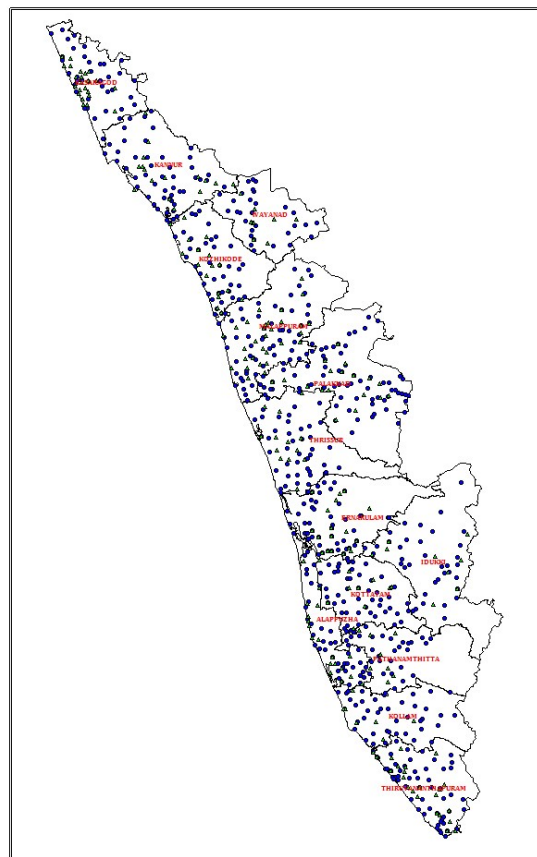


TECHNICAL REPORT SERIES



GOVERNMENT OF INDIA
MINISTRY OF WATER RESOURCES
CENTRAL GROUND WATER BOARD

GROUND WATER YEAR BOOK OF KERALA (2016-2017)



KERALA REGION
THIRUVANANTHAPURAM

SEPTEMBER 2017



GROUND WATER YEAR BOOK OF KERALA (2016-2017)

Table of Contents

Foreword

I INTRODUCTION	1
II HYDROGEOLOGY	4
Physiography.....	4
Geology.....	4
Occurrence of Groundwater	5
Depth to water level during April 2016	20
Depth to water level during August 2016	21
Depth to water level during November 2016.....	21
Depth to water level during January 2017	22
V WATER LEVEL FLUCTUATION IN KERALA DURING 2016-2017.....	31
Fluctuation between April 2016 and August 2016.....	31
Fluctuation between April 2016 and November 2016	31
Fluctuation between April 2016 and January 2017	32
VI COMPARISON OF 2016-17 WATER LEVELS WITH THE DECADAL MEAN (2006-2015).....	39
Fluctuation between Mean April (2006-2015) and April 2016.....	39
Fluctuation between Mean August (2006-2015) and August 2016.....	39
Fluctuation between Mean November (2006-2015) and November 2016	39
Fluctuation between Mean January (2007-2016) and January 2017.....	40
VIII. BEHAVIOUR OF PIEZOMETRIC HEADS IN DEEP AQUIFERS OF CONFINED/SEMICONFINED NATURE DURING THE YEAR 2016-2017	55
Sedimentary area:.....	55
Crystalline area:.....	56
XI HYDROCHEMISTRY	59
Edapal	Error! Bookmark not defined.
Malappuram	Error! Bookmark not defined.
SUM UP	64

List of Figures		
1.1	Location of Ground Water Monitoring Wells in Kerala State	3
3.1 a	Departure of rainfall from normal during April –May 2016 (Summer Season)	10
3.1 b	Departure of rainfall from normal during June - September 2016 (SW Monsoon Season)	10
3.1 c	Departure of rainfall from normal during October - December 2016 (North-East Monsoon Season)	11
3.1 d	Departure of rainfall from normal during January – March 2017 (Winter Season)	11
3.2	Seasonal rainfall contribution to Annual rainfall in percentage (2016-17)	17
3.3	Seasonal Rainfall Distribution and their Percentage Contribution to Annual Rainfall (2016-17)	18
3.4	Comparison of 2014-15 Seasonal Rainfall with the Seasonal Rainfall of 2016-17	19
4.1	Depth to water level - April 2016	23
4.2	Depth to water level - August 2016	24
4.3	Depth to water level - November 2016	25
4.4	Depth to water level - January 2017	26
5.1	Water Level Fluctuation with respect to pre-monsoon water level (April 2016 – August 2016)	33
5.2	Water Level Fluctuation with respect to pre-monsoon water level (April 2016 – November 2016)	34
5.3	Water Level Fluctuation with respect to pre-monsoon water level (April 2016 – January 2017)	34
6.1	Water Level Fluctuation with respect to mean water level (April 2016 vs mean of 2006-2015)	41
6.2	Water Level Fluctuation with respect to mean water level (August 2016 vs mean of 2006-2015)	42
6.3	Water level Fluctuation with respect to mean water level (November 2016 vs mean of 2006-2015)	43
6.4	Water Level Fluctuation with respect to mean water level (January 2017 vs mean of 2007-2016)	44
7.1	Map of Kerala showing trend of pre-monsoon water level during 2007 – 2016	50
7.2	Map of Kerala showing trend of post-monsoon water level during 2007– 2016	51
7.3	Hydrograph of GWMW tapping phreatic aquifer in laterites at Kommeri, Kannur District	52
7.4	Hydrograph of GWMW tapping phreatic aquifer in laterites at Madavur, Thiruvananthapuram District	52
7.5	Hydrograph of GWMW tapping phreatic aquifer in laterites at Kottiyur, Kannur District	53
7.6	Hydrograph of GWMW tapping phreatic aquifer in laterites at Ayur, Kollam District	53
7.7	Hydrograph of GWMW tapping phreatic aquifer in Weathered Crystalline at Palakkad, Palakkad District	54
7.8	Hydrograph of GWMW tapping phreatic aquifer in laterite at Mannanthala, Thiruvananthapuram District	54
8.1	Hydrograph of piezometer tapping Warkalai aquifer at Karthikappally, Alapuzha District	57
8.2	Hydrograph of piezometer tapping Quilon aquifer at Karthikappally, Alapuzha District	57
8.3	Hydrograph of piezometer tapping fractured aquifer at Vadakkancherry, Palakkad District	58
8.4	Hydrograph of piezometer tapping fractured aquifer at Koduvayur, Palakkad District	58
8.5	Map showing hydrograph stations with EC value more than 1000 ($\mu\text{S}/\text{cm}$) at 25°C and nitrate value is more than 45 Milligram per litre	
8.6	Map showing hydrograph stations with nitrate value more than 45 mg/l	
List of Tables		
1.1	District-wise break-up of Ground Water Monitoring Wells in Kerala State as on	2

	31.03.2017	
2.1	Geological succession of Kerala	5
3.1	Monthly rainfall distribution during 2016-2017	12
3.2	Seasonal rainfall, normal rainfall and the percentage departure in 2016-2017 in Kerala State	13
3.3	Seasonal rainfall distribution and their percentage contribution to annual rainfall (2016 - 2017)	14
3.4	Comparison of 2014-2015 seasonal rainfall with the seasonal rainfall of 2016-2017	15
4.1	District wise well frequency for different ranges of depth to water level (April 2016)	27
4.2	District wise well frequency for different ranges of depth to water level (August 2016)	28
4.3	District wise well frequency for different ranges of depth to water level (November 2016)	29
4.4	District wise well frequency for different ranges of depth to water level (January 2017)	30
5.1	District-wise well frequency in different ranges of water level fluctuation (April 2016 - August 2016)	36
5.2	District-wise well frequency in different ranges of water level fluctuation (April 2016 - November 2016)	37
5.3	District-wise well frequency in different ranges of water level fluctuation (April 2016 - January 2017)	38
6.1	District-wise well frequency in different ranges of water level fluctuation with respect to decadal mean (mean April value of 2006- 2015 - April 2016)	45
6.2	District-wise well frequency in different ranges of water level fluctuation with respect to decadal mean (mean August value of 2006- 2015 - August 2016)	46
6.3	District-wise well frequency in different ranges of water level fluctuation with respect to decadal mean (mean November value of 2006- 2015 - November 2016)	47
6.4	District-wise well frequency in different ranges of water level fluctuation with respect to decadal mean (mean January value of 2007-2016 - January 2017)	48
9.1	Frequency Distribution of Electrical Conductivity in Ground Water Monitoring Wells during April 2016	60
9.2	Frequency Distribution of Electrical Conductivity in Ground Water Monitoring Wells during April 2016	60
9.3	Locations showing Electrical Conductivity more than 1000 $\mu\text{s}/\text{cm}$ at 25°C	60
9.4	Locations showing Nitrate > 45mg/l	61
Annexures:		
I	Water level data of Groundwater Monitoring Wells in Kerala State during the year 2016-17.	67-108
II	Chemical analysis data of water samples from Groundwater Monitoring Wells in Kerala during April 2016.	109-120

FOREWORD

Ground water is an important source of water for meeting the drinking, agricultural and industrial needs in India. Over the last few decades, the use of ground water in the country has increased manifold, exerting pressure on the limited resources available and threatening their long-term sustainability in many places. Kerala, though blessed with copious rainfall and abundant surface water resources, depends heavily on the limited ground water resources to meet its drinking and domestic water requirements, especially in the rural habitations. In the recent past, scarcity of drinking water resources during summer months is being faced by several habitations in the State with increasing regularity. Kerala State has limited ground water development prospects owing to the largely undulating topography and predominance of crystalline rocks devoid of any primary porosity. Increasing demand of fresh water resources due to change in life styles, agricultural practices and urbanisation has resulted in increasing stress on the ground water regime in several areas of the State. Contamination of ground water resources from natural and anthropogenic sources is also emerging as a major threat to the sustainability of ground water resources in many areas. Anticipated impact of impending climate change and sea level rise also has the potential to change the ground water regime in the State. Scientific management of ground water resources of the State has become imperative to ensure prevention of further ground water depletion and contamination and to ensure its long-term sustainability.

To build a realistic ground water management strategy, assessment of ground water availability and its quality is a pre-requisite. With this in view, Central Ground Water Board has established a network of Ground Water Monitoring Wells (GWMW) tapping different aquifers in the State. Presently, there are 1672 GWMW in Kerala State, out of which 1404 are dug wells tapping phreatic aquifers and 268 are bore wells /tube wells tapping deeper semi-confined/confined aquifers, which are monitored four times a year. The document "**Ground Water Year Book Kerala (2016-17)**" is a compilation of water level and water quality data collected from these wells during 2016-17. The behaviour of water level during the four monitoring periods and their fluctuations – both seasonal and long term, have been analysed and included in this report. Besides this, behaviour of piezometric heads of deeper aquifers in hard rock as wells as in sedimentary aquifers have also been discussed. The chapter on Hydrochemistry brings out the ground water quality of water samples collected from the wells tapping the phreatic aquifer.

The efforts of the Officers of CGWB, Kerala Region, Thiruvananthapuram in collecting the data and the meticulous work done by the team of officers comprising Dr. N. Vinayachandran, Scientist-D, Smt.Rani V. R., Scientist- C, Shri Sreehari Sarangan, AHG, Smt. V. N. Sreelatha, Sc- C, and Smt. Bindu J. Viju, Scientist- B in compiling this document deserve appreciation. I hope this compilation will be of use to planners, policy makers and stakeholders in the field of ground water in Kerala.

Thiruvananthapuram
September 2017.

(V. Kunhambu)
Regional Director

I INTRODUCTION

Leaving apart the ever-increasing demand for water from various water consuming sectors, our dependence on ground water has increased many fold over the years due to dwindling surface water resources and pollution of most of the surface water bodies. Looking upon the fact that the surface water and ground water systems are not separate entities but a mutually complimenting inter connected system one can appreciate monitoring the changes in these systems over time and space. The changes in the ground water system is not discernible as in the case of surface water systems. To assess the real situation of ground water conditions, it is very essential to monitor the groundwater level and water quality over time and space. Central Ground Water Board is monitoring water level and quality through a network of Ground Water Monitoring Wells distributed throughout the State. The monitoring started from the year 1969 for nine monitoring wells and the numbers of monitoring wells were increased during the subsequent years and became 224 by the year 1979 and the number became 460 by the year 1988. Presently the total number of Ground Water Monitoring Wells (GWMWs) throughout the Kerala State is 1672. Water level is being monitored four times a year during January, April, August and November months and water quality is being monitored from the water samples collected from GWMWs during April.

Kerala State is a narrow stretch of land covering 38,863 sq.km area bordering the Lakshadweep Sea on the western side and Tamil Nadu and Karnataka States on the eastern side. The length of the State from north to south is 560 km and the average width is 70 km. with a maximum of 125 km. It lies between North latitudes 08°18' and 12°48' and East longitudes 74°52' and 77°22'.

The total number of GWMWs as on 31.3.2016 is 1672. Out of these, 1404 are dug wells tapping phreatic aquifers and 268 are borewells /tube wells tapping deeper aquifers of confined / semi-confined nature. These GWMWs are spread over all the physiographic divisions of the State. About 62% of the GWMWs fall in the midland region, 18% in coastal plains, 15% in highlands and 5% in Plateau region. Among the GWMWs tapping phreatic aquifer, 65% are tapping laterite, 17% tapping

weathered and fractured crystallines, 15% tapping coastal alluvium and 3% tapping riverine alluvium. The data of these GWMWs were analyzed to understand the depth to water level scenario in the State, annual fluctuation in the water levels due to the monsoon recharge, long term trend in water levels and the nature of the quality of ground water and the salient features are brought out in this report. Maps of depth to water level, water level fluctuation with respect to April and decadal mean are prepared using the data of GWMWs tapping phreatic aquifer. Some hydrographs representing phreatic, semi-confined and confined aquifers in sedimentary and hard rock aquifers are also incorporated in this report.

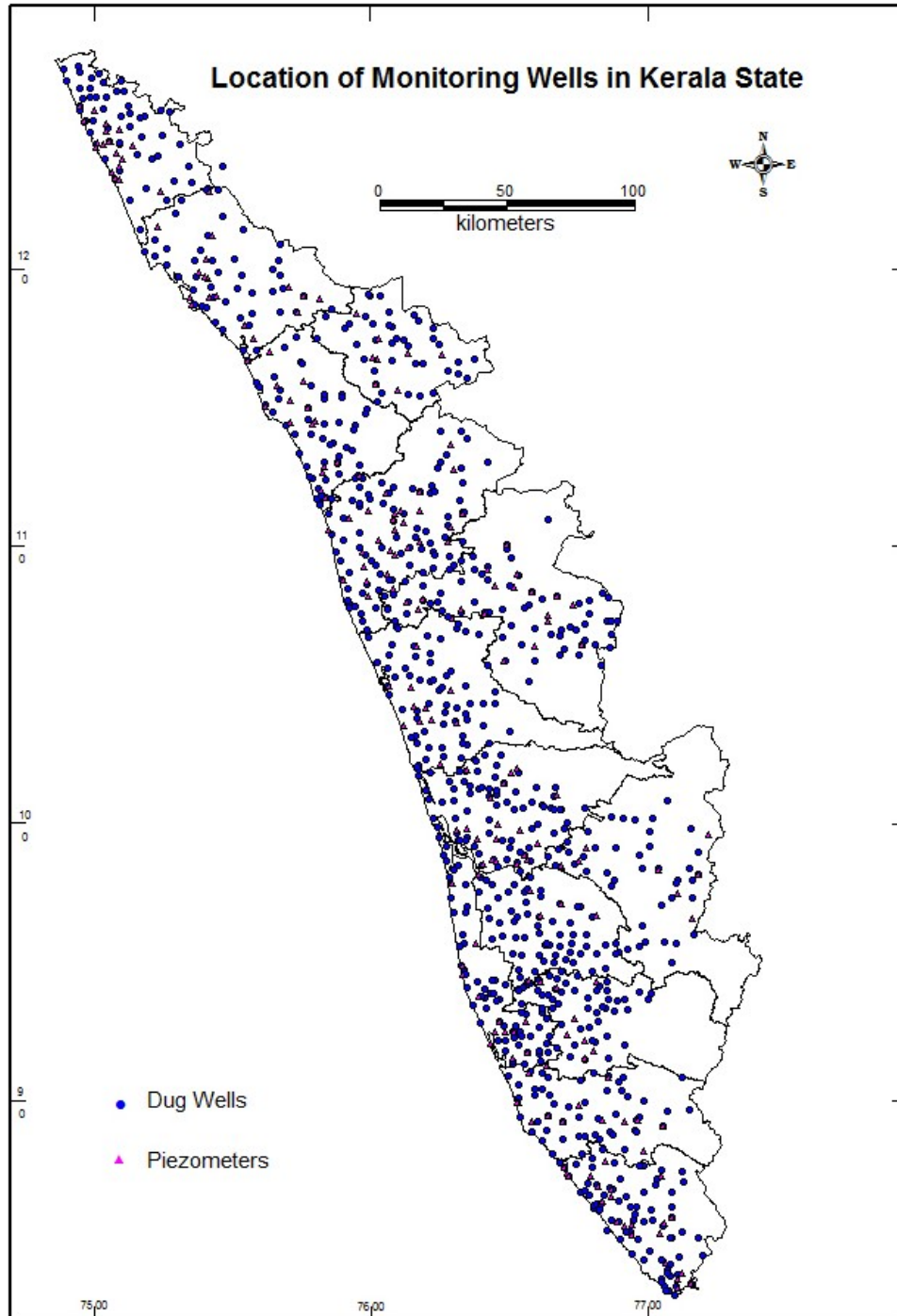
The district wise break-up of GWMWs are given in the Table 1.1 and locations are shown in Figure 1.1. The water level data collected during the year 2016- 17 of GWMWs (dug wells) are given in Annexure-I. The hydro-chemical data of water samples collected during April 2016 are given in Annexure- II.

Table 1.1: District wise breakup of Ground Water Monitoring Wells in Kerala State as on 31-03-2016

Sl. No.	Name of district	No. of GWMW as on 31-03-2016			Density km ² /GWMW
		Dug Wells	Piezometers	Total	
1.	Thiruvananthapuram	114	22	136	12.1
2.	Kollam	109	20	129	12.4
3.	Pathanamthitta	82	14	96	11.1
4.	Alappuzha	81	22	103	12.6
5.	Kottayam	99	8	107	19.2
6.	Idukki	69	8	77	31
7.	Ernakulam	124	18	142	15.1
8.	Thrissur	120	20	140	13.7
9.	Palakkad	120	45	165	18.0
10.	Malappuram	121	21	142	17.3
11.	Kozhikode	84	20	104	18.2
12.	Wayanad	75	9	84	15.5

13.	Kannur	100	16	116	20.8
14.	Kasaragod	106	25	131	14.5
	Total	1404	268	1672	16.2

Fig No 1.1



II HYDROGEOLOGY

The occurrence and movement of ground water is mainly controlled by factors like physiography, geological setting, etc. and are described in the following paragraphs.

Physiography

Physiographically the State is divided into three major units viz. the coastal plains, the midlands and the hill ranges. The coastal plains have an elevation of less than 7.6m whereas the elevation of the midland ranges from 7.6 to 76 m and that of the hill ranges is more than 76 m above mean sea level (amsl). Along the hill ranges two distinct plateau regions are seen, the important being the Wayanad plateau, which covers major part of Wayanad district, the general elevation of which is above 700 m amsl. The other plateau is the Munnar plateau in Idukki district, the elevation of which is about 1000 m amsl.

Geology

Geologically 88% of the State is underlain by crystalline rocks of Archaean age, which is a part of the peninsular shield. The crystalline complex of Kerala is composed of charnockites, gneisses, schists, migmatites and rocks of the Wayanad supracrustals. Along the western portion of the State the crystalline rocks are overlain by the sedimentary formations of Tertiary age and Recent alluvial formations. The Tertiary sequence of formations have been divided into four beds viz. Alleppey, Vaikom, Quilon and Warkalli, the age of which ranges from Eocene to Lower Miocene. Laterites of Sub-recent age derived from the crystallines as well as sedimentary formations are seen all along the midlands. Along the coastal plains, sedimentaries and laterites are overlain by alluvium of Recent age. The geological succession in Kerala is given in Table 2.1.

Table 2.1: Geological Succession of Kerala

AGE	FORMATION	LITHOLOGY
Recent	Alluvium	Sand, clay, riverine alluvium etc. and flood plain deposits of Kuttanad area
Sub-recent	Laterite	Derived from crystalline and sedimentary rocks
	Warkalli	Sand stone, clays with lignite seams
	Quilon	Limestone, marl and clay
	Vaikom	Sandstone with pebbles and gravel beds, clay and lignite
	Alleppey	Carbonaceous clay and fine sand
Undated	Intrusives	Dolerite, Gabbro, Granites, Quartzo-feldspathic Veins
	Wayanad group	Granitic gneiss and Schists
	Charnockites	Charnockites and associated rocks
	Khondalites	Khondalites suite of rocks and its associates

Occurrence of Groundwater

Ground water occurs under phreatic, semi-confined and confined conditions in the above formations. The weathered crystallines, laterites and alluvial formations form the major phreatic aquifers, whereas the deep fractures in the crystallines and the granular zones in the Tertiary sedimentary formations form the semi-confined and confined aquifers.

Thick zones of weathered crystallines are seen along midland region. The depth to water level in the weathered crystallines in the midland area ranges from 3 to 16 mbgl. The midland area sustains medium capacity dug wells for irrigation. Along the hill ranges, the crystalline rocks are covered by thin weathered zone. Mostly dug wells that can cater to domestic needs are feasible along topographic lows. Bore wells tapping deeper fracture aquifer are feasible along potential fractures in the midland and hill ranges. Potential fractures are seen down to 240 mbgl and the most productive zone lies between 60 and 175 mbgl and the discharge of bore wells range between 36,000 and 1,25,000 lph.

Of the four Tertiary beds, the two beds viz. the Vaikom and Warkalli form potential aquifers. The oldest Alleppey beds contain brackish water as inferred from electrical logs, whereas the Quilon beds are poor aquifers. The Vaikom aquifer is seen all along the coast between Quilon and Ponnani and the piezometric surface ranges from 1 to 18 m above msl. The aquifer is extensively developed between Quilon and Kayamkulam. The aquifer contains fresh water south of Karuvatta in Alleppey district and in isolated pockets in Ernakulam district. The annual flow in the aquifer is computed as 43 MCM, of which 10 MCM is brackish. The Warkalli aquifer is seen south of Cochin. The piezometric head in the aquifer varies from 2.6 m above msl to 10 m below msl. The aquifer is largely developed in and around Alleppey. The annual flow in the aquifers is computed as 63 MCM and the draft is around 22 MCM.

Laterites are the most widely distributed lithological unit in the State and the thickness of the formation varies from a few meters to about 30m. The depth to water level in the formation ranges from less than a meter to 25 mbgl. Laterite forms potential aquifers along valleys and can sustain medium duty irrigation wells with the yields in the range of 0.5 - 6 m³ per day.

The alluvium forms potential aquifer along the coastal plains and ground water occurs under phreatic and semi-confined conditions in this aquifer. The thickness of this formation varies from few meters to above 100 m and the depth to water level ranges from less than a meter to 6 mbgl. Filter point wells are feasible wherever the saturated thickness exceeds 5 m.

III RAINFALL DISTRIBUTION IN KERALA DURING 2016-17

Introduction

Rainfall is the major source of ground water recharge and the rainfall pattern plays an important role on the water levels in the phreatic aquifers and in the deeper aquifers. The rainfall data received from India Meteorological Department, Trivandrum for the period from April 2016 to March 2017 is analysed and discussed in this report.

Annual rainfall distribution

The total rainfall ranged from 1263 to 2481 mm during the period from April 2016 to March 2017. The maximum rainfall was recorded in Kasaragod district and the minimum in Thiruvananthapuram district. During the southwest monsoon season, Trivandrum district recorded 572 mm and Kasaragod district recorded 2253 mm, which are the lowest and highest rainfall respectively. During the northeast monsoon season, Wayanad district recorded the lowest rainfall of 332 mm and Kollam district recorded the highest rainfall of 639 mm.

Monthly rainfall distribution

The monthly rainfall data for all the fourteen districts are given in Table 3.1. The maximum rainfall occurred during the months of October to December in all the 14 districts. Almost all the districts recorded with deficient rainfall during the month of October to December due to the influence of north-east monsoon season. The state used to receive sufficient rainfall during the period June to September i.e. during the south-west monsoon but this year the entire state has recorded deficient rainfall. This year it is reverse due to climate change.

Normal rainfall vs. actual rainfall

The actual rainfall during different seasons has been compared with the normal rainfall of the seasons to find out the variation of the rainfall and is discussed in detail in the following paragraphs.

Summer period

The seasonal rainfall and their percentage departure from normal rainfall are given in Table 3.2. During the months of April-May 2016, the departure of pre-monsoon rainfall varied from - 52 to 48% in different districts. As per the IMD norms, five districts were recorded with normal and only one district recorded with

excess types of rainfall, remaining eight districts received deficient rainfall during this period. The maximum departure towards negative side was observed in Kannur district with a maximum deviation of - 52% from the normal. Excess rainfall was received only in Thiruvananthapuram district. There is no scanty rainfall observed. The details are presented in Figure 3.1(a) and table. 3.2

South-west monsoon period

During the southwest monsoon season from June to September 2016, the departure of rainfall in the districts varied from - 24% to -59%. The maximum deficit rainfall recorded in Wayanad and Thrissur districts out of all fourteen deficient rainfall districts. Record time all the fourteen districts received deficient rainfall. None of the district recorded even normal rainfall during the period. The details are given in Figure 3.1(b) and table.3.2.

North-east monsoon period

During the northeast monsoon season from October to December 2016, the departure of rainfall varied from - 33% to - 88 % in different districts. The maximum departure towards deficient rainfall recorded in Kozhikode district. Only three districts recorded deficient rainfall during this season remaining eleven districts received large deficient type of rainfall. No normal rainfall is observed during the period and the details are presented in Figure 3.1(c) and table.3.2.

Winter period

During the months of January to March 2017, the departure of rainfall varied from 20% to 161%. Record time all the fourteen-district received excess rainfall during this winter season. This may be mainly recent development of climate. The details are presented in Figure 3.1(d) and table.3.2.

Seasonal rainfall contribution to the total rainfall of the year 2016-17

The seasonal rainfall contributions to the total rainfall in percentages are given in Table 3.3 and shown in Figure 3.2. The pattern shows that the southwest monsoon season's contribution is increasing from south to north whereas, during the northeast monsoon season the rainfall is increasing from north to south. The other two seasons do not follow any specific pattern.

The rainfall during April and May contributes 5.58% to 38.57 %, south-west monsoon season from June to September 45.30% to 90.82 %, north-east monsoon

season from October to December 2.28% to 19.60 % and January to March 0.7% to 13.7 % in different districts.

Comparison of 2014-15 rainfall with previous year rainfall

The rainfall in various seasons of 2016-17 has been compared with the previous year rainfall for the assessment of the change in the ground water regime. The details are given in the following paragraphs.

Summer season

The rainfall of April and May 2016 has been compared with the summer rainfall of 2015 and the departure is given in Table 3.4 and Figure 3.3. The departure in summer rainfall in the district varied from -4.7% to -60.7 %. The maximum negative departure is observed in Wayanad district and the minimum in Kozhikode district. There is no positive departure is observed during the season and comparatively this summer season received less rain rainfall than the previous year.

Southwest monsoon season

The rainfall during June to September in 2016 has been compared with that in 2015 and the departure is given in Table 3.4 and Figure 3.3. The departure varied from -0.2 % to 32.6%. Thirteen districts received less rainfall in comparison with the previous year and only one Kasargod district received excess rainfall. The average rainfall during the season is 1352 mm which is 70% of the annual rainfall.

Northeast monsoon season

The rainfall during October to December 2016 has been compared with that 2015 and the departure is given in Table 3.4 and Figure 3.3. The departure varied from - 42.9% to 88.4 %. All the fourteen districts recorded much less rainfall in comparison with previous year.

Winter season

The rainfall during January to March of 2017 has been compared with the rainfall of January to March 2016 and the departure is given in Table 3.4 and Figure 3.3. The departure varied from 2187.5 % to -2.7 %. During the winter season, only one district was received normal rainfall and remaining thirteen districts were received excess rainfall in comparison with the previous year. Record time the state has received excess rainfall during this season and this may be mainly due to climate change.

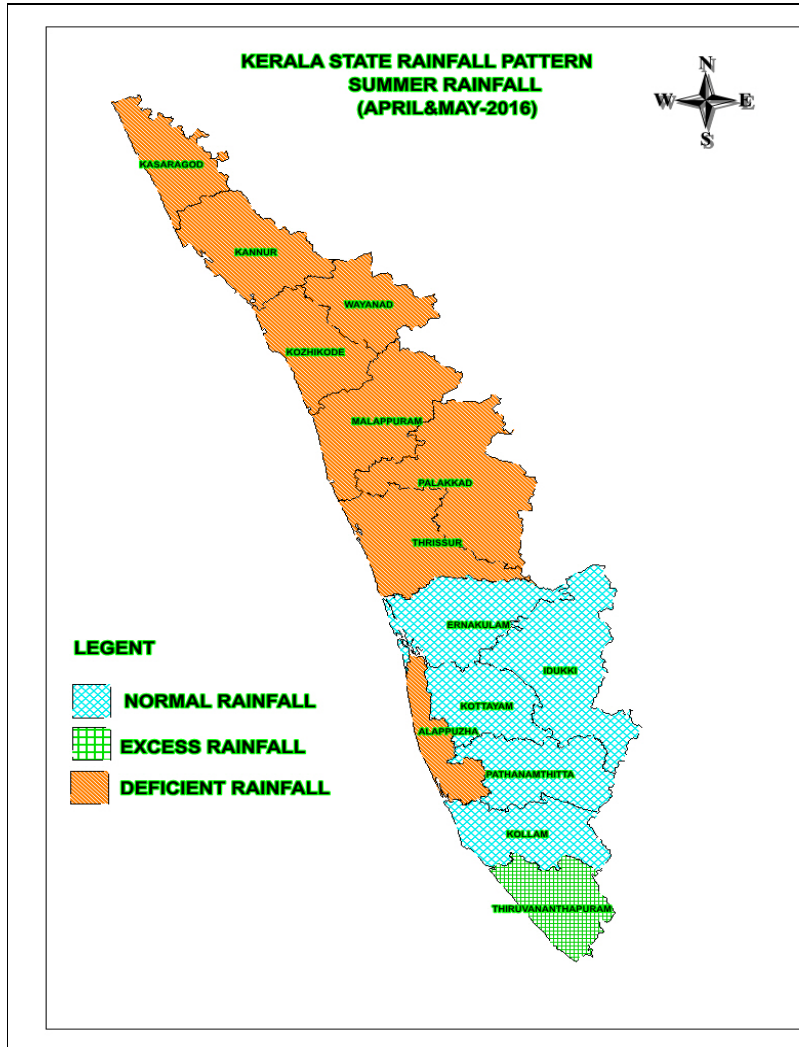


Fig 3.1(a)

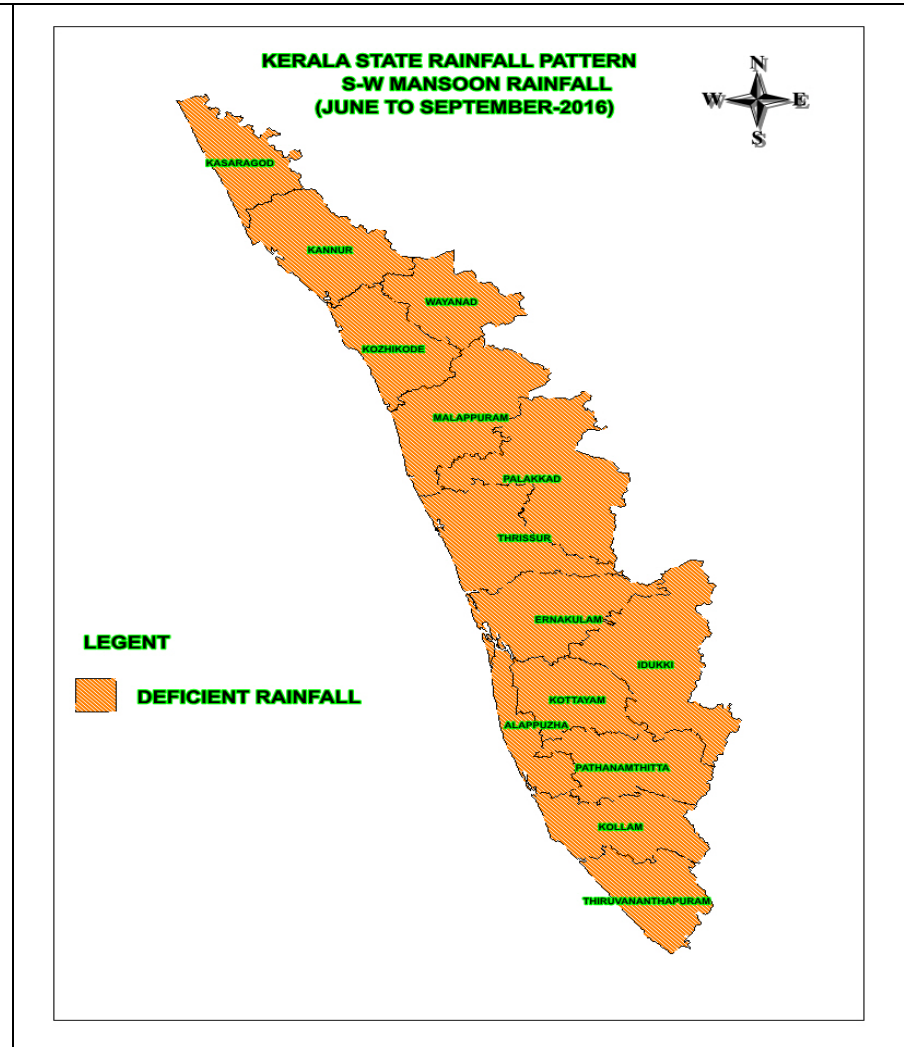


Fig 3.1(b)

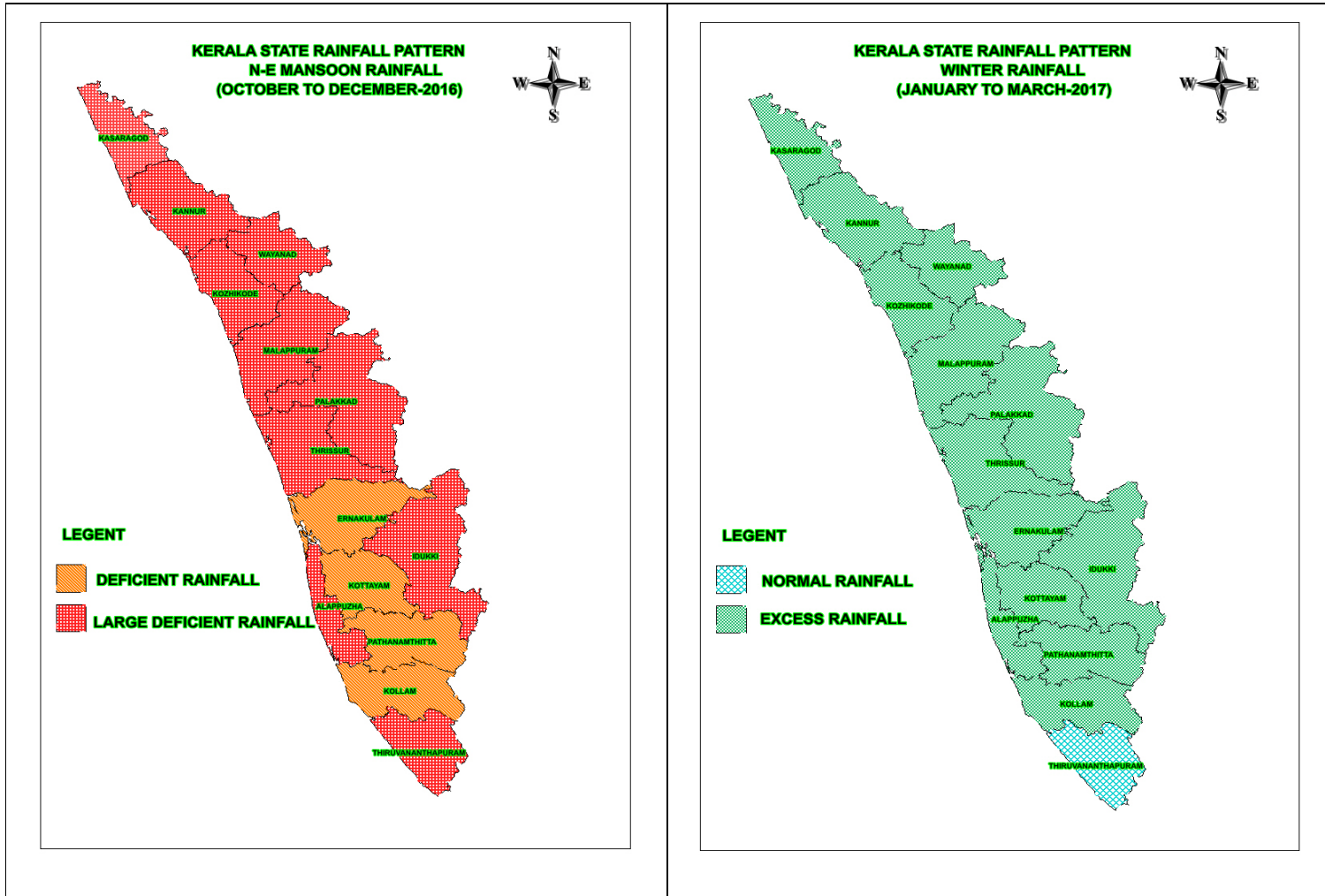


Fig 3.1(c)

Fig 3.1(d)

Table 3.1

Monthly Rainfall Distribution during 2016-17
(Figures in mm)

		2016										2017			
		April	May	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar		
1	Allapuzha	24.6	296.0	524.0	365.6	165.6	79.6	124.0	63.4	21.0	29.9	0.9	81.5	1776.1	
2	Kannur	1.0	138.4	801.8	616.1	436.5	136.6	45.1	22.0	17.3	11.5	0.0	6.8	2233.1	
3	Ernakulam	43.8	322.8	624.6	620.4	238.7	85.7	160.5	115.1	19.5	16.2	0.6	98.4	2346.3	
4	Idukki	39.1	292.7	586.3	540.8	322.6	119.8	117.1	37.9	19.1	12.6	1.3	122.6	2211.9	
5	Kasaragod	0.1	138.3	945.5	719.0	455.6	132.7	23.8	21.7	25.7	18.1	0.0	0.0	2480.5	
6	Kollam	67.3	384.4	508.5	262.8	136.7	42.9	188.9	198.2	19.7	21.5	1.4	143.2	1975.5	
7	Kottayam	56.5	318.7	630.6	431.1	198.6	70.4	154.0	90.7	7.7	23.2	4.8	130.5	2116.8	
8	Kozhicode	5.7	260.1	916.4	604.2	268.5	98.2	42.5	8.9	23.2	7.7	0.1	21.3	2256.8	
9	Malappuram	4.7	154.5	585.2	406.5	186.3	73.2	87.1	14.8	16.3	4.0	0.0	29.5	1562.1	
10	Palakkad	4.1	169.2	461.5	336.6	159.2	77.4	88.2	21.7	27.6	0.0	0.0	83.1	1428.6	
11	Pathanamthitta	123.3	427.4	459.4	344.8	211.7	79.5	224.1	193.9	7.8	30.9	0.0	298.3	2401.1	
12	Thiruvananthapuram	58.1	429.1	395.0	119.4	42.2	15.7	43.4	47.2	21.8	5.0	0.0	86.4	1263.3	
13	Trichur	37.2	257.5	588.4	422.2	148.7	60.3	98.2	8.3	45.6	1.4	0.0	43.6	1711.4	
14	Waynad	20.1	112.8	411.2	337.7	242.5	82.4	58.6	12.1	34.1	14.5	0.0	50.6	1376.6	

Table 3.2**Seasonal Rainfall, Normal Rainfall and the percentage Departure in 2016-17 in Kerala State**

		Summer Season			S.W. Monsoon Season			N.E. Monsoon Season			Winter season		
		2016			2016			2016			2017		
		April + May	Normal	% Dep	June to September	Normal	% Dep	October to December	Normal	% Dep	January to March	Normal	% Dep
1	Allapuzha	320.6	432.7	-26	1134.8	1745.9	-35	187.4	572.1	-67	112.3	90.5	24
2	Kannur	139.4	292.9	-52	1991	2669	-25	67.1	345.1	-81	18.3	12.1	51
3	Ernakulam	366.6	412.4	-11	1569.4	2065	-24	275.6	489.3	-44	115.2	63.2	82
4	Idukki	331.8	383	-13	1569.5	2276.2	-31	155.0	564.2	-73	136.5	79.1	73
5	Kasaragod	138.4	264.5	-48	2252.8	3007.5	-25	45.5	337.9	-87	18.1	11.7	55
6	Kollam	451.7	407	11	950.9	1332.3	-29	387.1	638.6	-39	166.1	113.8	46
7	Kottayam	375.2	417.9	-10	1330.7	1897.3	-30	244.7	535.1	-54	158.5	80.2	98
8	Kozhicode	265.8	337.5	-21	1887.3	2603.1	-27	51.4	422.2	-88	29.1	21.3	37
9	Malappuram	159.2	308.1	-48	1251.2	2060.4	-39	101.9	448.3	-77	33.5	18.3	83
10	Palakkad	173.3	257.4	-33	1034.7	1572.7	-34	109.9	428	-74	83.1	31.9	161
11	Pathanamthitta	550.7	479.6	15	1095.4	1715.7	-36	418.0	624.2	-33	329.2	138.9	137
12	Thiruvananthapuram	487.2	333.3	46	572.3	871.3	-34	90.6	522.7	-83	91.4	75.9	20
13	Trichur	294.7	368.3	-20	1219.6	2197.5	-45	106.5	469.4	-77	45.0	27.9	61
14	Waynad	132.9	257.9	-48	1073.8	2632.1	-59	70.7	332.5	-79	65.1	30.6	113

Table 3.3**Seasonal Rainfall Distribution and their Percentage Contribution to Annual Rainfall (2016-17)**

		April + May		June to September		October to December		January to March		mm
		2015		2015		2015		2016		
		Rainfall	%	Rainfall	%	Rainfall	%	Rainfall	%	
1	Allapuzha	320.6	18.05	1134.8	63.89	187.4	10.55	112.3	6.3	1776.1
2	Ernakulam	139.4	6.24	1991	89.16	67.1	3.00	18.3	0.8	2233.1
3	Idukki	366.6	15.62	1569.4	66.89	275.6	11.75	115.2	4.9	2346.3
4	Kannur	331.8	15.00	1569.5	70.96	155.0	7.01	136.5	6.2	2211.9
5	Kasaragod	138.4	5.58	2252.8	90.82	45.5	1.83	18.1	0.7	2480.5
6	Kollam	451.7	22.87	950.9	48.13	387.1	19.60	166.1	8.4	1975.5
7	Kottayam	375.2	17.72	1330.7	62.86	244.7	11.56	158.5	7.5	2116.8
8	Kozhicode	265.8	11.78	1887.3	83.63	51.4	2.28	29.1	1.3	2256.8
9	Malappuram	159.2	10.19	1251.2	80.10	101.9	6.52	33.5	2.1	1562.1
10	Palakkad	173.3	12.13	1034.7	72.43	109.9	7.69	83.1	5.8	1428.6
11	Pathanamthitta	550.7	22.94	1095.4	45.62	418.0	17.41	329.2	13.7	2401.1
12	Thiruvananthapuram	487.2	38.57	572.3	45.30	90.6	7.17	91.4	7.2	1263.3
13	Trichur	294.7	17.22	1219.6	71.26	106.5	6.22	45.0	2.6	1711.4
14	Waynad	132.9	9.65	1073.8	78.00	70.7	5.14	65.1	4.7	1376.6

Table 3.4**Comparison of 2015-16 Seasonal Rainfall with the Seasonal Rainfall of 2016-17**

		Summer Season			S.W. Monsoon Season			N.E. Monsoon Season			Winter season		
		2016 (mm)	2015 (mm)	% Dep	2016 (mm)	2015 (mm)	% Dep	2016 (mm)	2015 (mm)	% Dep	2017 (mm)	2016 (mm)	% Dep
1	Allapuzha	320.6	411.4	-22.1	1134.8	1137	-0.2	187.4	564.17	-66.8	112.3	90.6	24.0
2	Ernakulam	139.4	266.4	-47.7	1991	2169.6	-8.2	67.1	503.17	-86.7	18.3	0.8	2187.5
3	Idukki	366.6	396.2	-7.5	1569.4	1575.8	-0.4	275.6	672.59	-59.0	115.2	93.7	22.9
4	Kannur	331.8	440	-24.6	1569.5	1695.6	-7.4	155.0	510.5	-69.6	136.5	33.3	309.9
5	Kasaragod	138.4	269.5	-48.6	2252.8	2026.6	11.2	45.5	393.03	-88.4	18.1	3.4	100.0
6	Kollam	451.7	489.1	-7.6	950.9	985.3	-3.5	387.1	678.06	-42.9	166.1	82	102.6
7	Kottayam	375.2	505.7	-25.8	1330.7	1589.6	-16.3	244.7	608.21	-59.8	158.5	111.9	41.6
8	Kozhicode	265.8	279	-4.7	1887.3	1995.4	-5.4	51.4	551.47	-90.7	29.1	29.9	-2.7
9	Malappuram	159.2	354.2	-55.1	1251.2	1532.7	-18.4	101.9	527.4	-80.7	33.5	4.4	661.4
10	Palakkad	173.3	429.5	-59.7	1034.7	1153.8	-10.3	109.9	326.27	-66.3	83.1	4.7	1668.1
11	Pathanamthitta	550.7	655	-15.9	1095.4	1172.6	-6.6	418.0	884.53	-52.7	329.2	64.4	411.2
12	Thiruvananthapuram	487.2	594.1	-18.0	572.3	797.8	-28.3	90.6	645.8	-86.0	91.4	22.3	309.9
13	Trichur	294.7	325.3	-9.4	1219.6	1677.2	-27.3	106.5	461.21	-76.9	45.0	21.1	113.3
14	Waynad	132.9	337.9	-60.7	1073.8	1592.6	-32.6	70.7	266.7	-73.5	65.1	11.9	447.1

Fig. 3.2 Seasonal rainfall contribution to annual rainfall in percentage (2016-17)

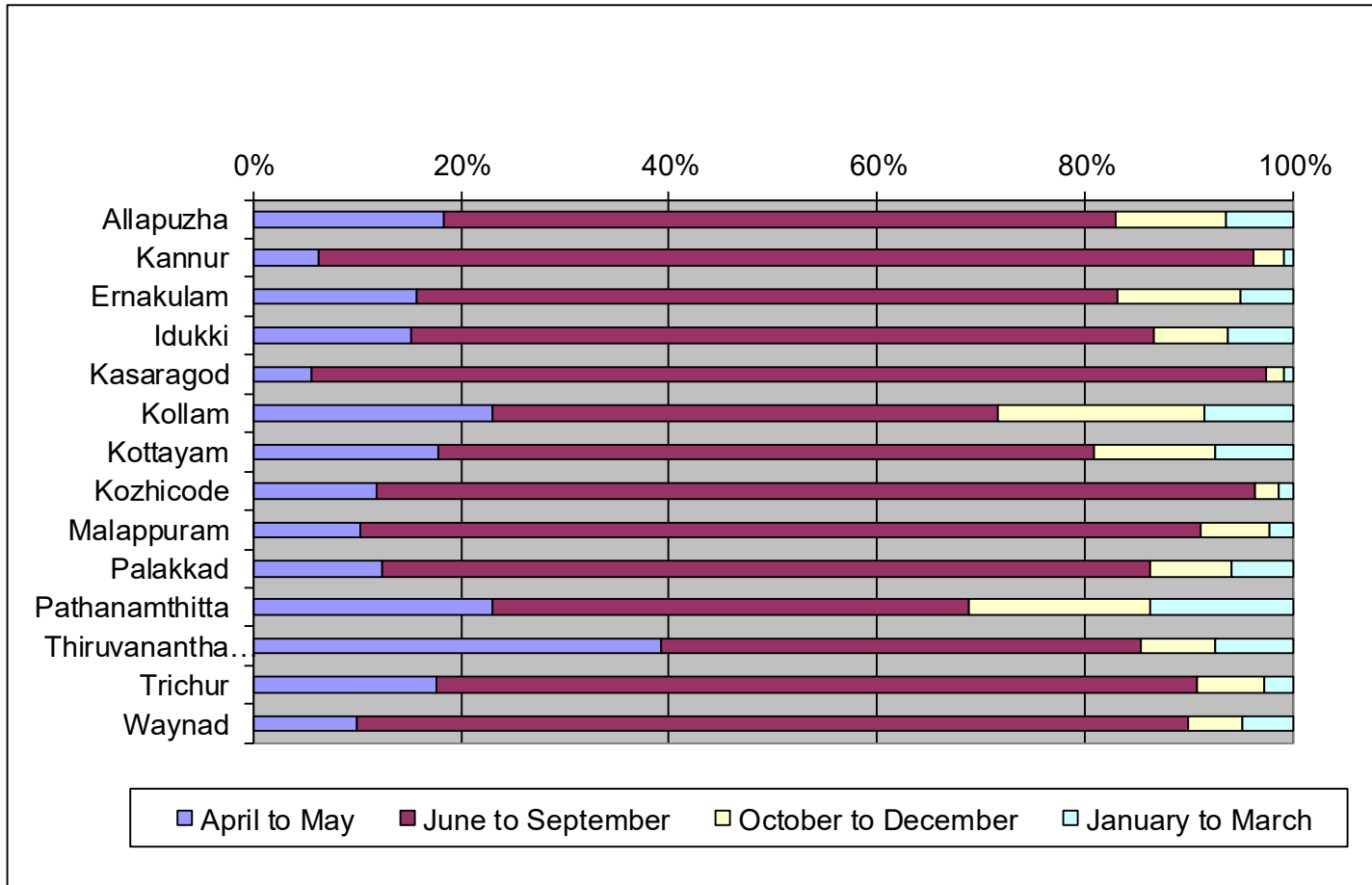
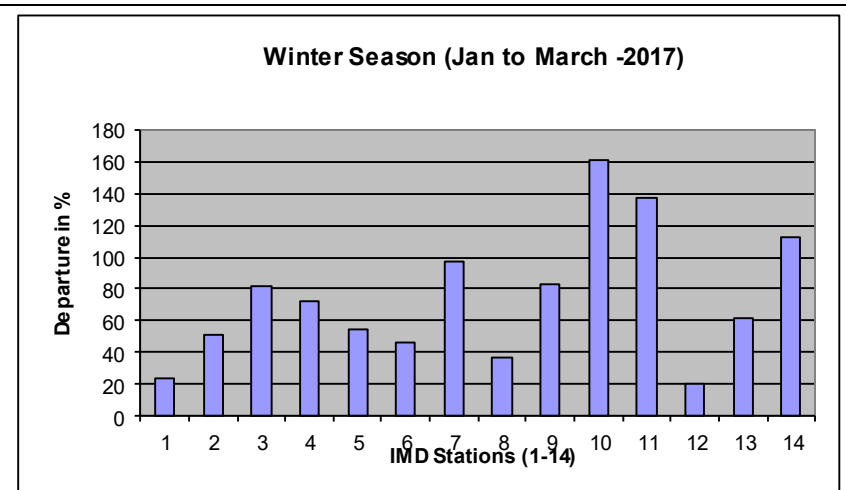
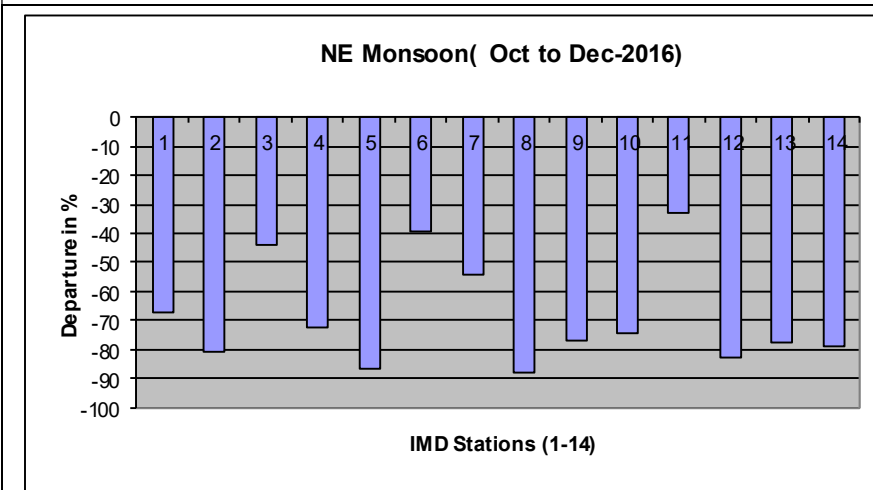
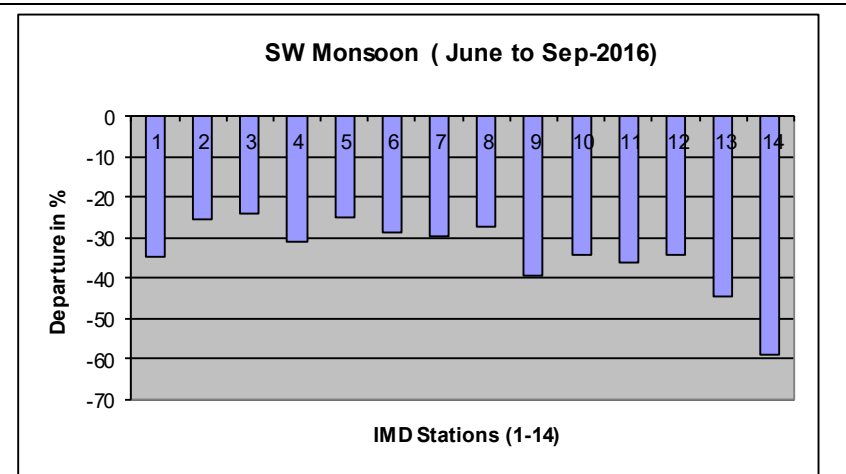
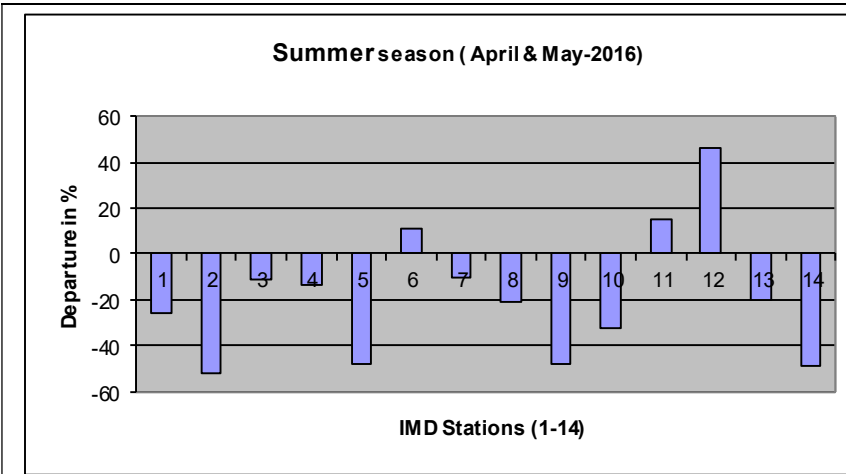
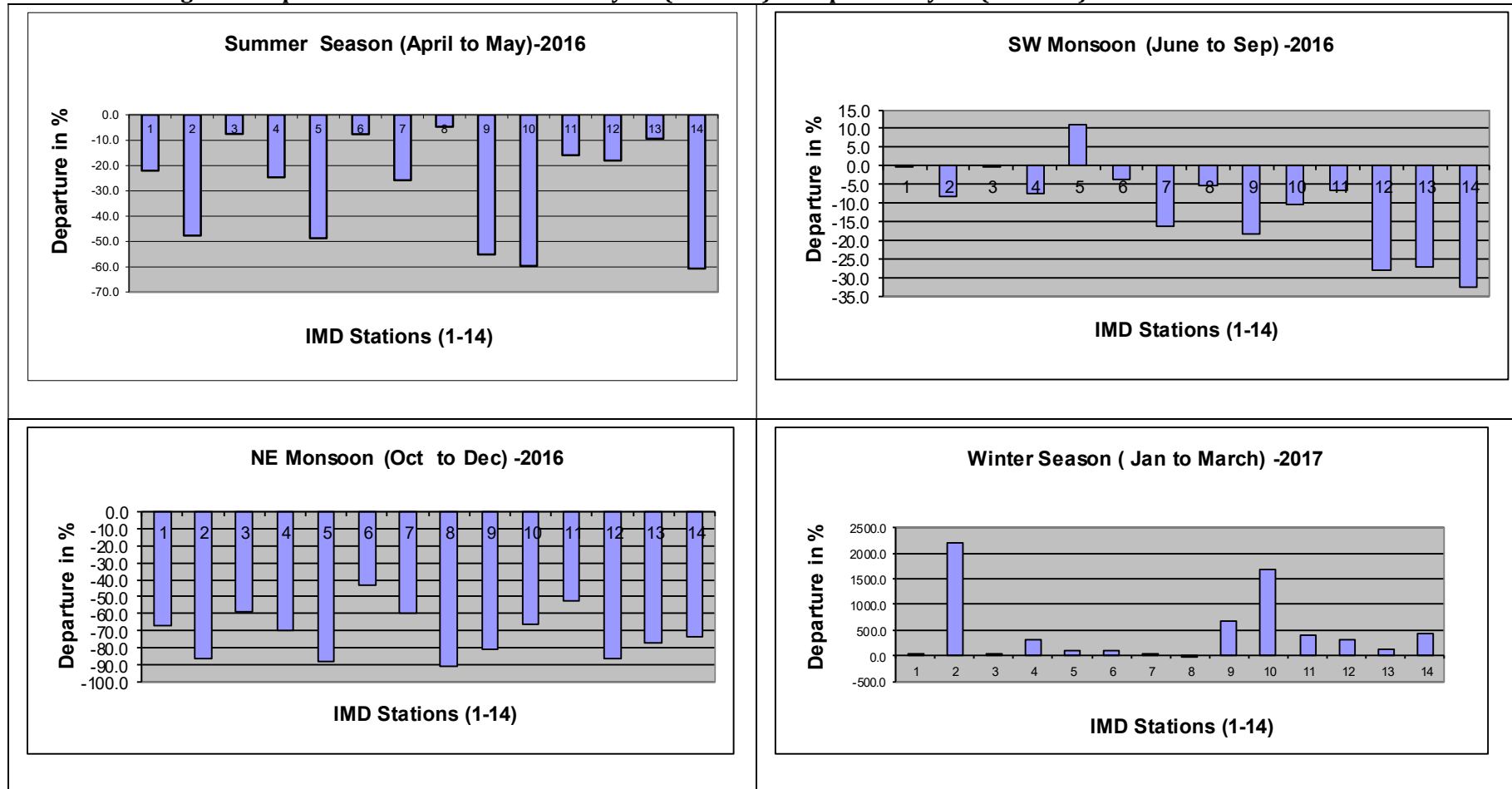


Fig.3.3 Seasonal rainfall Departure from its Normal during the period 2016-17



1. Alapuzha 2. Ernakulam 3. Idukki 4. Kannur 5. Kasaragod 6. Kollam 7. Kottayam 8. Kozhikode 9. Malapuram 10. Palakkad 11. Pathanamthitta 12. Thiruvananthapuram 13. Thrichur 14. Wayanad

Fig.3.4 Comparison of Seasonal rainfalls of year (2016-17) with previous year (2015-16) rainfall



1. Alapuzha 2. Ernakulam 3. Idukki 4. Kannur 5. Kasaragod 6. Kollam 7. Kottayam 8. Kozhikode 9. Malapuram 10 Palakkad 11. Pathanamthitta 12. Thiruvananthapuram 13. Thrichur 14. Wayanad

IV. DEPTH TO WATER LEVEL SCENARIO DURING 2016-17

The depth to water level is being monitored from 1672 monitoring wells distributed throughout the State during the months of April, August, November and January. The water level measured during the month of April is taken as pre-monsoon water level and the data of August and November are taken as post-monsoon water level depending on the rainfall distribution. The water level data of GWMWs during 2016-17 is compiled in Annexure I.

The depth to water level mostly depends on the hydrogeological conditions of the area as well as topography, rainfall pattern etc. In coastal plains the depth to water level is generally restricted to 6 mbgl. In midland areas, where the undulating topography is seen, the depth to water level generally varies from near ground level to 25 mbgl. The variation is mostly due to topographical variations, thickness of lateritic overburden etc. In areas where laterites are underlain by sedimentary aquifers of Tertiary age, the water level goes very deep, even to the extent of 55 mbgl. In highlands the depth to water level is in the range of few cm to 10 mbgl depending on the topography and thickness of overburden (weathered zone).

Depth to water level during April 2016

During the month of April 2016, the depth to water level in Kerala State in monitoring wells varied widely from 0.30 to 51.5 mbgl. Shallow water level in the range of 0 – 2 mbgl is seen in Alappuzha district, coastal tracts of Ernakulam, in the valley portion found in the eastern part of Idukki district and as small patches in remaining districts. The areas falling in the midland region generally show water level in the range of 2 – 10 mbgl. Water level of more than 20 m bgl is seen as patches in Thiruvananthapuram, Kollam, Palakkad, Malappuram, Kannur and Kasargod districts. The district-wise well frequency for different ranges of depth to water level during April 2016 has been prepared and is given in **Table 4.1**. The analysis of the data reveals that 78.76 % of the monitoring wells (GWMWs) shows water level within the range of 0.1 to 10 mbgl. Deeper water level (> 20 mbgl) is seen in Thiruvananthapuram (Poovar, Pulluvila and Kanjiramkulam), Kollam, Malappuram, Kannur and Kasargod district as isolated pockets which can be attributed to the local hydrogeological conditions mainly due to thick lateritic

overburden and moreover the wells are in an elevated area. The map showing the depth to water level in Kerala State during April 2016 is given in **Figure 4.1**.

Depth to water level during August 2016

During the month of August 2016, the depth to water level in Kerala State in dug wells varied widely from 0.10 to 59.4 mbgl. Shallow water level in the range of 0 – 2 mbgl is seen in Alappuzha district, coastal tracts of Ernakulam, in the valley portion found in the eastern part of Idukki and Kottayam districts and as small patches in remaining districts. The areas falling in the midland region generally show water level in the range of 2 – 10 mbgl. Water level of more than 20 m bgl is patches in Thiruvananthapuram, and Kasargod districts. The district-wise well frequency for different ranges of depth to water level during August 2016 has been prepared and is given in **Table 4.2**. The analysis of the data reveals that 88.62 % of the monitoring wells (GMMWs) shows water level within the range of 0.1 to 10 mbgl. Deeper water level (> 20 mbgl) is seen in Thiruvananthapuram (Poovar, Pulluvila and Kanjiramkulam), Kollam, Kozhikode, Malappuram, Palakkad, Kannur and Kasargod district as isolated pockets which can be attributed to the local hydrogeological conditions mainly due to thick lateritic overburden and moreover the wells are in an elevated area. The map showing the depth to water level in Kerala State during August 2016 is given in **Figure 4.2**. In Ernakulam, Kannur, Kasargod, Kollam, Malappuram, Palakkad, Trivandrum and Thrissur district it is observed that more than 50% of monitoring wells show water level greater than 5 m bgl. Deepest water level is encountered in Idukki district.

Depth to water level during November 2016

During the month of November 2016, the depth to water level in the State varied widely from 0.01 to 31.8 mbgl in dug wells. Shallow water level in the range of 0 – 2 mbgl is seen in Alappuzha district, coastal tracts of Ernakulam, Thrissur and Kozhikkod districts and in the valley portion located in the eastern part of Idukki and Palakkad districts and as small patches in remaining districts. The areas falling in the midland region generally show water level in the range of 2 – 10 mbgl. Water level of more than 20 m bgl is seen as isolated patches in Malappuram, Thiruvananthapuram, Kollam and Kasargod districts. The district-wise well frequency for different ranges of depth to water level during November 2016 has been prepared and is given in **Table 4.3**. The analysis of the data reveals that 86.01 % of the monitoring wells (GMMWs) have water levels within the range of 0.1 to 10 mbgl. Deeper water level (> 20 mbgl) is seen in Malappuram (Othukungal), Thiruvananthapuram (Poovar, Pulluvila and Kanjiramkulam), and Kasargod district as isolated pockets which can be attributed to the local hydrogeological conditions such as thick lateritic overburden and the

wells situated at elevated areas. The map showing the depth to water level in Kerala State during November 2016 is given in **Figure 4.3**. In Malappuram, Kasaragod, Kannur, and Kollam districts more than 50% of monitoring wells show water level greater than 5 m bgl. Deepest water level is recorded in Malappuram district.

Depth to water level during January 2017

During the month of January 2017, the depth to water level in the State varied widely from 0.1 to 40 mbgl in dug wells. Shallow water level in the range of 0 – 2 mbgl is seen in Alappuzha district, coastal tracts of Kollam, Ernakulam, Thrissur and Kozhikkod districts and in the valley portion located in the eastern part of Idukki districts and as small patches in Kottayam and Pathanamthitta districts. The areas falling in the midland region generally show water level in the range of 5 – 10 mbgl. Water level of more than 20 m bgl is seen as isolated patches in Thiruvananthapuram, Malappuram and Kasargod districts. The district-wise well frequency for different ranges of depth to water level during January 2017 has been prepared and is given in **Table 4.4**. The analysis of the data reveals that 81.24 % of the monitoring wells (GMMWs) have water levels within the range of 0.1 to 10 mbgl. Deeper water level (> 20 mbgl) is seen in Thiruvananthapuram (Poovar, Pulluvila and Kanjiramkulam), Malappuram and Kasargod district as isolated pockets which can be attributed to the local hydrogeological conditions such as thick lateritic overburden and the wells situated at elevated areas. The map showing the depth to water level in Kerala State during January 2017 is given in **Figure 4.4**. In Kollam, Kottayam, Thrissur and Palakkad districts, more than 50% of monitoring wells show water level greater than 5 m bgl. Deepest water level is recorded in Thiruvananthapuram district.

Figure 4.1

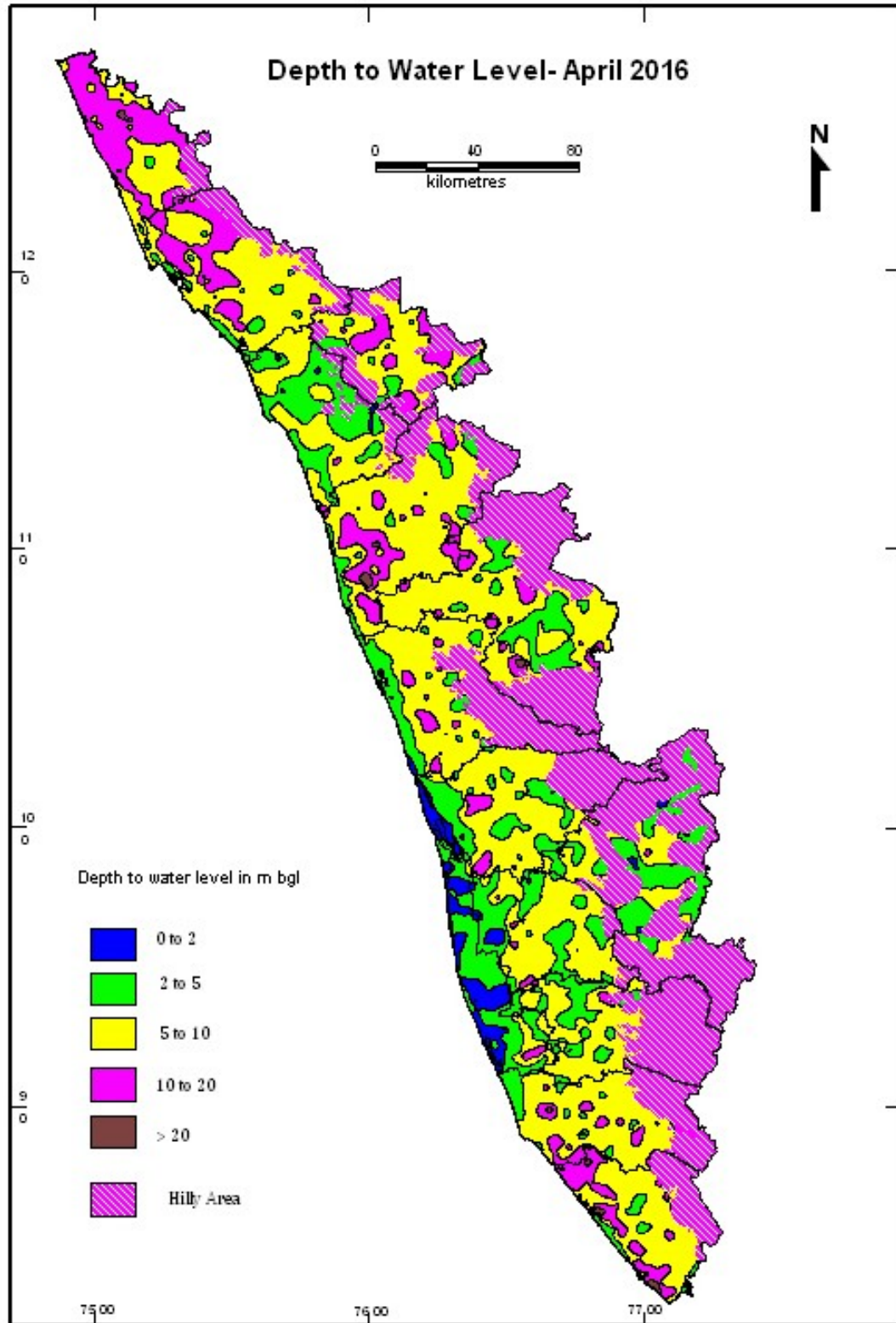


Figure 4.2

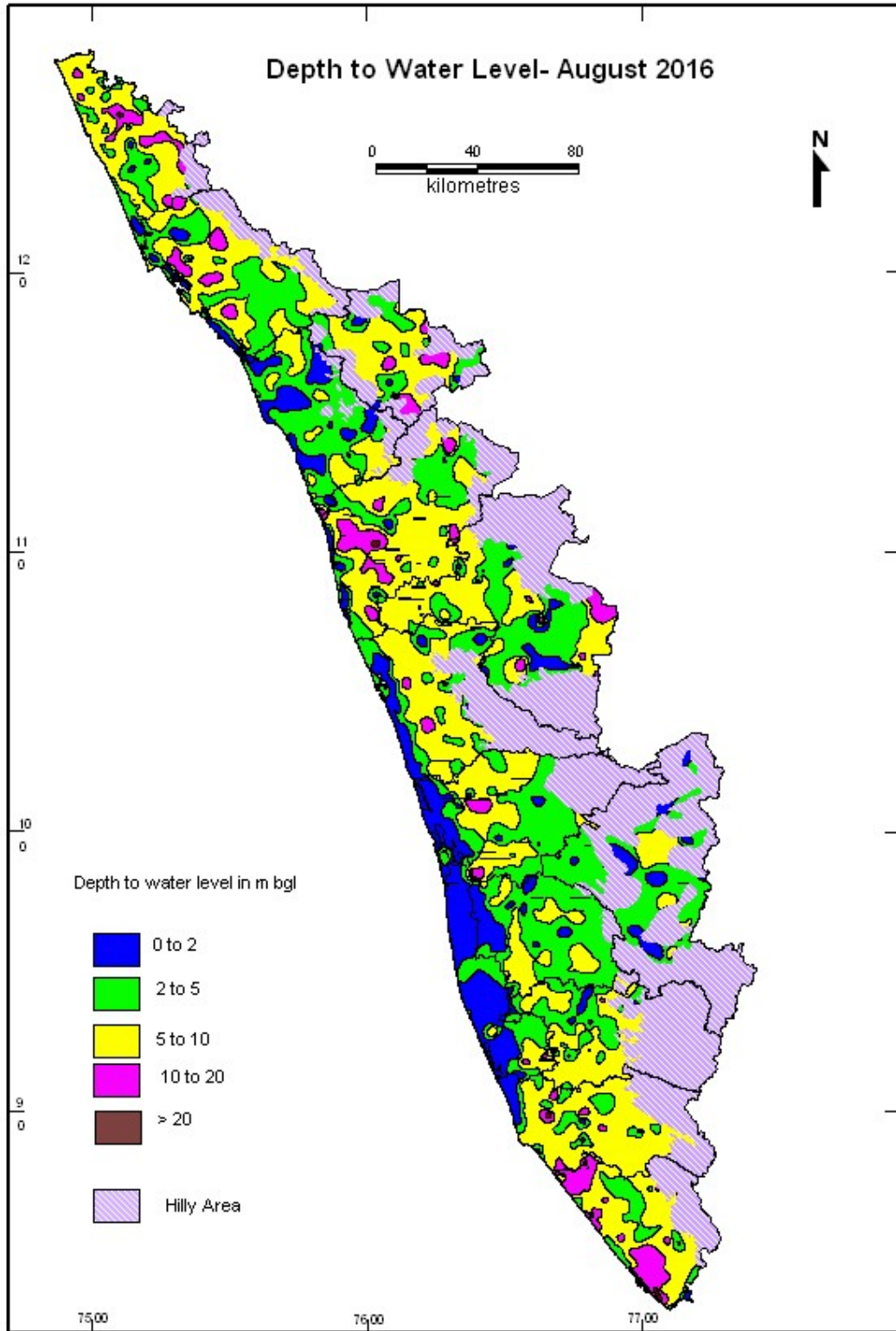


Figure 4.3

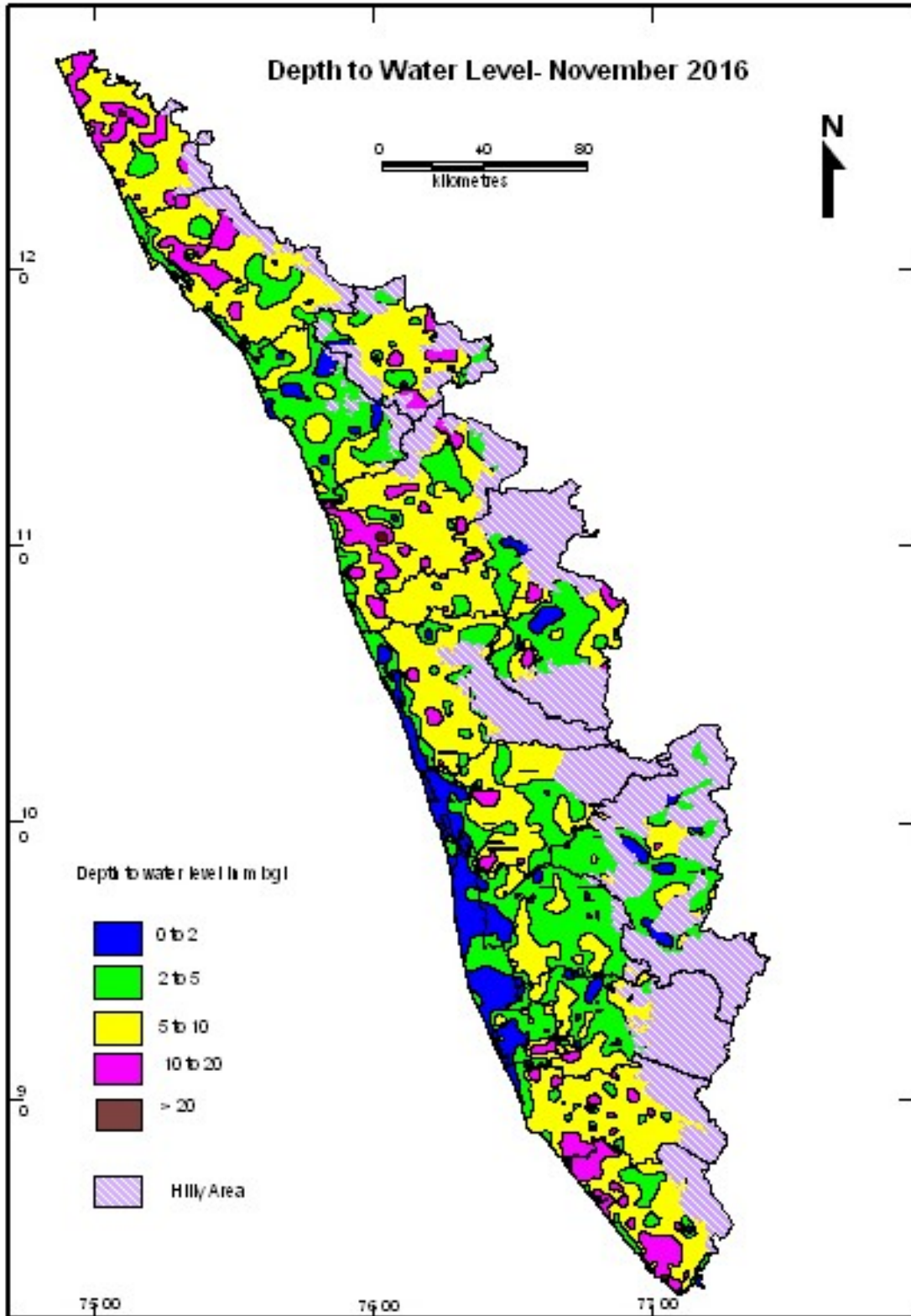


Figure 4.4

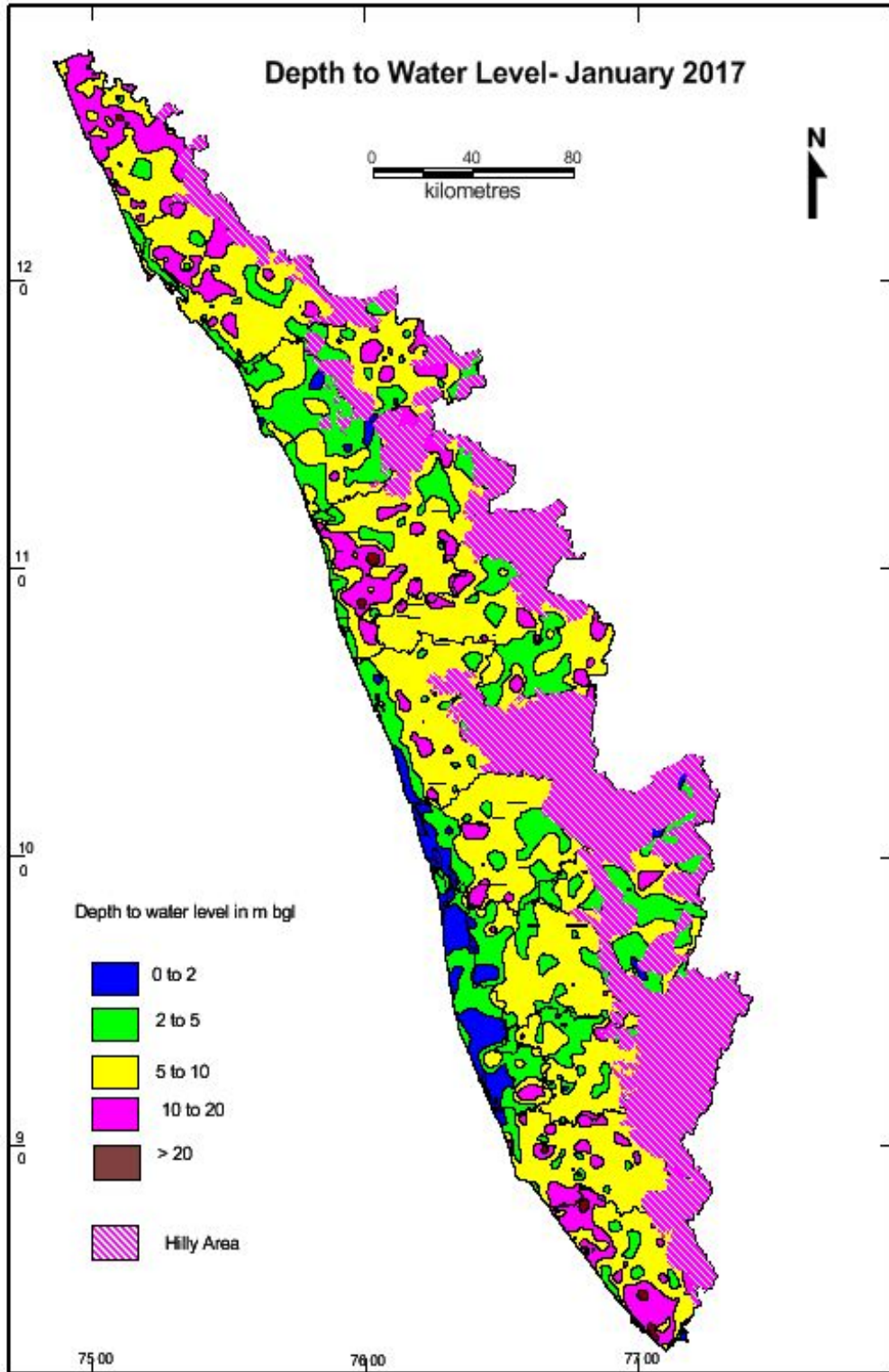


Table 4.1: District wise Well Frequency for Different ranges of depth to water level for April 2016

District	No. of Wells Analysed	Depth to Water level(mbgl)		No. &Percentage of Wells Showing Depth to Water Table (mbgl) in the Range of					
		Min	Max	0.0 - 2.0	2.0 - 5.0	5.0 - 10.0	10.0 - 20.0	20.0 - 40.0	> 40.0
ALAPPUZHA	91	0.45	18.00	38 41.76%	37 40.66%	8 8.79%	8 8.79%	0	0
ERNAKULAM	135	0.55	16.2	16 11.85%	41 30.37%	68 50.37%	10 7.41%	0	0
IDUKKI	76	0.64	51.00	6 7.89%	33 43.42%	31 40.79%	5 6.58%	0	1 1.32%
KANNUR	104	2.05	40.00	0	22 21.15%	51 49.04%	28 26.92%	3 2.88%	0
KASARGOD	121	2.55	26.75	0	7 5.79%	35 28.93%	76 62.81%	3 2.48%	0
KOLLAM	112	0.3	41.2	7 6.25%	16 14.29%	68 60.71%	17 15.18%	2 1.79%	2 1.79%
KOTTAYAM	105	1.15	15.40	9 8.57%	37 35.24%	49 46.67%	10 9.52%	0	0
KOZHIKODE	97	1.26	25.61	6 6.19%	38 39.18%	43 44.33%	9 9.28%	2 2.06%	0
MALAPPURAM	109	1.87	39.31	1 0.92%	22 20.18%	51 46.79%	31 28.44%	4 3.67%	0
PALAKKAD	134	0.79	51.5	2 1.49%	34 25.37%	77 57.46%	13 9.7%	5 3.73%	3 2.24%
PATHANAMTHITTA	92	1.1	18.5	4 4.35%	35 38.04%	48 52.17%	5 5.43%	0	0
THIRUVANANTHAPURAM	121	1.45	31.48	4 3.31%	19 15.7%	54 44.63%	35 28.93%	9 7.44%	0
THRISSUR	132	0.96	19.52	6 4.55%	35 26.52%	68 51.52%	23 17.42%	0	0
WAYANAD	81	1.16	17.92	1 1.23%	28 34.57%	33 40.74%	19 23.46%	0	0
TOTAL	1510	0.3	51.5	100 6.62 %	404 26.75%	684 45.29%	289 19.13%	28 1.85%	6 0.39%

Table 4.2: District wise Well Frequency for Different ranges of depth to water level for August 2016

District	No. of Wells Analysed	Depth to Water level(mbgl)		No. &Percentage of Wells Showing Depth to Water Table (mbgl) in the Range of					
		Min	Max	0.0 – 2.0	2.0 – 5.0	5.0 – 10.0	10.0 – 20.0	20.0 – 40.0	> 40.0
ALAPPUZHA	89	0.15	19.96	62 69.66%	14 15.73%	6 6.74%	7 7.87%	0	0
ERNAKULAM	134	0.25	18.80	34 25.37%	45 33.58%	52 38.81%	3 2.24%	0	0
IDUKKI	75	0.46	59.40	15 20.00%	45 60.00%	13 17.33%	1 1.33%	0	1 1.33%
KANNUR	105	0.10	20.70	15 14.29%	34 32.38%	46 43.81%	9 8.57%	1 0.95%	0
KASARGOD	125	0.75	22.15	11 8.80%	33 26.40%	58 46.40%	22 17.60%	1 0.80%	0
KOLLAM	102	0.39	31.30	21 20.59%	15 14.71%	55 53.92%	9 8.82%	2 1.96%	0
KOTTAYAM	104	0.46	14.65	25 24.04%	47 45.19%	29 27.88%	3 2.88%	0	0
KOZHIKODE	97	0.38	23.42	28 28.87%	36 37.11%	26 26.80%	6 6.19%	1 1.03%	0
MALAPPURAM	134	0.85	31.80	17 12.69%	29 21.64%	62 46.27%	23 17.16%	3 2.24%	0
PALAKKAD	135	0.30	50.50	22 16.30%	45 33.33%	50 37.04%	15 11.11%	2 1.48%	1 0.74%
PATHANAMTHITTA	91	1.18	15.05	8 8.79%	34 37.36%	45 49.45%	4 4.40%	0	0
THIRUVANANTHAPURAM	124	0.88	30.00	4 3.23%	30 24.19%	54 43.55%	31 25.00%	5 4.03%	0
THRISSUR	134	0.61	17.79	25 18.66%	35 26.12%	65 48.51%	9 6.72%	0	0
WAYANAD	80	0.60	18.92	16 20.00%	20 25.00%	29 36.25%	15 18.75%	0	0
TOTAL	1529	0.10	59.40	303	462	590	157	15	2

Table 4.3: District wise Well Frequency for Different ranges of depth to water level for November 2016

District	No. of Wells Analysed	Depth to Water level(mbgl)		No. &Percentage of Wells Showing Depth to Water Table (mbgl) in the Range of					
		Min	Max	0.0 - 2.0	2.0 - 5.0	5.0 - 10.0	10.0 - 20.0	20.0 - 40.0	> 40.0
ALAPPUZHA	89	0.2	16.22	57 60.04%	20 22.47%	4 4.49%	8 8.99%	0	0
ERNAKULAM	129	0.36	17.82	31 24.03%	35 27.13%	56 43.41%	7 5.43%	0	0
IDUKKI	72	0.41	11.25	12 16.67%	39 54.17%	19 26.39%	2 2.78%	0	0
KANNUR	103	1.16	21.1	6 5.83%	23 22.33%	52 50.49%	21 20.39%	1 0.97%	0
KASARGOD	118	2.35	22.9	0	16 13.56%	63 53.39%	37 31.36%	1 1.69%	0
KOLLAM	93	0.89	18.02	8 8.6%	14 15.05%	52 55.91%	19 20.43%	0	0
KOTTAYAM	101	0.10	11.09	15 14.85%	52 51.49%	32 31.68%	2 1.98%	0	0
KOZHIKODE	91	0.32	16.55	13 14.29%	42 46.15%	31 34.07%	5 5.49%	0	0
MALAPPURAM	128	1.2	33.3	5 3.91%	30 23.44%	63 49.22%	29 22.66%	1 0.78%	0
PALAKKAD	104	0.16	26	15 14.42%	33 31.73%	46 44.23%	8 7.69%	2 1.92%	0
PATHANAMTHITTA	90	0.57	15	15 16.67%	30 33.33%	42 46.67%	3 3.33%	0	0
THIRUVANANTHAPURAM	110	1.02	29.24	5 4.55%	27 24.55%	45 40.91%	29 26.39%	4 3.64%	0
THRISSUR	121	0.55	14.02	19 15.7%	32 26.45%	63 52.07%	7 5.79%	0	0
WAYANAD	67	0.98	18.96	9 13.43%	14 20.90%	33 49.25%	11 16.42%	0	0
TOTAL	1416	0.1	33.3	210 14.83%	407 28.74%	601 44.44%	188 13.28%	10 0.7%	0

Table 4.4: District wise Well Frequency for Different ranges of depth to water level for January 2017

District	No. of Wells Analysed	Depth to Water level(mbgf)		No. & Percentage of Wells Showing Depth to Water Table (mbgl) in the Range of					
		Min	Max	0.0 – 2.0	2.0 – 5.0	5.0 – 10.0	10.0 – 20.0	20.0 – 40.0	> 40.0
ALAPPUZHA	83	0.30	20.15	40 48.19%	30 36.14%	4 4.82%	8.9.64%	1 1.20%	0
ERNAKULAM	132	0.30	17.40	21 15.91%	38 28.79%	63 47.73%	10 7.58%	0	0
IDUKKI	71	0.10	13.65	7 9.86%	37 52.11%	23 32.39%	4 5.63%	0	0
KANNUR	106	1.50	21.45	3 2.83%	26 24.53%	48 45.28%	28 26.42%	1 0.94%	0
KASARGOD	119	1.95	23.40	2 1.68%	9 7.56%	52 43.70%	54 45.38%	2 1.68%	0
KOLLAM	113	0.95	27.00	6 5.31%	17 15.04%	61 53.98%	27 23.89%	2 1.77%	0
KOTTAYAM	99	1.24	12.00	7 7.07%	33 33.33%	54 54.55%	5 5.05%	0	0
KOZHIKODE	93	1.09	15.46	6 6.45%	47 50.54%	34 36.56%	6 6.45%	011	0
MALAPPURAM	123	1.30	40.00	3 2.44%	29 23.58%	59 47.97%	27 21.95%	5121 4.07%69	0
PALAKKAD	135	1.05	38.80	3 2.22%	42 31.11%	69 51.11%	14 10.37%	71466 5.19%	0
PATHANAMTHITTA	87	1.40	16.90	4 4.60%	37 42.53%	41 47.13%	5 5.75%	0	0
THIRUVANANTHAPURAM	115	1.44	34.25	3 2.61%	21 18.26%	48 41.74%	34 29.57%	9 7.83%	0
THRISSUR	121	1.12	13.79	9 7.44%	35 28.93%	67 55.37%	10 8.26%	0	0
WAYANAD	69	1.04	19.78	5 7.25%	20 28.99%	28 40.58%	16 23.19%	0	0
TOTAL	1466	0.10	40.00	119	421	651	248	27	0

V WATER LEVEL FLUCTUATION IN KERALA DURING 2016-2017

In Kerala the premonsoon water level measurements are carried out during April and postmonsoon measurements during August and November. The fourth water level measurement is during January. The estimation of water level fluctuation between premonsoon and postmonsoon is very important in the estimation of natural recharge to groundwater regime, which gives the dynamic resource of available groundwater.

The water level fluctuation between and pre- and post-monsoon periods in coastal alluvium, riverine alluvium and valley fills are mostly restricted to 4 meters. In laterites water level fluctuation is generally in the range of a few centimetres to 9 meters, but mostly restricted to 4 m. In crystalline areas the water level fluctuation is in the range of a few cm to 6m.

Fluctuation between April 2016 and August 2016

Comparison of August 2016 water level with that of April 2016 indicates rise in water level in the range of 0 – 8 .00 metres in most parts of the State whereas fall in water level also is noticed in certain small isolated pockets mainly in Thiruvananthapuram, Pathanamthitta, Ernakulam, Kozhikkode and hilly tracts of the western border of Kannur and Wayanad districts. In the southern districts of Kerala the rise in water level is in the range of 0 – 2 m as seen in major parts of the area, whereas in the northern districts of Kerala rise in water level up to 8 m is seen. Rise in water level is represented by 89.35 % of total monitoring wells.

The map of Kerala showing fluctuation between August 2016 and April 2016 is given in **Fig:5.1**. District-wise well frequency for different ranges of water level fluctuation (August 2016 and April 2016) is given in **Table 5.1**.

Fluctuation between April 2016 and November 2016

Comparison of November 2016 water level with that of April 2016 indicates rise in water level in the range of 0 – 8 .00 meters in most parts of the State whereas fall in water level is

noticed in certain small isolated pockets mainly in Thiruvananthapuram, Kollam, Kottayam, Pathanamthitta, Ernakulam, Malappuram, Kozhikode and Wayanad districts. In Kasargod district, the rise in water level is predominantly seen in the range of 2-8 m. Rise in water level is represented by 82.37 % of total monitoring wells

The map of Kerala showing fluctuation between November 2016 and April 2016 is given in **Fig:5.2**. District-wise well frequency for different ranges of water level fluctuation (November 2016 and April 2016) is given in **Table 5.2**.

Fluctuation between April 2016 and January 2017

Comparison of January 2017 water level with that of April 2016 indicates rise in water level fluctuation in the range of 0 - 4 .00 metres in most parts of the State whereas fall in water level fluctuation is noticed in certain small isolated pockets mainly in Thiruvananthapuram, Kollam, Kottayam, Pathanamthitta, Idukki, Ernakulam, Kozhikode and Wayanad districts. In general, the rise in water level is in the range of 0-2 m throughout all districts except Thiruvananthapuram and Pathanamthitta districts where fall is predominant. Rise in water level in the range of 4 m and above is noticed in isolated pockets in Kasargod and Thiruvananthapuram districts. Rise in water level is represented by 62.09 % of total monitoring wells.

The map of Kerala showing fluctuation between January 2017 and April 2016 is given in **Fig: 5.3**. District-wise well frequency for different ranges of water level fluctuation (January 2017 and April 2016) is given in **Table 5.3**.

Figure 5.1

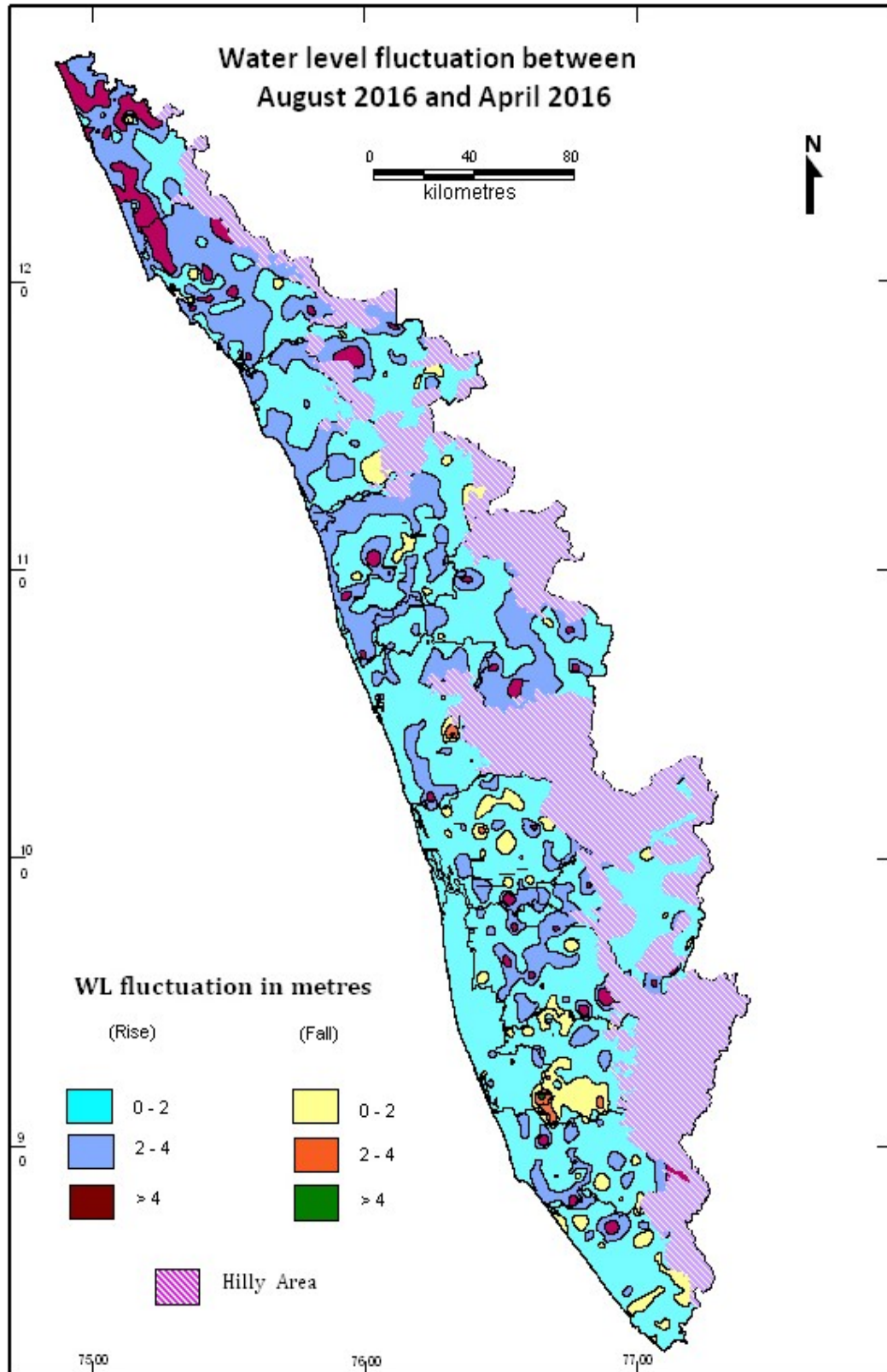


Figure 5.2

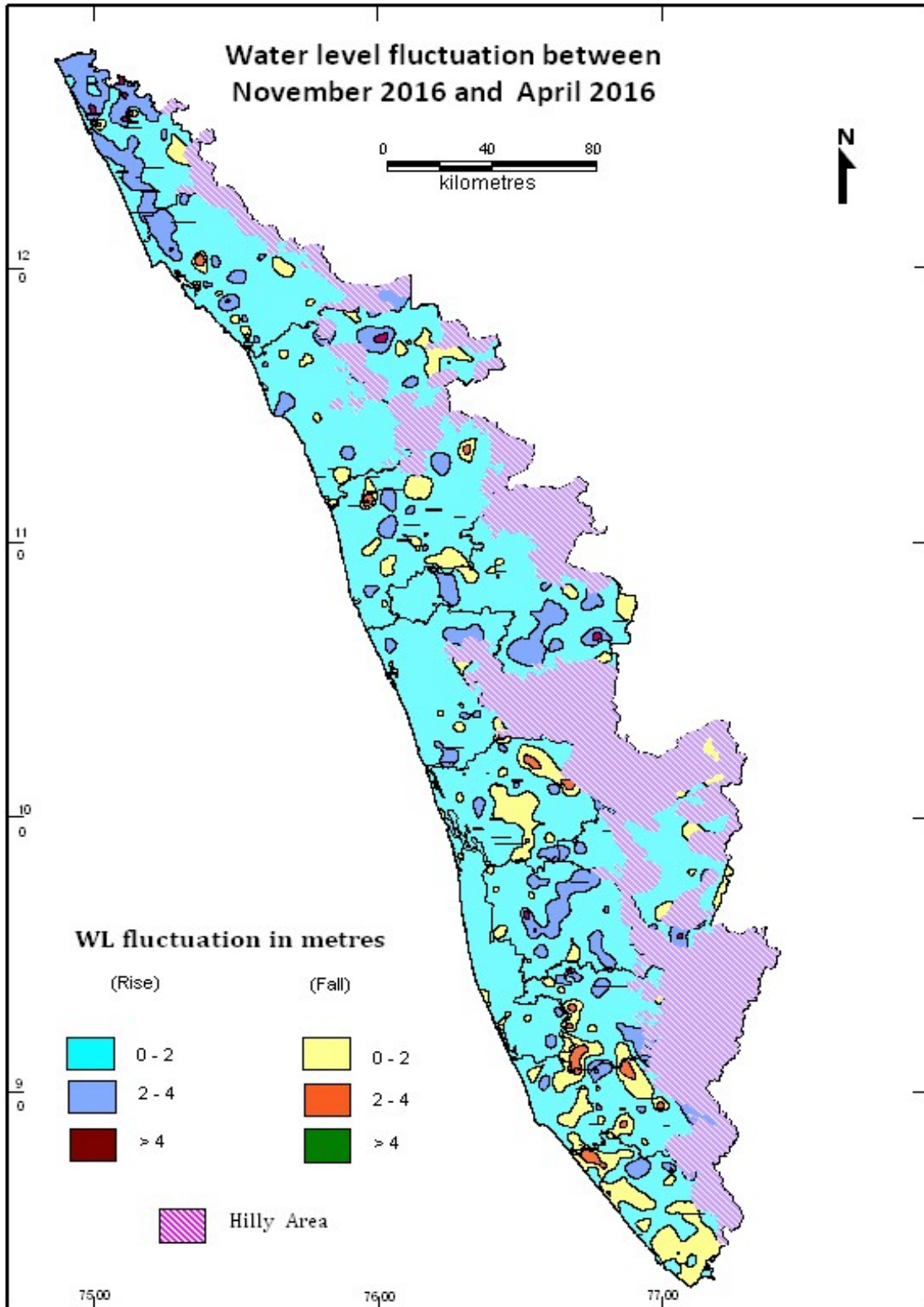


Figure 5.3

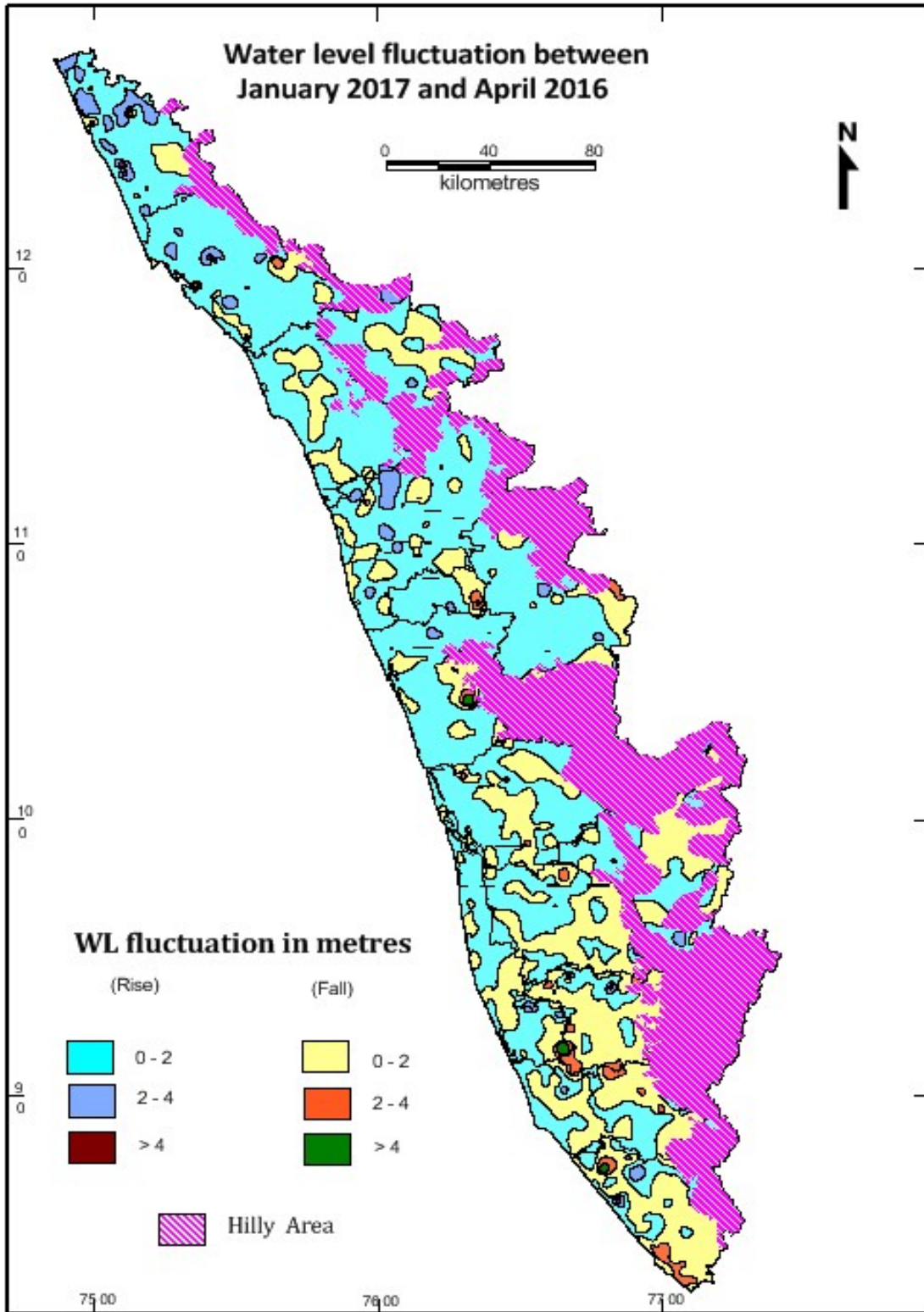


Table 5.1: District wise – Fluctuation and Frequency Distribution from Different Ranges from April 2016 – August 2016

District	No. of Wells	Range of Fluctuation (m)				No. & Percentage of Wells / Percentage Showing Fluctuation						Total No. of Wells	
		Rise		Fall		Rise			Fall				
		Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4		
ALAPPUZHA	78	0.07	4.05	0.05	4.34	66 84.62%	6 7.69%	1 1.28%	3 3.85%	0	2 2.56%	73	5
ERNAKULAM	125	0.13	6.20	0.10	2.60	81 64.80%	23 18.40%	3 2.40%	17 13.60%	1 0.80%	0	107	18
IDUKKI	73	0.06	6.20	0.08	0.88	48 65.75%	15 20.55%	4 5.48%	6 8.22%	0	0	67	6
KANNUR	100	0.20	33.50	0.75	1.95	42 42.00%	36 36.00%	19 19.00%	3 3.00%	0	0	97	3
KASARGOD	115	0.20	14.26	1.80	2.05	20 17.39%	30 26.09%	62 53.93%	1 0.87%	1 0.87%	0	112	2
KOLLAM	87	0.15	8.50	0.12	1.80	49 56.32%	22 25.29%	7 8.05%	8 9.20%	0	0	78	8
KOTTAYAM	101	0.01	6.66	0.10	1.71	63 62.38%	26 25.74%	7 6.93%	5 4.95%	0	0	96	5
KOZHIKODE	91	0.36	6.04	0.36	1.89	48 52.75%	39 42.86%	2 2.20%	2 2.20%	0	0	89	2
MALAPPURAM	98	0.15	25.70	0.02	2.10	47 47.96%	32 32.65%	8 8.16%	10 10.20%	1 1.02%	0	87	11
PALAKKAD	112	0.17	23.20	0.10	4.40	58 51.79%	30.26.79 %	12 10.71%	9 8.04%	0	1 0.89%	100	10
PATHANAMTHITTA	87	0.04	3.88	0.02	5.10	44 50.57%	9 10.34%	0	29 33.33%	4 4.60%	1 1.15%	53	34
THIRUVANANTHAPURAM	108	0.02	9.76	0.12	8.41	72 66.67%	12 11.11%	2 1.85%	20 18.52%	1 0.93%	1 0.95%	86	22
THRISSUR	117	0.12	6.94	0.03	4.16	82 70.09%	25 21.37%	3 2.58%	6 5.13%	0	1 0.85%	110	7
WAYANAD	69	0.02	10.53	0.10	7.67	41 59.42%	15 21.74%	5 7.25%	7 10.14%	0	1 1.45%	61	8
TOTAL	1361					761	320	135	126	8	7	1216	141

Table 5.2: District wise – Fluctuation and Frequency Distribution from Different Ranges from April 2016–November 2016

District	No. of Wells	Range of Fluctuation (m)				No. & Percentage of Wells / Percentage Showing Fluctuation						Total No. of Wells	
		Rise		Fall		Rise			Fall				
		Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4		
ALAPPUZHA	83	0.02	3.81	0.01	9.87	73 87.95%	2 2.41%	0	6 7.23%	0	2 2.41%	75	8
ERNAKULAM	125	0.03	3.42	0.01	3.62	83 66.40%	11 8.80%	0	28 22.40%	3 2.40%	0	94	31
IDUKKI	72	0.06	5.96	0.09	1.18	49 68.06%	7 9.27%	4 5.56%	12 16.67%	0	0	60	12
KANNUR	101	0.02	32.8	0.02	4.00	66 65.35%	17 16.83%	4 3.96%	9 8.91%	2 1.98%	1 0.99%	87	12
KASARGOD	113	0.11	9.84	0.02	6.01	49 43.36%	37 32.74%	17 15.04%	6 5.31%	3 2.65%	1 0.88%	103	10
KOLLAM	83	0.04	5.43	0.02	3.23	46 55.42%	11 13.25%	2 2.41%	19 22.89%	4 4.82%	0	59	23
KOTTAYAM	100	0.02	6.21	0.02	1.1	65 65.00%	22 20.00%	5 5.00%	8 8.00%	0	0	90	8
KOZHIKODE	90	0.10	4.04	0.13	1.35	73 81.11%	8 8.89%	1 1.11%	8 8.89%	0	0	82	8
MALAPPURAM	98	0.06	25.00	0.01	4.19	65 66.33%	8 8.16%	5 5.10%	18 18.37%	1 1.02%	1 1.02%	78	20
PALAKKAD	96	0.05	6.00	0.32	1.76	64 66.67%	18 18.75%	4 4.17%	10 10.42%	0	0	86	10
PATHANAMTHITTA	87	0.05	5.31	0.05	3.41	57 65.52%	11 12.64%	4 4.60%	11 12.64%	4 4.60%	0	72	15
THIRUVANANTHAPURAM	99	0.02	9.55	0.03	4.73	45 45.45%	5 5.05%	2 2.02%	42 42.42%	4 4.04%	1 1.01%	52	47
THRISSUR	119	0.12	6.48	0.10	4.71	95 79.83%	12 10.08%	1 0.84%	7 5.88%	2 1.68%	1 0.84%	108	10
WAYANAD	67	0.01	4.40	0.08	1.73	39 58.21%	12 17.91%	1 1.49%	14 20.90%	0	0	52	14
TOTAL	1333	0.01	25.00	0.01	9.87	869 65.19%	179 13.42%	50 3.75%	198 14.85%	23 1.72%	7 0.52%	1098 82.37%	228 17.10%

Table 5.3: District wise – Fluctuation and Frequency Distribution from Different Ranges from April 2016 – January 2017

District	No. of Wells	Range o0.03f Fluctuation (m)0.03				No. & Percentage of Wells /Percentage Showing Fluctuation						Total No. of Wells	
		Rise0.01		Fall		Rise			Fall				
		Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4		
ALAPPUZHA	76	0.01	3.83	0.02	13.80	39 51.32%	2 2.63%	0	27 35.53%	0	2 2.65%	41	29
ERNAKULAM	124	0.01	1.74	0.01	2.69	80 64.5%	0	0	40 32.26%	3 2.42%	0	80	43
IDUKKI	71	0.06	5.30	0.03	2.24	33 46.48%	3 4.23%	1 1.41%	31 43.66%	2 2.82%	0	37	33
KANNUR	102	0.01	31.45	0.02	6.30	71 69.91%	10 9.80%	2 1.98%	14 13.73%	3 2.94%	2 1.96%	83	19
KASARGOD	112	0.05	9.17	0.08	7.55	67 59.82%	28 25%	6 5.36%	7 6.25%	2 1.79%	2 1.79%	101	11
KOLLAM	99	0.01	3.52	0.02	16.75	47 47.47%	5 5.05%	0	38 38.38%	6 6.06%	1 1.01%	52	45
KOTTAYAM	98	0.02	3.09	0.03	2.94	47 47.9%	4 4.08%	0	39 39.80%	2 2.04%	0	51	41
KOZHIKODE	92	0.02	2.23	0.01	1.96	69 75%	1 1.09%	0	21 22.83%	0	0	70	21
MALAPPURAM	95	0.02	7.07	0.06	2.49	56 58.9%	10 10.53%	1 1.05%	25 26.32%	2 2.11%	0	67	27
PALAKKAD	120	0.01	18.90	0.01	11.25	79 65.83%	3 2.50%	3 2.50%	28 23.33%	3 2.50%	2 1.67%	85	33
PATHANAMTHITTA	86	0.02	4.50	0.05	4	26 30.23%	1 1.16%	2 2.33%	43 50%	4 4.65%	0	29	47
THIRUVANANTHAPURAM	103	0.01	4.51	0.03	12.58	29 28.16%	2 1.94%	1 0.97%	55 53.40%	12 11.65%	3.2.93 %	32	70
THRISSUR	118	0.02	2.49	0.01	5.50	80 67.80%	2 1.69%	0	28 23.73%	2 1.69%	1 0.85%	82	31
WAYANAD	68	0.02	8.12	0.02	1.86	32 47.06%	4 5.88%	1 1.47%	30 44.12%	0	0	37	30
TOTAL	1364	0.06	1.74	0.01	16.75	755	75	17	426	41	13	847	480

VI COMPARISON OF 2016-17 WATER LEVELS WITH THE DECADAL MEAN (2006-2015)

Water levels during the year 2016-17 in comparison with the decadal mean (2006-2015) value of the respective measurements is discussed in this chapter. The analysis brings out the deviations in water level from the general behaviour of water level of the past decade. In general, the change in water level is confined to the range of +2 to -2 m.

Fluctuation between Mean April (2006-2015) and April 2016

The change in water level over the last ten years period is brought out by the comparison of water level with the mean value of April measurements of the period 2006-2015. This analysis indicates that the change in water level is mostly restricted to +2(rise) to -2(fall) m as recorded by 90% of GWMW. However, fall in waterlevel is predominant in many parts of the state as represented by 64% of monitoring wells. The frequency of wells showing rise and fall in different ranges (0-2m,2-4m, 4m) when compared with decade mean water level is given in **Table 6.1**. **Figure 6.1** shows the water level fluctuation in Kerala for April 2016 with respect to Decadal mean (2006-2015).

Fluctuation between Mean August (2006-2015) and August 2016

The change in water level over the last ten years period is brought out by the comparison of water level with the mean value of August measurements of the period 2006-2015. This analysis indicates that the change in water level is mostly restricted to +2(rise) to -2(fall) m as recorded by 86.03% of GWMW. However, fall in water level is predominant in many parts of the state as represented by 72.3 % of monitoring wells. The frequency of wells showing rise and fall in different ranges (0-2m,2-4m, 4m) when compared with decade mean water level is given in **Table 6.2**. **Figure 6.2** shows the water level fluctuation in the state for August 2016 with respect to Decadal mean (2006-2015).

Fluctuation between Mean November (2006-2015) and November 2016

The change in water level over the last ten years period is brought out by the comparison of water level with the mean value of November measurements of the period 2006-2015. This analysis indicate that the change in water level is mostly restricted to +2(rise)to -2(fall) m as recorded by 85.36 % of GWMW. However, fall in water level is predominant mainly in

Thiruvananthapuram and Malappuram districts of the state as represented by 84.64% of monitoring wells. Rise in water level is confined to Pathanamthitta, Kottayam and isolated pockets of central and northern districts. The frequency of wells showing rise and fall in different ranges (0-2m,2-4m, 4m) when compared with decade mean water level is given in **Table 6.3**. **Figure 6.3** shows the water level fluctuation in the state for November 2016 with respect to Decadal mean (2006-2015).

Fluctuation between Mean January (2007-2016) and January 2017

The change in water level over the last ten years period is brought out by the comparison of water level with the mean value of January measurements of the period 2007-2016. This analysis indicate that the change in water level is mostly restricted to +2 (rise) to -2 (fall) m as recorded by 88.03 % of GWMW. However, fall in water level is predominant in all districts as represented by 81.45 % of monitoring wells. Rise in water level is observed as isolated patches in all districts. The frequency of wells showing rise and fall in different ranges (0-2m,2-4m, 4m) when compared with decade mean water level is given in **Table 6.4** **Figure 6.4** shows the water level fluctuation in the state for January 2017 with respect to Decadal mean (2007-2016).

Figure 6.1

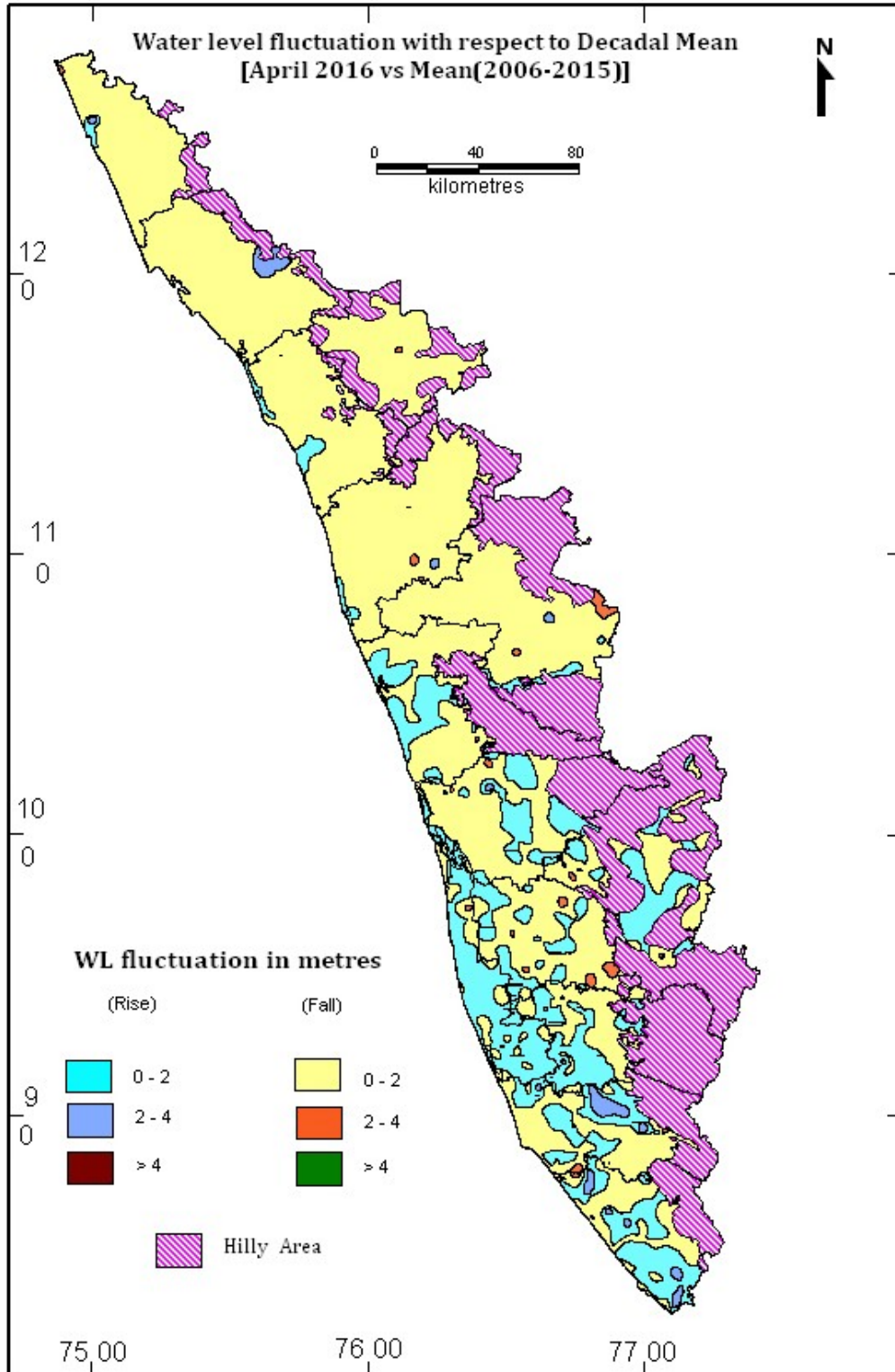


Figure 6.2

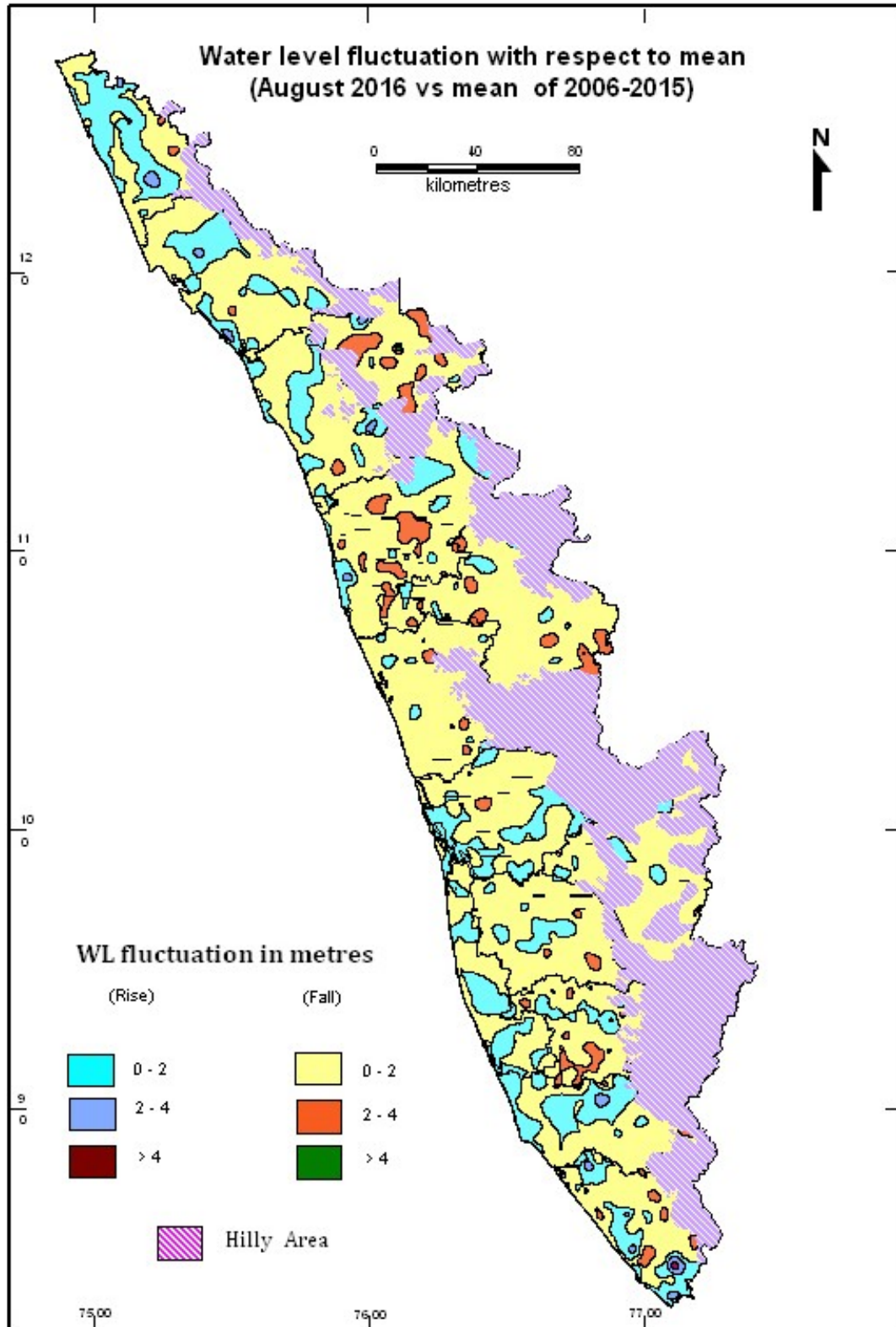


Figure 6.3

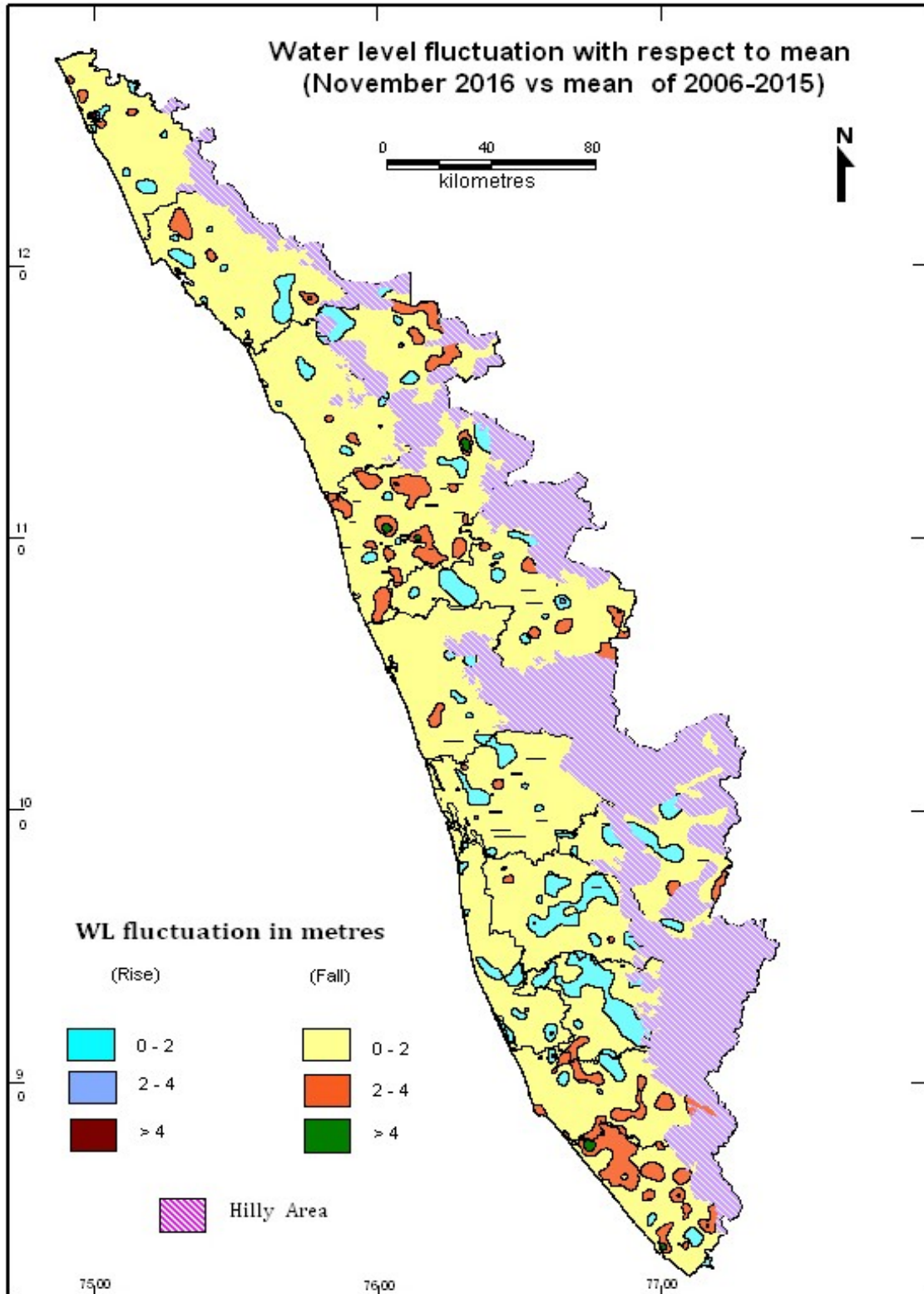


Figure 6.4

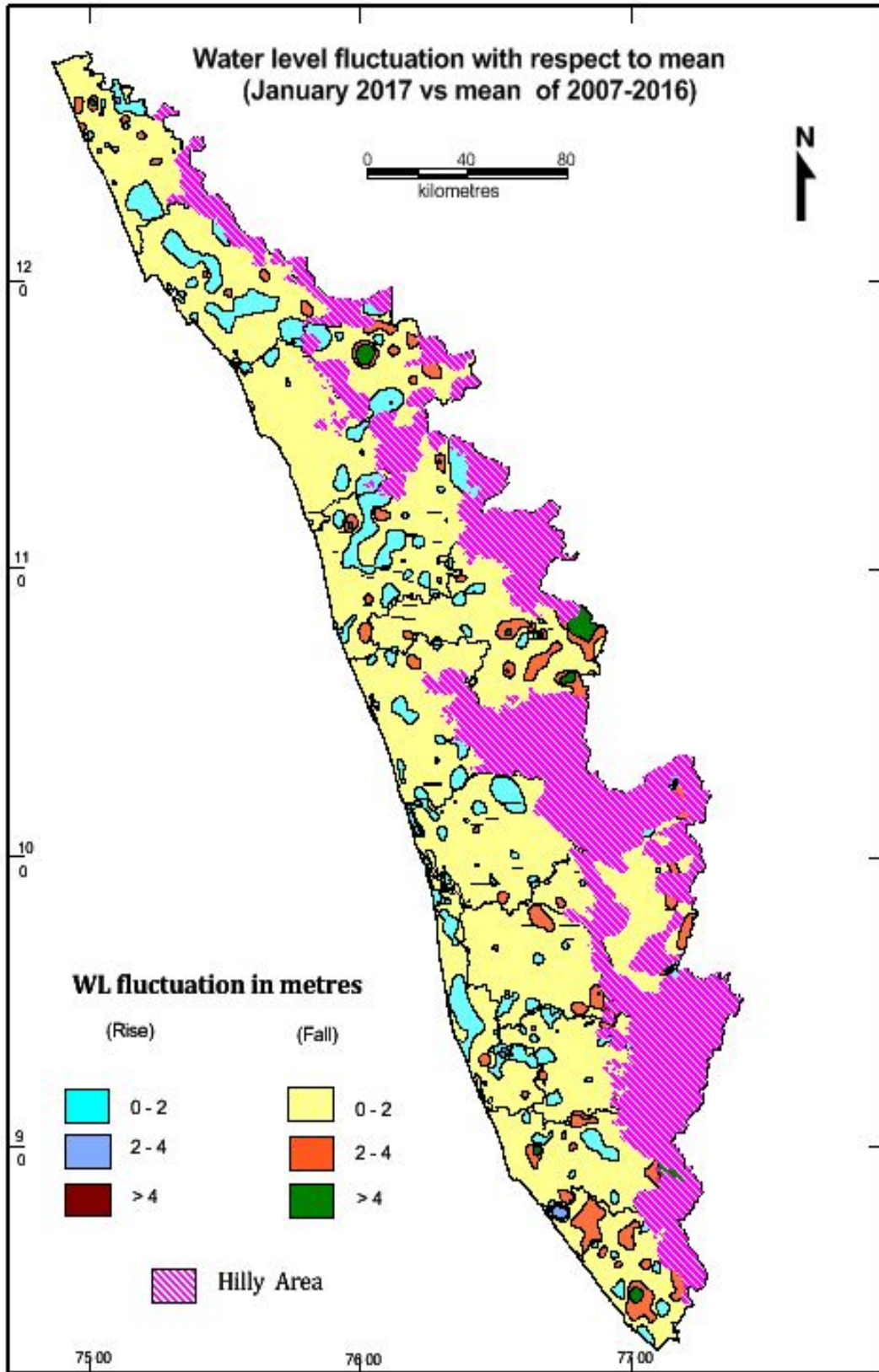


Table 6.1: District wise Well Frequency for Different Ranges of Water Level Fluctuation (April 2016 – Decadal mean (April 2006-2015))

District	No. of Wells	Range of Fluctuation (m)				No. & Percentage of Wells / Percentage Showing Fluctuation						Total No. of Wells	
		Rise		Fall		Rise			Fall				
		Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4		
ALAPPUZHA	77	0.01	1.89	0.01	2.28	58 72.50%	0	0	18 22.50%	1 1.25%	0	58	19
ERNAKULAM	115	0.01	2.90	0.00	3.7	35 30.43%	2 1.74%	0	76 66.09%	2 1.74%	0	37	78
IDUKKI	73	0.01	1.73	0.02	3.06	33 45.21%	0	0	36 49.32%	4 5.48%	0	33	40
KANNUR	96	0.05	4.42	0.05	4.45	27 27.84%	0	2 2.06%	58 59.79%	7 7.22%	2 2.06%	29	67
KASARGOD	114	0.02	4.09	0.02	4.59	7 6.14%	3 2.63%	1 0.88%	79 69.30%	18 15.79%	6 5.26%	11	103
KOLLAM	103	0.02	4.64	0.02	4.73	27 26.21%	5 4.85%	2 1.94%	63 61.17%	3 2.91%	3 2.91%	34	69
KOTTAYAM	103	0.01	1.41	0.03	3.41	35 33.98%	0	0	62 60.19%	6 5.83%	0	35	68
KOZHIKODE	87	0.01	1.22	0.00	2.13	27 31.03%	0	0	59 67.82%	1 1.15%	0	27	60
MALAPPURAM	96	0.01	3.37	0.01	4.63	28 29.17%	2 2.08%	0	59 61.46%	4 4.17%	3 3.13%	30	66
PALAKKAD	112	0.01	4.20	0.00	4.23	35 30.97%	2 1.77%	1 0.88%	65 57.52%	5 4.42%	4 3.54%	38	74
PATHANAMTHITTA	85	0.00	4.01	0.03	4.38	41 48.24%	3 3.53%	1 1.18%	35 41.18%	3 3.53%	2 2.35%	45	40
THIRUVANANTHAPURAM	109	0.01	4.46	0.03	4.89	41 37.61%	10 9.17%	6 5.50%	47 43.12%	3 2.75%	2 1.83%	57	52
THRISSUR	111	0.01	4.38	0.02	2.75	42 37.50%	0	2 1.79%	64 57.14%	3 2.68%	0	44	67
WAYANAD	66	0.03	1.17	0.02	8.3	11 16.67%	0	0	49 74.24%	5 7.58%	1 1.52%	11	55
TOTAL	1347	0.01	4.64	0.00	4.73	447 33%	27 2%	15 1%	770 57%	65 5%	23 2%	489 36%	858 64%

Table 6.2: District wise Well Frequency for Different Ranges of Water Level Fluctuation (August 2016-Decadal mean (August 2006-2015))

District	No. of Wells	Range of Fluctuation (m)				No. & Percentage of Wells / Percentage Showing Fluctuation						Total No. of Wells	
		Rise		Fall		Rise			Fall				
		Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4		
ALAPPUZHA	83	0.05	2.23	0.01	5.10	28 33.73%	1 1.20%	1 1.20%	50 60.24%	0	3 3.61%	30	53
ERNAKULAM	129	0.01	1.33	0.01	3.97	54 41.86%	0	0	74 57.36%	1 0.78%	0	54	75
IDUKKI	74	0.06	0.91	-	2.22	9 12.16%	1 1.35%	0	61 82.43%	2 2.70%	1 1.35%	10	64
KANNUR	102	0.01	5.15	0.01	5.88	30 29.41%	2 1.96%	1 0.98%	66 64.71%	1 0.98%	1 0.98%	33	68
KASARGOD	123	0.01	6.31	0.02	4.57	58 47.15%	3 2.44%	4 3.25%	54 43.90%	3 2.44%	1 0.81%	65	58
KOLLAM	100	0.01	6.97	0.01	4.96	33 33.00%	4 4.00%	2 2.00%	54 54.00%	5 5.00%	2 2.00%	39	61
KOTTAYAM	105	0.01	1.79	0.01	4.00	17 16.19%	0	0	82 78.10%	6 5.71%	0	17	88
KOZHIKODE	97	0.01	3.06	0.03	3.11	29 29.90%	1 1.03%	0	60 61.86%	6 6.19%	1 1.03%	30	67
MALAPPURAM	120	0.05	2.81	0.02	12.29	19 15.83%	3 2.50%	0	66 55.00%	23 19.17%	9 7.50%	22	98
PALAKKAD	132	0.01	5.64	0.03	13.17	18 13.64%	0	2 1.52%	78 59.09%	24 18.18%	10 7.58%	20	112
PATHANAMTHITTA	86	0.03	2.06	0.03	8.55	14 16.28%	1 1.16%	0	50 58.14%	20 23.26%	1 1.16%	15	71
THIRUVANANTHAPURAM	124	0.90	5.30	0.01	3.97	38 30.65%	6 4.84%	3 2.42%	61 49.19%	15 12.10%	0	47	76
THRISSUR	130	0.02	2.42	0.02	4.64	12 9.23%	2 1.54%	0	107 82.31%	6 4.62%	3 2.31%	14	116
WAYANAD	77	0.06	5.58	0.01	9.28	12 15.58%	0	1 1.30%	41 53.25%	18 23.38%	5 6.49%	13	64
TOTAL	1482	0.01	0.06	0.01	13.17	371	24	14	904	130	37	409	1071

Table 6.3: District wise Well Frequency for Different Ranges of Water Level Fluctuation (November 2016 - Decadal mean (November 2006-2015))

District	No. of Wells	Range of Fluctuation (m)				No. & Percentage of Wells / Percentage Showing Fluctuation						Total No. of Wells	
		Rise		Fall		Rise			Fall				
		Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4		
ALAPPUZHA	86	0.01	2.17	0.02	7.52	17 19.77%	1 1.16%	0	62 72.09%	5 5.81%	1 1.16%	18	68
ERNAKULAM	128	0.01	1.00	0.01	4.5	20 15.63%	0	0	101 78.91%	6 4.69%	1 0.78%	20	108
IDUKKI	70	0.07	0.80	0.03	3.31	12 17.14%	0	0	54 77.14%	4 5.71%	0	12	58
KANNUR	102	0.06	1.90	0.05	4.73	11 10.78%	0	0	83 81.37%	6 5.88%	2 1.96%	11	91
KASARGOD	115	0.02	4.81	0.03	4.69	9 7.83%	0	2 1.74%	96 83.48%	7 6.09%	1 0.87%	11	104
KOLLAM	89	0.40	2.23	0.13	5.61	5 5.62%	1 1.12%	0	57 64.04%	20 22.47%	6 6.74%	6	83
KOTTAYAM	101	0.01	2.07	0.01	2.97	23 22.77%	1 0.99%	0	75 74.26%	2 1.98%	0	24	77
KOZHIKODE	91	0.01	2.72	0.04	3.75	10 10.99%	1 1.10%	0	74 81.32%	6 6.59%	0	11	80
MALAPPURAM	119	0.03	1.22	0.03	13.96	11 9.24%	0	0	74 62.18%	25.21.01 %	8 6.72%	11	107
PALAKKAD	102	0.02	2.37	0.18	10.06	15 14.71%	1 0.98%	0	60 58.82%	18 17.65%	8 7.84%	16	86
PATHANAMTHITTA	89	0.03	2.76	-	4.69	34 38.20%	1 1.12%	0	48 53.93%	5 5.62%	1 1.12%	35	54
THIRUVANANTHAPURAM	110	0.02	2.44	0.09	7.31	12 10.91%	1 0.91%	0	56 50.91%	31 28.18%	10 9.09%	13	97
THRISSUR	120	0.01	0.97	0.02	2.38	14 11.67%	0	0	102 85.00%	4 3.33%	0	14	106
WAYANAD	65	0.01	1.87	0.05	4.76	10 15.38%	0	0	39 60.00%	13 20.00%	3 4.62%	10	55
TOTAL	1387	0.01	4.81	0.01	13.69	203 14.63%	7 0.5 %	2 0.14%	981 70.73%	152 10.96%	41 2.95%	212 15.28%	1174 84.64%

Table 6. 4: District wise Well Frequency for Different Ranges of Water Level Fluctuation (January 2017 - Decadal mean (January 2007-2016))

District	No. of Wells	Range of Fluctuation (m)				No. & Percentage of Wells / Percentage Showing Fluctuation						Total No. of Wells	
		Rise		Fall		Rise			Fall				
		Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4		
ALAPPUZHA	83	0.03	3.50	0.02	5.78	24 28.92%	1 1.20%	0	54 65.06%	3 3.61%	1 1.20%	25	58
ERNAKULAM	128	0.00	1.56		3.49	26 20.31%	0	0	98 76.56%	4 3.13%	0	26	102
IDUKKI	71	0.03	3.27	0.09	5.20	8 11.27%	1 1.41%	0	51 71.83%	10 14.08%	1 1.41%	9	62
KANNUR	106	0.02	1.87		14.16	32 30.19%	0	0	65 61.32%	6 5.66%	3 2.83%	32	74
KASARGOD	117	0	7.19	0.01	6.01	22 18.80%	1 0.85%	2 1.71%	82 70.09%	7 5.98%	2 1.71%	25	91
KOLLAM	110	0.03	1.32	0.07	7.06	12 10.91%	0	0	81 73.64%	15 13.64%	2 1.82%	12	98
KOTTAYAM	99	0.05	1.02	0.03	4.04	13 13.13%	0	0	79 79.80%	6 6.06%	1 1.01%	13	86
KOZHIKODE	93	0.01	1.37	0.01	2.11	10 10.75%	0	0	82 88.17%	1 1.08%	0	10	83
MALAPPURAM	115	0.01	1.97	0.0	27.16	30 26.09%	0	0	68 59.13%	10 8.70%	6 5.22%	30	84
PALAKKAD	135	0.01	1.91	0.04	17.50	15 11.11%	0	0	84 62.22%	23 17.04%	13 9.63%	15	120
PATHANAMTHITTA	87	0.01	1.22	0.0	3.69	18 20.69%	0	0	66 75.86%	3 3.45%	0	18	69
THIRUVANANTHA PURAM	114	0.03	3.89	0.01	6.68	18 15.79%	1 0.88%	0	64 56.14%	28 24.56%	3 2.63%	19	95
THRISSUR	119	0	1.73	0	3.89	22 18.49%	0	0	92 77.31%	5 4.20%	0	22	97
WAYANAD	68	0.06	3.48	0.10	7.25	811.76%	2 2.94%	0	48 70.59%	9 13.24%	1 1.47%	10	58
TOTAL	1445	1.02	0.06	0	27.16	258	6	2	1014	130	33	266	1177

VII. LONG TERM GROUND WATER LEVEL TREND

The long-term water level data was analysed for the period of 2007-2016. The analysis of pre-monsoon water level trend for the last decadal period (i.e. during 2007 – 2016) indicates that only 37.8 % of GMMWs have recorded negligible change in water level in the range of +0.05 to -0.05 m/year. 30.69 % of monitoring wells have recorded declining trend in the range of 0.05 to 0.2 m/year and 13.8 % of monitoring wells have recorded declining trend above 0.2 m/year. The 12.6 % of monitoring wells have recorded rising trend in the range of 0.05 to 0.2 m/year and 5.09 % of monitoring wells have recorded rising trend above 0.2 m/year. From the above data, the long-term trend for the pre-monsoon period indicates a decline in water level represented by about 44.49 % of the total wells excluding the wells showing negligible change in water level. The maps showing pre-monsoon water level trend for the period 2007-2016 is shown in **Figure 7.1**.

The analysis of post-monsoon water level trend for the last decadal period (i.e. during 2007– 2016) indicates that only 40.32 % of GMMWs have recorded negligible change in water level in the range of +0.05 to -0.05 m/year. 30.85 % of monitoring wells have recorded declining trend in the range of 0.05 to 0.2 m/year and 10.28 % of monitoring wells have recorded declining trend above 0.2 m/year. 12.72 % of monitoring wells have recorded rising trend in the range of 0.05 to 0.2 m/year and 5.82 % of monitoring wells have recorded rising trend above 0.2 m/year. The data analysis indicates that the long-term ground water level trend shows a declining trend in major portions of the state represented by about 41.13 % of the total wells excluding the wells showing negligible change in water level. The maps showing pre-monsoon water level trend for the period 2007-2016 is shown in **Figure 7.2**.

Typical hydrographs showing the negligible change in water level are depicted in Figures 7.3 & 7.4. Many of the monitoring wells which are showing declining pre-monsoon water level, have a rising or a steady post monsoon water level trend, indicating the enhanced ground water recharge to recoup to the original level (Figure 7.5 & 7.6). A few monitoring wells like Palakkad and Mannanthala have shown falling trend of both pre-monsoon and post-monsoon water levels (Figure 7.7 & 7.8).

Figure 7.1

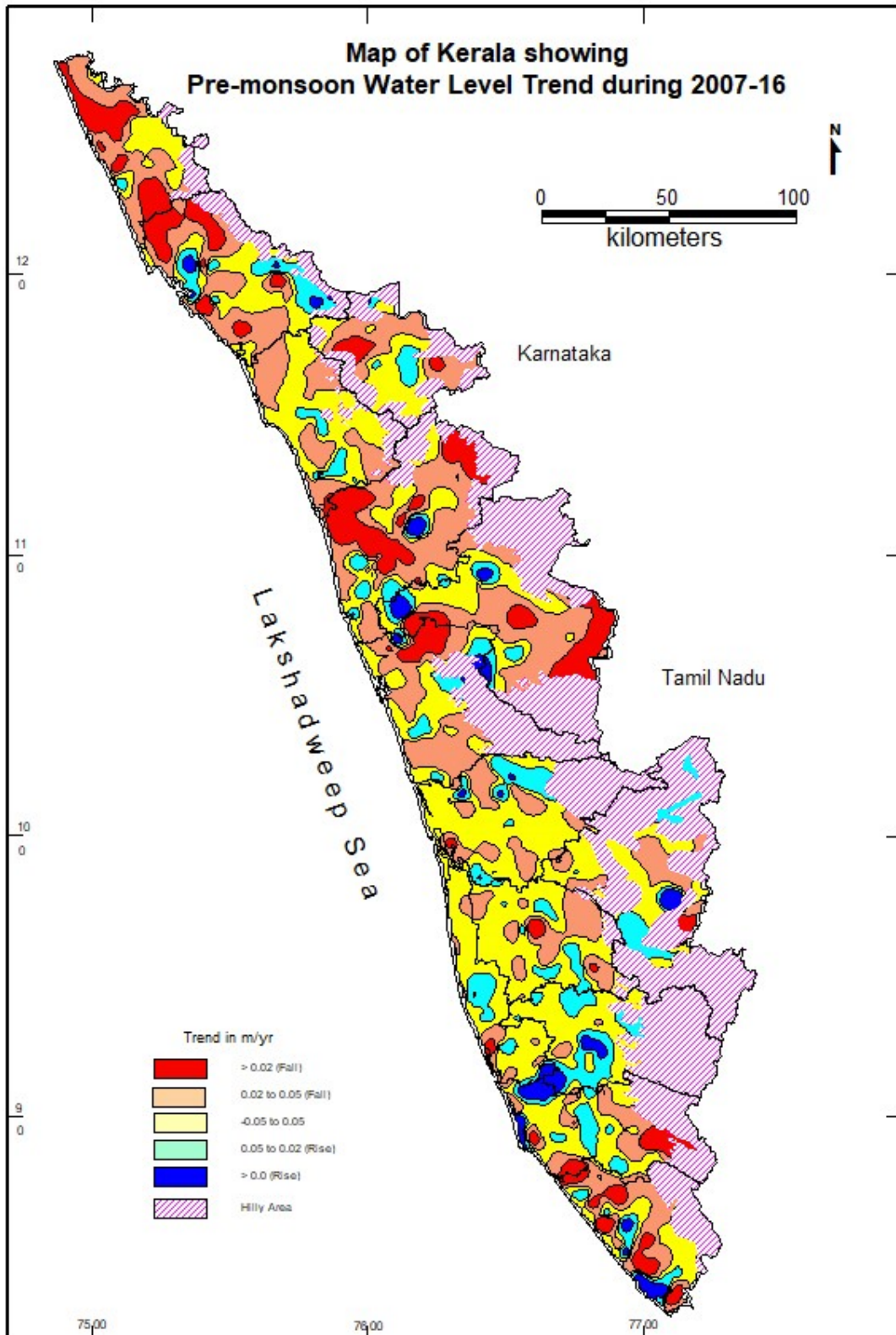


Figure 7.2

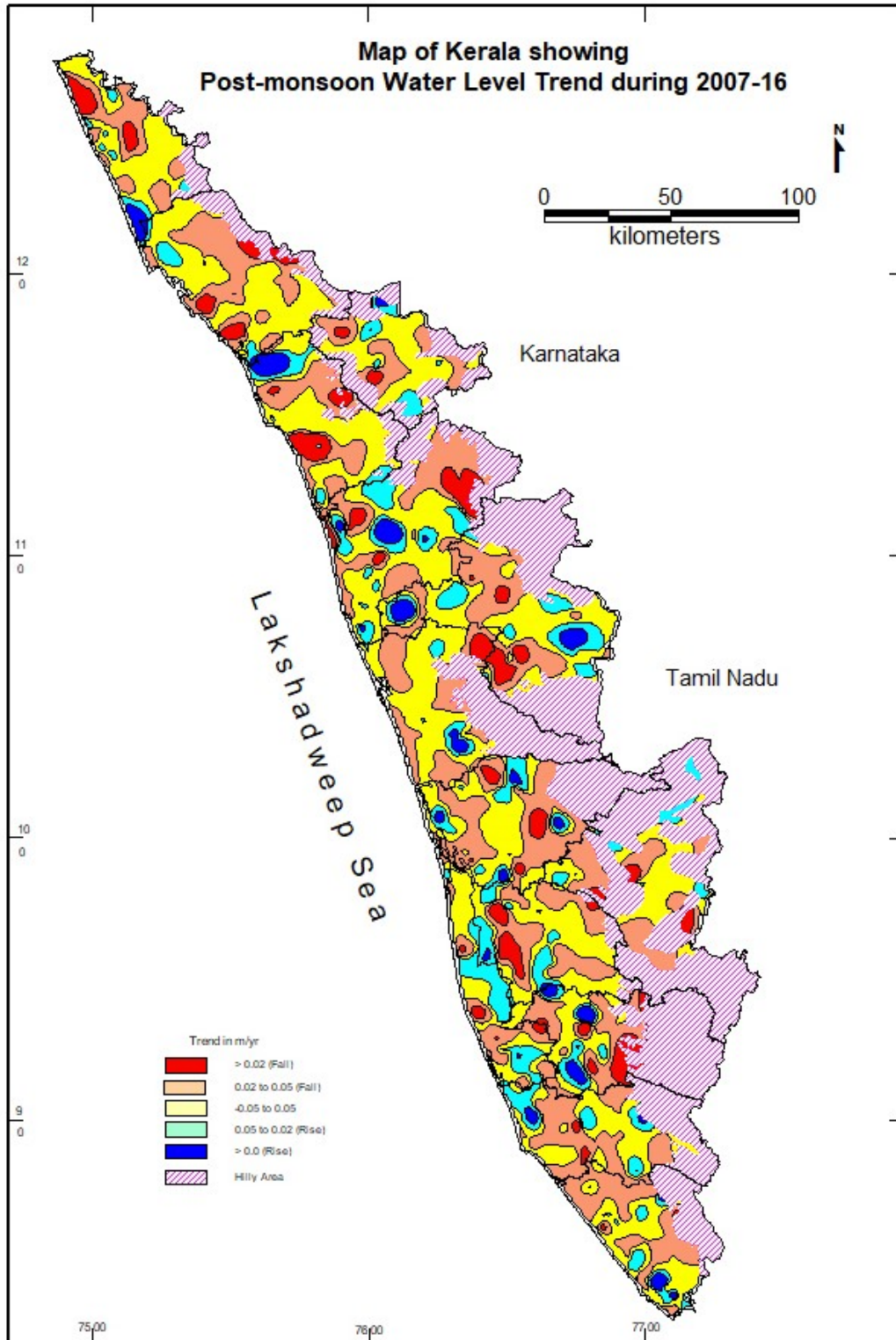


Figure 7.3

**Hydrograph of GMMWs tapping phreatic aquifer in laterites at Kommeri,
Kannur District**

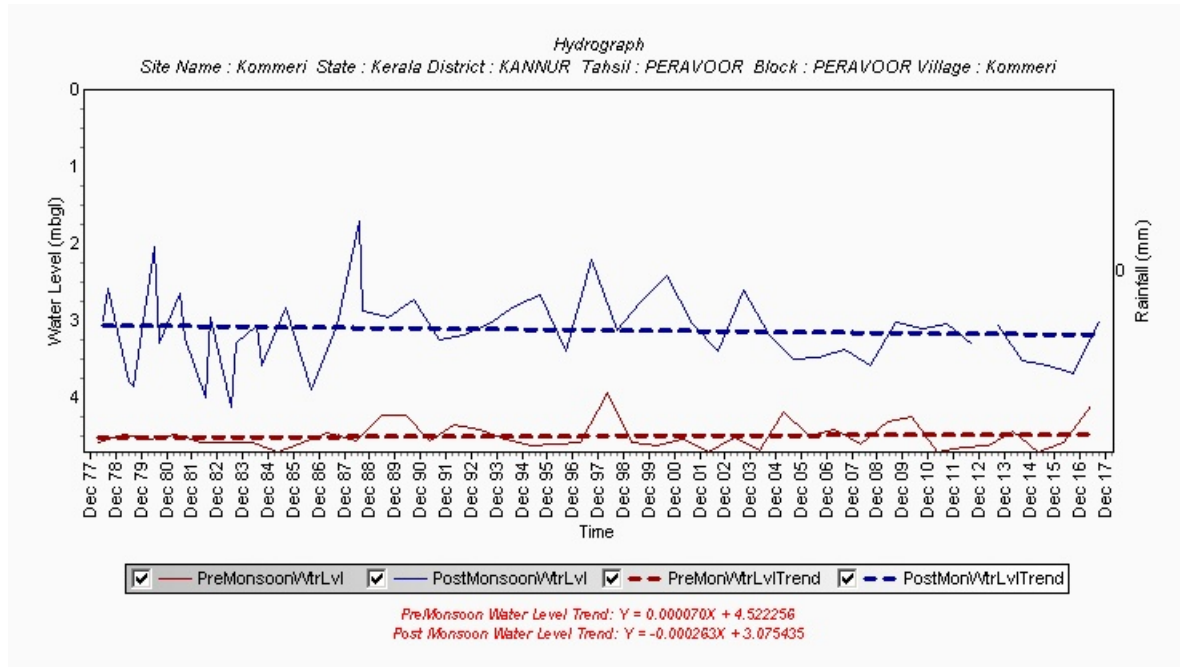


Figure 7.4

**Hydrograph of GMMW tapping phreatic aquifer in laterites at Madavur,
Thiruvananthapuram District**

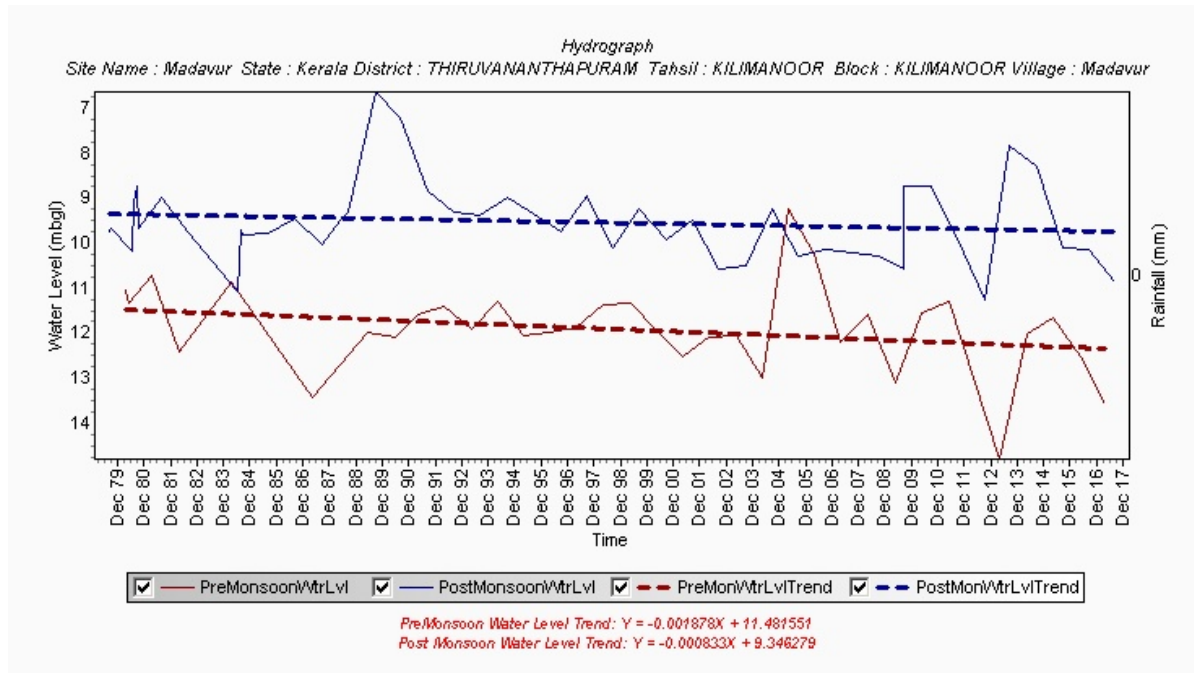


Figure 7.5

**Hydrograph of GWMW tapping phreatic aquifer in laterites at Kottiyur,
Kannur District**

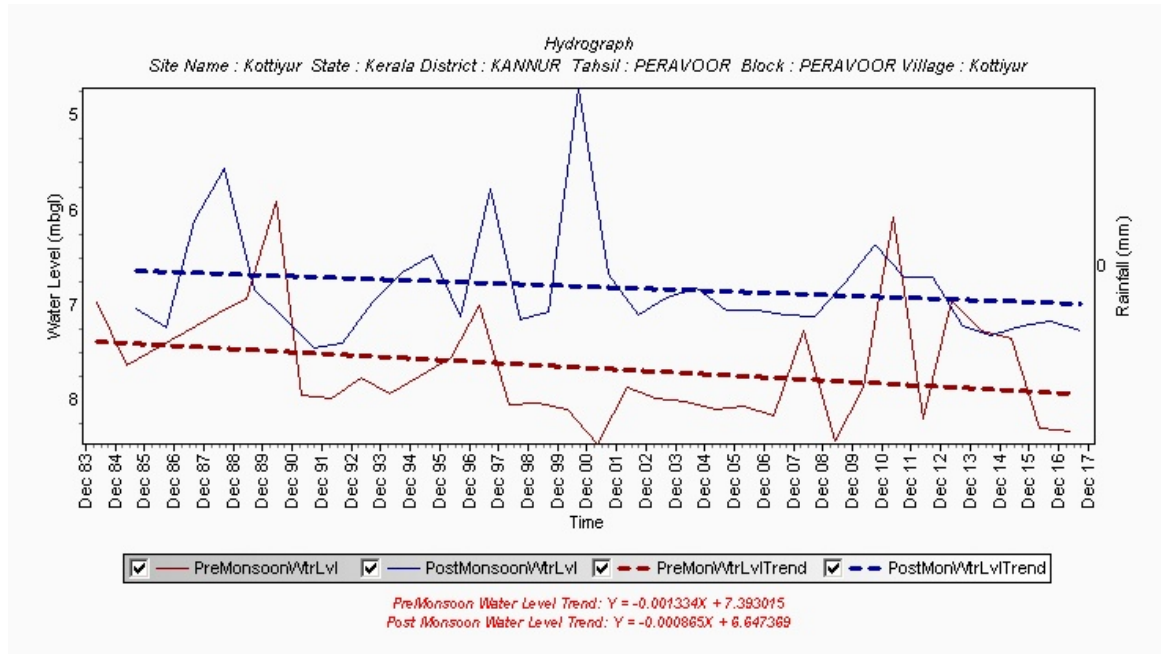


Figure 7.6

**Hydrograph of GWMW tapping phreatic aquifer in laterites at Ayur,
Kollam District**

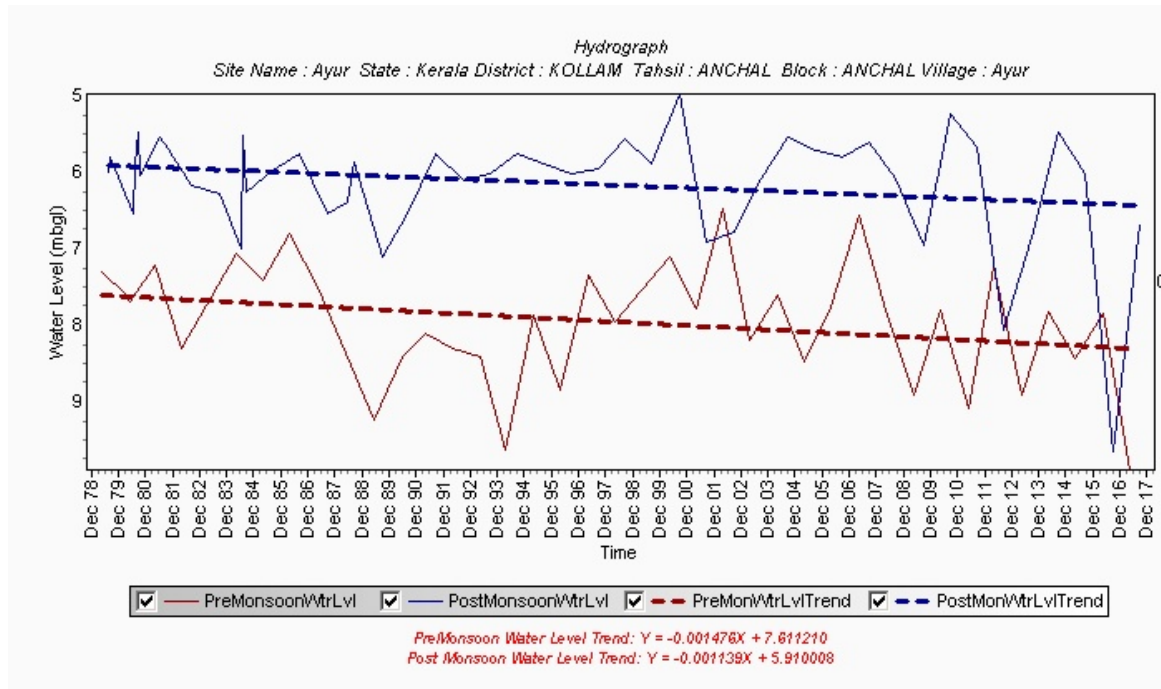


Figure 7.7

Hydrograph of GWMW tapping phreatic aquifer in weathered crystallines at Palghat, Palakkad District

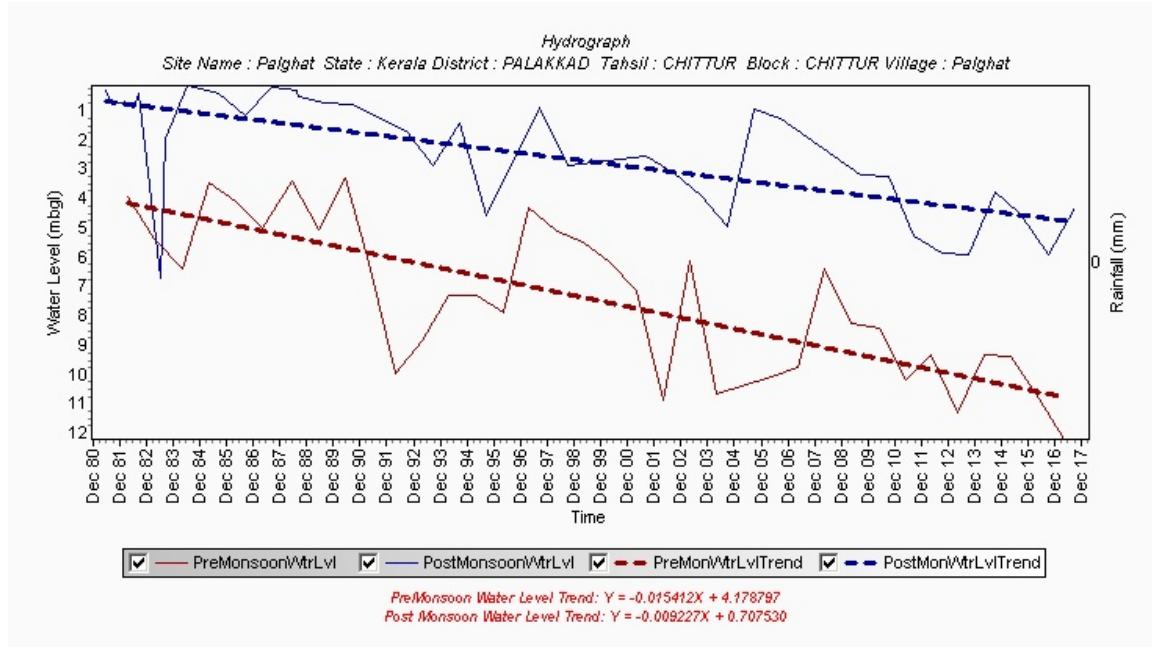
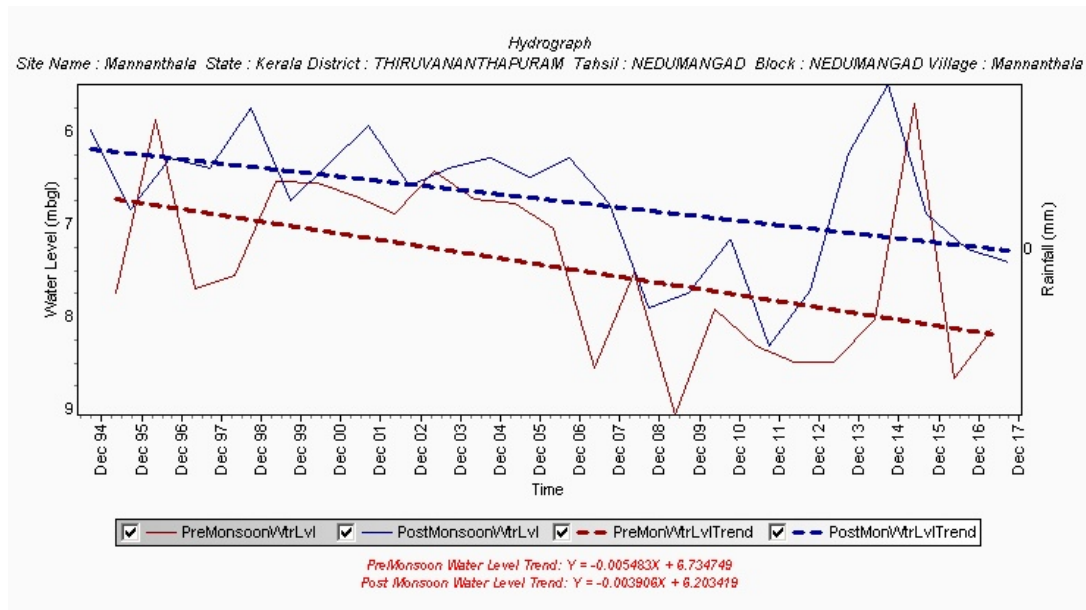


Figure 7.8

Hydrograph of GWMW tapping phreatic aquifer in laterites at Mannanthala, Thiruvananthapuram District



VIII. BEHAVIOUR OF PIEZOMETRIC HEADS IN DEEP AQUIFERS OF CONFINED/SEMICONFINED NATURE DURING THE YEAR 2016-2017

A total of 268 piezometers constructed by CGWB in various districts of the State are being monitored four times a year. Out of these 51 piezometers (Tube wells) are constructed in sedimentary areas. The depth range of these piezometers is from 10 m. to 450 m. The remaining 117 piezometers (Bore wells) are in hard rock areas and the depth range of these wells is from 10 m. to 300 m. About 44% of these borewells are tapping shallow fracture zones within 30 metres depth. These wells were manually monitored for water level during the months of April, August, November 2016 and January 2017. The analysis of the data acquired from these piezometers is discussed below.

Sedimentary area:

In the deeper aquifers of Tertiary age, ground water occurs under confined / semi-confined conditions. In the shallow aquifers in Tertiary formation in northern Kerala and in Recent alluvial formations in coastal plains, ground water occurs under unconfined to semi-confined condition. The piezometric heads in these aquifers is at about 18 m. amsl in the eastern boundary of recharge areas of Tertiary beds and reduced to near MSL in coastal areas. The depth to piezometric heads in deep tube wells tapping confined aquifers ranges from 0.3 to 35 mbgl during April 2016 (premonsoon). The annual fluctuation of the piezometric head in the year 2016 - 17 is mostly restricted to 3 metres. Free flowing wells are also encountered in some places and the decline in head with time is inferred from the reduction in free flow. Analysis of the long term piezometric head data of deeper aquifers at Karthikapally tapping Quilon and Warkali formations are showing a declining trend in both during pre-monsoon and post-monsoon. Hydrographs of piezometers at Karthikapally (Alleppey District) tapping Warkali and Quilon aquifers are shown in Figs 8.1 & 8.2.

Crystalline area:

In hard rock areas, groundwater occurs under confined / semi-confined conditions in the deep fracture zones and unconfined to semi-confined conditions in shallow fractured zones. The depth to piezometric heads in bore wells range from 1.6 to 51.0 m bgl during pre-monsoon period (April 2016). About 88.7 % of the borewells in the hard rock areas are showing piezometric head of less than 10 mbgl. The annual fluctuation of piezometric head (between April and November months) is in the range of 0.3 – 10 metres. The hydrograph of the hard rock piezometers is given in Figs. 8.3 & 8.4.

Fig 8.1 Hydrograph of Piezometer tapping Warkalai aquifer at Karthikapally, Alappuzha District

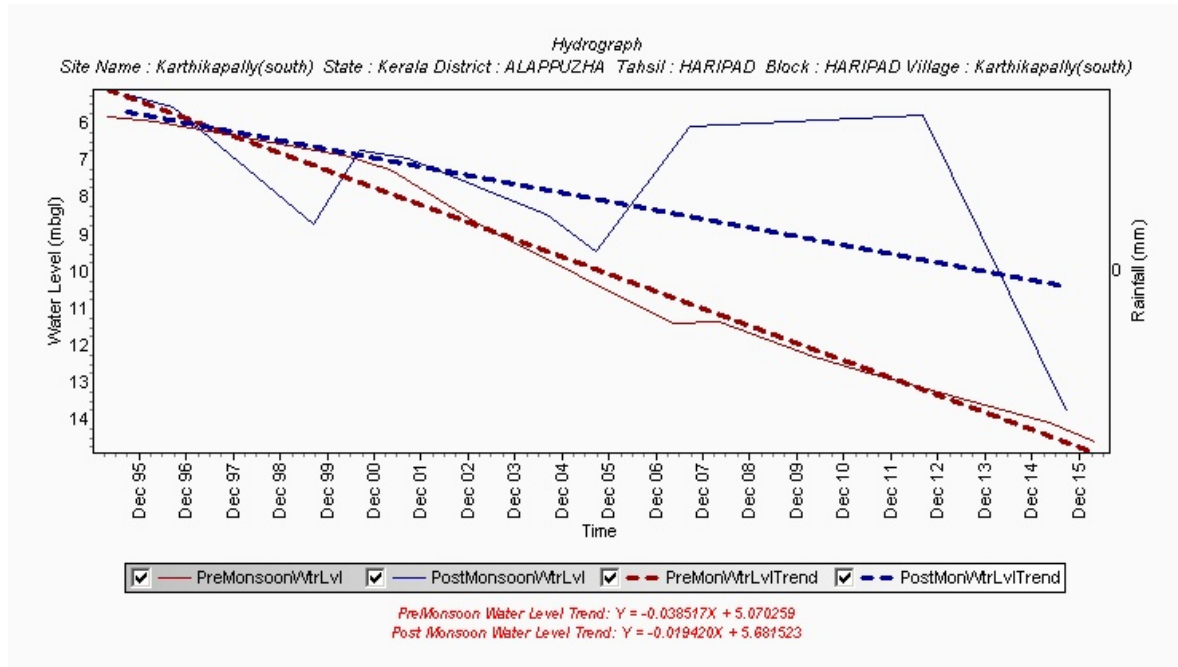


Fig 8.2 Hydrograph of Piezometer tapping Quilon aquifer at Karthikapally, Alappuzha District

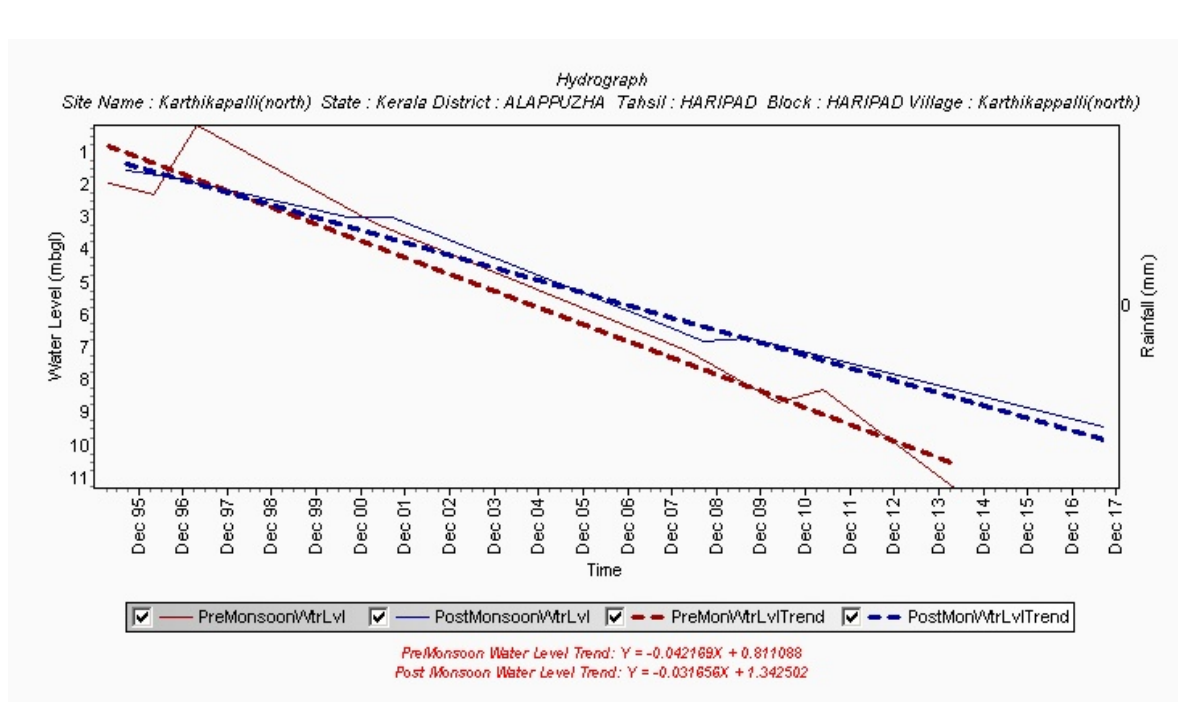


Fig 8.3 Hydrograph of Piezometer tapping fractured aquifers at Vadakkancherry, Palakkad District

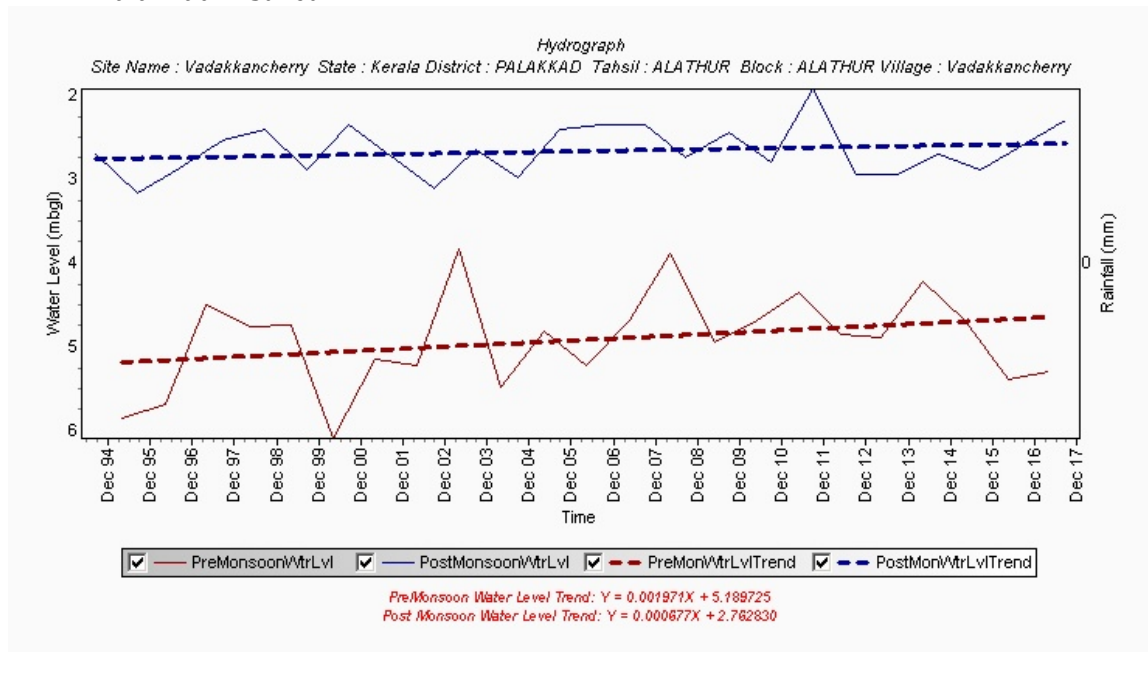
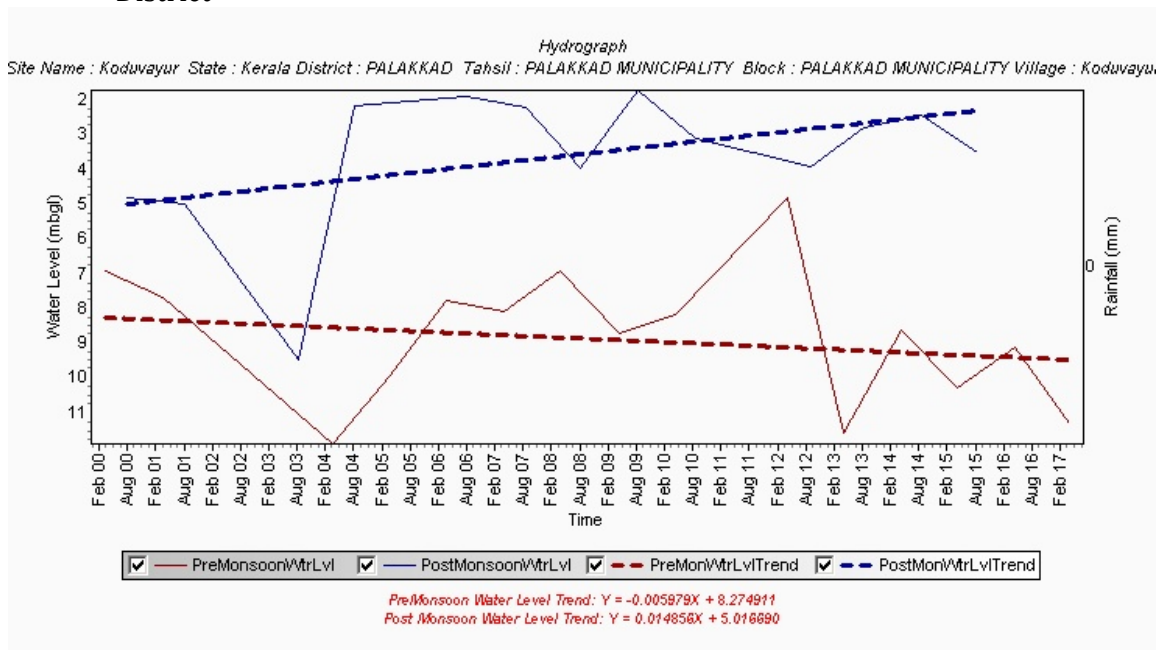


Fig. 8.4: Hydrograph of Piezometer tapping fractured aquifers at Koduvayur, Palakkad District



IX HYDROCHEMISTRY

The chemical quality of shallow groundwater in Kerala State has been evaluated by sampling and analyzing the water samples from National Hydrograph Monitoring Wells. 340 water samples were collected and analyzed for pH, electrical conductivity, total hardness, calcium, magnesium, sodium, potassium, carbonate, bicarbonate, sulphate, chloride, fluoride and nitrate concentrations. The analysis data is presented in Appendix II. The frequency distribution of electrical conductivity data of National Hydrograph Monitoring Wells is presented for entire Kerala State as well as district-wise in Tables 9.1 and 9.2

The shallow groundwater in Kerala State is generally of good quality, as per Table 2. Out of 340 water samples, the electrical conductivity value of 293(86.2%) water samples are in the range 0-500 Micro siemens/cm($\mu\text{S}/\text{cm}$) at 25°C, 38(11.2%) water samples are in the range of 501-1000 ($\mu\text{S}/\text{cm}$) at 25°C and 9(2.6%) water samples are in the range 1001-2000 ($\mu\text{S}/\text{cm}$) at 25°C. The highest electrical conductivity value of 1970 ($\mu\text{S}/\text{cm}$) at 25 °C is registered in the well of Pozhiyoor of Thiruvananthapuram district.

Locations where the values of parameters like electrical conductivity more than 1000 Micro siemens/cm at 25°C, and nitrate more than 45 Milligram per litre are tabulated in Tables 9.3 and 9.4.

On perusal of the data presented in the Appendix II it is understood that the locations where the electrical conductivity value had exceeded 1000 ($\mu\text{S}/\text{cm}$) at 25°C in districts other than Palghat district are all in Coastal plains. Due to Closeness to sea and backwaters a marginal increase of dissolved solids in groundwater is observed during the summer months. In Palghat district all the locations where the electrical conductivity had exceeded 1000 ($\mu\text{S}/\text{cm}$) at 25°C are situated in the eastern and southern part of the district. The eastern part of Palghat district is more mineralized where the values of calcium and magnesium concentrations are slightly more when compared to other districts of Kerala State. This is evident from the Geological Map of Kerala State.

The wells which had shown nitrate concentration above 45mg/l are distributed sporadically over the state and are not confined to any area. These stations are most likely to represent the levels of localized pollution. The locations where the electrical

conductivity value is more than 1000 ($\mu\text{S}/\text{cm}$) at 25°C and nitrate value is more than 45 Milligram per litre are indicated in Map (Fig.8.5 & 8.6).

Table – 9.1 Frequency Distribution of Electrical Conductivity (Microsiemens/cm at 25°C) in the National Hydrograph Monitoring Wells in Kerala State during April 2016

Electrical Conductivity Range (Micro siemens/cm at 25°C)	No. of Monitoring Wells	%
0-500	293	86.2
501-1000	38	11.2
>1000	9	2.6

Table – 9.2: Frequency Distribution of Electrical Conductivity (Microsiemens/cm at 25°C) in National Hydrograph Monitoring Wells during April 2016- District wise

Sl. No.	Name of the district	Total No. of Samples	Electrical Conductivity (Microsiemens/cm at 25°C)					
			0-500		501-1000		>1000	
			No. of Samples	%	No. of Samples	%	No. of Samples	%
1	Kasaragod	19	19	100	0	0	0	0
2	Kannur	21	21	100	0	0	0	0
3	Kozhikode	23	20	87	3	13	0	0
4	Wayanad	17	16	94.1	1	5.9	0	0
5	Malappuram	33	25	75.8	4	12.1	4	12.1
6	Thrissur	30	27	90	3	10	0	0
7	Palakkad	34	17	50	14	41.2	3	8.8
8	Ernakulam	25	22	88	2	8	1	4
9	Kottayam	26	24	92.3	2	7.7	0	0
10	Idukki	21	21	100	0	0	0	0
11	Alappuzha	27	22	81.5	5	18.5	0	0
12	Pathanamthitta	17	16	94.1	1	5.9	0	0
13	Kollam	25	25	100	0	0	0	0
14	Thiruvananthapuram	22	18	81.8	3	13.6	1	4.6

Table 9.3 Location where Electrical conductivity is 1000 and >1000 $\mu\text{S}/\text{cm}$ at 25°C

Sl. No.	District	Block	Location	Latitude	Longitude	Electrical Conductivity in $\mu\text{S}/\text{cm}$ at 25°C
1	2	3	4	5	6	7
		Nilambur	Chungathara	11°0'0" N	76°0'36" E	1210
		Tirurangadi	Kadalundi	10°52'54" N	76°4'52" E	1030
		Ponnani Municipality	Ponnani	10°46'48" N	75°55'12" E	1200
		Kollengode	Chemmapathi	10°34'25" N	76°49'52" E	1510
		Kollengode	Kollengode	10°36'45" N	76°41'39" E	1340
		Chittoor	Meenakshipuram	10°38'01" N	76°51'57" E	1000
		Chittoor	Nedupuni	10°43'28" N	76°53'15" E	1380
3	Ernakulam	Palluruthy	Chellanum	9°48'25" N	76°17'5" E	1310
4	Thiruvananthapuram	Parassala	Pozhiyoor	8°18'10" N	77°5'42" E	1970

Table 9.4 Location where Nitrate >45mg/l

Sl. No.	District	Block	Location	Latitude	Longitude	Nitrate in mg/L
1	2	3	4	5	6	10
		Kalpetta Municipality	Kalpetta	11°36'25" N	76°05'02" E	55
		Sulthan Batheri	Sulthan Batheri	11°39'47" N	76°15'28" E	138
2	Kozhikode	Kozhikode	Beypore	11°10'24" N	75°48'22" E	49
		Ponnani Municipality	Vylattur	10°46'48" N	75°55'12" E	152
		Kottakkal Municipality	Kottakkal	11°3'0" N	75°51'36" E	52
		Tirur	Mangalam	10°54'36" N	75°55'12" E	107
		Chalakkudy Municipality	Chalakkudy	11°17'30" N	76°20'00" E	48
		Mathilakam	Erica	10°12'50" N	76°10'55" E	98
		Grover Municipality	Guruvayur	10°35'55" N	76°02'15" E	58
		Vellangallur	Irinjalakuda	10°20'50" N	76°12'40" E	46
		Puzhackal	Keechery	10°36'55" N	76°07'20" E	72
		Mathilakam	Perinjanam	10°18'48" N	76°08'52" E	141
		Vellangallur	Tekkumkara	10°16'43" N	76°12'43" E	89
		Attappadi	Chavadiyur	11°09'27" N	76°40'00" E	45
		Mannarkkad	Mannarkkad	10°59'36" N	76°28'02" E	54
		Chittur	Meenakshipuram	10°38'02" N	76°51'57" E	52
		Kattappana	Kattappana	9°45'20" N	77°7'10" E	49
		Nedumkandam	Poopara	9°58'25" N	77°12'20" E	79
		Azutha	Vandiperiyar	9°34'10" N	77°05'25" E	61
7	Pathanamthitta	Parakkode	Enathu	9°5'18" N	76°45'26" E	53
8	Kollam	Chittumala	Anchalummoodu	8°55'40" N	76°36'10" E	69
		Nemom	Balaramapuram	8°25'23" N	77°02'45" E	178
		Chirayinkeezhu	Kadakkavur	8°41'15" N	76°46'20" E	51
		Vellanad	Kattakkada	8°30'25" N	77°05'00" E	84
		Vamanapuram	Pangode	8°45'55" N	76°58'10" E	48
		Chirayinkeezhu	Perumkuzhi	8°37'52" N	76°48'55" E	63
		Chirayinkeezhu	Pudukurichi	8°36'40" N	76°48'25" E	46

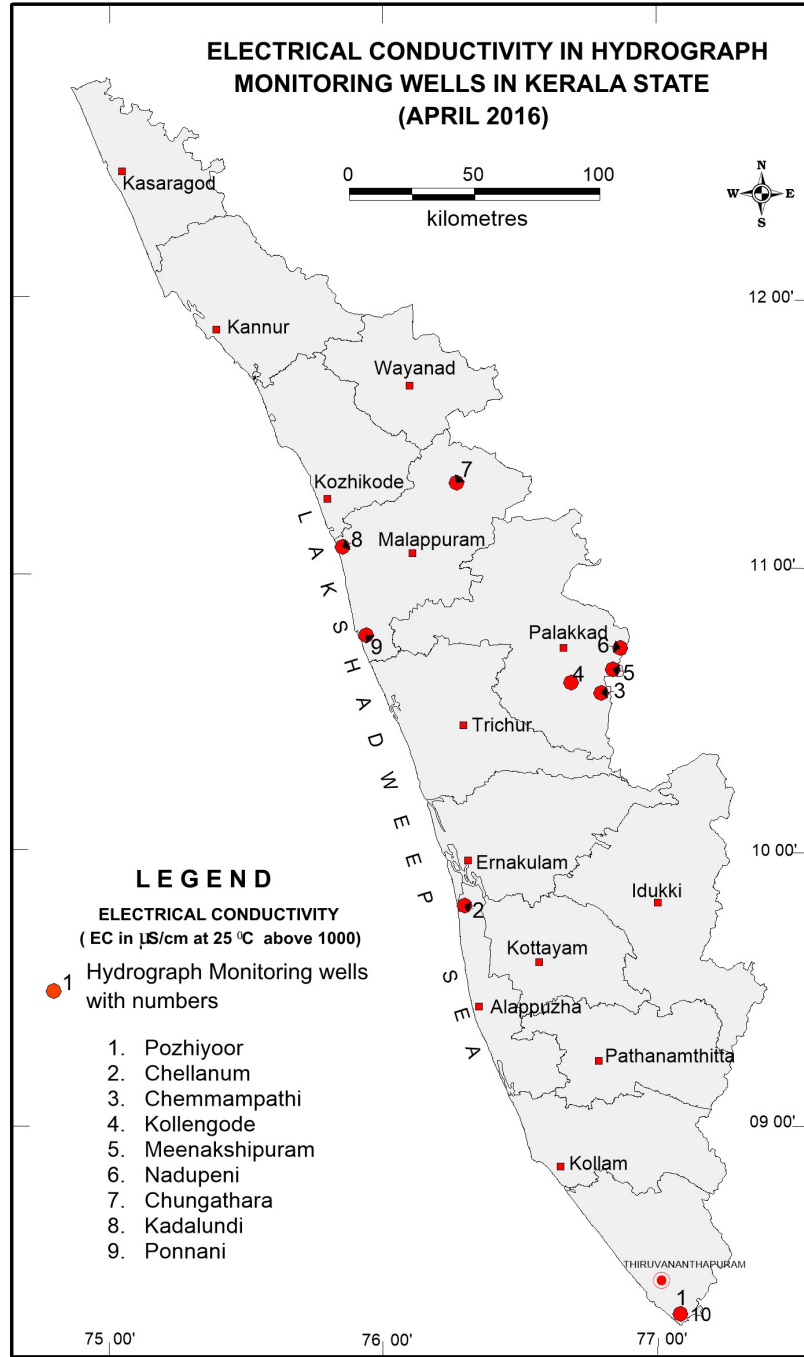


Fig.8.5

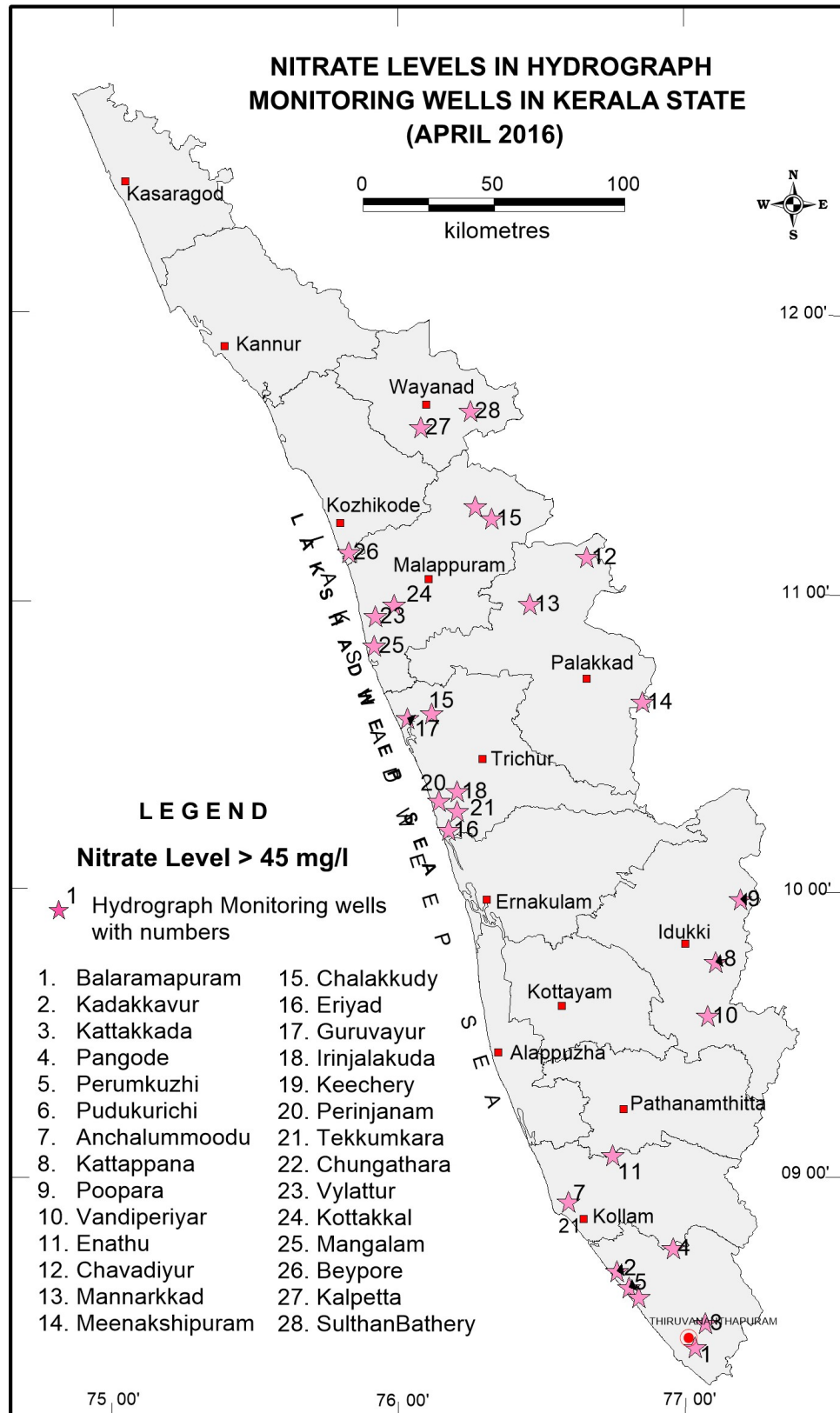


Fig.8.6

SUM UP

1. The total number of Ground Water Monitoring Wells (GMMW) in Kerala State as on 01.04.2017 was 1672. These monitoring wells include 1404 dug-wells tapping phreatic aquifers and 268 piezometers tapping phreatic zones and deeper aquifers in sedimentary as well as hard rock terrains the water level monitoring was carried out in the months of April, August and November 2016 and January 2017. Water sampling was carried out in 340 GMMWs (dug-wells) during the month of April 2016.
2. The monitoring wells are spread over in all the physiographic regions of the State. 62 % of which fall in the midland region, 18 % in coastal plains, 15 % in high lands and 5 % in plateau region.
3. Out of the monitoring wells tapping phreatic aquifer, 65% of the well are tapping lateritic aquifer which is the widely distributed aquifer in the state, 17 % tapping weathered and fractured crystallines followed by coastal alluvium and river alluvium represented by 15 % and 3 % respectively.
4. The total rainfall ranged from 1263 to 2481 mm during the period from April 2016 to March 2017. The maximum rainfall was recorded in Kasaragod district and the minimum in Thiruvananthapuram district. During the southwest monsoon season, Trivandrum district recorded 572 mm and Kasaragod district recorded 2253 mm, which are the lowest and highest rainfall respectively. During the northeast monsoon season, Wayanad district recorded the lowest rainfall of 332 mm and Kollam district recorded the highest rainfall of 639 mm.
5. During the southwest monsoon season from June to September 2016, the departure of rainfall in the districts varied from - 24% to -59%. The maximum deficit rainfall recorded in Wayanad and Thrissur districts out of all fourteen deficient rainfall districts.
6. During the northeast monsoon season from October to December 2016, the departure of rainfall varied from - 33% to - 88 % in different districts. The

maximum departure towards deficient rainfall recorded in Kozhikode district. .
No normal rainfall is observed during the period.

7. During the months of January to March 2017, the departure of rainfall varied from 20% to 161%.
8. The depth of water level varies from place to place according to the topographical conditions and is widely in the range of near ground level to 55 m bgl. However, water level is in the range of 1 – 10 mbgl in major parts of Kerala State. In the coastal plains of the Kerala State and in certain areas in high ranges of Idukki and Pathanamthitta districts shallow water level in the range of 1 – 6 m bgl is seen. In mid land region water level is generally in the range of 2 – 15 m bgl. However deep-water level in the range of 10 – 30 m bgl is seen in certain areas of Kasaragod, Wayanad, Palakkad, Kollam and Thiruvananthapuram districts where thick lateritic overburden occurs.
9. During April 2016 about only 6.6% of monitoring wells was showing water level within the depth range of 0.10 to 2 mbgl. Whereas about 19.8% of monitoring wells were showing water level of less than 2 mbgl during August 2016. The proportion become 14.83 and 8.1% during November 2016 and January 2017 respectively.
10. The water level fluctuation in phreatic aquifers due to the monsoon recharge is mostly restricted to 4 metres rise in water level as recorded by 85% of GWMWs.
11. Comparison of water level data of the year 2015 – 2016 with the decadal mean value of the period 2006 – 2015 and 2007-2016 indicates that majority of monitoring wells (90%-April, 86.03%-August, 85.36%- November, 88.03%-January) have recorded either rise or fall in water level with the magnitude of less than 2 m. indicating insignificant change in water level over the past decade.

12. Long term ground water level trend for the pre-monsoon and post-monsoon period indicate a fall in water level in the range of 0.05-0.2 m/year is more predominant.

13. The chemical quality of shallow groundwater in Kerala State has been evaluated by sampling and analyzing the water samples collected from Ground Water Monitoring Wells established in various physiographic divisions tapping different aquifers. During April 2016, 340 water samples have been collected which represents the premonsoon ground water quality and are subjected to physical and chemical analysis.

14. Majority of the water samples show electrical conductivity within 500 $\mu\text{S}/\text{cm}$. The low conductivity of water samples can be attributed to the peculiar physiographic setting of the state. 86.2% of the wells had registered electrical conductivity below 500 $\mu\text{S} /\text{cm}$ at 25⁰C, 11.2% of the wells had recorded electrical conductivity in the range 501-1000 $\mu\text{S} /\text{cm}$ at 25⁰C and 2.6% had recorded electrical conductivity above 1000 $\mu\text{S} /\text{cm}$ at 25⁰C which is usually seen in the coastal plain.

15. The chemical analysis data shows that in some of the water samples concentration of chloride, fluoride and nitrate are above the permissible limit. In the case of fluoride, concentration more than 1.5 m/l is observed only in the eastern part of Palakkad district tapping shallow dug wells and deeper bore wells. While nitrate concentration above 45 mg/l is noticed in 27 wells in the entire state which are sporadically distributed over the state and are not confined to any area represents the local pollution.

Annexure I

Ground Water Level Data of GWMW's in Kerala State during 2016-17

SINo	DISTRICT_NAME	SITE_NAME	SITE_TYPE	Apr-16	Aug-16	Nov-16	Jan-17
1	ALAPPUZHA	Adikattukulangara	Dug Well	5.6	3.95	4.15	5.4
2	ALAPPUZHA	Alapuzha Town	Dug Well	3.6	3.25	3.48	3.7
3	ALAPPUZHA	Alleppey	Dug Well	1.98	1.91	1.84	2.01
4	ALAPPUZHA	Ambalapuzha	Dug Well	1.75	0.6	1.64	1.95
5	ALAPPUZHA	Aranootimangalam	Dug Well	7.6	6.35		
6	ALAPPUZHA	Arukutti	Dug Well	2.42	1.47	1.61	2.02
7	ALAPPUZHA	Arur	Dug Well		0.9	1.22	1.6
8	ALAPPUZHA	Champakulam	Dug Well	0.95	0.6	0.68	0.94
9	ALAPPUZHA	Chandirur (R1)	Dug Well	2.34	1.27	1.66	2.04
10	ALAPPUZHA	Charummoodu	Dug Well	6.35	10.4	16.22	20.15
11	ALAPPUZHA	Chelakkad	Dug Well	1.3	0.55	0.8	1.1
12	ALAPPUZHA	Chengannur	Dug Well	6.8	3.95	6.03	7.45
13	ALAPPUZHA	Chennithala South	Dug Well	2.7		3.43	
14	ALAPPUZHA	Cherthalai	Dug Well	1.05	0.7	0.89	0.75
15	ALAPPUZHA	Terraranan	Dug Well	2.92	1.4	1.78	2.3
16	ALAPPUZHA	Chettikulangara	Dug Well	1.95	0.8	1.13	1.75
17	ALAPPUZHA	Edathua(R2)	Dug Well	1.39	0.25	0.48	1.34
18	ALAPPUZHA	Eramallur	Dug Well	2.22	1.32	1.35	1.75
19	ALAPPUZHA	Haripad	Dug Well	1.92	1.27	2	2.7
20	ALAPPUZHA	Idakunnam	Dug Well	12.1	8.05	8.29	13.7
21	ALAPPUZHA	Kadaikadu (Cheriyanaad)	Dug Well	4.5	3.85	4.3	4.7
22	ALAPPUZHA	Kaidavana-R1	Dug Well	1.25	0.5	0.47	0.95
23	ALAPPUZHA	Kalavamkodam	Dug Well	1.89	1.55	1.68	1.95
24	ALAPPUZHA	Kalavur	Dug Well	1.15	0.62	0.64	1.3
25	ALAPPUZHA	Kallissery	Dug Well	4.1			4.35
26	ALAPPUZHA	Kandiyur (R1)	Dug Well		1.9	3.49	3.5
27	ALAPPUZHA	Kanichukulangara	Dug Well	2.22	1.85	1.84	2.3
28	ALAPPUZHA	Karumancherry	Dug Well	1.37	0.65	0.33	1.15
29	ALAPPUZHA	Karuvatta (R1)	Dug Well	2.8		1.7	
30	ALAPPUZHA	Kattanam	Dug Well	12.45	11.1	11.67	12.45
31	ALAPPUZHA	Kattoor (R1)	Dug Well	1.7	1	1.19	1.45
32	ALAPPUZHA	Kayamkulam	Dug Well	1.05	0.2	0.23	0.8
33	ALAPPUZHA	Kayippuram (Muhamma)	Dug Well	2.4	1.12	1.6	2.15
34	ALAPPUZHA	Kokkothamangalam	Dug Well	2.7	1.45	1.84	2.5
35	ALAPPUZHA	Kudassanad	Dug Well				6.05
36	ALAPPUZHA	Kunnamkari	Dug Well	1.15		0.62	1.7
37	ALAPPUZHA	Kuttitheruvu (Kayamkulam)	Dug Well		1.35	2.7	2.8

38	ALAPPUZHA	Kuzhamathu	Dug Well	12.35		11.92	12.85
39	ALAPPUZHA	Mahadevikad	Dug Well	1.15	1.45	2.05	
40	ALAPPUZHA	Mancombu	Dug Well	1.65		1.44	1.45
41	ALAPPUZHA	Mannanchery	Dug Well	2.45	1.85	2.16	2.25
42	ALAPPUZHA	Mannar	Dug Well	4.6	2.45	3.73	4.45
43	ALAPPUZHA	Mavelikara	Dug Well	3.04	1.59	2.5	3.04
44	ALAPPUZHA	Mulakuzha 1	Dug Well	7.15	4	4.18	4.35
45	ALAPPUZHA	Muthukulam	Dug Well	2.72	0.15	2.28	1.9
46	ALAPPUZHA	Muttam	Dug Well	3.5	0.65	1.65	2.2
47	ALAPPUZHA	Muttar	Dug Well	1.37	0.7	0.85	1.4
48	ALAPPUZHA	Naduvattom	Dug Well	1.8	0.8	1.44	2.13
49	ALAPPUZHA	Nangiarkulangara	Dug Well	1.78		1.25	1.9
50	ALAPPUZHA	Nedumudi (Pupalli)	Dug Well	0.45	0.25	0.2	0.3
51	ALAPPUZHA	Neerkunnam(R1)	Dug Well	1.89	0.8	1.4	1.89
52	ALAPPUZHA	Nooranad	Dug Well	4.71	9.05	10.17	10.2
53	ALAPPUZHA	Oachira 1 (Krishnapuram) (R1)	Dug Well	3.38	2.15	2.9	3.5
54	ALAPPUZHA	Ottappunna	Dug Well	2.95	2	2.58	
55	ALAPPUZHA	Pacha (R3)	Dug Well	1.06	0.3	0.61	1.36
56	ALAPPUZHA	Pallarimangalam	Dug Well	2.05	0.8	1.38	1.95
57	ALAPPUZHA	Panavally	Dug Well	1.75	1.05	1.13	1.6
58	ALAPPUZHA	Pandanad	Dug Well	3.65	2.9	3.22	2.9
59	ALAPPUZHA	Panurkara	Dug Well		0.45	0.5	0.9
60	ALAPPUZHA	Parayakkad	Dug Well	2.2	1.6	1.4	
61	ALAPPUZHA	Parumala (R1)	Dug Well	6.53	5.05	5.6	2.7
62	ALAPPUZHA	Pathiyur (R1)	Dug Well	1.45	0.25	0.74	1.32
63	ALAPPUZHA	Pattanakad	Dug Well	1.5	0.7	0.85	1.35
64	ALAPPUZHA	Punnpra (R1)	Dug Well	2.38	0.93	1.53	
65	ALAPPUZHA	Purakkad (R1)	Dug Well	2.41	2.16	2.81	2.51
66	ALAPPUZHA	Ramankari (R1)	Dug Well	0.78	0.23	0.55	0.88
67	ALAPPUZHA	Thaikattusseri (R1)	Dug Well	1.45	0.5		1.45
68	ALAPPUZHA	Thakazhi	Dug Well	0.95	0.2	0.68	0.95
69	ALAPPUZHA	Thalavadi (R1)	Dug Well	2.02	0.85	1.42	2.1
70	ALAPPUZHA	Thamarakulam	Dug Well	3.25	3.05	3.23	4.05
71	ALAPPUZHA	Thaneermukkam	Dug Well	1.1	1.15	1.05	1.1
72	ALAPPUZHA	Thevery	Dug Well	2.46	1.1	1.52	1.8
73	ALAPPUZHA	Thottapally	Dug Well	1	0.6	1.01	0.9
74	ALAPPUZHA	Thuravur	Dug Well	2.8	1.65	1.98	2.5
75	ALAPPUZHA	Thyckal Beach	Dug Well	1.15	1.05	0.7	1.17
76	ALAPPUZHA	Trikkunnapuzha (R2)	Dug Well	1.84	0.7	1.17	
77	ALAPPUZHA	Valavanad	Dug Well	1.02	0.5	0.54	1.25
78	ALAPPUZHA	Vallikunnam	Dug Well	2.9	1.15	1.5	2.3

79	ALAPPUZHA	Vanaswargam	Dug Well	1.5	1.05	1.14	1.75
80	ALAPPUZHA	Vandanam	Dug Well	2.87	1.55	2.25	2.6
81	ALAPPUZHA	Veeyapuram (R1)	Dug Well		1	2.02	
82	ALAPPUZHA	Venmani (R1)	Dug Well	2.7		1.87	
83	ALAPPUZHA	Chettikulangara Pz	Tube Well	2.52	1.2	1.7	1.9
84	ALAPPUZHA	Ezhupunna	Tube Well	1.9	1.3	1.03	1.7
85	ALAPPUZHA	Haripad(c)	Tube Well		10.35	10.45	11.15
86	ALAPPUZHA	Haripad(e)	Tube Well			10.72	10.28
87	ALAPPUZHA	Haripad(n)	Tube Well		9.6	10.26	
88	ALAPPUZHA	Haripad(s)	Tube Well				10.7
89	ALAPPUZHA	Haripad(w)	Tube Well		11		
90	ALAPPUZHA	Kalarkode(e)	Tube Well	2.65	3.78	1.53	3.15
91	ALAPPUZHA	Kalarkode(s)	Tube Well	2	1.1	3.43	1.8
92	ALAPPUZHA	Kalarkode(w)	Tube Well	18	19.96	19.3	21.2
93	ALAPPUZHA	Karthikapally(south)	Tube Well	14.6			4.9
94	ALAPPUZHA	Karumady	Tube Well	2.11	1.36	1.89	2.01
95	ALAPPUZHA	Kattanam1	Tube Well	12	10.3	10.8	12.3
96	ALAPPUZHA	Krishnapuram(n)	Tube Well	15.8	15.8	15.75	16
97	ALAPPUZHA	Krishnapuram(s)	Tube Well	6.6	6.15	5.76	6.6
98	ALAPPUZHA	Mannar	Tube Well		4.67	5.22	5.62
99	ALAPPUZHA	Muthukulam Pz	Tube Well	1.1	0.4	0.65	0.95
100	ALAPPUZHA	Muttam(south)	Tube Well		4.07	4.5	4.92
101	ALAPPUZHA	Preethigulangara-centre	Tube Well	13.8	3.29	13.7	2.54
102	ERNAKULAM	Edakkattuvoyal PZ	Bore Well	10.3	7.8	9.54	10.3
103	ERNAKULAM	Aikaranad1 (Kadayiruppu)	Bore Well	4.15	3.14	5.52	4.4
104	ERNAKULAM	Aarush Pz	Bore Well	6.4	4.71	5.38	5.4
105	ERNAKULAM	Illithode	Bore Well	6.02	6.27	9.64	6.22
106	ERNAKULAM	Irumbanam2	Bore Well	3.68	0.93	2.19	2.93
107	ERNAKULAM	Kanjiramattom	Bore Well	14.1	12.85	13.51	14.3
108	ERNAKULAM	Kusakabe	Bore Well	6.05	2.1	4.01	5.94
109	ERNAKULAM	Mouser	Bore Well	8.17	7.89	8.51	7.92
110	ERNAKULAM	Koovappady	Bore Well	6.95	5.77	6.29	6.15
111	ERNAKULAM	Malayattur1	Bore Well		9.15	10.81	8.9
112	ERNAKULAM	Mullankunnu	Bore Well	16.2	18.8	17.82	17.4
113	ERNAKULAM	Namakuzhi	Bore Well	10.6	4.4	10.72	11.54
114	ERNAKULAM	Poothrikka Pz	Bore Well	10.15		7.87	10.25
115	ERNAKULAM	Punnakad	Bore Well	3.4		2.27	
116	ERNAKULAM	Thirumaradi	Bore Well	4.55	4.35	4.56	4.67
117	ERNAKULAM	Vazhakam Pz	Bore Well	5.02	4.27	5.39	5.27
118	ERNAKULAM	Velinda	Bore Well	5.15	3.6	4.34	4.05
119	ERNAKULAM	Aikaranad	Dug Well	6.95	7.15	7.78	6.68

120	ERNAKULAM	Alwaye (Aluva)	Dug Well	13.25	11.05	12.07	13.55
121	ERNAKULAM	Anchalpetty-R1	Dug Well	6.25	5.86	6.06	6.09
122	ERNAKULAM	Angamali (R1)	Dug Well	7.6	6.9	6.42	7.56
123	ERNAKULAM	Anicadu	Dug Well	3.4	1.95	2.14	2.73
124	ERNAKULAM	Arakunnam	Dug Well	12.15	8.65	10.2	11.39
125	ERNAKULAM	Arakuzha	Dug Well	5.15	5.97	6.27	6.59
126	ERNAKULAM	Attara (Kokunnu)	Dug Well	7.45	6.47	6.62	7.14
127	ERNAKULAM	Chalacka	Dug Well	2.73	2.35	2.06	2.24
128	ERNAKULAM	Chellanum South	Dug Well	1.21	0.33	0.87	1.18
129	ERNAKULAM	Chengamanad	Dug Well	9.73	8.31	9.65	9.94
130	ERNAKULAM	Cherai South	Dug Well	1.2	1.37	1.36	
131	ERNAKULAM	Cheria Kadavu	Dug Well	0.8	0.34	0.62	0.71
132	ERNAKULAM	Cherukadapuram	Dug Well	2.5	1.55	1.59	1.99
133	ERNAKULAM	Chettikad	Dug Well	7.5			
134	ERNAKULAM	Chowara (R1)	Dug Well	6.65	5.9	5.87	6.48
135	ERNAKULAM	Chulli (R1)	Dug Well	5.1	2.59	3.87	5.05
136	ERNAKULAM	Chullikkal	Dug Well	1.85			
137	ERNAKULAM	East Marady	Dug Well	6.85	5.24	5.84	6.22
138	ERNAKULAM	Edakkatuvayal	Dug Well	12.37	8.32	11.19	11.81
139	ERNAKULAM	Edapally	Dug Well	2.12	1.26	1.53	1.85
140	ERNAKULAM	Edavanakad	Dug Well		0.45	0.59	0.3
141	ERNAKULAM	Elur North (R1)	Dug Well	2.05	2.53	1.63	1.68
142	ERNAKULAM	Eranakulam South	Dug Well	1.3	0.64	0.74	0.88
143	ERNAKULAM	Fort cochin	Dug Well	2.35	1.81	1.77	
144	ERNAKULAM	Ilanji	Dug Well	7.4	4.28	6.23	7.59
145	ERNAKULAM	Illithode 1	Dug Well	4.6	5.87	6.12	5.98
146	ERNAKULAM	Irumbanam (R1)	Dug Well	4	0.88	1.56	2.59
147	ERNAKULAM	Kadavoor	Dug Well	6.4	4.22	5.22	5.95
148	ERNAKULAM	Kadungallur	Dug Well	3.05		1.89	2.72
149	ERNAKULAM	Kakkanad Civil Station.	Dug Well	8.5			
150	ERNAKULAM	Kalady (R1)	Dug Well	4.35	5.62	4.72	3.49
151	ERNAKULAM	Kallorkad	Dug Well	3	2.85	2.91	2.89
152	ERNAKULAM	Kalur	Dug Well	6.95	4.55	5.72	6.46
153	ERNAKULAM	Kandakadavu	Dug Well	1.25	0.9	1.12	1.09
154	ERNAKULAM	Kandanadu	Dug Well	8			
155	ERNAKULAM	Kanjiramattom	Dug Well	7.4	6.11	6.42	7.1
156	ERNAKULAM	Kanjur	Dug Well	7.9	6.7	7.09	7.42
157	ERNAKULAM	Kapprassery	Dug Well	2.32	1.09	1.34	2.24
158	ERNAKULAM	Karukadam	Dug Well	5.35	4.05	4.59	4.96
159	ERNAKULAM	Karukutti (R2)	Dug Well	9.3	7.57	8.17	9.6
160	ERNAKULAM	Kattapada	Dug Well	8.6			

161	ERNAKULAM	Keerampara	Dug Well	3.3	2.62	3.42	2.82
162	ERNAKULAM	Keezhillam	Dug Well	7	8.44	8.71	7.2
163	ERNAKULAM	Kizhakkambalam	Dug Well	7.2	6		7.24
164	ERNAKULAM	Kizhakombu	Dug Well	6.45	3.36	4.07	5.95
165	ERNAKULAM	Kodanad	Dug Well	3.15	2.55	3.87	5.84
166	ERNAKULAM	Kodussery (R1)	Dug Well	8.9	8.52	8.41	8.35
167	ERNAKULAM	Koothattukulam (R1)	Dug Well	6.02	2.95	3.54	4.3
168	ERNAKULAM	Koovapady	Dug Well	6.65	6.11	5.96	6.58
169	ERNAKULAM	Kothamangalam (R3)	Dug Well	5.9	4.06	4.38	4.4
170	ERNAKULAM	Kottapadi	Dug Well	4.23	2.03	3.5	3.97
171	ERNAKULAM	Kottapuram (Alangadu)	Dug Well	3.2	1.64	1.63	2.39
172	ERNAKULAM	Kottapuram (Veliyanad)	Dug Well	4.7	5.5	6.22	6.7
173	ERNAKULAM	Kottayathupara	Dug Well	4.1			
174	ERNAKULAM	Kumbalangi (R2)	Dug Well	0.9	0.77	1.17	1.43
175	ERNAKULAM	Kundannur (R1)	Dug Well	0.55	0	0.36	0.68
176	ERNAKULAM	Kunnukara	Dug Well	6.93	8.38	7	9.5
177	ERNAKULAM	Kurumassery	Dug Well	9	8.8		8.51
178	ERNAKULAM	Kuruppampady	Dug Well	7.25	4.02	5.47	6.57
179	ERNAKULAM	Kuthukuzhi	Dug Well	5.75	2.37	3.56	4.85
180	ERNAKULAM	Malayattur	Dug Well	7.9	7.2	7.02	7.42
181	ERNAKULAM	Malipuram	Dug Well	0.75	0.85	0.86	0.96
182	ERNAKULAM	Mallussery	Dug Well	5.75	3.94	4.16	4.96
183	ERNAKULAM	Mamala	Dug Well	5.5	3.45	4.29	4.92
184	ERNAKULAM	Mamallassery	Dug Well	6.2			
185	ERNAKULAM	Mamallassery (R1)	Dug Well		4.4		5.85
186	ERNAKULAM	Manjapra	Dug Well	5.13	5.37	3.75	5.67
187	ERNAKULAM	Mannur	Dug Well	4.15	4.44	5.77	4.72
188	ERNAKULAM	Maradu	Dug Well	1.5		0.58	1.03
189	ERNAKULAM	Monapalli	Dug Well	7.3			
190	ERNAKULAM	Mulanthuruthi	Dug Well	8.85	7.03	8.31	10.21
191	ERNAKULAM	Mullankunnu	Dug Well	10.5	9.1	9.74	10.32
192	ERNAKULAM	Munambam (R1)	Dug Well	1.4	0.77	0.72	1.11
193	ERNAKULAM	Muvattupuzha	Dug Well	6.6	5.04	6.61	7.25
194	ERNAKULAM	Nallimolam (R1)	Dug Well	5.8	6.15	5.92	7.18
195	ERNAKULAM	Namakuzhi	Dug Well	5.45		6.21	6.98
196	ERNAKULAM	Nayarambalam	Dug Well	1.7	1.03	1.32	1.4
197	ERNAKULAM	Nellikuzhi	Dug Well	4.2	1.84	2.73	3.7
198	ERNAKULAM	Neriyamangalam (R1)	Dug Well	8.72	6.06	6.3	8.27
199	ERNAKULAM	Njarakkal	Dug Well	0.9	0.45	0.72	1
200	ERNAKULAM	Nochima	Dug Well	4.24			
201	ERNAKULAM	North Parur	Dug Well		0.51	1.51	0.88

202	ERNAKULAM	Okkal	Dug Well	3.9	2.51	3.82	4.17
203	ERNAKULAM	Oonnukal	Dug Well	6.8	4.7	5.72	6.54
204	ERNAKULAM	Paingottur	Dug Well	5.6	4.41		5.5
205	ERNAKULAM	Palakuzha North	Dug Well	7.33	5.14	5.8	6.64
206	ERNAKULAM	Pallikara-Chittanadu (Wonderla)	Dug Well	8.35	8.11	7.52	7.78
207	ERNAKULAM	Palluruthy	Dug Well	2.05	1.19	1.77	
208	ERNAKULAM	Pambakuda	Dug Well	4.1	5.45	6.42	6.74
209	ERNAKULAM	Parakkadavu	Dug Well	3.4	2.03	2.12	2.91
210	ERNAKULAM	Paravur	Dug Well	2.55	1.7	1.71	2.48
211	ERNAKULAM	Pattimattom (R2)	Dug Well		5.65		6.17
212	ERNAKULAM	Payyal	Dug Well	5.05	3.14	3.64	4.29
213	ERNAKULAM	Peechanikad (R1)	Dug Well	6.8	6.28	6.62	6.77
214	ERNAKULAM	Perumbadavam	Dug Well	6.4	5.7	6.37	6.74
215	ERNAKULAM	Perumbavoor (R2)	Dug Well	7.6	4.21	5.28	6.12
216	ERNAKULAM	Perumpalli	Dug Well	9.12			
217	ERNAKULAM	Pezhakkapallil	Dug Well	5.1	3.6	3.62	4.96
218	ERNAKULAM	Pindimana	Dug Well	5.05	0.47	1.63	3.7
219	ERNAKULAM	Piravom	Dug Well	6.4	4.4	6.58	6.3
220	ERNAKULAM	Poothotta	Dug Well	3.38	1.62	2.56	2.83
221	ERNAKULAM	Poothrikka	Dug Well	8.1	7.8	8.31	8.82
222	ERNAKULAM	Pothanikad (R1)	Dug Well	1.3			
223	ERNAKULAM	Pothanikad (R2)	Dug Well		4	4.92	4.8
224	ERNAKULAM	Pulluvazhi	Dug Well	5.9	4.8	5.57	5.71
225	ERNAKULAM	Punithura	Dug Well	1	0.73	0.97	1.62
226	ERNAKULAM	Punnakad1	Dug Well	2.3	0.38	1.23	1.61
227	ERNAKULAM	Puthankurissu (Neriyamangalam Road)	Dug Well	4.05	3.12	3.08	3.79
228	ERNAKULAM	Puthankurisu (R1) (Kolencherry)	Dug Well	5.4	5.02	4.71	
229	ERNAKULAM	Ramamangalam	Dug Well	7.3	6.02	6.77	6.65
230	ERNAKULAM	Randar	Dug Well	5.48	3.75	4.94	5.49
231	ERNAKULAM	Sreemoolanagaram	Dug Well	8.4	8.6	8.79	9.71
232	ERNAKULAM	Thabore	Dug Well	8.9	5.35	5.73	7.16
233	ERNAKULAM	Thaikkattukara	Dug Well	2.8	1.57	1.54	2.9
234	ERNAKULAM	Thalakode	Dug Well	5	3.57	5.61	4.05
235	ERNAKULAM	Thattakad (R1)	Dug Well	1.75	2.96	4.81	2.73
236	ERNAKULAM	Thirumaradi	Dug Well	4.2	3.78	4.69	5.56
237	ERNAKULAM	Thiurvaniyoor	Dug Well	6.5			
238	ERNAKULAM	Thiurvankulam	Dug Well	3.99			
239	ERNAKULAM	Thrikalathur	Dug Well		4.97		5.27
240	ERNAKULAM	Thuruthi	Dug Well	3.5	3.01	3.42	3.91
241	ERNAKULAM	Trikkakara	Dug Well	10.25	8.89	7.77	9.95
242	ERNAKULAM	Tripunithura	Dug Well	3.2	1.85	2.42	3.19

243	ERNAKULAM	Udayamperoor	Dug Well	4.4	2.68	3.36	3.88
244	ERNAKULAM	Vadavucode (Kolencherry)	Dug Well	2.15	1.31	2.08	2.45
245	ERNAKULAM	Valakam	Dug Well	6.55	5.6	6.59	6.51
246	ERNAKULAM	Valayanchirangara	Dug Well	8.12	7.69	8.24	8.68
247	ERNAKULAM	Vallom (R1)	Dug Well	7.63	6.23	7.11	
248	ERNAKULAM	Vallom (R2)	Dug Well				7.23
249	ERNAKULAM	Varapuzha	Dug Well	2.4	0.63	1.09	1.91
250	ERNAKULAM	Vazhakkulam North	Dug Well	6.95	5.98	6.19	6.8
251	ERNAKULAM	Vazhappilly	Dug Well	3.4	0.84		1.95
252	ERNAKULAM	Veliyanad	Dug Well	7.1	5.92	6.21	7.42
253	ERNAKULAM	Vypeen	Dug Well	0.65	0.25	0.53	0.5
254	ERNAKULAM	Vytila	Dug Well	2.45	1.76	1.99	2.48
255	ERNAKULAM	Kadavanthara	Tube Well	7.9	6.3		6.45
256	IDUKKI	Alakode	Bore Well	4.77	3.33	4.01	4.33
257	IDUKKI	Anakkara	Bore Well	51	59.4		
258	IDUKKI	Karimkunnam2	Bore Well	3.82	2.2	2.4	3.32
259	IDUKKI	Karumannur	Bore Well	4.68	3.26	3.36	4.38
260	IDUKKI	Kattappana	Bore Well	10.52	8.29	9.1	10.32
261	IDUKKI	Kulamavu1	Bore Well				
262	IDUKKI	Mundieruma	Bore Well	5.72	4.5	5.3	4.62
263	IDUKKI	Thankamoni	Bore Well	3.54	1.3	1.5	2.82
264	IDUKKI	Adimali	Dug Well	6.07	4.77	5.37	6.39
265	IDUKKI	Alakkode1	Dug Well	4.42	3.8	3.91	4.54
266	IDUKKI	Ambazhachal	Dug Well	4.45	4.6	3.36	4.67
267	IDUKKI	Amravathi	Dug Well	3.8	3.3		
268	IDUKKI	Anakkara	Dug Well	7.32	7.02	6.9	7.9
269	IDUKKI	Anavilasam	Dug Well	6.42	5.46	5.8	6.89
270	IDUKKI	Arikuzha	Dug Well	4.42	3.25	2.89	4.23
271	IDUKKI	Balagram (Third camp)	Dug Well	4.11	3.64	3.25	5.06
272	IDUKKI	Byson Valley	Dug Well	9.76	10	9.7	11.56
273	IDUKKI	Carady Goody Estate	Dug Well	5.58	1.3	1.35	2.49
274	IDUKKI	Chathurangapara	Dug Well	0.64	0.46	0.41	0.1
275	IDUKKI	Cheenikuzhi	Dug Well	2.55	1	1	2.4
276	IDUKKI	Cheriyar	Dug Well	3.04	2.8	2.8	3.14
277	IDUKKI	Chittoor	Dug Well	4.2	3.6	3.4	4.1
278	IDUKKI	Churuli	Dug Well	2.27	1.88	2.14	2.74
279	IDUKKI	Cumbummettu	Dug Well	5.16	5.05	6.06	6.85
280	IDUKKI	Devikulam	Dug Well	3.9	2.62	3	3.44
281	IDUKKI	Elamdesom	Dug Well	6.7	4.91	5.32	6.63
282	IDUKKI	Elappara	Dug Well	1.53	1.47	1.62	1.72
283	IDUKKI	Idukki	Dug Well	4.3	2.75	3.55	3.98

284	IDUKKI	Irattayar (R1)	Dug Well	2.6	2.7	2.76	2.92
285	IDUKKI	Kaliyar	Dug Well	5.88	4.32	4.98	5.51
286	IDUKKI	Kanchiyar	Dug Well	10.2	8.55	9.1	9.66
287	IDUKKI	Karimkunnam (R1)	Dug Well	3.3	2.1	2.7	3.52
288	IDUKKI	Karumanoor	Dug Well	4.2	2.7	3.03	4.47
289	IDUKKI	Kattapana	Dug Well	3.4	2.92	2.73	2.8
290	IDUKKI	Kochera	Dug Well	4.2	4.4	4.4	4.8
291	IDUKKI	Kodikulam east	Dug Well	5.02	3.51	4.6	5.5
292	IDUKKI	Kolani	Dug Well	5.05	2.75	2.23	3.43
293	IDUKKI	Kolapra	Dug Well	6.02	4.02	4.36	4.93
294	IDUKKI	Kulamavu	Dug Well	7.61	4.6	6.3	7.36
295	IDUKKI	Kumaramangalam	Dug Well	4.4	3.52	3.82	4.5
296	IDUKKI	Kumalo	Dug Well	3.86	3.05	3.55	2.67
297	IDUKKI	Kuttikanam (R1)	Dug Well	6.71	4.61	5.6	6.9
298	IDUKKI	Machiplavu	Dug Well	9.2	6.3	7.7	8.62
299	IDUKKI	Manjappara	Dug Well	1.74	1.12	0.98	1.96
300	IDUKKI	Marykulam	Dug Well	4.76	4.4	5.94	4.56
301	IDUKKI	Memala	Dug Well	6.6	4.5	4.24	6.1
302	IDUKKI	Moolamattam	Dug Well	5.9	4.63	5.7	5.84
303	IDUKKI	Mundiyyeruma	Dug Well	5.1	3.94	5.22	5.1
304	IDUKKI	Munnar	Dug Well	1.42	0.71	1.56	1.46
305	IDUKKI	Murikkassery	Dug Well	11.01	9.92	10.2	11.81
306	IDUKKI	Murukkady	Dug Well	8	1.8	3.4	7.2
307	IDUKKI	Nedumkandam	Dug Well	3.6	3.3	3.3	4.99
308	IDUKKI	Nirmala City	Dug Well	1.62	2.5	0.7	2.44
309	IDUKKI	Njarukutty	Dug Well	3.72	1.3	2.7	
310	IDUKKI	Pambadumpara	Dug Well	5.73	2.27	2.96	3.29
311	IDUKKI	Pampanar	Dug Well	2.35	1	0.96	1.64
312	IDUKKI	Pannimattom	Dug Well	3.9	3.04	3.34	3.93
313	IDUKKI	Peerumedu	Dug Well	2.92	3	3.42	3.17
314	IDUKKI	Perumuttom	Dug Well	5.94	3.77	4.75	6.72
315	IDUKKI	Peruvanthanam	Dug Well	7.3	1.5	1.34	2
316	IDUKKI	Poopara	Dug Well	1.55	1.06	1.3	3.4
317	IDUKKI	Rajakkad	Dug Well	9.5	8.8	9.76	9.97
318	IDUKKI	Rajakumary	Dug Well	11.41	11.05	11.25	13.65
319	IDUKKI	Thankamani	Dug Well	2.01	0.6	1.3	2.44
320	IDUKKI	Thodupuzha	Dug Well	10.6	6.92	7.31	10.46
321	IDUKKI	Thumbachi	Dug Well	5.19	3.13	3.27	4.19
322	IDUKKI	Udumbanchola	Dug Well	7.41	6.55	7.85	9.45
323	IDUKKI	Udumbannur	Dug Well	7.7	3.49	2.49	6.29
324	IDUKKI	Valara (R2)	Dug Well	9.38	6.59	8.68	9.18

325	IDUKKI	Vallakadavu	Dug Well	5.57	2.92	3.35	4.77
326	IDUKKI	Vandanmedu (R1)	Dug Well	3.89	2.45	2.79	3.71
327	IDUKKI	Vandiperiyar	Dug Well	6.95	6.41	6.52	7.44
328	IDUKKI	Vazhithala	Dug Well	6.05	2.1	2.79	4.76
329	IDUKKI	Vellathooval	Dug Well	4			
330	IDUKKI	Vellilamkandam	Dug Well	6.17	4.6	4.96	5.98
331	KANNUR	Anthoor	Bore Well	9.53	9	10.5	13.1
332	KANNUR	Kakkeyamkadu	Bore Well	4.98	2.15	2.61	3.86
333	KANNUR	Kankole1	Bore Well	11.08	7	8.55	9
334	KANNUR	Karumathur	Bore Well	12.92		7.75	8.5
335	KANNUR	Kizhallur	Bore Well	4.5	2.91	4.95	4.8
336	KANNUR	Kolacheri	Bore Well	7.7	7.5	8.6	8.5
337	KANNUR	Kommery	Bore Well	4.31	3.35	4.05	3.25
338	KANNUR	Kottayampoyil	Bore Well	12.85	9.95	10.8	12.05
339	KANNUR	Manathana	Bore Well	9.07	4.95	6.81	6.55
340	KANNUR	Munderi	Bore Well	5.75	3.3		4.8
341	KANNUR	Oduvallithattu	Bore Well				12.83
342	KANNUR	Panoor	Bore Well		2.6	4	5
343	KANNUR	Parassinikadavu	Bore Well	22.68	20.7	21.1	21.45
344	KANNUR	Pulingome1	Bore Well	40	6.5	7.2	8.55
345	KANNUR	Alacode (R1)	Dug Well	12.05	7.2	10.7	10.8
346	KANNUR	Alavil	Dug Well	7.95	4.8	6.2	7.15
347	KANNUR	Ambilad	Dug Well	13.33		13.3	13.31
348	KANNUR	Andoor	Dug Well	7.61	6.1	8.2	7.05
349	KANNUR	Anjarakandi	Dug Well	9.52	6	8.45	7.98
350	KANNUR	Azhikod - chal	Dug Well	3			
351	KANNUR	Cannanore - corporation	Dug Well	2.23			
352	KANNUR	Chakkarakkale	Dug Well	12.46		8.35	9.15
353	KANNUR	Chala	Dug Well	9.96	7.4	8.81	11.5
354	KANNUR	Chalad	Dug Well	6.35	3.95	5.85	6.85
355	KANNUR	Chavassery	Dug Well	5.05	3.31	4.1	3.95
356	KANNUR	Cheleri	Dug Well	14.05	9.61	12.1	12.73
357	KANNUR	Chepparapadavu	Dug Well	4.31	2.5	3.1	4.3
358	KANNUR	Cherupuzha	Dug Well	6.1	4.2	4.9	5.1
359	KANNUR	Cheruthazam	Dug Well	12.81	7.55	8.7	9.35
360	KANNUR	Chundaparambu	Dug Well	7.32	6.35	6.95	6.85
361	KANNUR	Chural	Dug Well	8.25	4.79	6.65	6.95
362	KANNUR	Dharmadam	Dug Well		1.5	2.35	2.88
363	KANNUR	Echilamvayal	Dug Well	6.44	1.98	3.9	4.9
364	KANNUR	Edakkad	Dug Well		0.76	1.81	2.31
365	KANNUR	Edakkad Beach	Dug Well	2.15			

366	KANNUR	Edayannur	Dug Well	5.25	3.75	4.65	4.9
367	KANNUR	Edoor	Dug Well	4.5	2.7	3.65	4.4
368	KANNUR	Elambara	Dug Well	4.11	3.1	4.11	4.15
369	KANNUR	Ettikkulam	Dug Well	12.55	7.7	9.2	10.8
370	KANNUR	Ezhilode	Dug Well		8.8	12.22	13.7
371	KANNUR	Irikkur	Dug Well	7.13	3.18	5.12	6.06
372	KANNUR	Kadannapally	Dug Well	13.06	9.25	11.35	11.35
373	KANNUR	Kakkathodu	Dug Well	6	3.4	3.85	3.5
374	KANNUR	Kalliassery	Dug Well		5.9	7.28	8.05
375	KANNUR	Kallumutty	Dug Well	5.85	6.6	7.1	6.85
376	KANNUR	Kanhirangad	Dug Well	12.57	8.75	12.3	11.05
377	KANNUR	Kannapuram	Dug Well	3.15	1.7	2.35	2.7
378	KANNUR	Kannavam	Dug Well	6.2	4.5	5.16	5.4
379	KANNUR	Kannur	Dug Well	9.07	8.45	8.75	8.9
380	KANNUR	Kannur-Thana	Dug Well		8.8	9.65	9.9
381	KANNUR	Karikottakari	Dug Well	7.45	5.05	6.45	10.7
382	KANNUR	Kelakam	Dug Well	11.25	6.73	10	12.4
383	KANNUR	Kizhpalli	Dug Well	6.86	5.45	5.6	6.6
384	KANNUR	Kolachery	Dug Well	9.5	8.1	8.8	9.8
385	KANNUR	Kolakkad	Dug Well	10.02	8.73	10.3	9.73
386	KANNUR	Kolayad	Dug Well	7.51	6	6.3	7.61
387	KANNUR	Kommeri	Dug Well	4.6	3.7	4.3	3.53
388	KANNUR	Koothuparamba	Dug Well	12.1	7.62	9.46	10.2
389	KANNUR	Koottumukham	Dug Well	7.03	5.45	5.9	5.77
390	KANNUR	Kottayampoil	Dug Well	8.91	6.18	7.8	8.2
391	KANNUR	Kottiyur	Dug Well	8.3	7.17	7.2	7.28
392	KANNUR	Kotty	Dug Well	3.3	1.8	2.6	2.9
393	KANNUR	Kozhichal	Dug Well	6.2	4.8	5.5	5.9
394	KANNUR	Kunnaru	Dug Well	3.05	1.1	2	2.4
395	KANNUR	Kunnoth	Dug Well				6.6
396	KANNUR	Kuppam	Dug Well		1.65	2.02	2.1
397	KANNUR	Kuyilur	Dug Well	5.52	2.2	4.02	
398	KANNUR	Mahe (R1)	Dug Well		1.28	1.66	1.77
399	KANNUR	Manantheri	Dug Well	9.95	4.1	7.2	7.8
400	KANNUR	Manattana	Dug Well	4.26	2.3	3	3.35
401	KANNUR	Mathamangalam (R1)	Dug Well	7.46	0.1	5.5	5.4
402	KANNUR	Mathil	Dug Well	12.46	6.85	8.7	10.7
403	KANNUR	Mattanur	Dug Well	8.3	5	7.4	7.95
404	KANNUR	Mayyil	Dug Well	11.85	10.5	10.35	10.39
405	KANNUR	Mekunnu	Dug Well	5.81	5.1	5.05	6.2
406	KANNUR	Mele Chovva	Dug Well		6.85	6.92	7.2

407	KANNUR	Melepukkom	Dug Well	9.95	5.58	7.75	8.45
408	KANNUR	Melur	Dug Well		2.2	3.4	4.15
409	KANNUR	Meruvambayi	Dug Well	10.71	5.3	6.11	6.1
410	KANNUR	Mokeri	Dug Well	13.06	7.55	9.76	7.77
411	KANNUR	Munderi	Dug Well	8.03	5.85	7.3	7.5
412	KANNUR	Muzhakunnu	Dug Well	4.75	3.42	3.58	4.55
413	KANNUR	Nayattupara	Dug Well	14.15	8.5	10.56	12.4
414	KANNUR	Nellunni	Dug Well	5.13	3.3	4	4.4
415	KANNUR	Neruvambram	Dug Well	18.16	12.15	15.1	15.9
416	KANNUR	Nuchiyad	Dug Well	8.9	6.62	8.16	8.31
417	KANNUR	Oduvalli	Dug Well	17.9	15	16.8	17.1
418	KANNUR	Palleri	Dug Well	9.5	5.44	7.21	8.3
419	KANNUR	Pallikkuni	Dug Well	3.92	1.91	3.9	3.17
420	KANNUR	Pallyammoola	Dug Well	2.96			
421	KANNUR	Palloor (Mahe)	Dug Well	8.32	7.6	9.1	9.5
422	KANNUR	Pannoor	Dug Well		2.45	3.91	5.75
423	KANNUR	Panunda	Dug Well	14.75	10.35	11.5	12.48
424	KANNUR	Pappinissery West	Dug Well	2.72	0.95	1.85	2.05
425	KANNUR	Parassinikadavu DW	Dug Well	14.92	13.6	14.01	14.3
426	KANNUR	Pariyaram	Dug Well		11.26	12.81	13.4
427	KANNUR	Pathiriyad	Dug Well	9.17	6.3	7.26	8.7
428	KANNUR	Pattiyam	Dug Well	3.23	1.2	2.25	2.55
429	KANNUR	Pattuvam	Dug Well	16.56	14.9	15.5	15.71
430	KANNUR	Payyannur	Dug Well		3.95	5.2	5.05
431	KANNUR	Pazhayangadi	Dug Well	2.05	1.5	1.9	2
432	KANNUR	Peravoor	Dug Well	5.25	4.2	5.27	5
433	KANNUR	Peringome	Dug Well		4.8		
434	KANNUR	Peringome (R1)	Dug Well	8.15	4.8	8.15	8.05
435	KANNUR	Pinarayi	Dug Well	11.05	9.7	13.65	14.05
436	KANNUR	Pukkundu	Dug Well	13.12	7.38	10.4	13.4
437	KANNUR	Pulingome	Dug Well	6.85	4.8	6.05	6.4
438	KANNUR	Puthiyatheru	Dug Well		5.07	7.45	7.9
439	KANNUR	Ramantalai	Dug Well	10.03	6.25	8	9.38
440	KANNUR	Sreekandapuram	Dug Well	8.57	5.3	6.98	8.1
441	KANNUR	Taliparamba	Dug Well	5.8	7.75	9.8	12.1
442	KANNUR	Thalassery	Dug Well	11.72	3	4.35	5.39
443	KANNUR	Thazhe Chovva	Dug Well		0.4	1.16	1.5
444	KANNUR	Ulikkal (R1)	Dug Well	5.82	3.12	5.55	5.8
445	KANNUR	Vaaram	Dug Well	5.68	3.39	5.51	5.7
446	KANNUR	Valakkai	Dug Well	6.35	4.19	5.05	4.25
447	KANNUR	Valapattanam	Dug Well		7.62	9.2	10

448	KANNUR	Vattiyamthodu	Dug Well	8.12	4.3	6.6	6.65
449	KANNUR	Vayiparamba	Dug Well	10.1			
450	KANNUR	Vayyakara	Dug Well	21.9	18.85	19.5	19.85
451	KANNUR	Vengad	Dug Well	16.14	13.2	14.15	14.2
452	KANNUR	Cannanore1	Tube Well	13.96	9.7		12.3
453	KASARAGOD	Bella	Bore Well	13.22	8	11.7	13.1
454	KASARAGOD	Bovikkanam	Bore Well	16.55	8.44	14.22	13.1
455	KASARAGOD	Chalingal Pz	Bore Well	15.1	5.4	8.3	9.6
456	KASARAGOD	Chamundikunnu	Bore Well	11.41	8.7	10.55	10.55
457	KASARAGOD	Chattanchal	Bore Well	16.35	11.3	13.59	14.6
458	KASARAGOD	Cherkala	Bore Well	15.08	4.95	9.5	12.28
459	KASARAGOD	Karindalam	Bore Well	23.23	18.6	18.6	23.35
460	KASARAGOD	Kumbala	Bore Well	16.85	3.78	10.14	13.25
461	KASARAGOD	Kuniya	Bore Well	16.15	4.5	6.42	9.01
462	KASARAGOD	Madhur	Bore Well	11.67	2.89	5.78	8.25
463	KASARAGOD	Mangad	Bore Well	17.6	3.34	7.76	13.1
464	KASARAGOD	Manjeshwar	Bore Well	14.15	8.05	8.86	10.65
465	KASARAGOD	Mylatti	Bore Well	8.53	2.01	6.26	6.62
466	KASARAGOD	Pachakkad CPCRI	Bore Well	9.74	7		14.05
467	KASARAGOD	Pallikkara	Bore Well	9.4	4.95	7.5	9
468	KASARAGOD	Periye Pz	Bore Well	18.77			9.6
469	KASARAGOD	Seethamgulli	Bore Well	11.57	4.31	7.27	9
470	KASARAGOD	Vidyanagar	Bore Well	11.55	6.79	8.8	9.52
471	KASARAGOD	Adhuru	Dug Well				8.5
472	KASARAGOD	Adhuru (R1)	Dug Well	10.7	4.73	7.35	
473	KASARAGOD	Adkasthala	Dug Well	12.1	8.45	10.2	11.25
474	KASARAGOD	Adoor	Dug Well	12.8	8.6	11.45	12.25
475	KASARAGOD	Ajannur DW	Dug Well	14.25	8.95	12.95	10.85
476	KASARAGOD	Ambalathara	Dug Well	6.8	1.85	3.9	5
477	KASARAGOD	Anangoor	Dug Well	11.32	8.3	8.1	9.65
478	KASARAGOD	Angadimogar	Dug Well		5.21	9.48	9.9
479	KASARAGOD	Arladuka	Dug Well	18.61	12.31	14.1	15.1
480	KASARAGOD	Badiadka	Dug Well	16.54			
481	KASARAGOD	Badiadka-R1	Dug Well	16.54	11.28	12.27	13.67
482	KASARAGOD	Bandadka	Dug Well	12.55	10.55	10.33	11.15
483	KASARAGOD	Bangathadka	Dug Well	18.1	10.85	16.11	15.5
484	KASARAGOD	Banputhadka	Dug Well	8.49	6.51	7.4	8.1
485	KASARAGOD	Bayar	Dug Well	13.6	6.21	9.1	10.75
486	KASARAGOD	Bedadka-R1	Dug Well	13.62	11.56	12.8	12.8
487	KASARAGOD	Bedradka	Dug Well	15.15	8.6		12.95
488	KASARAGOD	Bedrampalla	Dug Well		1.86		

489	KASARAGOD	Bedrampalla (R1)	Dug Well	8.95	1.86	4.3	7.8
490	KASARAGOD	Bekal	Dug Well	10.05	6.15	8.8	9.3
491	KASARAGOD	Bela (R1)	Dug Well	12.3	10.4	10.6	10.7
492	KASARAGOD	Bethoorpara	Dug Well		8.15	9.36	11.55
493	KASARAGOD	Bhimanadi (R1)	Dug Well	9.83	6.65	9.03	9.78
494	KASARAGOD	Bhimanadi-II	Dug Well	5.67	3.85	5.15	5.3
495	KASARAGOD	Chalingal	Dug Well		4.91	7.88	9.1
496	KASARAGOD	Chamundikunnu DW	Dug Well	11.63	8.65	10.2	11.15
497	KASARAGOD	Chattanchal DW	Dug Well		11.08	13.4	14.1
498	KASARAGOD	Cheemeni	Dug Well	8.87	4.55	7.2	7.6
499	KASARAGOD	Cherkala	Dug Well	11.1	5.14	9.4	10.1
500	KASARAGOD	Cherrotta - Cherakkappara	Dug Well	13.82			
501	KASARAGOD	Chittarikal	Dug Well	6.2	4.9	5.6	6.05
502	KASARAGOD	Choyankod	Dug Well		3.55		
503	KASARAGOD	Choyankod (R1)	Dug Well	8.78	3.55	6.14	6.7
504	KASARAGOD	Dharmathadka	Dug Well	12	5.81	9.5	10.8
505	KASARAGOD	Elambachi	Dug Well	5.2	2.5	3.75	4.45
506	KASARAGOD	Iriyani	Dug Well	10.93	8.42	9.45	10
507	KASARAGOD	Jodukallu	Dug Well	11.22	6.55	8.9	9.7
508	KASARAGOD	Kadambar	Dug Well	13.63	9.55		12.75
509	KASARAGOD	Kadappallam	Dug Well	15.5	9.45	11.61	15.4
510	KASARAGOD	Kakkadavu (R1)	Dug Well	12.45	11.6	12.1	12.1
511	KASARAGOD	Kalathur	Dug Well	15.5	7.54	10	12.15
512	KASARAGOD	Kalichanadukkam	Dug Well	5.8	5.18	5.31	5.35
513	KASARAGOD	Kalikadavu	Dug Well	7.35	2.51	4.75	5.55
514	KASARAGOD	Kanhangad Coast (KOW)	Dug Well	3.3			
515	KASARAGOD	Kanhangad Coast (R1)	Dug Well	2.93	1.95	2.6	2.8
516	KASARAGOD	Kanhangad Town	Dug Well	11.9	6.15	8.85	10
517	KASARAGOD	Kaniyala	Dug Well	6.5	1.61	4.73	5.2
518	KASARAGOD	Kannadipara	Dug Well	14.5	7.5	11.3	11.7
519	KASARAGOD	Karinthalam	Dug Well	12.65	7.31	8.28	11.8
520	KASARAGOD	Kasaragod	Dug Well	10.85	7.46	9.9	9.63
521	KASARAGOD	Kayyur	Dug Well	10.87	4.9	7.25	10.6
522	KASARAGOD	Kinningar	Dug Well	8.41	3.26	5.2	6.4
523	KASARAGOD	Kolichal	Dug Well	5.15	5.15	6.31	6.4
524	KASARAGOD	Koliyarpadavu	Dug Well		8.3		
525	KASARAGOD	Koliyarpadavu (R1)	Dug Well	13.35	8.3	9.55	10.55
526	KASARAGOD	Koolom Road	Dug Well	10.62	6.05	8.5	
527	KASARAGOD	Koppal	Dug Well	3.05			
528	KASARAGOD	Kottiyadi	Dug Well	10.24	6.95	8.61	8.6
529	KASARAGOD	Kovval	Dug Well	8.94	4.45	6.97	7.9

530	KASARAGOD	Kudlu	Dug Well	10.8	4.1	9.13	9.9
531	KASARAGOD	Kumbadaje	Dug Well	13	6.75	8.4	9.4
532	KASARAGOD	Kumbla (R1)	Dug Well	14.43	5.47	10	11.95
533	KASARAGOD	Kundamkuzhy	Dug Well	7.55	1.1	4.8	6.05
534	KASARAGOD	Kuttikol	Dug Well	14.9	14.7	14.75	14.85
535	KASARAGOD	Madhur	Dug Well	9.37	2.61	5.61	
536	KASARAGOD	Mandecap	Dug Well	8.14	4.36	6.76	8.22
537	KASARAGOD	Mangad	Dug Well	13	5.8	10.46	11.95
538	KASARAGOD	Mangalpady (R1)	Dug Well	13.02	7.46	11	11.85
539	KASARAGOD	Manjeswar	Dug Well	7.05	3.2	3.8	4.8
540	KASARAGOD	Manjeswaram - coast	Dug Well	2.87			
541	KASARAGOD	Mavinakatta	Dug Well	26.75	22.15	22.9	23.4
542	KASARAGOD	Mavungal	Dug Well	10.59	2.5	5.17	6.1
543	KASARAGOD	Melparamba	Dug Well	15.38	9.11	12.83	14.1
544	KASARAGOD	Miyapadavu	Dug Well	14.65	10.95	11.32	11.7
545	KASARAGOD	Mogral - CPCRI	Dug Well	2.54			
546	KASARAGOD	Mogral (R1)	Dug Well	11.46	1.4	10.05	10.8
547	KASARAGOD	Mogral Puthur	Dug Well	4.1	5.9	10.11	11.65
548	KASARAGOD	Movvar	Dug Well	14.8	16.85	17.4	17.69
549	KASARAGOD	Muligadde	Dug Well	9.59	6.05	8.95	9.8
550	KASARAGOD	Muliyar	Dug Well	7.2	3.4	5.95	6.25
551	KASARAGOD	Mulleria	Dug Well	19.1	17.08	17.9	18.15
552	KASARAGOD	Munnad	Dug Well	10.8	9.3	10.05	10.25
553	KASARAGOD	Naimarmoola	Dug Well	9.12	7.3	11.42	8.75
554	KASARAGOD	Nattakkal	Dug Well	12.77	11.95	12.8	13.5
555	KASARAGOD	Nellikatta	Dug Well	9.92	6.01	7.62	8.3
556	KASARAGOD	Nileshwar	Dug Well	5.9	2.48	4.3	5.05
557	KASARAGOD	Odayanchal	Dug Well	3.92	1.75	2.75	3.01
558	KASARAGOD	Oriyakkavu- Mavilakkadappuram	Dug Well	2.23			
559	KASARAGOD	Pachambla	Dug Well	11.5	7	8.28	9.3
560	KASARAGOD	Padiyathadka	Dug Well	11.6	6.37	8.92	7.7
561	KASARAGOD	Paivalike	Dug Well	10.48	7	8.8	9.75
562	KASARAGOD	Pallam	Dug Well	9.94	3.96	7.85	8.7
563	KASARAGOD	Panathur	Dug Well	11.22	10.26		10.95
564	KASARAGOD	Parappa north	Dug Well	9.26	7.9	8.6	8.8
565	KASARAGOD	Peraladkam	Dug Well		4.08	6.56	6.45
566	KASARAGOD	Periyattadukkam	Dug Well	12.97	4.36	9.23	10.5
567	KASARAGOD	Periye	Dug Well	11.8	7.3	8.7	10.5
568	KASARAGOD	Perla	Dug Well	9.18	5.63	7	7.15
569	KASARAGOD	Poinachi-R1	Dug Well	14.97	13.5	13.85	13.7
570	KASARAGOD	Pookatta	Dug Well	18	11.4	14.05	14.7

571	KASARAGOD	Povval	Dug Well	13	11.73	13.05	12.8
572	KASARAGOD	Pullur	Dug Well	9.06	6	7.5	8.2
573	KASARAGOD	Putheryadukkam	Dug Well	10.76	10.04	10.65	10.9
574	KASARAGOD	Puthige	Dug Well	16.95	6.42	9.82	15.37
575	KASARAGOD	Rajapuram	Dug Well	6.6	5.15	6.15	8.05
576	KASARAGOD	Ramdas Nagar (Kudlu)	Dug Well	10.5	6.42	13.4	12.7
577	KASARAGOD	Sasthangode (Sastha Nagar)	Dug Well	23	19.81	21.1	21.6
578	KASARAGOD	Shirya	Dug Well	2.47			
579	KASARAGOD	Sorga	Dug Well	9.75	5.35	6.81	7.55
580	KASARAGOD	Thachangad	Dug Well	11.8	4.71	9.05	10.2
581	KASARAGOD	Thaniyadi	Dug Well	6.2	3.55	4.68	5.05
582	KASARAGOD	Thoyammel	Dug Well	12.45	8.6	9.6	10.5
583	KASARAGOD	Trikariapur	Dug Well	4.5	1.45	2.8	3.8
584	KASARAGOD	Udinur Central	Dug Well	4.7	1.23	3.03	3.75
585	KASARAGOD	Uduma west	Dug Well	10.04			
586	KASARAGOD	Ukkinadka	Dug Well	10.2	5.1	5.35	1.95
587	KASARAGOD	Uppala Railway station	Dug Well	6.78			
588	KASARAGOD	Uppla	Dug Well	14.5	8.1	13.26	
589	KASARAGOD	Vorkady	Dug Well	14.26	13.3	12.3	13.1
590	KASARAGOD	Yethadka	Dug Well	5.7	4.4	6.8	4.45
591	KASARAGOD	Ajannur(s1)	Tube Well				2.4
592	KASARAGOD	Ajannur(s2)	Tube Well		0.75	2.35	1.95
593	KASARAGOD	Ajannur(s3)	Tube Well	2.71		2.73	
594	KASARAGOD	Ajannur(s4)	Tube Well	2.55		2.69	
595	KOLLAM	Anchal	Bore Well	9.98			7.7
596	KOLLAM	Chadayamangalam Pz	Bore Well	5.45	0	6.86	
597	KOLLAM	Kalluvathukkal	Bore Well	6.43	4	5.12	6
598	KOLLAM	Koovakad	Bore Well		1.3	2.15	5
599	KOLLAM	Kulathupuzha1	Bore Well	41.2		5.66	
600	KOLLAM	Nellikunnam Pz New	Bore Well	1.76	0.39	1.03	2.5
601	KOLLAM	Pathanapuram	Bore Well		0.25		
602	KOLLAM	Ummannur	Bore Well		11.44	9.82	14.3
603	KOLLAM	Vazhathopu	Bore Well	6.6	4.95		6
604	KOLLAM	Yeroor1	Bore Well	6.87	5.04	9.14	5.5
605	KOLLAM	Achenkivil (R1)	Dug Well	5.93	4.8		6.35
606	KOLLAM	Ailara	Dug Well	2.47	2	2.51	2.45
607	KOLLAM	Akkal	Dug Well	9.66	8.96	10.06	9.83
608	KOLLAM	Alayamon	Dug Well	9.48	7.23	7.8	8.78
609	KOLLAM	Alumoodu	Dug Well	9.18			8.7
610	KOLLAM	Anayadi	Dug Well	11.65	8.6	10.69	10.3
611	KOLLAM	Anchal DW	Dug Well	12.76	9.4	9.9	12.7

612	KOLLAM	Anchalammud (R1)	Dug Well	9.53	7.67	9.4	9.3
613	KOLLAM	Ariyankavu	Dug Well	12.5	6.55	7.07	12.5
614	KOLLAM	Avaneswaram	Dug Well	4.23	2.68	4.13	5.48
615	KOLLAM	Ayathil	Dug Well	9.32	6.2		9.03
616	KOLLAM	Ayur	Dug Well	7.85	9.65	10.38	7.7
617	KOLLAM	Bharathipuram	Dug Well	9.9	1.4	9.7	9.63
618	KOLLAM	Bhoothakulam	Dug Well		10.52	11.61	11.2
619	KOLLAM	Chadayamangalam (R1)	Dug Well	8.1	8.1	10.53	10.25
620	KOLLAM	Chakkuvalli	Dug Well	9.17		8.35	8.8
621	KOLLAM	Channapetta	Dug Well	14	10	10.41	12.4
622	KOLLAM	Chathannur	Dug Well	13.4	10.4	11.64	13.2
623	KOLLAM	Chavara (R1)	Dug Well	1.81	0.6	1.76	1.44
624	KOLLAM	Chenkulam	Dug Well	5.48	4.55		5.65
625	KOLLAM	Chithara	Dug Well	8.64	7.24	6.82	8.25
626	KOLLAM	Choorakulam Jn	Dug Well	7.42	6.3	6.85	
627	KOLLAM	Cinemaparambu (R1)	Dug Well	12.46	9.3	13.56	12.68
628	KOLLAM	East Kallada	Dug Well	8.17	2.27	2.75	4.65
629	KOLLAM	Edamon	Dug Well	9.8	8.64	8.92	9.79
630	KOLLAM	Edamulakkal	Dug Well	6.03	5.75	6.16	6.2
631	KOLLAM	Edayam	Dug Well	13.12	11.38	11.01	12.7
632	KOLLAM	Ezhamkulam	Dug Well	9.8	7.9	8.38	8.97
633	KOLLAM	Ezhukone	Dug Well				4.71
634	KOLLAM	Ezhukone (R1)	Dug Well	4.13	2.86	4.79	4.71
635	KOLLAM	Iravipuram (R1)	Dug Well	3.53	1.57	3.33	3.43
636	KOLLAM	Ithikara	Dug Well	17	15.5	16.35	17.1
637	KOLLAM	Kadakkal	Dug Well	8.54	7.59	8.21	8.1
638	KOLLAM	Kadapuzha	Dug Well	2.46			0.95
639	KOLLAM	Kalluvathukkal	Dug Well	9.45	7.1	7.85	10.53
640	KOLLAM	Kalluvettumkuzhi	Dug Well	8.86	8.22	9.21	8.46
641	KOLLAM	Kamukanchery	Dug Well			9.42	9.27
642	KOLLAM	Kandanchira	Dug Well		6.1	6.91	7.43
643	KOLLAM	Kangathumukku	Dug Well	8.16		6.71	7.3
644	KOLLAM	Kanjiramkode	Dug Well	7.1			9.52
645	KOLLAM	Kanjiramvila	Dug Well	8.95		8.5	9.6
646	KOLLAM	Karamkode	Dug Well	11.67		12.26	12.25
647	KOLLAM	Karavaloor	Dug Well				5.9
648	KOLLAM	Karukone	Dug Well	8.23	6.6	7.03	7.35
649	KOLLAM	Karunagapally	Dug Well	2.06	1.72	2.86	3.03
650	KOLLAM	Karunthalakode	Dug Well	2.31		1.76	
651	KOLLAM	Kollam(Quilon)	Dug Well	8.23	7.17	8.39	8.12
652	KOLLAM	Koovakad DW	Dug Well	4.4	3.49	3.82	5.06

653	KOLLAM	Kottakayam	Dug Well	8.79	7.8		
654	KOLLAM	Kottamkulangara	Dug Well	2.32	0.76	2.18	2.15
655	KOLLAM	Kottarakara (R1)	Dug Well	16.4	14.4	16.15	17.8
656	KOLLAM	Kottathala	Dug Well			7.58	10.85
657	KOLLAM	Kottiyam	Dug Well	9.86	8.27	9.68	9.96
658	KOLLAM	Kulakada	Dug Well			6.79	7.7
659	KOLLAM	Kulapadam	Dug Well	8.57	6.54		8.1
660	KOLLAM	Kulathupuzha	Dug Well	7.18	4.7	5.6	7.6
661	KOLLAM	Kumbalam (R1)	Dug Well	27	26.22		27
662	KOLLAM	Kunnada	Dug Well	8.8	9.1	6.25	12.45
663	KOLLAM	Kunnathur	Dug Well		17.6		18.7
664	KOLLAM	Kuripalli	Dug Well	8.65	7.99		8.39
665	KOLLAM	Kurungapalli	Dug Well		0.57		3.03
666	KOLLAM	Kutavettur	Dug Well	6.6	6.26	7.09	7.04
667	KOLLAM	Madathara	Dug Well	5.32	5.44	5.28	6.44
668	KOLLAM	Manakarakavu-Vendar	Dug Well		6.5		8.8
669	KOLLAM	Manapalli	Dug Well	7.29	4.53		6.61
670	KOLLAM	Mayyanad	Dug Well	6.48		6.2	6.8
671	KOLLAM	Meenad	Dug Well	4.8	4.36	5.27	5.65
672	KOLLAM	Meenkulam	Dug Well	8.48	0.68	8.48	8.53
673	KOLLAM	Mulavana	Dug Well	10.7	9.58	10.05	10.9
674	KOLLAM	Muthukumel	Dug Well	6.48	5.51	6.19	6.47
675	KOLLAM	Mynagapalli	Dug Well	11.36	6.98	8.3	8.78
676	KOLLAM	Nallila	Dug Well	5.28	5.61	6.84	
677	KOLLAM	Nedungolam	Dug Well	11.6	7.96	12.51	12.4
678	KOLLAM	Neendakara (R1)	Dug Well	1.46	1.02	1.4	1.3
679	KOLLAM	Nellikunnam DW	Dug Well	1.13	1.6	1.6	1.56
680	KOLLAM	Nilamel	Dug Well	4.41		4.43	4.44
681	KOLLAM	Oachira1	Dug Well	1.62	4.58	0.89	1.55
682	KOLLAM	Odanavattom	Dug Well	8.74	4.58	6.24	7.7
683	KOLLAM	Ottakkal	Dug Well	7.74	6.3		9.1
684	KOLLAM	Oyur	Dug Well	9.73	7.25	9.36	10.15
685	KOLLAM	Palamoodu	Dug Well	10.9	8.72		12.15
686	KOLLAM	Pallickal	Dug Well	6.32	5.2	6.51	6.54
687	KOLLAM	Pangalukadu	Dug Well	6.14	6.43	6.68	5.51
688	KOLLAM	Panmana	Dug Well			3.23	
689	KOLLAM	Panmana-Manayil	Dug Well	3.11	1.78		3.6
690	KOLLAM	Paravur	Dug Well	8.73		8.51	8.56
691	KOLLAM	Paripally (R1)	Dug Well	13.4	7.98	11.3	12.5
692	KOLLAM	Pattanapuram	Dug Well	7.59		10.58	10.64
693	KOLLAM	Pavitreswaram	Dug Well	4.75	3.52		4.7

694	KOLLAM	Perinad	Dug Well	8.06	5.99	7.36	9.19
695	KOLLAM	Perumkulam	Dug Well	8.9	5.98	6.69	7.48
696	KOLLAM	Pozhikara	Dug Well	6.94	5.15	6.03	6.3
697	KOLLAM	Punalur-I (R1)	Dug Well	8.73		10.51	10.9
698	KOLLAM	Punnala (R1)	Dug Well	7.15	5.8		8.75
699	KOLLAM	Puthoor	Dug Well	8.12		8.08	7.35
700	KOLLAM	Roduvila	Dug Well	8.48	6.3	7.86	10.42
701	KOLLAM	Sasthamkottah (R1)	Dug Well	5.79	5.64	6.67	6.47
702	KOLLAM	Sooranadu	Dug Well	5.88	4.59	5.26	5.9
703	KOLLAM	Tadicaud (R1)	Dug Well	8.9	7.1	7.6	8.1
704	KOLLAM	Tevalakara	Dug Well	8.46	7.72		9.1
705	KOLLAM	Thattamala	Dug Well		1.59		2.27
706	KOLLAM	Thenmala	Dug Well	9.77	6.79	7.49	7.45
707	KOLLAM	Ummannur	Dug Well	9.95	7.85	9.2	9.4
708	KOLLAM	Vadakkumthala west	Dug Well	3.04	1.24	2.35	2.85
709	KOLLAM	Vallikavu	Dug Well	2.36	0.44	1.42	1.3
710	KOLLAM	Vavvakkavu	Dug Well		1.41	2.82	2.88
711	KOLLAM	Vazhathoppu	Dug Well	9.68	6.18	7.28	7.38
712	KOLLAM	Veliyam	Dug Well	9.82	7.52	8.96	10.27
713	KOLLAM	Vendar	Dug Well			8.1	
714	KOLLAM	Vilakkupara	Dug Well	7.8	9.02	11.03	10.8
715	KOLLAM	Yeroor	Dug Well	2.8	1.4	1.91	2.7
716	KOLLAM	Chavara-e	Tube Well	6.45			23.2
717	KOLLAM	Chavara-n1	Tube Well	0.3			
718	KOLLAM	Chavara-n2	Tube Well	93.5			
719	KOLLAM	Chavara-west	Tube Well	1.95	1.76	1.75	1.73
720	KOLLAM	Manappalli	Tube Well		17	18.02	18.3
721	KOLLAM	Nallila1	Tube Well	7.7			
722	KOLLAM	Perinad1	Tube Well	35	31.3		
723	KOLLAM	Trikkadavur	Tube Well	15.58			17.04
724	KOLLAM	Vayyankara	Tube Well	14.27	13.93	15.1	15.8
725	KOTTAYAM	Ettumannur	Bore Well	1.6	0.9	1.12	1.4
726	KOTTAYAM	Kidangoor	Bore Well	7.76	4.7	5.3	7.5
727	KOTTAYAM	Kuravilangad	Bore Well	4.43	2.93	2.95	5.05
728	KOTTAYAM	Poonjar	Bore Well	5.73	4.43	3.33	5.86
729	KOTTAYAM	Thrikodithanam	Bore Well	13.25	10.6	12.25	14.86
730	KOTTAYAM	Anandasram	Dug Well	7.7	7.69	7.79	8.05
731	KOTTAYAM	Arunuttimangalam	Dug Well	6.73	5.95	5.97	5.87
732	KOTTAYAM	Ayamkudi	Dug Well	11.25	8.5	10.3	11.5
733	KOTTAYAM	Ayarkunnam	Dug Well	5.93	3.15	3.15	5.27
734	KOTTAYAM	Brahmamangalam	Dug Well	9.65	6.4	7.75	9.31

735	KOTTAYAM	Chamampathal	Dug Well	4.15	3.4	3.2	4.12
736	KOTTAYAM	Changanasserry	Dug Well	2.82	1.96	2.06	2.82
737	KOTTAYAM	Chempu	Dug Well	2.25	1.55	2.65	3.15
738	KOTTAYAM	Chengalam South	Dug Well	1.15	0.65	0.7	1.24
739	KOTTAYAM	Cheruthikara	Dug Well	6.15	1.7	2.3	6.1
740	KOTTAYAM	Cheruvalli	Dug Well	7.05	5.8	5.28	7.05
741	KOTTAYAM	Chotti	Dug Well	4.81	3.19	3.95	6.8
742	KOTTAYAM	Chungam	Dug Well	5.57	2.77	3.05	4.23
743	KOTTAYAM	Edakadathy	Dug Well	9.1	9.5	9.1	12
744	KOTTAYAM	Edamaruku	Dug Well	3.75	3.2	1.8	4.84
745	KOTTAYAM	Edinjillam	Dug Well	3.42	1.81	2.1	3.22
746	KOTTAYAM	Elamkulam	Dug Well	4.6	4.42	4.4	5.74
747	KOTTAYAM	Erumeli	Dug Well	4.9	3.7	3.3	5.74
748	KOTTAYAM	Ethakuzhy (Kallara)	Dug Well	4.13	2.65	2.95	3.97
749	KOTTAYAM	Ettumannur East (R1)	Dug Well	7.75	4.87	4.85	6.05
750	KOTTAYAM	Iykarakunnam	Dug Well	10.22	8.02	8.82	9.65
751	KOTTAYAM	Kadaplamattom	Dug Well	5.75	5.25	4.9	5.75
752	KOTTAYAM	Kaduthuruthi	Dug Well	6.01	5.47	5.97	7.25
753	KOTTAYAM	Kalakatty	Dug Well	6.06	4.14	4.48	6.09
754	KOTTAYAM	Kalathipady	Dug Well	9.7	6.64	5.6	9.53
755	KOTTAYAM	Kalathur	Dug Well	6.55	6.25	6.75	6.66
756	KOTTAYAM	Kangazha	Dug Well	6.3	5	5.4	6.52
757	KOTTAYAM	Kanjirapally	Dug Well	10.1	8.6	7.54	10.06
758	KOTTAYAM	Kidangur-R1	Dug Well	8.22	1.66	2.2	6
759	KOTTAYAM	Kollappally	Dug Well	6.67	3.25	2.75	3.58
760	KOTTAYAM	Kooroppada	Dug Well	4.44	2.53	2.87	4.8
761	KOTTAYAM	Koothrappally	Dug Well	5.75	3.62	4.7	4.01
762	KOTTAYAM	Kottayam (R1)	Dug Well	12.53	10.09	11.09	11.65
763	KOTTAYAM	Kozha	Dug Well	4.6	1.6	1.6	3
764	KOTTAYAM	Kozhuvanal	Dug Well	6.11	3.51	3.78	4.28
765	KOTTAYAM	Kudavechur	Dug Well	2.46	1.5	1.54	2.44
766	KOTTAYAM	Kumarakom	Dug Well	1.48	0.75	0.65	1.4
767	KOTTAYAM	Kummannur	Dug Well	8.2	5.42	5.15	6.15
768	KOTTAYAM	Kuravilangad1	Dug Well	7.2	2.6	3.78	5.64
769	KOTTAYAM	Kurichy (Sachivothamapuram)	Dug Well	8.22	7	6.75	7.25
770	KOTTAYAM	Kuruppanthara	Dug Well	2	1.3	1.66	2.2
771	KOTTAYAM	Kuttikal-R1	Dug Well		3.32	2.75	4.4
772	KOTTAYAM	Kuvapalli	Dug Well	6.57	5.85	6.24	6.35
773	KOTTAYAM	Madapally	Dug Well	2.42	1.3	1.98	2.3
774	KOTTAYAM	Manimala	Dug Well	5.02	4.5	4.8	5.1
775	KOTTAYAM	Mannanam	Dug Well	11	5.6	6.2	9.17

776	KOTTAYAM	Marangattupalli	Dug Well	3.82	2.37	2.04	3.33
777	KOTTAYAM	Melukavu Mattom	Dug Well	6.9	4.4	4.49	7.02
778	KOTTAYAM	Mevellur	Dug Well	3.35	2.86	3.15	2.75
779	KOTTAYAM	Monipalli	Dug Well	1.3	1.12	1.32	2.32
780	KOTTAYAM	Mukkada	Dug Well	9.86	4.53	6	9.86
781	KOTTAYAM	Mukkoottuthara	Dug Well	3.61	2.4	2.85	3.85
782	KOTTAYAM	Mundakayam	Dug Well	10.16	3.5	3.95	10.16
783	KOTTAYAM	Mundukuzhi	Dug Well	10.11	6.8	8.5	9.94
784	KOTTAYAM	Mutholi	Dug Well	8	5.8	5.7	6.78
785	KOTTAYAM	Narianganam	Dug Well	4.95	4.25	3.05	5.64
786	KOTTAYAM	Nedumkunnam	Dug Well	6.1	4.9	4.76	6.38
787	KOTTAYAM	Neendur	Dug Well	4.75	2.4	3.46	4.6
788	KOTTAYAM	Paippad	Dug Well	10.1	6.9	7.91	8.72
789	KOTTAYAM	Palai	Dug Well	6.57	5.41	5.29	7.37
790	KOTTAYAM	Palamkadavu	Dug Well	3.05	1.8	2.1	2.81
791	KOTTAYAM	Pallikkathodu (R1)	Dug Well	4.39	3.31	3.25	6.35
792	KOTTAYAM	Pallom (nattagam)	Dug Well	7.75	5.45	6.25	7.75
793	KOTTAYAM	Pambadi	Dug Well	6.4	6.5	5.36	6.74
794	KOTTAYAM	Panackapalam Jn	Dug Well	5.49	7.2	4	5.2
795	KOTTAYAM	Paruthumpara	Dug Well	8.8	6.95	7.95	9.61
796	KOTTAYAM	Plakkalpadi	Dug Well	7.75	5.2	5.96	7.7
797	KOTTAYAM	Ponad	Dug Well	9.55	6.55	5.64	8.56
798	KOTTAYAM	Ponthanpuzha	Dug Well	5.62	4.46	5.6	6.09
799	KOTTAYAM	Poovathilappu	Dug Well	4.21	2.52	3.7	4.1
800	KOTTAYAM	Pravithanam	Dug Well	9.4	4.54	4.46	9.19
801	KOTTAYAM	Pulikkal Kavala	Dug Well	4.54	3.48	4.56	
802	KOTTAYAM	Pulikuttisseri	Dug Well	1.75	0.46	1.4	2.03
803	KOTTAYAM	Punjar	Dug Well	1.84	0	0.1	1.64
804	KOTTAYAM	Punnaveli	Dug Well	3.7	4.24	4.78	4.9
805	KOTTAYAM	Puthupally	Dug Well	6.88	6.2	5.61	7.66
806	KOTTAYAM	Ramapuram	Dug Well	5.4			
807	KOTTAYAM	Ramapuram (R1)	Dug Well	5.4	3.52	5.28	8.34
808	KOTTAYAM	Teekoy	Dug Well	5.55	4.06	3.86	5.72
809	KOTTAYAM	Thalayolaparambu (R1)	Dug Well	3.45	2.3	2.7	3.36
810	KOTTAYAM	Thazhathangadi	Dug Well	2.2	1.22	2.2	2.56
811	KOTTAYAM	Thekethukavala	Dug Well	6.87	5.2	2.88	6.9
812	KOTTAYAM	Thidanad	Dug Well	5.43	4.68	5.38	6.59
813	KOTTAYAM	Thiruvanchoor	Dug Well	4.4	3.2	3.72	
814	KOTTAYAM	Thiruvarpu	Dug Well	1.92	0.8	0.9	1.98
815	KOTTAYAM	Thottakam	Dug Well	2.5	1.3	2.6	2.2
816	KOTTAYAM	Thottakkad	Dug Well	6.25	4.9	5.22	6.9

817	KOTTAYAM	Trikodithanam	Dug Well	15.4	14.65		
818	KOTTAYAM	Udayanapuram	Dug Well	2.05	1.02	1.26	1.6
819	KOTTAYAM	Urulikunnam	Dug Well	4.28	1.28	3.4	5.08
820	KOTTAYAM	Uzhavoor (R1)	Dug Well	4.1	2.45	2.12	3.55
821	KOTTAYAM	Vaikom	Dug Well	4.17	1.65	2.45	2.18
822	KOTTAYAM	Vakathanam	Dug Well	8.2	5.48	5.06	7.9
823	KOTTAYAM	Vazhur	Dug Well	5.3	3.74	3.65	5.15
824	KOTTAYAM	Vechur	Dug Well	2.13	1.13	1.3	2.2
825	KOTTAYAM	Vellur-II	Dug Well	4.3			
826	KOTTAYAM	Vellur-III	Dug Well	4.3	2.7	3.4	3.9
827	KOTTAYAM	Vempalle	Dug Well	2.18	1.45	1.7	2.87
828	KOTTAYAM	Veyilkanampara (Kondur)	Dug Well	8.1	4.45	4.84	5.54
829	KOTTAYAM	Chempu - I(East)	Tube Well		0.5	2.3	3.25
830	KOTTAYAM	Chempu- West	Tube Well	1.91	1.91	1.91	1.66
831	KOTTAYAM	Kumarakom Pz	Tube Well	2.3	3.4	3.4	1.94
832	KOZHIKODE	Balussery pz	Bore Well	10.35	5.61	7.18	7.87
833	KOZHIKODE	Cheruvannur pz	Bore Well	8.33	4.47	6.65	7.81
834	KOZHIKODE	Chevayur pz	Bore Well	25.61	23.42	24.34	25.76
835	KOZHIKODE	Kalikadavu pz	Bore Well	3.59	2.3	2.34	3.34
836	KOZHIKODE	Karuvannur pz	Bore Well	1.85	0.38	0.32	1.09
837	KOZHIKODE	Kokallur pz	Bore Well	7.32	6.68	8.23	9.28
838	KOZHIKODE	Thodannur(west)	Bore Well	6.41	4.68	5.44	5.86
839	KOZHIKODE	Thuneri pz	Bore Well	5.12	2.85		4.36
840	KOZHIKODE	Vellimadakunnu pz	Bore Well	20.02	19.32	23.19	19.93
841	KOZHIKODE	Atholi	Dug Well	4.71	2.38	3.43	4.52
842	KOZHIKODE	Azhinjilam	Dug Well	3.03	0.86	4.38	2.54
843	KOZHIKODE	Badagara (Vadakara)	Dug Well	6.12	4.45	5.37	5.66
844	KOZHIKODE	Balusseri	Dug Well	7.95	5.22	7.12	7.49
845	KOZHIKODE	Beypore	Dug Well	4.52	1.14	2.71	3.77
846	KOZHIKODE	Bhumivathukkal	Dug Well	7.39	5.34	6.55	6.98
847	KOZHIKODE	Calicut Beach	Dug Well	2.98	2.11	2.49	3.04
848	KOZHIKODE	Chaliyam	Dug Well	3.46	1.92	2.99	3.47
849	KOZHIKODE	Chelavur	Dug Well	9.8	8.38	8.47	9.58
850	KOZHIKODE	Chemencheri	Dug Well	4.14	1.31	2.58	3.33
851	KOZHIKODE	Cheruvannur West	Dug Well	5.83	3.4		4.94
852	KOZHIKODE	Chevayur	Dug Well	14.3	11	11.57	12.07
853	KOZHIKODE	Chiulavi (Niravamal)	Dug Well	8.71	5.57	6.68	7.76
854	KOZHIKODE	Chulur	Dug Well	6.02	5.11	5.43	4.28
855	KOZHIKODE	Devarkoil	Dug Well	6.82	6.4	6.95	8.01
856	KOZHIKODE	Elattur	Dug Well	3.67	1.5	2.43	3.32
857	KOZHIKODE	Feroke DW	Dug Well	13.54	11.94	12.7	13.12

858	KOZHIKODE	Gotheeswaram	Dug Well	1.27			
859	KOZHIKODE	Iringallur	Dug Well	3.68	2.36	3.53	3.56
860	KOZHIKODE	Kakkayam	Dug Well	3.59	3.23	2.98	3.51
861	KOZHIKODE	Kakkur	Dug Well	6.59	3.9	5.16	5.97
862	KOZHIKODE	Kallachi	Dug Well	1.26	0.75	1.55	2.25
863	KOZHIKODE	Kallai	Dug Well	5.11	3.48	4.38	4.84
864	KOZHIKODE	Kandamkulangara	Dug Well	5.3			
865	KOZHIKODE	Kannankara (Chelannur)	Dug Well	2	0.5	1.65	2.17
866	KOZHIKODE	Kannoor	Dug Well	5.32	4.09	4.62	4.97
867	KOZHIKODE	Karaparamba	Dug Well	3.1	2.49	1.95	2.06
868	KOZHIKODE	Kariyathumpara	Dug Well	3.05	2.38	2.95	2.97
869	KOZHIKODE	Karuvannur	Dug Well	4.36	2.84	3.23	3.98
870	KOZHIKODE	Kayapanachi	Dug Well	5.13	3.64	4.4	4.63
871	KOZHIKODE	Kodencherry	Dug Well	1.33	0.84	1.06	1.3
872	KOZHIKODE	Kodikkal	Dug Well	4.01			
873	KOZHIKODE	Koduvalli	Dug Well	9.05	6.56	8.01	9.03
874	KOZHIKODE	Koduvalli North	Dug Well	6.47	1.16	4.63	5.57
875	KOZHIKODE	Kolavippalam	Dug Well	1.93			
876	KOZHIKODE	Koothali	Dug Well	4.91	2.8	4.56	5.28
877	KOZHIKODE	Kottakadavu	Dug Well	16.01	13.2	16.55	15.46
878	KOZHIKODE	Koyilandi	Dug Well	2.91			
879	KOZHIKODE	Kozhikode	Dug Well	16.52	10.48	12.48	15.2
880	KOZHIKODE	Kunnamangalam	Dug Well	12.64	9.43	10.13	13.03
881	KOZHIKODE	Kunnumakkara	Dug Well	2.83	0.97	1.35	2.18
882	KOZHIKODE	Kurachund	Dug Well	4.22	4.58	5.54	5.66
883	KOZHIKODE	Kuttiyadi	Dug Well	7.3	6.85	7.58	7.45
884	KOZHIKODE	Malayamma	Dug Well	5.04	1.75	4.04	4.77
885	KOZHIKODE	Manassery	Dug Well	4.38	2.54	3.03	3.58
886	KOZHIKODE	Mattanodu	Dug Well	9.17	7.56	8.6	9.25
887	KOZHIKODE	Mavoor-i	Dug Well	5.55	4.61	5.27	7.4
888	KOZHIKODE	Mavoor-ii	Dug Well	10.21	8.07	9.45	10.13
889	KOZHIKODE	Melady 1	Dug Well	2.16	0.85	1.67	1.81
890	KOZHIKODE	Meppayur	Dug Well	4.41	2.45	3.73	4.33
891	KOZHIKODE	Moodadi	Dug Well	2.92			
892	KOZHIKODE	Moodali	Dug Well	4.26	0.46	1.62	2.97
893	KOZHIKODE	Mukkali	Dug Well	5.32	2.56	4.26	4.96
894	KOZHIKODE	Muliyangal	Dug Well	2.59	0.9	1.93	2.67
895	KOZHIKODE	Mullankunnu	Dug Well	1.74	0.6	1.34	1.67
896	KOZHIKODE	Murampathy	Dug Well	6.02	5.31	5.4	5.74
897	KOZHIKODE	Nadapuram	Dug Well	4.98	1.54	2.39	3.55
898	KOZHIKODE	Naduvannur	Dug Well	7.52	5.47	7.06	8.33

899	KOZHIKODE	Naduvattom	Dug Well	8.07	5.87	7.2	7.9
900	KOZHIKODE	Nallalam	Dug Well	3.95	0.95	2.47	3.95
901	KOZHIKODE	Nanminda	Dug Well	7.08	4.14	6.01	6.56
902	KOZHIKODE	Narikuni	Dug Well	3.96	1.76	2.43	4.36
903	KOZHIKODE	Nayarkuzhi	Dug Well	7.49	5.63	6.2	6.8
904	KOZHIKODE	Orkattery	Dug Well	4.63	1.13	2.56	3.83
905	KOZHIKODE	Pathimangalam	Dug Well	10.52	8.98	7.18	9.88
906	KOZHIKODE	Pavangad	Dug Well	3.31	1.1	2.57	3.73
907	KOZHIKODE	Perambra	Dug Well	4.01	2.05	2.67	3.33
908	KOZHIKODE	Perumpally	Dug Well	4.5	2.15	3.23	3.87
909	KOZHIKODE	Peruvayal	Dug Well	5.96	5.27	6.3	6.78
910	KOZHIKODE	Poyikavu coast	Dug Well	2.8			
911	KOZHIKODE	Pudukayam	Dug Well	9.01	6.67	7.46	8.04
912	KOZHIKODE	Pudupadi	Dug Well	3.15	2.11	2.45	2.42
913	KOZHIKODE	Pudupanam	Dug Well	5.65	4.26	4.66	5.76
914	KOZHIKODE	Punnasserri	Dug Well	8.2	5.34	7.45	7.82
915	KOZHIKODE	Purankara - Aythala	Dug Well	1.28			
916	KOZHIKODE	Puthur	Dug Well	8.4	6.13	7.5	8.04
917	KOZHIKODE	Quilandy	Dug Well	6.78	4.1	5.86	6.37
918	KOZHIKODE	Ramanattukara (R2)	Dug Well	3.99	1.59	2.27	2.57
919	KOZHIKODE	Tamarasseri	Dug Well	2.09	0.98	0.9	1.2
920	KOZHIKODE	Thenamkuzhi	Dug Well	4.6	1.85	3.34	4.4
921	KOZHIKODE	Thikkodi	Dug Well	6.7	3.9	4.17	6.4
922	KOZHIKODE	Thiruvallur	Dug Well	1.67	1.1	1.43	2.16
923	KOZHIKODE	Thiruvambady	Dug Well	4.22	6.11	3.73	4.13
924	KOZHIKODE	Thodannur	Dug Well	6.68	5.63	6.22	6.45
925	KOZHIKODE	Thuneri1	Dug Well	4.67	3.14		4.2
926	KOZHIKODE	Ulliyeri	Dug Well	3.69	2.18	3.13	3.54
927	KOZHIKODE	Unnikulam	Dug Well	2.98	2.13	2.37	2.5
928	KOZHIKODE	Valayam	Dug Well	8.39	5.62	7.6	6.6
929	KOZHIKODE	Vattoli	Dug Well	5.09	3.1	4.06	5.32
930	KOZHIKODE	Vellimadakunnu	Dug Well	13.25	12.8	12.9	14.36
931	KOZHIKODE	Villyapalli	Dug Well	7.62	5.9	6.42	6.82
932	KOZHIKODE	West Pudupadi	Dug Well	3.37	2.46	2.66	2.9
933	KOZHIKODE	Chombala(pz)	Tube Well	5.53	2.63	4.26	4.76
934	KOZHIKODE	Chombala(w1)	Tube Well	5.09		3.16	4.4
935	KOZHIKODE	Chombala(w2)	Tube Well	5.07	1.8	3.11	4.31
936	KOZHIKODE	Chombala(w4)	Tube Well		1.94	3.81	4.55
937	KOZHIKODE	Meladi	Tube Well	2.1	0.73	1.17	1.57
938	MALAPPURAM	Ammnikad Pz	Bore Well		8.7	10.5	11.5
939	MALAPPURAM	Chemmalassery Pz	Bore Well		12	16.5	27.2

940	MALAPPURAM	Cherukulam	Bore Well	12	11.2	11.7	13.1
941	MALAPPURAM	Edakkara (Karunechi)	Bore Well	18	18.3	17.5	18.4
942	MALAPPURAM	Edakkulam	Bore Well	39.31	13.61	14.31	40
943	MALAPPURAM	Kaladi (Kadancherry) Pz	Bore Well	9.59	7.49	7.29	8.29
944	MALAPPURAM	Karavarakundu Pz	Bore Well	12.85	11.4	11.8	
945	MALAPPURAM	Karulayi	Bore Well	4.21	2.71	3.06	3.31
946	MALAPPURAM	Mankeri Pz	Bore Well	28.1	8.3	12.3	16.9
947	MALAPPURAM	Muthukurissy Pz	Bore Well		10.5	10.4	15.5
948	MALAPPURAM	Nediyirippu Pz	Bore Well		1.5	1.5	2
949	MALAPPURAM	Othukkungal	Bore Well	38.7	31.8	33.3	36
950	MALAPPURAM	Pandalur	Bore Well	9.7	8.1	8.2	9.7
951	MALAPPURAM	Parambilpeedika	Bore Well	36.79	30.29	14.59	35.29
952	MALAPPURAM	Ponmala (Mannazhi)	Bore Well	12.01		7.11	8.31
953	MALAPPURAM	Puzhakkattkiri	Bore Well	11.1	10.9	12.4	13.3
954	MALAPPURAM	Thazhekkode	Bore Well			9.79	
955	MALAPPURAM	Theilakkad	Bore Well	13.82	7.42		11.32
956	MALAPPURAM	Thiruvalli	Bore Well	11.8			
957	MALAPPURAM	Thozhuvannur	Bore Well			11.5	16.9
958	MALAPPURAM	Thuvur	Bore Well	11.79	9.04	9.79	10.69
959	MALAPPURAM	Valancheri Pz	Bore Well		17.4	17.4	23.4
960	MALAPPURAM	Akkaparambu	Dug Well	10.72	6.6	10	9.6
961	MALAPPURAM	Amminikad	Dug Well	4.95	4.8	5.6	6.2
962	MALAPPURAM	Anakkayam	Dug Well	8.55	8.2	7.6	7.1
963	MALAPPURAM	Angadipuram	Dug Well	8.91	9.64	8.84	9.44
964	MALAPPURAM	Anjuvadi	Dug Well		1.9	3	2.75
965	MALAPPURAM	Arikode	Dug Well	9.55	6.7	8.2	6.35
966	MALAPPURAM	Ariyallur	Dug Well	4.08	1.06	2.3	4.3
967	MALAPPURAM	Athanikal- Vallikunnu	Dug Well		11.66	13.16	14.16
968	MALAPPURAM	Athanikkal	Dug Well	5.74	3.4	5.1	6.2
969	MALAPPURAM	Athirumada	Dug Well	14.57	12.2	13.4	14.2
970	MALAPPURAM	Beeranchira	Dug Well		8	8.3	9.5
971	MALAPPURAM	Buliyampadam (Velumbiampadam)	Dug Well				10.8
972	MALAPPURAM	Buliyampadam (Velumbiampadam) (R1)	Dug Well		9.75	10.3	10.8
973	MALAPPURAM	Chamravattom	Dug Well	2.35	1	1.2	1.3
974	MALAPPURAM	Chemmalassery	Dug Well	6.27	4.5	7.2	6.2
975	MALAPPURAM	Cherani	Dug Well	7.05	6.7	6.6	6
976	MALAPPURAM	Cherukara	Dug Well	6.75	7	8.3	7.4
977	MALAPPURAM	Cherukode	Dug Well	7.04	5.4	6.4	
978	MALAPPURAM	Cherukulam	Dug Well	12.27	9.9	11.5	12
979	MALAPPURAM	Chokkad	Dug Well		2.5	4.1	4.55

980	MALAPPURAM	Chungathara (R1)	Dug Well		1.95	3.42	4.05
981	MALAPPURAM	Edappal	Dug Well	14.29	12.2	14.4	15.2
982	MALAPPURAM	Edavanna	Dug Well			10.4	
983	MALAPPURAM	Edavanna (R1)	Dug Well	9.11	7	10.4	10.4
984	MALAPPURAM	Edayur	Dug Well	8.1	7.1	7.65	
985	MALAPPURAM	Eriyad	Dug Well	4.58	3	4	3.9
986	MALAPPURAM	Iswaramangalam	Dug Well	3.9	0.9	2.55	3.6
987	MALAPPURAM	Kadalundi	Dug Well	4.75	3.6	4.54	4
988	MALAPPURAM	Kadampuzha	Dug Well	11.73	11.2	11.9	11.45
989	MALAPPURAM	Kadannamanna	Dug Well	8.3	5.1	6.3	8.05
990	MALAPPURAM	Kadungapuram	Dug Well	8.87	7.2	9.3	10
991	MALAPPURAM	Kalikavu	Dug Well	5.59	3.9	4.8	4.85
992	MALAPPURAM	Kanjiramukku	Dug Well	6.56	4.1	5.1	5.4
993	MALAPPURAM	Kariavattam	Dug Well	9.07	7.7	7.7	7.9
994	MALAPPURAM	Karipol	Dug Well	10.58	9.75	11.35	12.25
995	MALAPPURAM	Karulai	Dug Well	8.75	8.1	8.25	8.65
996	MALAPPURAM	Karumbil	Dug Well	14.4	11.7	12.4	12.9
997	MALAPPURAM	Karunechi	Dug Well	19.59	21.23	19.53	20.53
998	MALAPPURAM	Karuvankallu	Dug Well		8.3	8.4	8.3
999	MALAPPURAM	Karuvarakundu	Dug Well	3.82	2.8	3.15	3.45
1000	MALAPPURAM	Kattumunda (R1)	Dug Well		10.3	11.6	13.1
1001	MALAPPURAM	Kavanur1	Dug Well		10	12.5	12.95
1002	MALAPPURAM	Kizhumuri - Oorakam	Dug Well	10.96	10	10	9.7
1003	MALAPPURAM	Kondotty	Dug Well	4.81	2.5	9	7.3
1004	MALAPPURAM	Kottakkal	Dug Well	8.86	8.2	8.8	9.1
1005	MALAPPURAM	Kottapuram	Dug Well	7.93	4.8	6.1	5.1
1006	MALAPPURAM	Krishnapuram Puthentheru	Dug Well	4.27	1.6	3.25	3.65
1007	MALAPPURAM	Kulattur	Dug Well	6.07	3.2	5	5.7
1008	MALAPPURAM	Kunnumpuram	Dug Well		12.15	13.25	13.45
1009	MALAPPURAM	Kuruva (Padaparamba)	Dug Well	12.71	11.1	11.8	12.2
1010	MALAPPURAM	Kuttiapuram	Dug Well	4.72	1.6	2.75	3.8
1011	MALAPPURAM	Malappuram	Dug Well	7.34	7.1	7.35	6.5
1012	MALAPPURAM	Mangalam	Dug Well	3.39			
1013	MALAPPURAM	Mangalam (R1)	Dug Well		1.39	2.54	2.74
1014	MALAPPURAM	Manjeri	Dug Well	11.97	4.2	7.2	4.9
1015	MALAPPURAM	Mankeri	Dug Well	8	5.3	6.3	6.45
1016	MALAPPURAM	Marancheri	Dug Well	8.6	5.3	6.5	6.31
1017	MALAPPURAM	Marutha (R1)	Dug Well		7	8.05	9.3
1018	MALAPPURAM	Meenedathur	Dug Well	3.34	1.7	2.4	3.4
1019	MALAPPURAM	Melattur	Dug Well	7.49	6.35	6.65	7.75
1020	MALAPPURAM	Moochikkal (Clari Moochikkal)	Dug Well	3.7	5.8	5	5.58

1021	MALAPPURAM	Moothedam	Dug Well	5.38	3.7	8	5.75
1022	MALAPPURAM	Mudikode	Dug Well	5.38	5.6	5	5.5
1023	MALAPPURAM	Narokavu	Dug Well	14.53	12.9	13.56	14.4
1024	MALAPPURAM	Nediyirippu	Dug Well	5	3.35	3.75	3.25
1025	MALAPPURAM	Nellikuth	Dug Well	7.05	7.1	6.4	6.6
1026	MALAPPURAM	Nilambur (R1)	Dug Well	6.51	3.45	4.12	4.5
1027	MALAPPURAM	Olavattur	Dug Well	9.87	7	10	9.85
1028	MALAPPURAM	Othukkungal DW	Dug Well	16	11.6	13	13.7
1029	MALAPPURAM	Padikkal	Dug Well		9.3	9.8	10.05
1030	MALAPPURAM	Pandalur DW	Dug Well	7.55	8.2	7.45	7.55
1031	MALAPPURAM	Pandikkad (R1)	Dug Well		5.65	5.1	5
1032	MALAPPURAM	Paral	Dug Well	6.34	6.05	6.75	6.65
1033	MALAPPURAM	Parambilpeedika	Dug Well	13.02	11.3	11.7	
1034	MALAPPURAM	Parappanangadi	Dug Well	3.58	0.85	2.65	3.35
1035	MALAPPURAM	Parappur	Dug Well	12.11	10.75	12.25	12
1036	MALAPPURAM	Paravana	Dug Well		3.95	4.9	4.9
1037	MALAPPURAM	Pathiriyal	Dug Well		6.6	9.4	7.54
1038	MALAPPURAM	Payyanad	Dug Well	8.53	8.7	8.1	8
1039	MALAPPURAM	Perinthalmanna (R1)	Dug Well	5.95	3.55	6.25	6.25
1040	MALAPPURAM	Perumpadappu	Dug Well	6.91	2.55	5.05	5.3
1041	MALAPPURAM	Peruvakkad	Dug Well	7.6	6	6.6	7.2
1042	MALAPPURAM	Ponnani (R1)	Dug Well	1.87	1.67	1.75	1.75
1043	MALAPPURAM	Pookottoor	Dug Well	3.41	1.1	1.6	2.25
1044	MALAPPURAM	Pookottumpadam	Dug Well		2.9	3.6	
1045	MALAPPURAM	Pukattery	Dug Well	9.75	8.6	9.2	9.3
1046	MALAPPURAM	Pukothu	Dug Well	7.9	6.2	7.2	8.7
1047	MALAPPURAM	Pulamantol	Dug Well	11.33	7.8	8.7	9.6
1048	MALAPPURAM	Purathur	Dug Well		1.05	2.2	2.4
1049	MALAPPURAM	Puthenkulam	Dug Well	4.38	2.1	2.9	3.65
1050	MALAPPURAM	Puzhakkatteri	Dug Well	8.1	5.3	5.9	6.2
1051	MALAPPURAM	Ramankulam	Dug Well	6.5	6	6.2	7.3
1052	MALAPPURAM	Ramapuram	Dug Well	6.87	5.4	7.3	8.2
1053	MALAPPURAM	Tachinganedam	Dug Well	7.7	5.8	5.8	7.3
1054	MALAPPURAM	Tanur	Dug Well	5.75	3.2	4.2	4.65
1055	MALAPPURAM	Tenjippalam (R1)	Dug Well		24.6	13.8	14.1
1056	MALAPPURAM	Thavanur	Dug Well	12.03	8.9	9.7	9.65
1057	MALAPPURAM	Thazhekod Kappumugham	Dug Well	8.96	8.13	8.98	9.48
1058	MALAPPURAM	Thazhekode	Dug Well	7.6	6.8	8.15	
1059	MALAPPURAM	Thirunavaya	Dug Well	5.34	4.42	4.42	5.12
1060	MALAPPURAM	ThiruvadiDW	Dug Well		1.15	1.95	3.55
1061	MALAPPURAM	Thrikkalangode	Dug Well		2.3	4.2	4.6

1062	MALAPPURAM	Thuvur DW	Dug Well		8.55	9.9	10.6
1063	MALAPPURAM	Tirukkad	Dug Well		7.1	8.2	7.2
1064	MALAPPURAM	Tirur	Dug Well	13.79	8.85	13	12.75
1065	MALAPPURAM	Tirurangadi	Dug Well	12.28	12.3	11.8	13.3
1066	MALAPPURAM	Tripanachi	Dug Well	12.16	11.1	8.85	9.1
1067	MALAPPURAM	Uppada	Dug Well	3.41	2.2	1.95	2.6
1068	MALAPPURAM	Vadakkemanna	Dug Well	8.15	5.95	7.35	7.15
1069	MALAPPURAM	Valancheri (R1)	Dug Well	10.1	9.3	9.6	9.9
1070	MALAPPURAM	Valavannur	Dug Well	13.82	10.3	9.1	13.7
1071	MALAPPURAM	Valiyakunnu	Dug Well	8.17	7.85	7.65	7.35
1072	MALAPPURAM	Vaniyambalam	Dug Well		4.05	6.65	7.35
1073	MALAPPURAM	Vazhakkad	Dug Well		3.5	3.66	3.9
1074	MALAPPURAM	Vazhikadavu	Dug Well	4.25	3.35	4.15	3.15
1075	MALAPPURAM	Vellila (R1)	Dug Well	7.28	8	6.5	7
1076	MALAPPURAM	Vengad	Dug Well	9.02	8.2	7.7	7.6
1077	MALAPPURAM	Venniyur	Dug Well	9.95	9.05	8.4	8.8
1078	MALAPPURAM	Vettom1	Dug Well	3.36	1.32	2.3	4.2
1079	MALAPPURAM	Vylattur (R1)	Dug Well	9.34			
1080	MALAPPURAM	Vylattur (R2)	Dug Well		8.95	10.25	8.25
1081	MALAPPURAM	Wandur	Dug Well	10.04	9.32	9	9.2
1082	MALAPPURAM	Vettom	Tube Well	3.2	1.4	1.7	
1083	PALAKKAD	Chullimada Pz	Bore Well		2.4		12.08
1084	PALAKKAD	Kadukkankunnu	Bore Well		1.4		
1085	PALAKKAD	Kanjikode(FCRI)	Bore Well	10.75	6.3	6.35	8.88
1086	PALAKKAD	Kannadi	Bore Well	2.25	0.3	0.16	1.05
1087	PALAKKAD	Karimpuzha	Bore Well	5.2	3.75	6.75	4.7
1088	PALAKKAD	Koduvayur	Bore Well	9.12		5.82	7.14
1089	PALAKKAD	Kongad	Bore Well	6		4.6	5.3
1090	PALAKKAD	Kozhipara Pz	Bore Well	6	4.7	6.6	7.5
1091	PALAKKAD	Kunnamkattupathy Pz	Bore Well				10.63
1092	PALAKKAD	Kunnissery	Bore Well	9.4	7	8	9.55
1093	PALAKKAD	Lakkidi Thekkumangalam	Bore Well	22.35	14.9	16.8	20.55
1094	PALAKKAD	Malampuzha1	Bore Well	5.4			4.38
1095	PALAKKAD	Melarkode	Bore Well	29.1	19.4	23.1	22.33
1096	PALAKKAD	Moochangundu	Bore Well	44.3	12.7	14.3	12.9
1097	PALAKKAD	Mundur Pz	Bore Well	27.5	19.3	26	22.66
1098	PALAKKAD	Muttikulangara Pz	Bore Well		16.5		21.4
1099	PALAKKAD	Nanniyodu Pz	Bore Well		30.75		38.8
1100	PALAKKAD	Nellikattiri Pz	Bore Well		8.9		13.64
1101	PALAKKAD	Nemmara1	Bore Well	4.85			4.01
1102	PALAKKAD	Padur	Bore Well	21.9	14.2	16.2	20.65

1103	PALAKKAD	Panayur(Athikodu) Pz	Bore Well	5.6	5.7	3.5	6.73
1104	PALAKKAD	Pattambi Pz	Bore Well	7.2	7.7		7.05
1105	PALAKKAD	Peringottukurissu	Bore Well	13.15	11.1	11.45	11.9
1106	PALAKKAD	Plachimada	Bore Well	34	10.8		15.1
1107	PALAKKAD	Pullundassery	Bore Well	5.5	4		5.08
1108	PALAKKAD	Thenkara	Bore Well	2.2	1	0.8	1.78
1109	PALAKKAD	Thirumittacode	Bore Well	51.3	11.9		
1110	PALAKKAD	Thiruveegapuram	Bore Well	13.4	9.7		13.63
1111	PALAKKAD	Trithala Pz	Bore Well	5.6	5.9		5.59
1112	PALAKKAD	Vadakarapathy Pz	Bore Well		29.25		
1113	PALAKKAD	Vennakara	Bore Well		14.1		16.4
1114	PALAKKAD	Villooni	Bore Well	51.5	50.5		
1115	PALAKKAD	Adiparanda	Dug Well	6.6	3.8	5.3	7.1
1116	PALAKKAD	Alanallur	Dug Well	9.7	9.35	7.9	8.44
1117	PALAKKAD	Alathur	Dug Well	8.46		5.81	6.75
1118	PALAKKAD	Ambalappara	Dug Well	9.2	7.45	7.75	7.91
1119	PALAKKAD	Ariyur (R1)	Dug Well	12	7.7	10.87	11.55
1120	PALAKKAD	Athikode	Dug Well	6.7	5.6	6.38	7.3
1121	PALAKKAD	Athipetta	Dug Well	6.8	1.6	2.2	3.41
1122	PALAKKAD	Banglow Kunnu	Dug Well	9.55	7.15	8.55	8.82
1123	PALAKKAD	Chalisseri	Dug Well	9.85	7.6	8	9.07
1124	PALAKKAD	Chemmamathi	Dug Well	10.5	10.1	10.2	10.41
1125	PALAKKAD	Cherpulassery (R1)	Dug Well	9.23	7.55	9.55	10.07
1126	PALAKKAD	Chittoor	Dug Well	4.95	3.4	3.8	4.88
1127	PALAKKAD	Chulliar Dam	Dug Well	4	1.65	2.85	4.25
1128	PALAKKAD	Chullimada (R1)	Dug Well	3.65			3.87
1129	PALAKKAD	Chunangad	Dug Well	3.8			8.2
1130	PALAKKAD	Chunnambuthara	Dug Well	3.75	2.57	2.7	3.29
1131	PALAKKAD	Dhoni	Dug Well	7.8	4.6	5.85	6.91
1132	PALAKKAD	Ellissery	Dug Well	6.85	6.3	6.1	6.82
1133	PALAKKAD	Erattakulam	Dug Well	3.68	2.23	1.01	3.04
1134	PALAKKAD	Eruthenpathi	Dug Well	6	5.7		9.2
1135	PALAKKAD	Gopalapuram	Dug Well	15	14.8		15.5
1136	PALAKKAD	Kadampazhipuram	Dug Well	4.15	3.75	3.95	4.05
1137	PALAKKAD	Kalladikode	Dug Well	10.3	8.1	9.15	9.59
1138	PALAKKAD	Kambilichungam	Dug Well	3.55	2.25	2.8	3.78
1139	PALAKKAD	Kanjikode	Dug Well	7.58	3.35	4.9	5.86
1140	PALAKKAD	Kanjirapuzha	Dug Well		2.2	1.5	3.45
1141	PALAKKAD	Kannadi	Dug Well	5.8	2.1	3.03	4.4
1142	PALAKKAD	Kannimari	Dug Well	5.65	3.3	3.55	4.12
1143	PALAKKAD	Karimpuzha	Dug Well	2.4	1.7	3.6	2.73

1144	PALAKKAD	Kavassery	Dug Well	3		1.35	2.83
1145	PALAKKAD	Kodumbu	Dug Well	3.8	3	2.05	3.56
1146	PALAKKAD	Kodunthirapalli	Dug Well	4	1	1.32	2.83
1147	PALAKKAD	Koduvayur	Dug Well	7.1	4.75	5.5	6.75
1148	PALAKKAD	Kollengode -I	Dug Well	4.8	1.8	2.95	4.15
1149	PALAKKAD	Kollengode- II	Dug Well	3.3	1.52	1.75	2.85
1150	PALAKKAD	Kongad1	Dug Well			5.15	6.15
1151	PALAKKAD	Koolimattom	Dug Well		2.6	2.68	5.64
1152	PALAKKAD	Koonathara	Dug Well	3.9	1.85	2.1	2.95
1153	PALAKKAD	Koottanad	Dug Well	9.3	7	7.4	9.96
1154	PALAKKAD	Koppam (R1)	Dug Well	6	5.5	5.6	5.96
1155	PALAKKAD	Koppanur	Dug Well	5.12	3.72	3.52	
1156	PALAKKAD	Kottapuram	Dug Well	9.15	7.5	7.62	8.41
1157	PALAKKAD	Kottassery (Vattassery)	Dug Well	5.3	2.8	3.7	4.43
1158	PALAKKAD	Kottayi	Dug Well	9.7	8.6	9.3	9.85
1159	PALAKKAD	Kozhinjampara-R1	Dug Well	8.48	7.7	8.4	9.33
1160	PALAKKAD	Kozhipara	Dug Well	5.7	5.7		5.7
1161	PALAKKAD	Kudallur	Dug Well	7.7	5.2	5.7	6.76
1162	PALAKKAD	Kulakkad	Dug Well	5.85	5.68	5.7	4.75
1163	PALAKKAD	Kumaramputtur	Dug Well	3.74	1.94	2.49	3.22
1164	PALAKKAD	Kumaranallur	Dug Well	11.15	8.4	7.5	10.41
1165	PALAKKAD	Kunisseri	Dug Well	4.47	1.7	2.7	3.85
1166	PALAKKAD	Kuzhalmannam	Dug Well	3.5	2.25	1.45	2.52
1167	PALAKKAD	Lakkidi (Ramakrishnapadi)	Dug Well	8.75	7.4	8	8.45
1168	PALAKKAD	Malampuzha	Dug Well	0.79	1.65	2.55	2.15
1169	PALAKKAD	Mankara	Dug Well	5.4	3.6	4.2	4.98
1170	PALAKKAD	Mannarkkad (R1)	Dug Well	4.75	3.6	3.35	4.39
1171	PALAKKAD	Mathur	Dug Well	5.35	2.55	3.25	4
1172	PALAKKAD	Mattumanda	Dug Well	4.18	2.1	2.22	3.46
1173	PALAKKAD	Meenakshipuram	Dug Well	7.7	6.3	6.85	7.85
1174	PALAKKAD	Meenkara	Dug Well		6.6	7.9	9.97
1175	PALAKKAD	Melarkode	Dug Well	7.62	6.4	7.2	7.55
1176	PALAKKAD	Moochankundu	Dug Well	8.6	8.35	9.1	9.77
1177	PALAKKAD	Mulayankavu	Dug Well	8.1	5.75	4.68	7.77
1178	PALAKKAD	Mundur	Dug Well	4.95	1.1	2.25	3.2
1179	PALAKKAD	Muthalamada1	Dug Well	7.18	6.03	7.58	8.28
1180	PALAKKAD	Naikarapadi	Dug Well	5.75	7.05	7.35	8.38
1181	PALAKKAD	Nanniyode	Dug Well	7	5	5.5	6.63
1182	PALAKKAD	Nedupuni	Dug Well	6.8	6.6	7.3	8.15
1183	PALAKKAD	Nellikatteri	Dug Well		7.8	8.6	8.52
1184	PALAKKAD	Nemmara	Dug Well	3.82	1.72	1.95	2.18

1185	PALAKKAD	Noorani (Palakkad West)	Dug Well	3.2	1.5	1.25	2.35
1186	PALAKKAD	Odannur	Dug Well	7.4	3.84		7.4
1187	PALAKKAD	Ongallur	Dug Well	8.34	7.14		8.19
1188	PALAKKAD	Oothara	Dug Well		1.2		
1189	PALAKKAD	Ottapalam	Dug Well	8.45	5.95	6.28	5.18
1190	PALAKKAD	Padur DW	Dug Well	7.05	3.7	4.92	5.73
1191	PALAKKAD	Palamattom	Dug Well	8.5			8.49
1192	PALAKKAD	Palappuram-ii	Dug Well	9.45	8.25	7.97	7.69
1193	PALAKKAD	Palghat	Dug Well	10.8	5.9	6	8.05
1194	PALAKKAD	Pallathery	Dug Well				6.23
1195	PALAKKAD	Pallavur	Dug Well	5.3	1.92	2.94	4.92
1196	PALAKKAD	Panayur (Athikode)	Dug Well		2.4	1.45	3.1
1197	PALAKKAD	Parali (Chakkanthara)	Dug Well	3.4	1.7	1.9	3.09
1198	PALAKKAD	Pattambi	Dug Well	7.35	4.95		6.75
1199	PALAKKAD	Pattanchery	Dug Well	4.25	2.95		3.75
1200	PALAKKAD	Peringode	Dug Well	9.23	8.45	7.75	8.98
1201	PALAKKAD	Peringottukurissu DW	Dug Well	6.05	4.5	5.3	5.85
1202	PALAKKAD	Perumatty1	Dug Well	4.9	3.15		4.34
1203	PALAKKAD	Pookkottukavu	Dug Well	7.4			7.41
1204	PALAKKAD	Pudhunagaram	Dug Well	7.55	3.3	4.1	6.89
1205	PALAKKAD	Pudhupariyaram	Dug Well	6	3.2	3.8	5.14
1206	PALAKKAD	Pullundassery	Dug Well	3.4	2.6		
1207	PALAKKAD	Punchapadam	Dug Well	7.35	6.55	5.3	7.06
1208	PALAKKAD	RVP Pudhur	Dug Well			9	9.1
1209	PALAKKAD	Shoranur	Dug Well	12.35	4.45	10.35	8.7
1210	PALAKKAD	Sreekrishnapuram	Dug Well	9.02	7.92	8.22	8.92
1211	PALAKKAD	Tannirkod	Dug Well	8.45	7.35	7.55	8.1
1212	PALAKKAD	Tenkara	Dug Well	2.6	3.35	1.4	3.74
1213	PALAKKAD	Thachanattukara	Dug Well	12.02	1.52	10.77	11.49
1214	PALAKKAD	Thachanpara	Dug Well	3.3	1.5	2	2.73
1215	PALAKKAD	Thirumittamcode (Chathanur)	Dug Well	6.4	4.9	6.02	5.66
1216	PALAKKAD	Thiruvegapuram	Dug Well	9.24	7.34		8.35
1217	PALAKKAD	Tholanur	Dug Well	4.55	3.3	3.7	3.22
1218	PALAKKAD	Trittala	Dug Well	6.3	6.4	5.15	6.02
1219	PALAKKAD	Ummini	Dug Well	6.37	4.9	4.92	5.03
1220	PALAKKAD	Vadakkancherry	Dug Well	5.4			4.45
1221	PALAKKAD	Vadanamkkurissi	Dug Well	6.4	2.7		5.78
1222	PALAKKAD	Vallapuzha	Dug Well	6.75	3.32		5.73
1223	PALAKKAD	Vaniyamkulam	Dug Well	7.5	6.3		7.95
1224	PALAKKAD	Vannamada	Dug Well	7.8	6.9	7.12	9.12
1225	PALAKKAD	Velanthavalam	Dug Well		9.51	10.7	11.9

1226	PALAKKAD	Vilayur	Dug Well	7.01	4.5		6.14
1227	PALAKKAD	Viyyakurissi	Dug Well	4.55	4.05	4.1	4.73
1228	PALAKKAD	Walayar	Dug Well	7.85			10.05
1229	PATHANAMTHITTA	Chetheckal	Bore Well	2.95	1.18	1.19	2.95
1230	PATHANAMTHITTA	Elanthoor	Bore Well	2.5	3.27	1.56	2.5
1231	PATHANAMTHITTA	Ezhamkulam	Bore Well	6.75	7.67		6.95
1232	PATHANAMTHITTA	Kadumeenchira Pz	Bore Well	16.5	15.05	15	16.9
1233	PATHANAMTHITTA	Kalleli Pz	Bore Well	4.7	9.8	0.57	4.6
1234	PATHANAMTHITTA	Koipuram Pz	Bore Well	10.4	10.98	11.5	11.8
1235	PATHANAMTHITTA	Kottangal Pz	Bore Well	2.66		2.29	2.6
1236	PATHANAMTHITTA	Kunnamthanam	Bore Well	3.55	3.51	2.8	3.25
1237	PATHANAMTHITTA	Malayalapuruzha Pz	Bore Well	18.5	15.3	15.56	18.5
1238	PATHANAMTHITTA	Ottathekku	Bore Well	5.5			
1239	PATHANAMTHITTA	Pandalam	Bore Well	4.25	4.47	3.6	4.25
1240	PATHANAMTHITTA	Thayattumala	Bore Well	9.45	9.41	8.79	11.25
1241	PATHANAMTHITTA	Vallicode	Bore Well	3.25	4.68	3.2	3.85
1242	PATHANAMTHITTA	Adoor (R2)	Dug Well	9.25	9.51	12.11	9.2
1243	PATHANAMTHITTA	Adoor Bypass	Dug Well	3.75	2.52	5.2	
1244	PATHANAMTHITTA	Angadikkal North	Dug Well	9	10.29	7.76	8.6
1245	PATHANAMTHITTA	Angamuzhi	Dug Well	5.54	5.34	5.66	5.69
1246	PATHANAMTHITTA	Aranmula (R2)	Dug Well	6.25	6.87	6.09	6.3
1247	PATHANAMTHITTA	Aruvapulam	Dug Well	5.6	2.57	2.77	4.4
1248	PATHANAMTHITTA	Athiringal (R1)	Dug Well	8.7	8.51	6.32	8.35
1249	PATHANAMTHITTA	Athumbukulam	Dug Well	4.35	2.36	2.7	4.1
1250	PATHANAMTHITTA	Chalappally	Dug Well	2.1	3.17	1.65	2.15
1251	PATHANAMTHITTA	Cherukolpuzha (Airoor)	Dug Well	6.1	7.02	5.63	6.8
1252	PATHANAMTHITTA	Chethekkal	Dug Well	5.55	4.45	5.12	
1253	PATHANAMTHITTA	Chittar (R1)	Dug Well	9	8.45	8.43	9.7
1254	PATHANAMTHITTA	Churakkod	Dug Well	6.55	5.91	6.28	8.02
1255	PATHANAMTHITTA	Edakkulam	Dug Well	5.55	3.6	5.05	5.55
1256	PATHANAMTHITTA	Elanthur	Dug Well	3.8	3.6	2.07	3.8
1257	PATHANAMTHITTA	Elavumthitta	Dug Well	8.15	7.43		8.2
1258	PATHANAMTHITTA	Enathu	Dug Well	9.2	6.98	5.15	8.5
1259	PATHANAMTHITTA	Eraviperoor	Dug Well	2.25	2.15	2.71	3.65
1260	PATHANAMTHITTA	Ezhamkulam	Dug Well	7	7.88	7.2	7
1261	PATHANAMTHITTA	Ezhumattoor	Dug Well	6.6	5.41	3.83	4.65
1262	PATHANAMTHITTA	Kadambanad	Dug Well	3.55	6.37	6.96	7.55
1263	PATHANAMTHITTA	Kadammanitta	Dug Well	6.55	6.04	5.99	6.9
1264	PATHANAMTHITTA	Kadumeenchira	Dug Well	9.4	6.7	7.16	9.9
1265	PATHANAMTHITTA	Kaipattoor	Dug Well	6.9	7.57	6.35	7
1266	PATHANAMTHITTA	Kalanjoor	Dug Well	4.5	6.51	5.71	8.25

1267	PATHANAMTHITTA	Kallooppara	Dug Well	5.37		2.21	4.67
1268	PATHANAMTHITTA	Karinkulam (R1)	Dug Well		3.57	2.14	2.95
1269	PATHANAMTHITTA	Kaviyur (R1)	Dug Well	6.15	7.92	8.12	8.95
1270	PATHANAMTHITTA	Kidanganoor	Dug Well	5		7.64	4.9
1271	PATHANAMTHITTA	Kodumon	Dug Well		6.22	6.68	7.5
1272	PATHANAMTHITTA	Koipuram (R1)	Dug Well	8.1	7.84	6.9	7.45
1273	PATHANAMTHITTA	Konni	Dug Well	6.23	5.68	4.13	6.28
1274	PATHANAMTHITTA	Koodal	Dug Well	5.27	7.79	6.55	6.97
1275	PATHANAMTHITTA	Kottanadu	Dug Well	4.1	5.07	3.54	4.2
1276	PATHANAMTHITTA	Kottangal	Dug Well	1.9	2.92	1.57	1.9
1277	PATHANAMTHITTA	Kozhenchery	Dug Well	2.5	2.92	1.22	2.28
1278	PATHANAMTHITTA	Kudutha	Dug Well	7.85	5.49	6.97	8.25
1279	PATHANAMTHITTA	Kulanada	Dug Well	5.6	7.86	8.27	9.55
1280	PATHANAMTHITTA	Kumbanad	Dug Well	6.73	6.11	6.37	6.78
1281	PATHANAMTHITTA	Kumlampoika	Dug Well	2.25	1.55	1.68	
1282	PATHANAMTHITTA	Kunnamthanam1	Dug Well	11.9	8.96	9.8	13.65
1283	PATHANAMTHITTA	Kuttoor	Dug Well	3.4	3.5	3.46	3.65
1284	PATHANAMTHITTA	Laha balawadi	Dug Well	2.7	2.15	1.75	2.75
1285	PATHANAMTHITTA	Laha peruman	Dug Well	10.25	9.55	9.58	9.8
1286	PATHANAMTHITTA	Malayalapuzha	Dug Well	6.65	5.55	4.72	6.8
1287	PATHANAMTHITTA	Mallappally	Dug Well	4.2	5.22	4.02	4.4
1288	PATHANAMTHITTA	Maniyar	Dug Well	5.3	2.45	4.62	5.8
1289	PATHANAMTHITTA	Mannadi	Dug Well	3.9	2.46		3.5
1290	PATHANAMTHITTA	Murani	Dug Well		3.76	2.25	2.8
1291	PATHANAMTHITTA	Muthoor	Dug Well	4.07	2.8	3.35	3.9
1292	PATHANAMTHITTA	Naduvathumuzhi	Dug Well	7.35	5.45	4.19	
1293	PATHANAMTHITTA	Naranganam (R1)	Dug Well	2.85	1.52	2.65	2.94
1294	PATHANAMTHITTA	Nilakkal New	Dug Well	5.3	4.05	5.23	5.3
1295	PATHANAMTHITTA	Omallur(R1)	Dug Well	8.4	8.27	8.01	9.05
1296	PATHANAMTHITTA	Pandalam Town	Dug Well	1.1	1.41	0.83	1.4
1297	PATHANAMTHITTA	Pandalam-1	Dug Well	4.15	3.87	3.81	4.1
1298	PATHANAMTHITTA	Paranthal	Dug Well	5.1	5.42	5.15	5.3
1299	PATHANAMTHITTA	Pathanamthitta (R1)	Dug Well	3.48	2.87	3.01	4.33
1300	PATHANAMTHITTA	Peringara (R1)	Dug Well	2.28	2.85	1.53	2.2
1301	PATHANAMTHITTA	Plappally	Dug Well	2.66	1.41	2.01	2.71
1302	PATHANAMTHITTA	Podiyadi	Dug Well	2.43	1.6	1.76	2.65
1303	PATHANAMTHITTA	Poothangara	Dug Well	5.6	5.9	5.25	5.6
1304	PATHANAMTHITTA	Prakkanam	Dug Well		5.32	5.45	
1305	PATHANAMTHITTA	Pulikeezh	Dug Well	3.31	2.4	3.02	3.2
1306	PATHANAMTHITTA	Pullad	Dug Well	6	4.55	5.39	6.5
1307	PATHANAMTHITTA	Ranni i	Dug Well	4.6	1.37	1.39	4.5

1308	PATHANAMTHITTA	Ranni Perunad	Dug Well		5.7	6.23	
1309	PATHANAMTHITTA	Thadiyur	Dug Well	7.65	6.88	6.77	7.9
1310	PATHANAMTHITTA	Thannithodu	Dug Well	6.5	5.7	6.12	7.4
1311	PATHANAMTHITTA	Thatta (R1)	Dug Well	1.7	1.91	1.23	1.4
1312	PATHANAMTHITTA	Thelliyur	Dug Well	8.4	8.42	7.28	8.06
1313	PATHANAMTHITTA	Thiruvalla	Dug Well	8.8	7.62	7.02	10.3
1314	PATHANAMTHITTA	Thumpaman	Dug Well	8.45	7.92	7.65	8.65
1315	PATHANAMTHITTA	Ullannur	Dug Well	6.65	6.92	7.22	7.75
1316	PATHANAMTHITTA	V Kottayam	Dug Well	8.7	9.89	7.27	9.6
1317	PATHANAMTHITTA	Vadasserikara	Dug Well	4.51	2.8	2.06	4.1
1318	PATHANAMTHITTA	Vaipur	Dug Well	1.92	2.54	1.23	1.9
1319	PATHANAMTHITTA	Vakayar (Valiakavu)	Dug Well	2.2	3.62	1.97	3.2
1320	PATHANAMTHITTA	Vallamkulam	Dug Well	5.05	3.7	4.49	5
1321	PATHANAMTHITTA	Vallikod	Dug Well	4.25	5	4.2	6
1322	PATHANAMTHITTA	Vechoochira (R1)	Dug Well	4.53	3.73	4.39	4.53
1323	PATHANAMTHITTA	Vennikulam	Dug Well	5.7	4.51	3.1	3.4
1324	THIRUVANANTHAPURAM	Ariyanadu Pz	Bore Well		6.82	6.77	6.25
1325	THIRUVANANTHAPURAM	Attingal Pz	Bore Well	7.77	6.4	6.16	6.5
1326	THIRUVANANTHAPURAM	Chengal Pz	Bore Well	15.05	13.9	15.25	18.35
1327	THIRUVANANTHAPURAM	Kariyavattom Pz	Bore Well	11.61	12.47	12.26	
1328	THIRUVANANTHAPURAM	Kulathoor pz	Bore Well	10.94	9.23		14.1
1329	THIRUVANANTHAPURAM	Manambur Pz	Bore Well	10.09	11.7	12.3	15.08
1330	THIRUVANANTHAPURAM	Mangalapuram Pz	Bore Well	20.5	19.21	21.12	20.8
1331	THIRUVANANTHAPURAM	Mannanthala Pz	Bore Well	6.91	6.33	5.9	6.9
1332	THIRUVANANTHAPURAM	Nemom Pz	Bore Well	5.75			
1333	THIRUVANANTHAPURAM	Pattom Pz	Bore Well	8.16	7.63	8.71	8.96
1334	THIRUVANANTHAPURAM	Peringamala Pz	Bore Well	11.12	10.4		10.4
1335	THIRUVANANTHAPURAM	Perumkadavila Pz	Bore Well	7.53	6.6	7.28	7.38
1336	THIRUVANANTHAPURAM	Ponganadu Pz	Bore Well	6.8		6.28	
1337	THIRUVANANTHAPURAM	Sreekariyam Pz	Bore Well	12.98	11.42	12.56	13.18
1338	THIRUVANANTHAPURAM	Thattattumala	Bore Well	7.37	6.42	6.07	6.3
1339	THIRUVANANTHAPURAM	Udayankulangara Pz	Bore Well			10.23	11.54
1340	THIRUVANANTHAPURAM	Vazhakkad Pz	Bore Well	11.09	10.1	11.24	
1341	THIRUVANANTHAPURAM	Vengod Pz	Bore Well	4.74	6.27	7.67	5.4
1342	THIRUVANANTHAPURAM	Vilappilsala Pz	Bore Well	8.5	7.97	8.37	8.9
1343	THIRUVANANTHAPURAM	Amboori	Dug Well	9.41	9.8	9.08	11.21
1344	THIRUVANANTHAPURAM	Anappara Valayanki	Dug Well	8.91	6.7	5.36	7.03
1345	THIRUVANANTHAPURAM	Anjengo	Dug Well	1.65	1.33	1.43	
1346	THIRUVANANTHAPURAM	Aralumoodu	Dug Well	11.17	10.95	11.05	12.85
1347	THIRUVANANTHAPURAM	Ariyanadu	Dug Well	5.1	5.22	5.49	5.18
1348	THIRUVANANTHAPURAM	Arukannukuzhi	Dug Well		4.38	4.02	4.74

1349	THIRUVANANTHAPURAM	Aruvikara	Dug Well	3.64	2.48	3.92	3.88
1350	THIRUVANANTHAPURAM	Athazhamangalam	Dug Well	16.88	16.78		19.04
1351	THIRUVANANTHAPURAM	Attingal	Dug Well	11.59	8.07	11.17	11.68
1352	THIRUVANANTHAPURAM	Ayyankode	Dug Well	8.24	8.79	9.6	9.96
1353	THIRUVANANTHAPURAM	Azhoor	Dug Well	12.4	11.12	13.67	12.62
1354	THIRUVANANTHAPURAM	Balaramapuram(R1)	Dug Well	9.87	9.32	9.96	11.52
1355	THIRUVANANTHAPURAM	Bharathanoor	Dug Well	9.22	9.47	8.6	9.65
1356	THIRUVANANTHAPURAM	Changa	Dug Well	10.46	8.09	10.32	10.9
1357	THIRUVANANTHAPURAM	Chaykottukonam	Dug Well	7.16	7.42	7.98	8.62
1358	THIRUVANANTHAPURAM	Cheeranikara	Dug Well	8.73	7.85	9.23	9.87
1359	THIRUVANANTHAPURAM	Chembur	Dug Well	11.68	9.43	10.99	11.79
1360	THIRUVANANTHAPURAM	Chennampara	Dug Well	9.87	8.42	8.37	9.72
1361	THIRUVANANTHAPURAM	Cherunniyur	Dug Well	15.3	14.31	15	15.44
1362	THIRUVANANTHAPURAM	Chirayinkeezh	Dug Well	10.22	8.1	9.68	10.2
1363	THIRUVANANTHAPURAM	Chittagode	Dug Well	6.34	6.13	6.5	6.28
1364	THIRUVANANTHAPURAM	Chowara	Dug Well	21.38		19.86	
1365	THIRUVANANTHAPURAM	Chullimanoor	Dug Well	6.75	6.2	6.26	6.79
1366	THIRUVANANTHAPURAM	Edavai	Dug Well		8.39	8.95	9.07
1367	THIRUVANANTHAPURAM	Ithye	Dug Well	8.53	7.68	7.72	8.39
1368	THIRUVANANTHAPURAM	Kadakkavur(R1)	Dug Well	4.62	2.97	4.02	4.35
1369	THIRUVANANTHAPURAM	Kallar	Dug Well		4.07	3.88	4.62
1370	THIRUVANANTHAPURAM	Kallikkad	Dug Well		1.85	1.25	2.44
1371	THIRUVANANTHAPURAM	Kandala	Dug Well		10.66	13.95	14.05
1372	THIRUVANANTHAPURAM	Kanjiramkulam	Dug Well		30		37.11
1373	THIRUVANANTHAPURAM	Kanjiramkulam Church	Dug Well	22.11	21.13	21.05	24.46
1374	THIRUVANANTHAPURAM	Kappil	Dug Well	11.04	10.94	11.14	11.55
1375	THIRUVANANTHAPURAM	Karakulam	Dug Well	3.53	2.81	2.9	3.48
1376	THIRUVANANTHAPURAM	Kariavattom	Dug Well	3.58	2.69	2.69	3.93
1377	THIRUVANANTHAPURAM	Karinga	Dug Well	2.33	2.55	2.63	3.04
1378	THIRUVANANTHAPURAM	Kattakkada	Dug Well	5.55	4.04	4.02	4.14
1379	THIRUVANANTHAPURAM	Kazhakkuttom	Dug Well	3.99		3.56	3.99
1380	THIRUVANANTHAPURAM	Kilimannor	Dug Well	6.4	5.84	7.46	8.86
1381	THIRUVANANTHAPURAM	Kochuveli(R1)	Dug Well	2.59	2.19		2.53
1382	THIRUVANANTHAPURAM	Korani	Dug Well	7.69	7.15	8.52	9.24
1383	THIRUVANANTHAPURAM	Kulathur	Dug Well	9.4	8.31	9.82	10.92
1384	THIRUVANANTHAPURAM	Madavur	Dug Well	12.51	10.15		11.9
1385	THIRUVANANTHAPURAM	Malayadi	Dug Well		4.68	4.75	5.73
1386	THIRUVANANTHAPURAM	Mangalapuram	Dug Well	20.72	19.16	22.15	21.16
1387	THIRUVANANTHAPURAM	Mannanthala	Dug Well	8.67	7.28	8.03	7.65
1388	THIRUVANANTHAPURAM	Maruthamala	Dug Well	7.95	7.05	7.18	7.56
1389	THIRUVANANTHAPURAM	Meenangal	Dug Well	10.55	7.68	9.28	9.86

1390	THIRUVANANTHAPURAM	Melvettor	Dug Well	31.48	30		34.25
1391	THIRUVANANTHAPURAM	Mulloor	Dug Well	9.98	18.39		22.56
1392	THIRUVANANTHAPURAM	Murukumpuzha(R1)	Dug Well		2.88	3.47	3.56
1393	THIRUVANANTHAPURAM	Muzhi	Dug Well	3.29	3.21		
1394	THIRUVANANTHAPURAM	Nagapuram	Dug Well	11.62	13.06	14.26	15.01
1395	THIRUVANANTHAPURAM	Nanniyode	Dug Well	5.33	6.78	5.47	6.97
1396	THIRUVANANTHAPURAM	Navaikulam	Dug Well	13.16	10.03	12.6	13.35
1397	THIRUVANANTHAPURAM	Nedumangad	Dug Well	9.33	7.85	8.91	9.12
1398	THIRUVANANTHAPURAM	Neyyattinkara	Dug Well	13.45	12.25	14.22	15.3
1399	THIRUVANANTHAPURAM	Ookod	Dug Well	9.9	10.32	11.44	12.3
1400	THIRUVANANTHAPURAM	Ottashekhamangalam	Dug Well	4.18	3.09	3.28	4.35
1401	THIRUVANANTHAPURAM	Palayamkunnu	Dug Well	11.42	11.05	15.26	10.04
1402	THIRUVANANTHAPURAM	Palode	Dug Well	7.92	4.43	3.78	6.86
1403	THIRUVANANTHAPURAM	Panavoor	Dug Well			3.54	4.28
1404	THIRUVANANTHAPURAM	Pangode	Dug Well	7.39	5.57	5.89	6.58
1405	THIRUVANANTHAPURAM	Parandakuzhi	Dug Well	11.35	9.7	16.08	16.87
1406	THIRUVANANTHAPURAM	Parandod	Dug Well	5.33	6.07	5.01	6.06
1407	THIRUVANANTHAPURAM	Parassala	Dug Well	1.48	0.88	1.02	1.62
1408	THIRUVANANTHAPURAM	Peringamala	Dug Well		8.24	7.9	8.63
1409	THIRUVANANTHAPURAM	Perumathura	Dug Well	1.92	2.15	1.95	1.91
1410	THIRUVANANTHAPURAM	Perumgulam	Dug Well	7.37	7.35	7.7	7.79
1411	THIRUVANANTHAPURAM	Perumgur(R1)	Dug Well	4.32	3.59	4.81	4.97
1412	THIRUVANANTHAPURAM	Perumkuzhi	Dug Well	4.29	3.09	3.98	4.25
1413	THIRUVANANTHAPURAM	Perunkadavila	Dug Well	8.49	7.5	9.4	10.42
1414	THIRUVANANTHAPURAM	Pirappankod	Dug Well	7.8	5.85	8.41	8.14
1415	THIRUVANANTHAPURAM	Ponganadu	Dug Well	5.9	4.65	6.56	7.48
1416	THIRUVANANTHAPURAM	Ponmudi(R1)	Dug Well		3.85	3.99	4.07
1417	THIRUVANANTHAPURAM	Poonthura	Dug Well	3.54	3.36	3.17	
1418	THIRUVANANTHAPURAM	Poovachal	Dug Well	12.86	12.28	13.09	13.37
1419	THIRUVANANTHAPURAM	Poovar-ii	Dug Well	19.24	17.95	17.16	21.17
1420	THIRUVANANTHAPURAM	Pothencod	Dug Well	10.49	9.56	11.24	11.82
1421	THIRUVANANTHAPURAM	Pozhiyoor(R1)	Dug Well		3.89		5.43
1422	THIRUVANANTHAPURAM	Pudukurichi	Dug Well	3.12	3.35	3.1	3.08
1423	THIRUVANANTHAPURAM	Puvar School	Dug Well	7.82	6.63		
1424	THIRUVANANTHAPURAM	Puvar School (New)	Dug Well				8.83
1425	THIRUVANANTHAPURAM	Sasthanthala	Dug Well	5.27	5.67	6.87	7.72
1426	THIRUVANANTHAPURAM	Sasthavattom	Dug Well	5.1	3	4.55	5.08
1427	THIRUVANANTHAPURAM	Shankaramugham	Dug Well	5.78	5.31	5.92	6.33
1428	THIRUVANANTHAPURAM	Tekkada	Dug Well	3.96	3.65	3.71	4.02
1429	THIRUVANANTHAPURAM	Tholicode	Dug Well	8.76	6.85	7.79	8.08
1430	THIRUVANANTHAPURAM	Thonakkal	Dug Well	26.16	16.4	16.61	21.65

1431	THIRUVANANTHAPURAM	Thumba	Dug Well	3.73	3.37	3.58	3.51
1432	THIRUVANANTHAPURAM	Tirupuram	Dug Well	23.54	23.84	25.17	26.67
1433	THIRUVANANTHAPURAM	Trivandrum	Dug Well	13.27	10.76	12.55	12.2
1434	THIRUVANANTHAPURAM	Udyankulangara	Dug Well	9.9	9.67	10.53	11.1
1435	THIRUVANANTHAPURAM	Uzhamalakkal	Dug Well	5.74	4.91	6.24	7.16
1436	THIRUVANANTHAPURAM	Vakkom	Dug Well	5.35	3.49	4.98	5.48
1437	THIRUVANANTHAPURAM	Valakkad	Dug Well	12.18	11.7	12.61	13.07
1438	THIRUVANANTHAPURAM	Vamanapuram	Dug Well	7.6	2.57	3.68	4.36
1439	THIRUVANANTHAPURAM	Varkala	Dug Well	14.97	14.23	15.06	15.46
1440	THIRUVANANTHAPURAM	Vattapara	Dug Well	8.96	8.13	9.89	10.79
1441	THIRUVANANTHAPURAM	Vattavila	Dug Well	8.48	9.66	4.77	9.37
1442	THIRUVANANTHAPURAM	Vazhichal	Dug Well	6.15	5.85	6.46	7.13
1443	THIRUVANANTHAPURAM	Veeranakavu	Dug Well	4.34	4.3	4.2	5.31
1444	THIRUVANANTHAPURAM	Vellanad	Dug Well	6.19	5.75	6.06	6.55
1445	THIRUVANANTHAPURAM	Vellarada(R1)	Dug Well	4.74	4.65	4.86	6.2
1446	THIRUVANANTHAPURAM	Vellayani (Poonkulam)	Dug Well	15.85	16.05	16.31	18.75
1447	THIRUVANANTHAPURAM	Venganoor	Dug Well	20.86	19.92		24.06
1448	THIRUVANANTHAPURAM	Vengod	Dug Well	7.47	6.64	7.2	7.86
1449	THIRUVANANTHAPURAM	Venjaramoodu	Dug Well	10.27	9.65	8	9.03
1450	THIRUVANANTHAPURAM	Venpakal	Dug Well	7.3	7.22		9.97
1451	THIRUVANANTHAPURAM	Veyloor	Dug Well	28.7	26.13	29.24	26.62
1452	THIRUVANANTHAPURAM	Vilapilshala	Dug Well	8.7	10.32	9.17	9.6
1453	THIRUVANANTHAPURAM	Vithura	Dug Well	10.55		11.13	11.19
1454	THIRUVANANTHAPURAM	Vizhinjam	Dug Well	1.45	1	1.19	1.44
1455	THIRUVANANTHAPURAM	Edava	Tube Well	17.87		17.36	18.1
1456	THIRUVANANTHAPURAM	Varkala Deep	Tube Well	17.71		20.51	
1457	THIRUVANANTHAPURAM	Varkala(shallow)	Tube Well	17.09	19.6		
1458	THRISSUR	Arimpur	Bore Well	7.67	8.07	8.41	8.57
1459	THRISSUR	Ayyanthole Pz	Bore Well	12.04	8.56	13.72	13.42
1460	THRISSUR	Chazhur (Anthikad)	Bore Well	12.48	11.3		
1461	THRISSUR	Chelakara Pz	Bore Well		3.51	4.27	7.81
1462	THRISSUR	Chowannur	Bore Well	18.37	17.79	22.87	20.63
1463	THRISSUR	Keecheri	Bore Well	8.82	7.12	7.76	8.19
1464	THRISSUR	Kodakara Pz	Bore Well	13.59	10.91	11.13	13.79
1465	THRISSUR	Madakkathara Pz	Bore Well	11.32	11.7	13.56	20.98
1466	THRISSUR	Mapranam Pz	Bore Well	13.92	13.26	14.02	13.28
1467	THRISSUR	Palakal	Bore Well	10.63	8.79		
1468	THRISSUR	Poyya (poopathy)	Bore Well	10.67	8.41	9.47	9.63
1469	THRISSUR	Ramavarmapuram	Bore Well	19.52	13.58	13.72	15.71
1470	THRISSUR	Varandarapalli	Bore Well	7.76	7.27	7.47	7.71
1471	THRISSUR	Varavoor Pz	Bore Well	12.58	11.18	8.98	13.37

1472	THRISSUR	Velur	Bore Well	8.49	9.4	8.99	13.79
1473	THRISSUR	Adatt	Dug Well	13.11	11.32	12.16	11.66
1474	THRISSUR	Akalad	Dug Well	4.17	3.11	3.33	3.92
1475	THRISSUR	Amballur	Dug Well	7.31	6.22	6.82	7.82
1476	THRISSUR	Annamanada	Dug Well	5.57	3.42	4.45	4.81
1477	THRISSUR	Arimpur1	Dug Well	4.41	3.04	4.22	3.67
1478	THRISSUR	Aripalam	Dug Well	11.5			
1479	THRISSUR	Athani	Dug Well	8.27	6.57	7.67	7.23
1480	THRISSUR	Athani Parambu	Dug Well	2.35	0.86	1.21	2.4
1481	THRISSUR	Attoor	Dug Well	7.84	7.34	7.94	8.02
1482	THRISSUR	Ayyanthole	Dug Well	11.31	9.1	10.61	9.72
1483	THRISSUR	Azhikode	Dug Well				1.73
1484	THRISSUR	Azhikode (R1)	Dug Well	1.66	1.54	1.06	1.73
1485	THRISSUR	Chalakuadi	Dug Well	9.41	8.11	8.17	8.91
1486	THRISSUR	Chammannur	Dug Well	4.27	2.63	2.37	3.62
1487	THRISSUR	Chandipuram	Dug Well	4.5			
1488	THRISSUR	Chavakkad	Dug Well	3.39	1.88	1.99	3.19
1489	THRISSUR	Chelakara	Dug Well	5.75	2.28	3.02	5.42
1490	THRISSUR	Chelakod	Dug Well	3.42	2.02	2.84	3.42
1491	THRISSUR	Cherenkonam	Dug Well	6.6	4.81	5.8	6.41
1492	THRISSUR	Cherpu	Dug Well	8.83	6.99	7.37	8.57
1493	THRISSUR	Cherukunnu	Dug Well	5.12	3.18	4.21	4.94
1494	THRISSUR	Cheruthuruthi (R1)	Dug Well	5.76	4.14	4.66	5.13
1495	THRISSUR	Choondal	Dug Well	9.72	7.37	8.41	9.04
1496	THRISSUR	Chowannur	Dug Well	11.21	8.32	8.92	9.47
1497	THRISSUR	Deshamangalam	Dug Well	9.2	7.19	8.02	8.72
1498	THRISSUR	East Fort (Thrissur)	Dug Well	8.27	7.89	8.07	8.11
1499	THRISSUR	Echipara	Dug Well	3.72	1.9	1.74	3.32
1500	THRISSUR	Edamuttom	Dug Well	2.08	0.74	1.38	1.82
1501	THRISSUR	Edathrinji	Dug Well	1.7	0.76	0.55	1.76
1502	THRISSUR	Engandiyur-R1	Dug Well	4.41	3.37	2.97	3.77
1503	THRISSUR	Eriyad (R1)	Dug Well	1.92	0.92	0.92	1.46
1504	THRISSUR	Erumapetty	Dug Well	9.49	7.23	6.99	7.9
1505	THRISSUR	Eyyal Ambalam Jn	Dug Well	9.99	8.21	8.68	9.31
1506	THRISSUR	Guruvayur	Dug Well	2.21	0.83	2.07	2.28
1507	THRISSUR	Irinjalakuda -I	Dug Well	9.18	6.72	8.51	8.52
1508	THRISSUR	Kaipamangalam	Dug Well	2.7			
1509	THRISSUR	Kallettumkara	Dug Well	4.98	4.71	5.53	6.89
1510	THRISSUR	Kallumpuram	Dug Well	8.68	7.59	7.72	8.11
1511	THRISSUR	Kallur	Dug Well	9.26	7.37	7.56	8.27
1512	THRISSUR	Kanjirapally (Dream World Park)	Dug Well	5.22	4.41	4.62	5.02

1513	THRISSUR	Kannara	Dug Well	6.19	4.7	6.07	6.59
1514	THRISSUR	Karamuck (Vadanappally)	Dug Well	3.61	1.85	2.42	3.14
1515	THRISSUR	Karikkad	Dug Well	9.21	6.95	7.8	8.22
1516	THRISSUR	Karuppadanna	Dug Well	3.98	0.87	1.71	2.28
1517	THRISSUR	Kattakampala (R1)	Dug Well	9.21	7.76	8.49	8.91
1518	THRISSUR	Kattoor	Dug Well	6.72	4.32	5.2	6.03
1519	THRISSUR	Keecheri (R1)	Dug Well	8.31	6.52	7.66	8.1
1520	THRISSUR	Killimangalam	Dug Well	8.37	6.57	7.09	7.76
1521	THRISSUR	Kizhakkumuri	Dug Well	8.26	6.92	7.33	7.34
1522	THRISSUR	Kodacherry	Dug Well	3.94	4.01	3.67	2.29
1523	THRISSUR	Kodakara	Dug Well	9.26	7.21	7.08	8.13
1524	THRISSUR	Kodali	Dug Well	7.03	5.67	5.42	6.04
1525	THRISSUR	Kodungallur (R1)	Dug Well	3.7	2.97	3.18	3.47
1526	THRISSUR	Konnakuzhi-ii	Dug Well	2.72	2.96	5.06	5.39
1527	THRISSUR	Koratty	Dug Well	8.43	7.44	7.92	8.41
1528	THRISSUR	Kottappadi	Dug Well	3.43	0.84	0.74	1.41
1529	THRISSUR	Kundannur	Dug Well	7.55	0.61	1.07	5.06
1530	THRISSUR	Kunnamkulam	Dug Well	8.02	7.12	7.05	7.52
1531	THRISSUR	Kurancherry	Dug Well	6.99	3.89	5.54	7.04
1532	THRISSUR	Kurunchikara	Dug Well	10.24	8.5	9.45	10.39
1533	THRISSUR	Kuttanellur	Dug Well	9.12	8.24	8.8	9.12
1534	THRISSUR	Logamalleswaram	Dug Well	3.08	1.71	1.86	2.81
1535	THRISSUR	Madakkathara	Dug Well	9.75	8.17	9.12	9.4
1536	THRISSUR	Mala	Dug Well	9.8	7.5	7.56	8.91
1537	THRISSUR	Manalur	Dug Well	2.91	1.22	2.08	2.99
1538	THRISSUR	Manamangalam	Dug Well	5.51	5.58	5.61	6.32
1539	THRISSUR	Mannuthy	Dug Well	6.09	6.12	6.49	7.37
1540	THRISSUR	Mapranam	Dug Well	14.12	11.11	13.2	13.04
1541	THRISSUR	Mathilakom (R1)	Dug Well	4.92	3.11	3.76	4.07
1542	THRISSUR	Mattathur	Dug Well	8.77	7.97	6.62	8.22
1543	THRISSUR	Mulankunnathukavu	Dug Well	7.55	5.97	6.58	7.42
1544	THRISSUR	Mullassery	Dug Well	2.17	0.78	1.03	2.12
1545	THRISSUR	Mullurkara (Vazhathodu Jn)	Dug Well	6.11	3.17	4.31	5.51
1546	THRISSUR	Mundur	Dug Well	8.25	7.93	8.13	8.28
1547	THRISSUR	Mupliyam	Dug Well	7.61		5.84	6.96
1548	THRISSUR	Muringur	Dug Well	8.61	7.81	7.37	
1549	THRISSUR	Muriyad	Dug Well	10.01	8.02	8.58	9.16
1550	THRISSUR	Nandipulam	Dug Well	7.42	6.26	6.41	7.32
1551	THRISSUR	Nattika 1	Dug Well		1.57	1.71	2.21
1552	THRISSUR	Nellai	Dug Well	5.22	4.94	4.6	4.94
1553	THRISSUR	Olarikara	Dug Well	9.46	8.09	8.92	9.46

1554	THRISSUR	Ollur	Dug Well	8.77	7.31	7.84	8.67
1555	THRISSUR	Orumanayur	Dug Well	2.93	1.57	1.99	2.68
1556	THRISSUR	Padakulam	Dug Well	3.91	2.11	2.58	3.18
1557	THRISSUR	Palakkal	Dug Well	10.45	8.24	8.92	10.04
1558	THRISSUR	Palayamthuruthu	Dug Well	1.39	1	0.95	1.12
1559	THRISSUR	Pallichira	Dug Well	4.91	4.08	4.58	4.92
1560	THRISSUR	Pallikandam	Dug Well	3.32	2.35	2.91	3.34
1561	THRISSUR	Pallikunnu	Dug Well	3.71	7.87	8.42	9.21
1562	THRISSUR	Panamukku	Dug Well	9.57	7.94	8.57	8.82
1563	THRISSUR	Pappali	Dug Well		3.23	3.3	5
1564	THRISSUR	Parappukara	Dug Well	5.56	3.96	4.07	5.19
1565	THRISSUR	Parappur	Dug Well	10.12	8.78	9.52	10.27
1566	THRISSUR	Pariyaram	Dug Well	7.02	5.97	6.09	6.64
1567	THRISSUR	Pattikad (R1)	Dug Well	2.06	4.06	5.35	5.57
1568	THRISSUR	Pavaratty1	Dug Well	3.17	1.12	2.06	3.62
1569	THRISSUR	Pazhayannur	Dug Well	7.26		5.61	6.66
1570	THRISSUR	Pazhuvil	Dug Well	10.01	5.92	9.56	9.87
1571	THRISSUR	Peechi	Dug Well		5.92		
1572	THRISSUR	Peechi (R1)	Dug Well	6.36	6.17	6.16	6.57
1573	THRISSUR	Perambra	Dug Well	7.92	6.95	6.36	7.16
1574	THRISSUR	Perinjanam (R2)	Dug Well	2.4	1.04	1.5	1.62
1575	THRISSUR	Perumpilavu Junction	Dug Well	10.54	9.82	9.71	10.32
1576	THRISSUR	Potta	Dug Well	3.78	3.37	3.19	3.99
1577	THRISSUR	Poyya	Dug Well	13.12	8.44	10.36	12.66
1578	THRISSUR	Pudukad1	Dug Well	2.98	2.03	1.87	2.7
1579	THRISSUR	Pullikanni	Dug Well	3.71	0.92	1.45	2.28
1580	THRISSUR	Punnakkabazar	Dug Well	3			
1581	THRISSUR	Punnayoor	Dug Well	5.5	3.32	4.31	4.96
1582	THRISSUR	Puthenchira	Dug Well	10.05	8.33	8.82	9.04
1583	THRISSUR	Ramanchetty	Dug Well	5.19	3.76	4.27	5.07
1584	THRISSUR	Rendamkallu	Dug Well	7.6	7.92	7.82	7.93
1585	THRISSUR	Tekkumkara (Konathukunnu)	Dug Well	9.22	6.51	7.27	7.61
1586	THRISSUR	Trichur	Dug Well	7.48	6.32	7.17	8.3
1587	THRISSUR	Triprayar	Dug Well	4.19	3.03	3.71	4.61
1588	THRISSUR	Vadanapalli	Dug Well	1.74	1.03	1.41	1.89
1589	THRISSUR	Vaniyampara	Dug Well	5.09	1.69	3.28	4.49
1590	THRISSUR	Varavur	Dug Well	6.77	5.66	6.32	6.92
1591	THRISSUR	Vellanikara	Dug Well	2.92	1.75	2.92	3.82
1592	THRISSUR	Vellikulangara (Maramkad Jn)	Dug Well	6.36	5.44	6.51	6.36
1593	THRISSUR	Velupadam	Dug Well	5.81	4.54	4.72	5.81
1594	THRISSUR	Velur	Dug Well	8.41	7.67	6.93	7.12

1595	THRISSUR	Vettikkattiri	Dug Well	7.47	5.87	7.17	6.96
1596	THRISSUR	Viyjur	Dug Well	3.81	2.11	3.15	4.02
1597	THRISSUR	Wadakkancherry	Dug Well	13.21	9.37	10.07	11.72
1598	THRISSUR	Arattukadavu	Tube Well	0.96	0.74		
1599	WAYANAD	Kottathara	Bore Well	4.64	2.88	3.42	4.12
1600	WAYANAD	Kuppadi(east)	Bore Well				19.87
1601	WAYANAD	Pookode	Bore Well	2.55	1.7		2.28
1602	WAYANAD	Pozhutana1	Bore Well	2.78	2.55	9.4	3.65
1603	WAYANAD	Thavinjal Pz	Bore Well	2.58	1.2	2.09	2.44
1604	WAYANAD	Ullissery(w)	Bore Well	2.46	0.53		
1605	WAYANAD	Valliyurkavu(e)	Bore Well	2.54	10.28	1.18	1.92
1606	WAYANAD	Valliyurkavu(w)	Bore Well	2.62	10.29	1.17	1.94
1607	WAYANAD	Ambalavayal	Dug Well	8.56	7.33	8.55	9.5
1608	WAYANAD	Appapara	Dug Well	6.38	2.57	2.93	3.53
1609	WAYANAD	Arimula	Dug Well	8.8	7.63	8.38	9
1610	WAYANAD	Baveli	Dug Well	7.89	3.69	6.44	8.07
1611	WAYANAD	Begur	Dug Well	9.8	9.17	9.93	10.48
1612	WAYANAD	CC Junction	Dug Well	11.15	11.13	11.63	11.72
1613	WAYANAD	Cheenkeri	Dug Well	8.83	9.08	10.56	
1614	WAYANAD	Chellakod	Dug Well	9.08	7.24	8.2	8.84
1615	WAYANAD	Chenad	Dug Well	15.99	16.4	16.28	16.8
1616	WAYANAD	Cheyymbam	Dug Well	4.19	2.34	3.36	4.28
1617	WAYANAD	Chulliyod	Dug Well	14.42	13.35	13.56	14.37
1618	WAYANAD	Dasanakkara	Dug Well	3.22	3.38	3.45	3.68
1619	WAYANAD	Kalpetta-R1	Dug Well	3.46	1.77	2.71	3.1
1620	WAYANAD	Kamblakat	Dug Well	17.6	17.7	17.6	18.13
1621	WAYANAD	Kanjirangad	Dug Well	2.35		1.7	2.01
1622	WAYANAD	Kappiset	Dug Well	12.5	10.38	11.08	12.8
1623	WAYANAD	Karani	Dug Well	9.58	7.08	7.08	7.96
1624	WAYANAD	Kattikulam	Dug Well	9.34	2.19	7.29	8.36
1625	WAYANAD	Kavumandam	Dug Well	6.97	5.38	5.73	5.98
1626	WAYANAD	Kellur -5th Mile	Dug Well	13.72	5	9.32	15.06
1627	WAYANAD	Koliyadi	Dug Well	3.2	0.98	1.63	2.52
1628	WAYANAD	Koodal Kadavu	Dug Well	15.96	15.3	14.18	13.56
1629	WAYANAD	Koroth	Dug Well	4.51	1.71	2.12	3.25
1630	WAYANAD	Kottathara	Dug Well	5.65	3.45	4.15	5.17
1631	WAYANAD	Kottavayal	Dug Well	4.41	3.88	1.71	1.75
1632	WAYANAD	Krishnagiri	Dug Well	5.99	6.2	7.1	7.51
1633	WAYANAD	Kuppadi	Dug Well	17.92	18.92	18.96	19.78
1634	WAYANAD	Lakkidi	Dug Well	1.16	0.6	0.98	1.04
1635	WAYANAD	Mampayil	Dug Well	2.37	2.63	2.89	2.37

1636	WAYANAD	Manjapara	Dug Well	8.78	7.7	7.99	8.8
1637	WAYANAD	Mannanthody	Dug Well	8.2	6.45	8.01	8.08
1638	WAYANAD	Melaputhenkunnu	Dug Well	15.24	14.99	16.01	16.39
1639	WAYANAD	Meppady	Dug Well	17.86	16.87	17.38	17.7
1640	WAYANAD	Minangadi	Dug Well	6.67	5.57	6.18	6.9
1641	WAYANAD	Moolankavu	Dug Well	8.01	7.03	7.67	8.31
1642	WAYANAD	Mullankolly	Dug Well	4.06	3.19	3.96	4.2
1643	WAYANAD	Muthunga (R1)	Dug Well	4.92	3.17	4.3	4.43
1644	WAYANAD	Muttill	Dug Well	3.87	1.85	2.36	3.29
1645	WAYANAD	Nadavayal	Dug Well	7.2	5.5	6.66	7.46
1646	WAYANAD	Naykatti	Dug Well	6.05	4.88	6.13	6.33
1647	WAYANAD	Nedugarana	Dug Well	8.83	7.78	8.48	9.1
1648	WAYANAD	Neervaram	Dug Well	16.19	16.29	16.74	17.24
1649	WAYANAD	Nenmeni Kunnu	Dug Well	2.65	1.9	2.38	2.84
1650	WAYANAD	Noolpuzha (R1)	Dug Well	3.4	2.13	3.11	3.52
1651	WAYANAD	Ondyangadi	Dug Well	11.8	8.76	9.98	10.6
1652	WAYANAD	Pachilakkad	Dug Well	8.48	7.71	9.55	9.26
1653	WAYANAD	Padinjarattara	Dug Well				8.43
1654	WAYANAD	Padinjarattara (R1)	Dug Well	8.6	6.55	6.95	8.43
1655	WAYANAD	Pakkam	Dug Well	6.7	5.09	5.88	6.76
1656	WAYANAD	Pallikunnu	Dug Well	9.55	8.51	9.25	9.72
1657	WAYANAD	Panamaram	Dug Well	3.65	3.1	3.79	4.23
1658	WAYANAD	Pattanikoopu	Dug Well	9.32	8.23	9.04	9.24
1659	WAYANAD	Perikallur	Dug Well	13.45	11.16	13.25	13.42
1660	WAYANAD	Perya	Dug Well	5.53	4.35	3	1.87
1661	WAYANAD	Pookode1	Dug Well	3.05	1.9		2.85
1662	WAYANAD	Pozhutana	Dug Well	6.5	5.98	6.25	6.48
1663	WAYANAD	Pulpally	Dug Well	4.99	1.98	5.09	3.92
1664	WAYANAD	Punchvayal	Dug Well	10.18	8.01	9.45	10.45
1665	WAYANAD	Sulthan Battery	Dug Well	8.75	5	6.73	7.51
1666	WAYANAD	Talapuzha	Dug Well	2.48	0.6	1.12	1.53
1667	WAYANAD	Taruvana	Dug Well	11.43	0.9	8.25	10.48
1668	WAYANAD	Thetrode	Dug Well	11.73	10.46	11.26	11.84
1669	WAYANAD	Thirunelly (R1)	Dug Well	6.58	3.34	4.08	5.33
1670	WAYANAD	Tholpetty	Dug Well	8.33	7.33	8.15	9.08
1671	WAYANAD	Thonichal	Dug Well	6.64	5.19	5.98	6.57
1672	WAYANAD	Ullisseri	Dug Well	4.13	1.1	1.88	2.53
1673	WAYANAD	Vaduvanchal	Dug Well	9.32	8.54	9.22	9.71
1674	WAYANAD	Valad (R1)	Dug Well	11.23	8.23	9.75	10.38
1675	WAYANAD	Vallathur	Dug Well	2.49	1.08	1.81	2.28
1676	WAYANAD	Vallithodu (Periye)	Dug Well	7.7	7.64	8.03	7.97

1677	WAYANAD	Valliyur kavu	Dug Well	3.73	0.8	1.52	2.2
1678	WAYANAD	Varayal	Dug Well	4.52	3.84	4.23	4.21
1679	WAYANAD	Vellamunda	Dug Well	13.62	7.79	9.89	5.5
1680	WAYANAD	Vengapalli	Dug Well	15	13.94		
1681	WAYANAD	Vyittiri	Dug Well	8.06	6.42	7	7.1

Annexure II

Chemical Analysis Data of Water Samples collected from Ground Water Monitoring Wells during April 2016

Alappuzha District														
Sl. No.	Location	pH	EC in $\mu\text{s}/\text{cm}$ at 25°C	TH as CaCO_3	Ca	Mg	Na	K	CO_3	HCO_3	SO_4	Cl	F	NO_3
<-----Concentration in mg/L----->														
1	Alappuzha	7.94	290	130	51	0.49	8.2	1.4	0	151	4.1	13	0.29	4.4
2	Alappuzha	8.22	460	106	42	0.49	32	9.1	0	144	18	36	0.19	46
3	Arukutti	8.07	270	120	47	0.49	7.9	3.9	0	132	22	7.1	0.08	8.5
4	Chandirur	8.14	210	58	22	0.49	17	3.6	0	88	5.4	18	0.05	1.5
5	Cherthala	7.83	430	172	60	5.4	37	5.3	0	227	3.5	40	0.18	16
6	Chettikulangara	7.21	116	38	14	0.97	3.9	1.9	0	37	7.2	9.9	0.06	0.8
7	Edathuva	7.48	420	152	43	11	28	4.4	0	168	15	48	0.22	0.2
8	Haripad	7.79	270	112	42	1.9	8.5	3.9	0	137	14	13	0.1	1.1
9	Kallisery	6.89	76	20	7	0.49	3.8	1.1	0	17	4.1	8.5	0.1	7.5
10	Kattanam	6.97	29	4	2	Traces	2.1	0.1	0	4.9	0	2.8	0.12	1.4
11	Kattoor	7.39	110	46	18	Traces	3.3	1.5	0	54	1.3	8.5	0.12	1.9
12	Kayamkulam	7.59	430	146	51	4.4	25	9.6	0	146	68	30	0.02	23
13	Nedumudi	8.07	610	240	72	15	38	5.9	0	287	11	43	0.22	6
14	Neerkunnam	7.15	169	52	18	1.5	12	2.4	0	63	9.9	13	0.12	7.1
15	Oachira	7.39	230	58	22	0.49	17	6.1	0	51	23	13	0.1	2.5
16	Pallarimangalam	7.24	143	66	24	1.5	3.9	1.6	0	76	8.7	5.7	0.11	1.9
17	Parumala	6.42	44	10	3	0.49	4.2	0.5	0	5	0.29	8.5	0.12	8.9
18	Pattanakkad	7.91	530	175	68	1.2	47	3.5	0	226	8	71	0.13	4.6
19	Pathiyur	7.81	810	215	66	12	92	32	0	195	111	117	0.21	7.9
20	Purakkad	7.75	450	118	37	6.3	52	8.1	0	122	37	64	0.2	18
21	Ramankari	7.53	290	104	34	4.4	22	3.9	0	115	6.9	26	0.15	3.5
22	Taikattusseri	8.06	550	110	44	Traces	47	11	0	134	50	68	0.01	14
23	Thakazhi	8.19	570	190	70	3.6	31	7.4	0	207	27	60	0	4
24	Thannirmukkom	7.98	270	-	-	-	20	3.9	0	98	11	28	0.006	6.3
25	Thevery	8.08	280	70	16	7.3	16	4.3	0	78	26	26	0	0.6

26	Valavanad	8.09	240	110	42	1.5	4.7	2.9	0	115	5.5	13	0.003	9.8
27	Venmani(Thazhakam)	7.27	150	10	3.2	0.49	14	3	0	17	4.6	24	0	22
	Ernakulam District													
1	Aikaranadu	7.41	29	6	2.4	Tr	4.3	2.3	0	7.3	1.5	10	0.64	1.1
2	Anchalpetty	7.33	73	18	6.4	0.49	7.1	2.4	0	17	7.5	13	0.14	6.3
3	Angamaly	8.2	380	152	36	15	13	3.6	0	246	24	27	0.3	0
4	Chellanum	7.71	1310	215	70	9.7	202	22	0	226	17	345	0.35	17
5	Chengamanad	6.8	114	18	5.6	0.97	11	2.7	0	12	0	20	0.04	20
6	Chulli	7.43	98	28	8	1.9	4.5	3.4	0	34	3.5	10	0.15	8.6
7	Edapally	8.27	580	205	80	1.2	30	6.5	0	220	39	43	0.38	7.3
8	Fort Cochin	7.59	410	160	57	4.4	18	4.5	0	161	23	30	0.34	3.2
9	Karukutty	7.78	150	22	5.6	1.9	14	2.3	0	15	3.5	20	0.16	25
10	Kothamangalam	7.64	300	68	27	Traces	24	6.9	0	117	20	27	0.34	22
11	Kottapadi	7.14	73	16	6.4	Traces	4.3	0.5	0	29	1	11	0.2	4.6
12	Kottapuram(Alangad)	7.76	290	46	13	3.4	28	6.3	0	56	19	24	0.1	10
13	Koothattukulam	7.31	220	52	14	3.9	18	10	0	61	7.5	28	0.8	25
14	Malayatoor	6.76	106	26	6.4	2.4	6.2	3.5	0	22	7	13	0.05	8
15	Malipuram	7.86	430	142	53	2.4	32	5.7	0	203	10	50	0.06	12
16	Mulanthuruthy	7.6	126	20	8	Traces	18	3.8	0	17	22	23	0.04	12
17	Munambam	8.07	270	108	42	0.97	10	3.4	0	151	15	13	0.19	2
18	Muvattupuzha	7.75	240	78	23	4.9	6.4	8.6	0	51	40	16	0.1	13
19	Neriyamangalam	7	95	18	7.2	Traces	7.4	2.4	0	22	5	17	0.02	5.5
20	Perumbadavam	7.54	54	14	4	0.97	5.1	2.4	0	20	0	11	0.45	5.2
21	Pothanikad	6.76	64	14	5.6	Traces	5.1	2.3	0	12	2	13	0.88	1.6
22	Tripunithura	7.81	530	165	62	2.4	34	16	0	214	26	43	0.09	23
23	Vallom	7.21	112	20	5.6	1.5	12	4.2	0	24	7	16	0.92	14
24	Varapuzha	7.86	390	106	38	2.4	27	8.2	0	95	26	54	0.4	25
25	Vazhakulam North	7.25	134	32	8.8	2.4	15	2.6	0	39	5	21	0.12	11
	Idukki District													
1	Adimali	5.55	200	24	7.2	1.5	18	3.8	0	2.4	7.5	28	0.4	30
2	Chinikuzhi	6.84	134	36	10	2.4	8.5	3.2	0	66	4.5	13	0.34	7.4
3	Chittur	8.51	69	18	4.8	1.5	4.8	1.3	7.2	22	3	9	0.42	0.91

4	Elappara	7.02	154	38	11	2.4	10	4.2	0	29	4.5	26	0.64	0.14
5	Irattayar	6.85	430	54	12	5.8	56	4.5	0	29	8	75	0.62	0.74
6	Idukki	7.19	64	12	4	0.49	5.1	1.2	0	29	3	9.9	0.72	0.54
7	Kaliyar	6.89	230	52	14	4.4	18	6.5	0	29	11	39	0.32	33
8	Karimkunnam	6.98	270	76	22	5.4	20	6	0	54	17	34	0.32	39
9	Kattappana	8.34	360	48	12	4.4	42	18	Traces	15	16	71	0.78	49
10	Koyilkadavu	7.5	320	90	23	7.9	25	5.5	0	116	17	41	0.8	14
11	Kulamavu	6.73	126	22	4.8	2.4	9.6	2.4	0	7.3	0	17	0	24
12	Kumaramangalam	6.34	84	18	4	1.9	7.3	1.7	0	12	2.6	17	0.06	12
13	Kumili	7.68	400	144	33	15	32	6.7	0	214	26	45	0.5	16
14	Kuttikanam	7.27	77	18	4.8	1.5	4.9	2.3	0	17	2.5	13	0.6	5.8
15	Moolamattom	7.26	92	32	8.8	2.4	6.9	1	0	39	6.5	13	0	9.9
16	Munnar	7.15	74	18	4.8	1.5	7.7	2.2	0	22	1.5	20	0.54	2.1
17	Nedumkandam	7.94	370	150	30	19	25	6	0	185	23	64	0.22	3.2
18	Poopara	8.73	460	116	30	10	47	14	18	61	18	77	0.02	79
19	Vandanmedu	7.65	124	28	6.4	2.9	11	5.1	0	22	3	21	0.1	19
20	Vandiperiyar	7.51	340	54	13	5.4	34	30	0	24	23	58	0.02	61
21	Vellilamkandam	7.32	69	12	3.2	0.97	6.7	2.5	0	20	1	16	0.12	1.7
	Kannur District													
1	Kannur	7.44	400	108	35	4.9	25	8.9	0	61	55	44	0.2	31
2	Chakkarakkallu	7.03	186	32	5.6	4.4	20	6.3	0	15	3	36	0.36	21
3	Cheleri	7	42	8	3.2	Traces	4	1.6	0	7.3	1	11	0.7	2.2
4	Chepparapadavu	7.3	84	28	5.6	3.4	7.8	0.9	0	46	1.5	13	0.66	5
5	Dharmadam	7.3	124	44	10	4.4	15	1.8	0	49	6	21	0.2	2.5
6	Kannapuram	7.95	390	194	73	2.9	12	5.4	0	293	22	30	0.18	9.2
7	Kannavam	7.21	63	12	3.2	1	6.5	0.7	0	24	0	8.5	0.56	1.9
8	Koothuparamba	6.94	152	42	12	2.9	15	3.2	0	24	3	30	0.32	21
9	Kottiyur	7.39	93	34	8	3.4	7.1	0.5	0	59	2.5	11	0.32	3.8
10	Kozhichal	7.29	79	26	6.4	2.4	6.7	1.2	0	41	1	9.9	0.26	7.1
11	Mahe	8.1	370	122	31	11	34	12	0	220	19	44	0.36	0.11
12	Mattannur	5.55	130	22	4.8	2.4	9.3	5.5	0	2.4	1.5	23	0	0.19
13	Mokeri	6.57	183	12	3.2	0.97	26	1.3	0	9.8	2.5	28	0.18	0.29
14	Muzhakkunnu	8.55	171	42	10	3.9	12	3.1	7.2	44	8	24	0	4.2

15	Payyannur	7.11	210	52	14	3.9	14	2.5	0	15	10	36	0.08	20
16	Peringome	7.37	178	44	11	3.9	15	4.1	0	59	4.5	26	0.02	8.5
17	Ramanthali	7.22	55	8	2.4	0.49	6.6	0.7	0	4.9	1.5	13	0	3.5
18	Sreekandapuram	6.86	250	48	13	3.9	24	2	0	17	14	36	0.4	43
19	Thalassery	7.85	500	160	58	3.6	40	16	0	238	28	47	0	28
20	Taliparamba	7.9	240	60	18	3.9	20	9.7	0	66	9	28	0.38	29
21	Ullikkal	7.26	66	16	4	1.5	6.6	0.8	0	17	2.5	9.9	0.72	5.5
	Kasargod District													
1	Bandadukka	7.19	129	36	10	2.4	8.5	4.4	0	41	4	16	0	14
2	Bekal	4.14	310	44	8	5.8	37	4.1	0	0	2.5	57	0.16	38
3	Chayangode	6.35	51	14	4.8	0.49	5	0.8	0	12	2	10	0.06	4.5
4	Chittarikkal	6.94	133	34	4.8	5.4	6.7	1.6	0	51	1.5	11	0.06	6.2
5	Kanhangad	7.59	250	90	31	2.9	16	4.9	0	107	22	27	0.02	14
6	Kasargod	4.69	210	40	11	2.9	22	4.2	0	Traces	8	40	0.04	28
7	Manjeshwaram	6.59	210	30	6.4	3.4	30	5.5	0	20	4	51	0.1	13
8	Mulleriya	6.62	172	36	10	2.4	18	6.2	0	22	2.5	30	0.4	31
9	Nileshwaram	7	130	36	13	0.97	7.4	7.3	0	34	3.5	24	0.14	6.5
10	Odayanchal	7.07	84	20	6.4	0.97	10	1.1	0	37	2	13	0.02	6.3
11	Paivalika	7.1	89	18	7.2	Traces	12	1.3	0	29	2.5	18	0	3.7
12	Panathur	7.02	182	42	8	5.4	20	1.2	0	34	1.5	47	0.01	4.6
13	Parappa North	7.27	71	22	7.2	0.97	6.6	0.6	0	41	1.5	8.5	0	0.71
14	Perla	7.27	187	46	15	1.9	14	4.2	0	51	3.5	26	0.28	14
15	Poinachi	7.25	70	14	3.2	1.5	6.5	1.1	0	12	1	11	0.18	4.6
16	Povval	7.51	182	54	18	2.4	14	1.6	0	63	1.5	23	0.12	15
17	Pullur	7.44	75	20	4	2.4	5.8	1.5	0	27	0	11	0.14	3.6
18	Thrikkarippur	7	54	12	4.8	Tr	5	0.4	0	7.3	2	11	0.38	4.9
19	Uppala	7.85	122	30	9.6	1.5	13	3	0	59	1.5	13	0.22	2.1
	Kollam District													
1	Achenkovil	7.81	250	74	20	5.8	9.9	18	0	115	14	19	0.66	15
2	Akkal	7.03	192	1.6	3.2	1.9	19	3.5	0	24	1	23	0.14	19
3	Anchalummoodu	3.42	350	34	8	3.4	31	6.9	0	0	2.5	50	0.22	69
4	Avaneeswaram	7.41	66	10	3.2	0.49	6.4	2.4	0	24	1	13	0.06	2

5	Ayoor	6.83	57	12	4	0.49	5.4	2.7	0	24	1	7.1	0.12	7.9
6	Chenkulam	7.01	107	16	4.8	0.97	16	1.7	0	32	0	17	0.6	13
7	Iravipuram	8.06	460	130	46	3.6	41	13	0	146	37	61	0.4	27
8	Kollam	7.69	260	58	22	0.97	17	5.7	0	63	20	1.4	0	20
9	Kottarakkara	7.63	210	50	14	3.9	20	5.5	0	81	13	28	0.26	6.3
10	Kulathupuzha	6.92	270	24	5.6	2.4	35	16	0	17	12	54	0.14	30
11	Kunnada	7.35	103	10	3.2	0.49	12	5.8	0	22	1	19	0.06	4.7
12	Kuttavettur	7.5	183	38	11	2.4	20	1.4	0	44	2.5	31	0.36	21
13	Madathara	7.11	72	22	6.4	1.5	16	4.8	0	20	9	28	0	9
14	Nallila	3.66	146	10	4	Tr	8.4	2	0	0	2.5	16	0.04	26
15	Neendakara	8.22	350	164	63	1.5	14	2.1	0	268	19	23	0.12	1.5
16	Paripalli	6.9	66	10	3.2	0.49	6.5	0.8	0	9.8	1.5	9.9	0.04	8.9
17	Perinad	7	124	14	4	0.97	20	0.8	0	22	1	33	0.02	4.6
18	Pozhikkara	7.45	420	58	10	7.8	44	0.6	0	37	52	65	0	1.6
19	Punalur II	7.72	138	38	11	2.4	3.6	3.3	0	46	8	11	0.18	9.9
20	Sasthamkotta	6.84	111	8	3.2	Tr	13	2	0	7.3	5	23	0	7.7
21	Sooranadu	5.09	125	12	4	0.49	15	2.4	0	2.4	1	23	0.04	23
22	Thenmala	7.06	47	8	1.6	0.97	4.2	1.3	0	9.8	1	8.5	0.26	3.6
23	Vadakkumthala West	7.31	370	70	20	4.9	38	5.1	0	46	51	65	0.14	0
24	Vallikavu	7.83	230	60	23	0.49	16	2.3	0	98	7.5	30	0.16	1.5
25	Yeroor	7.94	500	105	32	6.1	56	5.3	0	256	15	53	0.5	4.1
	Kottayam District													
1	Aranootimangalam	7.41	56	16	6.4	Traces	4.2	1.3	0	15	0	10	0.1	5.1
2	Changanassery	7.54	540	110	30	8.5	53	20	0	55	51	96	0.1	30
3	Chempu	7.57	230	78	27	2.4	11	6.4	0	110	15	21	0.18	4.8
4	Cheruthikara	7.41	79	16	4.8	0.97	7.3	2.7	0	17	2	14	0.06	8.9
5	Ettumannur	6.15	130	26	6.4	2.4	8.3	4	0	15	9.5	21	0.34	9.3
6	Kaduthuruthi	6.6	123	34	9.6	2.4	7.5	3.9	0	39	9.5	14	0.06	6.3
7	Kanjirapalli	6.78	115	38	9.6	3.4	5.6	1.3	0	34	10	11	0.18	11
8	Kottayam	6.93	52	10	4	Traces	4.7	1.2	0	7.3	0	11	0	4.7
9	Kozha	6.61	113	28	7.2	2.4	6.1	4.5	0	12	1	16	0.04	21
10	Kumarakom	7.59	370	158	56	4.4	12	2.9	0	226	3.5	27	0.16	4.6
11	Naranganam	7.31	53	10	3.2	0.49	2.4	0.8	0	10	0	8.5	0.08	4.7

12	Neendur	7.03	152	24	6.4	1.9	12	6.7	0	10	1.5	31	0	8.2
13	Paippad	6.83	220	40	12	2.4	14	11	0	10	11	33	0.16	34
14	Pala	-	84	20	8	Traces	4.3	1.3	-	-	25	11	0.1	0.93
15	Palamkadavu	7.31	142	46	13	3.4	7.6	3.4	0	63	16	10	0.48	1.3
16	Pallikathodu	7.24	60	8	2.4	0.49	7	4.2	0	4.9	2.5	11	0.46	3.3
17	Pallom(Nattagam)	7.4	99	22	8.8	Traces	8	3.3	0	22	9.5	17	0.52	5.8
18	Pambadi	-	53	16	4	1.5	4.1	1.9	-	-	1	10	0.5	1.2
19	Paruthumpara	7.94	98	16	4.8	0.97	13	2.9	0	15	1	21	0.48	9.8
20	Plakkalpadi	7.72	104	18	4	1.9	13	4.2	0	12	1	23	0.64	12
21	Pulikuttisseri	7.52	104	44	14	1.9	4.1	1.7	0	51	5	13	0.44	7.4
22	Thalayolaparambu	7.4	210	60	16	4.9	18	3.6	0	59	12	44	0.7	7.1
23	Thottakkad	7.57	61	16	4.8	0.97	5.1	1.5	0	24	0	8.5	0.64	6.7
24	Vaikom	8.16	650	230	66	16	63	11	0	281	27	92	0.9	12
25	Vazhur	6.76	77	18	4	1.9	5.1	1.8	0	24	2	11	0.54	4.5
26	Vellor 2	7.56	240	64	11	8.8	23	1	0	93	10	40	0.46	1.6
	Kozhikode District													
1	Badagara	7.58	350	92	30	4.4	25	11	0	59	28	50	0.14	41
2	Balusseri	7.59	200	32	8.8	2.4	21	5.6	0	20	1.5	36	0.22	27
3	Beyypore	8.63	520	145	44	8.5	55	8.2	4.8	67	38	78	0.28	73
4	Chelavur	7.03	240	10	4	Tr	42	1.5	0	12	2	41	0.04	41
5	Chemencheri	7	310	82	30	1.5	24	5.5	0	42	21	41	0	40
6	Devarkoil	6.36	200	38	12	1.9	20	2.7	0	5	8	34	0.12	30
7	Elattur	7.14	220	68	24	1.9	16	0.7	0	46	27	27	0	14
8	Kakkayam	7.26	47	12	4	0.49	4	1.2	0	22	2.5	8.5	0.2	2.6
9	Kayapanachi	9.22	910	185	48	16	120	1.6	4.8	7.3	10	285	0	0.83
10	Koduvally	7.94	131	32	8.8	2.4	9.1	1.2	0	68	1.5	11	0.16	3.7
11	Koothali	7.54	56	12	4	0.49	5	2.1	0	9.8	12	8.5	0	8.9
12	Kozhikode	8.64	198	58	19	2.4	17	1.2	2.4	34	3	37	0	17
13	Mavoor II	6.81	98	14	4.8	0.49	7.4	5.3	0	22	9	16	0.02	6.1
14	Mukkali	4.06	157	16	5.6	0.49	13	5.4	0	0	8.5	26	0.18	19
15	Nadapuram	-	169	34	13	0.49	17	3.5	-	-	5.5	27	0.02	4.5
16	Perambra	7.52	91	24	9.6	Tr	7.5	1.6	0	34	0.5	14	0	4.4
17	Pudukkayam	7.54	58	16	5.6	0.49	5.4	0.6	0	27	1	9.9	0.38	3

18	Pudupadi	7.32	74	16	4	1.5	8.1	2.3	0	15	5	16	0	3.8
19	Quilandy	7.73	440	120	46	1.2	37	7.3	0	120	30	60	0.02	43
20	Ramanattukkara	7.94	700	130	28	15	64	8.8	0	171	6	81	0.46	8.4
21	Tamarasseri	7.58	140	34	11	1.5	9.2	2.1	0	59	3	13	0.22	1
22	Tiruvallur	7.5	96	22	7.2	0.97	10	1.2	0	37	4.5	17	0.58	1.2
23	Tikkodi	7.38	96	20	6.4	0.97	3.7	5.4	0	4.9	3.5	20	0.24	12
	Malappuram District													
1	Amminikkad	7.81	410	105	24	11	29	3.3	0	140	5	34	0.4	43
2	Arikode	8.22	260	54	20	0.97	15	2.8	0	61	7.5	33	0.14	26
3	Chokkad	8.28	390	86	24	6.3	35	2.5	6	159	5.5	40	0.2	14
4	Chungathara	8.18	1210	330	70	38	107	4.2	0	451	3	167	0.46	55
5	Edappal	7.8	166	28	6.4	2.9	7.4	0.5	0	32	2.5	14	0.2	14
6	Edavanna	7.88	144	36	9.6	2.9	9.2	1.4	0	71	1.5	9.9	0.2	12
7	Iswaramangalam	8.61	870	165	32	21	118	4.9	36	317	2	135	0.58	19
8	Kadalundi	8.09	1030	265	74	20	89	3.6	0	134	200	142	0.4	2.3
9	Kalikavu	7.23	165	20	6.4	0.97	14	4.4	0	9.8	2	23	0.4	30
10	Kanjiramukku	7.79	280	44	16	0.97	26	3.8	0	59	10	45	0.26	17
11	Kariavattom	7.57	146	22	5.6	1.9	12	2.3	0	34	0	23	0.14	12
12	Karulai	8.29	310	118	22	15	28	0.8	12	153	9	37	0.34	15
13	Kondotty	7.71	121	18	5.6	0.97	14	0.9	0	22	3	24	0.2	15
14	Kottakkal	7.57	420	66	22	2.9	54	11	0	42	1	98	0.58	52
15	Kuruva	7.8	121	36	12	1.5	8.7	1.8	0	71	0	8.5	0.26	6
16	Kuttiapuram	8.48	390	105	28	8.5	40	6	6	140	18	53	0.46	44
17	Malappuram	8	147	24	8.8	0.49	13	3	0	34	5	21	0.14	16
18	Mangalam	7.41	540	100	34	3.6	63	17	0	18	74	75	0.58	107
19	Manjeri	8.2	670	115	38	4.9	92	18	0	134	31	160	0.4	35
20	Maruda	7.87	187	44	14	1.9	14	1.2	0	76	2	20	0.26	29
21	Melattur	8.01	200	36	14	0.49	23	0.8	0	83	2	36	0.4	9.6
22	Nilambur	7.06	179	18	6.4	0.49	24	3.7	0	7.3	0	34	0.26	34
23	Parappanangadi	8.09	560	165	52	8.5	41	13	0	153	47	61	0.16	36
24	Perumpadappu	7.44	300	44	12	3.4	41	7.8	0	31	24	47	0.2	22
25	Ponnani	8.39	1560	270	86	13	268	15	42	256	52	369	0.54	14
26	Pulamanthol	7.43	380	50	12	4.9	47	16	0	43	11	70	0.3	30

27	Tanur	7.26	154	22	5.6	1.9	19	7.4	0	22	6	24	1.02	13
28	Thuvur	8.12	330	135	30	15	25	2.2	0	189	21	24	0.54	15
29	Tirunavaya	7.38	135	26	5.6	2.9	13	3.5	0	20	0	20	0.24	21
30	Tirur	4.51	270	40	11	2.9	36	3.1	0	0	2.5	53	0.24	43
31	Valancheri	7.09	440	84	14	12	54	7.7	0	31	1	112	0.32	26
32	Vazhikadavu	8.12	450	160	54	6.1	37	3.5	0	226	20	60	0.34	12
33	Vylattur	7.89	1430	360	120	15	142	52	0	262	73	249	0.4	152
	Palakkad District													
1	Adiparanda	8.08	260	86	15	12	15	4.9	0	161	5	21	0.44	0.18
2	Agali	8.51	830	190	58	11	87	4.3	18	92	59	167	0.72	41
3	Alanallur	9.77	230	44	10	4.4	20	6.8	-	-	10	44	0.46	4.6
4	Alathur	8.03	800	290	70	28	47	3.6	0	195	40	149	0.66	0.87
5	Chalisseri	7.95	183	28	10	0.49	18	4.2	0	20	1	31	0.1	24
6	Chavadiyur	8.13	680	265	46	37	47	2.5	0	378	21	36	0.66	45
7	Chemmampathi	8.28	1510	485	102	56	108	37	0	420	33	270	0.54	26
8	Cherpulassery	7.98	330	52	13	4.9	28	25	0	117	9	51	0.06	4.8
9	Chullimade	7.99	270	92	22	9.2	21	2	0	153	5	20	0.6	0.94
10	Gopalapuram	8.07	600	160	44	12	59	2.1	0	159	10	85	0.92	29
11	Kalladikode	7.46	92	12	3.2	0.97	12	7.1	0	4.9	1.5	16	0.32	13
12	Kanjikode	8.54	980	155	24	23	102	77	49	293	52	135	1	29
13	Karimpuzha	7.6	52	8	3.2	traces	5.2	0.6	0	12	2	10	0.74	2
14	Kodavayur	7.85	230	54	11	6.3	29	1.6	0	142	13	20	1.16	1.4
15	Kollengode	8.45	1340	400	102	35	134	10	54	476	76	156	1.48	11
16	Koppam	7.78	270	52	12	5.4	29	3	0	41	1	53	0.72	21
17	Kozhinjampara	8.18	710	210	54	18	67	2.6	0	226	63	117	0.86	18
18	Kumaramputhur	7.73	97	28	9.6	0.97	7.7	0.5	0	49	1	11	0.94	4.3
19	Kuzhalmannam	7.7	720	230	58	21	73	7.4	0	250	62	89	0.92	4.8
20	Mankara	7.98	280	82	17	9.7	25	5.6	0	105	23	37	0.4	6.8
21	Mannarghat	7.8	400	122	38	6.8	31	11	0	122	21	58	0.34	54
22	Meenakshipuram	8.02	1000	410	126	23	82	10	0	586	50	75	0.52	52
23	Meenkara	8.2	710	315	88	23	30	12	0	397	29	50	1.04	10
24	Mundur	8.11	230	76	16	8.8	19	2.8	0	132	7.5	24	0.52	2.4
25	Nadupeni	8.39	1380	330	60	44	245	9.3	30	378	290	153	1.2	8.4

26	Nenmara	7.89	670	260	92	7.3	42	7.3	0	336	27	75	0.7	19
27	Ottapalam	8.05	420	62	14	6.3	63	1.3	0	73	2	91	0.54	28
28	Palakkad	8.55	720	250	52	29	58	2.1	36	256	37	82	1.2	23
29	Pattambi	8.17	290	84	18	9.2	25	6	0	68	24	44	1.31	15
30	Pudhunagaram	7.67	600	180	52	12	61	26	0	336	31	50	1.2	11
31	Shornur	7.94	174	60	15	5.4	15	4.2	0	100	9	20	0.2	4.5
32	Tavalam	7.89	320	124	26	15	22	0.6	0	151	8.5	33	0	17
33	Trittala	8.21	530	195	50	17	45	2.4	0	232	34	71	0.48	1.7
34	Vadakkancherry	7.75	670	235	70	15	54	4.6	0	262	36	71	0.6	31
	Pathanamthitta District													
1	Angadikkal	6.8	51	12	4	0.49	3.6	1.1	0	17	0.32	5.7	0	3.4
2	Aranmula	7.13	220	62	14	6.8	13	1.1	0	68	12	21	0.12	9.3
3	Enathu	7.35	610	90	22	8.5	66	18	0	55	25	107	0.7	53
4	Kaviyur	4	70	4	0.8	0.49	5.2	0.7	0	0	0	11	0.02	5.9
5	Konni	6.33	330	68	12	9.2	23	6.4	0	9.8	0.32	71	0.14	31
6	Kottanadu	6.5	126	18	6.4	0.49	9.5	4	0	12	0.86	16	0.1	18
7	Mallapally	6.4	71	12	4	0.49	7.1	1.2	0	4.9	0	13	0.32	9.7
8	Muthoor	6.54	250	34	12	0.97	28	4.1	0	9.8	31	43	0.02	10
9	Naduvathumuzhi	6.92	78	20	7.2	0.49	3.7	1.5	0	24	0.32	5.7	0.02	6.9
10	Nilakkal	6.71	108	22	7.2	0.97	9	1.8	0	9.8	0	21	0	11
11	Pandalam I	6.73	74	14	4	0.97	7.1	0.4	0	20	0	11	0	4.9
12	Pathanamthitta	7.01	194	50	17	1.9	13	8.9	0	44	20	16	0.12	11
13	Peringara	7.47	147	50	10	5.8	11	0.6	0	56	1.7	14	0.22	1.1
14	Pulikeezh	7.84	250	118	38	5.4	9.6	0.7	0	134	18	10	0.16	3.8
15	Thelliyur	7.03	91	24	8	0.97	7.2	2.1	0	39	0.21	7.1	0.12	4.3
16	Ullannur	6.75	45	10	2.4	0.97	4	2.6	0	9.8	0	7.1	0.09	6.6
17	Vadasserikkara	6.93	101	38	14	0.8	1.8	2.1	0	27	6.1	5.7	0.24	21
	Thiruvananthapuram District													
1	Anjengo	8.43	550	185	66	4.9	39	8.2	24	189	20	71	0.16	1.4
2	Attingal	8.38	210	38	15	Tr	16	3.7	2.4	51	1.5	26	0.1	20

3	Balaramapuram	5.17	930	135	34	12	90	40	0	6	2	174	0.22	178
4	Chirayinkeezh	6.83	310	18	4.8	1.5	47	1.6	0	24	1	77	0.16	11
5	Chittagode	7.22	280	28	8.8	1.5	35	10	0	34	8.5	57	0.12	20
6	Kadakkavur	6.95	400	80	25	4.4	33	2.4	0	37	36	57	0	51
7	Kattakada	6.05	440	44	14	2.4	49	14	0	2.4	2	91	0.06	84
8	Kazhakuttam	7.51	220	82	25	4.9	16	5.9	0	105	31	16	0	2.5
9	Kilimanoor	7.64	186	22	8.8	Tr	21	2.5	0	49	1.5	30	0	16
10	Mannanthala	3.74	240	8	2.4	0.49	28	7.4	0	0	2	46	0	42
11	Neyyattinkara	6.52	200	16	4.8	0.97	26	4	0	12	1	41	0	37
12	Palode	7.01	168	16	5.6	0.49	20	8	0	34	7.5	28	0	16
13	Pangode	6.81	240	18	5.6	0.97	32	9.4	0	12	1	47	0	48
14	Perumkuzhi	7.16	400	82	30	1.5	37	7.2	0	59	39	50	0	63
15	Pothencode	7.58	390	132	52	0.49	11	11	0	117	15	71	0	15
16	Poonthura	6.34	159	20	3.2	2.9	20	4.6	0	7.3	2.5	30	0.08	27
17	Pozhiyoor	7.94	1970	245	62	22	290	10	0	127	240	241	0.28	22
18	Pudukurichi	8.3	800	195	60	11	76	13	24	244	33	103	0.18	46
19	Tiruvananthapuram	7.11	280	24	5.6	2.4	40	2.7	0	4.8	2	57	0.12	38
20	Vamanapuram	8.24	440	140	50	3.4	26	10	0	212	5.5	55	0.02	9.2
21	Varkala	7.45	320	48	11	4.9	38	4.8	0	15	7.5	67	0.06	27
22	Vidura	7.34	152	30	7.2	2.9	14	2.9	0	10	5	23	0.01	29
	Thrissur District													
1	Adatt	4.35	178	20	4.8	1.9	20	2.8	0	0	0	33	0.14	3
2	Annamanada	6.44	177	20	6.4	0.97	19	6.4	0	9.8	3	38	0.11	8.7
3	Chalakydy	3.39	199	18	4	1.8	7.8	2	0	0	0	13	0.12	48
4	Chavakkad	6.31	127	28	10	0.49	10	1.9	0	17	31	13	0.16	14
5	Chelakkara	7.75	310	100	22	11	24	3.2	0	159	25	28	0.7	10
6	Cherpu	7.04	119	20	6.4	0.97	14	3.2	0	37	3.5	19	0.04	3.5
7	Cheruthuruthi	8.05	460	170	34	21	30	1.3	0	238	33	43	0.1	10
8	Echipara	7.55	75	18	4.8	1.5	4.7	1.4	0	32	2.5	5.7	0	3.1
9	Engandiyur	8.08	280	108	42	0.49	19	2.7	0	142	17	26	0	14
10	Eriyad	7.08	290	78	26	3.4	21	4.3	0	7.3	9	27	0	98
11	Guruvayur	7.21	250	62	18	4.4	23	2.8	0	27	4.5	31	0.42	58
12	Irinjalakuda	6.76	230	68	22	2.9	11	6.7	0	12	28	24	0.1	46

13	Kallumpuram	7.08	169	36	8.8	3.4	17	3.5	0	27	13	24	0.22	17
14	Kallur	7.21	120	22	6.4	1.5	11	5.8	0	29	1	21	0	9.6
15	Keechery	6.95	320	56	13	5.8	38	8.3	0	9.8	0	58	0	72
16	Kodungallur	7.84	590	135	48	3.6	66	18	0	360	23	96	0.04	36
17	Kundannur	7.77	730	270	44	39	38	5.7	0	165	40	103	0.52	3.1
18	Mala	6.8	167	32	8.8	2.4	9.4	7.6	0	12	15	19	0	21
19	Manalur	3.72	129	6	2.4	Tr	4.3	0.8	0	0	0	9.9	0	11
20	Manamangalam	7	43	8	2.4	0.49	4.9	0.8	0	7.3	2.5	7.1	0.44	3.5
21	Mulankunnathukavu	7.85	250	50	14	3.9	17	12	0	79	19	27	0	21
22	Mupiliyam	6.66	184	24	7.2	1.5	15	4.9	0	4.9	2.5	27	0.04	10
23	Muriyad	3.46	300	26	5.6	2.9	16	5.9	0	0	1	38	0	9.1
24	Pattikkad	7.46	114	42	11	3.4	6	1.3	0	73	6.5	9.9	0.16	1.7
25	Perinjanam	7.42	620	155	58	2.4	47	13	0	85	34	68	0	141
26	Punnayur	7.8	111	32	13	Tr	3.1	1.8	0	66	0	5.7	0.02	0.65
27	Tekkumkara	3.11	420	-	-	-	-	-	0	0	3.5	-	0	89
28	Thrissur	3.4	260	24	5.6	2.4	8.4	0.1	0	0	3	20	0.08	43
29	Triprayar	8	360	115	40	3.6	38	13	0	68	28	43	0.04	3.3
30	Vadakkancherry	7.64	106	24	7.2	1.5	9.6	2	0	34	0	14	0.02	14
	Wayanad District													
1	Ambalavayal	7.4	230	42	13	2.4	26	5.8	0	39	17	44	0.32	19
2	Chenad	8.87	131	48	15	2.4	7.7	3.7	12	54	0	16	0.44	4.8
3	Kalpetta	9.93	350	64	18	4.4	34	20	-	-	26	43	0.56	55
4	Kamblakat	8.46	163	44	12	3.4	14	1.1	traces	61	2	20	0.32	6.1
5	Koroth	9.87	84	24	8.8	0.49	4.3	1.3	-	-	2	2.8	0.28	0.32
6	Mananthody	8.71	370	110	34	5.8	28	16	14	127	32	40	0.74	32
7	Minangadi	9.38	210	44	18	traces	22	3	19	7.3	13	37	0.66	19
8	Muthanga	8.01	710	220	64	15	70	3.6	0	250	6	139	0.42	6.4
9	Noolpuzha	9.51	160	46	9.6	5.4	7.8	3.6	41	15	6	10	0.06	0.42
10	Padinjarattara	9.57	191	36	12	1.5	19	1	-	-	13	27	0.1	25
11	Perikallur	9.82	350	40	15	0.49	47	2.5	-	-	19	70	0.12	16
12	Pulpally	10.1	210	26	10	traces	25	1.6	-	-	2.5	34	0.16	7.8
13	Sulthan Bathery	8.38	440	112	24	13	36	20	7.2	17	35	47	0.1	138
14	Tirunelly	8.81	128	38	10	2.9	7.9	3	12	39	4	11	0	8.8

15	Vaduvanchal	7.83	153	38	11	2.4	8.8	5.1	0	27	1	17	0.08	32
16	Valatt	7.91	60	20	8	traces	3.5	0.4	0	32	3	7.1	0.02	1.6
17	Vyttiri	7.74	177	46	14	2.9	15	6.1	0	46	26	20	0.08	8.3

Central Ground Water Board
Kerala Region, Thiruvananthapuram
Phone: 0471-2442175, 2555026
Fax: 0471 – 2442191
e-mail: rdkr-cgwb@nic.in
Visit us: www.cgwb.gov.in, www.mowr.gov.in

केंद्रीय भूमिजल बोर्ड
केरल क्षेत्र, तिरुवनंतपुरम
दूरभाष : 0471 - 2442175, 2555026
फाक्स : 0471 – 2442191
ईमेल: rdkr-cgwb@nic.in
वेब साईट: www.cgwb.gov.in, www.mowr.gov.in

