Annexure- 1
Concept Note on Mazhapolima

Mazhapolima Project Report

Participatory Well Recharge Programme

June 2008

THRISSUR DISTRICT

GOVERNMENT OF KERALA

MazhaPolima:
Participatory Well Recharge Programme – Thrissur District

Introduction

Mazhapolima is a community based well recharge programme, initiated by the district administration in collaboration with the Panhayat Raj Institutions in the District. Networking NGOs/CBOs, households, departments and agencies, research institutions, private sector and all other key stakeholders, either as water user or as water provider/planner is fundamental to the programme. Diversity of approaches and implementation arrangements according to location specific needs centered on sustainable outcome and service levels are the underlying tenets of the programme. The programme envisages recharging of about 4.5 lakh open wells in the district to ensure sustainable access to water. Mazhapolima when implemented successfully, would emerge as a global best practice in well centric approach towards drinking water sustainability.

Goal

The overall goal of the programme is to contribute to enhanced health and welfare of the community through improved access to drinking water.

Objectives

The specific objectives of the programme are (i) recharge ground water and (ii) improved drinking water availability and service level across the year, (iii) significantly reduce the impact of drought and consequent public spending on supply of drinking water in tankers to the water stressed regions in the district and (iv) improved agricultural production and productivity. The programme would also envisage strengthening of the decentralization programme and the PRIs, in discharging their basic mandate in water sector through community efforts that are cost effective and sustainable.

Approach and Strategy

The strategy of implementation of the programme Mazhapolima is as follows.

Community Driven: The programme is tailored to trigger the community strengths, social capital, traditional wisdom and focus on "Investing in Common Future"

Participatory approach: As water is everybody's business, the programme envisages partnership, collaboration and synergy of all stakeholders, private, public and NGOs.

Demand Driven: The programme is bottom up and demand driven. There exists tremendous pent up demand in service level (quantity), quality and such demand is converted into willingness to make cost effective and minor investments to reap rich dividends.

PRI Centric: Water is a mandate of the PRIs. The programme supports them t effectively discharge their mandate by harnessing community initiatives and leveraging investments at their own disposal for common benefit. Ground water is our common pool resource and investments made are undoubtedly for public welfare. This also entails vital responsibility on the PRIs, in participatory planning /management and effective regulation of ground water usage.

In very GP there are about 4500 open wells and about 6000 households on an average. Recharging wells would be one of the most effective ways to reach out to the people which will have sustainable welfare impact.

Facilitatory role for GoK: The role of the Government departments other than PRIs would be to work as facilitators in the process, in planning, technical guidance, implementation and monitoring.

Process Oriented: The programme encourages innovation and diversity. Grama Panchayaths will have the freedom to follow their own implementation arrangements. Critical to the programme is the thrust on the menu of technical choices open to the households and regions according to their capacity and need. Informed choice of the household is facilitated by trained technical task teams/ resource teams at GP level.

Cost Effective: Considering the overall impact on quantity of water harvested in volume, these would be the most cost effective way, possible by employing local material and labour available.

Campaign Mode: As the basic approach is participatory and demand driven, the success of the programme is possible only through the campaign mode in generating awareness, demand and sustained enthusiasm. This is expected through a district level campaign comprising direct contact programme and media.

Kerala: Households Depending on Open wells: The following table presents the distribution of households depending on open wells as a source of drinking water.

District wise Distribution oh households Depending on Wells as Source of Drinking Water, Kerala, 2001

District	Total Households	Households Depending on Wells			
		Rural	Urban	Total	%
Kasargod	220293	140676	29259	169935	77.14
Kannur	444547	201765	188872	390637	87.87
Wayanad	164039	116988	3828	120816	73.65
Kozhikode	555360	319182	143748	462930	83.35
Malappuram	598031	477922	40863	518785	86.745
Palakkad	522258	308986	28662	337648	64.65
Thrissur	**625382**	**332142**	**117082**	**449224**	**71.83**
Ernakulam	666753	244907	87128	332035	49.79
Idukki	266462	109208	6253	115461	43.333
Kottayam	426527	290871	36177	327048	76.67
Alappuzha	478523	215788	64115	279903	58.49
Pathanamthitta	290848	216373	18176	234549	80.64
Kollam	585616	413888	67929	481817	82.27
Thiruvananthapuram	750567	425548	92618	518166	69.03
State Total	6595206	3814244	924710	4738954	72.18

Source: Census of India, 2001

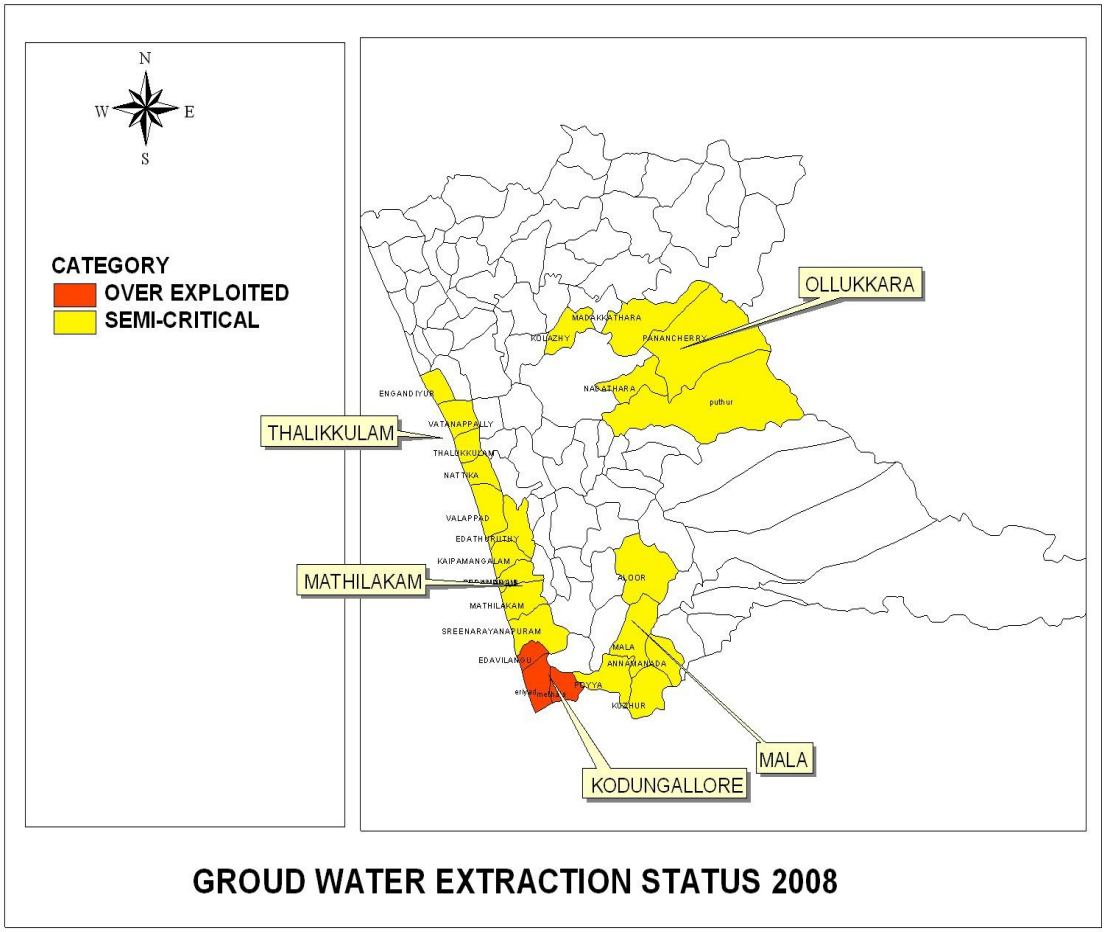
As can be seen form the table above, wells are the most popular water sources widely used in Kerala for domestic purposes. Most of the families depend on private water

sources, which are usually open wells. Many of these wells dry up by early March and remain so till the monsoons, which are in May - June.

Any strategy towards providing sustainable access to drinking water for the State shall invariably have the well based approach, making the wells perennial and sanitized.

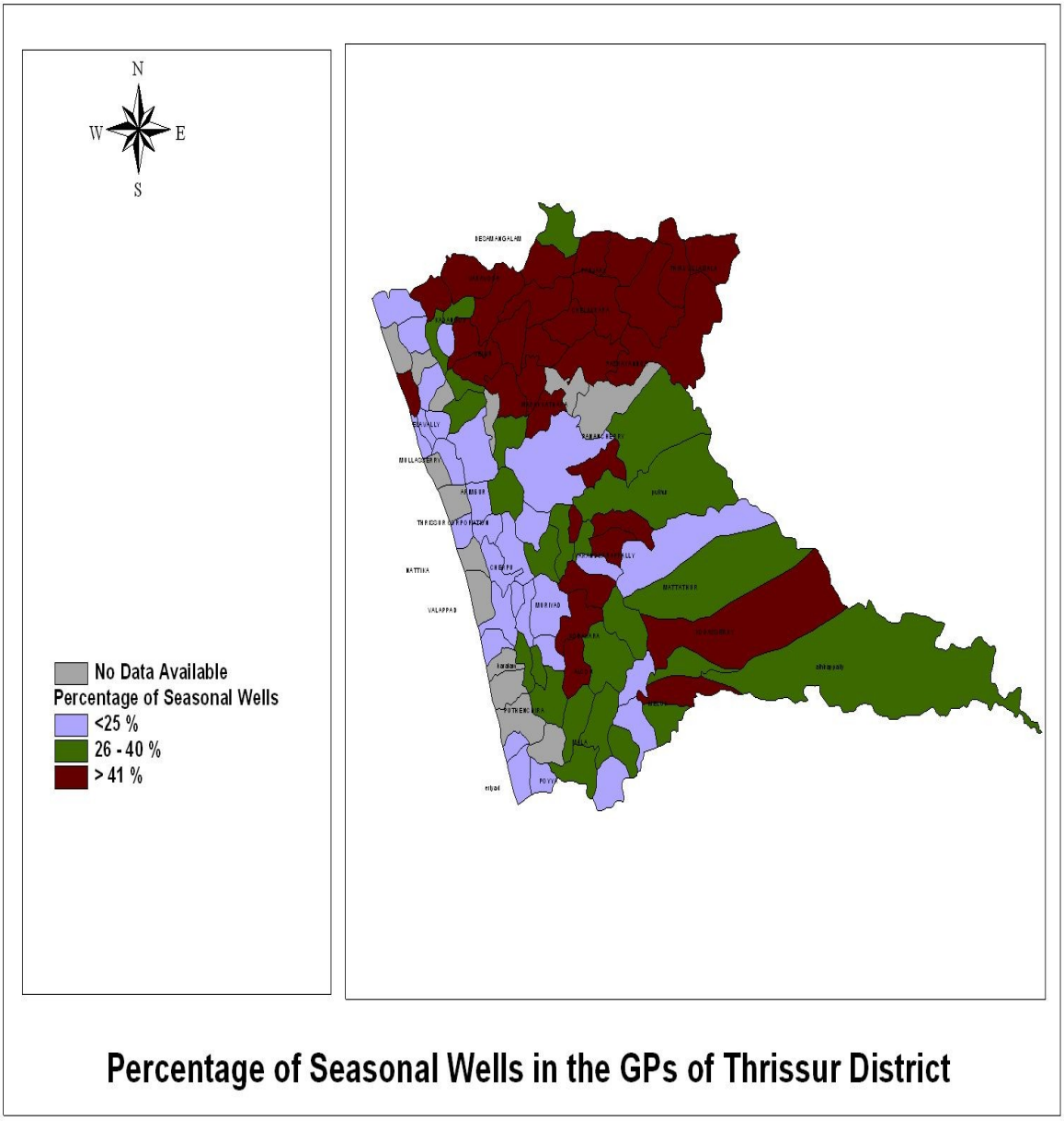
Water Scenario: District – Our Common Future

The District is having four perennial rivers and is rich in water sources blessed with an average rainfall of 3130 mm per annum. However, on account of various reasons, the river systems are facing serious sustainability issues with out having sufficient summer flows, and wetland ecosystems are dwindling rapidly. The ground water aquifers depleting at a rapid rate with Kodungalloor becoming an over exploited zone and Methala, Nattika, Mala and Ollookkare are declared as semi critical. The overall depletion of water resources have also lead to saline intrusion at an alarming rate and raising serious water quality issues. This will also lead to source sustainability concern for the KWA systems as well and about 50% of the water supply systems could not provide the designed service level.

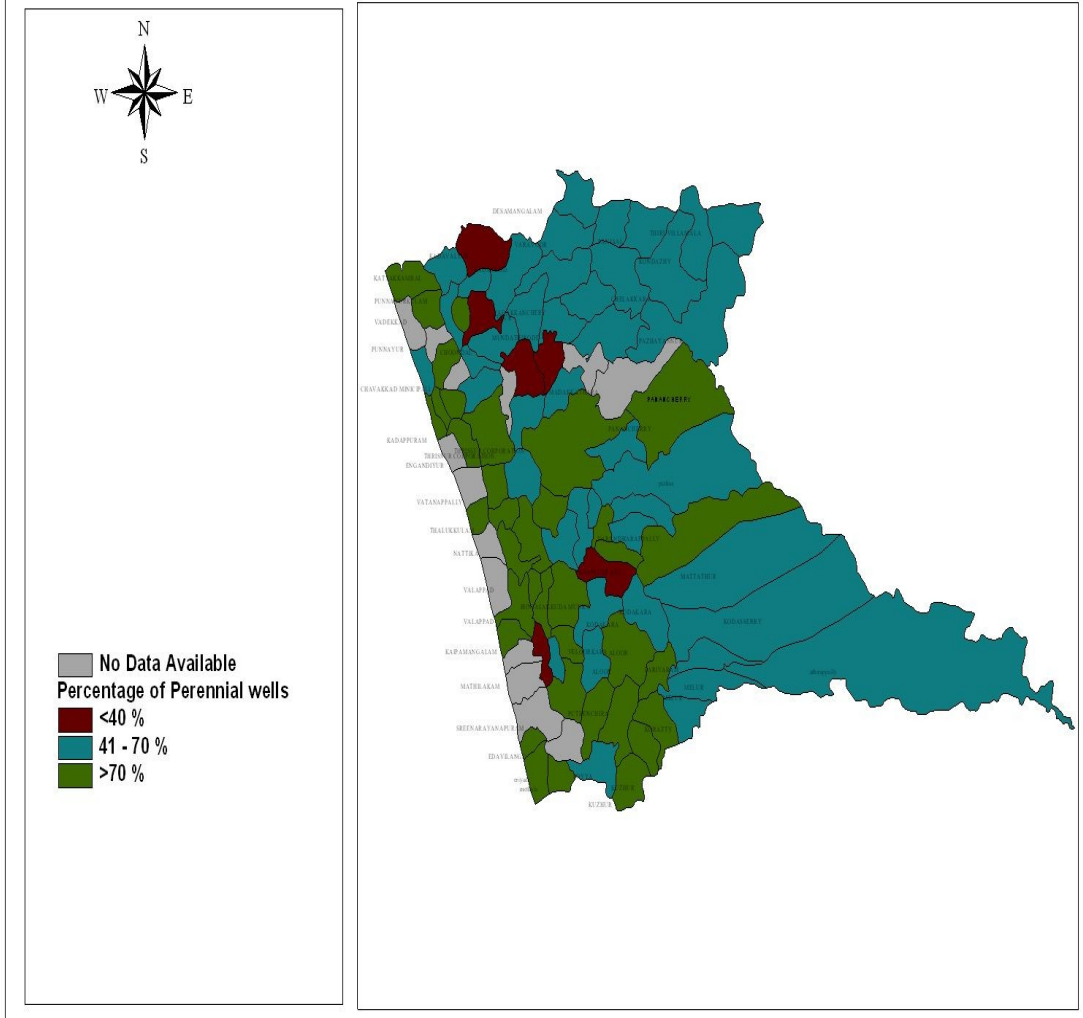


GROUD WATER EXTRACTION STATUS 2008

The district is having a total population of over 3 million living in about 6 lakh households. In accordance with the census data, bout 72 % of the pollution is depending on domestic wells for drinking water. Of the total number of 4.5 lakh open wells, 70% are non perennial leading to acute drinking water scarcity during lean periods.

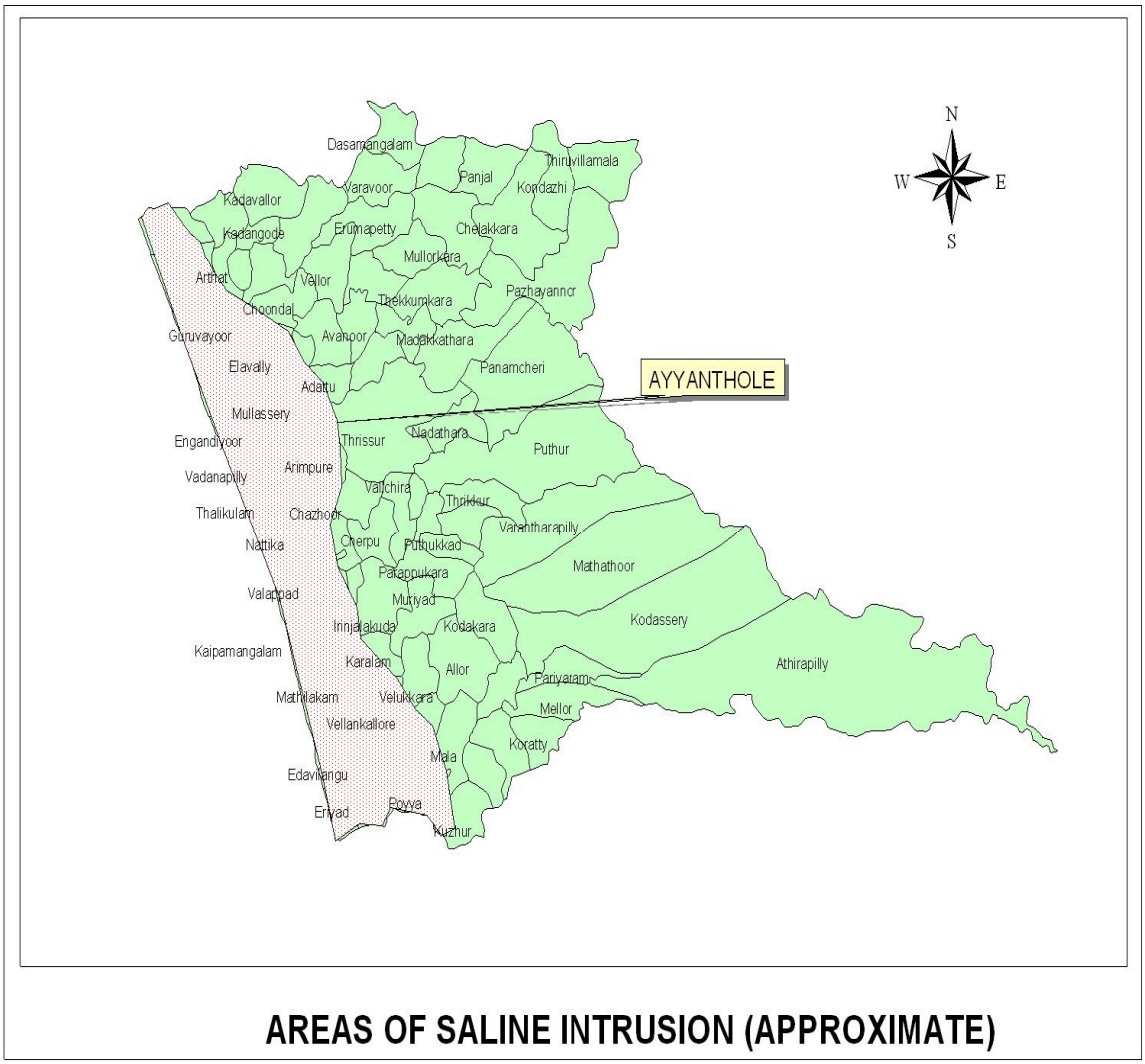


Percentage of Seasonal Wells in the GPs of Thrissur District



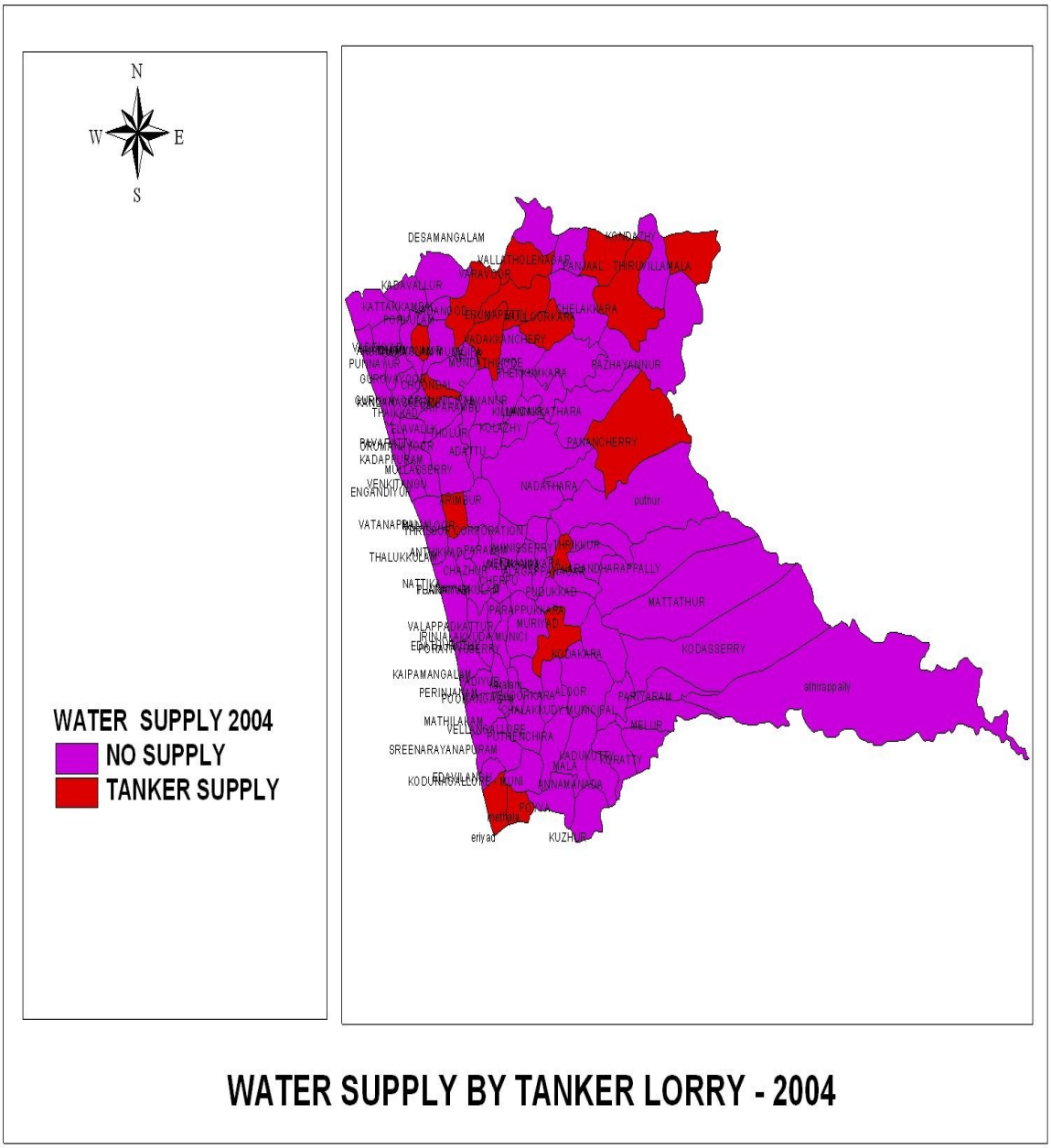
Percentage of Perennial wells in the GPs of Thrissur District

The district is spending more than Rs. 100 lakhs every year for supply of water in tanker Lorries. Drying up of wells is also leading to the heavy burden on the women and children in carrying water from distant sources. On an average poor households spend about 2 hours a day for fetching water in rural areas. Overall, despite heavy investments in water supply over the years, the outcomes in terms of water quantity, quality and source sustainability are not commensurate. We have been investing more in creation of water supply based assets and 'water production' and very little in water conservation / recharge and heading towards a bleak common future.



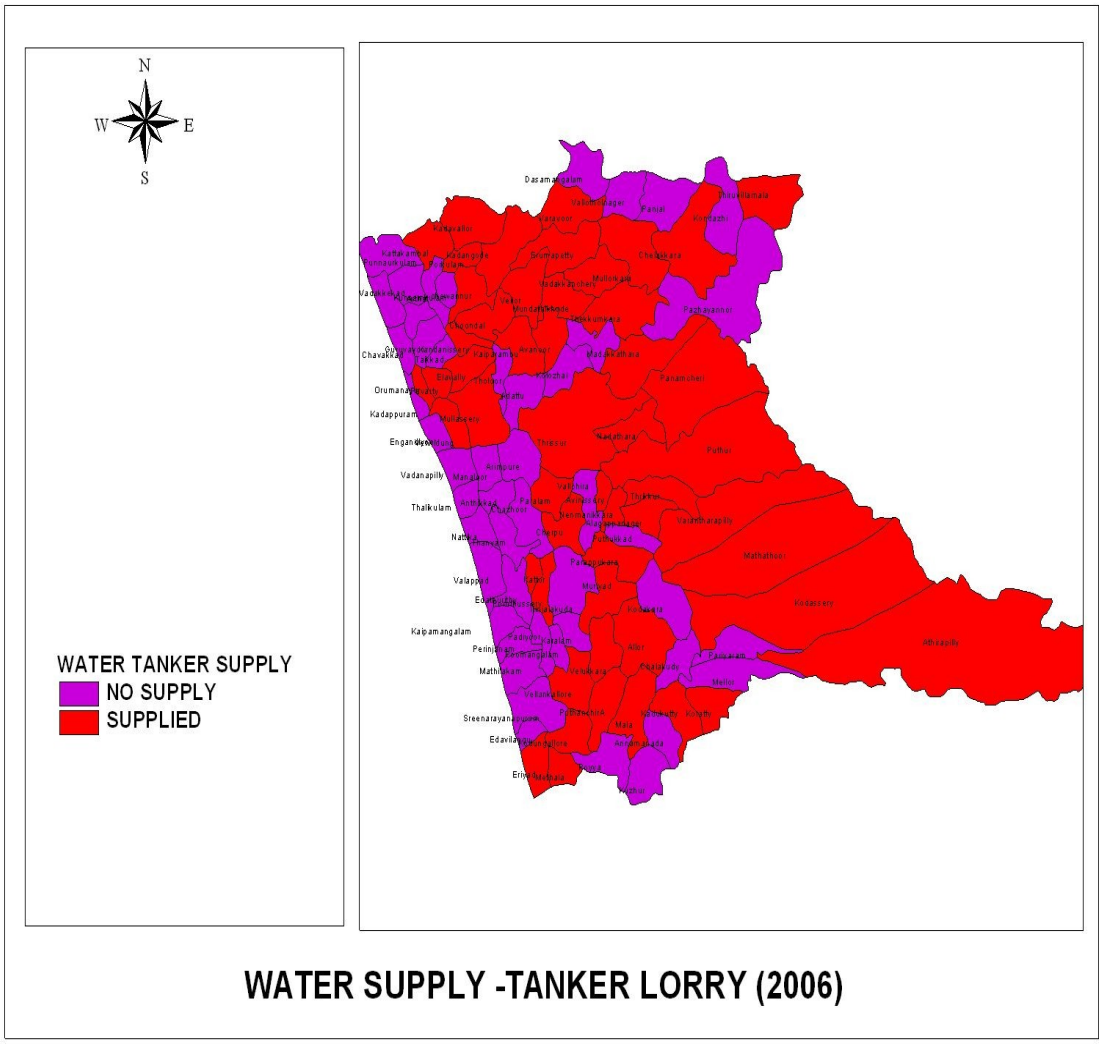
AREAS OF SALINE INTRUSION (APPROXIMATE)

The following Map shows the areas catered to by tanker water supply during drought season in 2004 and 2006 indicating the rapid pace at which the district is water stressed.



Comparing the drought and consequent scarcity of drinking water supply situation between 2004 and 2006, it is seen that there is a drastic increase in the areas as well as in terms of money spent in catering to drinking water supply through tanker lorries. This is an alarming situation as far as the district of Thrissur is concerned. The only way by which this can be handled is by rejuvenating the lakhs of domestic open wells, which are

at once part of the culture of the community in the district. The domestic open wells have been developed solely through private household investments and would amount to several times the investment made by the Public sector in drinking water supply related asset creation. Therefore, it is only logical that we try to recover the already existing assets in the rural water sector by focusing on the rejuvenation of domestic open wells and hence the rationale of the Mazhapolima campaign.



WATER SUPPLY -TANKER LORRY (2006)

Undoubtedly water conservation and recharge is the only way to address scarcity issues sustainably, which requires collective action by all stakeholders, on the basic premise that, water is everybody's business. This is to be done holistically, comprehensively and scientifically, with a menu of technical options/intervention programmes, ideally on a

watershed/river basin basis. Notwithstanding the above factor, this year the district is planning to have a single well centric theme, which is the least cost option to utilize and leverage the investments already made with the slogan “Fill Your Wells” with lead role of the PRI institutions, reinforcing the principle of subsidiarity. This could also be supplemented by public water bodies, ponds and wells. The next year the theme would be sanitatization of wells for quality sustainability.

Mazhapolima: Well Centric Re-charge Programme - Rationale

As stated elsewhere, open well recharge is one of the components of the programme. Economy and practical wisdom suggests immediate utilization of the existing capacity created be given immediate priority. The district is having about 4.5 lakh open wells, equaling investments to the range of Rs. 1800 crores, at a modest rate of Rs. 40000 per well. As the wells are widely dispersed, carpet /area approach is feasible in water recharge. Assuming an average yield of 15000 litre per day, the wells have a combined yield of 6.6 million m^3 and a storage capacity of per annum equivalent to 10 Malampuzha type reservoirs.

Added attraction for the State is the favourable spread of rainfall having intermittent showers tucked between two monsoons. The critical advantage in terms of quantity and quality is from the rain catch during lean periods. Moreover with a 1000 sq.feet area will provide 3.00 lakh litre per year which will provide a per capita availability of 136 litre per day per person, well above the national standards of 70 lpcd.

Leveraging Social Capital

The district is having very rich social capital in terms of very vibrant and active PRIs, functionally effective and networked SHGs/ Kudmbasree, very active NGO/CBO base and a supportive political leadership. The district being one of the major project area of jalanidhi, could harness the experience to a great extent. We also have rich traditional wisdom, accumulated knowledge base and proven experience in rain water harvesting with many best practices. The programme envisages networking all these and facilitating a wider canvass for collective efforts. The programme is outcome oriented that facilitate diverse processes suitable to local conditions. At the end of the day the target and

outcomes are to be achieved and we will be having many and varied replicable approaches in achieving the common goal

Harvesting Roof water and its diversion to open dug well is the key tool in the programme. It is envisaged as a collective and collaborative programme of the Panchayati Raj Institutions, NGOs, Development Activists, Scientists, Rural Libraries and Recreation clubs, Jalamitrams and Kudumbasree among the social capital of the District.

Implementation Arrangements

IEC and Awareness:

Mazhaplima is not only a programme for the present and future. Massive awareness and IEC towards demand generation is required. As recharge in one land holding may not have one to one correspondence in benefit, for sustainable outcome watershed approach /river basin approach is the key. Isolated and random efforts would not yield sustainability. We have excellent example of success in programmes like the total literacy, polio eradication etc which have been implemented on a campaign mode. Mazhapolima would also follow such best practices. The overall strategy in IEC would be as follows:

(a) Direct Contact programme: As the message shall have to be reached and owned by every household, one of the key pillars of the strategy would be direct contact programme having the following elements:

- Adoption of the programme by the DPC and appeal to all the GP/BP Presidents
- Special Grama sabha /ward sabha chaired by the GP President/ Standing Committee Chairperson
- Networked participation of all GP level stakeholders (inclusion is the theme and not exclusion) Departments/agencies, anganwadis, Asha, VEOs, NGOs, CBO, religious and charitable agencies, clubs, schools, Kudumbasree, local resource team etc.
- The Grama sabha will constitute a resource team not exceeding 12 experts and key professionals and update and prepare the water atlas/ resource map indicating

open wells. The team will prepare action plan for recharge using the common guidelines.

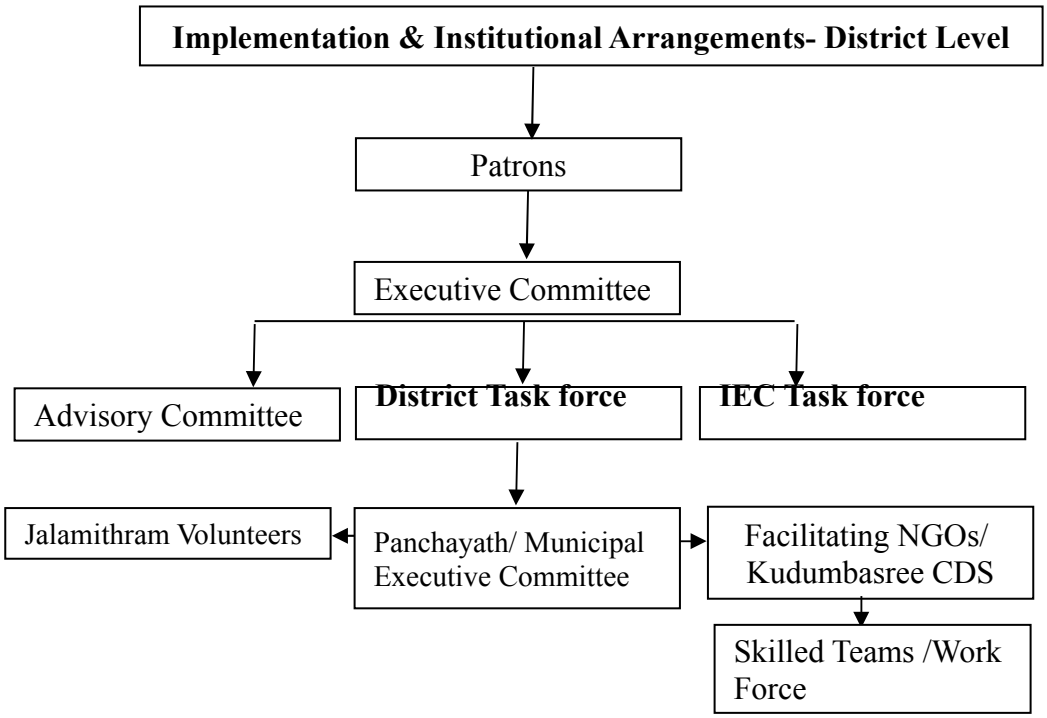
- The Grama sabha will also select a campaign committee and will address the children and schools/clubs and NGOs as a focal change agent in carrying the message. The cost of the campaign could be met through local sponsorship and also using the funds available inter alia for IEC in TSC and health sectors.

(b) Media Campaign: Considering the overall effectiveness in rolling out the campaign, this would be done at the district/block level through the press and other media (TV/Radiao etc.). A team of development journalists would be taken to best practice sites and the cost of the campaign would be met through sponsorship and leveraging funding under appropriate programmes.

(C) Documentation and Process Audit would also be done as part of the campaign.

Institutional Arrangements

The programme is to be implemented through collective action, networking key stakeholders, including NGO/CBOs, private sector, clubs and associations and other agencies, centered around the Grama Panchayath. GP is the nodal implementing agency in partnership with the community with the facilitating support of the Government and departments. This is a bottom up process “inverted pyramid” where the grassroots level actors are at the top, with a “bouquet or mosaic arrangements”.



All elected representatives of State Legislative Assembly, Parliament, Municipal Councils and the worshipful Mayor of the Trichur Municipal Corporation will be the Patrons of Mazhapolima Movement. The campaign will have an Advisory Council consisting of eminent scientists and experts in the field. The Implementation arrangements will be overseen by an Executive Committee under the Chairmanship of the District Collector. Day to day activities will be looked after by a Task force, which is again headed by the District Collector. NGOs and other activists will support the implementation arrangements at the local levels.

Implementation of the scheme at the Grama Panchayath/ Municipality level will be facilitated by a local level Executive Committee, which is presided over by the Chairperson/ President of the local body. NGOs and Jalamitrams will extend facilitation support to implement the programme. Where the services of NGO are not needed / available, the Community Development Society under the Kudumbasree could facilitate the implementation arrangements.

Activity Plan

The programme envisages the following generic Activity Plan, which could be modified through the consultative process at the GP level.

Activity	Description	Key responsibility/ Composition
Special Gramasabha/ Ward sabha	Starts with special grama/ward sabha announcing the message" Our water our future" and 'wells for welfare'. The Ward/sabha with the resource team will conduct the reconnaissance survey/PRA and prepare a water resource atlas /scarcity Map with the inventory of open wells and ponds and prepare the resource map	GP/Standing Committee/ward member/NGO/CBO/ Schools/private sector/clubs/Kudumbasree /Departments (Education/health/anganwadi/ Kudumbasree etc.
Preparation of Action Plan and Approval Ward/GP level	The ward sabha will approve the Action plan comprising the following components: (i) IEC and Awareness campaign: (ii) Training and Capacity Building Plan; (iii) implementation plan: (iv) financing plan and (v) monitoring and documentation plan	GP resource Team/Nodal NGO consolidated and approved by GP through a resolution
Implementation Task Force or Jalasuraksha Samithies	A task Force supported by the resource team will be constituted from among the key stakeholders at the GP level with the mandate of programme implementation.	Chaired by the GP president, Standing Committee chairman as Vice Chairman and GP Secretary as convener. The team will be inclusive both not more than having 13 members
Block Jalasuraksha Samithies	Block level Committee will consolidate the block level plan, oversee implementation, coordinate and direct action, poling and leveraging resources and infuse innovative resource mobilization ad integration of ongoing programmes	Block Panchayath President as Chairman and BDO as Convener
District Jalasuraksha Samithies	District Advisory Committee will be chaired by the DP President and DC Vice Chairman with Block presidents and Presidents of the GP Association and selected experts as members and DPO as convener. The Executive Committee will be Chaired by the DC and selected experts, NGOs and key departments as members	

Jalamitrams will help in conducting various IEC programmes at Municipal and GP level. This IEC programme among other things will include door to door mazhapolima campaign and awareness drive. The Jalamitrams will be local contact persons on whom the public can rely upon for the guidance on choice of technology options and its implementation. The Campaign will publish a booklet which will contain information on technology options. Each participating household will be given a copy of the booklet for guidance.

Technology Options

The programme offers an array of cost effective choices for the community, mainly based on traditional methods and proven choices as follows:

Technology Options: Matrix

Technology choice	**Specification**	**Indicative Cost-Range in Rs**
Open well (Drinking)		
1. Roof top harvest with Sand filter*	PVC Gutters are fixed to collect water from roof and water is diverted to the filter using a PVC pipe. The filter consists of sand, metal and charcoal	2500-3750
2. Roof top harvest with ordinary Nylon filter	Water is harvested from the roof and is diverted to the well through a Nylon or cloth filter using a PVC pipe.	1250-2500
Open wells/Ponds (Non drinking)		
1. Rooftop harvesting with out filter	Water harvested from the roof top is directly fed into the well	500-1000
2. Surface run off catch	Using a bund, trench or pit	500-1000
3. Rain pits	Open pit dug with a specification of 0.75 m x 0.75m x 0.75m	250-500
4. Backwash with Phyto-remediation	Usually meant for ponds in the lowlands, where a variety of plants and shrubs and trees are planted around the pond to purify water, appropriating the purification properties of plants and trees	2000-4000
(*) Additional Rs. 500 may have to be added for polyethylene sheets for thatched roofs		

Detailed technical manual have been prepared for the benefit of the implementing partners.

Capacity Building of Stakeholders

Stakeholders at the Grama Panchayath level in general are largely unaware of the significance of ground water extraction and recharge systems. Therefore, it is imperative to capacitate the stakeholders at the grassroot level so as to equip them to take informed choices with regard to the ground water recharge. We propose the following strategy for capacity building under the Mazhapolima campaign

No	Stakeholder Group	Type of Capacity Building
1	Grama Panchayath Council	Awareness on Ground water table, extraction, recharge techniques and legal regimes
2	Local Volunteers including Kudumbasree, Jalamithrams, NGOs, CBOs and local skilled persons	Skill building on Rain Water Harvesting, Water Literacy Monitoring and Documentation
3	Media	Awareness Programmes and Exposure programmes on focused good practices
4	Task Forces, Executive Committee, DPC, Members of District and Block Panchayath	Monitoring, Documentation and Awareness Programmes along with Exposure visits to Good practices.

Audit and Accountability

The programme will be subjected to social audit and transparency audit at various levels. As the entire community is involved and implementation is participatory and owner driven, the implementation systems itself will take care of financial prudence and economy. Where ever, Government funds are involved the same will also audited through well laid down government audit system as applicable to the Panchayathi Raj System.

Monitoring and Evaluation

The programme will have comprehensive monitoring system comprising (a) process monitoring and (b) programme monitoring. The implementation will be monitored concurrently and feedback ploughed back for on course correction. The process elements will be documented and monitored to capture best practices and learning. Outcome indicators will be evolved mainly in terms of sustainability of source, health and reduction in public expenditure etc. captured. The programme will also be evaluated for its sustainability with the help of well designed sustainability indicators.

Project Cost and Financing options

Based on the modest estimate of having 4.5 lakh wells in the district, the total cost of the programme and the financing options are worked out as follows.

Rs. In lakhs

Category	Labour Cost	Material Cost	Total Cost
Better off Households (70%)	1260	5040	6300
Worse off Households (30%	540	2160	2700
Sub Total	**1800**	**7200**	**9000**
Awareness & IEC/M&E			100
Training / Capacity Building & community Strengthening			100
Grand Total			**9200**

Cost Sharing and Means of Financing

Sector/Programme	Financing Description	Cost Sharing (%)	Amount (Rs. Lakhs)
NREGS[1]	Labour cost mainly for BPL/SC/ST	15	1380
SC/ST Funds (PRI)[2]	SC/ST household	5	460
Development Plans (PRI)		25	2300
Housholds	Material /labour unit cost	30	2760
Private Sector/NGOs/ Sponsorship	Programme support and IEC/media camaign	15	1380
GoK/[3] CCDU[4]/Jalanidhi/ GoI Donors	IEC & Awareness campaign, Training and capacity building and programme support	10	920
Total		100	9200

Thrissur district has 92 GPs and 7 Urban Local Bodies, thus making it 99 Geographical Units. Average cost per local body is assumed at an average of Rs.93 lakhs

It is expected that, most of the cost sharing towards, communication campaign, IEC and training would be met from donor support. The programme cost sharing is indicative and flexible according to the local needs. Basic strategy is to generate demand through awareness and IEC, facilitate the translation of demand into re-charging with the support of key resource groups and inclusion of the weaker sections will be ensured by

[1] NREGS – National Rural Employment Guarantee Programme;
[2] PRI – Panchayat Raj Instituions – Distrct, Block and Grama panchayat:
[3] GoK – Gvernment of Kerala:
[4] CCDU: Communication and Capacity Building Unit of GoK supported by GoI.

selective/targeted subsidy. Under the programme private investments is for the public good and ground water is a common pool resource.

Ongoing programmes: The programme will also leverage resources from Watershed and soil conservation programme, irrigation including minor irrigation, Agriculture, etc., wherever feasible.

Annexure:
Mazhapolima Movement - Committees

Patrons
Hon.Speaker and Hon. Minister (Revenue) who is also the district Minister, all MLAs, MPs, Mayor and Municipal chairmen

Advisory Council
Chairman: President Jilla Panchayat
Members

Dr.E.J James, Former Executive Director CWRDM
Sri. T.N.N Bhattathiripad
Dr.S.Shankar, KFRI
Standing Committee Members of Water, Sanitation, Health and Education Jilla Panchaayat and (other members of the District water and Sanitation Mission)

The Council can co-opt any other member/expert as and when necessary.

Executive Committee:

Chairman: District Collector

Executive Engineer, Kerala Water Authority
District Planning Officer
Deputy Director – Panchayaths
District Information Officer
District Officer, Ground Water Department
District Officer, Soil Conservation
Executive Engineer, Minor Irrigation
Executive Engineer, Major Irrigation
Project Manager, DPMU, Jalanidhi
P.K.Kurian, Capcell, Jalanidhi
District Officer, Sanitation Mission
District Officer, NREGP
Coordinator, Kudumbasree
Joint Director, Agriculture
Dr. Jalaja, Land Use Board
Representative, ESAF
Representative, SEUF
Dr.Sunny George, KIDS, Kottapuram
Dr. Jos C Raphael, Mazha Kendram
Sri Vinod, Maithri Palghat
Mr.K Ramdas, Coordinator, District Rainwater Harvesting
Dr. Muhammad Kunju, KFRI
Deputy Director of Education
District Education Officer
Principal, DIET
Dr. Rajagopalan, Prakruthi Patana Kendram

Abbreviations Used in the Document

NGO	Non Governmental Organisation
CBO	Community Based Organisation
PRI	Panchayathi Raj Institution
GoK	Government of Kerala
GP	Grama Panchayath
BP	Block Panchayath
DP	District Panchayath
DC	District Collector
LPCD	Litres Per Capita Per Day
SHG	Self Help Group
IEC	Information – Education - Communication
DPC	District Planning Committee
VEO	Village Extension Officer
TSC	Total Sanitation Campaign
CDS	Community Development Society
PRA	Participatory Rural Appraisal
DPO	District Planning Officer
M&E	Monitoring and Evaluation
NREGP	National Rural Employment Guarantee Programme
CCDU	Communication and Capacity Development Unit
GoI	Government of India
BPL	Below Poverty Line
SC	Scheduled Caste
ST	Scheduled Tribe
KFRI	Kerala Forest Research Institute
MLA	Member of the Legislative Assembly
MP	Member of Parliament
DPMU	District Project Management Unit
ESAF	Evangelical Social Action Forum
SEUF	Socio-Economic Unit Foundation
KIDS	Kottapuram Integrated Development Society
DIET	District Institute of Education and Training