
5.	32V22a	Manjicherythodu – II	Padiyur	XII of Padiyoor	240
6.	32V23a	Manjicherythodu – I	Padiyur	X, XI of Padiyoor	420
7.	32V24a	Padiyur Estate	Padiyur	5th of Padiyoor	170
8.	32V25a	Eramchirathodu – II	Padiyur	V & X of Padiyoor	609
9.	32V25b	Njalil Vallithala	Padiyur	of Padiyoor	187
10.	32V25c	Eramchiorathodu – I	Padiyur	of Padiyoor	230
				Total	4378



CHAMATHACHAL WATERSHED

Introduction

Chamathachal Watershed is in Valappatanam River Basin and included in the 9th ward of Payyavoor Grama Panchayat and has a total area of 360 Ha. Chamathachal, Vathilmada, Kakkathodu, etc are the main places in the watershed limit.

Boundaries of the watershed

The watershed is bounded in its north by Vathilamada Uppupadanna Road, in the south by Kallolippu River, in the east by Kallolippu Stream and in the west by Kakkathodu junction.

Location

This watershed is about 60 Kms away from the District Head quarters (Kannur) and 7 Kms away from the GP Head Quarters (Payyavoor). The watershed is accessible by road. The nearest railway station is Kannur.

Geographic Co-ordinates

Geographically Chamathachal watershed lies between the east longitude 75^o35'30" and 75^o37'30" and north latitude 12^o3'0" and 12^o1'30".

Physiography, Relief and Drainage

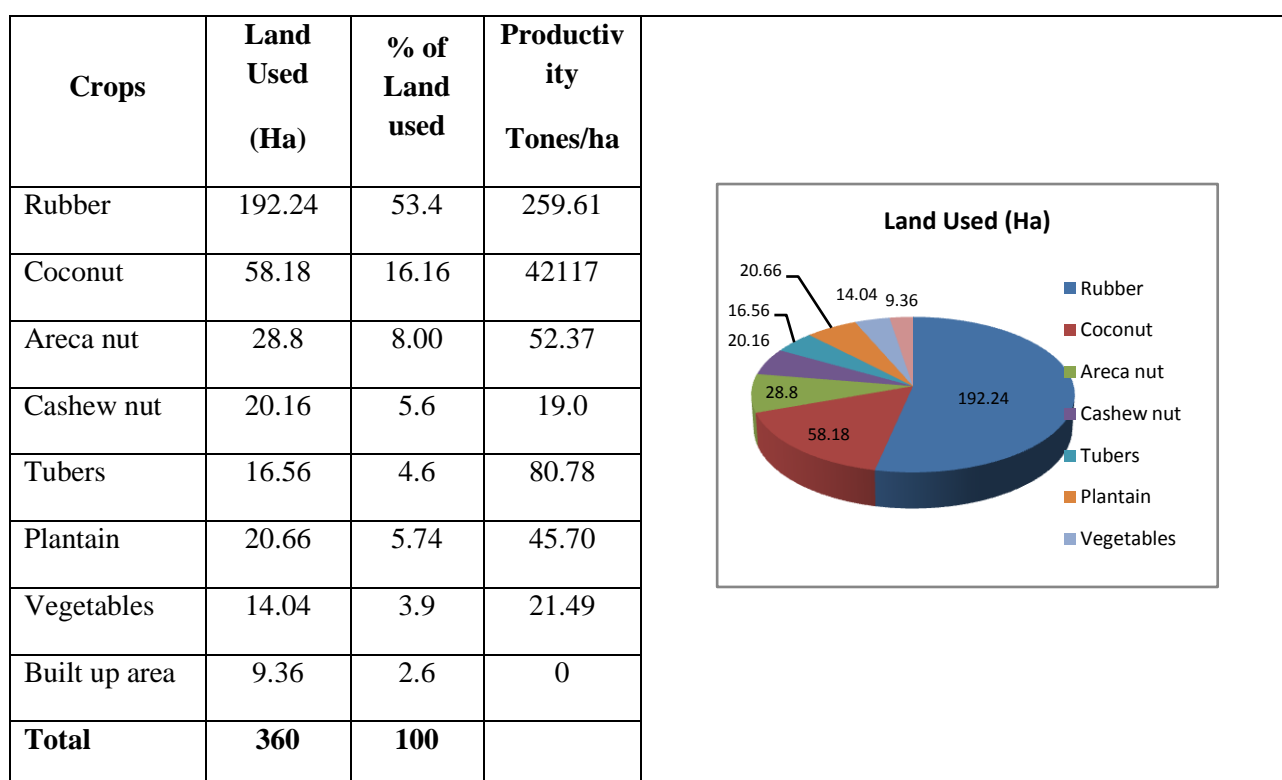
The topography of the watershed is undulating with steep slopes, moderate slopes and plains. 70% of the total geographic area of the watershed is with steep slopes and the rest 30% is with moderate slopes. Certain specific areas of the watershed are found to be drought prone areas. For example: the upper reaches of Moorikkunnel hills, Thiruthukundumala and Vazhavechakkunnu are observed to be drought prone.

Red laterite soil mixed with pebbles is seen in the upper reach of the watershed and black alluvial soil in the low lands of the watershed.

The watershed is formed based on Chamathachal stream, which is originating from Vathilmada and entering into Chamathachal River after flowing about 3Km across the watershed. The watershed has a height of 450 meters.

Land Use and Cropping Pattern

About 90% of the total geographic area is under crops. Rubber, coconut, areca nut, cashew, pepper, etc are largely cultivated in the watershed.



Existing water bodies in the watershed

Streams		Springs		Ponds		Open Wells	
Seasonal	Perennial	Seasonal	Perennial	Seasonal	Perennial	Seasonal	Perennial
3	1	-	5	28	7	170	135
4		5		35		305	

Socio-economic situation

There are about 460 households in the watershed area with a total population of 2029 out of which 998 are male and the rest (1031) are female. The Scheduled Caste (SC) population is 273 with 138 male and 135 female. There is no trace of ST population in the watershed.

The economy is basically built upon agriculture. However, people say agriculture, except some cash crops is running loss and many farmers are trying to abandon agriculture due to continuous loss. Migration is common, especially off season and many youth trying to get labour in the construction sector. Educationally backward community is striving to continue to be farming communities, but they too are facing difficulties in getting labour in the agricultural sector.

Educational Facilities:

The watershed community has only one LP School, Nursery and one anganavadi.

Transportation Facility

The watershed has a very good road network which allows people to move from one place to another. Public transport facilities are available in almost all roads. The important roads in the watershed are listed below:

- Chamathachal Community hall junction road
- Chandrashaker road
- Boothanam road

Major Problems in the watershed

- Heavy stream bank erosion is taking place on the banks of all sub-streams and the main stream during every monsoon washing away the fertile soil of both sides of the streams. This affects the farmers having land on both sides of the streams. The loss of soil results in loss of production.

- Severe water scarcity is experienced during every summer as majority of the drinking water wells and ponds dry up in the beginning of February. This increases the drudgery of women and is a reason for non availability of water for irrigation even in the vegetable cultivation.
- Heavy runoff during the monsoon washes away the fertile top soil and reduces the agricultural production. Gullies and furrows are formed in the farm lands of the farmers which causes every type of soil erosion from their plots.
- Off-seasonal employments are very rare in the watershed, so marginal farmers and landless people are migrating from the villages to the towns in search of employments/ wage labour. Women folk are left back in the added drudgery of taking care of the families when she is forced to shoulder dual responsibility of wage labour and family labour.
- Losing fertility of the soil due to indiscriminate use of chemical fertilizers and pesticides for the mono crops that demand more such materials made the soil more unfertile and for extinct of traditional plants and bio-control mechanisms of the nature. This forces the farmers to add more and more chemical fertilizers and pesticides.
- Food security and food safety are in question where the watershed communities mainly cultivates the cash crops and collects all their food items from the markets the items which is imported from other states. The preservatives they add are poisonous and people purchase all sorts of food materials without taking care of the safety measures.
- The women and the landless, and the marginal farmers which have small pieces of land suffer from unemployment on majority of the days of the year. Though the MGNREGS provides job for the community, the wage rate is comparatively less. However, the women folk from all look and corner of the community, especially those who are from poor families are making use of MGNREGS.
- MGNREGS need to be transformed for the betterment of production system and land reclamation among the farmer. The Grama Panchayat takes all necessary steps, but their effort is not taking roots among the people.

- Though people know that animal husbandry is supplementary to the farm practices, the changed land use pattern keeps them away from animal husbandry. The high cost of dry fodder including straw, deterioration of common grazing land, encroachment of common grazing land etc., all are reasons for the poor animal husbandry practices among the community.
- People are unaware of the soil, water and biomass conservation practices. Therefore, the measures are not consciously adopted and properly executed. This brings difficulties to the watershed community.

Activities Proposed for the Watershed

Natural Resource Management	Production System & Micro-Enterprises	Livelihood Promotion Programmes
<ul style="list-style-type: none"> • Open Well Construction • Stream bank Stabilization • Construction of Check Dams • Centripetal terracing • Husk trenching • Live fencing • Well Renovation • Rain water harvesting tank • Stone Bunding • Source recharging • Moisture collection pit 	<ul style="list-style-type: none"> • Organic Farming • Organic Fertilizer Distribution • Vermi Composting • Organic Banana Cultivation 	<ul style="list-style-type: none"> • Tailoring Unit

Chamathachal Watershed development (Sector I- 360Ha) - Master plan for Four Years - Funding pattern

Installment	Administration	Monitoring	Evaluation	Entry Point Activity	Institution & Capacity Building	DPR preparation	Watershed Development Activities	Livelihood Activities	Production system & Micro Enterprises	Consolidation Phase	Total IWMP project fund
1 st	86400	8640	8640	172800	129600	43200	414720	0	0	0	864000
%	2	0.2	0.2	4	3	1	9.6	0	0	0	20
2 nd	108000	8640	8640	0	43200	0	717120	194400	216000	0	1296000
%	2.5	0.2	0.2	0	1	0	16.6	4.5	5	0	30
3 rd	129600	12960	12960	0	43200	0	686880	194400	216000	0	1296000
%	3	0.3	0.3	0	1	0	15.9	4.5	5	0	30
4 rd	108000	12960	12960	0	0	0	600480	0	0	129600	864000
%	2.5	0.3	0.3	0	0	0	13.9	0	0	3	20
Total	432000	43200	43200	172800	216000	43200	2419200	388800	432000	129600	4320000
%	10	1	1	4	5	1	56	9	10	3	100

Chamathachal Watershed

Sector – I – Watershed Development Activities - I year action plan

Sl No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MGNREGS/Other Source	Total	WDF
1.	Construction of an Open dug out Well	Nos	202200	1	202200	0	202200	10 % General & 5 % SC / ST
2.	Construction of pump house	Nos.	32800	1	32800	0	32800	
3.	Supplying pipe line	Nos.	221840	1	221840	0	221840	
4.	Construction of an overhead tank	Nos	189040	1	189040	0	189040	
5.	Centripetal terracing	Nos	67	800	0	53600	53600	
6.	Live Fencing	M	24	500	0	12000	12000	
Total					645880	65600	711480	

Sector – I – Watershed Development Activities II year action plan

SI No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Construction of Shutter type Check dam in Chamathachal thodu	Nos	150000	1	150000	0	150000	10 % General & 5 % SC / ST
2.	Improvements to the existing Well in demo unit	Nos	5000	20	100000	0	100000	
3.	Stone Bunding including existing heightening bund	m2	114	600	68400	0	68400	
4.	Stream bank stabilization	Nos	1830	96	176880	0	176880	
5.	Centripetal terracing	Nos	67	50	0	3350	3350	
6.	Husk trenching	Nos	312	30	0	9360	9360	
7.	Moisture collection pits	m3	60.32	1000	0	176880	176880	
Total					495280	189590	684870	

Sector – I – Watershed Development Activities III year action plan

Sl No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Source recharging in Demo unit	Nos	13500	10	135000	0	135000	10 % General & 5 % SC / ST
2.	Rain Water Harvesting Tank at Govt L.P School Chamathachal	Nos	200000	1	200000	0	200000	
3.	Stream bank stabilization for Chamathachal thodu 1.50 m Height	Nos.	2830	82.9965	234880	0	234880	
4.	Stone Bunding including existing heightening bund	m2	114	500	57000	0	57000	
5.	Gully controlled check dam	Rm	1500	40	60000	0	60000	
6.	Live fencing	Nos	24	1000	0	24000	24000	
7.	Husk trenching	Nos	312	40	0	12480	12480	
8.	Centripetal terracing	Nos	67	150	0	10050	10050	
Total					686880	46530	733410	

Sector – I – Watershed Development Activities IV year action plan

SI No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Gully controlled checkdam	Rm	1500	30	45000	0	45000	10 % General & 5 % SC / ST
2.	Improvements to the existing Well in demo unit	Nos	5000	9	45000	0	45000	
3.	Construction 50,000 ltr capacity RWH Tank at St: Steaphen Church	Nos	200000	1	200000	0	200000	
4.	Stone Bunding including hightening of existing bund	M2	114	200	22800	0	22800	
5.	Stream bank stabilization for Chamathachal thodu 1.50 m Height	Rm	2830	48.65	137680	0	137680	
6.	Construction of Shutter type Check dam in Chamathachal thodu	Nos	150000	1	150000	0	150000	
7.	Centry petal terracing	Nos	67	200	0	13400	13400	
8.	Moisture Collection pit	Nos	60.32	1500	0	90480	90480	
Total					600480	103880	704360	

Sector – II – Livelihood Activities for Land less/Asset less - II year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	MNREGS / other source / Bank loan	Total
1	seed money for enterprising individuals	0	0	0	38880	0	38880
2	Seed money for SHGs	0	0	0	155520	0	155520
TOTAL					194400	0	194400

Sector – II – Livelihood Activities for Land less/Asset less - III year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	MNREGS / other source / Bank loan	Total
1	Seed money for SHGs	Nos	0	0	77760	0	77760
Funding for Major Lively hood activities							
1	Tailoring Unit	NOs	150000	1	116640	33360	150000
TOTAL					194400	33360	227760

Funding pattern	
Seed money for enterprising individuals (10% of the allocation)	38880
Seed money for SHGs (60 % of the allocation)	233280
Funding for major livelihood activities (30% of the allocation)	116640
Total allocation	388800

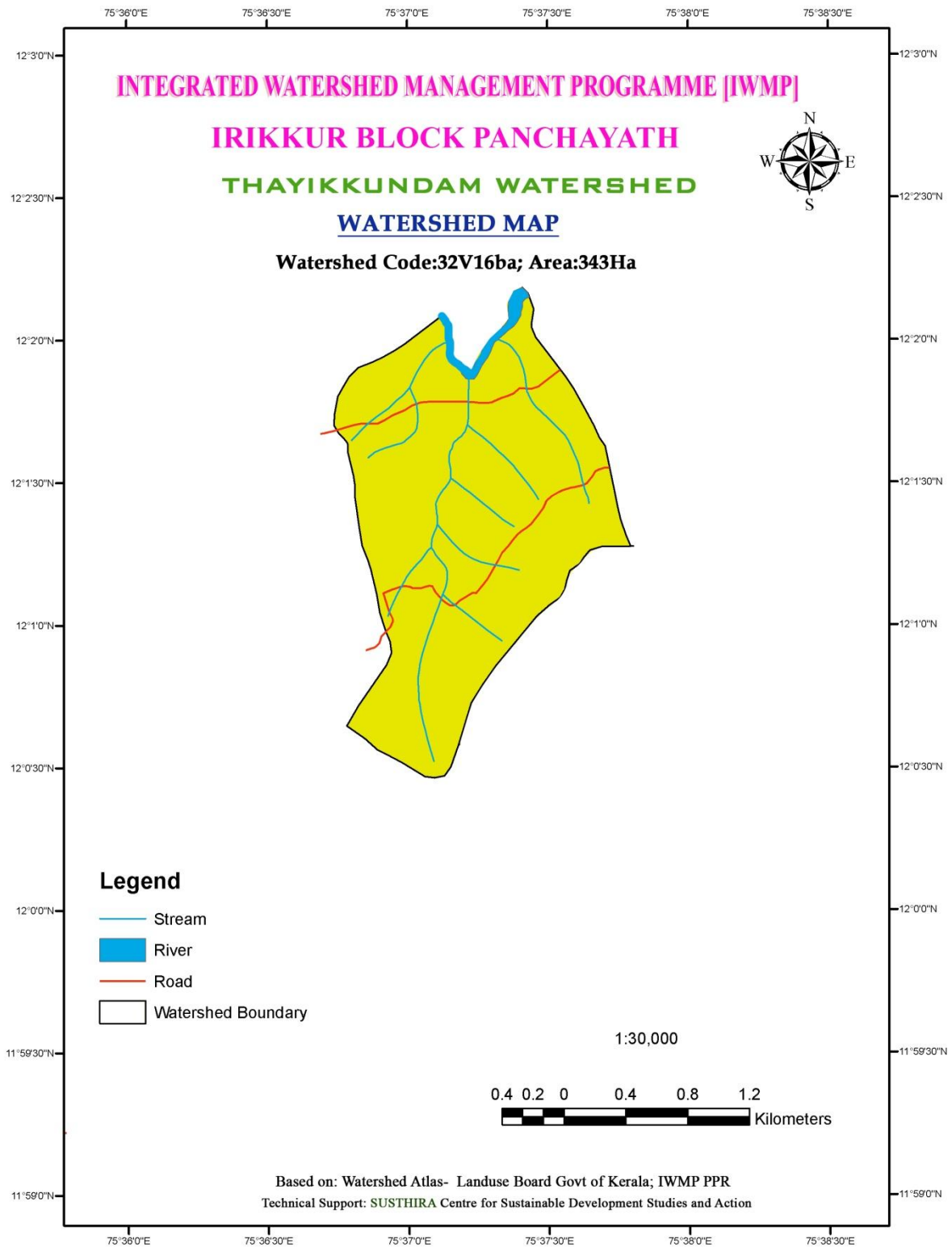
Sector – III – Production System & Micro Enterprises based livelihood activities - II year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	Total
1	Organic farming	Ha	18700	1	18700	18700
2	Organic fertilizer distribution (100kg/1 farmer)	Kg	22	81	179980	179980
3	Vermi composting	No	8660	2	17320	17320
TOTAL					216000	216000

Sector – III – Production System & Micro Enterprises based livelihood activities - III year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	Total
1	Organic banana cultivation (50nos/1 unit)	No	5000	34	170000	170000
2	Organic vegetable cultivation	No	2875	16	46000	46000
TOTAL					216000	216000

Total allotment	432000
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6.2. THAYIKUNDAM WATERSHED

Introduction

Thayikundam watershed covers the 4th ward of the Padiyoor Grama Panchayat exclusively and part of the 3rd 5th and 6th wards of the same Panchayat along with a small portion of the 15th ward of Ulikkal Grama Panchayat. The total geographic area of Thayikundam watershed is 343Ha. The watershed is the catchment area of Udayamkorathodu which originates from Panniyamkunnu and enter in to Nuchiad River.

Boundaries of the watershed

The watershed has Nuchiyadu River as its north boundary and Manjichery watershed as its south boundary. The east and west boundaries are formed by Eranchirathodu watershed and Thirur Watershed respectively.

Location

Thayikundam watershed is located in Padiyoor village of Irikkur Block Panchayath around 40 km away from the District Head Quarters, which is accessible by road. Iritty, the nearest bus station of the watershed is situated around 9.5km away. The watershed is situated around 4km away from Padiyoor Panchayat office. People depends Iritty and Ulikkal Townships for marketing purposes which is 9.5km and 7 km away from the watershed respectively.

Geographic Co-ordinates

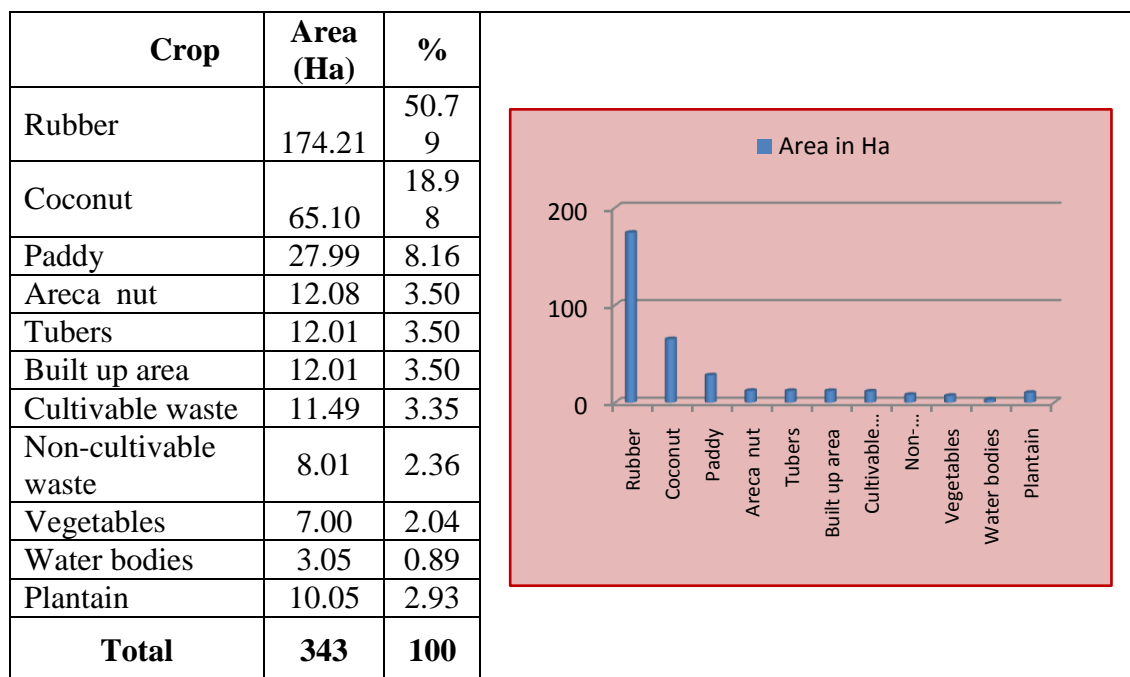
The geographic coordinates of the watershed are 12° 2' 20" & 12° 0' 30" N and 75° 36' 30" & 75° 38' 0" E

Physiography, Relief and Drainage

The topography of the watershed comprises of small hills and valleys. Direction of the slope of the watershed is from south to north. The major slopes are Kombanpara, Alathuparamb and Panniyamkunnu. Most of the plain areas are paddy fields which are about 23Ha.

Land Use and Cropping Pattern

About 90% of the total geographic area is under crops. Rubber, Coconut, Paddy, Areca nut etc. are largely cultivated in the watershed.



Existing water bodies in the watershed

Streams		Springs		Ponds		Open Wells	
Seasonal	Perennial	Seasonal	Perennial	Seasonal	Perennial	Seasonal	Perennial
17	5	-	3	16	6	318	280
22		3		22		598	

Socio – economic situation

The total no. of households	322	Total ST Households	3
Total Population	1350	Total Population	12
Male	655	Male	6
Female	695	Female	6

In the Thayikundam watershed there is no trace of SC population

Educational Facilities

In this watershed has only three anganavadies. There is no other educational institution.

Recreation Facilities

There is one club in the watershed which has a greater influence in the youth development. Prathiba arts and sports club is the only one club and here also one library that is P.Kumaran Smaraka VAYanashala.

Transportation facility

- Thermala – Alathu parambu, Kallyadu road
- Kaniyar vayal – Ulikkal road
- Alathu para,mbu – Komban para- Padiyoour Road
- Komban Para- Urathoor road.

These are the main transportation facilities of watershed community.

Major Problems in the watershed

Soil related Problems

- Pertinent soil erosion
- Reduced productivity
- Change in the chemical structure of the soil
- Reducing water storage capacity of the soil
- Heavy water drain from the soil
- Soil Pollution due to indiscriminate use of Chemicals

Water related Problems

- ☹ Severe drought in upper reaches
- ☹ Drying up of water sources at the end of post monsoon months
- ☹ High velocity runoff in the monsoon season
- ☹ Over consumption of water
- ☹ Increasing number of bore-wells

- 👤 Lowering water yield in the catchment.
- 👤 Poor groundwater recharge
- 👤 Sedimentation in Ponds, Streams and paddy fields
- 👤 Introduction of plantation crops in highlands replacing the natural vegetation
- 👤 Contamination due to direct disposal of waste

Problems related to Agriculture/Bio-diversity

- Unavailability of seeds with ensured germination
- Reluctance to cultivate food crops
- Unavailability of quality organic fertilizers and bio-repellants
- Poor awareness on the importance and relevance of Organic Farming
- Alienated/extinct medicinal plants
- Shift from multi crops to mono crops
- Deterioration of natural grazing land/pastures
- Reducing Paddy fields
- Poor vegetable cultivation
- Reducing freshwater fishes

Problems related to Livestock/Animal Husbandry

- Reluctance in cow rearing
- Reducing livestock population
- Unavailability of green fodder/dry fodder
- High rearing cost and poor returns
- Lack of Interest in Animal Husbandry
- Reluctance of New generation in animal husbandry.

Activities Planned for the Watershed Development

Natural Resource Management	Livelihood Promotion Programmes	Production System & Micro-Enterprises
<ul style="list-style-type: none"> • Husk Trenching • Centripetal Terracing • Live fencing • Shutter type check dam in Veluthedanvayal Chiilithodu • Stone bunding • Construction of shutter type check dam across kanthiladu thodu • Stream Bank Stabilization with retaining wall • Udayamkora vayal protection below Thaikundam VCB • Moorikkuni Pond renovation • Shutter type check dam at Kanthaladu Nilam • Well Recharging • Kakkodu pond renovation • Kombaranhi Paddy field protection 	<ul style="list-style-type: none"> • Seed money for enterprising individuals • Seed Money for enterprising SHGs • Consumer store 	<ul style="list-style-type: none"> • Cow rearing • Goat rearing • Organic Fertilizer Distribution

Thayikundam Watershed development (Sector I- 343 Ha) - Master plan for Four Years - Funding pattern

Installment	Administration	Monitoring	Evaluation	Entry Point Activity	Institution & Capacity Building	DPR preparation	Watershed Development Activities	Livelihood Activities	Production system & Micro Enterprises	Consolidation Phase	Total IWMP project fund
1 st	82320	8232	8232	164640	123480	41160	395136	0	0	0	823200
%	2	0.2	0.2	4	3	1	9.6	0	0	0	20
2 nd	102900	8232	8232	0	41160	0	683256	185220	205800	0	1234800
%	2.5	0.2	0.2	0	1	0	16.6	4.5	5	0	30
3 rd	123480	12348	12348	0	41160	0	654444	185220	205800	0	1234800
%	3	0.3	0.3	0	1	0	15.9	4.5	5	0	30
4 rd	102900	12348	12348	0	0	0	572124	0	0	129600	823200
%	2.5	0.3	0.3	0	0	0	13.9	0	0	3	20
Total	411600	41160	41160	164640	205800	41160	2304960	370440	411600	129600	4116000
%	10	1	1	4	5	1	56	9	10	3	100

Thayikundam Watershed
Sector – I – Watershed Development Activities - I year action plan

SI No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Husk Trench	Rm	312	350	0	109200	109200	10 % General & 5 % SC / ST
2.	Centripetal Terracing	No	67	450	0	30150	30150	
3.	Live fencing	No	24	200	0	4800	4800	
4.	Shutter type check dam in Veluthen vayal chillithodinu	No	90000	1	90000	0	90000	
5.	Stone Bunding	M2	114	1513.39	172526	0	172526	
6.	RWH tank at Alathuparamba	No	100000	1	100000	-	100000	
7.	Stream bank stabilization with retaining wall	Rm	3000	11m	32610	-	32610	
Total					395136	144150	539286	

Sector – I – Watershed Development Activities II year action plan

SI No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Udayamkora vayal protection - (below)- thaykundam VCB	Nos	683256	1	683256	0	683256	10 % General & 5 % SC /ST
2.	Live fencing	No	24	2000	0	48000	48000	
3.	Husk Trench	Rm	312	400	0	124800	124800	
4.	Centripetal Terracing	No	67	500	0	33500	33500	
Total					683256	206300	889556	

Sector – I – Watershed Development Activities III year action plan

SI No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Husk Trench	Nos	312	500	0	156000	156000	10 % General & 5 % SC / ST
2.	Centry petal Terracing	Nos	67	700	0	46900	46900	
3.	Moorikuni pond renovation	Nos	200000	1	200000	0	200000	
4.	Shutter type checkdam in Kanthalad nilam	Nos	90000	1	90000	0	90000	
5.	Well recharging	Nos	13500	12	162000	0	162000	
6.	Kakkod pond renovation	Nos	20000	1	20000	0	20000	
Total					654444	202900	857344	

Sector – I – Watershed Development Activities IV year action plan

SI No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Kombaranji paddy protection(construction of V.C.B)	No	572124	1	572124	0	572124	10 % General & 5 % SC / ST
2.	Centry petal Terracing	No	67	500	0	33500	33500	
3.	Husk Trench	Rm	312	600	0	187200	187200	
4.	Live fencing	No	24	1500	0	36000	36000	
Total								

Sector – II – Livelihood Activities for Land less/Asset less -II year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	MNREGS / other source / Bank loan	Total
1	seed money for enterprising individuals	0	0	0	37044	0	37044
2	Seed money for SHGs	0	0	0	148176	0	148176
TOTAL					185220	0	185220

Sector – II – Livelihood Activities for Land less/Asset less - III year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	MNREGS / other source / Bank loan	Total
1	Seed money for SHGs	Nos	0	0	74088	0	74088
Funding for Major Lively hood activities							
1	consumer store	Nos	1	150000	111132	38868	150000
TOTAL					185220	38868	224088

Funding pattern	
Seed money for enterprising individuals (10% of the allocation)	37044
Seed money for SHGs (60 % of the allocation)	222264
Funding for major livelihood activities (30% of the allocation)	111132
Total allocation	370440

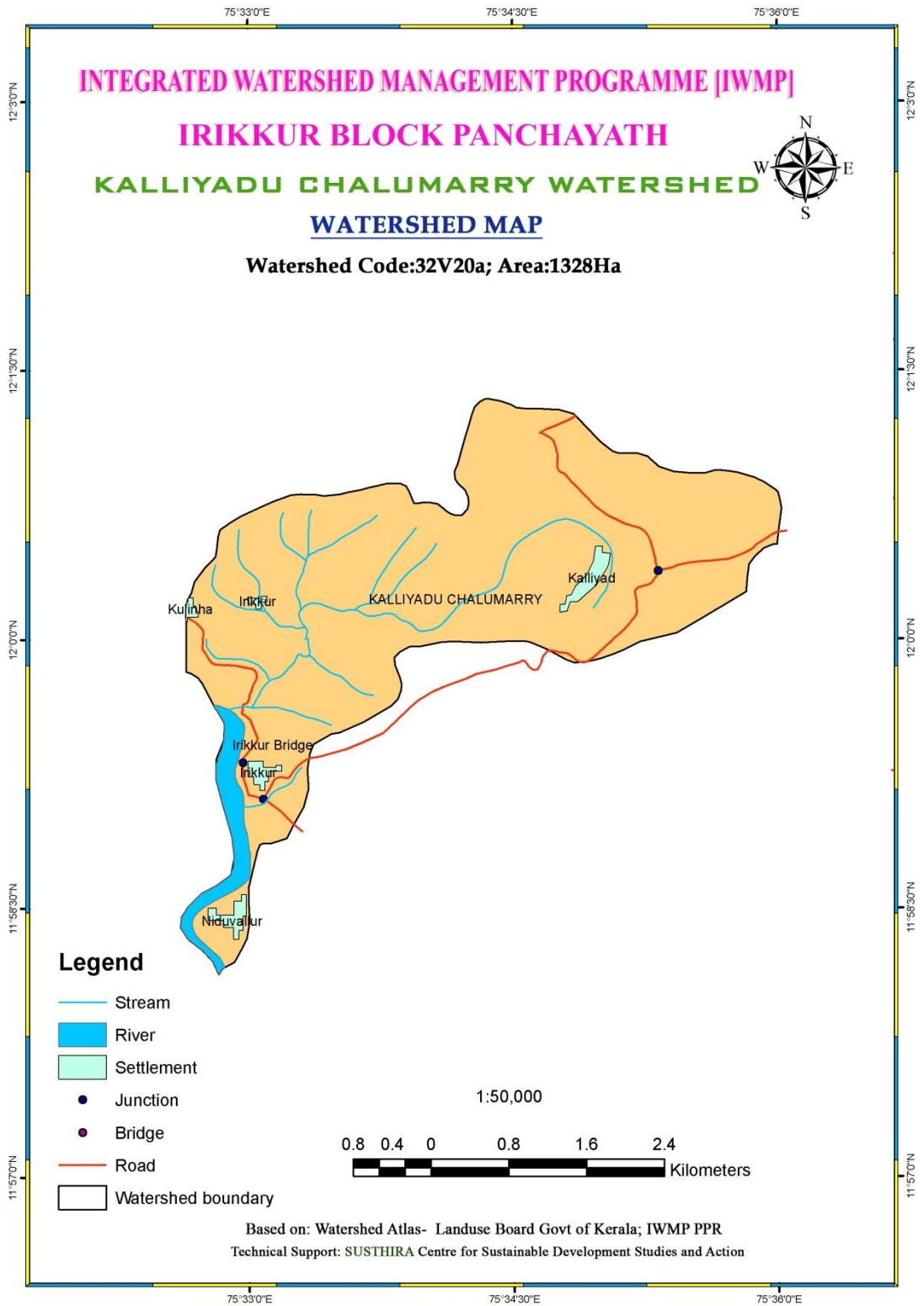
Sector – III – Production System & Micro Enterprises based livelihood activities - II year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	Total	WDF
1	Cow rearing	Nos	24000	4	96000	96000	20% General & 10% SC/ST.
2	Goat rearing	Nos	6100	18	109800	109800	
TOTAL					205800	205800	

Sector – III – Production System & Micro Enterprises based livelihood activities - III year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	Total	WDF
1	Cow rearing	nos	24000	5	120000	120000	20% General & 10% SC/ST.
2	Organic fertilizer distribution (100KG/1 person)	100KG	2200	39	85800	85800	
TOTAL					205800	205800	

Total allotment	411600
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6.3 KALYAD - CHALUMARI

Introduction

The watershed is included in the 1st, 2nd, 13th, 14th and 15th wards of Padiyoor Grama Panchayat and 3rd, 4th, 6th, 7th and 10th wards of Irikkur Grama Panchayat. The watershed has a total area of 1328 Ha. This watershed lies in the Valappatanam River Basin. The watershed includes in two revenue villages – Padiyoor and Irikkur in Thaliparamba Thaluk. Kalliyad, Blathur, Irikkur, Nilamuttam are the important places in the watershed.

The watershed boundaries are as follows:

North:	Chettuvatty watershed, Sreekandapuram and Kanhileri Watershed
South:	Manjicherythodu Watershed
East:	Manjicherythodu Watershed
West:	Chedichery, Chooliyadu and Vayakkara watersheds

Location

The watershed is formed based on Nilamuttam stream, which is originating from Kallyadu Thattu and entering into Valapattanam River. The streams flows about 4 Kms in the watershed with an average width of 4 meters along its course. The average elevation of the watershed is 169 m.

Geographic Co-ordinates

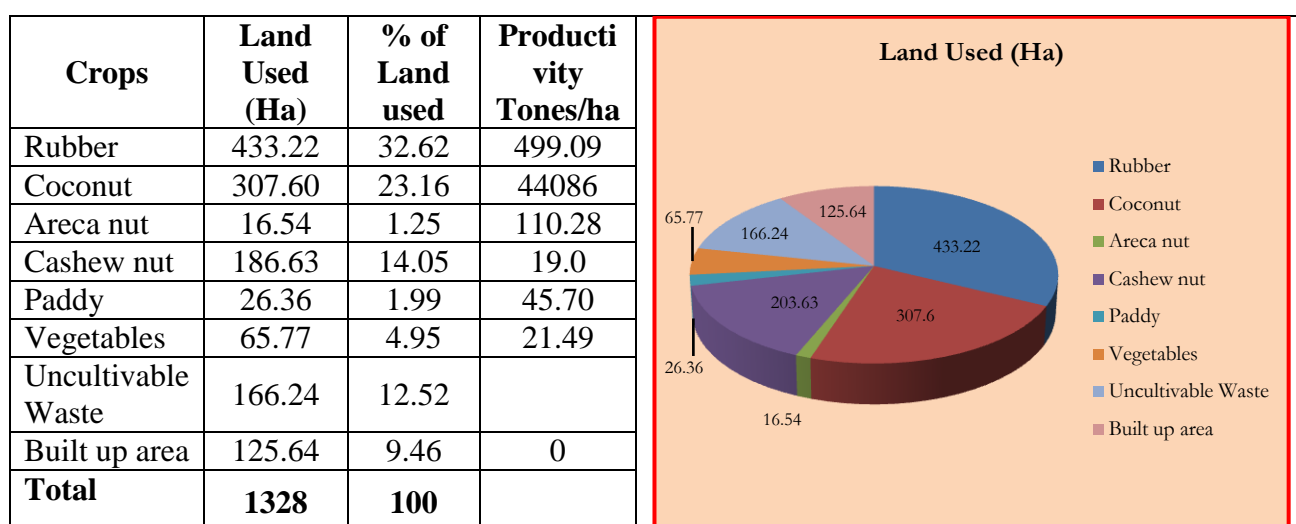
The geographic coordinates of the watershed are 11° 57' 12" & 12° 1' 30" N and 75° 33' 0" & 75° 36' 0" E.

Physiography/ Relief and Drainage

The physical nature of the watershed is undulating as mentioned above. 55% of the watershed is with moderate slopes and 30% is with deep slopes. The rest of the area is comparatively plain land. Cashew is the main crop in the watershed. Other crops are Areca nut, Coconut, Pepper and rubber. Cashew plantations are slowly being substituted by rubber cultivation.

The topography of the watershed is undulating with moderate slopes and plains. In the upper reaches of the watershed the soil is red laterite mixed with pebbles. In the midland region the soil is red and in the lower reaches black soil is observed.

Land use and Cropping Pattern



Existing water bodies in the watershed

Streams		Springs		Ponds		Open Wells	
Seasonal	Perennial	Seasonal	Perennial	Seasonal	Perennial	Seasonal	Perennial
14	1	13	1	22	13	2105	1807
15		14		35		3912	

Socio – economic situation

There are about 5100 households in the watershed area with a total population of 25615 out of which 12680 are male and the rest (12935) female. The Scheduled Caste (SC) total households are 55 and total population is 247 with 117 male and 130 female. There are about 3 households in Scheduled Tribe with total population of 13. Out of with 6 male and 7 female.

Educational facilities

This watershed community has one UP School and LP School and four anganavadies. The children of this watershed community depends these institutions and there is no higher education facilities in this watershed community.

Health Facility

There is a Primary Health Sub Centre in the watershed which has a greater influence in the health condition of the people. The nearest super specialty hospital to the watershed is Pariyaram Medical College.

Credit Facility

The watershed community has Co-operative Bank and State Bank for fulfilling the credit facilities.

Recreation facilities

The watershed community has two vayanashala for recreational facilities.

Transportation Facilities

The major transportation facilities of this watershed community are as follows:

- Irikkur – Blathour Road
- Kallyadu – Ulikkal Road
- Kallyadu – Poovam Road
- Blathour – Cholakkari Road
- Blathour – Thirur Road

Major Problems in the watershed

Major problems identified through a brainstorming session in which representatives from the Neighbourhood clusters participated. The problems are categorized under four headings: Soil related, Water related, Agro-Bio Diversity Related and Animal Husbandry related. Such a categorization is in line with the activities that can be undertaken IWMP to solve the issues. The issues are listed below:

Soil related Issues:

- 👁️ Once fertile soil has deteriorated and the Productivity has drastically decreased
- 👁️ The fertile top soil is washed off with high velocity running water, especially during monsoon
- 👁️ Inadequate soil conservation measures enhances the loss of fertile soil
- 👁️ Change in land usage like leveling of paddy fields for mixed crops has reduced food crops to a great extent.
- 👁️ Indiscriminate application of chemical fertilizers and pesticides contaminated the soil and soil humus is reduced
- 👁️ Acidic nature of the soil prevents seed germination and plant growth

Water related issues:

- 👁️ Fast drying water sources
- 👁️ Poor water conservation measures
- 👁️ Poor water literacy among the watershed community
- 👁️ Over utilization of water
- 👁️ Ground water deterioration/lowering of water table
- 👁️ Sedimentation of sources like streams and ponds
- 👁️ Land mining
- 👁️ Steep slopes results in fast runoff.
- 👁️ Drinking water scarcity

Agro-biodiversity related issues

- 👁️ Over cultivation of mono crops
- 👁️ Absence of crop rotation
- 👁️ Disinterest in food cultivation
- 👁️ Alienation of women from agriculture
- 👁️ Extinct medicinal plants
- 👁️ Eco-destruction resulted in reduction in plant & animal diversity
- 👁️ Unexpected plant diseases and pest attacks

Animal Husbandry related issues

- Poor interest in indigenous varieties
- Lack of grazing land and pastures
- Compartmentalization of land
- Mono crops do no supplement livestock
- Unavailability of good varieties of animals
- Lack of interest in animal husbandry
- Poor returns and inadequate marketing facilities

Activities proposed to address the issues

Generally the activities are of three folds: Natural Resource Management Activities which covers the soil, water and bio-diversity issues, Production System Management and Micro Enterprises (PS&M) which covers the agriculture and soil problems along with economic backwardness, , which manages the livelihoods and economic backwardness of the landless, women and the indigenous communities. Given below is a brief about the activities proposed for the watershed:

Activities Planned for the Watershed Development

Natural Resource Management	Livelihood Promotion Programmes	Production System & Micro-Enterprises
<ul style="list-style-type: none"> • Pond renovation at Kumbathodu • Retaining wall construction along Kumbathodu • Well recharging • Husk Trenching • Live fencing • Centripetal Terracing • Distribution of fruit bearing trees • Paddy Vayal Protection along 	<ul style="list-style-type: none"> • Seed money for enterprising individuals • Seed Money for enterprising SHGs • Tailoring Unit • Dairy farm 	<ul style="list-style-type: none"> • Organic farming • Organic Fertilizer Distribution • Organic Banana Cultivation • Vermi Composting • Organic Vegetable Cultivation

<p>Blathurvayal thodu</p> <ul style="list-style-type: none"> • Well construction for Blathur Anganwadi • RWH tank Construction for Blathur Padinharekkara Anganwadi • Construction of Vannankulam Kulam Pond at Blathur Padinharekkara • RWH tank construction for Blathur Kizhakkekkara Anganwadi • Well renovation at Gandhivilasam School • Maruthumpara Pond Renovation • Well renovation • Retaining wall construction for Muyyeri Paddy field • Construction of retaining wall Kalliad Thazhemoola to Pattakkalthodu • Gully Controlling Structure at Muyyerithodu • Well construction at Kalliad Anganwadi • Well recharging at Kalliad AUP School • Kalliad Drinking Water Project • Karannom Pond Renovation • Pallikkulam Renovation 		
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Kalliad- Chalumari Watershed development (Sector I- 1328 Ha) - Master plan for Four Years - Funding pattern

Installment	Administration	Monitoring	Evaluation	Entry Point Activity	Institution & Capacity Building	DPR preparation	Watershed Development Activities	Livelihood Activities	Production system & Micro Enterprises	Consolidation Phase	Total IWMP project fund
1 st	318720	31872	31872	637440	478080	159360	1529856	0	0	0	3187200
%	2	0.2	0.2	4	3	1	9.6	0	0	0	20
2 nd	398400	31872	31872	0	159360	0	2645376	717120	796800	0	4780800
%	2.5	0.2	0.2	0	1	0	16.6	4.5	5	0	30
3 rd	478080	47808	47808	0	159360	0	2533824	717120	796800	0	4780800
%	3	0.3	0.3	0	1	0	15.9	4.5	5	0	30
4 rd	398400	47808	47808	0	0	0	2215104	0	0	478080	3187200
%	2.5	0.3	0.3	0	0	0	13.9	0	0	3	20
Total	1593600	159360	159360	637440	796800	159360	8924160	1434240	1593600	478080	15936000
%	10	1	1	4	5	1	56	9	10	3	100

Kalliad Chalumari Watershed
Sector – I – Watershed Development Activities - I year action plan

Sl No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Pond renovation at Kumbathodu starting (24/3)	Nos	1000000	1	1000000	0	1000000	10 % General & 5 % SC / ST
2.	Retaining wall construction along Kumbathodu	Rm	1830	104.8887	191946	0	191946	
3.	Well recharging	no	13500	25	337500	0	337500	
4.	Husk Trench	No	312	800	0	249600	249600	
5.	Live fencing	Rm	24	3000	0	72000	72000	
6.	Centripetal Terracing	No	67	1800	0	120600	120600	
7.	Distribution of fruit bearing trees (beneficiaries from Irikkur Panchayat) – (EPA)	No	410	1	410	0	410	
Total					1529856	442200	1972056	

Sector – I – Watershed Development Activities II year action plan

Sl No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Paddy field protection - along Blathurvayal thodu (deepening, removing silt, retaining wall)	Rm	2000	501.688	1003376	0	1003376	10 % General & 5 % SC / ST
2.	Well construction in Blathur Anganwadi (center no: 130)	No	90000	1	90000	0	90000	
3.	Rain water harvesting tank in Blathur padinjarekara Anganwadi 20000 ltr(center no:111)	No	80000	1	80000	0	80000	
4.	Construction of Vannankulam pond at Blathur padinjarekara	No	500000	1	500000	0	500000	
5.	Rain water harvesting tank in Blathur Kizhakekara Anganwadi 20000 ltr (center no:112)	No	80000	1	80000	0	80000	
6.	Gandhivilasam L.P. School well renovation, well renovation (including platform renovation, parapet renovation)	No	30000	1	30000		30000	
7.	Maruthumpara pond renovation	No	700000	1	700000		700000	
8.	Well renovation	No	13500	12	162000		162000	
9.	Centripetal Terracing	No	67	2000	0	134000	134000	
10.	Live fencing	Rm	24	4000	0	96000	96000	
11.	Husk Trench	No	312	1000	0	312000	312000	
Total					2645376	542000	3187376	

Sector – I – Watershed Development Activities III year action plan

SI No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Husk Trench	No	312	800	0	249600	249600	10 % General & 5 % SC / ST
2.	Live fencing	Rm	24	3500	0	84000	84000	
3.	Centripetal Terracing	No	67	1800	0	120600	120600	
4.	Retaining wall construction for Muyyeri paddy field protection -	Rm	200000	1	200000	0	200000	
5.	Construction of retaining wall from Kalliad thazhe moola to Pattakkal thodu for Muyyeri paddy field protection	Rm	3200	500	1600000	0	1600000	
6.	Gully controlling structures at starting from Muyyerithodu	Rm	2500	15	37500	0	37500	
7.	Construction of well at Kalliad Anganwadi (Center no : 115)	No	125000	1	125000	0	125000	
8.	Well recharging and cleaning, deepening at Kalliad A.U.P school	No	70000	1	70000		70000	
9.	Stone bunding	M2	114	3213.37	366324		366324	
10.	Well recharging	No	13500	10	135000		135000	
Total					2533824	454200	2988024	

Sector – I – Watershed Development Activities IV year action plan

SI No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Kalliad drinking water project (well, tank, pump house)	No	500000	1	500000	0	500000	10 % General & 5 % SC / ST
2.	Karonnan Panchayat pond renovation	No	700000	1	700000	0	700000	
3.	Well recharging	No	13500	3	40500	0	40500	
4.	Velichampara well recharging	NO	15000	1	15000	0	15000	
5.	Stone bunding	m2	114	1400.039	159604		159604	
6.	Pallikulam renovation	No	800000	1	800000		800000	
7.	Live fencing	Rm	24	5000	0	120000	120000	
8.	Centripetal Terracing	No	67	1900	0	127300	127300	
9.	Husk Trench	No	312	700	0	218400	218400	
Total					2215104	465700	2680804	

Sector – II – Livelihood Activities for Land less/Asset less -II year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	MNREGS / other source / Bank loan	Total
1	seed money for enterprising individuals	0	0	0	143424	0	143424
2	Seed money for SHGs	0	0	0	573696	0	573696
TOTAL					717120	0	717120

Sector – II – Livelihood Activities for Land less/Asset less -III year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	MNREGS / other source / Bank loan	Total
1	Seed money for SHGs	Nos	0	0	286848	0	286848
Funding for Major Lively hood activities							
1	Tailoring Unit	NOs	150000	1	150000	0	150000
2	Diary farm	Nos	300000	1	280272	19728	300000
TOTAL					717120	19728	736848

Funding pattern	
Seed money for enterprising individuals (10% of the allocation)	143424
Seed money for SHGs (60 % of the allocation)	860544
Funding for major livelihood activities (30% of the allocation)	430272
Total allocation	1434240

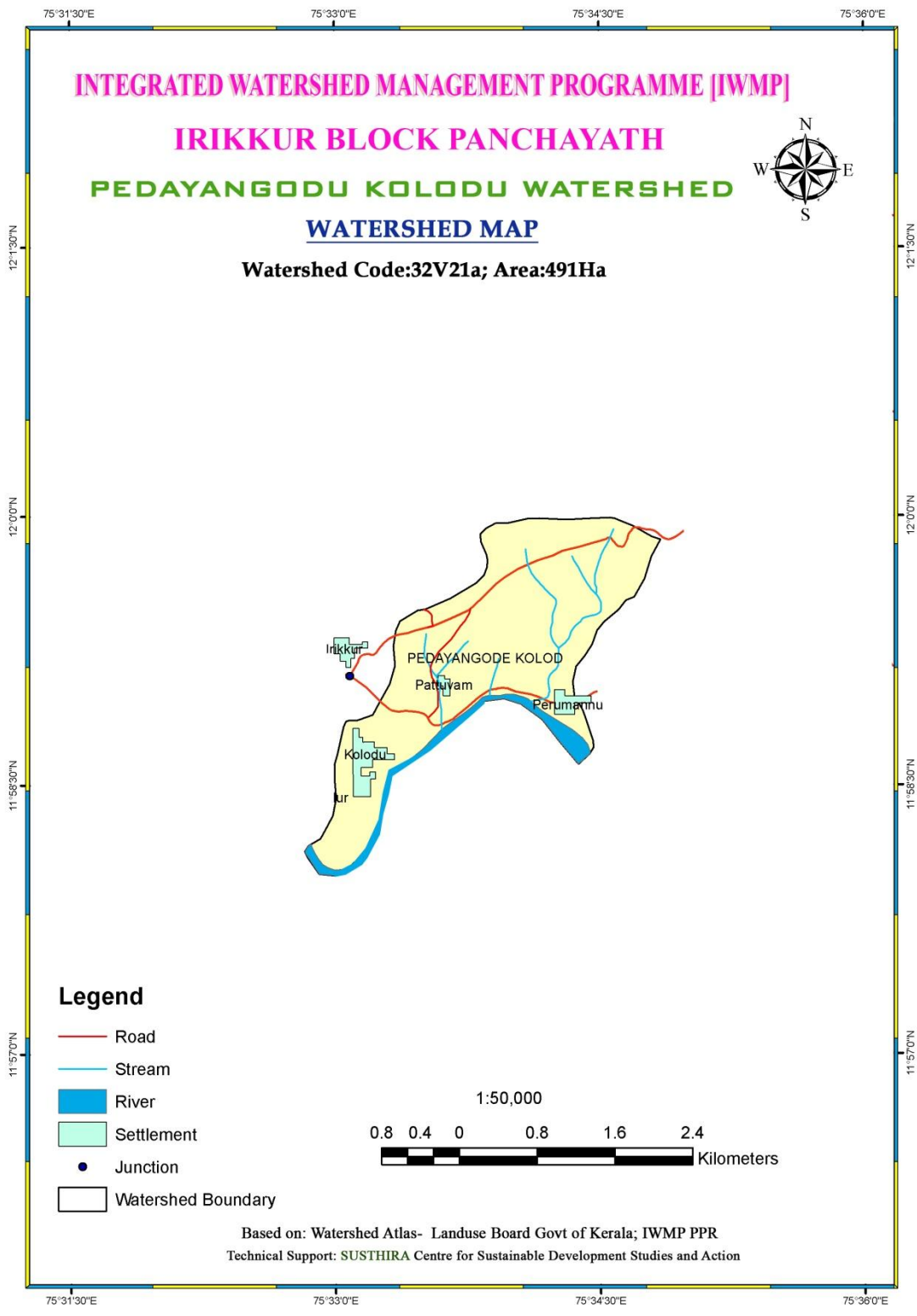
Sector – III – Production System & Micro Enterprises based livelihood activities - II year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	Total	WDF
1	Organic farming	Ha	18700	5	93500	93500	20% for General & 10% for SC/ST
2	Organic fertilizer distribution (100kg/1 farmer)	Kg	22	300	660000	660000	
3	Vermi composting	No	8660	5	43300	43300	
TOTAL					796800	796800	

Sector – III – Production System & Micro Enterprises based livelihood activities - III year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	Total	WDF
1	Organic banana cultivation (50nos/1 unit)	No	5000	150	750000	750000	20% for General & 10% for SC/ST
2	Organic vegetable cultivation	No	3120	15	46800	46800	
TOTAL					796800	796800	

Total allotment	1593600
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6.4 PEDAYANGODU - KOLODU

Introduction

Pedayangodu - Kolodu watershed covers the 7th and 8th wards of Irrikkur Grama Panchayat and 13th ward of Padiyoor Grama Panchayat and has a total area of 491Ha with an average height of 169 meters. The Valappatanam River Basin embeds this watershed. This is a Muslim majority area.

The watershed comes under the Padiyoor and Irrikkur revenue villages of Thaliparamba Thaluk. Pedayangodu, Kolodu, Siddique Nagar, and Pattuvam are the main places in the watershed.

Boundaries of watershed

The watershed is bounded in its north by Nilamuttam Watershed, in the south by Valappattanam River, in the east by Manjicherythodu Watershed and in the west Nilamuttam Watershed.

Location

The main stream that gives shape to the watershed is Palakkunnam Stream, which originates from Palakkunnu and flows about 2 Kilometers through the watershed before entering into the Irrikkur river. The watershed is 40 Km away from the District Head Quarters. The nearest Railway station is Kannur and is accessible by road.

Geographic Co-ordinates

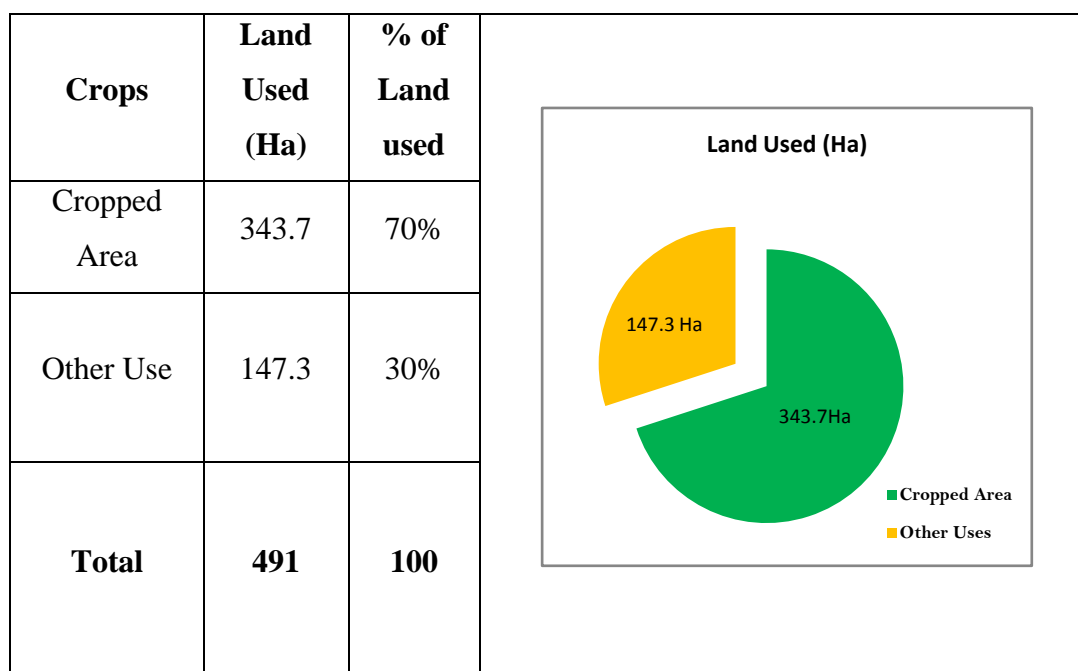
The geographic coordinates of the Pedayangodu - Kolodu watershed are 11° 58' 30" & 12° 0' 0" N and 75° 33' 0" & 75° 34' 30" E

Physiography, Relief and Drainage

Physically the watershed has a slanting nature from east to south. Around half of the watershed is with slopes and 33% with moderate slopes. The rest of the area is comparatively plain land. The topography of the watershed is undulating with moderate slopes and plains. Red soil with laterite rocks is seen in the upper reaches of the watershed. In the midlands of

the watershed, black soil mixed with reddish brown soil is observed. Sandy alluvial is seen in the lower portions and stream banks.

The land use pattern is given below:



Existing water bodies in the watershed

Streams		Springs		Open Wells		Ponds	
Seasonal	Perennia	Seasona	Perennia	Seasona	Perennia	Seasona	Perennia
	1	1	1	1	1	1	1
6	1	10	2	365	492	3	4
7		12		857		7	

Socio – economic situation

The total no. of households	944	Total SC Households	2	Total ST Households	0
Total Population	5664	Total Population	8	Total Population	0
Male	2830	Male	4	Male	0
Female	2834	Female	4	Female	0

Educational Facilities

This watershed community has an LP School and three anganavadies for educational purposes for children.

Transportation Facilities

The main transportation facilities of this watershed community are Ititty – Thaliparamba state highway and Peruvachoor Kadavu road.

Major Problems in the watershed

- ❖ Once fertile soil has deteriorated and the Productivity has drastically decreased throughout the watershed
- ❖ The fertile top soil is washed off with high velocity running water, especially during monsoon.
- ❖ Inadequate soil conservation measures enhances the loss of fertile soil
- ❖ Change in land use like paddy fields for mixed crops has reduced food crops to a great extent.
- ❖ Fast drying water sources, especially in midland region of the watershed
- ❖ Poor water conservation measures
- ❖ Poor water literacy among the watershed community
- ❖ Ground water deterioration/lowering of water table.
- ❖ Sedimentation of sources like streams and ponds
- ❖ Fast water runoff due to Steep slopes.
- ❖ Drinking water scarcity.
- ❖ Mono crops irrespective of areas threaten the bio-diversity
- ❖ Absence of crop rotation
- ❖ Alienation of women from agriculture
- ❖ Eco-destruction resulted in reduction in plant & animal diversity
- ❖ Poor interest in indigenous varieties of cows and other rearing animals
- ❖ Lack of common grazing land and pastures
- ❖ Compartmentalization of land
- ❖ Mono crops do no supplement livestock
- ❖ Lack of interest in animal husbandry

Activities Planned for the Watershed Development

Natural Resource Management	Livelihood Promotion Programmes	Production System & Micro-Enterprises
<ul style="list-style-type: none"> • Distribution of fruit bearing trees • Improvement of Panchayat well Theekuzhichal • Stream bank Stabilization along Kunderivayal High School thodu • Stone Bunding • Live fencing • Husk Trenching • Construction of open well at Chungasthanam • Stream bank Stabilization for Palakkundamthodu • RWH tank construction at Pattuvam Vanivilasam L,P,School • Well Recharging • Centripetal Terracing • Retaining wall construction along Pattuvam Vanivilasam School Thodu • Stream bank Protection along Kolodu – Athikkundu Thodu • Well Deepening 	<ul style="list-style-type: none"> • Seed money for enterprising individuals • Seed Money for enterprising SHGs • Tailoring Unit • Rabbit rearing units 	<ul style="list-style-type: none"> • Organic Fertilizer Distribution • Organic Vegetable Cultivation • Vermi Composting • Cow rearing

Pedayangodu Kolodu Watershed development (Sector I- 491 Ha) - Master plan for Four Years - Funding pattern

Installment	Administration	Monitoring	Evaluation	Entry Point Activity	Institution & Capacity Building	DPR preparation	Watershed Development Activities	Livelihood Activities	Production system & Micro Enterprises	Consolidation Phase	Total IWMP project fund
1 st	117840	11784	11784	235680	176760	58920	565632	0	0	0	1178400
%	2	0.2	0.2	4	3	1	9.6	0	0	0	20
2 nd	147300	11784	11784	0	58920	0	978072	265140	294600	0	1767600
%	2.5	0.2	0.2	0	1	0	16.6	4.5	5	0	30
3 rd	176760	17676	17676	0	58920	0	936828	265140	294600	0	1767600
%	3	0.3	0.3	0	1	0	15.9	4.5	5	0	30
4 rd	147300	17676	17676	0	0	0	818988	0	0	176760	1178400
%	2.5	0.3	0.3	0	0	0	13.9	0	0	3	20
Total	589200	58920	58920	235680	294600	58920	3299520	530280	589200	176760	5892000
%	10	1	1	4	5	1	56	9	10	3	100

Pedayangod Kolod Watershed
Sector – I – Watershed Development Activities - I year action plan

SI No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Distribution of fruit bearing trees	Nos	230	320	73290	0	73290	10 % General & 5 % SC / ST
2.	Improvement works to the existing Panchayat well at Theekuzhichal	Nos	50000	1	50000	0	50000	
3.	Construction of open dugout well at Pattikal anganavadi	No.	200000	1	200000	0	200000	
4.	Stream bank protection along Kunderivayal high school thodu	Rm	2000	64m	128340	0	401320	
5.	Stone bunding	m2	114	1000	114000	0	114000	
6.	Live fencing	Rm	24	2000	0	48000	48000	
7.	Husk Trench	No	312	600	0	187200	187200	
Total					565630	235200	800830	

Sector – I – Watershed Development Activities II year action plan

SI No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Construction of open dug out well for common purpose at Chungasthanam in the plot of Unnikrishnan Kaniyeri	No	1	85000	85000	0	85000	10 % General & 5 % SC / ST
2.	Stream bank stabilization along the sides of Palakundam thodu	Rm	1830	200	366000	0	366000	
3.	Construction of Rain water harvesting tank 50000ltr capacity at Pattuvam vanivilasam L.P. School	No	250000	1	250000	0	250000	
4.	Stone bunding	M2	114	1246.249	142072	0	142072	
5.	Well recharging	Nos.	13500	10	135000		135000	
6.	Centripetal Terracing	No	67	1500	0	100500	100500	
7.	Husk Trench	No	312	750	0	234000	234000	
Total					978072	334500	1312572	

Sector – I – Watershed Development Activities - III year action plan

Sl No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Retaining wall construction along the sides of thodu nearer to the Pattuvam vanivilasam L.P. School	Rm	1830	70	128100	0	128100	10 % General & 5 % SC / ST
2.	Stream bank protection along the sides of Kolod - Athikund thodu above portion of Kolod Niduvallur road	Rm	1830	300	549000	0	549000	
3.	Well recharging	nos	13500	15	202500	0	202500	
4.	Stone bunding	M2	114	502	57228	0	57228	
5.	Centripetal Terracing	No	67	1800	0	120600	120600	
6.	Live fencing	Rm	24	1900	0	45600	45600	
Total					936828	166200	1103028	

Sector – I – Watershed Development Activities IV year action plan

SI No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Construction of retaining wall	Rm	1830	158.7368	290488	0	290488	10 % General & 5 % SC / ST
2.	Well recharging	nos	13500	27	364500	0	364500	
3.	Stone bunding	nos	114	1000	114000	0	114000	
4.	Well deepening (demo)	nos	5000	10	50000	0	50000	
5.	Live fencing	Rm	24	2100	0	50400	50400	
6.	Centripetal Terracing	No	67	1500	0	100500	100500	
Total					818988	150900	969888	

Sector – II – Livelihood Activities for Land less/Asset less - II year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	MNREGS / other source / Bank loan	Total
1	seed money for enterprising individuals	0	0	0	53028	0	53028
2	Seed money for SHGs	0	0	0	212112	0	212112
TOTAL					265140	0	265410

Sector – II – Livelihood Activities for Land less/Asset less - III year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	MNREGS / other source / Bank loan	Total
1	Seed money for SHGs	Nos	0	0	106056	0	106056
Funding for Major Lively hood activities							
1	Tailoring Unit	NOs	100000	1	100000	0	100000
2	Rabbit rearing	Nos	30000	2	59084	916	60000
TOTAL					265140	916	266056

Funding pattern	
Seed money for enterprising individuals (10% of the allocation)	53028
Seed money for SHGs (60 % of the allocation)	318168
Funding for major livelihood activities (30% of the allocation)	159084
Total allocation	530280

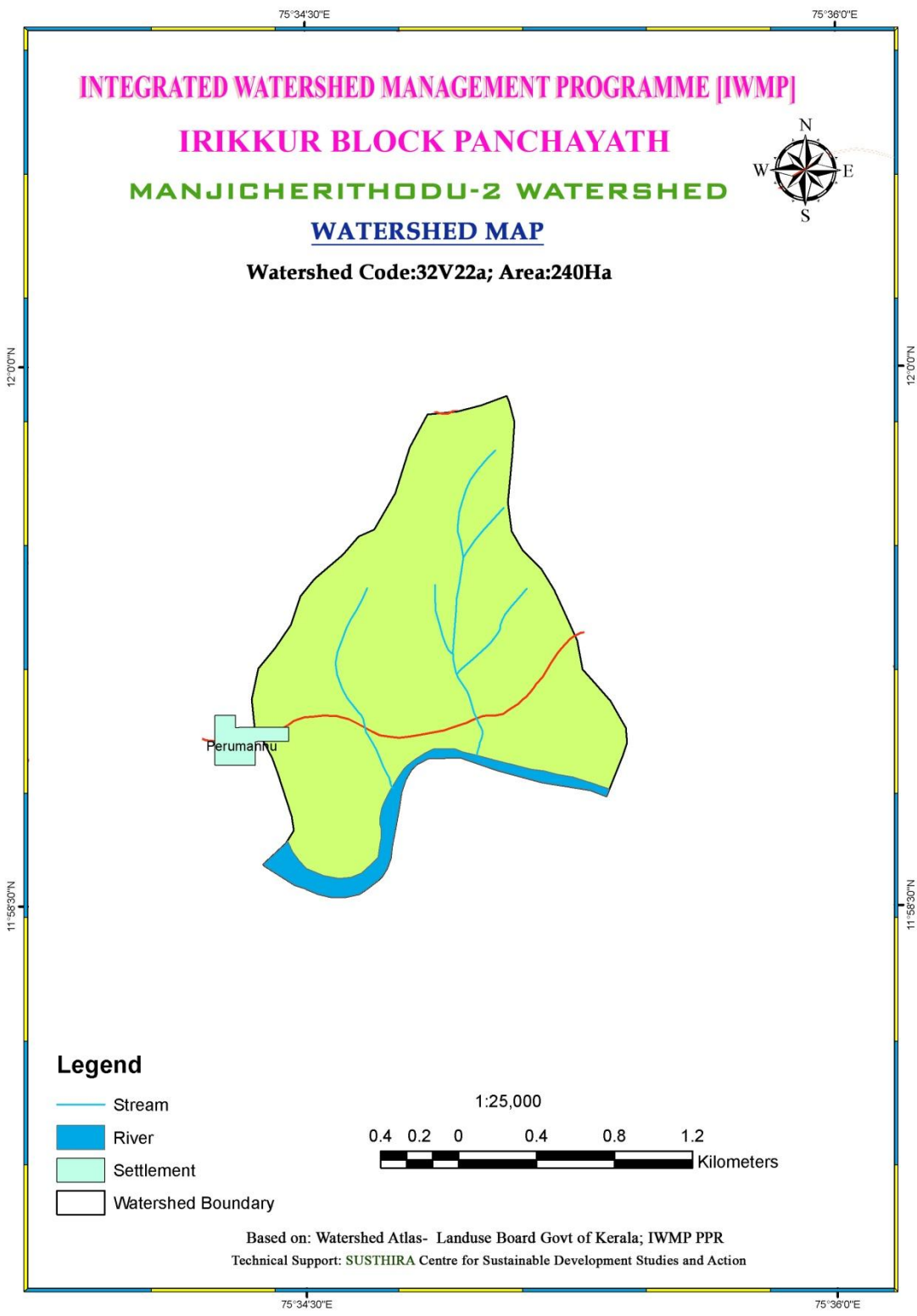
Sector – III – Production System & Micro Enterprises based livelihood activities - II year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	Total	WDF
1	Organic fertilizer distribution (100kg/1 farmer)	Kg	22	100	220000	220000	20% for General & 10% for SC/ST.
2	Organic vegetable cultivation	No	3730	20	74600	74600	
TOTAL					294600	294600	

Sector – III – Production System & Micro Enterprises based livelihood activities - III year Action plan

Sl No	Name of Activity	unit	Unit cost	Target	IWMP fund	Total	WDF
1	Vermi composting	No	6825	8	54600	54600	20% for General & 10% for SC/ST.
2	Cow rearing	No	30000	8	240000	240000	
TOTAL					294600	294600	

Total allotment	589200
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6.5 MANJICHERYTHODU - II

Introduction

Favoured by Kavus and springs, Manjichery watershed lies in Padiyur and Kalliad revenue villages of Thaliparamba Thaluk and covers 12th ward of Padiyur Grama Panchayat with a total geographic area of 240 Ha. The river basin of this watershed is Valapattanam River Basin.

Perumannu is the important place in the watershed. The main stream that gives shape to the watershed is Kattayottu Kavu Stream, which originates from the sacred grove and flows about 1.5 Kilometers through the watershed before entering into the river.

Boundaries of the watershed

The watershed is bounded in its north by Kalliyadu, in the south by Valapattanam River, in the east by Padiyur Estate watershed and in the west by Pedayangodu – Kolodu watershed.

Location

The watershed is 44 Km away from the District Head Quarters and to the GP office is about 5 Km. the nearest Railway station is Kannur and is accessible by road.

Geographic Co-ordinates

Geographically Manjichery watershed lies between the North latitude 11° 58' 30" & 12° 0' 0" and East longitude 75° 34' 30" & 75° 36' 0"

Socio – economic situation

The total no. of households	213	Total SC Households	4	Total ST Households	0
Total Population	958	Total Population	19	Total Population	0
Male	469	Male	9	Male	0
Female	489	Female	10	Female	0

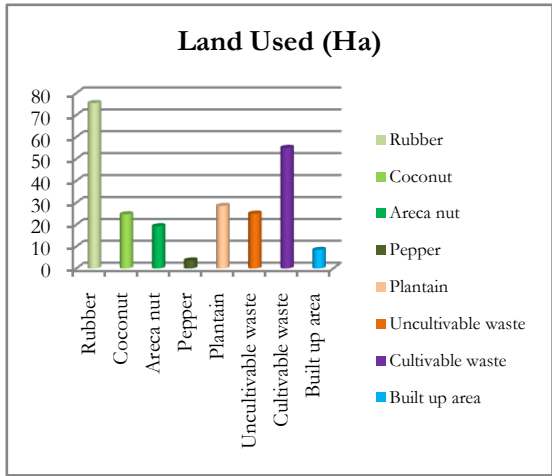
Physiography, Relief and Drainage

Physically the watershed has a highly slanting nature. Around half of the watershed is with slopes and 28% with moderate slopes. The rest of the area is comparatively plain land.

The topography of the watershed is undulating with comparatively moderate slopes, rocky lands, small hillocks and plains. Red soil and black soil are the prominent type of soils seen in the watershed. However, red soil covers most of the geographic areas.

The land use pattern is given below:

Crops	Land Used (Ha)	% of Land used	Productivity Tones/ha
Rubber	75.45	31.44	468.09
Coconut	24.70	10.29	42046
Areca nut	19.23	8.01	107.28
Pepper	3.63	1.51	79.78
Plantain	28.54	11.89	59.70
Uncultivable waste	25	10.42	-
Cultivable waste	55	22.92	-
Built up area	8.45	3.52	-
Total	240	100	-



Category	Area (Ha)
Rubber	75.45
Coconut	24.70
Areca nut	19.23
Pepper	3.63
Plantain	28.54
Uncultivable waste	25
Cultivable waste	55
Built up area	8.45

Existing water bodies in the watershed

Streams		Springs		Open Wells		Ponds	
Seasonal	Perennia	Seasona	Perennia	Seasona	Perennia	Seasona	Perennia
	1	1	1	1	1	1	1
7	1	9	0	42	101	0	1
8		9		143		1	

The total number of water extracting unit is one and area of rainfed agricultural land is 210 hr and the net sown area is 230 hr. The pre monsoon is .5meter and the post monsoon is 7 meter.

Educational Facility

In this watershed is also has one LP School and one anganavadi.

Credit Facility

The watershed community depend Kallyadu Co-Operative Bank for the credit facilities.

Recreation Facilities

The watershed community depends on Sahridhya V Ayanashala for recretational activities.

Major Problems in the watershed

- ❖ Once fertile soil has deteriorated and the Productivity has drastically decreased throughout the watershed
- ❖ The main streams and sub-streams are not protected against stream bank erosion and sedimentation
- ❖ Drinking water scarcity and lack of irrigation facilities
- ❖ Inadequacy in the availability of skilled and unskilled labourers made farm lands left uncultivated
- ❖ Climatic change adversely affected the crop rotation as well as production of the the watershed.
- ❖ Ground water deterioration/lowering of water table.
- ❖ Absence of crop rotation
- ❖ Eco-destruction resulted in reduction in plant & animal diversity
- ❖ Lack of interest in animal husbandry

Activities Planned for the Watershed Development

Natural Resource Management	Livelihood Promotion Programmes	Production System & Micro-Enterprises
<ul style="list-style-type: none"> • Live fencing • Centripetal terracing • Husk Trenching • Stone Bunding • Shutter type Checkdam • Well recharging • Checkdam construction across kottayottukave thodu • Stream bank stabilization along Kottayottykavu thodu • Well recharging at Perumannu anganwadi • Well renovation at Narayana Vilasam A.L.P. School • Construction of farm pond in the plot of Sajeev. C.V. (43/2) • Construction of drainage canal in Kuyiloor Padashekham • Stream bank Stabilization along Koovathodu • Shutter type check dam across Chirukandapuram thodu 	<ul style="list-style-type: none"> • Seed money for enterprising individuals • Seed Money for enterprising SHGs • Consumer store 	<ul style="list-style-type: none"> • Crop rotation • Organic banana Cultivation • Organic Vegetable Cultivation

Manjicherythodu II Watershed development (Sector I- 240 Ha) - Master plan for Four Years - Funding pattern

Installment	Administration	Monitoring	Evaluation	Entry Point Activity	Institution & Capacity Building	DPR preparation	Watershed Development Activities	Livelihood Activities	Production system & Micro Enterprises	Consolidation Phase	Total IWMP project fund
1 st	57600	5760	5760	115200	86400	28800	276480	0	0	0	576000
%	2	0.2	0.2	4	3	1	9.6	0	0	0	20
2 nd	72000	5760	5760	0	28800	0	478080	129600	144000	0	864000
%	2.5	0.2	0.2	0	1	0	16.6	4.5	5	0	30
3 rd	86400	8640	8640	0	28800	0	457920	129600	144000	0	864000
%	3	0.3	0.3	0	1	0	15.9	4.5	5	0	30
4 rd	72000	8640	8640	0	0	0	400320	0	0	86400	576000
%	2.5	0.3	0.3	0	0	0	13.9	0	0	3	20
Total	288000	28800	28800	115200	144000	28800	1612800	259200	288000	86400	2880000
%	10	1	1	4	5	1	56	9	10	0	100

Manjicherythodu-2 Watershed
Sector – I – Watershed Development Activities - I year action plan

SI No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Live fencing	Rm	24	1500	0	36000	36000	10 % General & 5 % SC / ST
2.	Centripetal Terracing	No	67	600	0	40200	40200	
3.	Husk Trench	No	312	200	0	62400	62400	
4.	Shutter type check dam	No	141480	1	141480	0	141480	
5.	Well recharging	No	13500	10	135000	0	135000	
Total					276480	138600	415080	

Sector – I – Watershed Development Activities II year action plan

SI No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Construction of a check dam across Kattayottukavu thodu	No	100000	1	100000	0	100000	10 % General & 5 % SC / ST
2.	Stone bunding	M2	114	722	82350	0		
3.	Stone bunding	M2	114	1409.91	160730	0	160730	
4.	Well recharging	No	13500	10	135000	0	135000	
5.	Centripetal Terracing	No	67	700	0	46900	46900	
6.	Husk Trench	No	312	300	0	93600	93600	
Total					478080	140500	536230	

Sector – I – Watershed Development Activities III year action plan

Sl No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Public well recharging nearer to Perumannu Anganwadi	No	20000	1	20000	0	20000	10 % General & 5 % SC / ST
2.	Narayanavilasam A.L.P. School well renovation	No	80000	1	80000	0	80000	
3.	Construction of Farm pond in the plot of Sajeev C.V. Chodon (43/2)	No	350000	1	350000	0	350000	
4.	Construction of drainage channel in Kuyiloor Padashekharam	M3	111.69	200		22338	22338	
5.	Live fencing	Rm	24	1600	0	38400	38400	
6.	Stone bunding	m2	114	69.47	7920	0	7920	
7.	Centripetal Terracing	No	67	900	0	60300	60300	
Total					457920	121038	578958	

Sector – I – Watershed Development Activities IV year action plan

SI No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Stream bank stabilization along Koovathodu	Rm	1830	164.1095	300320	0	300320	10 % General & 5 % SC / ST
2.	Construction of A Shutter type check dam across Chirukandapuramthodu	No	100000	1	100000	0	100000	
3.	Centripetal Terracing	No	67	1000	0	67000	67000	
4.	Live fencing	Rm	24	2300	0	55200	55200	
5.	Husk Trench	No	312	400	0	124800	124800	
Total					400320	247000	647320	

Sector – II – Livelihood Activities for Land less/Asset less - II year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	MNREGS / other source / Bank loan	Total
1	seed money for enterprising individuals	0	0	0	25920	0	25920
2	Seed money for SHGs	0	0	0	103680	0	103680
TOTAL					129600	0	129600

Sector – II – Livelihood Activities for Land less/Asset less - III year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	MNREGS / other source / Bank loan	Total
1	Seed money for SHGs	Nos	0	0	51840	0	51840
Funding for Major Lively hood activities							
1	Consumer shop	NOs	100000	1	77760	22240	100000
TOTAL					129600	22240	151840

Funding pattern	
Seed money for enterprising individuals (10% of the allocation)	25920
Seed money for SHGs (60 % of the allocation)	155520
Funding for major livelihood activities (30% of the allocation)	77760
Total allocation	259200

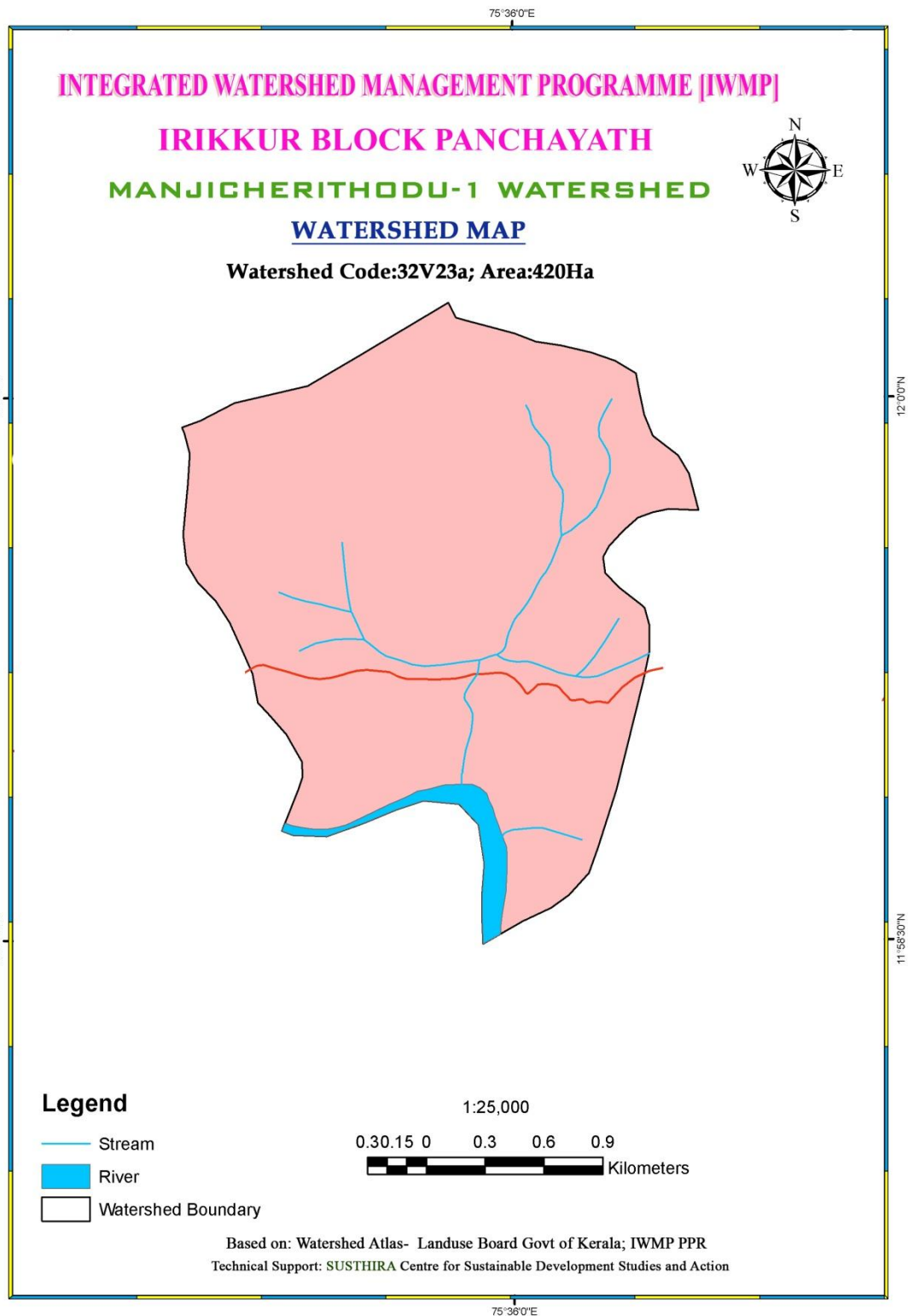
Sector – III – Production System & Micro Enterprises based livelihood activities - II year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	Total	WDF
1	Crop rotation	Ha	12000	12	144000	144000	20% for General & 10% for SC/ST
TOTAL					144000	144000	

Sector – III – Production System & Micro Enterprises based livelihood activities - III year Action plan

Sl No	Name of Activity	unit	Unit cost	Target	IWMP fund	Total	WDF
1	Organic banana cultivation (50nos/1 unit)	No	5000	25	125000	125000	20% for General & 10% for SC/ST
2	Organic vegetable cultivation	No	3800	5	19000	19000	
TOTAL					144000	144000	

Total allotment	288000
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6.6 MANJICHERYTHODU - I

Introduction

Manjicherythodu watershed is a hilly area major part of which is covered by rubber plantations and thickly populated. The watershed is situated in Padiyur Panchayat in Irikkur Block. The watershed covers the 10th, 11th and 4th wards of the Grama Panchayat with a total geographic area of 420 Ha. The watershed is in Valapattanam River basin and has an average height of 234 m. Kuyilur, Kottayadu and Pathanparambu are the main places in the watershed.

Boundaries of watershed

North:	Kalliyadu Chalumuri & Thirur Watersheds
South:	Valapattanam River
East:	Padiyur Estate watershed
West:	Manjicherythodu II watershed

Location

The watershed is 44 Kms away from the District Head Quarters and to the GP office is about 5 Kms. The nearest Railway station is Kannur and is accessible by road.

Geographic Co-ordinates

The geographic coordinates of the Manjicherythodu watershed are 11o 58' 30" & 12o 0' 0" N and 75o 36' 0" E

Physiography, Relief and Drainage

The topography of the watershed is undulating with comparatively moderate slopes, rocky lands, small hillocks and plains. Laterite soil with gravels is found in the top portion of the watershed. Red laterite soil is seen in the midland portion. In low lands black sandy soil is observed.

Watershed comprises mountain ranges, slanting portions and valleys. Northern part of the watershed is a laterite plain and is known as Urathur – Kalliadu laterite plains. The eastern part of the watershed is a hilly area and the hill is known as Mayilkunnu (Peacock Hill). The southern part is comparatively wet with the presence of the Valapattanam River.

Manjicherythodu, which gives shape and forms the main drainage for the watershed is originating from the northern side of Urathur laterite plains. It is a seasonal stream flowing only during monsoon and for some post monsoon months.

Land Use and Cropping Pattern

Crops	Land Used (Ha)	% of Land used	Productivity Tones/ha
Mono Crops (Rubber)	302.4	72%	468.09
Mixed Crops – coconut and Areca nut	50.4	12%	42046
Tubers and Vegetables	18.31	4.36%	107.28
Plantain	28.48	6.78%	59.70
Built up area	20.41	4.86%	-
Total	420	100	-

% of Land used

Crop Category	% of Land used
Mono Crops (Rubber)	72%
Mixed Crops	12%
Tubers and Vegetables	4.36%
Plantain	6.78%
Built up area	4.86%

Existing water bodies in the watershed

Streams		Springs		Open Wells		Ponds	
Seasonal	Perennial	Seasonal	Perennial	Seasonal	Perennial	Seasonal	Perennial
11	0	8	0	140	130	5	2
11		8		270		7	

The total number of water storage structure is 7 and the storage capacity of water storage structure is 1050m cube. Total number of water extracting unit is 7 ponds and the area of rainfed agriculture is 400hr. the net sown area is 415 and the depth of pre monsoon is .5 meter and the post monsoon is 8 meter.

Socio – economic situation

The total no. of households	321	Total SC Households	5	Total ST Households	8
Total Population	1444	Total Population	23	Total Population	36
Male	716	Male	11	Male	17
Female	728	Female	12	Female	19

Educational Facilities

The educational institution of this watershed community is Kuyiloor ALP School and one Anganavadi.

Health Facility

There is a Homeo Dispensary in the watershed which has a greater influence in the health condition of the people.

Transportation Facility

The major transportation facilities of this watershed are as follows:

- Thaliparamba – Iritty State Highway
- Kuyiloor Pazhi dam road
- Poozhikadavu road
- Anandjankadavu road
- Pothukinar Road

Major Problems in the watershed

- ❖ Heavy soil erosion
- ❖ Decrease in soil fertility
- ❖ Land mining for latrite stone
- ❖ Soil pollution
- ❖ Ground water depletion.
- ❖ Waste disposal in streams and rivers
- ❖ Stream bank encroachment
- ❖ Water intensive mono crop cultivation
- ❖ Spreading of mono crops
- ❖ Lack of awareness.
- ❖ Destruction of riparian forests
- ❖ Population increase.

Activities Planned for the Watershed Development

Natural Resource Management	Livelihood Promotion Programmes	Production System & Micro-Enterprises
<ul style="list-style-type: none"> • Live Fencing • Stone bunding • Centripetal Terracing • Well Recharging • RWH/ tank construction for Kyiloor Mahila Samajam • VCB construction across Kalam Thodu • Husk Trenching • RWH construction for Kuyiloor School • Old age home Pond Renovation • Moisture conservation pits • Pond renovation in plot of Padmanabhan. K.P • Retaining wall construction along Kalamthodu 	<ul style="list-style-type: none"> • Seed money for enterprising individuals • Seed Money for enterprising SHGs • Tailoring Unit 	<ul style="list-style-type: none"> • Bee-keeping • Goat rearing • Organic Banana Cultivation • Organic Farming

Manjicherythodu I Watershed development (Sector I- 420 Ha) - Master plan for Four Years - Funding pattern

Installment	Administration	Monitoring	Evaluation	Entry Point Activity	Institution & Capacity Building	DPR preparation	Watershed Development Activities	Livelihood Activities	Production system & Micro Enterprises	Consolidation Phase	Total IWMP project fund
1 st	100800	10080	10080	201600	151200	50400	483840	0	0	0	1008000
%	2	0.2	0.2	4	3	1	9.6	0	0	0	20
2 nd	126000	10080	10080	0	50400	0	836640	226800	252000	0	1512000
%	2.5	0.2	0.2	0	1	0	16.6	4.5	5	0	30
3 rd	151200	15120	15120	0	50400	0	801360	226800	252000	0	1512000
%	3	0.3	0.3	0	1	0	15.9	4.5	5	0	30
4 rd	126000	15120	15120	0	0	0	700560	0	0	151200	1008000
%	2.5	0.3	0.3	0	0	0	13.9	0	0	3	20
Total	504000	50400	50400	201600	252000	50400	2822400	453600	504000	151200	5040000
%	10	1	1	4	5	1	56	9	10	0	100

Manjicherithodu -1 Watershed
Sector – I – Watershed Development Activities - I year action plan

SI No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Live fencing	Rm	24	1600	0	38400	38400	10 % General & 5 % SC / ST
2.	Stone bunding	m2	114	1174.039	133840	0	133840	
3.	Centripetal Terracing	No	67	900	0	60300	60300	
4.	Well recharging	No	13500	20	270000	0	270000	
5.	Rain water harvesting tank 20000 ltr capacity at Kuyiloor Mahilasamajam	No	80000	1	80000	0	80000	
Total					483840	98700	582540	

Sector – I – Watershed Development Activities II year action plan

SI No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Construction of V.C.B across Kalamthodu	No	750000	1	750000	0	750000	10 % General & 5 % SC / ST
2.	Stone bunding	M2	114	759.999	86640	0	86640	
3.	Centripetal Terracing	No	67	1500	0	100500	100500	
4.	Live fencing	Rm	2s4	2500	0	60000	60000	
5.	Husk Trench	No	312	550	0	171600	171600	
Total					836640	332100	1168740	

Sector – I – Watershed Development Activities III year action plan

SI No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Rainwater harvesting tank 50000 ltr capacity at Kuyiloor School	Nos	250000	1	250000	0	250000	10 % General & 5 % SC / ST
2.	Pond renovation nearer to Old age home	Nos	250000	1	250000	0	250000	
3.	Well recharging	Nos	13500	14	189000	0	189000	
4.	Stone bunding	m2	114	985.61	112360	0	112360	
5.	Husk Trench	No	312	300	0	93600	93600	
6.	Centripetal Terracing	No	67	500	0	33500	33500	
7.	Moisture conservation pits	m3	60.32	1500		90480	90480	
Total					801360	217580	1018940	

Sector – I – Watershed Development Activities IV year action plan

SI No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Pond renovation in the plot of Padmanabhan	Nos	150000	1	150000	0	150000	10 % General & 5 % SC / ST
2.	Retaining wall construction along Kalamthodu	Rm	2830	125	353750	0	353750	
3.	Stone bunding	m2	114	1726.4	196810	0	196810	
4.	Moisture conservation pits	m3	60.32	1500		90480	90480	
5.	Centry petal Terracing	No	67	500	0	33500	33500	
Total					700560	123980	824540	

Sector – II – Livelihood Activities for Land less/Asset less - II year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	MNREGS / other source / Bank loan	Total
1	seed money for enterprising individuals	0	0	0	45360	0	45360
2	Seed money for SHGs	0	0	0	181440	0	181440
TOTAL					226800	0	226800

Sector – II – Livelihood Activities for Land less/Asset less - III year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	MNREGS / other source / Bank loan	Total
1	Seed money for SHGs	Nos	0	0	90720	0	90720
Funding for Major Lively hood activities							
1	Tailoring unit	Nos	150000	1	136080	13920	150000
TOTAL					226800	13920	240720

Funding pattern	
Seed money for enterprising individuals (10% of the allocation)	45360
Seed money for SHGs (60 % of the allocation)	272160
Funding for major livelihood activities (30% of the allocation)	136080
Total allocation	453600

Sector – III – Production System & Micro Enterprises based livelihood activities - II year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	Total	WDF
1	Bee keeping	no	15000	10	150000	150000	20% for General& 10% for SC/ST.
2	Goat rearing	no	6000	17	102000	102000	
TOTAL					252000	252000	

Sector – III – Production System & Micro Enterprises based livelihood activities - III year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	Total	WDF
1	Organic banana cultivation (50nos/1 unit)	No	5000	13	65000	65000	20% for General& 10% for SC/ST.
2	Organic farming	Ha	18700	10	187000	187000	
TOTAL					252000	252000	

Total allotment	504000
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6.7 PADIYOOR ESTATE

Introduction

Padiyur Estate watershed is in Padiyur revenue villages of Thaliparamba Thaluk and covers 11th ward of Padiyur Grama Panchayat with a total geographic area of 225 Ha, out of which 170 ha are taken for treatment. This watershed is in the Valapattanam River Basin.

The main stream that gives shape to the watershed is Kaniyerithodu, which has a total length of 1 Kms flowing with an average width of 2 meters. The Stream originates from Padiyur Estate and joining to Valapattanam River. There are three sub-streams that contribute water to the main stream and all are seasonal.

Boundaries of the watershed

The watershed is bounded in its north by Eranchiorathodu II & Manjicherythodu I watersheds, in the south by Valapattanam River, in the east by Eranchirathodu II watershed and in the west by Manjicherythodu – I watershed.

Location

The watershed is 35 Km away from the District Head Quarters and to the GP office is about 5 Km. the nearest Railway station is Kannur and is accessible by road.

Geographic Co-ordinates

The geographic coordinates of the watershed are 11° 58' 30" & 12° 0' 0" N and 75° 36' 0" & 75° 37' 30" E longitude.

Physiography, Relief and Drainage

Around 70% of the watershed is with deep slope and 20% is with moderate slopes. The rest of the area is comparatively plain. Three types of soil are observed in the watershed – laterite, alluvial and black. This is a hill area exclusively with big rubber estates and the average elevation of the watershed is 170m

The land use pattern

As mentioned earlier, the land is fully occupied by rubber estates and the built up area is only for 5 families.

Existing water bodies in the watershed

Streams		Springs		Open Wells	
Seasonal	Perennial	Seasonal	Perennial	Seasonal	Perennial
3	1	4	0	2	3
4		4		5	

Socio – Economic Situation

The number of families in this area is only 5 with a total population of 22. The main place in the watershed is Padiyur Estate.

Major Problems in the watershed

- Deteriorating water table
- Mono cropping
- Indiscriminate use of pesticides and chemical fertilizers

Activities Planned for the Watershed Development

Natural Resource Management	Livelihood Promotion Programmes	Production System & Micro-Enterprises
<ul style="list-style-type: none"> • Stone bunding • Well Recharging • RWH tank construction • Live Fencing • Husk Trench • Centripetal Terracing • Moisture Conservation Pits • Stream bank Stabilization • Deepening of existing well • Distribution of fruit bearing trees • Distribution of bamboo Seedlings • Retaining wall construction 	<ul style="list-style-type: none"> • Seed money for enterprising individuals • Seed money for SHGs • Distribution of tailoring machines 	<ul style="list-style-type: none"> • Organic banana cultivation • Goat rearing • Cow rearing

Padiyur Estate Watershed development (Sector I- 170 Ha) - Master plan for Four Years - Funding pattern

Installment	Administration	Monitoring	Evaluation	Entry Point Activity	Institution & Capacity Building	DPR preparation	Watershed Development Activities	Livelihood Activities	Production system & Micro Enterprises	Consolidation Phase	Total IWMP project fund
1 St	40800	4080	4080	81600	61200	20400	195840	0	0	0	408000
%	2	0.2	0.2	4	3	1	9.6	0	0	0	20
2 nd	51000	4080	4080	0	20400	0	338640	91800	102000	0	612000
%	2.5	0.2	0.2	0	1	0	16.6	4.5	5	0	30
3 rd	61200	6120	6120	0	20400	0	324360	91800	102000	0	612000
%	3	0.3	0.3	0	1	0	15.9	4.5	5	0	30
4 rd	51000	6120	6120	0	0	0	283560	0	0	61200	408000
%	2.5	0.3	0.3	0	0	0	13.9	0	0	3	20
Total	204000	20400	20400	81600	102000	20400	1142400	183600	204000	61200	2040000
%	10	1	1	4	5	1	56	9	10	0	100

Padiyoor Estate Watershed

Sector – I – Watershed Development Activities - I year action plan

SI No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Stone bunding	m2	114	543.33	61940	0	61940	10 % General & 5 % SC / ST
2.	Well recharging	no	13500	5	67500	0	67500	
3.	Rain water harvesting tank	nos	66400	1	66400	0	66400	
4.	Live fencing	Rm	24	2500	0	60000	60000	
5.	Husk Trench	No	312	50	0	15600	15600	
6.	Centripetal Terracing	No	67	500	0	33500	33500	
7.	Moisture conservation pits	m3	60.32	500	0	30160	30160	
Total					195840	139260	335100	

Sector – I – Watershed Development Activities II year action plan

SI No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Well recharge	No	13500	2	27000	0	27000	10 % General & 5 % SC / ST
2.	Stream bank stabilization	No	2830	101.2862	286640	0	286640	
3.	Deepening of well	No	5000	5	25000	0	25000	
4.	Distribution of fruit bearing trees	No	230	150	0	34500	34500	
5.	Distribution of Bamboos	No	100	50		5000	5000	
Total					338640	39500	378140	

Sector – I – Watershed Development Activities III year action plan

SI No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Retaining wall construction - river bank	Rm	3000	108.12	324360	0	324360	10 % General & 5 % SC / ST
2.	Centripetal Terracing	No	67	200	0	13400	13400	
3.	Moisture conservation pits	m3	60.32	500	0	30160	30160	
Total					324360	43560	367920	

Sector – I – Watershed Development Activities IV year action plan

SI No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	River bank protection	Rm	3000	94.52	283560	0	283560	10 % General & 5 % SC / ST
2.	Centripetal Terracing	No	67	200	0	13400	13400	
3.	Live fencing	Rm	24	3000	0	72000	72000	
Total					283560	85400	368960	

Sector – II – Livelihood Activities for Land less/Asset less - II year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	MNREGS / other source / Bank loan	Total
1	Seed money for enterprising individuals	0	0	0	18360	0	18360
2	Seed money for SHGs	0	0	0	73440	0	73440
TOTAL					91800	0	91800

Sector – II – Livelihood Activities for Land less/Asset less -III year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	MNREGS / other source / Bank loan	Total
1	Seed money for SHGs	Nos	0	0	36720	0	36720
Funding for Major Lively hood activities							
1	Distribution of tailoring machine	NOs	7000	8	55080	920	56000
TOTAL					91800	920	92720

Funding pattern	
Seed money for enterprising individuals (10% of the allocation)	18360
Seed money for SHGs (60 % of the allocation)	110160
Funding for major livelihood activities (30% of the allocation)	55080
Total allocation	183600

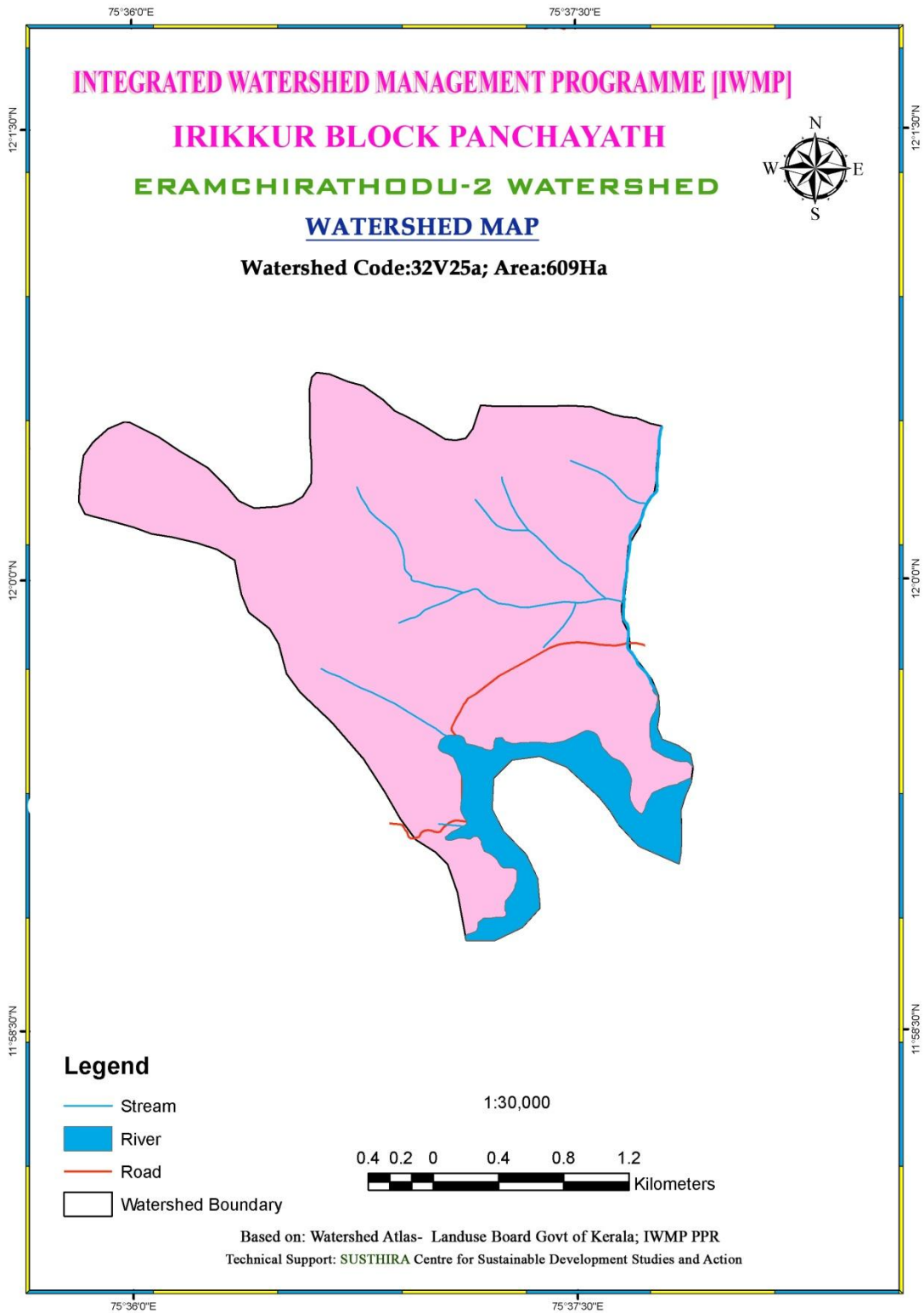
Sector – III – Production System & Micro Enterprises based livelihood activities - II year Action plan

Sl No	Name of Activity	unit	Unit cost	Target	IWMP fund	Total	WDF
1	Organic banana cultivation	No	5000	18	90000	90000	20% for General & 10% for SC/ST
2	Goat rearing	Nos	6000	2	12000	12000	
TOTAL					102000	102000	

Sector – III – Production System & Micro Enterprises based livelihood activities - III year Action plan

Sl No	Name of Activity	unit	Unit cost	Target	IWMP fund	Total	WDF
1	Cow rearing	No	30000	3	90000	90000	20% for General & 10% for SC/ST
2	Goat rearing	no	6000	2	12000	12000	
TOTAL					102000	102000	

Total allotment	204000
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6.8 ERAMCHIRATHODU - II

Introduction

Eramchirathodu II watershed is included in the 5th & 10th wards of Padiyoor Grama Panchayat and has a total area of 609 Ha. This watershed lies in the Valappatanam River Basin. The history says that the farmers in the village had constructed a bund (Chira) on one side of the paddy field to improve paddy cultivation by improving the irrigation facilities and it is from after this “chira” the name emerged.

The watershed includes in two revenue villages – Padiyoor and Kalliad in Thaliparamba Thaluk. Padiyoor, Poovam, Pulikkattu and Vattappara are the important places in the watershed.

Boundaries of watershed

The watershed is bounded in its north by Vattappara, in the south by Poovam, in the east by Padiyur and in the west by Thondikkulam.

Location

This watershed is about 60 Km away from the District Head quarters (Kannur) and 4 Km away from the GP Head Quarters (Padiyur). The watershed is accessible by road. The nearest railway station is Kannur.

Geographic Co-ordinates

The geographic coordinates of the watershed are 11° 58' 30" & 12° 0' 0" N and 75° 36' 0" & 75° 37' 30" E

Physiography, Relief and Drainage

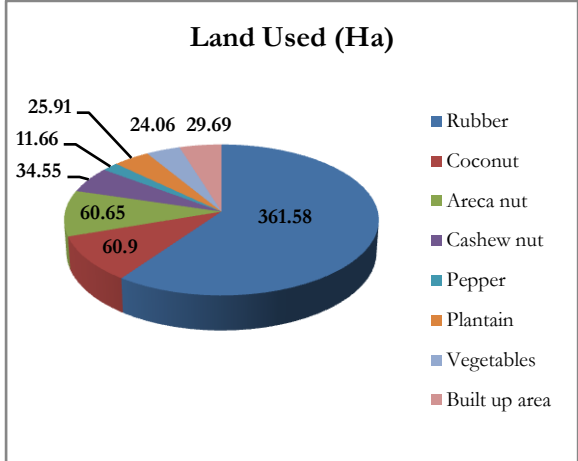
The physical nature of the watershed is undulating as mentioned above. 55% of the watershed is with moderate slopes and 30% is with deep slopes. The rest of the area is comparatively plain land. Major portions of the plains are reservoirs of Pazhassi Irrigation

Project. Generally the watershed has black soil with pebbles, Laterite rocks, Granite layers and red soil. The topography of the watershed is undulating with moderate slopes and plains. Red laterite soil mixed with pebbles is seen in almost all parts of the watershed and black alluvial soil in the low lands of the watershed.

About 90% of the total geographic area is under crops. Rubber, coconut, areca nut, cashew, pepper, etc are largely cultivated in the watershed. The watershed is formed based on Pulikkattu stream, which is originating from Komampara and entering into Padiyur River after flowing about 7Km across the watershed with an average width of 4 meters. The watershed has an average height of 60 meters.

The land use pattern is given below:

Crops	Land Used (Ha)	% of Land used	Productivity Tones/ha
Rubber	361.58	59.90	499.09
Coconut	60.9	9.87	44086
Areca nut	60.65	9.83	110.28
Cashew nut	34.55	5.6	19.0
Pepper	11.66	1.89	80.78
Plantain	25.91	4.20	45.70
Vegetables	24.06	3.9	21.49
Built up area	29.69	4.81	0
Total	609	100	



- Rubber
- Coconut
- Areca nut
- Cashew nut
- Pepper
- Plantain
- Vegetables
- Built up area

Existing water bodies in the watershed

Streams		Springs		Ponds		Open Wells	
Seasonal	Perennial	Seasonal	Perennial	Seasonal	Perennial	Seasonal	Perennial
4	0	4	0	6	4	241	161
4		4		10		402	

The total area of rainfed agriculture land is 550hr and the net sown area is 566hr.the pre monsoon is .3 meter and the post monsoon is 7 meter.

Socio – economic situation

The total no. of households in the watershed as per baseline survey conducted is 420 with a total population of 1820 (892 male and 928 female). The SC households are 10 and the total population is 46 with 21 males and 25 females. This watershed is one of the areas where the ST community is concentrate. There are 52 households with a total population of 234 (113 male and 121 female).

Educational Facilities

Govt. High School and Anganavadi is the educational institutions of this watershed community.

Transportation Facilities

The major transportation facilities are:

- Iritty – Thaliparamba State Highway
- Pulikkattu – Vattapara Poovam Road
- Padiyour – Kompara Road

Major Problems in the watershed

- Stream bank erosion is taking place on the banks of all streams during monsoon washing away the fertile soil of both sides of the streams. This affects the farmers having land on both sides of the streams. The loss of soil results in loss of production. No conservation measures like stream bank stabilization have been taken up
- Soil erosion from the land results in reduced production and productivity. No conservation measures like bunding and contour cultivation had been carried out in the watershed.
- Severe water scarcity is experienced during every summer as half of the drinking water wells and ponds dry up in the beginning of February.
- Heavy runoff during the monsoon washes away the fertile top soil and reduces the agricultural production. Gullies and furrows are formed in the farm lands of the farmers which causes every type of soil erosion from their plots.

- Alternate income sources are very rare like off-seasonal employments, so marginal farmers and landless people including women are migrating from the villages to the towns in search of employments/ wage labour.
- Indiscriminate use of chemical fertilizers and pesticides especially in the rubber plantations and other mono crops is making the soil more unfertile and for extinct of traditional plants and bio-control mechanisms of the nature.
- Food security and food safety are in question where the watershed communities mainly depend on markets with goods imported from other states. These items are suspected for pollution for use of pesticides and dangerous preservatives.
- The women and the landless, and the marginal farmers who have small pieces of land suffer from unemployment.
- MGNREGS need to be transformed for the improvement of production system and land reclamation among the farmer.
- The high cost of dry fodder including straw, deterioration of common grazing land, encroachment of common grazing land etc., all are causing poor animal husbandry practices among the community.
- People are unaware of the soil, water and biomass conservation practices. Therefore, the measures are not consciously adopted and properly executed. This brings difficulties to the watershed community.

Activities Planned for the Watershed Development

Natural Resource Management	Livelihood Promotion Programmes	Production System & Micro-Enterprises
<ul style="list-style-type: none"> • Live fencing • Centripetal terracing • Husk Trench • Stone bund • Construction of well at Aryamkode Anganwadi • Stream Bank Stabilization along Vattappara Kaithodu • Well construction at Vattappara Lakshamveedu Colony • Well renovation near the plot of Jose Kuttiyil • Well recharge • Construction of well at Chalamvayal Colony • Retaining wall construction along Chalamvayal Colony Thodu • Stream bank Stabilization of Eramchirathodu • Construction of a checkdam in front of Chalamvayal colony • RWH construction for common use 	<ul style="list-style-type: none"> • Seed money for enterprising SHGs • Seed Money for enterprising individuals • Consumer store 	<ul style="list-style-type: none"> • Organic Vegetable cultivation • Organic banana cultivation • Distribution of organic manure • Cow rearing • Goat rearing

Eramchirathodu - II Watershed development (Sector I- 609 Ha) - Master plan for Four Years - Funding pattern

Installment	Administration	Monitoring	Evaluation	Entry Point Activity	Institution & Capacity Building	DPR preparation	Watershed Development Activities	Livelihood Activities	Production system & Micro Enterprises	Consolidation Phase	Total IWMP project fund
1 st	146160	14616	14616	292320	219240	73080	701568	0	0	0	1461600
%	2	0.2	0.2	4	3	1	9.6	0	0	0	20
2 nd	182700	14616	14616	0	73080	0	1213128	328860	365400	0	2192400
%	2.5	0.2	0.2	0	1	0	16.6	4.5	5	0	30
3 rd	219240	21924	21924	0	73080	0	1161972	328860	365400	0	2192400
%	3	0.3	0.3	0	1	0	15.9	4.5	5	0	30
4 rd	182700	21924	21924	0	0	0	1015812	0	0	219240	1461600
%	2.5	0.3	0.3	0	0	0	13.9	0	0	3	20
Total	204000	20400	20400	81600	102000	20400	1142400	183600	204000	61200	7308000
%	10	1	1	4	5	1	56	9	10	0	100

Eramchirathodu - II Watershed

Sector – I – Watershed Development Activities - I year action plan

Sl No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Live femncing	Rm	24	3000	0	72000	72000	10 % General & 5 % SC / ST
2.	Centripetal Terracing	No	67	1000	0	67000	67000	
3.	Husk Trunch	No	312	300	0	93600	93600	
4.	Stone bunding	M2	114	2633.05	300168	0	300168	
5.	Construction of public well at Aryamkodu Anganawadi (1/1a, 5 th ward)	No	120000	1	120000	0	120000	
6.	Well recharge	Nos	13500	10	135000	0	135000	
7.	Stream bank stabilization along Vattapara Kaithodu in 10 th ward	Rm	1830	80	146400		146400	
8.	Live fencing	Rm	24	3000	0	72000	72000	
Total					701568	232600	934168	

Sector – I – Watershed Development Activities II year action plan

SI No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Stone bunding	M2	114	2527.44	288128	0	288128	10 % General & 5 % SC / ST
2.	Construction of a public well at Vattapara Lakshamveedu colony	No	125000	1	125000	0	125000	
3.	Public well renovation near the plot of Jose Kuttiyil	No	10000	1	100000	0	100000	
4.	Construction of a V.C.B in Chalamvayal colony	No	700000	1	700000	0	700000	
5.	Husk trench	No	312	500	0	156000	156000	
6.	Live fencing	Rm	24	3500	0	84000	84000	
7.	Centripetal Terracing	No	67	1500	0	100500	100500	
Total					1213128	340500	1553628	

Sector – I – Watershed Development Activities III year action plan

Sl No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Well recharge	Nos	13500	10	135000	0	135000	10 % General & 5 % SC / ST
2.	Construction of a public well in Chalamvayal colony	Nos	150000	1	150000	0	150000	
3.	Retaining wall construction along the sides of Chalamvayal colony thodu	Rm	1830	150	274500	0	274500	
4.	Stream bank stabilization of Eremchitrathodu	Rm	2830	150	424500	0	424500	
5.	Stone bunding	M2	114	1561.16	177972		177972	
6.	Centripetal Terracing	No	67	1000	0	67000	67000	
7.	Live fencing	Rm	24	3000	0	72000	72000	
Total					1161972	139000	1300972	

Sector – I – Watershed Development Activities IV year action plan

SI No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Stream bank stabilization of Eremchitrathodu	Rm	2830	100	283000	0	283000	10 % General & 5 % SC / ST
2.	Retaining wall construction along the sides of Chalamvayal colony thodu	Rm	1830	100	183000	0	183000	
3.	Construction of check dam in front of Chalamvayal colony	No	95000	1	95000	0	95000	
4.	Construction of Rain water harvesting tank for common purpose	no	250000	1	250000	0	250000	
5.	Stone bunding	M2	114	1796.6	204812		204812	
6.	Live fencing	Rm	24	2800	0	67200	67200	
7.	Centripetal Terracing	No	67	1500	0	100500	100500	
8.	Husk Trench	No	312	600	0	187200	187200	
Total					1015812	354900	1370712	

Sector – II – Livelihood Activities for Land less/Asset less - II year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	MNREGS / other source / Bank loan	Total
1	Seed money for enterprising individuals	0	0	0	65772	0	65772
2	Seed money for SHGs	0	0	0	263088	0	263088
TOTAL					328860	0	328860

Sector – II – Livelihood Activities for Land less/Asset less -III year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	MNREGS / other source / Bank loan	Total
1	Seed money for SHGs	Nos	0	0	131544	0	131544
Funding for Major Lively hood activities							
1	Consumer store	NOs	250000	8	197316	52684	250000
TOTAL					328860	52684	381544

Funding pattern	
Seed money for enterprising individuals (10% of the allocation)	65772
Seed money for SHGs (60 % of the allocation)	394632
Funding for major livelihood activities (30% of the allocation)	197316
Total allocation	657720

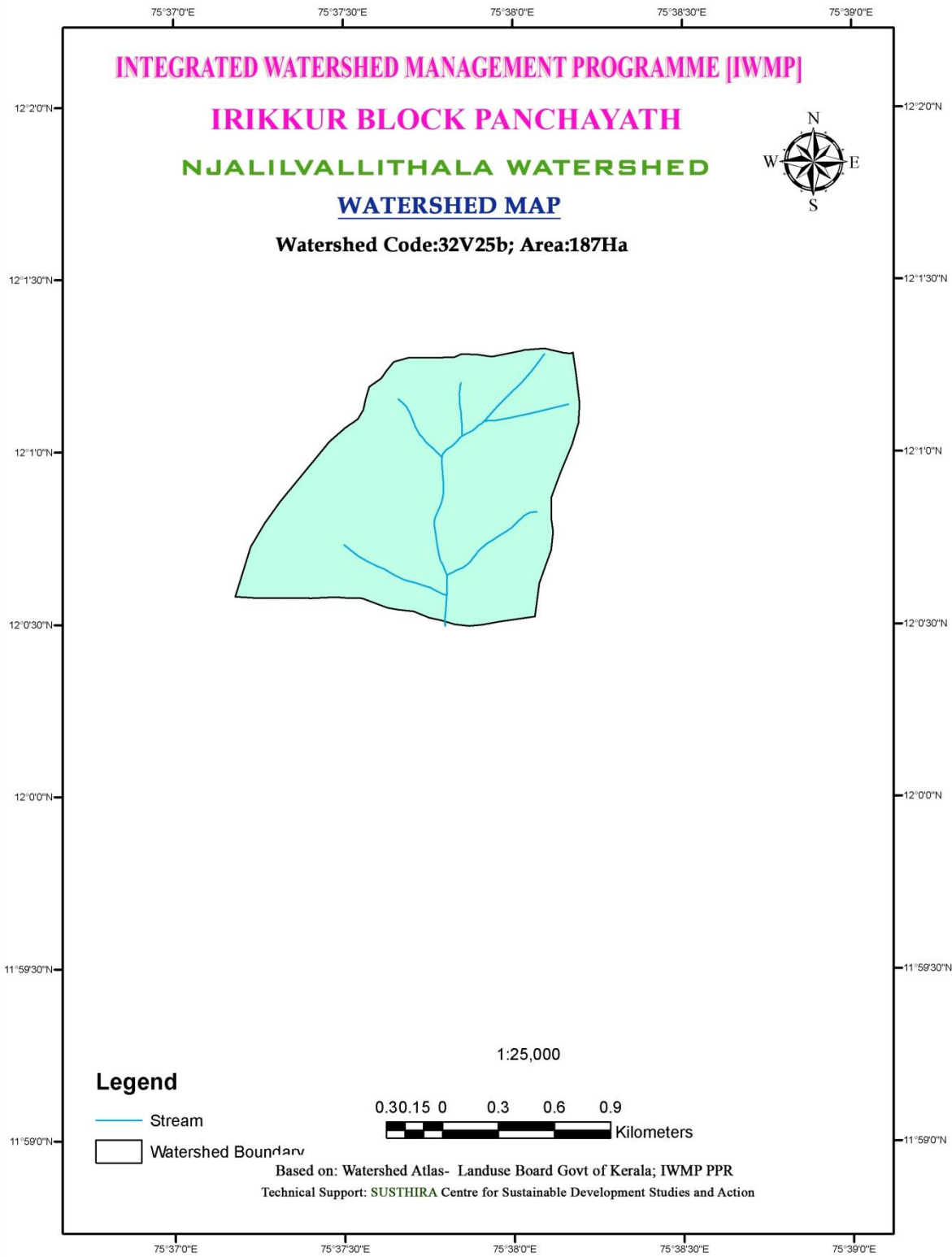
Sector – III – Production System & Micro Enterprises based livelihood activities - II year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	Total	WDF
1.	Organic vegetable cultivation	Nos.	12000	5	60000	60000	20% for General & 10% for SC/ST
2.	Organic banana cultivation	Nos.	24000	10	240000	240000	
3.	Distribution of organic manure	Nos.	0	0	65400	65400	
TOTAL					365400	365400	

Sector – III – Production System & Micro Enterprises based livelihood activities - III year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	Total	WDF
1	Cow rearing	Nos.	30000	10	30000	30000	20% for General & 10% for SC/ST
2	Goat rearing	Nos.	6540	10	65400	65400	
TOTAL					365400	365400	

Total allotment	730800
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6.9 NHALIL-VALLITHALA

Introduction

Nhalil – Vallithala watershed covers the 5th and 6th wards of Padiyoor Grama Panchayat and has a total area of 187 Ha. This watershed is also lies in the Valappatanam River Basin. Perhaps the name may be derived from the presence of Vallithala Kavu which was famous as historians remarked. This sacred grove had been destroyed by the populace to convert it into farm lands.

The watershed includes in Padiyoor revenue village in Thaliparamba Thaluk. Vallithala and Pulikkadu are the important places in the watershed. The topography of the watershed is undulating with moderate slopes and plains. Red laterite soil mixed with pebbles is seen in almost all parts of the watershed and black alluvial soil in the low lands of the watershed. About 89% of the total geographic area is under crops. Rubber, coconut, areca nut, cashew, pepper, etc are largely cultivated in the watershed.

Boundaries of watershed

North:	Kodumthuruthel Farm land
South:	The house of One Mr. Sreedharan and the Estate
East:	Vallithala Kunnu (Hillock)
West:	Koyadan Hills

Location

The watershed is 40 Km away from the District Head Quarters and 3.5 Km away from the GP Head Quarters. The nearest Railway station is Kannur and is accessible by road.

Geographic Co-ordinates

The geographic coordinates of the watershed are 12o 0' 30" & 12o 1' 30" N and 75o 37' 0" & 75o 38' 30" E.

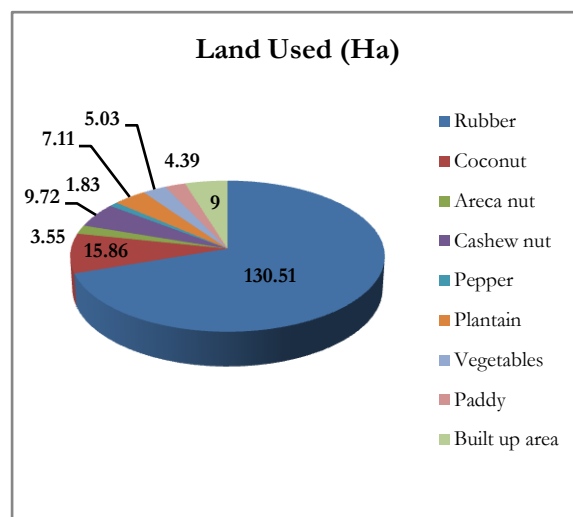
Physiography, Relief and Drainage

The physical nature of the watershed is undulating as mentioned above. 49% of the watershed is with S2 type slopes and 36% is with S3 type slopes. The rest of the area is comparatively plain land. Generally the watershed has black soil with pebbles, Laterite rocks, Granite layers and red soil.

The watershed is formed based on Eranchira stream, which is originating from Vallithala and flowing through Vallithala and Eranchirathodu watersheds (about 2 Km.) before it enter into Valappatanam River.

The land use pattern is given below:

Crops	Land Used (Ha)	% of Land used	Productivity Tones/ha
Rubber	130.51	69.79	499.09
Coconut	15.86	8.48	44086
Areca nut	3.55	1.9	110.28
Cashew nut	9.72	5.2	19.0
Pepper	1.83	0.98	80.78
Plantain	7.11	3.8	45.70
Vegetables	5.03	2.69	21.49
Paddy	4.39	2.35	-
Built up area	9.00	4.81	0
Total	187	100	-



Existing water bodies in the watershed

Streams		Springs		Open Wells	
Seasonal	Perennial	Seasonal	Perennial	Seasonal	Perennial
9	0	2	0	194	92
9		2		286	

Socio – economic situation

The total no. of households	317	Total SC Households	13
Total Population	1426	Total Population	60
Male	702	Male	28
Female	724	Female	32

Transportation Facility

The transportation facility of this watershed is;

Padiyour – Vallithaha Road

Kompanpara Road

Major Problems in the watershed

- Siltation of streams in the watershed due to heavy soil erosion.
- Stream bank erosion is taking place on the banks of all streams during monsoon.
- Severe drinking water scarcity during the summer
- Wide spreading mono-crops (rubber) threatens the cultivation of other crops and sustenance of bio-diversity.
- Plant diseases and pest attacks could not be prevented effectively
- Unavailability of farm labourers and availability skilled labourers coupled with poor market price for the produce make farmers reluctant to continue cultivation
- Unavailability good and quality ensured seeds and seedlings for the farmers.
- Alternate income sources are very rare like off-seasonal employments, so marginal farmers and landless people including women are migrating from the villages to the towns in search of employments/ wage labour.

- Indiscriminate use of chemical fertilizers and pesticides especially in the rubber plantations and other mono crops is making the soil more unfertile and for extinct of traditional plants and bio-control mechanisms of the nature.
- Food security and food safety are in question where the watershed communities mainly depend on markets with goods imported from other states. These items are suspected for pollution for use of pesticides and dangerous preservatives.
- The women and the landless, and the marginal farmers which have small pieces of land suffer from unemployment.
- The high cost of dry fodder including straw, deterioration of common grazing land, encroachment of common grazing land etc., all are causing poor animal husbandry practices among the community.
- People are unaware of the soil, water and biomass conservation practices. Therefore, the measures are not consciously adopted and properly executed. This brings difficulties to the watershed community.

Activities Planned for the Watershed Development

Natural Resource Management	Livelihood Promotion Programmes	Production System & Micro-Enterprises
<ul style="list-style-type: none"> • Live fencing • Centripetal Terracing • Husk Trench • Stone Bund • Pond Renovation at Nhalil • Well renovation in the plot of Yesoda Kunnummal for water supply scheme • Retaining wall along Nhalil Vallithala Thodu • Well recharge 	<ul style="list-style-type: none"> • Seed money for enterprising individuals • Seed money for SHGs • Tailoring Unit 	<ul style="list-style-type: none"> • Organic farming • Cow rearing • Organic banana cultivation

Njalil Vallithala Watershed development (Sector I- 187 Ha) - Master plan for Four Years - Funding pattern

Installment	Administration	Monitoring	Evaluation	Entry Point Activity	Institution & Capacity Building	DPR preparation	Watershed Development Activities	Livelihood Activities	Production system & Micro Enterprises	Consolidation Phase	Total IWMP project fund
1 st	44880	4488	4488	89760	67320	22440	215424	0	0	0	448800
%	2	0.2	0.2	4	3	1	9.6	0	0	0	20
2 nd	56100	4488	4488	0	22440	0	372504	100980	112200	0	673200
%	2.5	0.2	0.2	0	1	0	16.6	4.5	5	0	30
3 rd	67320	6732	6732	0	22440	0	356796	100980	112200	0	673200
%	3	0.3	0.3	0	1	0	15.9	4.5	5	0	30
4 rd	56100	6732	6732	0	0	0	311916	0	0	67320	448800
%	2.5	0.3	0.3	0	0	0	13.9	0	0	3	20
Total	224400	22440	22440	89760	112200	22440	1256640	201960	224400	67320	2244000
%	10	1	1	4	5	1	56	9	10	0	100

Njalil Vallithala Watershed
Sector – I – Watershed Development Activities - I year action plan

SI No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Live fencing	Rm	24	5000	0	120000	120000	10 % General & 5 % SC / ST
2.	Centripetal Terracing	No	67	400	0	26800	26800	
3.	Husk Trench	Nos.	312	150	0	46800	46800	
4.	Stone Bunding	M2	114	1889.68	215424	0	215424	
Total					215424	193600	409024	

Sector – I – Watershed Development Activities II year action plan

Sl No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Njalil panchayat pond Renovation	Rm	1	372504	372504	0	372504	10 % General & 5 % SC / ST
2.	Live fencing	Rm	24	3000	0	72000	72000	
3.	Centripetal Terracing	No	67	300	0	20100	20100	
Total					372504	92100	464604	

Sector – I – Watershed Development Activities III year action plan

Sl No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Drinking water scheme – well renovation in the plot of Yashodha Kunnummal , Pump house , Collection tank	Nos.	1	230000	230000	0	230000	10 % General & 5 % SC / ST
2.	Retaining wall along the sides of Njalil Vallithala thodu	Rm	2830	44.8044	126796	0	126796	
3.	Husk Trench	No	312	150	0	46800	46800	
4.	Live fencing	Rm	24	8000	0	192000	192000	
5.	Centripetal Terracing	No	67	500	0	33500	33500	
Total					356796	272300	629096	

Sector – I – Watershed Development Activities IV year action plan

SI No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Husk Trench	No	312	300		93600	93600	10 % General & 5 % SC / ST
2.	Live fencing	Rm	24	8000	0	192000	192000	
3.	Centripetal Terracing	No	67	500	0	33500	33500	
4.	Well recharge	Nos.	13500	10	135000	0	135000	
5.	Retaining wall along the sides of Njalil Vallithala Thodu	Rm	1830	65.528	119916	0	119916	
6.	Stone Bunding	M2	114	500	57000	0	57000	
Total					311916	319100	631016	

Sector – II – Livelihood Activities for Land less/Asset less - II year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	MNREGS / other source / Bank loan	Total
1	Seed money for enterprising individuals	0	0	0	20196	0	20196
2	Seed money for SHGs	0	0	0	80784	0	80784
TOTAL					100980	0	100980

Sector – II – Livelihood Activities for Land less/Asset less -III year Action plan

Sl No	Name of Activity	unit	Unit cost	Target	IWMP fund	MNREGS / other source / Bank loan	Total
1	Seed money for SHGs	Nos	0	0	40392	0	40392
Funding for Major Lively hood activities							
1	Tailoring unit	NOs	80000	1	60588	19412	80000
TOTAL					100980	19412	120392

Funding pattern	
Seed money for enterprising individuals (10% of the allocation)	20196
Seed money for SHGs (60 % of the allocation)	121176
Funding for major livelihood activities (30% of the allocation)	60588
Total allocation	201960

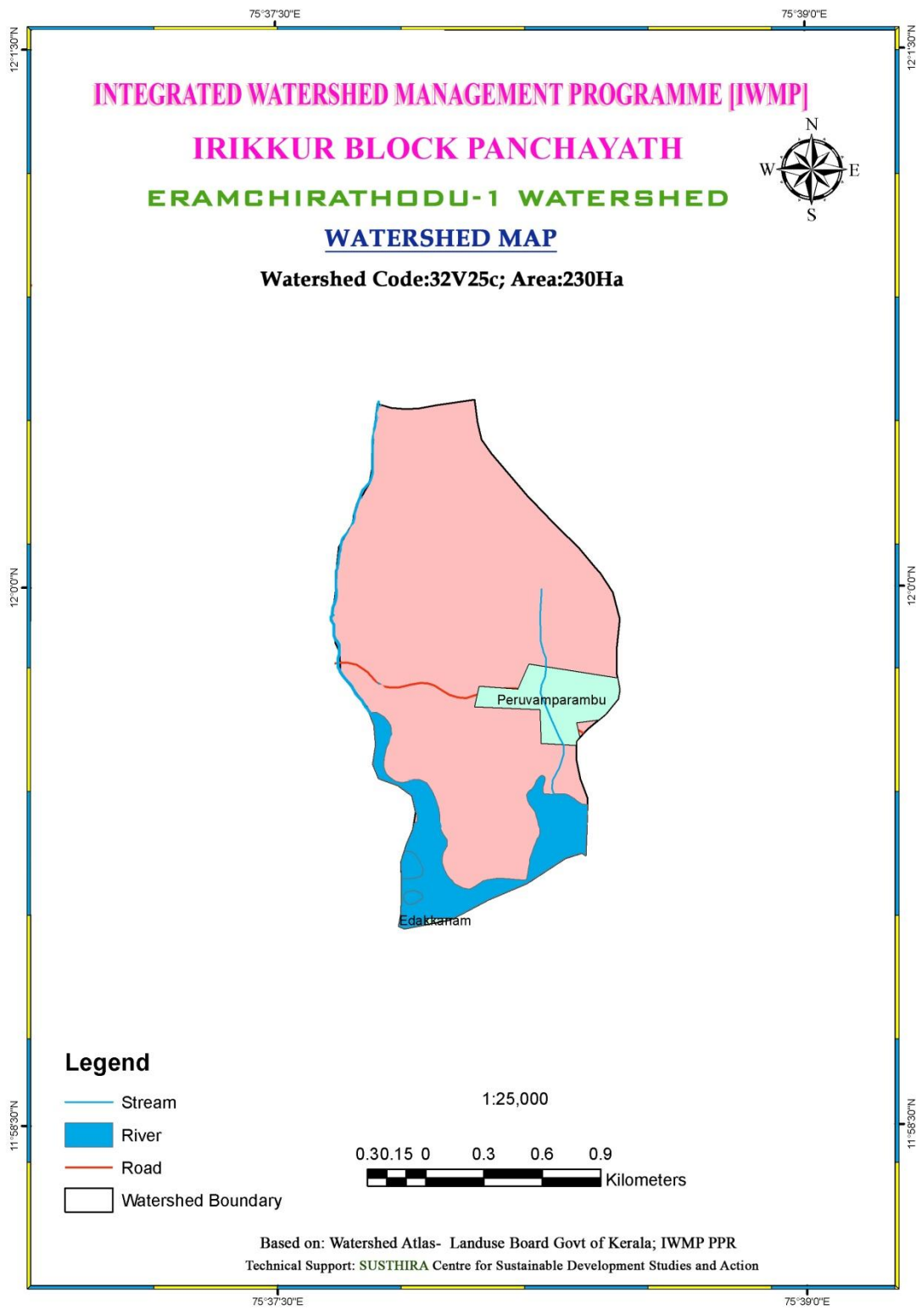
Sector – III – Production System & Micro Enterprises based livelihood activities - II year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	Total	WDF
1	Organic banana cultivation	Ha	18700	6	112200	112200	20% for General & 10% for SC/ST
TOTAL					112200	112200	

Sector – III – Production System & Micro Enterprises based livelihood activities - III year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	Total	WDF
1	Cow rearing	Nos.	24000	3	48000	48000	20% for General & 10% for SC/ST
2	Goat rearing	Nos.	32100	2	64200	64200	
TOTAL					112200	112200	

Total allotment	224400
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6.10 ERAMCHIRATHODU - I

Introduction

Eramchirathodu – 1 covers the 4th and 9th wards of Padiyoor Grama Panchayat and has a total area of 230 Ha with an average height of 50 meters. This watershed is also lies in the Valappattanam River Basin. The name is derived from the same situation – construction of Eramchira which is also explained in Eramchirathodu – II watershed.

The watershed comes under the Padiyoor revenue village in Thaliparamba Thaluk. Valapattanam, Nedyodi, Mundayodu, Pulikkattu, Vallithala and Malabar Road are the important places in the watershed.

Boundaries of the watershed

The watershed is bounded in its north Stream of Sreedharan Nambiar, in the south by Valapattanam River, in the east by Nedyodikunnu and in the west by Eranchira stream.

Location

The watershed is 40 Km away from the District Head Quarters and 3 Km away from the GP Head Quarters. The nearest Railway station is Kannur and is accessible by road.

Geographic Co-ordinates

The geographic coordinates of the watershed are 12° 0' 0" & 12° 1' 30" N and 75° 37' 30" & 75° 39' 0" E

Physiography, Relief and Drainage

The physical nature of the watershed is undulating as mentioned above. 55% of the watershed is with S2 type slopes and 30% is with S3 type slopes. The rest of the area is comparatively plain land and major part is occupied by the Pazhassi reservoir.

The topography of the watershed is undulating with moderate slopes and plains. Red laterite soil mixed with pebbles is seen in almost all parts of the watershed and black alluvial soil in the low lands of the watershed. There are about 5 hectares of sludge which is extended from Nediyoudu to Aaniyodu. About 85% of the total geographic area is under crops. Rubber, coconut, areca nut, cashew, pepper, etc are largely cultivated in the watershed.

The watershed is formed based on Aaniyadu stream, which is originating from the lower portion of the Temple Area and enter into Nediyoudi River.

Land use and Cropping Pattern

Crops	Land Used (Ha)	% of Land used	Productivity Tones/ha
Rubber	105.89	46.04	474.0925
Coconut	22.95	9.98	43046
Areca nut	15.54	6.76	110.28
Cashew nut	13.83	6.01	19.0
Pepper	6.72	2.92	81.78
Plantain	15.58	6.77	49.70
Vegetables	7.49	3.26	18.49
Paddy	3.87	1.68	-
Sludge	5.60	2.43	-
Built up area	32.53	14.15	-
Total	230	100	-

Existing water bodies in the watershed

Streams		Springs		Open Wells		Ponds	
Seasonal	Perennia	Seasona	Perennia	Seasona	Perennia	Seasona	Perennia
	1	1	1	1	1	1	1
8	1	5	0	176	154	3	4
9		5		330		7	

The total area of rainfed agriculture land is 200hr and net sown area 212hr. the pre monsoon is .3 meter and post monsoon is 7 meter.

Socio – Economic Situation

The total no. of households	350	Total SC Households	15	Total ST Households	5
Total Population	1484	Total Population	67	Total Population	23
Male	732	Male	32	Male	11
Female	752	Female	35	Female	12

Educational Facilities

The educational facilities of this watershed are Padiyour SNDP School and Anganavadi.

Health Facilities

This watershed has a one Ayurveda Hospital for the health facilities of the community peoples.

Transportation Facilities

Thaliparamba – iritty State Highway

Padiyour – Pulikkadu Road

Kalluvayal – Karavoor Road

Major Problems in the watershed

- Top soil is washed off causing severe reduction in agricultural production
- Eramchiravayal Stream is not protected against bank erosion.
- Severe drinking water scarcity is experienced during the summer, especially Shoolathattu areas.
- Wide spreading mono-crops(rubber) is a threat to other crops and sustenance of bio-diversity.
- Unavailability of farm labourers and availability skilled labourers coupled with poor market price for the produce make farmers reluctant to continue cultivation
- Poor animal husbandry practices resulting shortage of egg, meat and milk in the watershed

- Alternate income sources are very rare like off-seasonal employments, so marginal farmers and landless people including women are migrating from the villages to the towns in search of employments/ wage labour.
- Food security and food safety are in question when the watershed communities mainly depend on external markets with goods and vegetables which are suspected for pollution for use of pesticides and dangerous preservatives.
- People are unaware of the soil, water and biomass conservation practices. Therefore, the measures are not consciously adopted and properly executed. This brings difficulties to the watershed community.

Activities Planned for the Watershed Development

Natural Resource Management	Livelihood Promotion Programmes	Production System & Micro-Enterprises
<ul style="list-style-type: none"> • Live Fencing • Centripetal terracing • Well Recharge • Husk Trench • Stream bank Stabilization • Stone bund • Ayyankovil Well renovation • Renovation of pond near Nidiyedi Temple • RWH tank Construction for SNDP School • Well renovation at Nidiyodichal Orkateri Sarawathiamma • Retaining wall construction along Ayyankovil Thodu • Spring protection in the plot of Anayattu Leela • Retaining Wall Construction for Vadakkottu thodu at Kunnummal yesoda 	<ul style="list-style-type: none"> • Seed money for Enterprising Individuals • Seed money for Enterprising SHGs • Consumer Store 	<ul style="list-style-type: none"> • Crop rotation programme • Bee-Keeping • Waste management Scheme

Eramchirathodu - I Watershed development (Sector I- 230 Ha) - Master plan for Four Years - Funding pattern

Installment	Administration	Monitoring	Evaluation	Entry Point Activity	Institution & Capacity Building	DPR preparation	Watershed Development Activities	Livelihood Activities	Production system & Micro Enterprises	Consolidation Phase	Total IWMP project fund
1 st	55200	5520	5520	110400	82800	27600	264960	0	0	0	552000
%	2	0.2	0.2	4	3	1	9.6	0	0	0	20
2 nd	69000	5520	5520	0	27600	0	458160	124200	138000	0	828000
%	2.5	0.2	0.2	0	1	0	16.6	4.5	5	0	30
3 rd	82800	8280	8280	0	27600	0	438840	124200	138000	0	828000
%	3	0.3	0.3	0	1	0	15.9	4.5	5	0	30
4 rd	69000	8280	8280	0	0	0	383640	0	0	82800	552000
%	2.5	0.3	0.3	0	0	0	13.9	0	0	3	20
Total	276000	27600	27600	81600	138000	27600	1545600	248400	276000	82800	2760000
%	10	1	1	4	5	1	56	9	10	0	100

Eremchirathodu – 1 Watershed
Sector – I – Watershed Development Activities - I year action plan

SI No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Live fencing	Rm	24	3000	0	72000	72000	10 % General & 5 % SC / ST
2.	Centripetal Terracing	No	67	1000	0	67000	67000	
3.	Husk Trench	No	312	300	0	93600	93600	
4.	Well recharging	No	13500	7	94500	0	94500	
5.	Stream Bank stabilization	Rm	100	-	100	0	100	
6.	Stone Bunding	M2	114	1492.02	170090	0	170090	
Total					264690	232600	497290	

Sector – I – Watershed Development Activities II year action plan

SI No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Ayyankovil well renovation	Nos	50000	1.00	50000	0	50000	10 % General & 5 % SC / ST
2.	Public pond renovation near Nidiyedi temple	Nos	128000	1.00	128000	0	128000	
3.	Construction of a Rain water Harvesting tank at S.N.D.P. School	Nos	200000	1.00	200000	0	200000	
4.	Stone bunding	M2	114	703.16	80160	0	80160	
5.	Husk Trench	No	312	250	0	78000	78000	
6.	Live fencing	Rm	24	3500	0	84000	84000	
Total					458160	162000	620160	

Sector – I – Watershed Development Activities III year action plan

Sl No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	Public well renovation and deepening - near the plot of Nediyoichal Orkateri Saraswathiamma	No	50000	1	50000	0	50000	10 % General & 5 % SC / ST
2.	Retaining wall construction along Ayyankovil thodu	Rm	2830	137.3994	388840	0	388840	
3.	Live fencing	Rm	24	2000	0	48000	48000	
4.	Centripetal Terracing	No	67	1500	0	100500	100500	
Total					438840	148500	587340	

Sector – I – Watershed Development Activities IV year action plan

Sl No.	Name of Activity	Unit	Unit Cost	Target	IWMP Fund	MNREGS/Other Source	Total	WDF
1.	spring protection - in the plot of Anayattu Leela	No	30000	1	30000	0	30000	10 % General & 5 % SC / ST
2.	Retaining wall construction from near Kunnummal Yashodha`s plot to vadakkot thodu	Rm	2830	101.1097	286140	0	286140	
3.	Well recharge	No	13500	5	67500	0	67500	
4.	Centripetal Terracing	No	67	1000	0	67000	67000	
5.	Husk Trench	No	312	500	0	156000	156000	
6.	Live fencing	Rm	24	1500	0	36000	36000	
Total					383640	259000	642640	

Sector – II – Livelihood Activities for Land less/Asset less - II year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	MNREGS / other source / Bank loan	Total
1	Seed money for enterprising individuals	0	0	0	24840	0	24840
2	Seed money for SHGs	0	0	0	99360	0	99360
TOTAL					124200	0	124200

Sector – II – Livelihood Activities for Land less/Asset less - III year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	MNREGS / other source / Bank loan	Total
1	Seed money for SHGs	Nos.	0	0	49680	0	49680
Funding for Major Lively hood activities							
1	consumer store	Nos.	100000	1	74520	25480	100000
TOTAL					124200	25480	149680

Funding pattern	
Seed money for enterprising individuals (10% of the allocation)	24840
Seed money for SHGs (60 % of the allocation)	149040
Funding for major livelihood activities (30% of the allocation)	74520
Total allocation	248400

Sector – III – Production System & Micro Enterprises based livelihood activities - II year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	Total	WDF
1	Crop rotation	Ha	24000	2	48000	48000	20% for General & 10% for SC/ST
2	Bee keeping	Nos.	15000	6	90000	90000	
TOTAL					138000	138000	

Sector – III – Production System & Micro Enterprises based livelihood activities - III year Action plan

SI No	Name of Activity	unit	Unit cost	Target	IWMP fund	Total	WDF
1	Waste Management Programme	Nos.	1	138000	138000	138000	20% for General & 10% for SC/ST
TOTAL					138000	138000	

Total allotment	276000
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RATIONALE OF THE ACTIVITIES PROPOSED IN THE DPR

Sustainability of the environmental conditions in the watershed is related to the sound biomass and its productivity. The watershed management is important for the improvement and maintenance of good water quality, soil quality, etc which ensures high productivity. Increasing population, depleting water resources, bad management practices, etc are cause the water quality standards under stress. Similarly the soil has undergone severe deterioration due to soil erosion, unsustainable agricultural practices, change in land use pattern etc. Addressing all the issues that concerns the water resources of our watershed, in any way, come under the watershed management strategy.

There are three main activities that are recommended for a good watershed management practice:

- Rehabilitating lands that are source of sediment loss and chemical export
- Protecting the sensitive areas in the watershed so that resources can be conserved that may be spent in rehabilitation of the same, otherwise.
- Improving the characteristics of water resources that affect the quality of water and the soil that affect the quantity of agricultural production

Watershed management activities should be a conglomeration of scientific structural interventions coupled with awareness and Livelihood Promotion to bring better living standards of the watershed community. The awareness generation is to make the watershed community to understand the importance and help them to maintain what is achieved through the watershed management activities. . The livelihood promotion is mainly to help those without any asset and deprived of means of livelihood. This is also part of the empowerment processes of the poorest of the poor and the women- the vulnerable group. The whole watershed communities along with the management teams with professionals and officials should work on improving and expediting the process of improvement. There might arise a need for the education of the members on

complex issues that may require an interdisciplinary approach of education. In that case the members can collaborate on the exchange of information. Public involvement is the key to a good management practice of the watershed. Public can provide useful information and its cooperation will help make the management plan a success. This component will be met by the Capacity Building Programmes and trainings that are formed in the DPR.

There are various ways that one can get involved in the restoration, maintenance, and preservation of the watershed. The first step towards is through responsible attitude. There are many programs planned at different level that are available for participation. Entry Point Activity (EPA) has been planned to persuade the watershed community and individuals or teams can join. EPA also recognizes the teams that have been involved in a watershed. An Abstract of the Annual Action Plan for the whole Project period is also prepared.

Watershed Management should include measures to control and convey runoff flow, and to collect and cleanse runoff on-site. These principles might be summarized as “The Four C’s” of watershed management: **control, conveyance, collection and cleansing**. The water conservation measures that proposed in the DPR like check dams, moisture collection pits, etc are all mainly aiming to ensure the four ‘Cs’ with regard to the water conservation. When adequate water is available in the soil aquifer it is undoubtedly help increase the productivity of the soil and bring better income to the farmers.

Similarly, the soil conservation measures proposed in the DPR like contour bunding, live fencing, centripetal bunding, gully control measures etc. are aiming at improving the quality as well as quantity of the soil, especially in the farm lands of the small holder farmers. When soil conservation measures are successfully implemented, the production is improved bringing adequate income to the farmers that will directly affect the living standards and socio-economic situation of the watershed community.

The production system management has direct impact on the quality of water as well as the quality of the soil. The soil fertility will be kept sustained for long if the production system management activities proposed in the DPR is implemented. This will have direct relation to the

livelihood promotion based on natural resources. The livelihood of the watershed community is directly related to natural resources. However, when a development plan is formulated it should ensure the well being of all the community members irrespective of their asset base. Hence the PS&M activities as well as Livelihood promotion are aimed to improve the living condition of the watershed community.

All activities that occur within a watershed will somehow affect that watershed's natural resources, water quality and the life style of the watershed community. New land development, runoff from already-developed areas, agricultural activities, and household activities such as gardening/lawn care, septic system use/maintenance, water diversion and maintenance all can affect the quality of the resources within a watershed. Watershed management planning comprehensively identifies those activities that affect the health of the watershed and makes recommendations to properly address them so that adverse impacts are reduced.

Watershed management activities planned and proposed in this DPR is also important because the planning process results in a partnership among all affected parties in the watershed. That partnership is essential to the successful management of the land and water resources in the watershed since all partners have a stake in the health of the watershed. It is also an efficient way to prioritize the implementation of watershed management plans in times when resources may be limited.

Though, the watershed management program is not the panacea to maintain the sustainable livelihoods, it contributes to the livelihoods outcomes - more income, increased well-being, reduced vulnerability, improved food security and more sustainable use of natural base. The activities proposed contribute to all assets of the sustainable livelihoods of the local people. The level of extent to which it can contribute to the five assets of the Sustainable Livelihood depends on the approaches and objectives of the program.

The Watershed Management activities included in this DPR is an advanced idea of ordinary watershed management which primarily includes:

- Better water management,
- Minor irrigation,
- Drinking water supply,
- Sanitation facilities,
- Forestry
- Micro crediting to use Non Timber Forest products, Aquaculture, orchard maintenance and handicrafts for income generation and livelihood

In short the planned interventions proposed in this DPR shall:

- Consider the total environmental impact of the proposed system.
- Consider water quality as well as water quantity.
- Be consistent with the local Plan of Development and any existing watershed management plan.
- Coordinate with erosion control measures and aquifer protection.
- Minimize disturbance of natural grades and vegetation, and utilize existing topography for natural drainage systems.
- Preserve natural vegetated buffers along water resources and wetlands.
- Minimize impervious surfaces and maximize infiltration of cleansed runoff to appropriate soils.
- Reduce peak flow to minimize the likelihood of soil erosion, stream channel instability, and flooding and habitat destruction.
- Use wetlands and water bodies to receive or treat runoff only when it is assured that these natural systems will not be overloaded or degraded.

- Provide a maintenance schedule for management practices, including designation of maintenance responsibilities.

Two issues are central here: first, an improved natural resource base can contribute to enhanced livelihoods for a growing rural population but is not a panacea; second, even a moderate degree of equity requires high levels of social organization and an ability among women and the poor to articulate their requirements, together with continuing vigilance to ensure that their rights are not overridden. Provisions are left in this DPR to ensure strong and sustainable social organizations.

Acknowledgement

In this process of DPR preparation, we need to acknowledge the support and guidance provided by the Project Director, PAU, Kannur, the Joint Director and Chief Executive of SLNA, The Irikkur Block Panchayat President and his team, Block Panchayat Secretary and his colleagues, Agriculture officers of the concerned Grama Panchayats, The Concerned Grama Panchayat Presidents and their team, The MGNREGS supervisors in the Block Panchayat and in the Grama Panchayat and last, but not least, the elected members of the Grama Panchayats and the watershed committee members. A special mention is required here for the support and cooperation rendered to us by the participating Watershed Neighbourhood Clusters.

We know that we should not forget that this detailed document with every data and its analysis with worked out engineering measures and budget provisions is a result of the restless effort of the Technical Support Organization (SUSTHIRA, Centre for Development Studies and Action, Pariyaram). This Detailed Project Report is realized on the stipulated time is only because the dedicated service of the TSO.

Conclusion

The basic elements for the existence of life on the earth are water, soil and biomass. These are considered to be the natural resources. It is inevitable that a strategy for sustainable use of the available natural resources be adopted. Such a strategy will ensure a better livelihood, without

environmental degradation. To meet the growing demands of the spiraling population, basic natural resources are exploited not considering the ill effects that would follow. By dumping chemical fertilizers, practicing monoculture, deforestation etc are leading to biodiversity loss. In addition to this improper soil and water conservation methods there has been a change in the environment, intensity of rainfall and increased soil erosion which leads to loss of soil fertility and siltation in reservoirs, rivers etc which ultimately results in declined food production.

Watershed development projects are implemented through various participatory methods for ensuring the complete participation of the local people. Apart from trying to increase the productivity of the land through watershed treatment techniques, the project envisages uplift of the economy and standard of living of the small land holders, the women, the landless and other disadvantaged sections of the society.

The project is giving a lot of thrust to the formation of self help groups (SHG) especially of women .Apart from inculcating saving habits and making microcredit easily available, it also helps them to become more capable and finally these groups prove that they are capable of adopting different Income Generating Activities. IWMP is a planned approach which is implemented to end in sustainable productivity leading to the people to economic soundness. IWMP aims at reaching a large number of stakeholders.

Integrated Watershed Management Programme (IWMP)
Irikkur Block Panchayath, Kannur Dist.



DETAILED PROJECT REPORT
IWMP - III

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