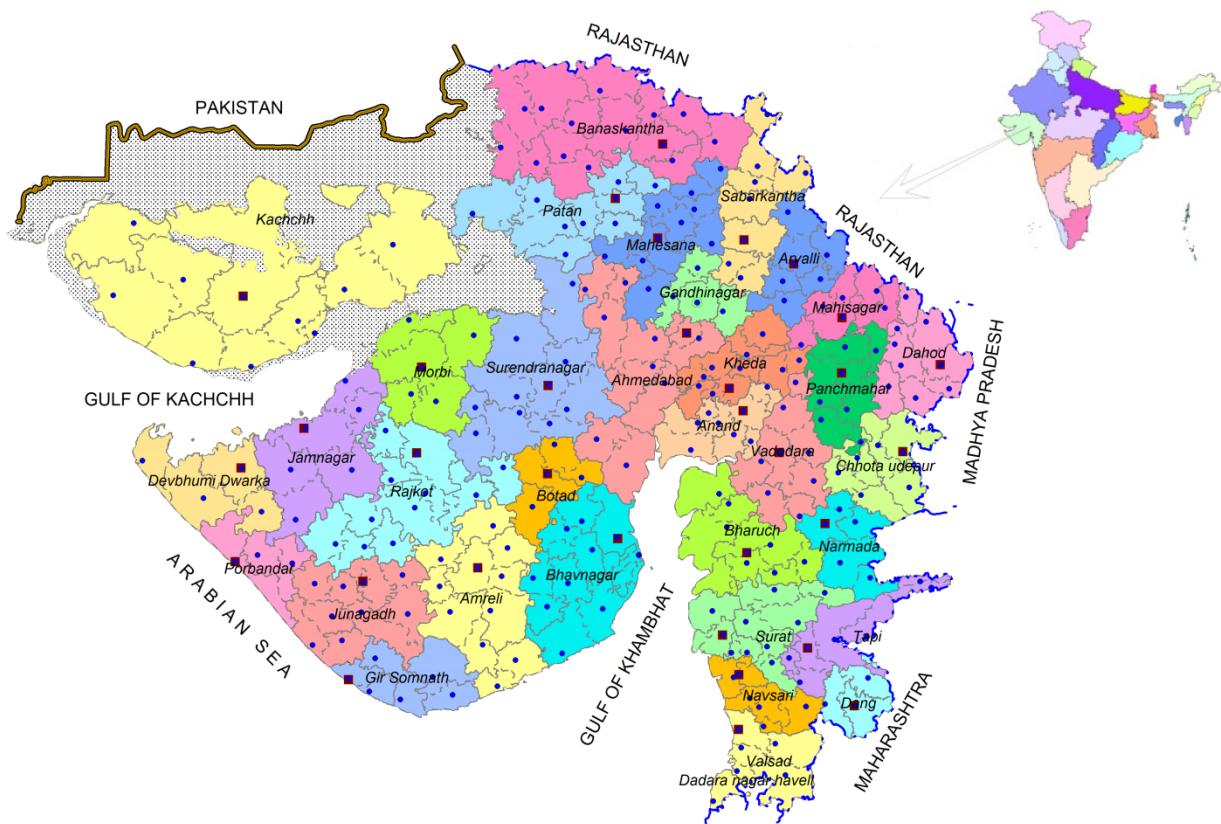




CENTRAL GROUND WATER BOARD
MINISTRY OF JAL SHAKTI
DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT AND
GANGA REJUVENEATION

GROUND WATER YEAR BOOK 2020-21
GUJARAT STATE



REGIONAL OFFICE DATA CENTRE
CENTRAL GROUND WATER BOARD
WEST CENTRAL REGION
AHMEDABAD

December - 2021



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DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT AND
GANGA REJUVENEATION
GOVERNMENT OF INDIA

GROUND WATER YEAR BOOK 2020-21
GUJARAT STATE

Compiled by

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**REGIONAL OFFICE DATA CENTRE
CENTRAL GROUND WATER BOARD
WEST CENTRAL REGION
AHMEDABAD**

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FOREWORD

Central Ground Water Board, West Central Region, has been issuing Ground Water Year Book annually for Gujarat state by compiling the hydrogeological, hydrochemical and groundwater level data collected from the Groundwater Monitoring Wells established by the Board in Gujarat State. Monitoring of groundwater level and chemical quality furnish valuable information on the groundwater regime characteristics of the different hydrogeological units moreover, analysis of these valuable data collected from existing observation wells during May, August, November and January in each groundwater year (June to May) indicate the pattern of groundwater movement, changes in recharge-discharge relationship, behavior of water level and qualitative & quantitative changes of groundwater regime in time and space. It also helps in identifying and delineating areas prone to decline of water table and piezometric surface due to large scale withdrawal of groundwater for industrial, agricultural and urban water supply requirement. Further water logging prone areas can also be identified with historical water level data analysis. This year book contains the data and analysis of groundwater regime monitoring for the year 2020-21.

The behavior of groundwater levels as analyzed from the existing Groundwater Monitoring Wells data and the chemical quality of groundwater is discussed in details in this report along with the thematic maps depicting the groundwater scenario for different periods of measurements. The depth to water level, water level fluctuations, water table and water quality maps have been prepared and presented in this report along with detailed discussion on each map.

The scientific officers of the Regional office have systematically collected field data from the Groundwater Monitoring Network Wells four times during the viz., May, August, November and January and the analysis of same has been presented in this report along with changes in different seasons and long term changes in water level. The water samples were collected during May 2020 were analysed in the Regional Chemical Laboratory of West Central Region Ahmedabad to bring out chemical characteristic of groundwater. As a special drive to monitor presence of arsenic in groundwater, the concentration of arsenic has been measured and produced in the report.

I hope the report would be externally useful to various agencies engaged in groundwater development and management for fruitful planning in time and space.

(Sanjeev Mehrotra)
Regional Director (I/C)

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EXECUTIVE SUMMARY

- ◆ Central Ground Water Board has set up a network of 1064 Groundwater monitoring wells including 290 piezometers. Initially the monitoring commenced with the establishment of 82 observation wells spread uniformly over the entire state, in the year 1969 and since then number of stations were added regularly so as to get proper hydrological information of different hydrogeological and geo-morphological units.
- ◆ The density of groundwater monitoring wells is $157 \text{ km}^2/\text{well}$ in Gujarat.
- ◆ The average decadal rainfall varies from about 2247 mm in Valsad to about 478 mm in Kachchh.
- ◆ Gujarat is one of the frequent drought prone states of India. Several consecutive droughts have been experienced during last 20 years, 1986-88 was the longest and the most severe drought period experienced in the past.
- ◆ The average rainfall for 2020 is 1201 mm, against the decadal average of 897 mm.
- ◆ Groundwater levels are being monitored four times in a year, and representative water samples for quality (inorganic constituents) are collected during pre-monsoon (May) period.
- ◆ 62% of the wells have depth to water levels in the range of 5 to 20 m bgl (meter below ground level) during pre-monsoon 2020. The water levels were deeper in Amreli, Banaskantha, Gandhinagar, Mahesana, Patan and Sabarkantha districts.
- ◆ Deeper water levels were observed mainly in the over exploited and critical talukas are in some parts of North Gujarat and Saurashtra area.
- ◆ The shallow water levels of less than 5 mbgl were observed along the coast, Rann of Kachchh and in parts of The Dangs, Surat and Bharuch districts.
- ◆ The long term groundwater scenario in comparison to pre monsoon 2020 indicates that 26% well shows fall where as in post monsoon it oserved in 33% of wells.
- ◆ Deep confined aquifers exist in north Gujarat and they are grouped into, first confined aquifer ranging in depth from 78 to 162 mbgl and second confined aquifer ranging in depth from 154 to 274 mbgl.
- ◆ In parts of Mahesana and Gandhinagar districts, depth to piezometric surface during pre monsoon is more than 40m bmsl in the first confined aquifer and it is more than 120 m bmsl in second confined aquifer noticed in and around Mahesana and Patan districts.

- ◆ In general groundwater quality is good in hard rock areas occupying eastern hilly part of the state, central part of Kachchh and Saurashtra plateau. In soft rock and unconsolidated formations groundwater quality is variable.
- ◆ The quality of groundwater deteriorates in discharge area. Quality of groundwater is inferior along the coast, the Rann and in the low-lying saline tract between Saurashtra and main land Gujarat.
- ◆ The deterioration in groundwater quality in the coastal areas is mainly due to over drawals causing seawater ingress which needs to be arrested.
- ◆ In Mahi Right Bank Canal and Ukai – Kakrapar canal command areas, water logging has surfaced and needs to be addressed suitably by adopting appropriate conjunctive use strategies.
- ◆ Alarming declines in groundwater levels of Central Gujarat plains and in select areas of Saurashtra and Kachchh warrant immediate attention for taking-up of recharge schemes to arrest further declines and augment the groundwater resources. The artificial recharge of groundwater especially in North Gujarat, Kachchh and in major part of Saurashtra is a necessity.
- ◆ Pointed attention of the administrators and policy makers is drawn towards adoption of artificial recharge, public awareness and other appropriate measures for ensuring adequate groundwater availability and sustainability.

1 INTRODUCTION

The West Central Region of Central Ground Water Board has jurisdiction over the State of Gujarat ($1,96,024 \text{ km}^2$) and Union Territory (UT) of Daman & Diu (112 km^2) covering an area of $1,96,136 \text{ km}^2$. The Gujarat State is situated between North latitudes $20^\circ 06' 00''$ to $24^\circ 42' 00''$ and East longitudes $68^\circ 10' 00''$ to $74^\circ 28' 00''$ (Fig. 1). Gujarat has nearly 1600 km long coastline, which is the longest as compared to any other state in the country. It is extending from Lakhpat in north to Daman in south. The State has common boundaries with the states of Rajasthan, Madhya Pradesh and Maharashtra and shares international border with Pakistan in northwest. UT of Daman & Diu has an area of 106 km^2 . Diu is an Island just south of Saurashtra coast and Daman is situated west of Vapi in the south.

There are 18,225 villages and 348 towns in Gujarat including 16 towns with more than 1,00,000 population. The total population is 60,383,628 of which 31,482,282 are males and 28,901,349 are females (2011 census). Out of the total population, the population of the Scheduled Caste is 4,074,447 and that of the Scheduled tribe is 8,917,174. The total population of U.T. of Daman & Diu is 243,247 of which 150,301 are males and 92,976 are females (2011 Census).

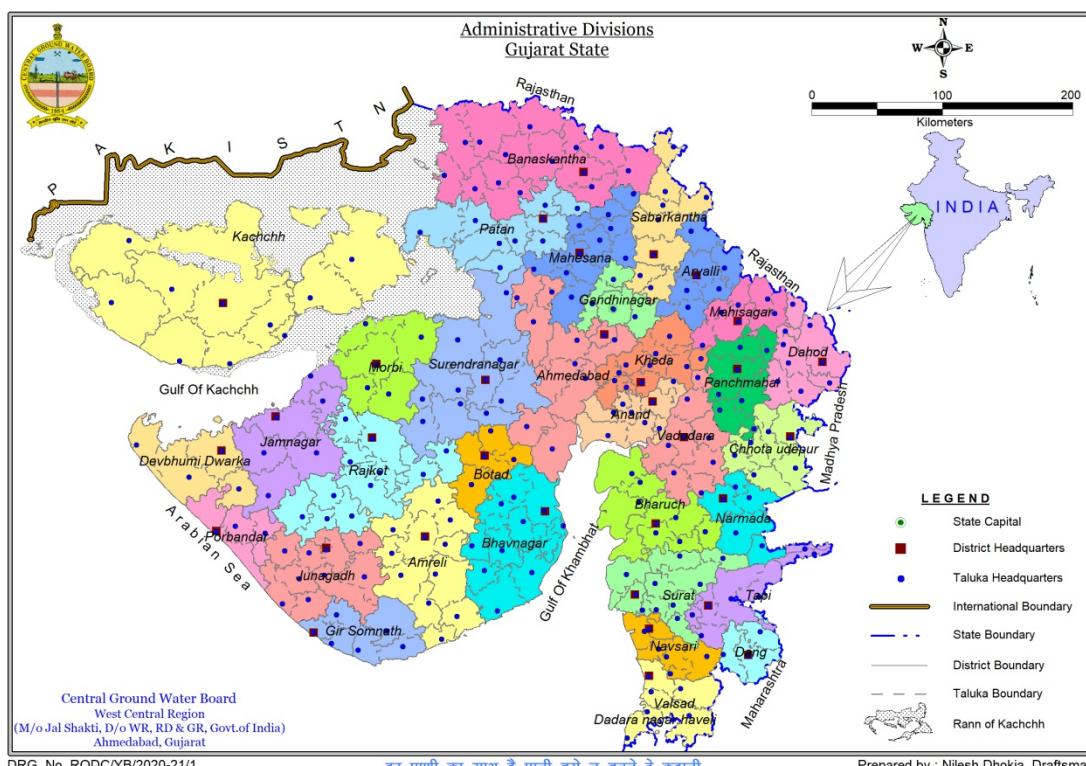


Fig. 1: Administrative divisions of Gujarat State

The tribal areas are located all along the interstate boundary, extending from Banaskantha district in the north to The Dangs district in the south. The tribal belt has a total geographical area of $29,560 \text{ km}^2$ and is shown in Fig. 1.

The diverse physiographic, climatic, topographic and geologic conditions have given rise to diversified groundwater situations in different parts of the state. Occurrence and movement of groundwater is controlled by rock formations of varied composition and structure and range in age from Archean to Recent. Similarly, the landform varies from the hilly tract to the uplands of Kachchh and Saurashtra, the alluvial plains extend from Banaskantha in the north to Valsad in the south, the low lying coastal tract surrounding the Kachchh and Saurashtra uplands and the marshy to saline tracts of the Rann of Kachchh and little Rann of Kachchh. The topography and rainfall virtually control the runoff and groundwater recharge.

Droughts are frequent in north Gujarat, Saurashtra and Kachchh regions due to poor and erratic rainfall. The climate varies from humid in the south through sub-humid in the central part to semi-arid and arid in the northern and western parts. The state receives rainfall mainly during southwest monsoon period. The normal rainfall shows an erratic rainfall pattern during 2020 which shows high rainfall 2325.40 mm in south (Surat District) to 585.0 mm in Dahod district. The distribution of normal rainfall in the state is depicted in **Fig. 2**.

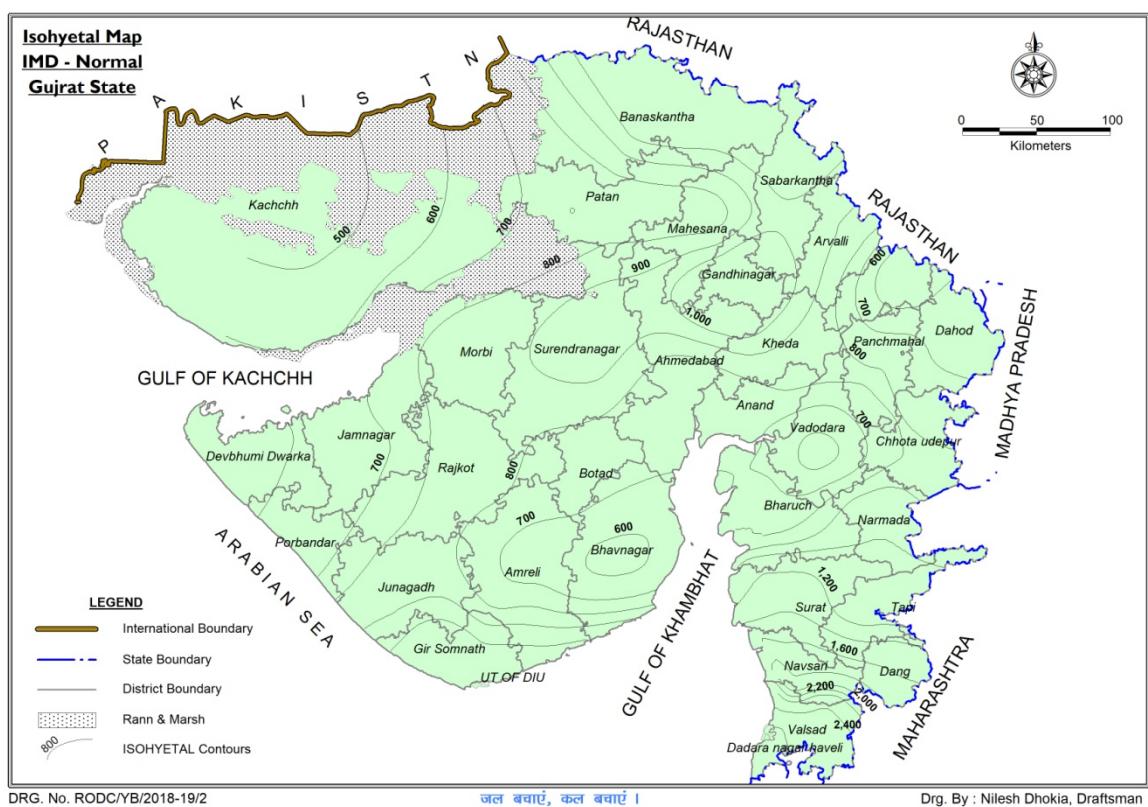


Fig. 2: Distribution of IMD normal rainfall

During 2020 Gujarat received 34% more rainfall than the average rainfall (Annexure I). About 9% of the area received less rainfall than annual average (2010-2019). Arvalli, Dahod, Dangs and Valsad districts received rainfall below normal. While remaining districts has received morethan 44% annual rainfall as compared to decadal average

annual rainfall (2010-2019). Annual rainfall during 2020, Average decadal annual rainfall and its departure from average decadal annual rainfall in the Gujarat state is presented in Table 1 and map representing distribution of rainfall district wise in bars is presented as Fig. 3.

Table 1. District wise Average Annual Rainfall in the Gujarat state

Sl. No.	District	Rainfall 2020, mm	Average Rainfall, mm (2010 to 2019)	Departure % (Year 2020)
1	Ahmedabad	674.90	644.05	4.79
2	Amreli	1163.18	653.93	77.87
3	Anand	962.63	787.52	22.23
4	Arvalli	831.50	872.54	-4.70
5	Banas kantha	732.21	701.70	4.35
6	Bharuch	1084.22	778.17	39.33
7	Bhavnagar	737.60	609.15	21.09
8	Botad	1002.25	642.40	56.02
9	Chhota udaipur	1059.33	981.18	7.97
10	Dahod	585.00	669.36	-12.60
11	Devbhumi dwarka	2244.50	796.90	181.65
12	Gandhinagar	925.25	863.83	7.11
13	Gir somnath	1536.67	1012.16	51.82
14	Jamnagar	1444.67	723.18	99.76
15	Junagadh	1702.56	1044.57	62.99
16	Kachchh	1162.00	478.53	142.83
17	Kheda	851.50	727.19	17.09
18	Mahesana	818.20	659.75	24.02
19	Mahisagar	688.83	660.13	4.35
20	Morbi	1099.40	629.89	74.54
21	Narmada	1326.80	979.86	35.41
22	Navsari	2099.67	1618.27	29.75
23	Panch mahals	965.57	883.20	9.33
24	Patan	816.56	630.68	29.47
25	Porbandar	1585.00	806.38	96.56
26	Rajkot	1238.91	746.79	65.90
27	Sabarkantha	968.38	906.28	6.85
28	Surat	2325.40	1448.40	60.55
29	Surendra nagar	866.30	607.23	42.66
30	Tapi	1608.00	1149.39	39.90
31	The dangs	1691.33	1882.81	-10.17
32	Vadodara	821.88	758.26	8.39
33	Valsad	2035.83	2247.17	-9.40
State		1201.70	897.00	33.97

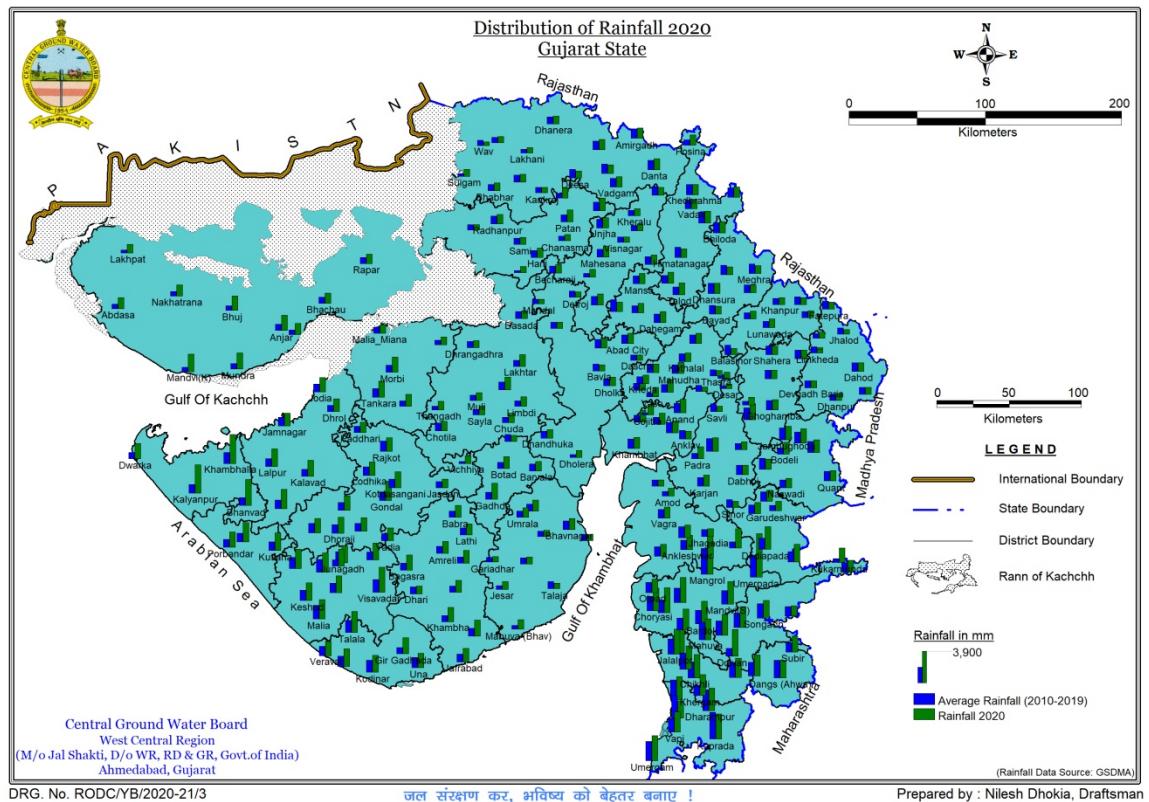


Fig. 3: Distribution of rainfall in Gujarat state

Central Ground Water Board, as a part of its national programme, has established a network of observation wells in the state of Gujarat for periodic monitoring of groundwater levels and to study its quality variation in time and space. 1251 groundwater monitoring wells including 386 piezometers (Pz) are presently being monitored in the state of Gujarat. The distributions of monitoring wells in different districts are given in Table 2.

Large rivers like Narmada, Mahi, Tapi, and Sabarmati flow through the state and form their own basins. Other minor rivers have been grouped together to form river basins. In all, eight river basins have been identified by the All India Soil Survey & Land Use Department as listed below:

1. Sabarmati river basin.
2. Mahi river basin.
3. Narmada river basin.
4. Tapti river basin.
5. Luni and other drainage in the Great Rann of Kachchh
6. Draining in to Gulf of Kachchh
7. Southern Kathiawar
8. Sharavati to Tapti

The sub basins of these major river basins and the distribution of groundwater monitoring wells in these different river basins are given in Annexure I. Map showing hydrograph stations monitored during the year and their distribution in different basin and the district is presented as Fig. 4.

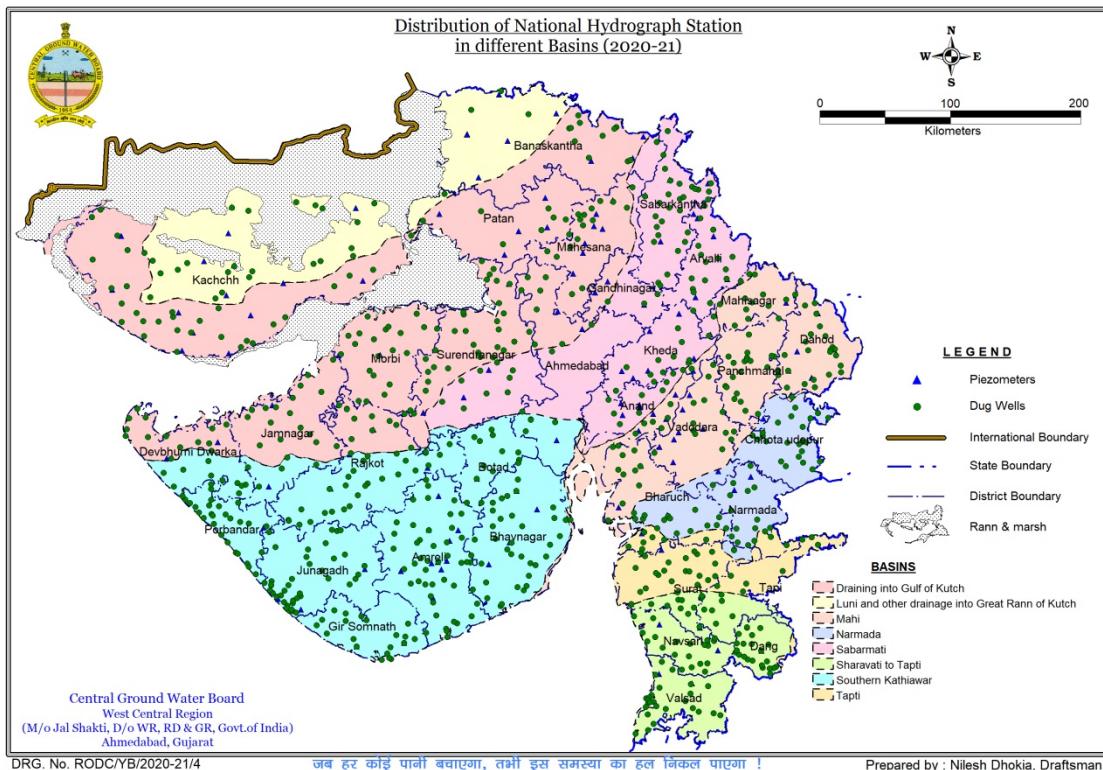


Fig. 4: Distribution of GWMNS in the districts and major river basins

Table 2. District wise distribution of of groundwater monitoring wells monitored during 2020-21

Sl. No.	District	As on rest of the field season 2020-21			NHS Well As on March 2021			Monitored during May 2020			Monitored during August 2020			Monitored during November 2020			Monitored during January 2021			
		DW	Pz	Total	DW	Pz	Total	DW	Pz	Total	DW	Pz	Total	DW	Pz	Total	DW	Pz	Total	
∞	1 Ahmedabad	11	27	38	11	12	23	11	12	23	6	8	14	9	7	16	12	9	21	
	2 Amreli	48	14	62	42	9	51	10	39	49	10	34	44	8	32	40	12	32	44	
	3 Anand	15	14	29	15	13	28	12	10	22	10	11	21	13	13	26	14	12	26	
	4 Arvalli	14	7	21	14	7	21	4	17	21	2	13	15	3	17	20	4	15	19	
	5 Banaskantha	15	30	45	13	27	40	23	13	36	17	10	27	21	12	33	21	10	31	
	6 Bharuch	34	6	40	31	6	37	6	29	35	5	28	33	4	30	34	6	31	37	
	7 Bhavnagar	35	6	41	33	3	36	4	29	33	5	32	37	4	31	35	6	39	45	
	8 Botad	9	1	10	9	1	10	1	8	9	1	8	9	1	6	7	4	4	4	
	9 Chhota Udepur	20	6	26	20	6	26	3	22	25	3	20	23	2	22	24	2	21	23	
	10 Devbhumi Dwarka	20	1	21	20	1	21	2	23	25	2	23	25	19	19	2	21	23	23	
	11 Dohad	24	6	30	16	6	22	6	23	29	6	22	28	6	21	27	6	20	26	
	12 Gandhinagar	2	24	26	2	27	29	21	2	23	11	1	12	9	1	10	13	1	14	
	13 Gir Somnath	20	5	25	18	4	22	4	18	22	5	16	21	3	17	20	5	18	23	
	14 Jamnagar	42	5	47	31	4	35	3	25	28	3	24	27	4	21	25	2	26	28	
	15 Junagadh	30	5	35	29	4	33	5	35	40	5	37	42	5	36	41	5	38	43	
	16 Kachchh	52	14	66	44	15	59	16	44	60	16	39	55	15	38	53	16	39	55	
	17 Kheda	15	11	26	12	10	22	9	11	20	9	11	20	10	10	20	10	10	20	
	18 Mahesana	16	32	48	15	35	50	30	15	45	23	14	37	27	15	42	26	16	42	
	19 Mahisagar	10	5	15	10	5	15	5	13	18	5	13	18	5	13	18	5	13	18	
	20 Morbi	19	1	20	19	1	20	1	8	9	1	12	13	1	17	18	1	18	19	
	21 Narmada	18	6	24	17	5	22	5	15	20	4	15	19	6	15	21	6	16	22	
	22 Navsari	20	2	22	22	2	24	1	19	20	1	18	19	1	20	21	1	20	21	
	23 Panchmahals	32	4	36	12	4	16	3	19	22	2	20	22	3	20	23	3	18	21	
	24 Patan	10	16	26	9	14	23	12	7	19	10	7	17	8	7	15	10	6	16	
	25 Porbandar	29	2	31	24	3	27	3	28	31	3	28	31	3	29	32	3	29	32	
	26 Rajkot	54	5	59	30	5	35	4	27	31	3	19	22	4	24	28	4	28	32	
	27 Sabarkantha	26	10	36	20	10	30	7	24	31	8	29	37	7	23	30	7	24	31	
	28 Surat	36	3	39	34	3	37	2	30	32	2	25	27	3	28	31	3	30	33	
	29 Surendranagar	28	4	32	36	4	40	4	20	24	4	26	30	3	27	30	5	28	33	
	30 Tapi	15	1	16	15	1	16	1	15	16	9	9	1	17	18	1	16	17	17	
	31 The dangs	24	1	25	26	1	27	1	23	24	10	10	10	1	19	20	1	23	24	
	32 Vadodara	12	14	26	11	14	25	14	13	27	13	10	23	12	11	23	11	13	24	
	33 Valsad	19	2	21	19	2	21	1	19	20	1	11	12	2	20	22	2	17	19	
		Total	774	290	1064	679	264	943	234	655	889	196	603	799	204	638	842	225	661	886

2 HYDROGEOLOGY

The high relief areas in the eastern and north-eastern parts of the state occupied by the Deccan Traps and the Archeans respectively have steep topographic gradients resulting in high run-off, and therefore, provide little scope for groundwater recharge. The groundwater potential in this terrain is limited. The large alluvial tract extending from Banaskantha district in the north to Surat and Valsad districts in the south constitutes the largest and most potential groundwater reservoir in the state. The aquifers are extensive, thick, hydraulically connected and are moderate to high yielding. To the west of this alluvial tract, especially around the discharge areas, characteristic artesian free flow conditions are observed. Almost the entire Saurashtra and Kachchh regions are occupied by a variety of hard and fissured formations which include basalt and consolidated sedimentary formations with semi-consolidated sediments along the low-lying coastal areas. The compact and fissured nature of rocks gives rise to discontinuous aquifers with moderate yield potential. The friable semi-consolidated sandstone forms an aquifer with moderate yield potential. The coastal and deltaic areas in the state form a narrow linear strip and are underlain by Tertiary sediments and Alluvium. Though highly potential aquifers occur in these areas, salinity is a constraint for groundwater development. Groundwater withdrawal requires to be strictly regulated so that it does not exceed the annual recharge and also that it does not disturb the hydro-chemical balance leading to seawater ingress. The quality of groundwater in both hard rock and alluvial terrain is, by and large suitable except, in the coastal areas, estuarine tract and the Rann where the degree of mineralisation in groundwater is rather high and salinity is common. Salinity in groundwater is also noticed in the arid and semi-arid tract. The different conditions of groundwater occurrence in the state have led to divergent groundwater situations in the areas occupied by different geological formations (Fig. 5). The formation-wise hydrogeological characteristics in the state of Gujarat has been broadly summarised in the Table 3.

Table 3. Distribution of hydrogeological formations in Gujarat and their Potential

Age	Rock Formation	Distribution	Hydrogeological Characteristics
Porous Formation			
Quaternary to upper Tertiary	Impure limestones, limestones, sandstones, conglomerates, pebble beds, silt stones, sands, pebbles, gravels etc.	Ahmedabad, Amreli, Banaskantha, Bhavnagar, Bharuch, Kachchh, Kheda, Jamnagar, Junagadh, Rajkot, Mahesana, Surendranagar and Valsad Districts	Unconfined shallow aquifer, leaky confined/ confined and deeper aquifer. Large to moderate yield prospects: 10 to 40 lps, Storativity: 1.6×10^{-4} to 7.3×10^{-4} , Hydraulic Conductivity: 5 to 20m/day, Transmissivity: 50 to 2000m ² /day
Mesozoic	Sandstones, Shales, Limestones and Grits	Kachchh, Surendranagar, Sabarkantha and Vadodara districts	Discontinuous aquifers with limited thickness of 50 to 300 meters. Limited yield prospects <15 lps, Hydraulic Conductivity: 2 to

			10m/day, Transmissivity: 50 to 1000m ² /day
Fissured formation			
Mesozoic to Palaeozoic	Basalt with intertrappean clays	Uplands of saurashtra, Kachchh Region, scattered patches in Panchmahals, Sabarkantha and Vadodara districts, Continuous belt in eastern part of Bharuch, Surat and Valsad districts	Groundwater occurrence restricted to weathered and fractured zones, limited to 200m, moderate yield prospects: 5 to 15 lps
Archaean and Pre-Cambrian	Granites, Gneiss, Marbles, Schists, Phyllites and Slates	Banaskantha, Sabarkantha, Panchmahals, vadodara and Kheda districts.	Groundwater occurrence restricted to weathered and fractured zones having secondary porosity, limited yield prospects of 2 to 5 lps.

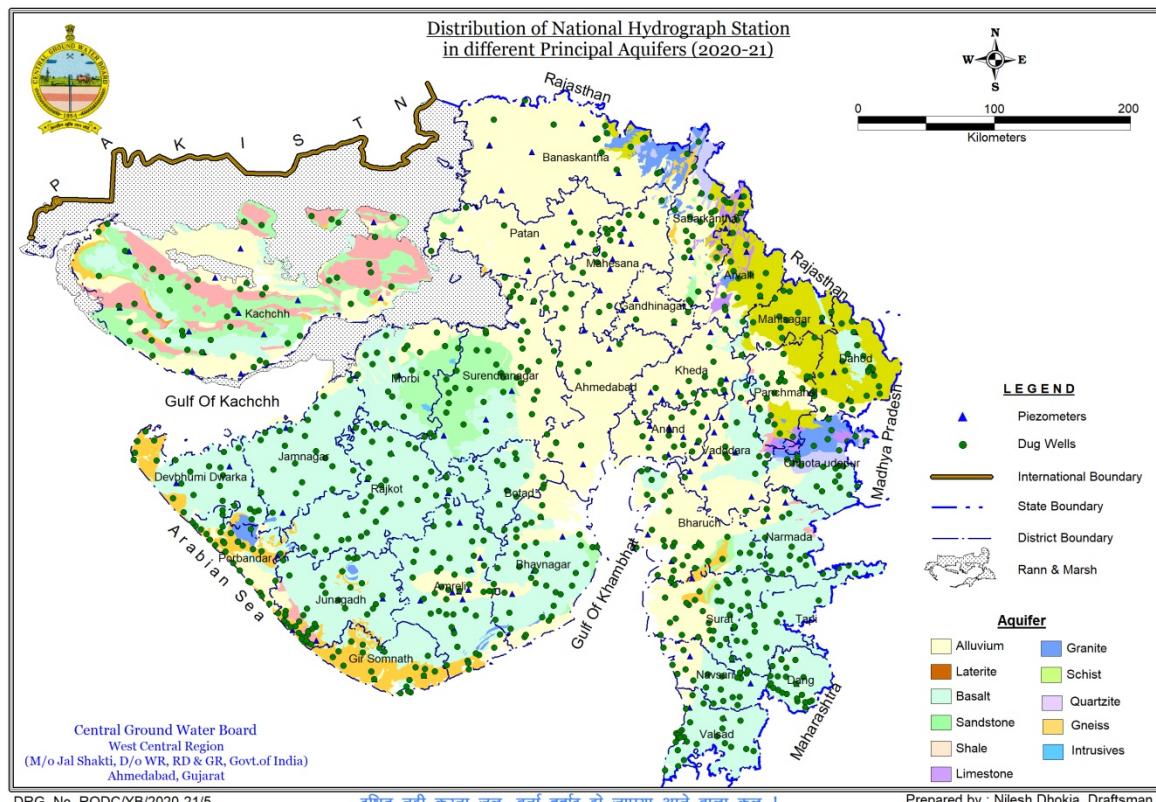


Fig. 5: Hydrogeological units and distribution of Groundwater Monitoring Network Stations.

2.1 Achaean and Proterozoic Formation

Rocks of Archaean and Proterozoic age occupy the north-eastern and eastern parts of the state and cover extensive areas in parts of Vadodara, Kheda, Panchmahals, Sabarkantha, Mahesana and Banaskantha districts. These rocks, which include gneiss, schist, phyllite, quartzite and metamorphosed igneous intrusives, do not form good aquifers due to their poor porosity and permeability. Dug wells, dug-cum-bore wells and bore wells are feasible only in favourable sites where sufficient weathered mantle and/or fractures and joints occur. The

wells tapping these aquifers have maximum depth of 30 to 40 mbgl beyond which groundwater occurrence is not common. The yield of wells in these rocks varies from a few cubic meters to 100 cubic meters per day at minimal drawdown.

2.2 Mesozoic Formation

Jurassic and Cretaceous formations include Pachchham, Chari, Katrol and Bhuj Series in Kachchh, Dhrangadhra and Wadhwani sandstones in northeastern part of Saurashtra, Bagh beds along the Narmada River and Himmatnagar sandstones in Sabarkantha district. Pachchham and Chari Series are predominantly calcareous while Wadhwani sandstones and Bagh beds include some limestone. The rest are arenaceous and consist of inter-bedded sandstone and shale sequences. The most important and productive aquifer among these formations occurs in the Bhuj Series consisting of predominantly friable, soft, medium to coarse grained sandstone occurring at depths of few meters to as much as 300 meters. Tube wells constructed up to 200 mbgl in this formation yield 70 to 170 m³/hour for drawdown of about 10 m. The salinity distribution in groundwater in Upper Bhuj aquifers is generally uniform with low concentration of dissolved solids in the upland and non-irrigated areas. Salinity gradually increases towards area of intensive irrigation and discharge area.

The Dhrangadhra sandstones comprise of about 400 m thick, fine to coarse grained sandstones inter-bedded occasionally with carbonaceous shale. Tubewells tapping about 100 m of aquifer thickness in this formation within a depth of 212 mbgl yield limited to moderate discharge of the order 14 to 80 m³/hour. Basic sills of 30 to 50 m thickness are found intruded in the Lower Dhrangadhra formation in the northern part of Surendranagar and Rajkot districts at Gala, Sathapur and Chuli villages. Normally, the sills mark the lower limit of fresh groundwater occurrence. In the northern part of Rajkot district and eastern part of Jamnagar districts, these sandstones have been encountered at depths of 200 – 250 mbgl below Traps, in semi-confined conditions.

The Himmatnagar sandstones are exposed in a narrow belt between Eklara and Ranasan villages in Sabarkantha district. They also occur below the traps near Dhansura (23°24': 75°15') at depths of 60 to 100 mbgl. Patches of these sandstones occur under the alluvial cover near Sanseli (22°42'; 75°25'), Madhwas (23°24'; 73°27') and Gugalpur (22°15': 73°28') and on the northern bank of Goma River. Although these sandstones are generally fine grained, hard and compact, coarse friable sandstones are observed at places near Kapadvanj. These sandstones, when saturated to moderate depths, form potential aquifers. Tubewells tapping these aquifers yield up to 50 m³/hour.

2.3 Deccan Trap

These are essentially basaltic lava flows with a general horizontal to near horizontal disposition over a very wide area. From groundwater potential point of view, these rocks constitute moderately promising aquifers. The jointed and fractured basalts hold and transmit water in moderate quantities. The thickness of traps ranges from 100 to 150 m in Kachchh to more than 1000 m in Cambay basin.

The yields in dug wells tapping the basalts vary from insignificant quantities to $30\text{m}^3/\text{day}$. Higher yields have been observed at hydrogeologically favourable locations. The yield of the dug wells can be enhanced considerably by lateral and/or vertical borings. The discharge of tube wells is reported to decline at places due to presence of unsaturated porous zones at depth. The quality of groundwater in traps is generally potable.

2.4 Tertiary Formation

These rocks are exposed between Narmada and Tapi rivers in parts of Bharuch and Surat districts. They also occur in the coastal tracts of Saurashtra and Kachchh.

Gaj beds belonging to Miocene occur all along the Saurashtra coast. These consist of limestone, clay and grit mostly gypsiferous with thin sand layers. Drilling at Okha ($22^\circ 28' : 69^\circ 16'$) and Veraval ($20^\circ 54' : 70^\circ 25'$) has shown that locally, the Gaj beds extend beyond 300 m depth and the deeper zones yield meagre quantities of saline groundwater.

The quality of groundwater in Gaj beds along Saurashtra coast is slightly inferior on account of intercalated clay bands and inherent salinity of Gaj beds, which were deposited under marine conditions. However, the quality of ground water in the upper Gaj limestone is better. The chloride content in groundwater ranges from 100 to 200 mg/l between Veraval, Sil ($21^\circ 11' : 70^\circ 03'$) and around Porbandar.

Dwarka beds, comprising of gypsiferous and calcareous red colour clays and sandy limestone are about 150 m thick. Groundwater in the Dwarka beds is of poor quality with chloride content ranging from 500 to 700 mg/l. Yield of dug wells are of the order of $37\text{ m}^3/\text{day}$ and tube wells yield about $22\text{ m}^3/\text{day}$ for a drawdown of about 4 m. In the Kachchh region, the sandstones of Manchhar series form good aquifers. Tubewells, ranging in depth from 116 to 169 mbgl, yield between 68 to $136\text{ m}^3/\text{hour}$ and the chloride content ranges between 96 and 612 mg/l. However, the Tertiary rocks, in general, do not form promising aquifers for groundwater development because of the inferior quality of groundwater. In southern Gujarat (Narmada-Tapti area), the tertiary rocks comprises of sandstone, shale and limestone intercalated with gravel which locally exceed 100 m in thickness. Groundwater in these rocks is mostly brackish to saline and yields are in shallow tube wells.

2.5 Quaternary Formation

The Quaternary formations include milliolite limestone, alluvium and aeolian deposits. The milliolite limestone is of limited thickness and its occurrence is confined to the coastal tract of Saurashtra. The alluvial and aeolian deposits extend as one continuous plain, from north to south and also as valley-fills in the hard rock terrain.

Highly cavernous milliolite limestone is locally a very productive aquifer. Dug wells tapping these limestones are capable of yielding up to $200\text{ m}^3/\text{day}$. These are the repositories of potable groundwater in an otherwise saline coastal belt of Saurashtra. Quaternary sediments occupy an area of about $86,680\text{ km}^2$. Their thickness in the Cambay Basin is estimated to be of the order of 500 m. However, towards north in the districts of Mahesana Banaskantha and Sabarkantha, the thickness reduces to less than 50 m near the hilly tract. In general, the thickness of the alluvium in north Gujarat ranges from 40 to 500 m. In the southern Gujarat

plains, the alluvium mostly overlies the basalts and the tertiary sediments. Its thickness ranges from a few meters near the rock outcrops to over 75 m in the lower reaches. The Quaternary sediments vary in character and composition. In the Cambay basin, these are predominantly composed of clay, silt and sand with “kankar”. The proportion of gravels, pebbles and boulders, etc., increases towards the hilly tracts. Such areas, forming the piedmont terrain, extend for 10 to 20 km from the hills into the plains.

A number of abandoned river channels and valley fills occur in the rocky areas. These are of great significance for the development of groundwater in an otherwise less promising terrain.

Groundwater in the alluvium occurs under unconfined conditions at shallow depths. In deeper horizons, it occurs under semi-confined to confined and artesian conditions. Detailed study in Mahesana, Banaskantha, Rajkot, Surendranagar, Kheda, Sabarkantha, Kachchh and Ahmedabad districts has revealed that multiple aquifers exist in major part of the alluvial plains of Gujarat up to a depth of 500 m.

These aquifers have their areas of recharge in the piedmont terrain and the hilly areas towards the east and northeast. Most of the aquifers coalesce into one phreatic aquifer in the recharge area but are identified as separate aquifers occurring under artesian conditions in the central part of the basin and in the discharge areas towards west and southwest. In parts of Mahesana and Banaskantha districts, the quaternary sediments is up to 600 m thick, comprising of 10 to 125 m thick younger alluvial deposits (Pleistocene to Recent) and 100 to 475 m thick older alluvial deposits (Pliocene to Pleistocene). The entire alluvial sequence has been divided into five major aquifers viz., A (up to 125m) or phreatic aquifer and B, C, D and E (between 125 and 600 m depth) or confined aquifers.

Due to over-exploitation, the water levels in the phreatic aquifer have declined alarmingly rendering them almost dry. Presently, first and second confined aquifers are the most exploited. The decline of water level in these aquifers is more than 40 m since 1961 at most of the area. The yield of tube wells tapping users confined aquifer vary from 20 to 40 lps.

3.0 GROUNDWATER SCENARIO

Systematic and regular monitoring of groundwater levels brings out the changes taking place in the groundwater regime. The maps so generated are of immense help for regional groundwater flow modelling which serves as a groundwater management tool to provide the necessary advance information to the user agencies to prepare contingency plans in case of unfavourable groundwater recharge situation. The data also has immense utility in deciding the legal issues arising out of conflicting interests of groundwater users.

The monitoring of groundwater levels has been carried out at groundwater monitoring wells four times in a year simultaneously throughout the State during the following periods.

- a) May - 20th to 30th (pre-monsoon)
- b) August - 20th to 30th (peak monsoon)
- c) November - 1st to 10th (post-monsoon)
- d) January - 1st to 10th (recession stage)

Water level data of the groundwater monitoring wells collected during the year 2020 - 2021 has been utilized to prepare various maps showing depth to water level and fluctuation of

water level. Depth to water level maps is useful in dealing with problems of water logging and artificial recharge, where the relative position of water level with reference to the ground surface is of critical importance. Water level fluctuation maps (rise or fall) are indispensable for estimation of change in storage in the aquifer.

For the purpose of presentation, Gujarat state has been divided into three regions, namely, (a) the Kachchh region comprising Kachchh district, (b) the Saurashtra region comprising Amreli, Bhavnagar, Botad, Devbhumi Dwarka, Gir Somnath, Jamnagar, Junagadh, Morbi, Porbander Rajkot and Surendranagar districts; and (c) the mainland Gujarat. The mainland Gujarat has been further subdivided into two regions, namely, North Gujarat comprising , Ahmedabad, Anand, Arvalli, Banaskantha, Dahod, Gandhinagar, Kheda, Mahesana, Mahisagar, Panchmahals, Patan and Sabarkantha districts; South Gujarat comprising Bharuch, Chhota Udepur, Narmada, Navsari, Surat, Tapi, The Dangs Vadodara and Valsad districts. The Union Territory of Daman and Diu has been described separately. The water level data of these open wells and piezometers are presented in the Annexure IIA and IIB.

The data is analysed for each set of measurement, and report prepared which include following maps to understand the groundwater regime in the state.

1. Depth to water level
2. Seasonal fluctuation - water level fluctuation in comparison to pre- monsoon.
3. Annul fluctuation - water level fluctuation in comparison to same month in the previous year.
4. Decadal fluctuation - water level fluctuation in the month of measurement with reference to the decadal average for the same month.

3.1 Depth to Water Level (Unconfined Aquifer)

A graphical analysis was done to understand the water level behaviours of the groundwater monitoring wells in the different categories of the water levels during every monitoring period and the same is depicted in Fig. 6 (a, b, c, d).

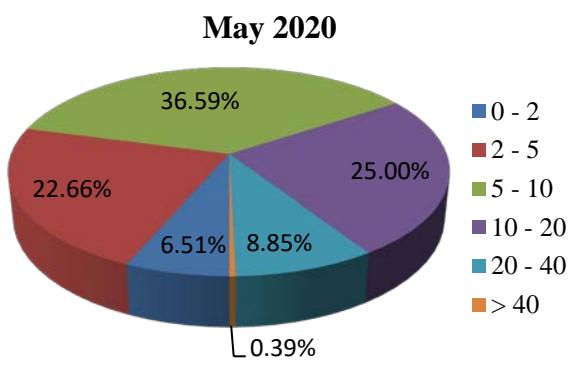


Fig 6 a

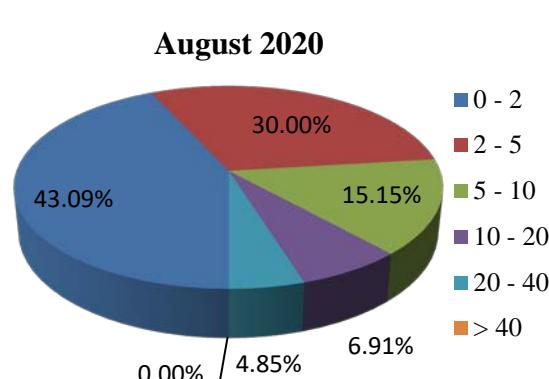


Fig 6 b

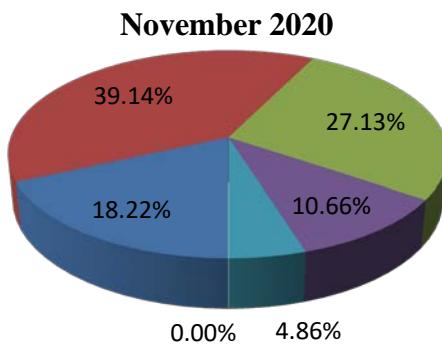


Fig 6 c

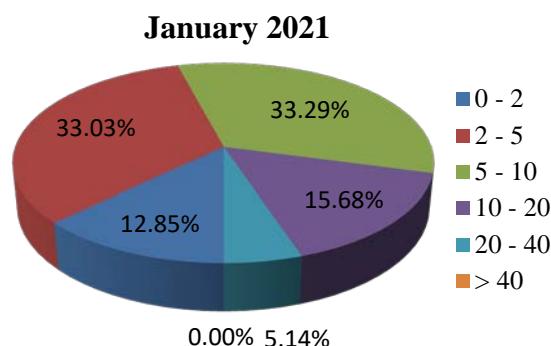


Fig 6 d

Fig. 6: Distribution of depth to water level

3.1.1 Depth to Water Level May 2020

During May 2020, in the pursuance of Fig. 7 reveals that 61.6% of the total wells of the state fall in the water level range of 5 to 20 m bgl. Water levels of 20 to 40 m bgl are observed in 8.9% wells of the Gujarat state. Deeper water level of more than 40 m bgl is observed in parts of Amreli, Junagadh and Valsad districts (Table 4). The shallowest water levels recorded are 0.50 m bgl Lilpuri village of Kuchchh district. The deepest water level recorded is 49.50 m bgl at Morjhar in Amreli district for unconfined aquifer.

In North Gujarat, about 63% of the monitoring stations fall in the water level range of 5 - 20 m bgl. Shallow water levels (lesser than 5 mbgl) are observed in 23.5% of the stations in Ahmedabad, Dahod, Kheda, Mahisagar, Panchmahal and Patan districts. Deeper water levels ranges 20 to 40 mbgl are experienced in major parts of Anand, Arvalli, Banaskantha, Mahesana and Sabarkantha districts; and adjoining area of Ahmedabad, Kheda, Panchmahals districts. The deepest water level recorded is 39.67 m bgl at Waliampura in Sabarkantha district whereas shallowest water level of 0.55 m bgl has been recorded at Shekhupura in Kheda district.

In South Gujarat, more than 59% of the stations has recorded water level between 5 - 20 mbgl where as 35% range less than 5 m bgl. Deeper water levels of more than 20 m bgl are mainly observed in parts of Vadodara, Valsad, Surat and Navsari districts. The deepest water level of 49.20 m bgl is recorded at Dahli (bhilad) in Valsad district whereas the shallowest water level of 0.85 m bgl has been recorded at Luhara in Bharuch district.

In Saurashtra region, about 62% of the monitoring stations show water levels 5 - 20 mbgl. Water levels of 20 to 40 m are found as isolated patches scattered in Amreli, Bhavnagar, Gir Somnath and Junagadh districts. The shallowest water level, 0.55 m bgl, has been recorded at Kadegi village in Porbandar district and the deepest water level of 49.50 m bgl recorded at Morjhar in Amreli district.

In Kachchh region 61% of the monitoring stations, the water level is between 5 - 20 mbgl. Western part of the area shows water level rages 2 to 5 m bgl. The water levels more than 20 m occur as isolated patches scattered in the central and eastern part of the Kachchh district. The deepest water level of 37.00 m bgl is recorded at Kotada and the shallowest water level of 0.62 m bgl has been recorded at Haboi.

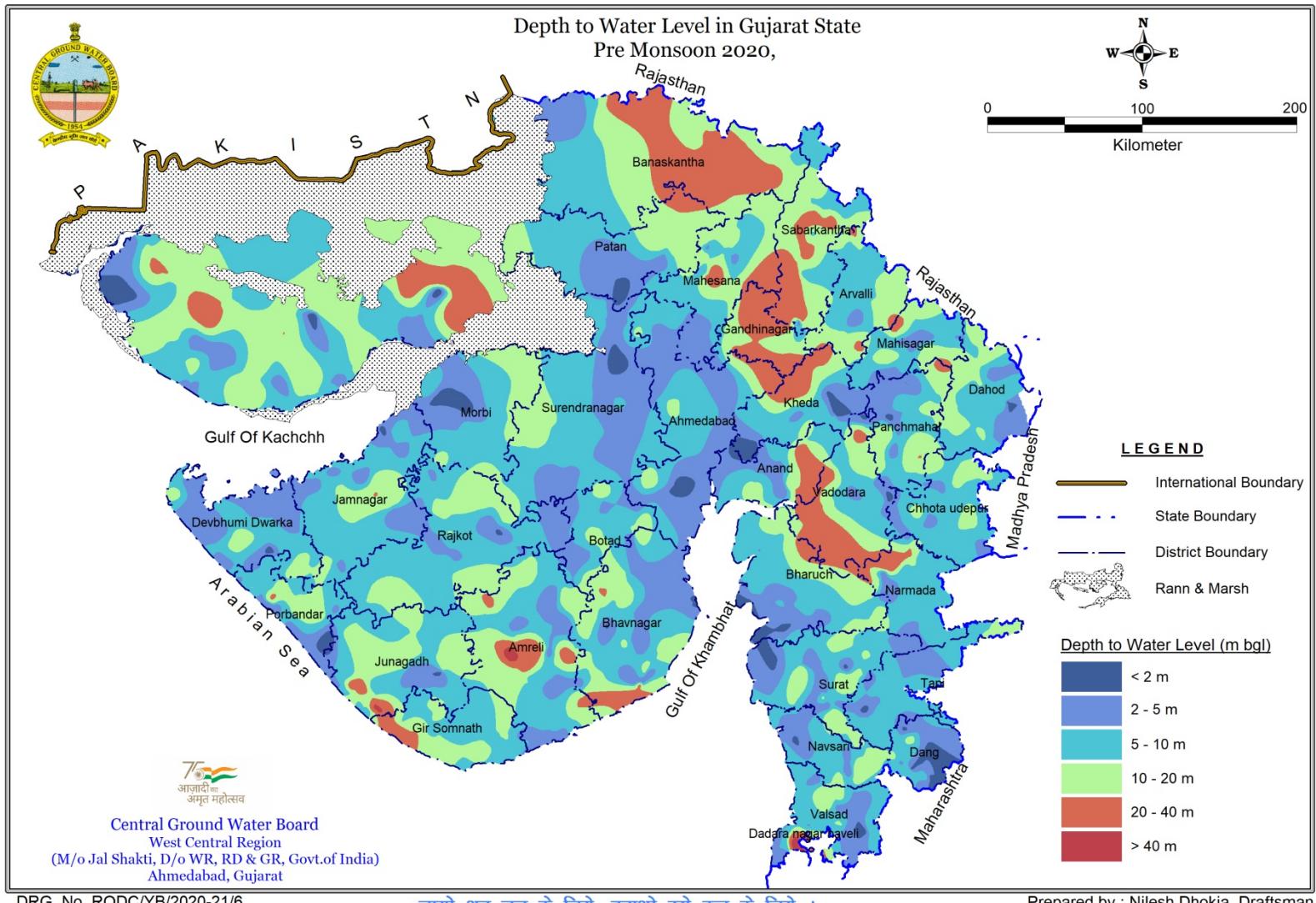


Fig.7: Depth to water level map of May 2020

Table 4. Wellwise categorisation of depth to water level May 2020

Sr. No.	District Name	No of well analysed	DTWL, mbgl		No. of wells in diffrent depth range					
			Min	Max	0 to 2	2 to 5	5 to 10	10 to 20	20 to 40	> 40
1	Ahmedabad	15	1.52	20.40	1 6.7%	7 46.7%	4 26.7%	2 13.3%	1 6.7%	0 0.0%
2	Anand	12	2.40	29.29	0 0.0%	3 25.0%	3 25.0%	2 16.7%	4 33.3%	0 0.0%
3	Arvalli	20	3.36	23.10	0 0.0%	1 5.0%	10 50.0%	7 35.0%	2 10.0%	0 0.0%
4	Banaskantha	18	2.80	34.08	0 0.0%	1 5.6%	4 22.2%	5 27.8%	8 44.4%	0 0.0%
5	Dohad	29	1.14	14.20	2 6.9%	6 20.7%	12 41.4%	9 31.0%	0 0.0%	0 0.0%
6	Gandhinagar	4	14.15	26.30	0 0.0%	0 0.0%	0 0.0%	2 50.0%	2 50.0%	0 0.0%
7	Kheda	15	0.55	36.60	3 20.0%	2 13.3%	5 33.3%	3 20.0%	2 13.3%	0 0.0%
8	Mahesana	26	2.26	29.84	0 0.0%	8 30.8%	8 30.8%	9 34.6%	1 3.8%	0 0.0%
9	Mahisagar	18	1.95	27.65	1 5.6%	4 22.2%	8 44.4%	4 22.2%	1 5.6%	0 0.0%
10	Panchmahals	22	1.21	21.85	2 9.1%	4 18.2%	9 40.9%	5 22.7%	2 9.1%	0 0.0%
11	Patan	8	0.74	17.73	1 12.5%	2 25.0%	0 0.0%	5 62.5%	0 0.0%	0 0.0%
12	Sabarkantha	30	3.49	39.67	0 0.0%	3 10.0%	9 30.0%	11 36.7%	7 23.3%	0 0.0%
	North Gujarat	217	0.55	39.67	10 4.6%	41 18.9%	72 33.2%	64 29.5%	30 13.8%	0 0.0%
13	Bharuch	32	0.85	15.22	3 9.4%	12 37.5%	14 43.8%	3 9.4%	0 0.0%	0 0.0%
14	Chhota Udepur	25	3.20	17.20	0 0.0%	4 16.0%	14 56.0%	7 28.0%	0 0.0%	0 0.0%
15	Narmada	20	1.92	29.37	1 5.0%	4 20.0%	9 45.0%	3 15.0%	3 15.0%	0 0.0%
16	Navsari	20	1.40	17.45	1 5.0%	6 30.0%	10 50.0%	3 15.0%	0 0.0%	0 0.0%
17	Surat	32	1.50	17.75	2 6.3%	8 25.0%	12 37.5%	10 31.3%	0 0.0%	0 0.0%
18	Tapi	16	1.20	15.50	2 12.5%	4 25.0%	7 43.8%	3 18.8%	0 0.0%	0 0.0%
19	The dangs	24	1.05	13.40	11 45.8%	3 12.5%	7 29.2%	3 12.5%	0 0.0%	0 0.0%
20	Vadodara	20	1.40	31.40	2 10.0%	3 15.0%	6 30.0%	3 15.0%	6 30.0%	0 0.0%
21	Valsad	20	1.30	49.20	1 5.0%	7 35.0%	8 40.0%	3 15.0%	0 0.0%	1 5.0%
	South Gujarat	209	0.85	49.20	23 11.0%	51 24.4%	87 41.6%	38 18.2%	9 4.3%	1 0.5%
22	Amreli	47	2.10	49.50	0 0.0%	13 27.7%	14 29.8%	9 19.1%	10 21.3%	1 2.1%
23	Bhavnagar	36	1.52	24.57	3 8.3%	11 30.6%	6 16.7%	12 33.3%	4 11.1%	0 0.0%
24	Botad	4	4.07	12.00	0 0.0%	1 25.0%	2 50.0%	1 25.0%	0 0.0%	0 0.0%
25	Devbhumi Dwarka	25	0.60	20.00	1 4.0%	11 44.0%	9 36.0%	4 16.0%	0 0.0%	0 0.0%
26	Gir Somnath	22	5.10	28.35	0 0.0%	0 0.0%	14 63.6%	6 27.3%	2 9.1%	0 0.0%
27	Jamnagar	27	0.91	20.23	2 7.4%	9 33.3%	11 40.7%	4 14.8%	1 3.7%	0 0.0%
28	Junagadh	40	1.75	44.20	1 2.5%	3 7.5%	16 40.0%	17 42.5%	2 5.0%	1 2.5%
29	Morbi	8	1.43	11.27	2 25.0%	3 37.5%	2 25.0%	1 12.5%	0 0.0%	0 0.0%
30	Porbandar	31	0.55	21.83	3 9.7%	9 29.0%	12 38.7%	6 19.4%	1 3.2%	0 0.0%
31	Rajkot	29	15.50	17.81	1 3.4%	6 20.7%	15 51.7%	7 24.1%	0 0.0%	0 0.0%
32	Surendranagar	24	1.48	15.80	1 4.2%	9 37.5%	10 41.7%	4 16.7%	0 0.0%	0 0.0%
	Saurashtra	293	0.55	49.50	14 4.8%	75 25.6%	111 37.9%	71 24.2%	20 6.8%	2 0.7%
33	Kachchh	49	0.50	37.00	3 6.1%	7 14.3%	11 22.4%	19 38.8%	9 18.4%	0 0.0%
	Kachchh	49	0.50	37.00	3 6.1%	7 14.3%	11 22.4%	19 38.8%	9 18.4%	0 0.0%
	Gujarat State	768	0.50	49.50	50 6.5%	174 22.7%	281 36.6%	192 25.0%	68 25.0%	3 8.9%
										0.4%

3.1.2 Depth to Water Level August 2020

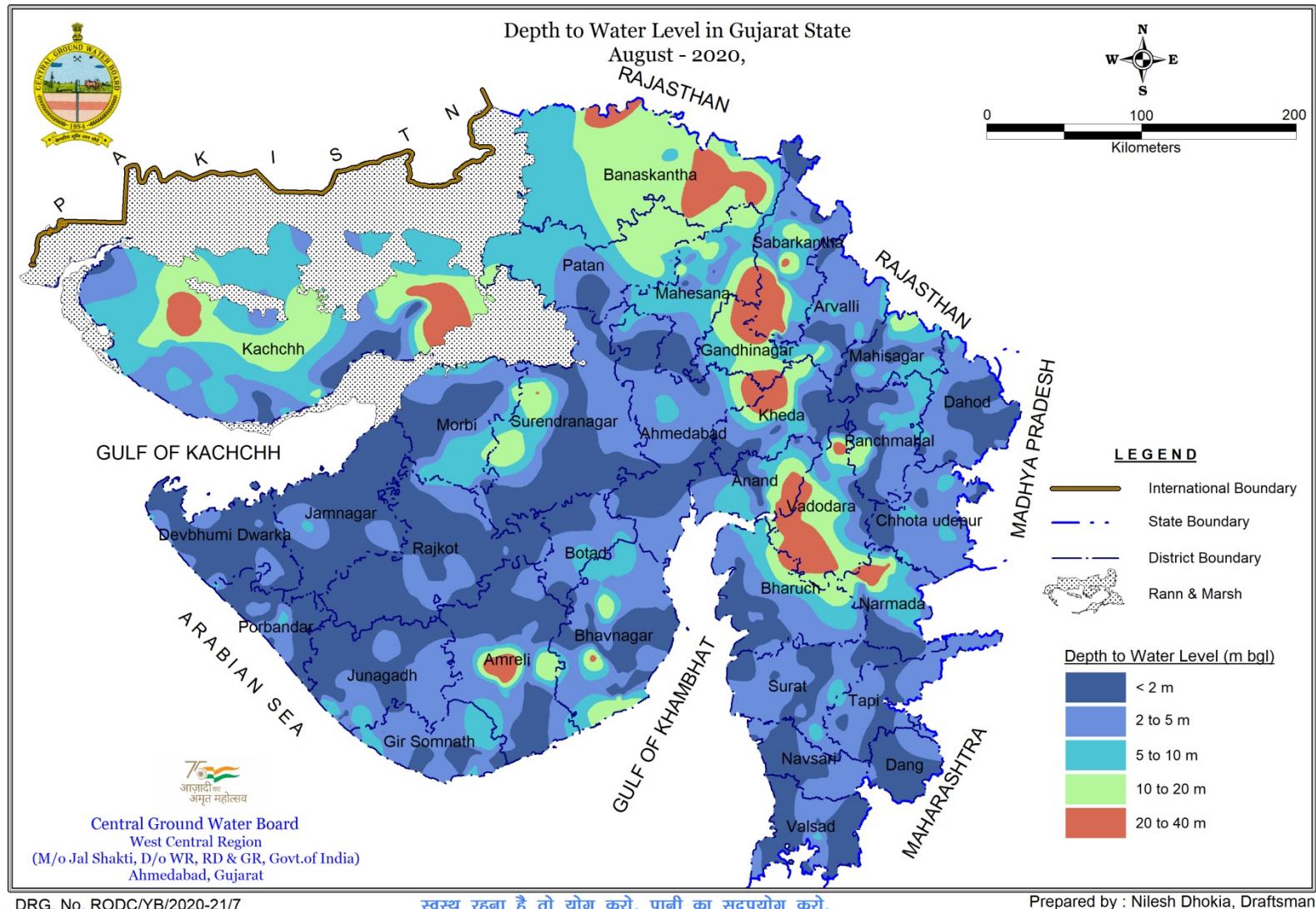
During August 2020, the depth to water level of unconfined aquifer range from 0.02 to 38.37 m bgl (Fig 8). Details of depth to water level in different range, from 0-2 m, 2 to 5 m, 5 to 10 m, 10 to 20 m, 20 to 40 m and more than 40 m bgl are presented in table 5. The perusal of the depth to water level reveals that 73% of the monitoring stations fall in the ranges of 0 to 5 mbgl whereas 5 to 20 mbgl water levels are observed in 22% of the stations in Gujarat state. Water levels of 20 to 40 mbgl are observed in Anand, Amreli, Gandhinagar, Banaskantha, Sabarkantha, Kachchh, Bhavnagar, Narmada, Porbandar and Vadodara districts in isolated patches. Deeper water levels more than 40 m bgl are not observed in the Gujarat State during Agusut 2020. The shallowest water level 0.02 has been recorded at Kadegi, in Porbandar district. The deepest water level recorded is 38.37 m bgl at Waliampura in Sabarkantha district.

In North Gujarat, about 94% of the monitoring stations fall within the water level of 20 m bgl. Shallow water levels (lesser than 5 m bgl) are observed in the eastern part of north Gujarat region falling in Panchmahals, Dohad, Mahisagar and Sabarkantha districts. Deeper water levels range from 20 to 40 mbgl in major part of Anand, Banaskantha, Sabarkantha districts. The deepest water level of 38.37 m bgl is recorded at Waliampura in Sabarkantha district whereas the shallowest water level 0.04 m bgl has been recorded at Vaso in Kheda district.

In South Gujarat, 96% of the monitoring stations have recorded water level below 20 m bgl of which 82% alone has the water level in the range of 0–5 m bgl. Deeper water levels of 20 to 40 m bgl are mainly observed as isolated patch in parts of Narmada and Vadodara district. The deepest water level of 28.85 m bgl is recorded at Handod in Vadodara district whereas the shallowest water level of 0.08 m bgl at Navetha in Bharuch district.

In Saurashtra region, about 97% of the monitoring stations show water levels in less than 20 m bgl and water levels of 20 to 40 m are found as isolated patch in Amreli, Bhavnagar, and Surendranagar districts. The shallowest water level, 0.02 m bgl has been recorded at Kedgi of Prbandar district and the deepest water level of 30.24 m bgl recorded at Kerala in Amreli district.

In Kachchh region, in about 86% of the monitoring stations, the water level ranges less than 20 m bgl. In central and east part of the area, isolated patches of water level ranges between 20 to 40 mbgl are found. The deepest water level of 37.00 m bgl is recorded at Kotada and the shallowest water level of 0.30 m bgl has been recorded at Lilpur.



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Fig. 8: Depth to water level map of August 2020

Table 5. Well wise categorisation of depth to water level August 2020

Sr. No.	District Name	No of well analysed	DTWL, mbgl		No. of wells in different depth range					
			Min	Max	0 to 2	2 to 5	5 to 10	10 to 20	20 to 40	> 40
1	Ahmedabad	8	0.52	5.43	4 50.0%	2 25.0%	2 25.0%	0 0.0%	0 0.0%	0 0.0%
2	Anand	12	0.33	28.56	3 25.0%	1 8.3%	3 25.0%	2 16.7%	3 25.0%	0 0.0%
3	Arvalli	19	0.30	13.65	6 31.6%	8 42.1%	4 21.1%	1 5.3%	0 0.0%	0 0.0%
4	Banaskantha	13	5.58	33.81	0 0.0%	0 0.0%	5 38.5%	3 23.1%	5 38.5%	0 0.0%
5	Dohad	28	0.05	7.84	13 46.4%	12 42.9%	3 10.7%	0 0.0%	0 0.0%	0 0.0%
6	Gandhinagar	2	7.65	13.10	0 0.0%	0 0.0%	1 50.0%	1 50.0%	0 0.0%	0 0.0%
7	Kheda	15	0.04	36.15	7 46.7%	3 20.0%	3 20.0%	1 6.7%	1 6.7%	0 0.0%
8	Mahesana	23	0.80	16.26	3 13.0%	4 17.4%	9 39.1%	7 30.4%	0 0.0%	0 0.0%
9	Mahisagar	18	0.20	11.10	8 44.4%	5 27.8%	4 22.2%	1 5.6%	0 0.0%	0 0.0%
10	Panchmahals	22	0.48	16.37	9 40.9%	5 22.7%	5 22.7%	3 13.6%	0 0.0%	0 0.0%
11	Patan	6	1.36	14.78	1 16.7%	1 16.7%	1 16.7%	3 50.0%	0 0.0%	0 0.0%
12	Sabarkantha	31	0.28	38.37	6 19.4%	12 38.7%	8 25.8%	2 6.5%	3 9.7%	0 0.0%
	North Gujarat	197	0.04	38.37	60 30.5%	53 26.9%	48 24.4%	24 12.2%	12 6.1%	0 0.0%
13	Bharuch	29	0.08	9.60	10 34.5%	14 48.3%	5 17.2%	0 0.0%	0 0.0%	0 0.0%
14	Chhota Udepur	23	0.60	7.22	3 13.0%	15 65.2%	5 21.7%	0 0.0%	0 0.0%	0 0.0%
15	Narmada	19	0.15	27.64	8 42.1%	4 21.1%	5 26.3%	0 0.0%	2 10.5%	0 0.0%
16	Navsari	18	0.27	3.85	10 55.6%	8 44.4%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
17	Surat	27	0.45	9.30	11 40.7%	13 48.1%	3 11.1%	0 0.0%	0 0.0%	0 0.0%
18	Tapi	9	0.90	3.70	3 33.3%	6 66.7%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
19	The dangs	10	0.50	4.60	8 80.0%	2 20.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
20	Vadodara	16	0.27	28.85	4 25.0%	3 18.8%	1 6.3%	3 18.8%	5 31.3%	0 0.0%
21	Valsad	12	0.10	6.55	7 58.3%	4 33.3%	1 8.3%	0 0.0%	0 0.0%	0 0.0%
	South Gujarat	163	0.08	28.85	64 39.3%	69 42.3%	20 12.3%	3 1.8%	7 4.3%	0 0.0%
22	Amreli	42	0.08	30.24	19 45.2%	13 31.0%	1 2.4%	3 7.1%	6 14.3%	0 0.0%
23	Bhavnagar	38	0.15	22.50	18 47.4%	12 31.6%	4 10.5%	3 7.9%	1 2.6%	0 0.0%
24	Botad	4	1.10	3.15	2 50.0%	2 50.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
25	Devbhumi Dwarka	24	0.11	5.73	20 83.3%	3 12.5%	1 4.2%	0 0.0%	0 0.0%	0 0.0%
26	Gir Somnath	20	0.58	9.88	9 45.0%	9 45.0%	2 10.0%	0 0.0%	0 0.0%	0 0.0%
27	Jamnagar	24	0.05	5.27	21 87.5%	2 8.3%	1 4.2%	0 0.0%	0 0.0%	0 0.0%
28	Junagadh	38	0.12	12.53	20 52.6%	9 23.7%	8 21.1%	1 2.6%	0 0.0%	0 0.0%
29	Morbi	11	0.40	14.86	7 63.6%	1 9.1%	2 18.2%	1 9.1%	0 0.0%	0 0.0%
30	Porbandar	29	0.02	7.05	19 65.5%	7 24.1%	3 10.3%	0 0.0%	0 0.0%	0 0.0%
31	Rajkot	21	3.70	4.17	15 71.4%	6 28.6%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
32	Surendranagar	27	0.02	20.12	13 48.1%	9 33.3%	2 7.4%	2 7.4%	1 3.7%	0 0.0%
	Saurashtra	278	0.02	30.24	163 58.6%	73 26.3%	24 8.6%	10 3.6%	8 2.9%	0 0.0%
33	Kachchh	42	0.30	37.00	6 14.3%	9 21.4%	11 26.2%	10 23.8%	6 14.3%	0 0.0%
	Kachchh	42	0.30	37.00	6 14.3%	9 21.4%	11 26.2%	10 23.8%	6 14.3%	0 0.0%
	Gujarat State	680	0.02	38.37	293 43.1%	204 30.0%	103 15.1%	47 6.9%	33 4.9%	0 0.0%

3.1.3 Depth to Water Level November 2020

The depth to water level of unconfined aquifer ranges from near ground level to 37.40 m bgl (Waliampura in Sabarkantha district) during November 2020 (Fig 9 and Table 6). The perusal of the water level reveals that 95% of the total well analysed has water level less than 20 m bgl, in Gujarat state. Water levels of 20 to 40 m bgl are observed in Anand, Banaskantha, Sabarkantha, Mahesana, Narmada, Amreli, Kachchh and Junagadh districts. Water levels of morethan 40 m bgl are not observed in any district of Gujarat State. The shallowest water level recorded is 0.05 m bgl at Shekhupura in Kheda district.

In North Gujarat, about 92% of the total well analysed falls with in the water level range of 20 mbgl. Shallow water levels (lesser than 5 mbgl) are observed in the area near the Gulf of Cambay and the area along the little Rann of Kachchh and in eastern part of north Gujarat region such as in Arvalli, Panchmahals, Mahisagar, Dohad district. Deeper water levels ranges 20 to 40 mbgl are experienced in parts of Anand, Banaskantha, Sabarkantha, Keda, Sabarkantha and Mahesana districts. The deepest water level of 37.40 m bgl at Waliampura in Sabarkantha district whereas shallowest water level of 0.05 m bgl has been recorded at Shekhupura in Kheda district.

In South Gujarat, more than 96% of the total well has recorded water level within 20 m bgl and out of which 64% alone has the water level in the range of 5 m bgl. Deeper water levels of 20–40 m bgl are mainly observed in in parts of Narmada and Vadodara district. The deepest water level of 29.10 m bgl is recorded at Sunderpura in Narmada district whereas the shallowest water level of 0.10 m bgl has been recorded at Huda in Valsad disrtict.

In Saurashtra region, about 98% of the total well shows water levels less than 20 mbgl and water levels of 20 to 40 mbgl are sporadically disbursed as isolated patches in Amreli and Junagadh district. The shallowest water level recorded is 0.15 m bgl at Dhrol in Jamnagar district and the deepest water level of 34.30 m bgl recorded at Dharangani in Amreli district.

In Kachchh region, in about 86% of the total well analysed, the water level ranges within 20 m bgl in major part of the district. Central and east part of the area shows water level ranges 10 to 20 m bgl, which cover about 22% of total well in Kachchh region and occur as isolated patches. The deepest water level of 30.65 m bgl is recorded at Panchasar and the shallowest water level of 0.19 m bgl has been recorded at Haboi.

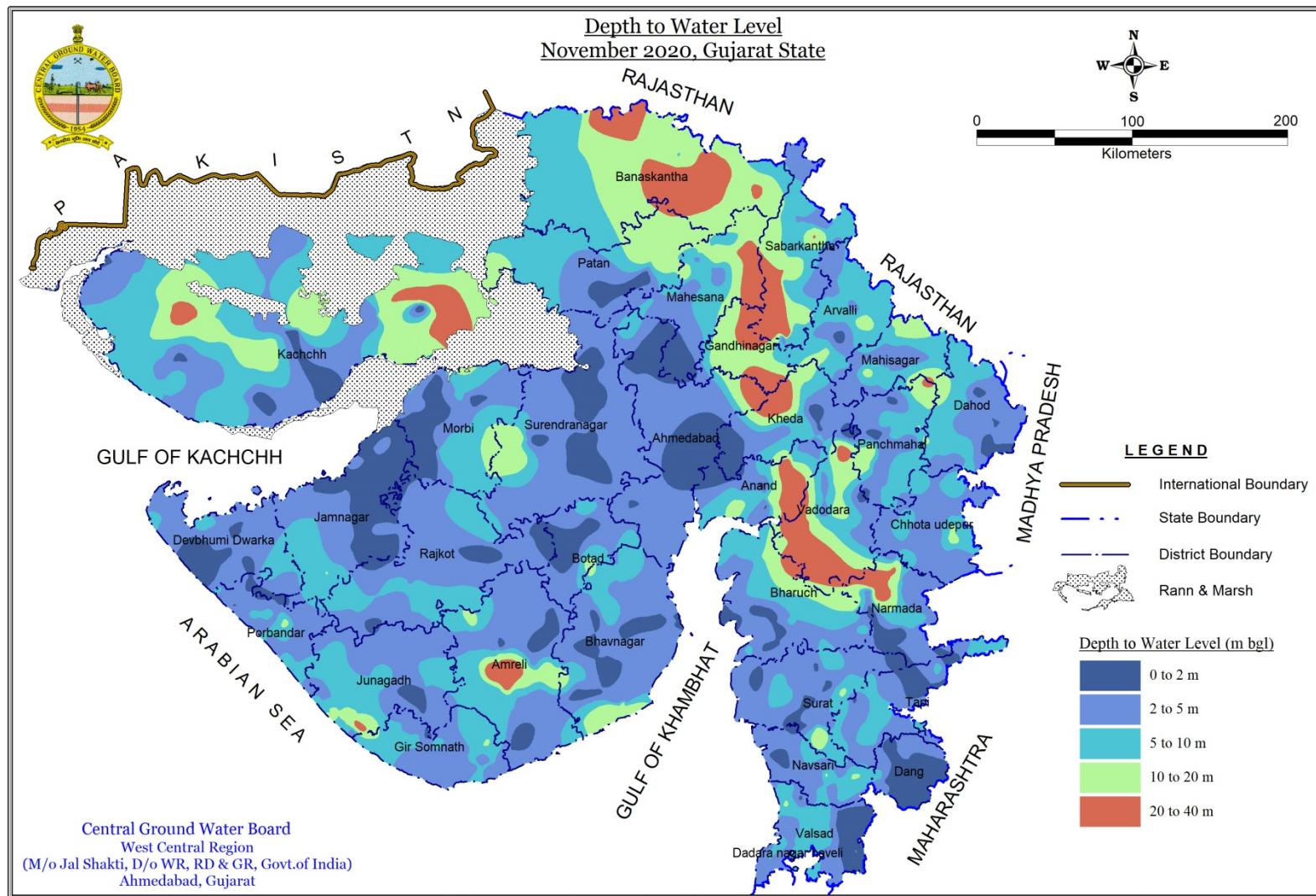


Fig. 9: Depth to water level map of November 2020

Table 6. Well wise categorisation of depth to water level November 2020

Sr. No.	District Name	No of well analysed	DTWL, mbgl		No. of wells in diffrent depth range					
			Min	Max	0 to 2	2 to 5	5 to 10	10 to 20	20 to 40	> 40
1	Ahmedabad	10	1.35	5.95	3 30.0%	6 60.0%	1 10.0%	0 0.0%	0 0.0%	0 0.0%
2	Anand	15	1.25	31.18	2 13.3%	4 26.7%	3 20.0%	2 13.3%	4 26.7%	0 0.0%
3	Arvalli	19	1.34	13.55	1 5.3%	7 36.8%	9 47.4%	2 10.5%	0 0.0%	0 0.0%
4	Banaskantha	17	5.44	35.45	0 0.0%	0 0.0%	6 35.3%	6 35.3%	5 29.4%	0 0.0%
5	Dohad	27	1.17	10.60	5 18.5%	7 25.9%	14 51.9%	1 3.7%	0 0.0%	0 0.0%
6	Gandhinagar	2	14.47	15.40	0 0.0%	0 0.0%	0 0.0%	2 100.0%	0 0.0%	0 0.0%
7	Kheda	15	0.05	34.08	4 26.7%	4 26.7%	5 33.3%	1 6.7%	1 6.7%	0 0.0%
8	Mahesana	24	0.69	22.72	1 4.2%	7 29.2%	7 29.2%	8 33.3%	1 4.2%	0 0.0%
9	Mahisagar	18	2.00	11.95	1 5.6%	8 44.4%	7 38.9%	2 11.1%	0 0.0%	0 0.0%
10	Panchmahals	23	0.65	21.30	3 13.0%	8 34.8%	6 26.1%	5 21.7%	1 4.3%	0 0.0%
11	Patan	7	0.67	15.56	2 28.6%	0 0.0%	1 14.3%	4 57.1%	0 0.0%	0 0.0%
12	Sabarkantha	29	1.75	37.40	1 3.4%	7 24.1%	12 41.4%	5 17.2%	4 13.8%	0 0.0%
	North Gujarat	206	0.05	37.40	23 11.2%	58 28.2%	71 34.5%	38 18.4%	16 7.8%	0 0.0%
13	Bharuch	32	0.40	10.55	6 18.8%	13 40.6%	12 37.5%	1 3.1%	0 0.0%	0 0.0%
14	Chhota Udepur	24	2.70	12.05	0 0.0%	16 66.7%	5 20.8%	3 12.5%	0 0.0%	0 0.0%
15	Narmada	21	0.85	29.10	7 33.3%	7 33.3%	2 9.5%	2 9.5%	3 14.3%	0 0.0%
16	Navsari	21	0.80	10.55	1 4.8%	15 71.4%	3 14.3%	2 9.5%	0 0.0%	0 0.0%
17	Surat	31	0.99	16.15	6 19.4%	15 48.4%	8 25.8%	2 6.5%	0 0.0%	0 0.0%
18	Tapi	18	0.40	13.25	3 16.7%	7 38.9%	7 38.9%	1 5.6%	0 0.0%	0 0.0%
19	The dangs	20	0.20	7.60	14 70.0%	5 25.0%	1 5.0%	0 0.0%	0 0.0%	0 0.0%
20	Vadodara	16	1.20	29.02	3 18.8%	4 25.0%	1 6.3%	3 18.8%	5 31.3%	0 0.0%
21	Valsad	22	0.10	10.90	4 18.2%	8 36.4%	9 40.9%	1 4.5%	0 0.0%	0 0.0%
	South Gujarat	205	0.10	29.10	44 21.5%	90 43.9%	48 23.4%	15 7.3%	8 3.9%	0 0.0%
22	Amreli	39	1.08	34.30	4 10.3%	17 43.6%	8 20.5%	4 10.3%	6 15.4%	0 0.0%
23	Bhavnagar	37	0.43	14.09	10 27.0%	18 48.6%	5 13.5%	4 10.8%	0 0.0%	0 0.0%
24	Botad	3	1.40	6.01	1 33.3%	1 33.3%	1 33.3%	0 0.0%	0 0.0%	0 0.0%
25	Devbhumi Dwarka	19	1.05	6.80	5 26.3%	12 63.2%	2 10.5%	0 0.0%	0 0.0%	0 0.0%
26	Gir Somnath	20	1.07	10.14	1 5.0%	9 45.0%	9 45.0%	1 5.0%	0 0.0%	0 0.0%
27	Jamnagar	25	0.15	10.03	10 40.0%	10 40.0%	4 16.0%	1 4.0%	0 0.0%	0 0.0%
28	Junagadh	41	1.40	23.40	3 7.3%	14 34.1%	19 46.3%	4 9.8%	1 2.4%	0 0.0%
29	Morbi	17	0.75	9.97	7 41.2%	4 23.5%	6 35.3%	0 0.0%	0 0.0%	0 0.0%
30	Porbandar	31	0.75	11.39	6 19.4%	16 51.6%	8 25.8%	1 3.2%	0 0.0%	0 0.0%
31	Rajkot	26	13.25	8.35	5 19.2%	14 53.8%	7 26.9%	0 0.0%	0 0.0%	0 0.0%
32	Surendranagar	30	0.44	15.90	10 33.3%	16 53.3%	2 6.7%	2 6.7%	0 0.0%	0 0.0%
	Saurashtra	288	0.15	34.30	62 21.5%	131 45.5%	71 24.7%	17 5.9%	7 2.4%	0 0.0%
33	Kachchh	42	0.19	30.65	6 14.3%	11 26.2%	11 26.2%	9 21.4%	5 11.9%	0 0.0%
	Kachchh	42	0.19	30.65	6 14.3%	11 26.2%	11 26.2%	9 21.4%	5 11.9%	0 0.0%
	Gujarat State	741	0.05	37.40	135 18.2%	290 39.1%	201 27.1%	79 10.7%	36 4.9%	0 0.0%

3.1.4 Depth to Water Level January 2021

A perusal of Fig. 10 and Table 7 reveals that the depth to water level of unconfined aquifer ranges from 0.20 m bgl at Luhara in Bharuch district to 39.80 m bgl at Kotada in Kachchh district during January 2021. Details of depth to water level in different range, i.e. from 0-2 m, 2 to 5 m, 5 to 10 m, 10 to 20 m, 20 to 40 m and more than 40 m bgl is presented in table – 7. The perusal of the depth to water map reveals that about 46% of the total well analysed falls in the water level range of 0 to 5 m bgl where as water level of 5 to 20 m bgl is observed in 49% of Gujarat state. Water levels of 20 to 40 mbgl are observed in Anand, Amreli, Ahmedabad, Anand, Banaskantha, Devbhumi Dwarka, Kheda, Gandhinagar, Sabarkantha, Narmada and Vadodara in isolated patches. The deepest water level more than 40 mbgl is not recorded in any district of Gujarat State.

In North Gujarat, about 93% of the total well analysed falls with in the water level range of 20 m bgl and out of which alone 68% represent the water level range of 0-10 m bgl. Shallow water levels (lesser than 5 m bgl) are observed in the area near the Gulf of Cambay and the area along the little Rann of Kachchh and in eastern part of north Gujarat region such as in Panchmahals, Dohad, Mahisagar and Sabarkantha district. Deeper water levels ranges 20 to 40 mbgl are experienced in major part of Banaskantha district, the adjoining area of Kheda, Gandhinagar, Sabarkantha Vadodara and Anand. The deepest water level of 37.57 m bgl at Waliampura in Sabarkantha district whereas shallowest water level of 0.30 m bgl has been recorded at Shekhupura in Kheda district.

In South Gujarat, about 88% of the total wells has recorded water level less than 10 m bgl and out of which 57% alone has the water level in the range of 0-5 m bgl. Deeper water levels of 20 to 40 m bgl mainly observed in isolated patch in major parts of Narmada and Vadodara district. The deepest water level of 29.15 m bgl is recorded at Sunderpura in Narmada district whereas the shallowest water level of 0.20 m bgl bgl has been recorded at Luhara in Bharuch district.

In Saurashtra region, about 96% of the total well shows water levels less than 20 m bgl and water levels of 20 to 40 mbgl are sporadically disbursed in isolated patches scattered in all areas of Saurashtra region. The shallowest water level, 0.40 m bgl, has been recorded at Modhvana of Surendranagar district. The deepest water level of 33.45 m bgl recorded at Kerala in Amreli district.

In Kachchh region, more than 84% of the total well analysed, the water level ranges in less than 20 mbgl in major part of the district. In central part of Kachchh, the water level ranges 20 to 40 m bgl in isolated patches. The deepest water level of 39.80 m bgl is recorded at Kotada and the shallowest water level of 0.44 m bgl at Haboi.

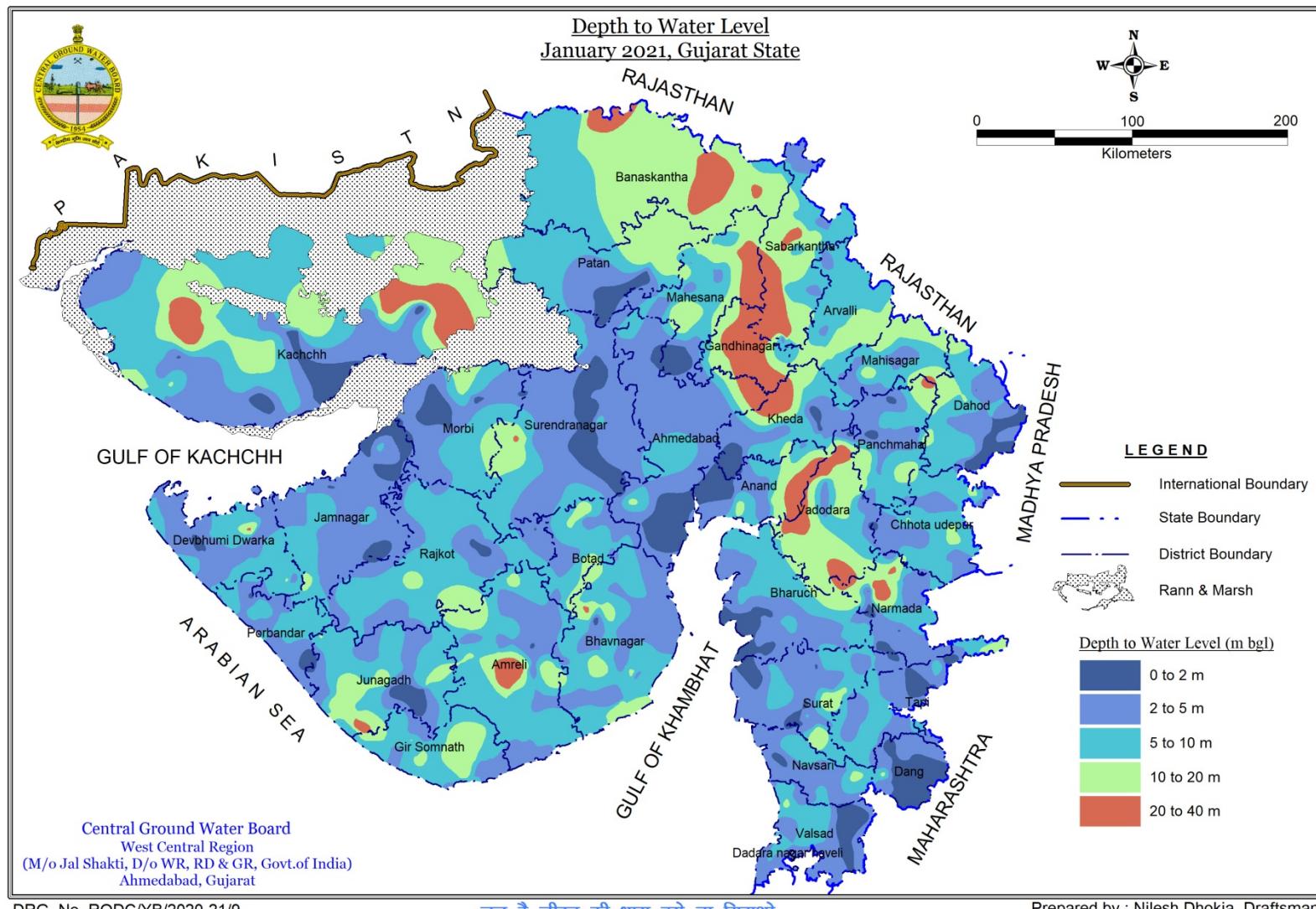


Fig. 10: Depth to water level map of January 2021

Table 7. Well wise categorisation of depth to water level January 2021

Sr. No.	District Name	No of well analysed	DTWL, mbgl		No. of wells in diffrent depth range						
			Min	Max	0 to 2	2 to 5	5 to 10	10 to 20	20 to 40	> 40	
1	Ahmedabad	14	1.04	20.40	4 28.6%	7 50.0%	2 14.3%	0 0.0%	1 7.1%	0 0.0%	
2	Anand	14	0.70	29.38	2 14.3%	4 28.6%	3 21.4%	3 21.4%	2 14.3%	0 0.0%	
3	Arvalli	18	3.95	18.00	0 0.0%	2 11.1%	11 61.1%	5 27.8%	0 0.0%	0 0.0%	
4	Banaskantha	15	6.23	33.83	0 0.0%	0 0.0%	6 40.0%	5 33.3%	4 26.7%	0 0.0%	
5	Dohad	26	0.75	13.00	6 23.1%	5 19.2%	12 46.2%	3 11.5%	0 0.0%	0 0.0%	
6	Gandhinagar	3	14.51	34.86	0 0.0%	0 0.0%	0 0.0%	2 66.7%	1 33.3%	0 0.0%	
7	Kheda	15	0.30	34.00	3 20.0%	4 26.7%	5 33.3%	2 13.3%	1 6.7%	0 0.0%	
8	Mahesana	26	1.14	22.72	1 3.8%	6 23.1%	10 38.5%	8 30.8%	1 3.8%	0 0.0%	
9	Mahisagar	18	2.65	17.95	0 0.0%	7 38.9%	7 38.9%	4 22.2%	0 0.0%	0 0.0%	
10	Panchmahals	21	1.10	21.70	2 9.5%	7 33.3%	7 33.3%	4 19.0%	1 4.8%	0 0.0%	
11	Patan	7	0.38	16.47	3 42.9%	0 0.0%	1 14.3%	3 42.9%	0 0.0%	0 0.0%	
12	Sabarkantha	30	2.45	37.57	0 0.0%	6 20.0%	8 26.7%	12 40.0%	4 13.3%	0 0.0%	
	North Gujarat	207	0.30	37.57	21 10.1%	48 23.2%	72 34.8%	51 24.6%	15 7.2%	0 0.0%	
13	Bharuch	34	0.20	9.60	7 20.6%	14 41.2%	13 38.2%	0 0.0%	0 0.0%	0 0.0%	
14	Chhota Udepur	23	2.90	13.00	0 0.0%	9 39.1%	9 39.1%	5 21.7%	0 0.0%	0 0.0%	
15	Narmada	22	1.10	29.15	5 22.7%	7 31.8%	4 18.2%	3 13.6%	3 13.6%	0 0.0%	
16	Navsari	21	1.05	10.93	1 4.8%	13 61.9%	6 28.6%	1 4.8%	0 0.0%	0 0.0%	
17	Surat	33	1.17	16.95	4 12.1%	14 42.4%	12 36.4%	3 9.1%	0 0.0%	0 0.0%	
18	Tapi	17	0.66	13.75	2 11.8%	6 35.3%	8 47.1%	1 5.9%	0 0.0%	0 0.0%	
19	The dangs	24	0.44	11.30	15 62.5%	7 29.2%	1 4.2%	1 4.2%	0 0.0%	0 0.0%	
20	Vadodara	18	1.45	26.40	3 16.7%	3 16.7%	4 22.2%	3 16.7%	5 27.8%	0 0.0%	
21	Valsad	19	1.07	11.52	2 10.5%	9 47.4%	7 36.8%	1 5.3%	0 0.0%	0 0.0%	
	South Gujarat	211	0.20	29.15	39 18.5%	82 38.9%	64 30.3%	18 26.1%	8 8.5%	0 3.8%	0 0.0%
22	Amreli	40	1.92	33.45	2 5.0%	13 32.5%	13 32.5%	6 15.0%	6 15.0%	0 0.0%	
23	Bhavnagar	43	1.10	22.30	1 2.3%	17 39.5%	15 34.9%	9 20.9%	1 2.3%	0 0.0%	
24	Botad	4	2.30	11.30	0 0.0%	2 50.0%	1 25.0%	1 25.0%	0 0.0%	0 0.0%	
25	Devbhumi Dwarka	23	1.00	21.55	2 8.7%	10 43.5%	9 39.1%	1 4.3%	1 4.3%	0 0.0%	
26	Gir Somnath	23	0.68	17.82	1 4.3%	6 26.1%	10 43.5%	6 26.1%	0 0.0%	0 0.0%	
27	Jamnagar	28	1.02	11.44	5 17.9%	16 57.1%	6 21.4%	1 3.6%	0 0.0%	0 0.0%	
28	Junagadh	43	0.70	25.53	3 7.0%	8 18.6%	17 39.5%	14 32.6%	1 2.3%	0 0.0%	
29	Morbi	18	1.41	10.90	6 33.3%	7 38.9%	4 22.2%	1 5.6%	0 0.0%	0 0.0%	
30	Porbandar	32	0.90	9.09	2 6.3%	14 43.8%	16 50.0%	0 0.0%	0 0.0%	0 0.0%	
31	Rajkot	30	13.75	11.95	3 10.0%	8 26.7%	16 53.3%	3 10.0%	0 0.0%	0 0.0%	
32	Surendranagar	32	0.40	20.75	10 31.3%	13 40.6%	7 21.9%	1 3.1%	1 3.1%	0 0.0%	
	Saurashtra	316	0.40	33.45	35 11.1%	114 36.1%	114 36.1%	43 13.6%	10 3.2%	0 0.0%	
33	Kachchh	44	0.44	39.80	5 11.4%	13 29.5%	9 20.5%	10 22.7%	7 15.9%	0 0.0%	
	Kachchh	44	0.44	39.80	5 11.4%	13 29.5%	9 20.5%	10 22.7%	7 15.9%	0 0.0%	
	Gujarat State	778	0.20	39.80	100 12.9%	257 33.0%	259 33.3%	122 15.7%	40 5.1%	0 0.0%	

3.2 Seasonal Water Level Fluctuation

To study the effect of monsoon on the groundwater regime and subsequent utilisation of groundwater for various needs like agriculture, irrigation, domestic etc., changes in depth to water levels with respect to May data are studied. The change in groundwater levels in the region over different periods is presented in Fig. 11(a, b and c) and a summary of each observation is discussed below.

Figure 11(a)

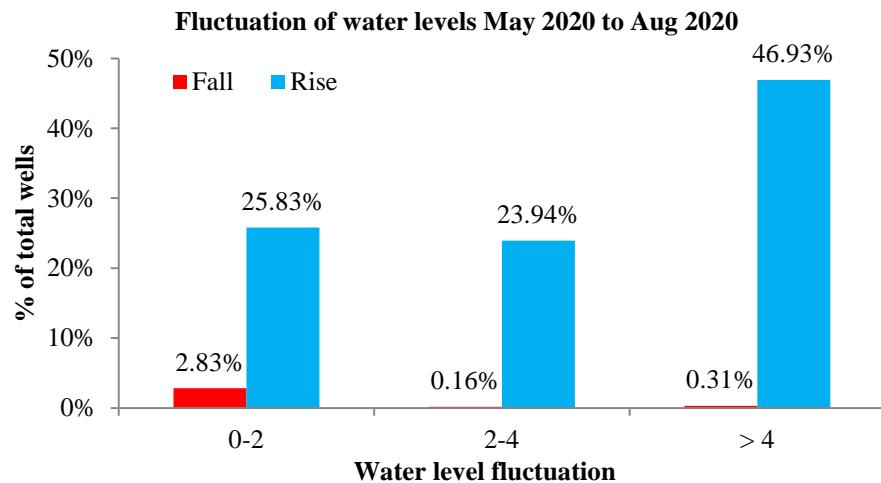


Figure 11(b)

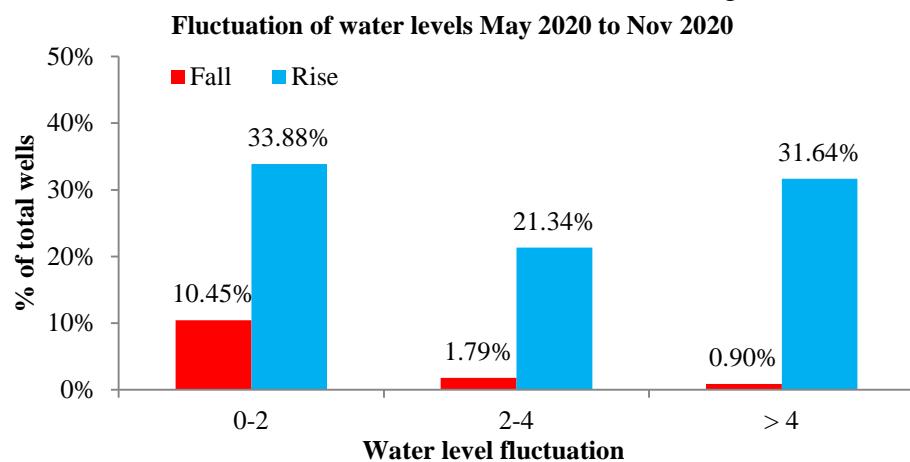


Figure 11(c)

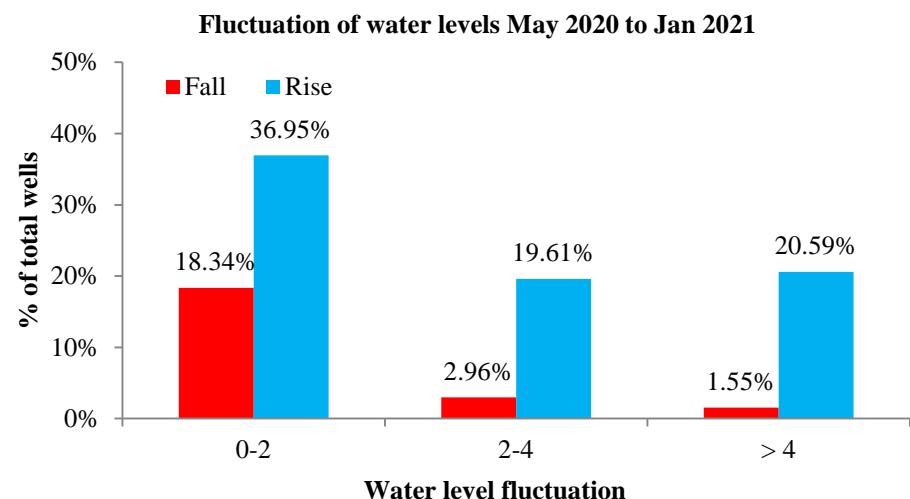


Fig. 11: Distribution of seasonal fluctuation of water levels

3.2.1 May 2020 to August 2020

A perusal of Fig. 12 and Table 8 reveals that more than 97% of the total wells in Gujarat state show a rise in water level. Rise in water level are observed in the range of 0 to 2 m in 26% of wells, 2 to 4 m in 24% of well and morethan 4 m in 47% of wells monitored in the state of Gujarat. Fall in water level is mainly observed in parts of Kachchh region and in north Gujarat in small isolated patches scattered in the area. Fall is mainly in the range of 0 to 2 m and recorded in 3% of wells in the state. The maximum rise of 35.36 m is recorded at Gadu in Junagadh district whereas the maximum decline of 7.78 m is recorded at Mathak in Kachchha district.

About 96% of the total wells observed the rise of water level in North Gujarat and most of which (41% wells) is in the range more than 4 m of fluctuation of water level. Fall of 0–2 m range is observed in 4% of wells in Anand, Banaskantha and Mahesana districts in isolated patches.

In South Gujarat region, 96% of total wells show the rise in water level and in the range more than 4 m in 46% of wells in the region. Rise of water level in 0 to 2 m and 2 to 4 m experience in about 50% of wells in the region. Fall in water level is observed maximum in the range of 0 – 2 m in 4% of wells in the South Gujarat area. Only one well in Vadodara district shows fall of more the 4 m in the South Gujarat region.

About 99% of total well in the Saurashtra region has experienced rise of water level and in the range of 0 – 2 m experienced in about 23% of wells. Rise of water level more than 4 m is predominantly found in 54% of of wells in Saurashtra area. Fall of 0-2 as well as 2-4 m is observed in less than 1% of wells.

In Kachchh region, 93% of the total wells show the rise in water level. Fall of 0-2 m and 2-4 m is observed in 5% and 2% of the wells, respectively.

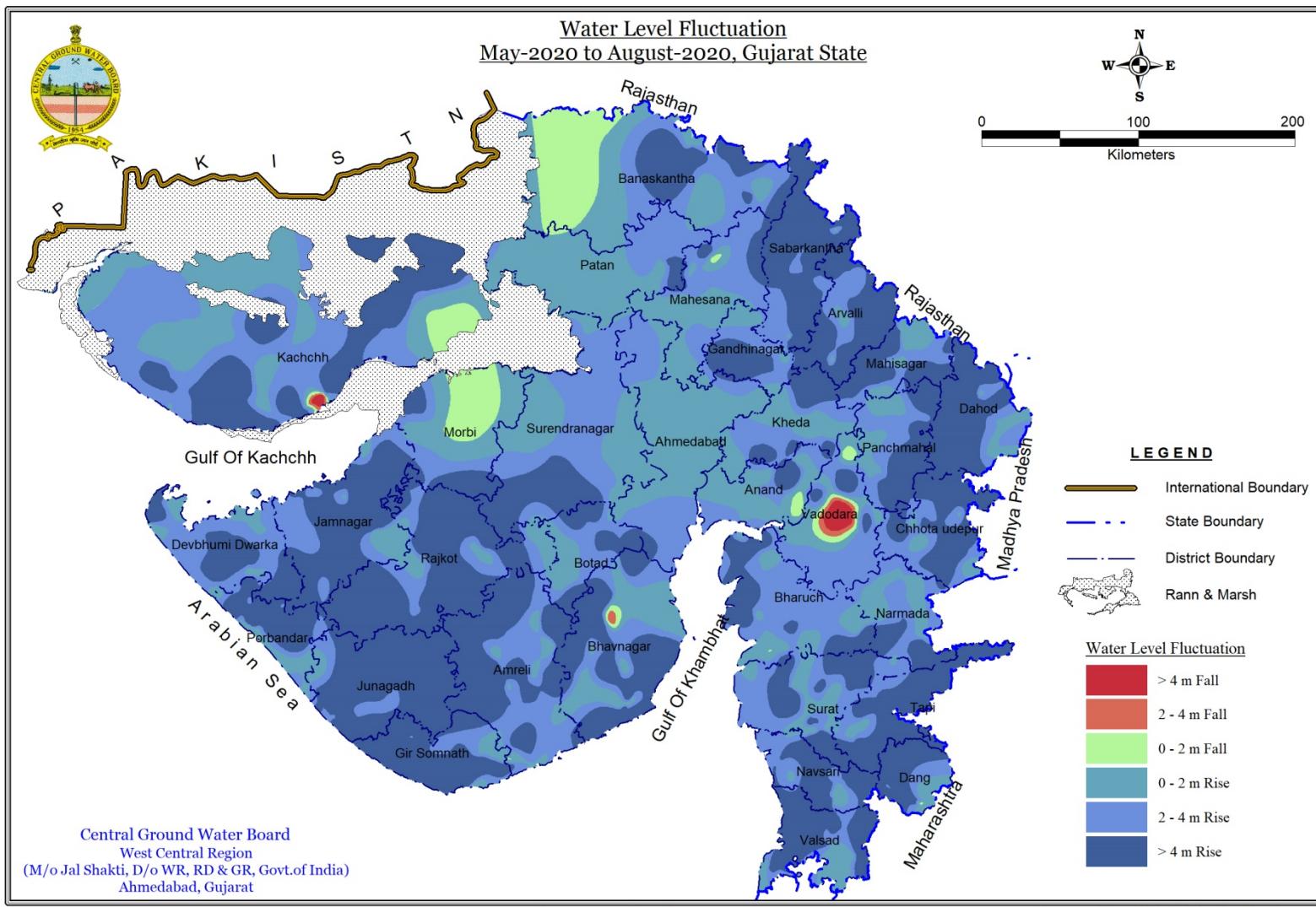


Fig. 12: Map showing seasonal fluctuation of water level May 2020 to August 2020

Table 8. Categorisation of changes in water level between May to August 2020

Sr. No.	District Name	No of well analysed	Fluctuation range, m		Fluctuation range, m		No. of wells in difrent depth range						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	Rise	Fall
1	Ahmedabad	8	0.94	2.79	-	-	5 62.5%	3 37.5%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	8	0
2	Anand	11	0.00	19	-	1.2	6 54.5%	2 18.2%	1 9.1%	2 18.2%	0 0.0%	0 0.0%	9	2
3	Arvalli	19	0.72	20.9	-	-	3 15.8%	5 26.3%	11 57.9%	0 0.0%	0 0.0%	0 0.0%	19	0
4	Banaskantha	13	0.00	7.36	-	1.82	2 15.4%	3 23.1%	4 30.8%	4 30.8%	0 0.0%	0 0.0%	9	4
5	Dohad	27	0.01	11.46	-	-	6 22.2%	4 14.8%	17 63.0%	0 0.0%	0 0.0%	0 0.0%	27	0
6	Gandhinagar	2	4.42	6.5	-	-	0 0.0%	0 0.0%	2 100.0%	0 0.0%	0 0.0%	0 0.0%	2	0
7	Kheda	15	0.45	11.75	-	-	5 33.3%	5 33.3%	5 33.3%	0 0.0%	0 0.0%	0 0.0%	15	0
8	Mahesana	22	0.75	5.37	0.1	0.60	9 40.9%	10 45.5%	1 4.5%	2 9.1%	0 0.0%	0 0.0%	20	2
9	Mahisagar	18	0.20	26.58	-	-	5 27.8%	3 16.7%	10 55.6%	0 0.0%	0 0.0%	0 0.0%	18	0
10	Panchmahals	20	0.73	15.8	-	-	5 25.0%	8 40.0%	7 35.0%	0 0.0%	0 0.0%	0 0.0%	20	0
11	Patan	6	0.46	7.24	-	-	3 50.0%	1 16.7%	2 33.3%	0 0.0%	0 0.0%	0 0.0%	6	0
12	Sabarkantha	30	0.71	17.36	-	-	3 10.0%	8 26.7%	19 63.3%	0 0.0%	0 0.0%	0 0.0%	30	0
	North Gujarat	191	0.00	26.58	0.10	1.82	52 27.2%	52 27.2%	79 41.4%	8 4.2%	0 0.0%	0 0.0%	183	8
13	Bharuch	29	0.00	10.77	-	0.06	8 27.6%	9 31.0%	9 31.0%	3 10.3%	0 0.0%	0 0.0%	26	3
14	Chhota Udepur	23	0.00	7.93	-	-	3 13.0%	4 17.4%	15 65.2%	1 4.3%	0 0.0%	0 0.0%	22	1
15	Narmada	18	0.30	10.20	-	-	7 38.9%	4 22.2%	7 38.9%	0 0.0%	0 0.0%	0 0.0%	18	0
16	Navsari	16	0.10	10.4	-	-	3 18.8%	2 12.5%	11 68.8%	0 0.0%	0 0.0%	0 0.0%	16	0
17	Surat	25	0.30	12.6	-	-	7 28.0%	6 24.0%	12 48.0%	0 0.0%	0 0.0%	0 0.0%	25	0
18	Tapi	8	0.30	6.6	-	-	2 25.0%	2 25.0%	4 50.0%	0 0.0%	0 0.0%	0 0.0%	8	0
19	The dangs	10	0.30	12	0.4	0.4	3 30.0%	1 10.0%	5 50.0%	1 10.0%	0 0.0%	0 0.0%	9	1
20	Vadodara	16	0.76	7	1.07	7.74	6 37.5%	5 31.3%	3 18.8%	1 6.3%	0 0.0%	1 6.3%	14	2
21	Valsad	11	0.40	9.8	-	-	3 27.3%	2 18.2%	6 54.5%	0 0.0%	0 0.0%	0 0.0%	11	0
	South Gujarat	156	0.00	12.60	0.40	7.74	42 26.9%	35 22.4%	72 46.2%	6 3.8%	0 0.0%	1 0.6%	149	7
22	Amreli	42	0.80	22.62	0.13	0.13	10 23.8%	12 28.6%	19 45.2%	1 2.4%	0 0.0%	0 0.0%	41	1
23	Bhavnagar	32	0.28	14.94	3.48	3.48	12 37.5%	2 6.3%	17 53.1%	0 0.0%	1 3.1%	0 0.0%	31	1
24	Botad	4	2.97	10.22	-	-	0 0.0%	1 25.0%	3 75.0%	0 0.0%	0 0.0%	0 0.0%	4	0
25	Devbhumi Dwarka	24	0.49	18.04	-	-	5 20.8%	10 41.7%	9 37.5%	0 0.0%	0 0.0%	0 0.0%	24	0
26	Gir Somnath	19	0.92	22.55	-	-	2 10.5%	2 10.5%	15 78.9%	0 0.0%	0 0.0%	0 0.0%	19	0
27	Jamnagar	24	0.24	19.53	-	-	6 25.0%	5 20.8%	13 54.2%	0 0.0%	0 0.0%	0 0.0%	24	0
28	Junagadh	35	1.01	35.36	-	-	2 5.7%	7 20.0%	26 74.3%	0 0.0%	0 0.0%	0 0.0%	35	0
29	Morbi	3	3.96	5.02	0.26	0.26	0 0.0%	1 33.3%	1 33.3%	1 33.3%	0 0.0%	0 0.0%	2	1
30	Porbandar	29	0.06	18.23	-	-	11 37.9%	6 20.7%	12 41.4%	0 0.0%	0 0.0%	0 0.0%	29	0
31	Rajkot	20	0.53	15.19	-	-	5 25.0%	2 10.0%	13 65.0%	0 0.0%	0 0.0%	0 0.0%	20	0
32	Surendranagar	15	1.28	7.14	-	-	3 20.0%	7 46.7%	5 33.3%	0 0.0%	0 0.0%	0 0.0%	15	0
	Saurashtra	247	0.06	35.36	0.13	3.48	56 22.7%	55 22.3%	133 53.8%	2 0.8%	1 0.4%	0 0.0%	244	3
33	Kachchh	41	0.00	10.95	-	7.78	14 34.1%	10 24.4%	14 34.1%	2 4.9%	0 0.0%	1 2.4%	38	3
	Kachchh	41	0.00	10.95	-	7.78	14 34.1%	10 24.4%	14 34.1%	2 4.9%	0 0.0%	1 2.4%	38	3
	Gujarat State	635	0.00	35.36	0.10	7.78	164 25.8%	152 23.9%	298 46.9%	18 2.8%	1 0.2%	2 0.3%	614	21

3.2.2 May 2020 to November 2020

The seasonal water level fluctuation shows rise in 87% of the total wells monitored in the Gujarat state area during the Pre and Post Monsoon of 2020. Fall in water level is observed mainly in Kachchh, Saurashtra and central part of Gujarat as isolated patches. In the state, the maximum rise of 25.05 m is recorded at Goraj in Junagadh district whereas the maximum decline of 12.93 m is observed at Samkhiari in Kachchh district. The seasonal water level fluctuations are shown in Fig. 13 and placed at Table 9.

In North Gujarat region, 87% of the total well analysed shows rise in water level. Maximum rise observed 21.90 m at Bavaliya in Mahisagar district. Out of the total well analysed, maximum rise (39%) is observed in the category of 0-2 m. Few isolated patches of fall observed in Banaskantha, Mahisagar, Mahesana and Dahod districts.

In South Gujarat, about 85% of the well in the area have recorded the rise and maximum in range of 0-2 m. The maximum rise observed 12.70 m at Bari Pada in The Dangs district. The fall is in 15% of total well and maximum categorised in the range of 0-2 m.

Over all 88% of total well analysed shows the rise in water level in the entire Saurashtra. Fall is mainly in the range of 0–2 m and is found in isolated patches and cover 10% of the total area of region. The maximum rise observed 25.05 m at Goraj in Junagadh district.

In Kachchh 93% of the total well analysed recorded rise in water level. The fall is mostly in the range of 0–2 m recorded in about 5% of the total well. Rise is observed in all parts of the region and mostly in the range of morethan 4 m.

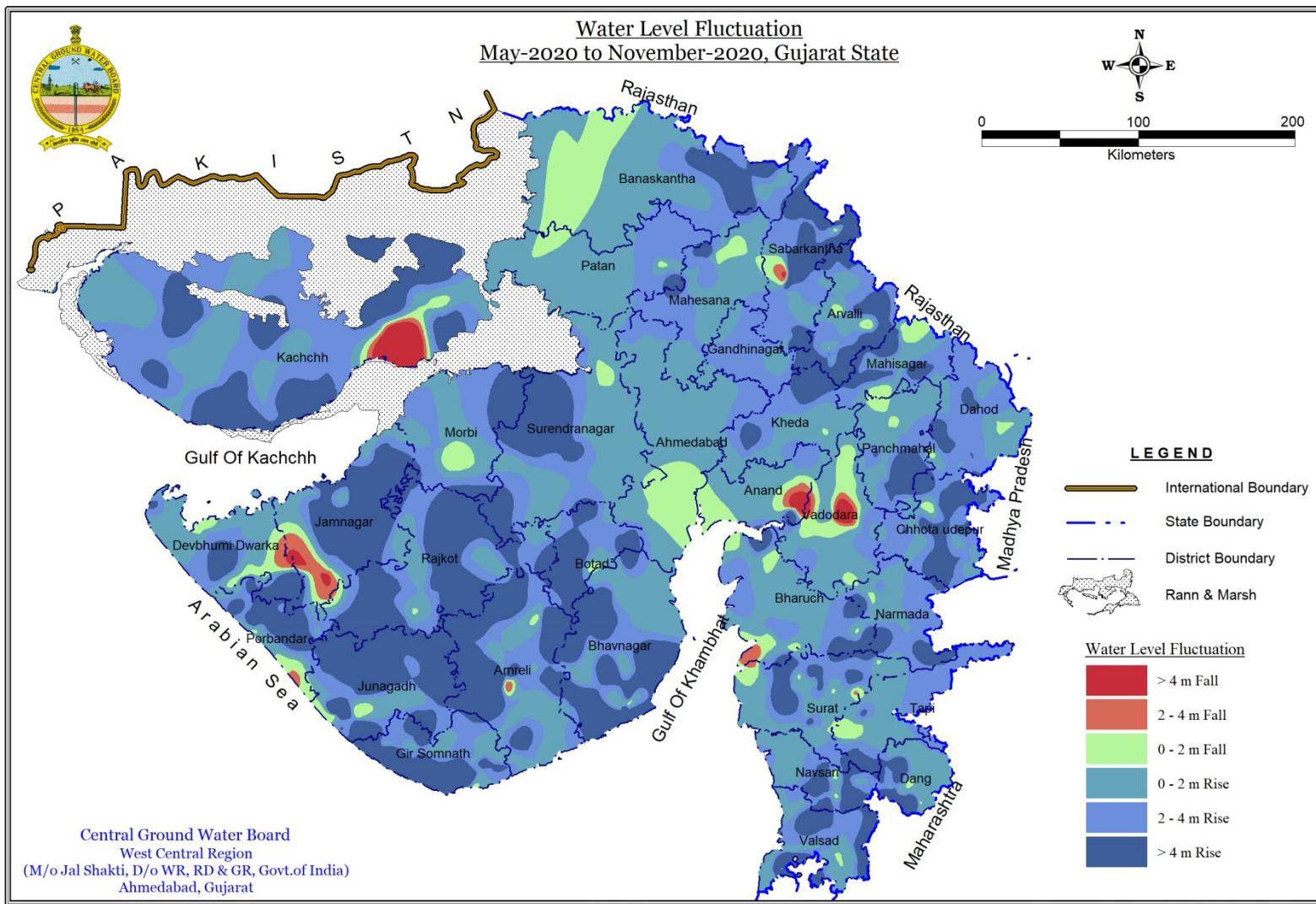


Fig. 13: Map showing seasonal fluctuation of water level May 2020 to November 2020

Table 9. Categorisation of changes in water level between May 2020 to November 2020

Sr. No.	District Name	No of well analysed	Fluctuation range, m		Fluctuation range, m		No. of wells in different depth range						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	Rise	Fall
1	Ahmedabad	9	0.40	2.27	0.66	0.66	7 77.8%	1 11.1%	0 0.0%	1 11.1%	0 0.0%	0 0.0%	8	1
2	Anand	12	0.40	7	1.7	7.4	6 50.0%	2 16.7%	1 8.3%	1 8.3%	1 8.3%	1 8.3%	9	3
3	Arvalli	19	0.28	17.8	0.26	2.11	4 21.1%	4 21.1%	8 42.1%	2 10.5%	1 5.3%	0 0.0%	16	3
4	Banaskantha	18	0.00	8.25	-	1.37	5 27.8%	4 22.2%	5 27.8%	4 22.2%	0 0.0%	0 0.0%	14	4
5	Dohad	26	0.63	7.78	0.36	0.69	8 30.8%	11 42.3%	4 15.4%	3 11.5%	0 0.0%	0 0.0%	23	3
6	Gandhinagar	2	5.05	5.05	0.32	0.32	0 0.0%	0 0.0%	1 50.0%	1 50.0%	0 0.0%	0 0.0%	1	1
7	Kheda	14	0.50	12.53	0.07	0.07	8 57.1%	2 14.3%	3 21.4%	1 7.1%	0 0.0%	0 0.0%	13	1
8	Mahesana	22	1.05	5.74	1.6	2.73	10 45.5%	9 40.9%	1 4.5%	1 4.5%	1 4.5%	0 0.0%	20	2
9	Mahisagar	18	0.16	21.9	0.05	1.53	5 27.8%	4 22.2%	6 33.3%	3 16.7%	0 0.0%	0 0.0%	15	3
10	Panchmahals	21	0.25	12.83	0.32	3.21	11 52.4%	3 14.3%	5 23.8%	1 4.8%	1 4.8%	0 0.0%	19	2
11	Patan	7	0.06	6.67	0.47	0.47	3 42.9%	2 28.6%	1 14.3%	1 14.3%	0 0.0%	0 0.0%	6	1
12	Sabarkantha	28	0.76	7.55	0.7	4.65	7 25.0%	7 25.0%	12 42.9%	1 3.6%	0 0.0%	1 3.6%	26	2
North Gujarat		196	0.00	21.90	0.05	7.40	74 37.8%	49 25.0%	47 24.0%	20 10.2%	4 2.0%	2 1.0%	170	26
13	Bharuch	32	0.00	8.45	-	3.37	13 40.6%	8 25.0%	3 9.4%	6 18.8%	2 6.3%	0 0.0%	24	8
14	Chhota Udepur	24	0.02	9.08	0.88	0.88	7 29.2%	5 20.8%	11 45.8%	1 4.2%	0 0.0%	0 0.0%	23	1
15	Narmada	19	0.53	10.05	1	1	7 36.8%	5 26.3%	6 31.6%	1 5.3%	0 0.0%	0 0.0%	18	1
16	Navsari	18	0.60	9.5	0.4	1.1	5 27.8%	3 16.7%	8 44.4%	2 11.1%	0 0.0%	0 0.0%	16	2
17	Surat	28	0.40	8.1	0.1	2.4	10 35.7%	6 21.4%	7 25.0%	4 14.3%	1 3.6%	0 0.0%	23	5
18	Tapi	16	0.10	8.7	1	1.9	6 37.5%	4 25.0%	3 18.8%	3 18.8%	0 0.0%	0 0.0%	13	3
19	The dangs	20	0.30	12.7	0.4	0.5	9 45.0%	2 10.0%	7 35.0%	2 10.0%	0 0.0%	0 0.0%	18	2
20	Vadodara	16	0.27	2.88	0.2	8.01	6 37.5%	4 25.0%	0 0.0%	5 31.3%	0 0.0%	1 6.3%	10	6
21	Valsad	18	0.20	10.1	0.1	0.1	8 44.4%	5 27.8%	4 22.2%	1 5.6%	0 0.0%	0 0.0%	17	1
South Gujarat		191	0.00	12.70	0.10	8.01	71 37.2%	42 22.0%	49 25.7%	25 13.1%	3 1.6%	1 0.5%	162	29
22	Amreli	39	0.17	20.13	0.09	3.65	12 30.8%	9 23.1%	14 35.9%	3 7.7%	1 2.6%	0 0.0%	35	4
23	Bhavnagar	33	0.01	12.32	0.02	0.48	9 27.3%	4 12.1%	17 51.5%	3 9.1%	0 0.0%	0 0.0%	30	3
24	Botad	3	2.67	5.99	-	-	0 0.0%	1 33.3%	2 66.7%	0 0.0%	0 0.0%	0 0.0%	3	0
25	Devbhumi Dwarka	19	0.23	16.84	0.32	1	7 36.8%	5 26.3%	4 21.1%	3 15.8%	0 0.0%	0 0.0%	16	3
26	Gir Somnath	19	0.22	22.35	-	-	6 31.6%	4 21.1%	9 47.4%	0 0.0%	0 0.0%	0 0.0%	19	0
27	Jamnagar	19	0.15	18.48	4.44	4.44	8 42.1%	1 5.3%	8 42.1%	0 0.0%	0 0.0%	2 10.5%	17	2
28	Junagadh	37	0.01	25.05	0.06	2.49	5 13.5%	5 13.5%	19 51.4%	6 16.2%	2 5.4%	0 0.0%	29	8
29	Morbi	5	1.52	3.88	1.83	1.83	1 20.0%	3 60.0%	0 0.0%	1 20.0%	0 0.0%	0 0.0%	4	1
30	Porbandar	30	0.02	15.92	0.02	2.68	6 20.0%	7 23.3%	10 33.3%	5 16.7%	2 6.7%	0 0.0%	23	7
31	Rajkot	21	0.12	10.39	0.19	0.19	4 19.0%	3 14.3%	13 61.9%	1 4.8%	0 0.0%	0 0.0%	20	1
32	Surendranagar	18	0.35	8.73	0.73	0.73	11 61.1%	2 11.1%	4 22.2%	1 5.6%	0 0.0%	0 0.0%	17	1
Saurashtra		243	0.01	25.05	0.02	4.44	69 28.4%	44 18.1%	100 41.2%	23 9.5%	5 2.1%	2 0.8%	213	30
33	Kachchh	40	0.23	9.26	0.17	12.93	13 32.5%	8 20.0%	16 40.0%	2 5.0%	0 0.0%	1 2.5%	37	3
Kachchh		40	0.23	9.26	0.17	12.93	13 32.5%	8 20.0%	16 40.0%	2 5.0%	0 0.0%	1 2.5%	37	3
Gujarat State		670	0.00	25.05	0.02	12.93	227 33.9%	143 21.3%	212 31.6%	70 10.4%	12 1.8%	6 0.9%	582	88

3.2.3 May 2020 to January 2021

A perusal of Fig 14 and Table 10 reveals that about 77% of the total well in the Gujarat state area have recorded the rise in water level between May 2020 and January 2021. Fall in water level is observed mainly in Aravalli, Banaskantha, Jamnagar, Jungadh, Porbandar, Devbhumi Dwarka, Gir Somnath, Anand, and Vadodara districts of Gujarat distributed sporadically all over Gujarat state. In the state, the maximum rise of 20.26 m is at Govindpura in Gir Somnath district whereas the maximum decline of 11.07 m is observed at Girgadhada in Gir Somnath district.

In North Gujarat region, water level rises mainly observed in 82% of the total well analysed and maximum rises (45%) are in the range of 0-2 m. The fall of water level observed in all districts of the north Gujarat state distributed in central and west central and east central part.

The 80% of the total wells in the area of south Gujarat have recorded rise and maximum (41%) in the range of 0-2 m of rise in the region. The fall is 20% of total well and maximum (16%) in the range of 0–2 m.

Over all 70% of total well analysed are shown rise in water level in the entire Saurashtra region. About 30% of areas have shown rise of water level between 0 to 2 m and 22% shows more than 4 m and are found in all the districts of Saurashtra region. Fall of water level is observed in all over the region with fall less than 2 m is observed in 24% of the well in the region.

In Kachchh, 88% of the total well analysed recorded rise in water level. The fall is mostly in the range of 0–2 m and is observed in 30% of the total well. The total fall of water level has been observed in 12% of the total well in the region.

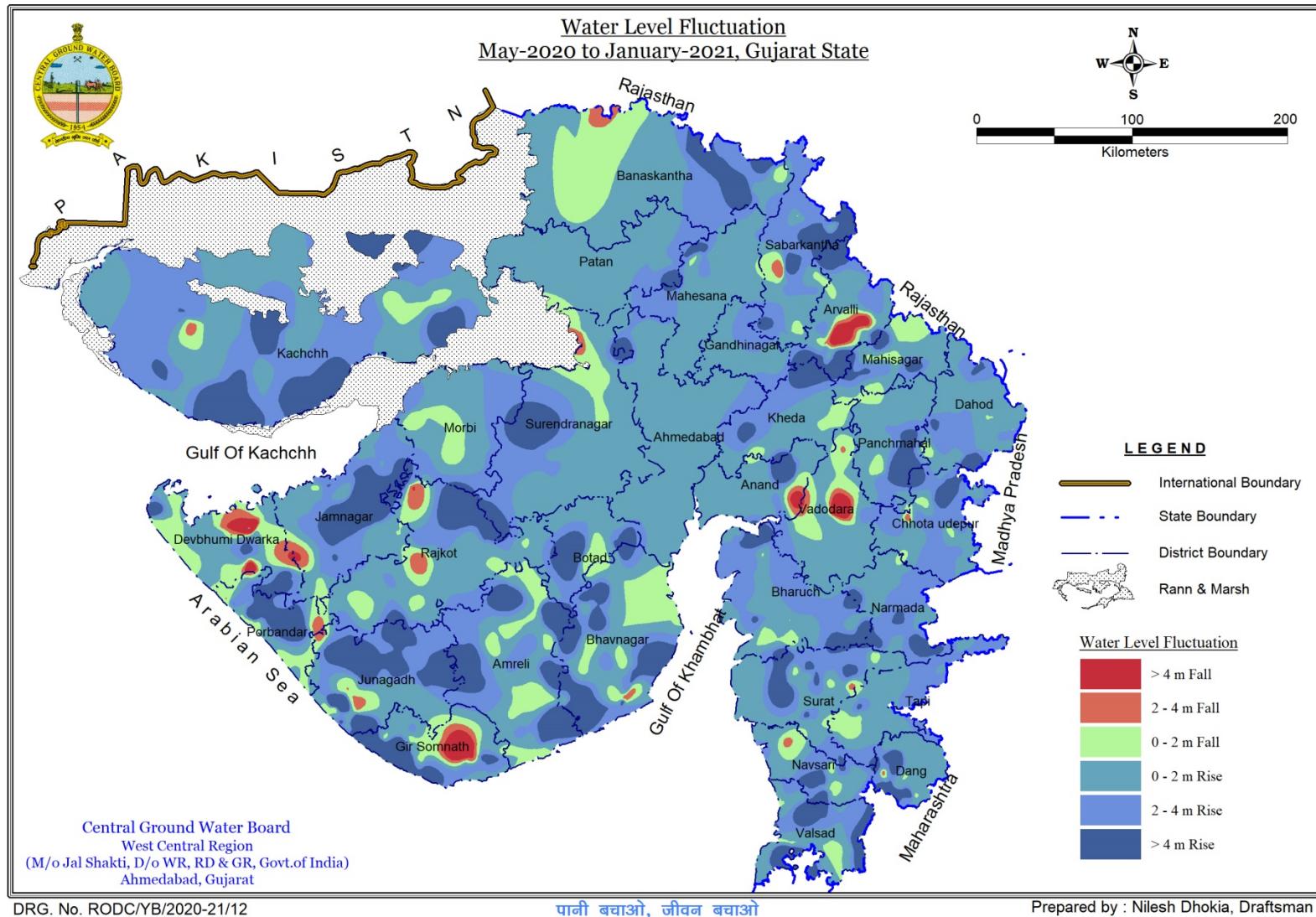


Fig. 14: Map showing seasonal fluctuation of water level May 2020 to January 2021

Table 10. Categorisation of changes in water level between May 2020 to January 2021

Sr. No.	District Name	No of well analysed	Fluctuation range, m		Fluctuation range, m		No. of wells in different depth range						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	Rise	Fall
1	Ahmedabad	13	0.00	7.93	-	-	10 76.9%	1 7.7%	1 7.7%	1 7.7%	0 0.0%	0 0.0%	12	1
2	Anand	11	0.08	17.85	1.2	5.6	7 63.6%	1 9.1%	1 9.1%	1 9.1%	0 0.0%	1 9.1%	9	2
3	Arvalli	18	0.15	14.55	0.33	8.44	6 33.3%	2 11.1%	5 27.8%	2 11.1%	1 5.6%	2 11.1%	13	5
4	Banaskantha	15	0.25	6.33	0.25	2.67	3 20.0%	4 26.7%	5 33.3%	2 13.3%	1 6.7%	0 0.0%	12	3
5	Dohad	27	0.00	8.55	-	1.38	11 40.7%	7 25.9%	3 11.1%	6 22.2%	0 0.0%	0 0.0%	21	6
6	Gandhinagar	2	3.12	3.12	0.36	0.36	0 0.0%	1 50.0%	0 0.0%	1 50.0%	0 0.0%	0 0.0%	1	1
7	Kheda	14	0.25	10.43	0.07	0.4	8 57.1%	2 14.3%	2 14.3%	2 14.3%	0 0.0%	0 0.0%	12	2
8	Mahesana	23	0.55	4.79	0.02	0.92	13 56.5%	5 21.7%	2 8.7%	3 13.0%	0 0.0%	0 0.0%	20	3
9	Mahisagar	19	0.00	9.7	-	0.8	5 26.3%	3 15.8%	4 21.1%	7 36.8%	0 0.0%	0 0.0%	12	7
10	Panchmahals	18	0.11	8.63	1.95	3.57	10 55.6%	3 16.7%	3 16.7%	1 5.6%	1 5.6%	0 0.0%	16	2
11	Patan	7	0.21	6.54	-	-	5 71.4%	1 14.3%	1 14.3%	0 0.0%	0 0.0%	0 0.0%	7	0
12	Sabarkantha	30	0.20	11.16	0.61	3.57	10 33.3%	11 36.7%	6 20.0%	2 6.7%	1 3.3%	0 0.0%	27	3
	North Gujarat	197	0.00	17.85	0.02	8.44	88 44.7%	41 20.8%	33 16.8%	28 14.2%	4 2.0%	3 1.5%	162	35
13	Bharuch	34	0.00	7.7	-	2.78	14 41.2%	8 23.5%	5 14.7%	6 17.6%	1 2.9%	0 0.0%	27	7
14	Chhota Udepur	26	0.00	8.1	-	3.21	8 30.8%	9 34.6%	3 11.5%	5 19.2%	1 3.8%	0 0.0%	20	6
15	Narmada	19	0.31	6.55	1	1	10 52.6%	2 10.5%	6 31.6%	1 5.3%	0 0.0%	0 0.0%	18	1
16	Navsari	20	0.00	7.04	-	2.3	7 35.0%	3 15.0%	6 30.0%	3 15.0%	1 5.0%	0 0.0%	16	4
17	Surat	29	0.12	7.72	0.35	2.83	11 37.9%	6 20.7%	7 24.1%	4 13.8%	1 3.4%	0 0.0%	24	5
18	Tapi	15	0.40	7.88	0.06	2.4	6 40.0%	2 13.3%	2 13.3%	4 26.7%	1 6.7%	0 0.0%	10	5
19	The dangs	24	0.08	12.52	0.03	3	11 45.8%	3 12.5%	6 25.0%	3 12.5%	1 4.2%	0 0.0%	20	4
20	Vadodara	17	0.00	3.67	-	8.21	9 52.9%	3 17.6%	0 0.0%	3 17.6%	1 5.9%	1 5.9%	12	5
21	Valsad	17	0.03	9.39	0.1	0.25	6 35.3%	3 17.6%	4 23.5%	4 23.5%	0 0.0%	0 0.0%	13	4
	South Gujarat	201	0.00	12.52	0.03	8.21	82 40.8%	39 19.4%	39 19.4%	33 16.4%	7 16.4%	1 3.5%	160	41
22	Amreli	40	0.15	15.75	0.09	1.8	9 22.5%	8 20.0%	7 17.5%	16 40.0%	0 0.0%	0 0.0%	24	16
23	Bhavnagar	36	0.00	10.75	-	3.67	10 27.8%	5 13.9%	11 30.6%	9 25.0%	1 2.8%	0 0.0%	26	10
24	Botad	4	0.70	3.48	0.5	0.5	2 50.0%	1 25.0%	0 0.0%	1 25.0%	0 0.0%	0 0.0%	3	1
25	Devbhumi Dwarka	22	0.94	10.05	0.26	6.82	8 36.4%	2 9.1%	4 18.2%	6 27.3%	0 0.0%	2 9.1%	14	8
26	Gir Somnath	20	0.25	20.26	0.26	11.07	4 20.0%	4 20.0%	6 30.0%	3 15.0%	1 5.0%	2 10.0%	14	6
27	Jamnagar	26	0.29	16.18	0.01	4.44	7 26.9%	8 30.8%	6 23.1%	4 15.4%	0 0.0%	1 3.8%	21	5
28	Junagadh	40	0.03	18.67	0.04	4.81	12 30.0%	5 12.5%	14 35.0%	6 15.0%	2 5.0%	1 2.5%	31	9
29	Morbi	7	0.80	3.16	0.03	1.18	2 28.6%	2 28.6%	0 0.0%	3 42.9%	0 0.0%	0 0.0%	4	3
30	Porbandar	31	0.09	13.95	0.15	3.97	8 25.8%	2 6.5%	8 25.8%	10 32.3%	3 9.7%	0 0.0%	18	13
31	Rajkot	23	0.18	9.56	0.07	9.89	8 34.8%	6 26.1%	3 13.0%	4 17.4%	1 4.3%	1 4.3%	17	6
32	Surendranagar	19	0.10	5.65	0.05	2.48	9 47.4%	5 26.3%	1 5.3%	3 15.8%	1 5.3%	0 0.0%	15	4
	Saurashtra	268	0.00	20.26	0.01	11.07	79 29.5%	48 17.9%	60 22.4%	65 24.3%	9 3.4%	7 2.6%	187	81
33	Kachchh	43	0.00	12.27	-	2.8	13 30.2%	11 25.6%	14 32.6%	4 9.3%	1 2.3%	0 0.0%	38	5
	Kachchh	43	0.00	12.27	-	2.80	13 30.2%	11 25.6%	14 32.6%	4 9.3%	1 2.3%	0 0.0%	38	5
	Gujarat State	709	0.00	20.26	0.01	11.07	262 37.0%	139 19.6%	146 20.6%	130 18.3%	21 3.0%	11 1.6%	547	162

3.3 Annual Water Level Fluctuation

Annual Fluctuation in the water levels of the groundwater monitoring wells during different monitoring periods were analysed graphically and depicted in Fig. 15 (a,b,c and d).

Fig: 15 a

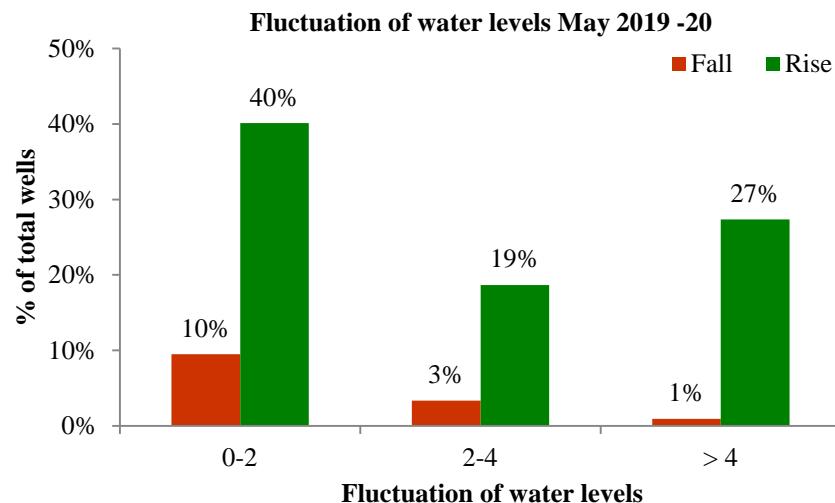


Fig: 15b

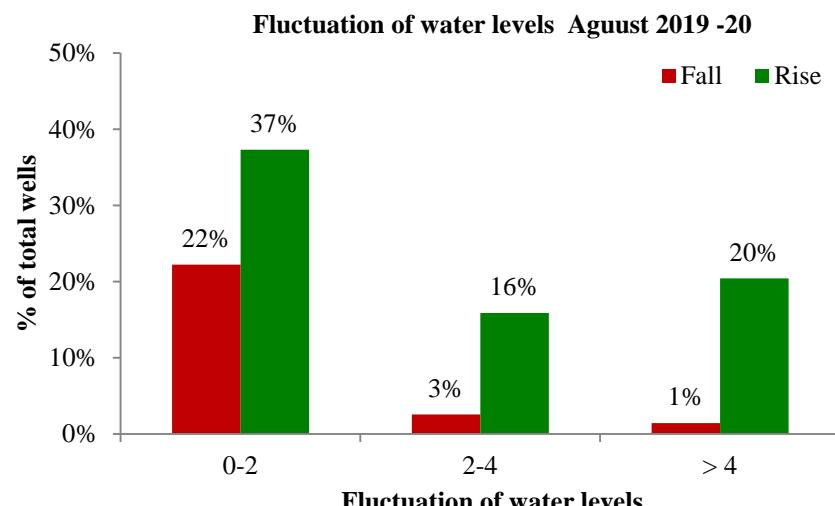


Fig: 15c

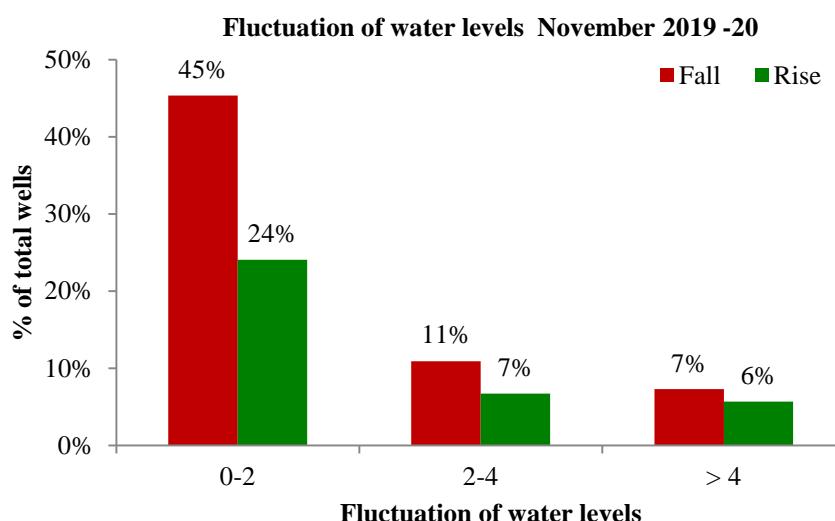


Fig: 15d

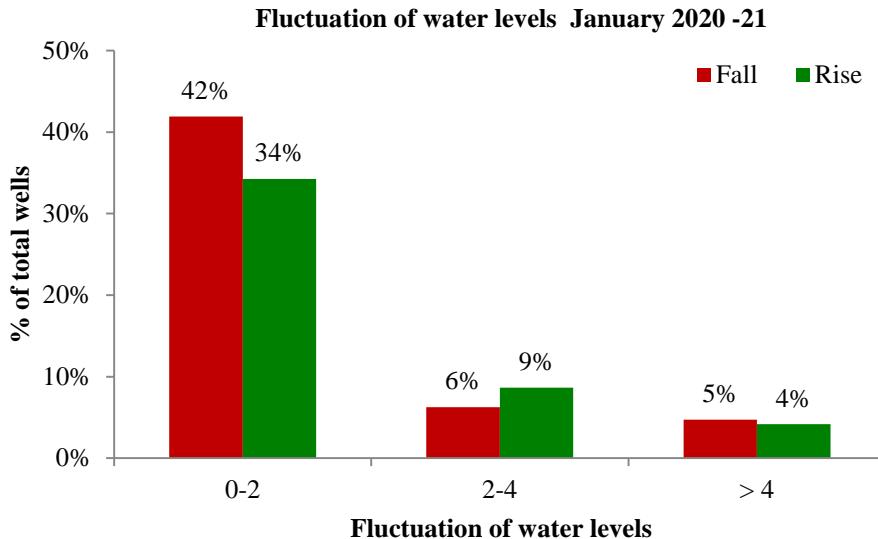


Fig. 15: Annual fluctuation of water levels

3.3.1 May 2019 to May 2020

A perusal of Fig 16 and Table 11 reveals that 86% of the total monitoring stations of state show a rise in water level. Rise of 0-2 m is observed in about 40% of total well of the state. More than 4 m rise is observed in 27% of total well. Fall in water level is observed mainly in Kachchh, Saurashtra, Central and south part of Gujarat in scattered places. Fall is mainly in the range of 0-2 m and covers about 10% of total wells of the state. The maximum rise of 29.05 m is recorded in Porbandar district, whereas the maximum decline of 10.44 m bgl is recorded in Junagadh district.

About 84% of the total wells observed the rise of water level in the North Gujarat and most of which (47% of wells) is in the range of 0 to 2 m. Rise of more than 4 m is mostly seen in the central part of region in Patan and Sabarkantha districts as well as in eastern part of the region in Arvalli, Dahod and Mahisagar districts. Fall of water level mostly observed in 16% of total well in North Gujarat, in Mahesana, Anand and Banaskantha districts.

South Gujarat region shows fall in water level covers an area by 20% of well in the region. Rise in water level is observed in 80% of wells. Rise and fall of more than 2 m has observed at few locations in Bharuch, Surat and Chhota Udepur districts.

About 91% of total well in Saurashtra region has experienced rise where as 9% shows fall. In 0 to 2 m range, 27% of well shows rise where as 7% shows fall. Fall of more than 4 m is predominantly found in Junagadh district. Surendranagar, Morbi, Rajkot and Gir Somnath show fall in the range of 2-4 m covers an area about 2% of the wells in Saurashtra region.

In Kachchh region, 88% of total well is experienced rise in water level where as 12% shows fall. Fall mostly ranges in 0 to 2 m in Kachchh region. Overall Kachchh region shows fall in few patches in the ranges of 0 to 2 m.

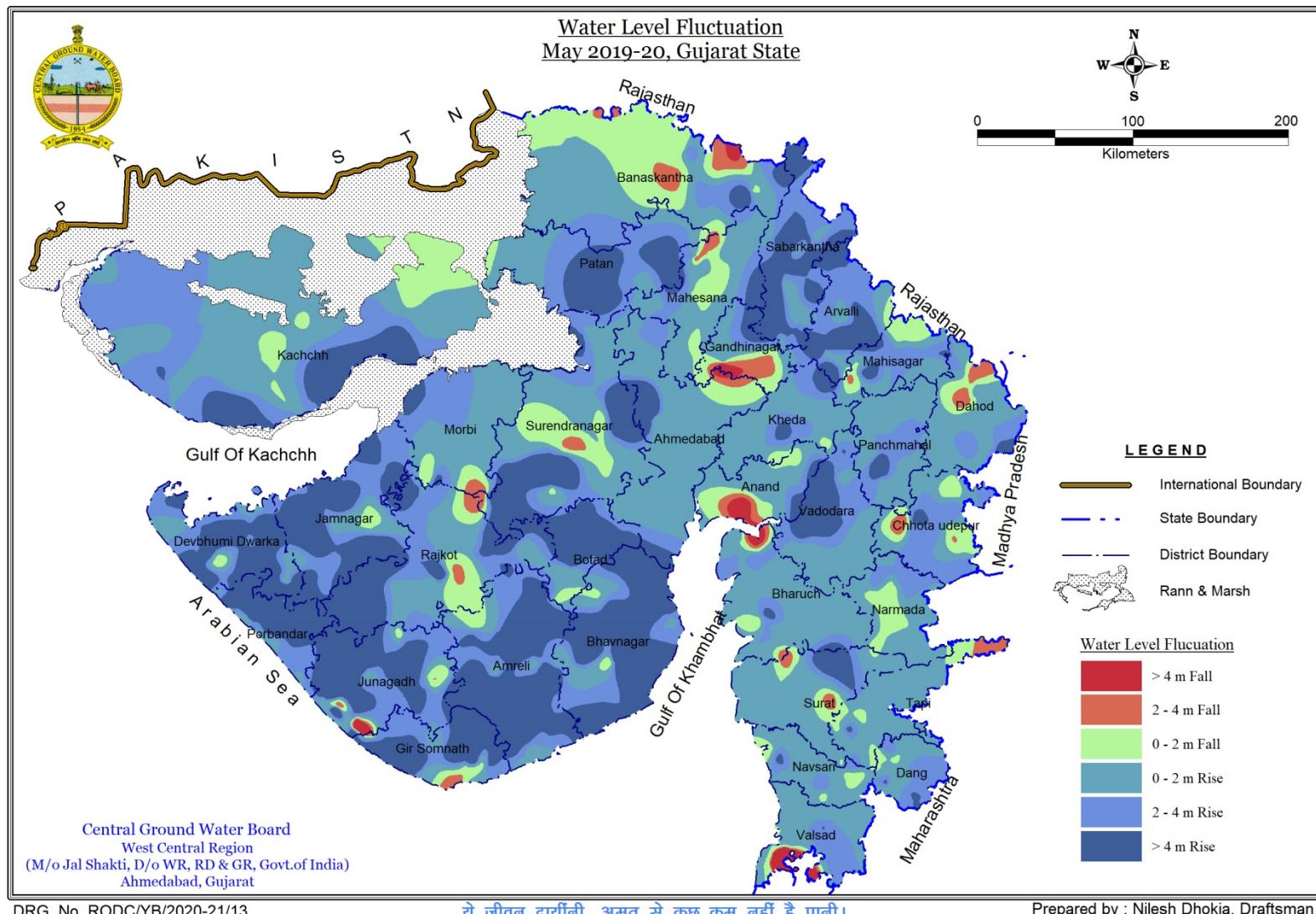


Fig. 16: Annual fluctuation of water level May 2019 to May 2020

Table 11. Categorisation of changes in water level between May 2019 to May 2020

Sr. No.	District Name	No of well analysed	Fluctuation range, m		Fluctuation range, m		No. of wells in difrent depth range						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	Rise	Fall
1	Ahmedabad	14	0.00	23.81	-	0.14	11 78.6%	1 7.1%	1 7.1%	1 0.0%	0 0.0%	0 0.0%	13	1
2	Anand	10	0.35	4.82	0.3	6.44	5 50.0%	1 10.0%	1 10.0%	2 20.0%	0 0.0%	1 10.0%	7	3
3	Arvalli	17	0.42	13.94	0.07	0.07	3 17.6%	5 29.4%	8 47.1%	1 5.9%	0 0.0%	0 0.0%	16	1
4	Banaskantha	18	0.00	7.52	-	4.45	4 22.2%	4 22.2%	2 11.1%	3 16.7%	4 22.2%	1 5.6%	10	8
5	Dohad	27	0.06	5.1	0.38	6.33	18 66.7%	4 14.8%	2 7.4%	1 3.7%	1 3.7%	1 3.7%	24	3
6	Gandhinagar	4	0.00	1.46	-	6.95	2 50.0%	0 0.0%	0 0.0%	0 0.0%	1 25.0%	1 25.0%	2	2
7	Kheda	11	0.07	5.05	0.75	2.2	6 54.5%	2 18.2%	1 9.1%	1 9.1%	1 9.1%	0 0.0%	9	2
8	Mahesana	24	0.09	3.07	0.08	3.31	12 50.0%	4 16.7%	0 0.0%	5 20.8%	3 12.5%	0 0.0%	16	8
9	Mahisagar	15	0.18	5.89	0.1	2.4	5 33.3%	5 33.3%	2 13.3%	2 13.3%	1 6.7%	0 0.0%	12	3
10	Panchmahals	18	0.06	8.46	-	-	13 72.2%	4 22.2%	1 5.6%	0 0.0%	0 0.0%	0 0.0%	18	0
11	Patan	6	0.01	6.5	-	-	2 33.3%	0 0.0%	4 66.7%	0 0.0%	0 0.0%	0 0.0%	6	0
12	Sabarkantha	28	0.33	11.71	-	-	10 35.7%	7 25.0%	11 39.3%	0 0.0%	0 0.0%	0 0.0%	28	0
	North Gujarat	192	0.00	23.81	0.07	6.95	91 47.4%	37 19.3%	33 17.2%	16 8.3%	11 5.7%	4 2.1%	161	31
13	Bharuch	26	0.10	4.81	0.1	6.3	17 65.4%	5 19.2%	1 3.8%	2 7.7%	0 0.0%	1 3.8%	23	3
14	Chhota Udepur	17	0.30	6.77	0.09	3.29	3 17.6%	6 35.3%	1 5.9%	5 29.4%	2 11.8%	0 0.0%	10	7
15	Narmada	14	0.35	2.70	0	1	5 35.7%	5 35.7%	0 0.0%	4 28.6%	0 0.0%	0 0.0%	10	4
16	Navsari	14	0.10	4.95	0.4	0.8	8 57.1%	2 14.3%	1 7.1%	3 21.4%	0 0.0%	0 0.0%	11	3
17	Surat	18	0.00	6.8	-	3.9	13 72.2%	0 0.0%	2 11.1%	1 5.6%	2 11.1%	0 0.0%	15	3
18	Tapi	9	0.20	4.6	0.1	2.4	5 55.6%	0 0.0%	1 11.1%	2 22.2%	1 11.1%	0 0.0%	6	3
19	The dangs	21	0.00	10.3	-	1.9	8 38.1%	4 19.0%	5 23.8%	4 19.0%	0 0.0%	0 0.0%	17	4
20	Vadodara	16	0.74	9.73	-	-	7 43.8%	3 18.8%	6 37.5%	0 0.0%	0 0.0%	0 0.0%	16	0
21	Valsad	14	0.10	4.1	0.9	1.5	9 64.3%	2 14.3%	1 7.1%	2 14.3%	0 0.0%	0 0.0%	12	2
	South Gujarat	149	0.00	10.30	0.09	6.30	75 50.3%	27 18.1%	18 12.1%	23 15.4%	5 3.4%	1 0.7%	120	29
22	Amreli	38	0.00	16.1	-	1.07	9 23.7%	5 13.2%	22 57.9%	2 5.3%	0 0.0%	0 0.0%	36	2
23	Bhavnagar	23	0.62	15.1	0.15	0.95	3 13.0%	6 26.1%	11 47.8%	3 13.0%	0 0.0%	0 0.0%	20	3
24	Botad	3	5.15	6.33	-	-	0 0.0%	0 0.0%	3 100.0%	0 0.0%	0 0.0%	0 0.0%	3	0
25	Devbhumi Dwarka	23	0.11	14.81	1.13	1.13	4 17.4%	7 30.4%	11 47.8%	1 4.3%	0 0.0%	0 0.0%	22	1
26	Gir Somnath	18	0.23	9.82	0.8	1.81	5 27.8%	3 16.7%	8 44.4%	2 11.1%	0 0.0%	0 0.0%	16	2
27	Jamnagar	25	0.32	18.11	1.55	1.55	6 24.0%	6 24.0%	12 48.0%	1 4.0%	0 0.0%	0 0.0%	24	1
28	Junagadh	36	0.25	15.81	0.76	10.44	15 41.7%	6 16.7%	11 30.6%	1 2.8%	2 5.6%	1 2.8%	32	4
29	Morbi	7	0.46	5.27	1.92	1.92	1 14.3%	3 42.9%	2 28.6%	1 14.3%	0 0.0%	0 0.0%	6	1
30	Porbandar	30	0.25	29.05	-	-	8 26.7%	4 13.3%	18 60.0%	0 0.0%	0 0.0%	0 0.0%	30	0
31	Rajkot	25	0.25	12.2	2.35	2.35	8 32.0%	5 20.0%	11 44.0%	0 0.0%	1 4.0%	0 0.0%	24	1
32	Surendranagar	20	0.18	22.18	0.02	3.83	7 35.0%	0 0.0%	6 30.0%	5 25.0%	2 10.0%	0 0.0%	13	7
	Saurashtra	248	0.00	29.05	0.02	10.44	66 26.6%	45 18.1%	115 46.4%	16 6.5%	5 2.0%	1 0.4%	226	22
33	Kachchh	32	0.00	6.85	-	1.28	17 53.1%	7 21.9%	4 12.5%	4 12.5%	0 0.0%	0 0.0%	28	4
	Kachchh	32	0.00	6.85	-	1.28	17 53.1%	7 21.9%	4 12.5%	4 12.5%	0 0.0%	0 0.0%	28	4
	Gujarat State	621	0.00	29.05	0.02	10.44	249 40.1%	116 18.7%	170 27.4%	59 9.5%	21 3.4%	6 1.0%	535	86

3.3.2 August 2019 to August 2020

A perusal of Fig 17 and Table 12 reveals that 74% of total monitoring well in the Gujarat state shows a rise in water level. Rise in water level with in range of 0–2 m is observed in about 37% of well. Fall in the range of 0–2 m experienced by by 22% of well of the state. Fall of more than 2 m and 4 m is found in eastern part of the Gujarat State. The maximum rise of 27.31 m is recorded in Porbandar district whereas the maximum decline of 12.55 m is recorded in Morbi district.

About 60% of the total well shows rise of water level in the North Gujarat and most of which (31% of well) is in the range of 0 to 2 m of fluctuation of water level. Rise of more than 4 m is mostly seen in 16% of well in the region mostly in adjoining area of Sabarkantha, Banaskanth, Mehsana and Patan districts. Fall of 0 to 4 m range is observed in 40% of well of the region. Fall of water level observed in the adjoining area of Arvalli, Dahod, Panchmahal and Mahisagar districts.

In South Gujarat region, 58% of the total well shows rise in water level and out of which, 47% are in the range of 0 to 2 m in the region. Similarly, 42% of total well shows fall in water level and a maximum of 36% of well are in the range of 0 to 2 m.

About 91% of the total well in the Saurashtra region experienced the rise of water level and out of which, 37% of well are in the range of 0-2 m. The fall of water level experienced in 9% of wells where 7% range less than 2 m of the total number of wells analysed.

In Kachchh region, 11% of the total well in the area is experienced by a fall in water level where as 89% shows rise. Water level in range of less than 2 m, about 36% of well shows rise while 8% shows fall. Fall in water level observed in west central part of the Kachchh.

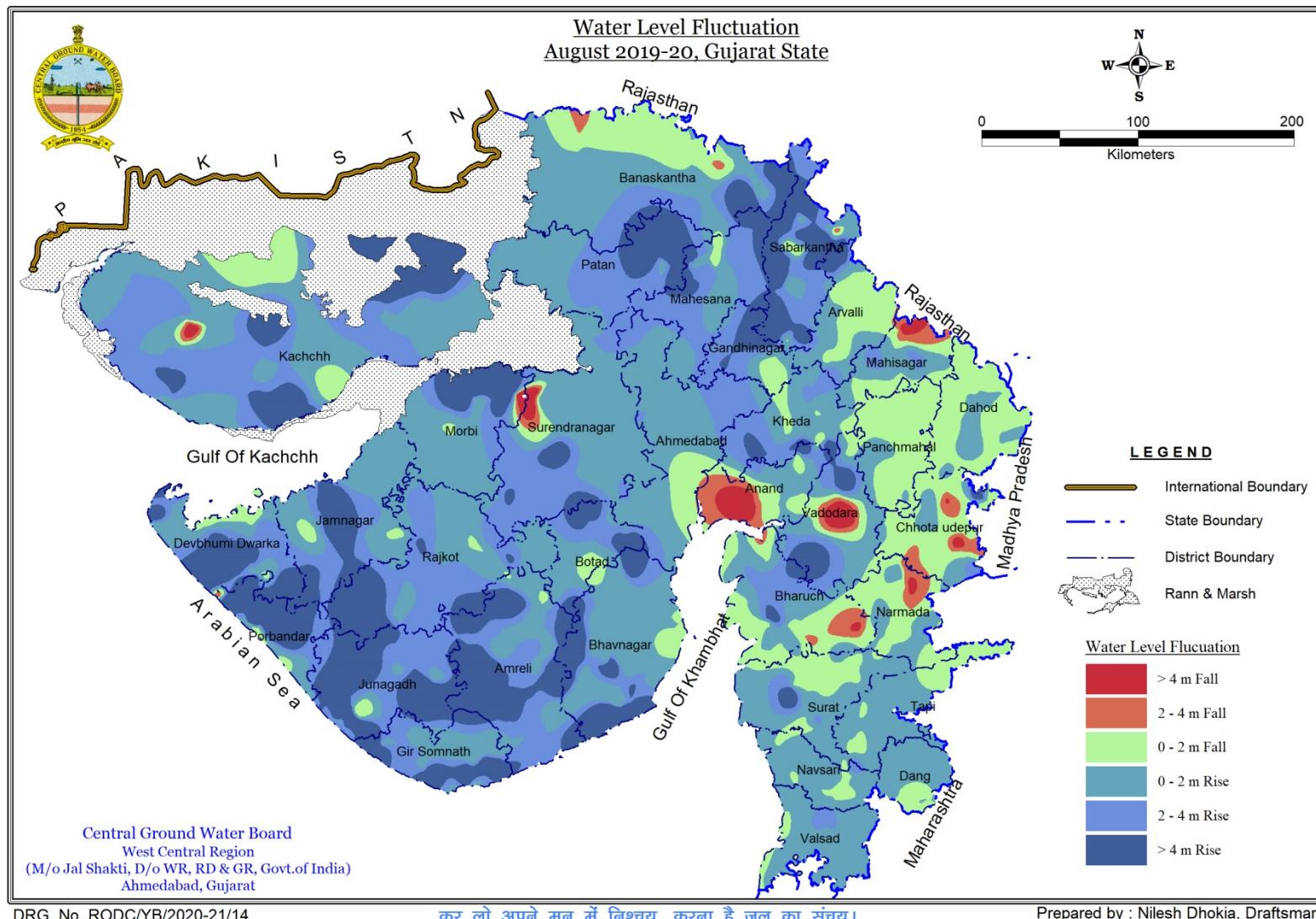


Fig. 17: Annual fluctuation of water level August 2019 to August 2020

Table 12. Categorisation of changes in water level between August 2019 to August 2020

Sr. No.	District Name	No of well analysed	Fluctuation range, m		Fluctuation range, m		No. of wells in different depth range						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	Rise	Fall
1	Ahmedabad	7	0.23	3.88	-	-	5	2	0	0	0	0	7	0
2	Anand	11	0.06	9.81	0.23	6.48	4	0	1	4	1	1	5	6
3	Arvalli	19	0.05	8.04	0.14	2.13	6	2	2	8	1	0	10	9
4	Banaskantha	12	0.00	9.83	-	3.21	5	0	3	2	2	0	8	4
5	Dohad	26	0.10	1.52	0.12	2.08	6	0	0	18	2	0	6	20
6	Gandhinagar	2	4.05	4.05	0.87	0.87	0	0	1	1	0	0	1	1
7	Kheda	10	0.15	6.42	0.02	1.25	3	1	3	3	0	0	7	3
8	Mahesana	19	0.74	5.03	1.22	1.70	5	9	3	2	0	0	17	2
9	Mahisagar	18	0.05	4.24	0.05	4.36	7	4	1	4	1	1	12	6
10	Panchmahals	21	0.28	1.61	0.02	1.96	5	0	0	16	0	0	5	16
11	Patan	6	0.40	12.78	-	-	2	1	3	0	0	0	6	0
12	Sabarkantha	31	0.46	11.47	0.02	3.05	8	6	12	3	2	0	26	5
	North Gujarat	182	0.00	12.78	0.02	6.48	56	25	29	61	9	2	110	72
13	Bharuch	27	0.01	5.28	0.05	4.37	11	2	1	10	2	1	14	13
14	Chhota Udepur	19	0.05	7.48	0.12	5.56	3	1	1	11	1	2	5	14
15	Narmada	18	0.06	2.87	0	5	7	1	0	8	1	1	8	10
16	Navsari	16	0.20	6.46	0.1	0.48	9	0	1	6	0	0	10	6
17	Surat	26	0.00	8.2	-	0.7	12	2	1	11	0	0	15	11
18	Tapi	9	0.10	1.6	0.1	0.4	7	0	0	2	0	0	7	2
19	The dangs	9	0.00	2.8	-	1.3	5	1	0	3	0	0	6	3
20	Vadodara	13	0.05	6.8	0.2	6.98	6	2	2	2	0	1	10	3
21	Valsad	12	0.10	6.7	0.1	0.1	10	0	1	1	0	0	11	1
	South Gujarat	149	0.00	8.20	0.05	6.98	70	9	7	54	4	5	86	63
22	Amreli	39	0.23	15.8	0.1	0.33	10	14	13	2	0	0	37	2
23	Bhavnagar	36	0.02	13.81	0.88	1.32	20	5	8	3	0	0	33	3
24	Botad	4	2.18	7.1	-	-	0	2	2	0	0	0	4	0
25	Devbhumi Dwarka	22	0.35	18.32	0.64	1.03	6	5	9	2	0	0	20	2
26	Gir Somnath	17	0.06	9.41	-	-	8	2	7	0	0	0	17	0
27	Jamnagar	23	0.06	12.74	0.09	0.52	7	6	7	3	0	0	20	3
28	Junagadh	32	0.76	19.11	0.16	3.21	5	8	15	2	2	0	28	4
29	Morbi	11	0.11	8.95	0.2	12.55	7	0	2	1	0	1	9	2
30	Porbandar	27	0.29	27.31	0.3	3.47	5	4	12	5	1	0	21	6
31	Rajkot	14	0.01	10.88	0.12	0.12	6	4	3	1	0	0	13	1
32	Surendranagar	24	0.10	7.55	-	-	17	5	2	0	0	0	24	0
	Saurashtra	249	0.01	27.31	0.09	12.55	91	55	80	19	3	1	226	23
33	Kachchh	36	0.00	8.73	-	6.79	13	9	10	3	0	1	32	4
	Kachchh	36	0.00	8.73	-	6.79	13	9	10	3	0	1	32	4
	Gujarat State	616	0.00	27.31	0.02	12.55	230	98	126	137	16	9	454	162

3.3.3. November 2019 to November 2020

A perusal of Fig 18 and Table 13 reveals that 36% of total monitoring wells show a rise and 64% shows fall in water level of the Gujarat state. Fall in water level within the range of 0 to 2 m is observed in about 45%, 2–4 m in 11% and more than 4 m in 8% of the total well in the state. Rise in the water level is in the range of less than 2 m and is about 24% of the total well. The maximum decline of 13.89 m is recorded in Sabarkantha district where as the maximum rise of 15.14 m is recorded in Amreli district.

About 31% of the total well shows rise of water level in the North Gujarat and most of which (19%) shows fluctuation in the range of 0 to 2 m of water level. Fall of more than 4 m is mostly seen in Anand, Arvalli, Sabarkantha and Panchmahals in the north region. Fall of 0–4 m range is observed in 59% of the total well found mainly in the central part of the north Gujarat region.

In South Gujarat region, 25% of total well analyzed shows rise in water level and in the range of 0–2 m represents 20% of well in the region. Rise of water level in 0 to 2 m is observed in central part of south region mainly in Surat, Narmada and Valsad district. Fall in water level is observed maximum in the range of 0–2 m in 52% of the total well analyzed.

About 54% of total well in Saurashtra region has experienced fall in water level and fall in the range of more than 4 m represents about 5% of the total well analysed found in Amreli, Rajkot, Morbi and Junagadh districts. Rise in water level found in 46% of total well in almost all part of the Saurashtra region.

In Kachchh region, 43% of the total well analysed shows fall in water level and 21% is in the range of 0–2 m. Rise is observed in 57% of total well in the scattered parts of Kachchh district. The rise observed in 36% of total well in Kuchchh region in the range of 0-2 m.

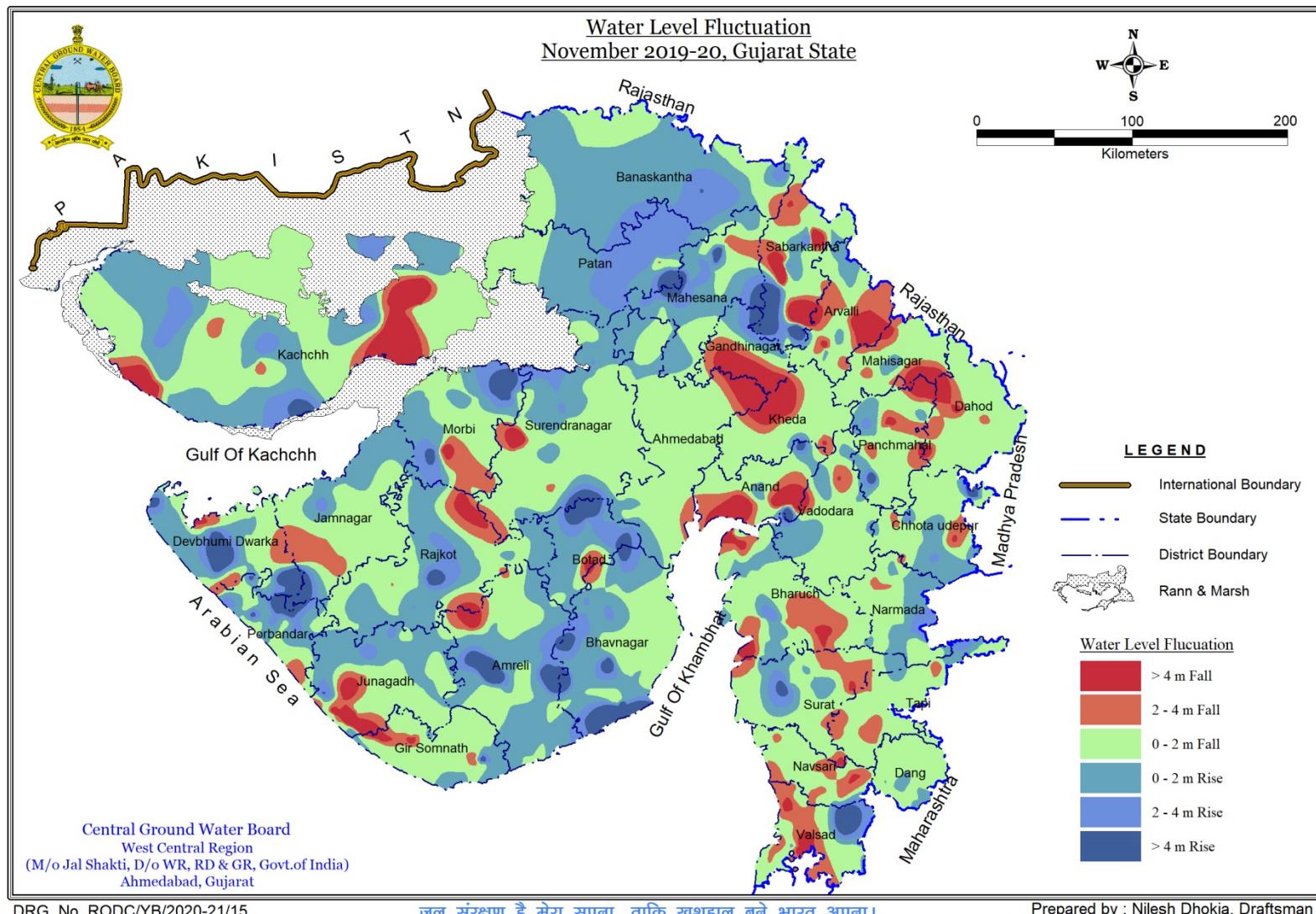


Fig. 18: Annual fluctuation of water level Noveber 2019 to November 2020

Table 13. Categorisation of changes in water level between November 2019 to November 2020

Sr. No.	District Name	No of well analysed	Fluctuation range, m		Fluctuation range, m		No. of wells in difrent depth range						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	Rise	Fall
1	Ahmedabad	10	0.00	1.75	-	1.54	5 50.0%	0 0.0%	0 0.0%	5 50.0%	0 0.0%	0 0.0%	5	5
2	Anand	13	0.21	7	0.4	8	2 15.4%	0 0.0%	2 15.4%	5 38.5%	1 7.7%	3 23.1%	4	9
3	Arvalli	19	0.41	0.98	0.2	10.43	4 21.1%	0 0.0%	0 0.0%	7 36.8%	5 26.3%	3 15.8%	4	15
4	Banaskantha	15	0.08	4.02	0.18	1.46	7 46.7%	2 13.3%	1 6.7%	5 33.3%	0 0.0%	0 0.0%	10	5
5	Dohad	27	0.40	0.4	0.01	6.13	1 3.7%	0 0.0%	0 0.0%	21 77.8%	3 11.1%	2 7.4%	1	26
6	Gandhinagar	1	-	-	4.95	4.95	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%	0	1
7	Kheda	13	0.07	0.07	0.65	9.43	1 7.7%	0 0.0%	0 0.0%	10 76.9%	0 0.0%	2 15.4%	1	12
8	Mahesana	21	0.63	8.57	0.1	4.52	7 33.3%	4 19.0%	2 9.5%	7 33.3%	0 0.0%	1 4.8%	13	8
9	Mahisagar	18	0.81	1.1	0.1	5.92	2 11.1%	0 0.0%	0 0.0%	10 55.6%	5 27.8%	1 5.6%	2	16
10	Panchmahals	22	0.05	6.19	0.16	11.38	3 13.6%	1 4.5%	1 4.5%	13 59.1%	2 9.1%	2 9.1%	5	17
11	Patan	7	1.51	12	1.14	2.11	1 14.3%	2 28.6%	1 14.3%	2 28.6%	1 14.3%	0 0.0%	4	3
12	Sabarkantha	27	0.00	11.46	-	13.89	4 14.8%	3 11.1%	3 11.1%	10 37.0%	1 3.7%	6 22.2%	10	17
North Gujarat		193	0.00	12.00	0.01	13.89	37 19.2%	12 6.2%	10 5.2%	95 49.2%	18 9.3%	21 10.9%	59	134
13	Bharuch	30	0.10	3.64	0.01	5.3	8 26.7%	1 3.3%	0 0.0%	13 43.3%	4 13.3%	4 13.3%	9	21
14	Chhota Udepur	21	0.01	7.48	0.42	4.27	3 14.3%	2 9.5%	1 4.8%	10 47.6%	4 19.0%	1 4.8%	6	15
15	Narmada	20	0.23	2.68	0	2	4 20.0%	3 15.0%	0 0.0%	11 55.0%	2 10.0%	0 0.0%	7	13
16	Navsari	20	0.01	0.01	0.29	4.3	1 5.0%	0 0.0%	0 0.0%	11 55.0%	7 35.0%	1 5.0%	1	19
17	Surat	29	0.32	4.71	0.19	5.23	5 17.2%	0 0.0%	1 3.4%	17 58.6%	4 13.8%	2 6.9%	6	23
18	Tapi	18	0.18	3	0.35	3.26	2 11.1%	1 5.6%	0 0.0%	9 50.0%	6 33.3%	0 0.0%	3	15
19	The dangs	20	0.15	0.56	0.15	1.67	5 25.0%	0 0.0%	0 0.0%	15 75.0%	0 0.0%	0 0.0%	5	15
20	Vadodara	11	0.20	1.55	0.44	4.1	6 54.5%	0 0.0%	0 0.0%	4 36.4%	0 0.0%	1 9.1%	6	5
21	Valsad	20	0.01	6.67	0.41	5.95	3 15.0%	0 0.0%	1 5.0%	8 40.0%	6 30.0%	2 10.0%	4	16
South Gujarat		189	0.01	7.48	0.01	5.95	37 19.6%	7 3.7%	3 1.6%	98 51.9%	33 17.5%	11 5.8%	47	142
22	Amreli	39	0.00	15.14	-	5.6	19 48.7%	2 5.1%	4 10.3%	10 25.6%	3 7.7%	1 2.6%	25	14
23	Bhavnagar	37	0.00	11.66	-	4.57	16 43.2%	3 8.1%	5 13.5%	12 32.4%	0 0.0%	1 2.7%	24	13
24	Botad	3	1.99	11.71	-	-	1 33.3%	1 33.3%	1 33.3%	0 0.0%	0 0.0%	0 0.0%	3	0
25	Devbhumi Dwarka	18	0.21	14.09	0.34	4.9	5 27.8%	1 5.6%	4 22.2%	6 33.3%	1 5.6%	1 5.6%	10	8
26	Gir Somnath	20	0.00	5.06	-	5.1	4 20.0%	0 0.0%	1 5.0%	12 60.0%	1 5.0%	2 10.0%	5	15
27	Jamnagar	17	0.29	2.56	0.14	3.64	6 35.3%	1 5.9%	0 0.0%	8 47.1%	2 11.8%	0 0.0%	7	10
28	Junagadh	41	0.02	4.45	0.19	11.89	8 19.5%	4 9.8%	2 4.9%	14 34.1%	6 14.6%	7 17.1%	14	27
29	Morbi	16	0.30	5.65	0.06	5.47	3 18.8%	1 6.3%	2 12.5%	7 43.8%	2 12.5%	1 6.3%	6	10
30	Porbandar	31	0.07	8.93	0.34	3.99	8 25.8%	4 12.9%	4 12.9%	12 38.7%	3 9.7%	0 0.0%	16	15
31	Rajkot	25	0.02	5.8	0.03	5.02	10 40.0%	3 12.0%	1 4.0%	8 32.0%	2 8.0%	1 4.0%	14	11
32	Surendranagar	29	0.50	4.78	0.05	9.2	1 3.4%	2 6.9%	1 3.4%	23 79.3%	1 3.4%	1 3.4%	4	25
Saurashtra		276	0.00	15.14	0.03	11.89	81 29.3%	22 8.0%	25 9.1%	112 40.6%	21 7.6%	15 5.4%	128	148
33	Kachchh	28	0.07	5.99	0.2	13.24	10 35.7%	5 17.9%	1 3.6%	6 21.4%	3 10.7%	3 10.7%	16	12
Kachchh		28	0.07	5.99	0.20	13.24	10 35.7%	5 17.9%	1 3.6%	6 21.4%	3 10.7%	3 10.7%	16	12
Gujarat State		686	0.00	15.14	0.01	13.89	165 24.1%	46 6.7%	39 5.7%	311 45.3%	75 10.9%	50 7.3%	250	436

3.3.4 January 2020 to January 2021

A perusal of Fig 19 and Table 14 reveals that out of total monitoring wells, 53% shows a fall where as 47% shows rise in water level of the Gujarat state. Fall in water level mainly within range of 0-2 m is observed in about 42% of the total well in the state. Fall in water level is mainly observed in Sourashtra, Central, Northern and Southern part of Gujarat state. Rise mainly observed in the range of 0-2 m covers about 34% of the total well in state. The maximum rise of 17.85 m is recorded in Anand district whereas the maximum decline of 11.82 m is recorded in Gir Somnath district.

About 64% of the total well shows the fall of water level in the North Gujarat and most of which (48%) shows fall in the range of 0-2 m. Fall of more than 4 m is mostly seen in the parts of Anand, Arvalli, Banaskantha, Mahisagar and Sabarkantha districts in 10% of total well analysed in the region. Rise of 0-4 m range is observed in 3% of the total well observed in the area of Anand, Dahod, Sabarkantha districts in eastern part of north Gujarat region.

In South Gujarat region, 42% of total well analysed shows fall in water level and 37% represents in the range of 0-2 m of total well in the region. Fall of water level observed in the range of 2 to 4 m and more than 4 m in isolated patches distributed sporadically in south Gujarat region. Rise in water level observed in the range of 0-2 m in 50% of the total well analysed lying mainly in Navsari, Surat, Vadodara and Narmada districts in the South Gujarat region.

About 57% of the Saurashtra region has experienced the fall in water level and in the range of 0-2 m observed in 44% of the total well analysed. Fall of water level in 5% of well observed more than 4 m is predominantly found in Gir Somnath, Rajkot and Junagadh district all over the region. The rise in water level also found in 43% of total well distributed allover the Saurashtra region. About 28% area of the region observed rise of 0-2 m.

In Kachchh region, rise in water level experienced in 77% of total well equally distributed in the region for monitoring. Fall of water level mainly ranges in 0-2 m is observed in 21% of total well western part of the district. About 23% area shows fall in the region.

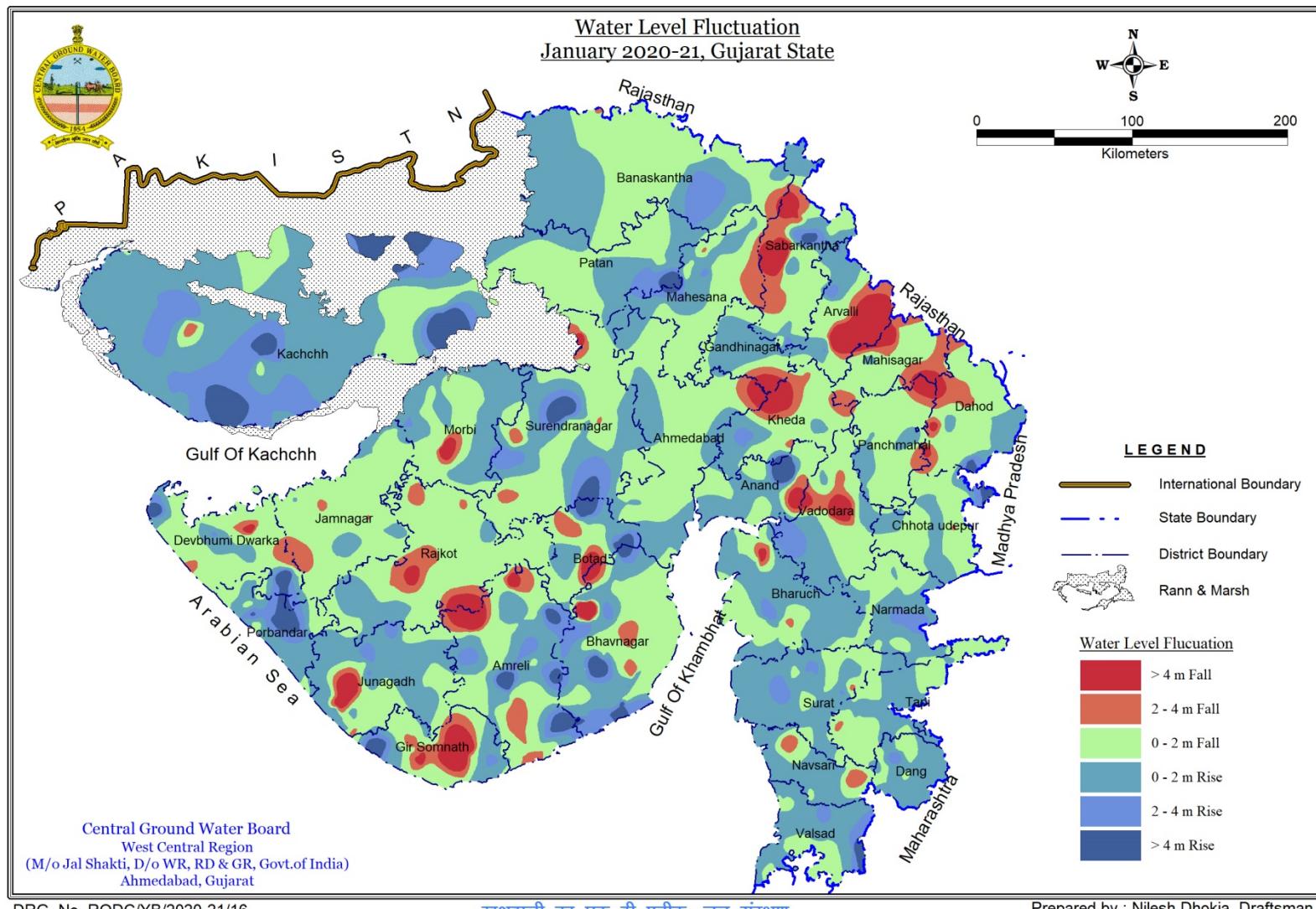


Fig. 19: Annual fluctuation of water level January 2020 to January 2021

Table 14. Categorisation of changes in water level between January 2020 to January 2021

Sr. No.	District Name	No of well analysed	Fluctuation range, m		Fluctuation range, m		No. of wells in difrent depth range						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	Rise	Fall	
1	Ahmedabad	13	0.00	1.52	-	1.08	8 61.5%	0 0.0%	0 0.0%	5 38.5%	0 7.7%	0 38.5%	0 0.0%	0 0.0%	8 5
2	Anand	13	0.03	17.85	0.03	6.66	5 38.5%	0 0.0%	1 7.7%	5 38.5%	1 7.7%	1 7.7%	1 7.7%	1 7.7%	6 7
3	Arvalli	17	0.65	3.42	0.24	9.86	3 17.6%	3 17.6%	0 0.0%	7 41.2%	7 0.0%	0 0.0%	4 23.5%	4 0.0%	6 11
4	Banaskantha	14	0.25	3.6	0.61	4.33	5 35.7%	2 14.3%	0 0.0%	0 35.7%	1 7.1%	1 7.1%	1 7.1%	1 7.1%	7 7
5	Dohad	26	0.23	4.63	0.15	5.07	6 23.1%	0 0.0%	1 3.8%	15 57.7%	2 7.7%	2 7.7%	2 7.7%	2 7.7%	7 19
6	Gandhinagar	3	1.76	3.12	0.51	0.51	1 33.3%	1 33.3%	0 0.0%	1 33.3%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 1
7	Kheda	15	0.03	2.52	0.11	6.48	2 13.3%	2 13.3%	0 0.0%	8 53.3%	2 13.3%	1 6.7%	1 6.7%	1 6.7%	4 11
8	Mahesana	22	0.20	2.56	0.17	2.31	10 45.5%	2 9.1%	0 0.0%	9 40.9%	1 4.5%	0 0.0%	1 4.5%	0 0.0%	12 10
9	Mahisagar	17	0.85	0.85	0.04	9.27	1 5.9%	0 0.0%	0 0.0%	12 70.6%	2 11.8%	2 11.8%	2 11.8%	2 11.8%	1 16
10	Panchmahals	15	0.05	0.99	0.04	5.76	4 26.7%	0 0.0%	0 0.0%	9 60.0%	0 0.0%	0 0.0%	2 13.3%	2 13.3%	4 11
11	Patan	6	3.13	7.38	0.03	0.69	0 0.0%	1 16.7%	1 16.7%	4 66.7%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 4
12	Sabarkantha	29	0.11	5.99	0.1	9.26	6 20.7%	2 6.9%	2 6.9%	12 41.4%	2 6.9%	5 17.2%	5 17.2%	5 17.2%	10 19
North Gujarat		190	0.00	17.85	0.03	9.86	51 26.8%	13 6.8%	5 2.6%	92 48.4%	11 5.8%	18 9.5%	69	121	
13	Bharuch	31	0.00	3.2	-	5.38	16 51.6%	1 3.2%	0 0.0%	12 38.7%	1 3.2%	1 3.2%	1 3.2%	1 3.2%	17 14
14	Chhota Udepur	19	0.26	4.25	0.12	2.26	4 21.1%	0 0.0%	1 5.3%	13 68.4%	1 5.3%	0 0.0%	0 0.0%	0 0.0%	5 14
15	Narmada	19	0.00	2.80	-	3	9 47.4%	3 15.8%	0 0.0%	6 31.6%	1 5.3%	0 0.0%	0 0.0%	0 0.0%	12 7
16	Navsari	19	0.08	1.89	0.16	3.58	15 78.9%	0 0.0%	0 0.0%	2 10.5%	2 10.5%	0 0.0%	0 0.0%	0 0.0%	15 4
17	Surat	30	0.00	2.82	-	2.43	15 50.0%	4 13.3%	0 0.0%	10 33.3%	1 3.3%	0 0.0%	0 0.0%	0 0.0%	19 11
18	Tapi	17	0.04	0.91	0.05	2.62	7 41.2%	0 0.0%	0 0.0%	9 52.9%	1 5.9%	0 0.0%	0 0.0%	0 0.0%	7 10
19	The dangs	22	0.06	3.99	0.01	0.72	11 50.0%	3 13.6%	0 0.0%	8 36.4%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	14 8
20	Vadodara	15	0.00	3.65	-	8.09	6 40.0%	1 6.7%	0 0.0%	5 33.3%	2 13.3%	1 6.7%	1 6.7%	1 6.7%	7 8
21	Valsad	19	0.15	5	0.15	0.78	12 63.2%	1 5.3%	1 5.3%	5 26.3%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	14 5
South Gujarat		191	0.00	5.00	0.01	8.09	95 49.7%	13 6.8%	2 1.0%	70 36.6%	9 4.7%	2 1.0%	110	81	
22	Amreli	39	0.11	8.85	0.07	9	10 25.6%	5 12.8%	4 10.3%	12 30.8%	5 12.8%	3 7.7%	3 7.7%	3 7.7%	19 20
23	Bhavnagar	42	0.00	13.34	-	6.65	9 21.4%	6 14.3%	4 9.5%	19 45.2%	3 7.1%	1 2.4%	1 2.4%	1 2.4%	19 23
24	Botad	4	0.50	6.1	1.3	1.3	1 25.0%	1 25.0%	1 25.0%	1 25.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 1
25	Devbhumi Dwarka	22	0.27	16.15	0.09	6.73	4 18.2%	2 9.1%	3 13.6%	10 45.5%	2 9.1%	1 4.5%	1 4.5%	1 4.5%	9 13
26	Gir Somnath	20	0.25	5.71	0.42	11.82	6 30.0%	1 5.0%	1 5.0%	8 40.0%	2 10.0%	2 10.0%	2 10.0%	2 10.0%	8 12
27	Jamnagar	27	0.04	2.41	0.02	3.73	4 14.8%	1 3.7%	0 0.0%	19 70.4%	3 11.1%	0 0.0%	0 0.0%	0 0.0%	5 22
28	Junagadh	42	0.02	3.43	0.07	8.08	23 54.8%	6 14.3%	0 0.0%	8 19.0%	2 4.8%	3 7.1%	3 7.1%	3 7.1%	29 13
29	Morbi	17	0.03	1.08	0.17	7.45	7 41.2%	0 0.0%	0 0.0%	9 52.9%	0 0.0%	1 5.9%	1 5.9%	1 5.9%	7 10
30	Porbandar	30	0.01	5.31	0.02	2.52	11 36.7%	3 10.0%	4 13.3%	11 36.7%	3 3.3%	0 0.0%	0 0.0%	0 0.0%	18 12
31	Rajkot	24	0.29	1.03	0.03	5.55	5 20.8%	0 0.0%	0 0.0%	14 58.3%	3 12.5%	2 8.3%	2 8.3%	2 8.3%	19 19
32	Surendranagar	31	0.00	8.09	-	5.3	4 12.9%	1 3.2%	2 6.5%	20 64.5%	3 9.7%	1 3.2%	1 3.2%	1 3.2%	7 24
Saurashtra		298	0.00	16.15	0.02	11.82	84 28.2%	26 8.7%	19 6.4%	131 44.0%	24 8.1%	14 4.7%	129	169	
33	Kachchh	39	0.00	9.15	-	3.3	16 41.0%	10 25.6%	4 10.3%	8 20.5%	1 2.6%	0 0.0%	0 0.0%	0 0.0%	30 9
Kachchh		39	0.00	9.15	-	3.30	16 41.0%	10 25.6%	4 10.3%	8 20.5%	1 2.6%	0 0.0%	0 0.0%	0 0.0%	30 9
Gujarat State		718	0.00	17.85	0.01	11.82	246 34.3%	62 8.6%	30 4.2%	301 41.9%	45 6.3%	34 4.7%	338	380	

3.4 Long Term Groundwater Scenario

Long-term behaviour of water levels was studied by analysing the data for decadal average water levels and fluctuation of present year water level with respect to decadal average water levels. Maps showing variation in water level scenario over the decadal average for premonsoon and postmonsoon from 2011-20, and comparison of May, August, November 2020 against decadal average of 2010-19 and January 2021 against decadal average of 2011-20 have been prepared to evaluate the long term changes in the groundwater regime.

3.4.1 Decadal Average Depth to Water Level

Maps showing depth to water level scenario over the decade 2011-2020 have been prepared to evaluate the long term changes in the groundwater regime. Average depth to water level data is given in Annexure IV and distribution of the same is discussed below.

3.4.1.1 Pre-monsoon Water Levels (2011-2020)

Decadal average water level map for the period May 2011 to May 2020 (Fig. 20) reveals that the decadal average water level in Gujarat is generally 0.76 to 39.66 m bgl. Isolated pockets of shallow water levels of less than 2 m are observed in one or two places in the state. Depth to water level more than 40 m observed only in Vadodara district of South Gujarat region. The maximum depth of water level observed 39.66 m bgl at Sharkhej in Kheda while minimum water level is 0.76 m bgl at Lilpur in Kachchh.

The Decadal average water levels in North Gujarat generally range from less than 2 to 39.66 m bgl. Water level of 20 to 40 m is observed in isolated pockets in Banaskantha, Mahesana, Sabarkantha, Kheda and Gandhinagar districts.

In South Gujarat, average water level is less than 2 m bgl to 30.89 m bgl. Deep water levels of 20 to 40 m are observed in central part of Vadodara district which extending towards Narmada and Bharuch district and an isolated patch in Narmada district. Water level of less than 5 m bgl is found along the coast and in parts of Bharuch, The Dangs, Valsad and Surat districts.

In Saurashtra the average water level is vary from less than 2 m to 38.46 m with isolated pockets of 20–40 m are found as in Amreli, Bhavnagar, Junagadh, Jamnagar and Porbandar districts of Saurashtra region except Surendranagar district.

In Kachchh district, range of the average water level is found from less than 2 m to 38.00 m. Deeper water levels of 20–40 m are observed in east part of Kachchh while all other area varies with in 5 to 20 m bgl.

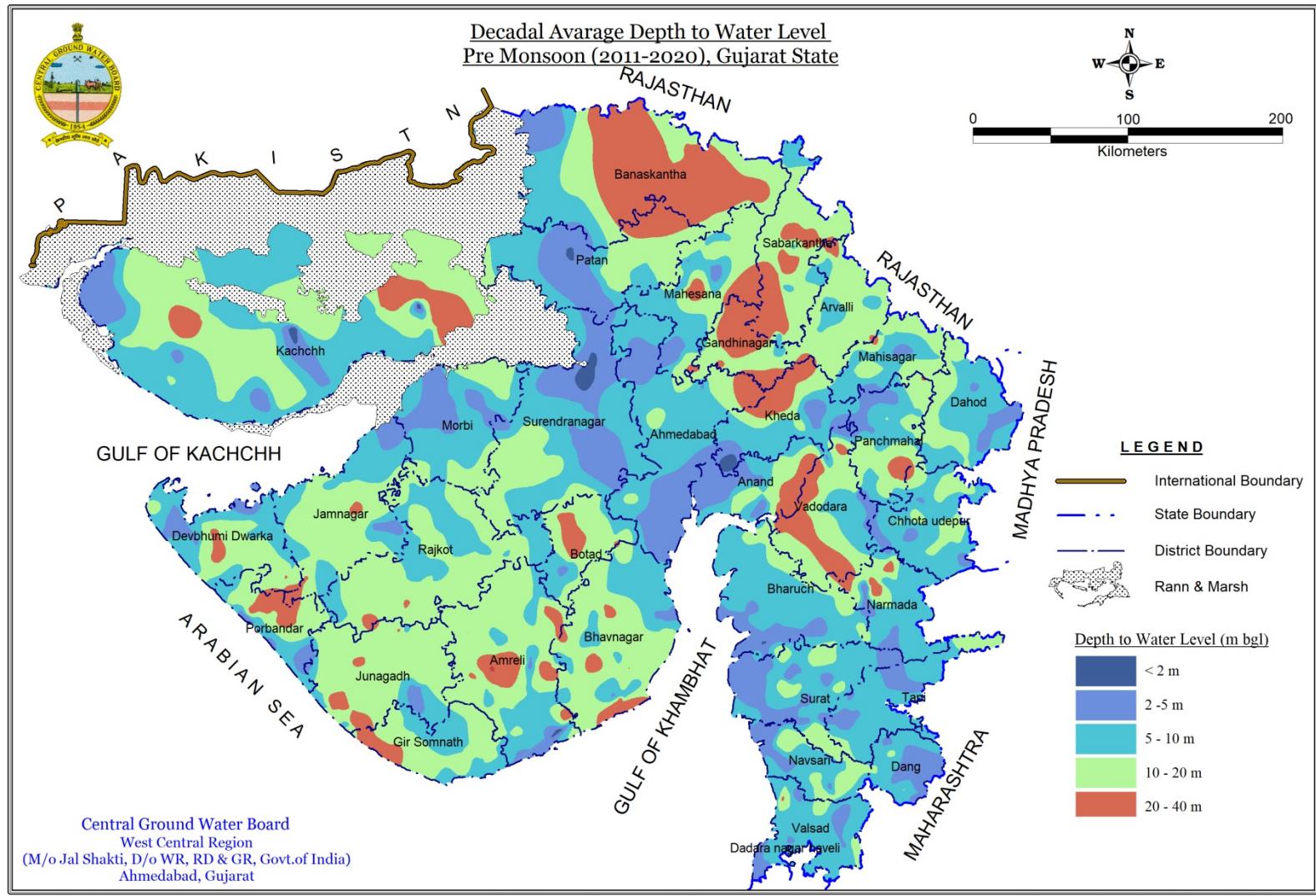


Fig. 20: Decadal average depth of water level during pre-monsoon (2011-20)

3.4.1.2 Post-monsoon Water Levels (2011-2020)

Decadal average water level map for the period November 2011 to November 2020 (Fig. 21) and Annexure IV reveals that in major part of Gujarat state, the decadal average water level is mostly in the range of less than 2 m to 37.84 m bgl. Deep water levels of more than 20 m are observed mainly in Banaskantha, Mahesana and Sabarkantha districts of North Gujarat, Amreli district in Saurashtra, Vadodara district in South and Kachchh district. Shallow water levels less than 2 m are observed in south Gujarat, along the little Rann and the parts connecting to the Gulf of Cambay and in scattered pockets in Saurashtra, Kachchh and North Gujarat. The deepest water observed 37.84 m bgl at Anwarpura in Sabarkantha and shallowest is 0.25 m at Pipli in Surendranagar district.

In North Gujarat, the water levels during post monsoon period are generally less than 20 m bgl. Deeper water levels of more than 20 m bgl are predominant in the district of Ahmedabad, Mahesana, Kheda, Banaskantha, Gandhinagar and Sabarkantha. Area along the little Rann and a portion connecting Gulf of Cambay and the little Rann has recorded water levels of less than 2 mbgl. Shallow water levels of less than 5 m bgl are observed in major parts of Panchmahaland Mahisagar some parts of Arvalli, Dohad, Kheda and Anand districts.

In South Gujarat, water levels are generally shallower in contrast to North Gujarat areas. The water levels are generally less than 10 m bgl. Deep water levels of more than 10 m bgl are observed in central part of Navsari district. Deeper Water level more than 20 m bgl are observed mostly in Vadodara and Narmada districts. Shallow water levels of less than 5 m are recorded along the coast, The Dangs and Surat district. Water level less than 2 m is also recorded in Surat and The Dangs district.

In Saurashtra Region, water levels are in the range of 2 m to 20 mbgl in general. Water levels of more than 20 m are observed in small isolated pockets in Amreli and Bhavnagar districts. Shallow water levels of less than 2 m are recorded in isolated pockets along the coastal parts and the parts connecting Gulf of Cambay with little Rann of the Saurashtra Region.

In Kachchh district, the average water level is generally vary from 2 to 20 m except few pockets of more than 20 m in the eastern part and central parts. In western parts, along cost line, water levels less than 10 m bgl is observed.

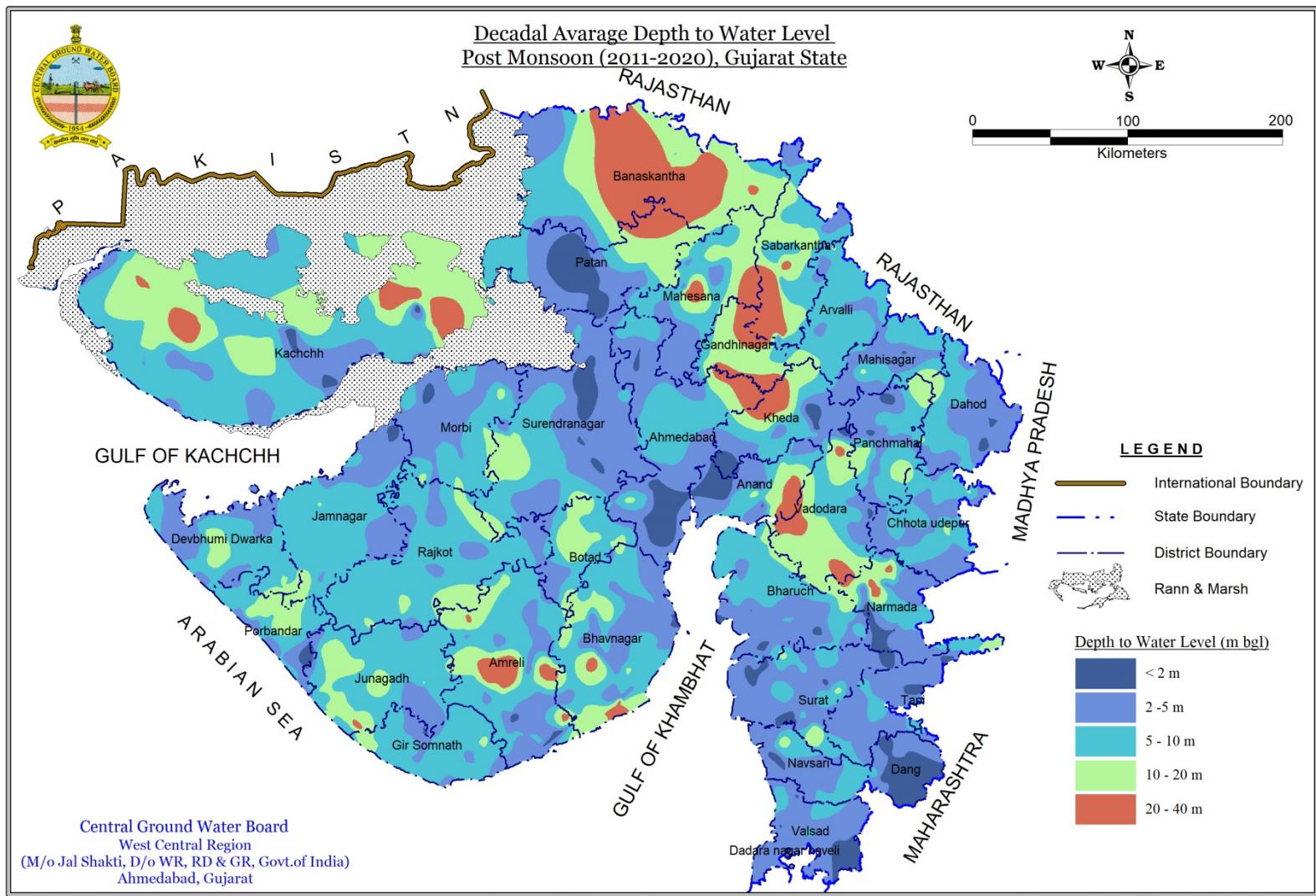


Fig. 21: Decadal average depth of water level during post-monsoon (2011-20)

3.4.1 Decadal Variations

Long-term behaviour of water levels was studied by analysing fluctuation of present year water level with respect to decadal average water levels. Variation in water level scenario over the decade 2010-19 for May, August, November and 2011-20 for January have been prepared to evaluate the long term changes in the groundwater regime. **Fig. 22 (a, b, c & d)** illustrates a comparison of the changes of the water levels during different seasons with their respective decadal averages.

Fig : 22 a

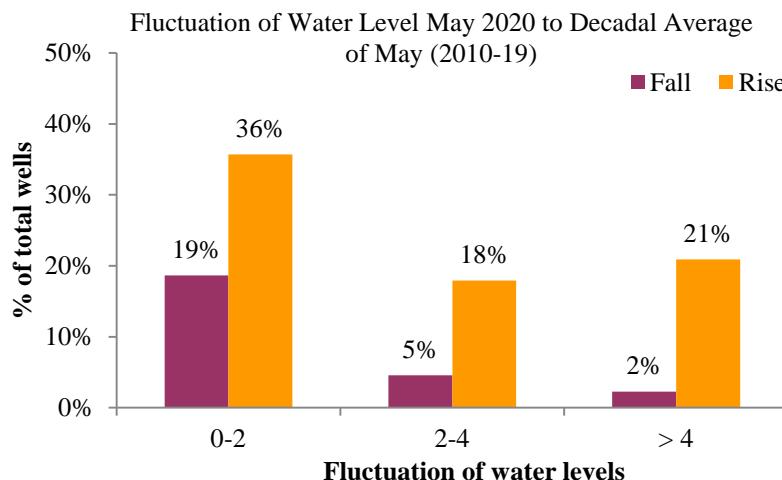


Fig : 22 b

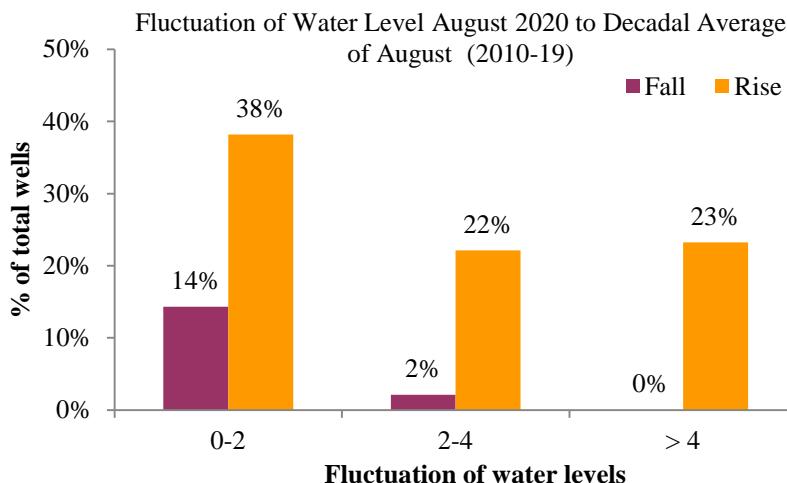


Fig : 22 c

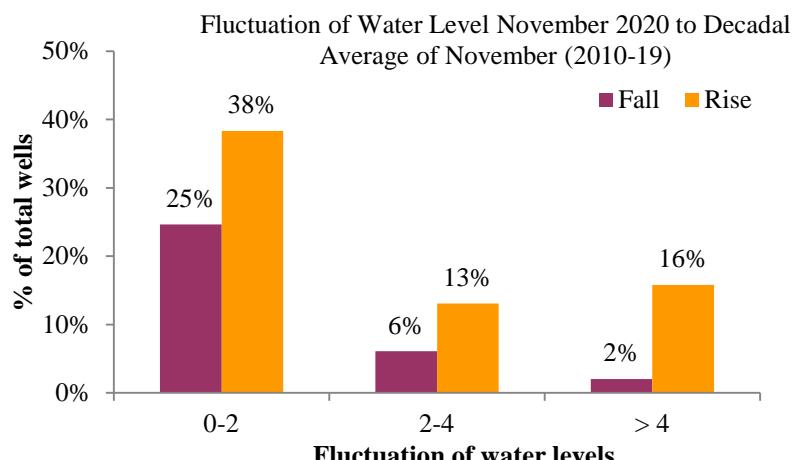


Fig : 22 d

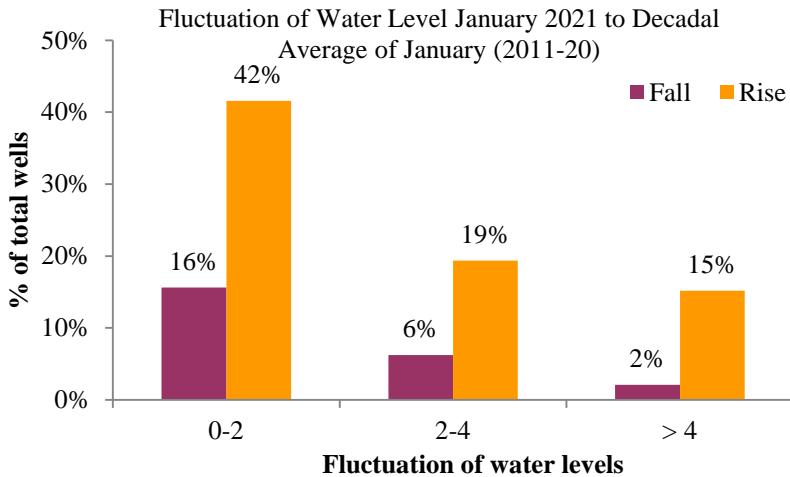


Fig. 22: Fluctuation of seasonal water level to decadal average

3.4.2.1 Decadal average of May (2010-2019) to May 2020

A comparison of the water level of the May 2020 with the average water level of the May for last one decade (2010-2019) reveals that there is a rise of 75% of the wells monitored. Rise and fall is mostly in the range of 0 to 2 m. Fall of more than 4 m is observed in most of the districts of Saurashtra region, in Kachchh, Banaskantha, Sabarkantha, Mahesana, Panchmahal and Anand districts in north Gujarat and Surat district in south Gujarat. The maximum rise of 18.82 m is recorded at Khamba in Amreli district whereas the maximum fall of 9.95 m is recorded at Tawali in Tapi district (Fig. 23).

In North Gujarat 68% of wells show the rise and mostly are in range of 0 to 2 m (37% of wells) in entire North Gujarat. The fall of water level is mostly less than 2 m and in about 24% of the total wells analyzed.

In south Gujarat, the major part has experienced rise (77% of wells analyzed). The fall is mainly (19% of wells) in the range of 0 to 2 m. About 39% of wells recorded rise of decadal fluctuation of water level in the range of 0 to 2 m.

In Saurashtra region about 80% of wells observed the rise in water level and out of which 33% wells shows the rise in the range of 0 to 2 m. The fall is observed in 20% of the well analysed. The fall of water level is less than 2 m in 14% in whole region.

In Kachchh, 59% of the wells have recorded the risel in water level of the district. Fall is mostly (23% of wells) in the range of 0–2 m, where as rise of 0–2 m is recorded in 33% of wells.

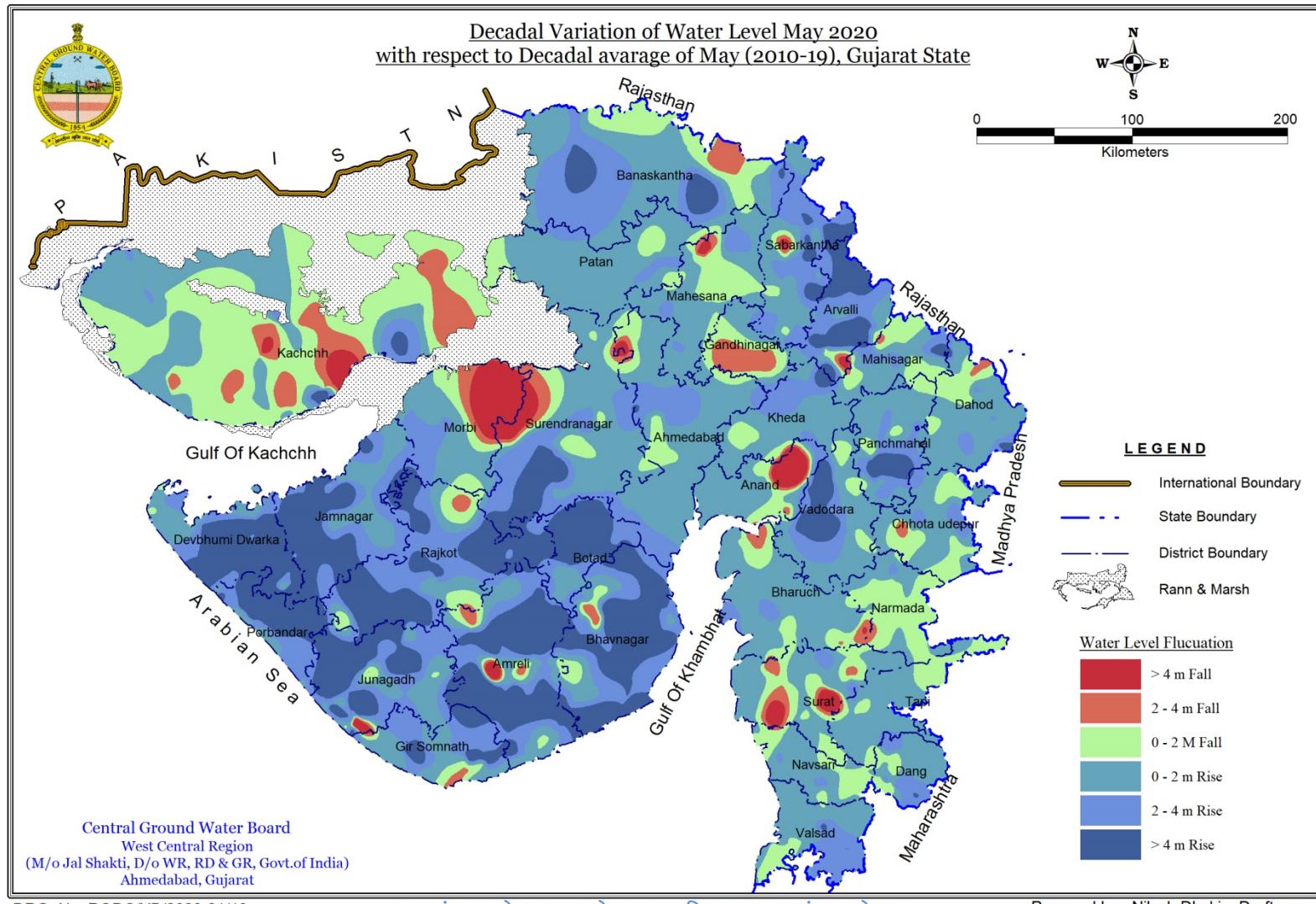


Fig. 23: Variation of water level of May 2020 to decadal average of May 2010-19

Table 15. Well wise categorisation of changes in water level during May 2020 with respect to decadal average of May (2010 to 2019)

Sr. No.	District Name	No of well analysed	Fluctuation range, m		Fluctuation range, m		No. of wells in diffrent depth range						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	Rise	Fall
1	Ahmedabad	15	0.28	4.08	0.12	5.23	6 40.0%	3 20.0%	1 6.7%	4 26.7%	0 0.0%	1 6.7%	10	5
2	Anand	10	0.76	3.03	0.03	16.97	4 40.0%	1 10.0%	0 0.0%	3 30.0%	1 10.0%	1 10.0%	5	5
3	Arvalli	17	0.81	11.71	0.40	5.67	2 11.8%	4 23.5%	8 47.1%	2 11.8%	0 0.0%	1 5.9%	14	3
4	Banaskantha	16	0.20	6.46	0.06	3.43	4 25.0%	1 6.3%	3 18.8%	5 31.3%	3 18.8%	0 0.0%	8	8
5	Dohad	29	0.07	8.11	0.90	4.71	19 65.5%	5 17.2%	2 6.9%	2 6.9%	0 0.0%	1 3.4%	26	3
6	Gandhinagar	4	-	-	0.87	5.79	0 0.0%	0 0.0%	0 0.0%	1 25.0%	2 50.0%	1 25.0%	0	4
7	Kheda	14	0.62	3.71	0.49	1.44	9 64.3%	2 14.3%	0 0.0%	3 21.4%	0 0.0%	0 0.0%	11	3
8	Mahesana	24	0.03	3.44	0.07	7.01	11 45.8%	4 16.7%	0 0.0%	7 29.2%	1 4.2%	1 4.2%	15	9
9	Mahisagar	18	0.27	3.83	0.16	2.79	10 55.6%	3 16.7%	0 0.0%	4 22.2%	1 5.6%	0 0.0%	13	5
10	Panchmahals	18	0.24	9.72	1.19	1.88	7 38.9%	6 33.3%	2 11.1%	3 16.7%	0 0.0%	0 0.0%	15	3
11	Patan	8	1.04	3.57	0.31	1.60	2 25.0%	3 37.5%	0 0.0%	3 37.5%	0 0.0%	0 0.0%	5	3
12	Sabarkantha	28	0.28	6.18	0.06	5.52	9 32.1%	7 25.0%	7 25.0%	4 14.3%	0 0.0%	1 3.6%	23	5
	North Gujarat	201	0.03	11.71	0.03	16.97	83 41.3%	39 19.4%	23 11.4%	41 20.4%	8 4.0%	7 3.5%	145	56
13	Bharuch	30	0.22	3.91	0.09	4.26	17 56.7%	4 13.3%	0 0.0%	6 20.0%	2 6.7%	1 3.3%	21	9
14	Chhota Udepur	24	0.00	5.35	0.14	4.23	12 50.0%	1 4.2%	2 8.3%	8 33.3%	0 0.0%	1 4.2%	15	9
15	Narmada	17	0.00	3.03	0.04	1.27	8 47.1%	1 5.9%	0 0.0%	8 47.1%	0 0.0%	0 0.0%	9	8
16	Navsari	18	0.00	2.57	0.13	0.94	9 50.0%	2 11.1%	0 0.0%	7 38.9%	0 0.0%	0 0.0%	11	7
17	Surat	29	0.00	3.52	0.14	8.73	16 55.2%	2 6.9%	0 0.0%	7 24.1%	2 6.9%	2 6.9%	18	11
18	Tapi	15	0.09	3.93	0.06	4.11	9 60.0%	2 13.3%	0 0.0%	3 20.0%	0 0.0%	1 6.7%	11	4
19	The dangs	23	0.27	7.16	0.27	1.98	5 21.7%	7 30.4%	4 17.4%	7 30.4%	0 0.0%	0 0.0%	16	7
20	Vadodara	19	0.22	8.17	0.21	1.58	10 52.6%	1 5.3%	5 26.3%	3 15.8%	0 0.0%	0 0.0%	16	3
21	Valsad	17	0.00	4.36	0.28	1.62	9 52.9%	2 11.8%	2 11.8%	4 23.5%	0 0.0%	0 0.0%	13	4
	South Gujarat	192	0.00	8.17	0.04	8.73	95 49.5%	22 11.5%	13 6.8%	53 27.6%	4 2.1%	5 2.6%	130	62
22	Amreli	43	0.04	11.55	0.51	9.95	8 18.6%	6 14.0%	21 48.8%	3 7.0%	4 9.3%	1 2.3%	35	8
23	Bhavnagar	35	0.50	15.60	0.60	3.99	6 17.1%	11 31.4%	14 40.0%	2 5.7%	2 5.7%	0 0.0%	31	4
24	Botad	3	3.28	12.42	-	-	0 0.0%	1 33.3%	2 66.7%	0 0.0%	0 0.0%	0 0.0%	3	0
25	Devbhumi Dwarka	25	0.00	15.32	0.16	0.36	6 24.0%	6 24.0%	11 44.0%	2 8.0%	0 0.0%	0 0.0%	23	2
26	Gir Somnath	19	0.68	10.07	0.61	2.31	5 26.3%	7 36.8%	5 26.3%	1 5.3%	1 5.3%	0 0.0%	17	2
27	Jamnagar	24	0.40	9.90	-	-	9 37.5%	4 16.7%	11 45.8%	0 0.0%	0 0.0%	0 0.0%	24	0
28	Junagadh	38	0.26	18.82	1.47	9.19	14 36.8%	5 13.2%	15 39.5%	2 5.3%	1 2.6%	1 2.6%	34	4
29	Morbi	8	0.87	3.27	0.18	0.18	4 50.0%	3 37.5%	0 0.0%	1 12.5%	0 0.0%	0 0.0%	7	1
30	Porbandar	29	0.52	21.76	-	-	8 27.6%	5 17.2%	16 55.2%	0 0.0%	0 0.0%	0 0.0%	29	0
31	Rajkot	27	0.95	9.87	1.58	2.57	3 11.1%	9 33.3%	13 48.1%	1 3.7%	1 3.7%	0 0.0%	25	2
32	Surendranagar	21	0.22	7.90	0.25	8.40	7 33.3%	6 28.6%	3 14.3%	4 19.0%	0 0.0%	1 4.8%	16	5
	Saurashtra	272	0.00	21.76	0.16	9.95	70 25.7%	63 23.2%	111 40.8%	16 5.9%	9 3.3%	3 1.1%	244	28
33	Kachchh	42	0.14	6.29	0.32	5.85	12 28.6%	3 7.1%	2 4.8%	13 31.0%	10 23.8%	2 4.8%	17	25
	Kachchh	42	0.14	6.29	0.32	5.85	12 28.6%	3 7.1%	2 4.8%	13 31.0%	10 23.8%	2 4.8%	17	25
	Gujarat State	707	0.00	21.76	0.03	16.97	260 36.8%	127 18.0%	149 21.1%	123 17.4%	31 4.4%	17 2.4%	536	171

3.4.2.2 Decadal average of August (2010 to 2019) to August 2020

A comparison of the water level of the August 2020 with the average water level of the August for last one decade (2010-2019) Fig 24 and Table 16 reveals that there is the rise in 83% of well analysed. Rise is mostly in the range of 0 to 2 m (38% of total wells). The rise of more than 2 m observed mostly in Saurashtra and north Gujarat region. The maximum rise of 18.29 m is recorded in Kolikhada of Porbandar district whereas the maximum decline of 12.06 m is recorded in Sukhpar of Morbi district.

In North Gujarat, 75% of wells have shown rise and mostly in range of 0 to 2 m (43% of wells) & 2 to 4 m (21% of well). The fall of 25% in water level is located in the adjoining area of Mahesana, Banskantha, Gandhinagar and Sabarkantha districts of North Gujarat.

South Gujarat has experienced the rise in 74% of wells analysed whereas 26% shows the fall. In the range of 0 to 2 m, 23% of well shows the fall while 54% of wells shows the rise. Morethan 2 m of fall in water shows in Valsad, Vadodara, Surat and Bharuch distrcits in south region.

In Saurashtra region, 95% of total well shows the rise in water level where as 05% shows the fall. The fall of water level in more than 4 m is not observed in any wells in districts. The rise in water level is observed in all ditricts of the Saurashtra but fall of morethan 2 m in water level is observed only in Bhavnagar district.

In Kachchh, 72% of the wells analysed have recorded the rise in water levels in the district. Fall is mostly (28% of wells) in the range of 0 to 2 m. Rise is observed in 36% wells in the district ain the range of 0–2 m.

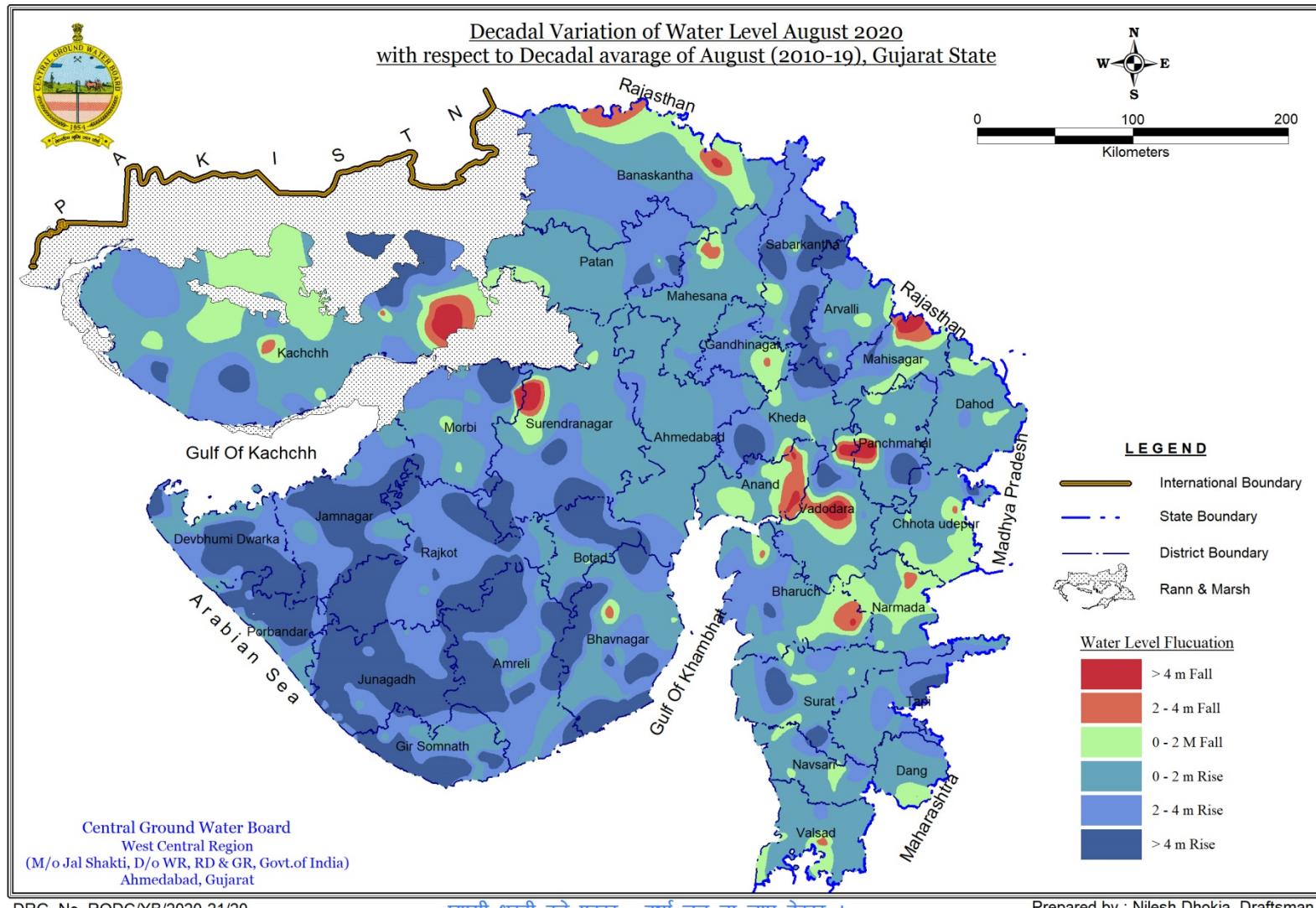


Fig. 24: Variation of water level of August 2020 to decadal average of August 2010-19

Table 16. Well wise categorisation of changes in water level during August 2020 with respect to decadal average of August (2010 to 2019)

Sr. No.	District Name	No of well analysed	Fluctuation range, m		Fluctuation range, m		No. of wells in diffrent depth range					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	Rise	Fall
1	Ahmedabad	7	0.34	2.28	-	-	5 71.4%	2 28.6%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	7	0
2	Anand	12	0.47	2.62	0.16	4.51	2 16.7%	1 8.3%	0 0.0%	5 41.7%	1 8.3%	3 25.0%	3	9
3	Arvalli	18	0.08	9.22	0.45	0.89	8 44.4%	4 22.2%	4 22.2%	2 11.1%	0 0.0%	0 0.0%	16	2
4	Banaskantha	13	0.37	2.99	0.07	4.46	2 15.4%	3 23.1%	0 0.0%	6 46.2%	1 7.7%	1 7.7%	5	8
5	Dohad	25	0.10	2.65	0.03	0.40	18 72.0%	1 4.0%	0 0.0%	6 24.0%	0 0.0%	0 0.0%	19	6
6	Gandhinagar	2	3.01	3.01	2.14	2.14	0 0.0%	1 50.0%	0 0.0%	0 0.0%	1 50.0%	0 0.0%	1	1
7	Kheda	11	0.11	7.29	0.22	0.29	5 45.5%	1 9.1%	3 27.3%	2 18.2%	0 0.0%	0 0.0%	9	2
8	Mahesana	18	0.16	2.66	0.84	2.98	10 55.6%	3 16.7%	0 0.0%	2 11.1%	3 16.7%	0 0.0%	13	5
9	Mahisagar	18	0.30	4.45	0.10	4.53	6 33.3%	4 22.2%	2 11.1%	5 27.8%	0 0.0%	1 5.6%	12	6
10	Panchmahals	19	0.08	6.16	0.01	5.72	13 68.4%	2 10.5%	1 5.3%	2 10.5%	0 0.0%	1 5.3%	16	3
11	Patan	7	0.27	6.95	0.21	0.23	1 14.3%	2 28.6%	2 28.6%	2 28.6%	0 0.0%	0 0.0%	5	2
12	Sabarkantha	27	0.95	9.06	0.55	1.34	4 14.8%	11 40.7%	8 29.6%	4 14.8%	0 0.0%	0 0.0%	23	4
	North Gujarat	177	0.08	9.22	0.01	5.72	74 41.8%	35 19.8%	20 11.3%	36 20.3%	6 3.4%	6 3.4%	129	48
13	Bharuch	25	0.03	4.75	0.14	4.18	11 44.0%	9 36.0%	1 4.0%	2 8.0%	1 4.0%	1 4.0%	21	4
14	Chhota Udepur	21	0.22	6.10	0.02	2.26	10 47.6%	2 9.5%	1 4.8%	7 33.3%	1 4.8%	0 0.0%	13	8
15	Narmada	16	0.11	2.75	0.19	2.39	7 43.8%	2 12.5%	0 0.0%	6 37.5%	1 6.3%	0 0.0%	9	7
16	Navsari	13	0.23	3.32	0.05	1.36	5 38.5%	3 23.1%	0 0.0%	5 38.5%	0 0.0%	0 0.0%	8	5
17	Surat	25	0.11	8.11	0.01	0.49	15 60.0%	2 8.0%	2 8.0%	6 24.0%	0 0.0%	0 0.0%	19	6
18	Tapi	9	0.05	4.89	-	-	7 77.8%	1 11.1%	1 11.1%	0 0.0%	0 0.0%	0 0.0%	9	0
19	The dangs	10	0.01	1.90	0.08	1.05	7 70.0%	0 0.0%	0 0.0%	3 30.0%	0 0.0%	0 0.0%	7	3
20	Vadodara	12	0.13	5.43	0.13	5.56	5 41.7%	2 16.7%	2 16.7%	1 8.3%	0 0.0%	2 16.7%	9	3
21	Valsad	12	0.19	4.01	0.02	3.41	8 66.7%	0 0.0%	1 8.3%	2 16.7%	1 8.3%	0 0.0%	9	3
	South Gujarat	143	0.01	8.11	0.01	5.56	75 52.4%	21 14.7%	8 5.6%	32 22.4%	4 2.8%	3 2.1%	104	39
22	Amreli	42	0.16	10.54	0.46	1.19	12 28.6%	12 28.6%	16 38.1%	2 4.8%	0 0.0%	0 0.0%	40	2
23	Bhavnagar	38	0.02	13.85	0.04	2.97	16 42.1%	6 15.8%	13 34.2%	2 5.3%	1 2.6%	0 0.0%	35	3
24	Botad	4	4.78	12.02	-	-	0 0.0%	0 0.0%	4 100.0%	0 0.0%	0 0.0%	4 0.0%	4	0
25	Devbhumti Dwarka	24	0.59	14.61	0.15	0.15	4 16.7%	8 33.3%	11 45.8%	1 4.2%	0 0.0%	0 0.0%	23	1
26	Gir Somnath	19	0.44	7.91	-	-	7 36.8%	4 21.1%	8 42.1%	0 0.0%	0 0.0%	0 0.0%	19	0
27	Jamnagar	24	0.40	10.39	-	-	7 29.2%	6 25.0%	11 45.8%	0 0.0%	0 0.0%	0 0.0%	24	0
28	Junagadh	37	0.14	13.73	-	-	5 13.5%	15 40.5%	17 45.9%	0 0.0%	0 0.0%	0 0.0%	37	0
29	Morbi	11	1.70	8.53	0.05	12.06	1 9.1%	5 45.5%	2 18.2%	2 18.2%	0 0.0%	1 9.1%	8	3
30	Porbandar	27	0.38	18.29	0.00	0.00	7 25.9%	5 18.5%	14 51.9%	1 3.7%	0 0.0%	0 0.0%	26	1
31	Rajkot	19	1.52	9.71	-	-	2 10.5%	9 47.4%	8 42.1%	0 0.0%	0 0.0%	0 0.0%	19	0
32	Surendranagar	26	0.53	5.65	0.25	0.99	12 46.2%	7 26.9%	3 11.5%	4 15.4%	0 0.0%	0 0.0%	22	4
	Saurashtra	271	0.02	18.29	0.00	12.06	73 26.9%	77 28.4%	107 39.5%	12 4.4%	1 0.4%	1 0.4%	257	14
33	Kachchh	38	0.22	6.17	0.06	5.46	13 34.2%	6 15.8%	8 21.1%	8 21.1%	2 5.3%	1 2.6%	27	11
	Kachchh	38	0.22	6.17	0.06	5.46	13 34.2%	6 15.8%	8 21.1%	2 21.1%	2 5.3%	1 2.6%	27	11
	Gujarat State	629	0.01	18.29	0.00	12.06	235 37.4%	139 22.1%	143 22.7%	88 14.0%	13 2.1%	11 1.7%	517	112

3.4.2.3 Decadal average of November (2010-2019) to November 2020

A comparison of the water level of the November 2020 with the average water level of the November for last one decade (2010-2019) Fig 25 & Table 17 reveals that there is the rise in water level in the state (67% of total well analysed). Rise and fall is mostly in the range of 0 to 2 m. The fall of more than 2 m is observed mostly in Kachchh, North and Southern region. The maximum rise of 16.79 m is recorded at Tatam of Bhavnagar district whereas the maximum fall of 12.44 m is recorded at Samkhiari of Kachchh district.

In North Gujarat 46% of wells are shown fall and mostly well are in range of 0 to 2 m (34% of wells) in entire North Gujarat. The Rise of water level found in 54% of the wells of which 40% of wells were found in the range of 0 to 2 m.

In South Gujarat, 51% of total well analysed shows the rise where as 49% shows the fall. In the range of 0 to 2 m, 43% shows the rise and 39% shows the fall scattered in whole South Gujarat region.

In Saurashtra region about 14% of wells analysed show fall in water level and out of which 4% wells in morethan 2 m. Rise of water level are experienced in 86% of the well and 35% are in the 0 to 2 m.

In Kachchh, 28% of the total wells analysed are recorded fall in water level in the district. Fall is mostly (13% of wells) in the range of 0–2 m. Rise in morethan 4 m is observed in 10% of the wells analysed in distributed all over the Kachchh region.

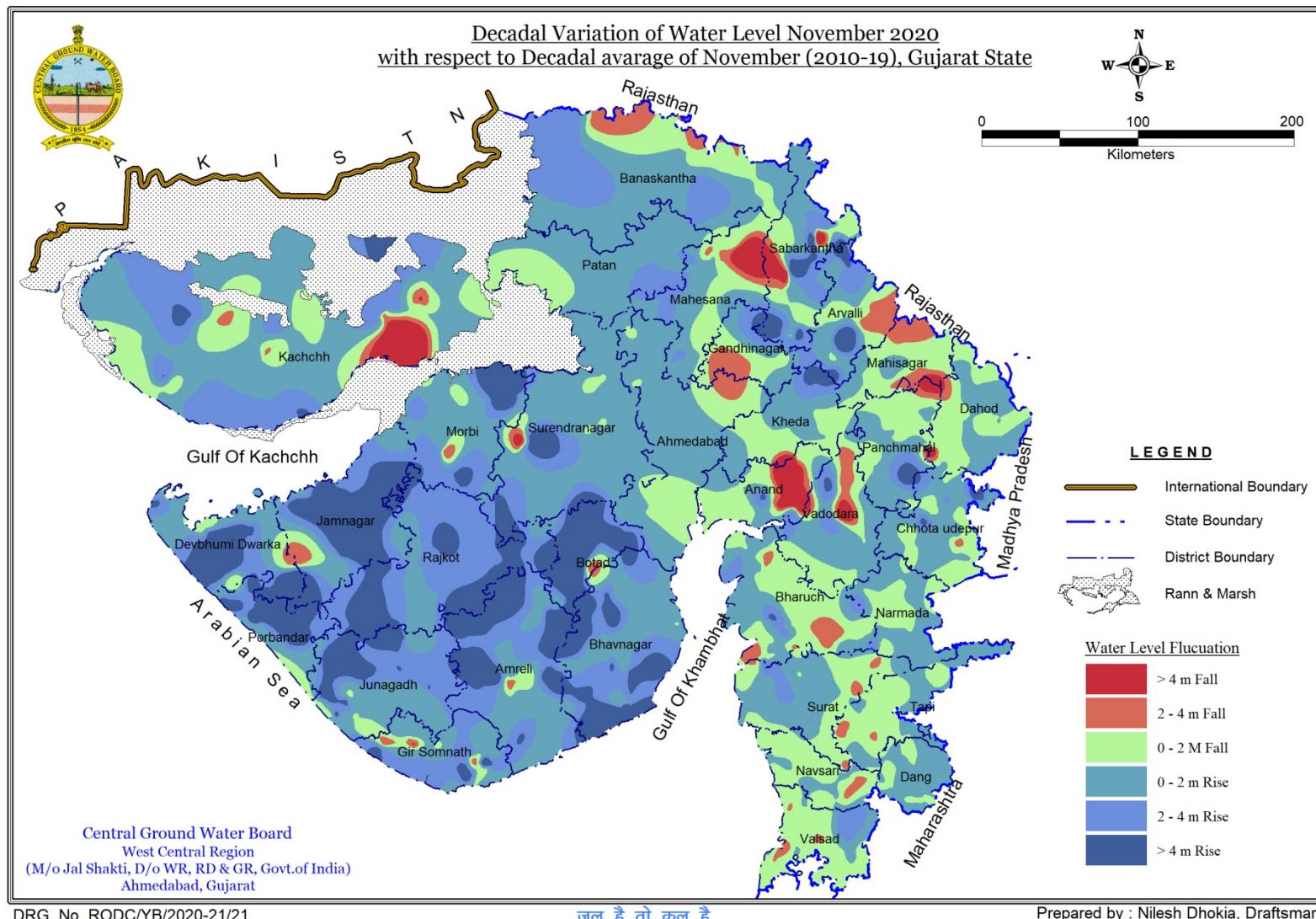


Fig. 25: Variation of water level of November 2020 to decadal average of November 2010-19

Table 17. Well wise categorisation of changes in water level during November 2020 with respect to decadal average of November (2010 to 2019)

Sr. No.	District Name	No of well analysed	Fluctuation range, m		Fluctuation range, m		No. of wells in diffrent depth range						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	Rise	Fall
1	Ahmedabad	9	0.53	1.53	0.10	0.68	6 66.7%	0 0.0%	0 0.0%	3 33.3%	0 0.0%	0 0.0%	6	3
2	Anand	13	0.33	4.48	0.10	7.33	2 15.4%	1 7.7%	1 7.7%	6 46.2%	0 0.0%	0 23.1%	4	9
3	Arvalli	18	0.12	7.95	0.12	3.87	6 33.3%	2 11.1%	3 16.7%	5 27.8%	2 11.1%	0 0.0%	11	7
4	Banaskantha	17	0.10	3.70	0.40	3.75	6 35.3%	4 23.5%	0 0.0%	4 23.5%	3 17.6%	0 0.0%	10	7
5	Dohad	27	0.08	1.26	0.06	5.82	13 48.1%	0 0.0%	0 0.0%	13 48.1%	0 0.0%	1 3.7%	13	14
6	Gandhinagar	2	-	-	3.17	3.28	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 100.0%	0 0.0%	0	2
7	Kheda	14	0.08	4.94	0.09	1.88	5 35.7%	1 7.1%	1 7.1%	7 50.0%	0 0.0%	0 0.0%	7	7
8	Mahesana	18	0.24	2.89	0.31	10.58	7 38.9%	4 22.2%	0 0.0%	3 16.7%	3 16.7%	1 5.6%	11	7
9	Mahisagar	17	0.12	1.79	0.07	3.38	7 41.2%	0 0.0%	0 0.0%	7 41.2%	3 17.6%	0 0.0%	7	10
10	Panchmahals	22	0.10	5.03	0.14	5.81	13 59.1%	0 0.0%	1 4.5%	7 31.8%	0 0.0%	1 4.5%	14	8
11	Patan	7	0.19	3.97	1.04	1.04	4 57.1%	2 28.6%	0 0.0%	1 14.3%	0 0.0%	0 0.0%	6	1
12	Sabarkantha	26	0.36	6.42	0.08	6.83	5 19.2%	4 15.4%	5 19.2%	9 34.6%	1 3.8%	2 7.7%	14	12
	North Gujarat	190	0.08	7.95	0.06	10.58	74 38.9%	18 9.5%	11 5.8%	65 34.2%	14 7.4%	8 4.2%	103	87
13	Bharuch	31	0.18	4.39	0.01	3.71	11 35.5%	3 9.7%	1 3.2%	12 38.7%	4 12.9%	0 0.0%	15	16
14	Chhota Udepur	23	0.12	7.17	0.06	2.78	10 43.5%	1 4.3%	2 8.7%	9 39.1%	1 4.3%	0 0.0%	13	10
15	Narmada	18	0.13	3.38	0.13	1.52	9 50.0%	2 11.1%	0 0.0%	7 38.9%	0 0.0%	0 0.0%	11	7
16	Navsari	18	0.09	0.78	0.14	2.51	8 44.4%	0 0.0%	0 0.0%	8 44.4%	2 11.1%	0 0.0%	8	10
17	Surat	28	0.08	2.53	0.07	3.82	14 50.0%	2 7.1%	0 0.0%	9 32.1%	3 10.7%	0 0.0%	16	12
18	Tapi	17	0.34	1.52	0.11	2.96	7 41.2%	0 0.0%	0 0.0%	8 47.1%	2 11.8%	0 0.0%	7	10
19	The dangs	20	0.04	0.80	0.04	1.89	12 60.0%	0 0.0%	0 0.0%	8 40.0%	0 0.0%	0 0.0%	12	8
20	Vadodara	14	0.35	4.60	0.01	6.41	5 35.7%	2 14.3%	1 7.1%	3 21.4%	2 14.3%	1 7.1%	8	6
21	Valsad	17	0.08	3.79	0.24	4.00	4 23.5%	1 5.9%	0 0.0%	9 52.9%	3 17.6%	0 0.0%	5	12
	South Gujarat	186	0.04	7.17	0.01	6.41	80 43.0%	11 5.9%	4 2.2%	73 39.2%	17 9.1%	1 0.5%	95	91
22	Amreli	36	0.28	9.44	1.12	4.91	15 41.7%	6 16.7%	11 30.6%	1 2.8%	2 5.6%	1 2.8%	32	4
23	Bhavnagar	37	0.10	16.79	0.09	2.83	17 45.9%	2 5.4%	16 43.2%	1 2.7%	1 2.7%	0 0.0%	35	2
24	Botad	3	5.94	9.26	0.00	0.00	0 0.0%	0 0.0%	3 100.0%	0 0.0%	0 0.0%	0 0.0%	3	0
25	Devbhumi Dwarka	19	0.22	13.56	0.07	1.97	5 26.3%	2 10.5%	9 47.4%	3 15.8%	0 0.0%	0 0.0%	16	3
26	Gir Somnath	19	0.05	7.07	0.28	4.35	5 26.3%	5 26.3%	4 21.1%	2 10.5%	2 10.5%	1 5.3%	14	5
27	Jamnagar	19	0.14	7.98	3.05	3.05	5 26.3%	3 15.8%	10 52.6%	0 0.0%	1 5.3%	0 0.0%	18	1
28	Junagadh	40	0.40	9.64	0.15	1.75	11 27.5%	9 22.5%	11 27.5%	9 22.5%	0 0.0%	0 0.0%	31	9
29	Morbi	16	0.57	8.32	0.73	3.83	9 56.3%	3 18.8%	2 12.5%	1 6.3%	1 6.3%	0 0.0%	14	2
30	Porbandar	30	0.16	13.74	0.03	0.94	6 20.0%	6 20.0%	13 43.3%	5 16.7%	0 0.0%	0 0.0%	25	5
31	Rajkot	26	0.48	9.29	-	-	5 19.2%	13 50.0%	8 30.8%	0 0.0%	0 0.0%	0 0.0%	26	0
32	Surendranagar	29	0.23	7.28	0.05	5.41	19 65.5%	1 3.4%	3 10.3%	5 17.2%	0 0.0%	1 3.4%	23	6
	Saurashtra	274	0.05	16.79	0.00	5.41	97 35.4%	50 18.2%	90 32.8%	27 9.9%	7 2.6%	3 1.1%	237	37
33	Kachchh	39	0.23	5.32	0.06	12.44	13 33.3%	11 28.2%	4 10.3%	5 12.8%	4 10.3%	2 5.1%	28	11
	Kachchh	39	0.23	5.32	0.06	12.44	13 33.3%	11 28.2%	4 10.3%	5 12.8%	4 10.3%	2 5.1%	28	11
	Gujarat State	689	0.04	16.79	0.00	12.44	264 38.3%	90 13.1%	109 15.8%	170 24.7%	42 6.1%	14 2.0%	463	226

3.4.2.4 Decadal average of January(2011-2020) to January 2021

A comparison of the water level of the January 2021 with the average water level of the January for last one decade (2011-2020) Fig 26 and Table 18 reveals that there is a rise in water level in the state (76% of total well analysed). Rise and fall is mostly in the range of 0 to 2 m. Fall of more than 4 m is observed mostly in Central and Kachchh region and occur as isolated patches scattered in North Gujarat region and Surat district in south Gujarat region. The maximum rise of 16.56 m is recorded at Kolikhada in Porbandar district whereas the maximum fall of 11.65 m is recorded at Unad of Mahesana district.

In North Gujarat 63% of wells are shown the rise with mostly well are in range of 0 to 2 m (41% of wells), 37% of total well shows fall with 26% in the range of 0–2 m. In a patch from Gandhinagar, Mahesana, Banaskantha and Sabarkantha district shows fall in water level and in isolated patches in Anand, Kheda districts.

In South Gujarat, 73% of total well analysed shows rise whereas 27% shows fall for this decadal variation. The rise and fall mainly in the range of 0 to 2 m (58% rise and 19% fall).

In Saurashtra region, about 12% of wells observed fall in water level and out of which 7% wells shows rise in the range of 0 to 2 m. The rise of water level is observed in 87% wells in the region. The rise of more than 4 m is experienced in 30% of the total well in region distributed all over the region. Rise of the water level in the the range 0 to 2 m is observed in 32% wells of the region which is distributed sporadically in the Saurashtra region.

In Kachchh, 27% of the total wells analysed are recorded fall in water level in the district. Fall is mostly (20% of wells) in the range of 0 – 4 m. The fall mainly observed in the central and eastern part of Kachchh. The rise of 72% of the total wells analysed is recorded in Kachchh region.

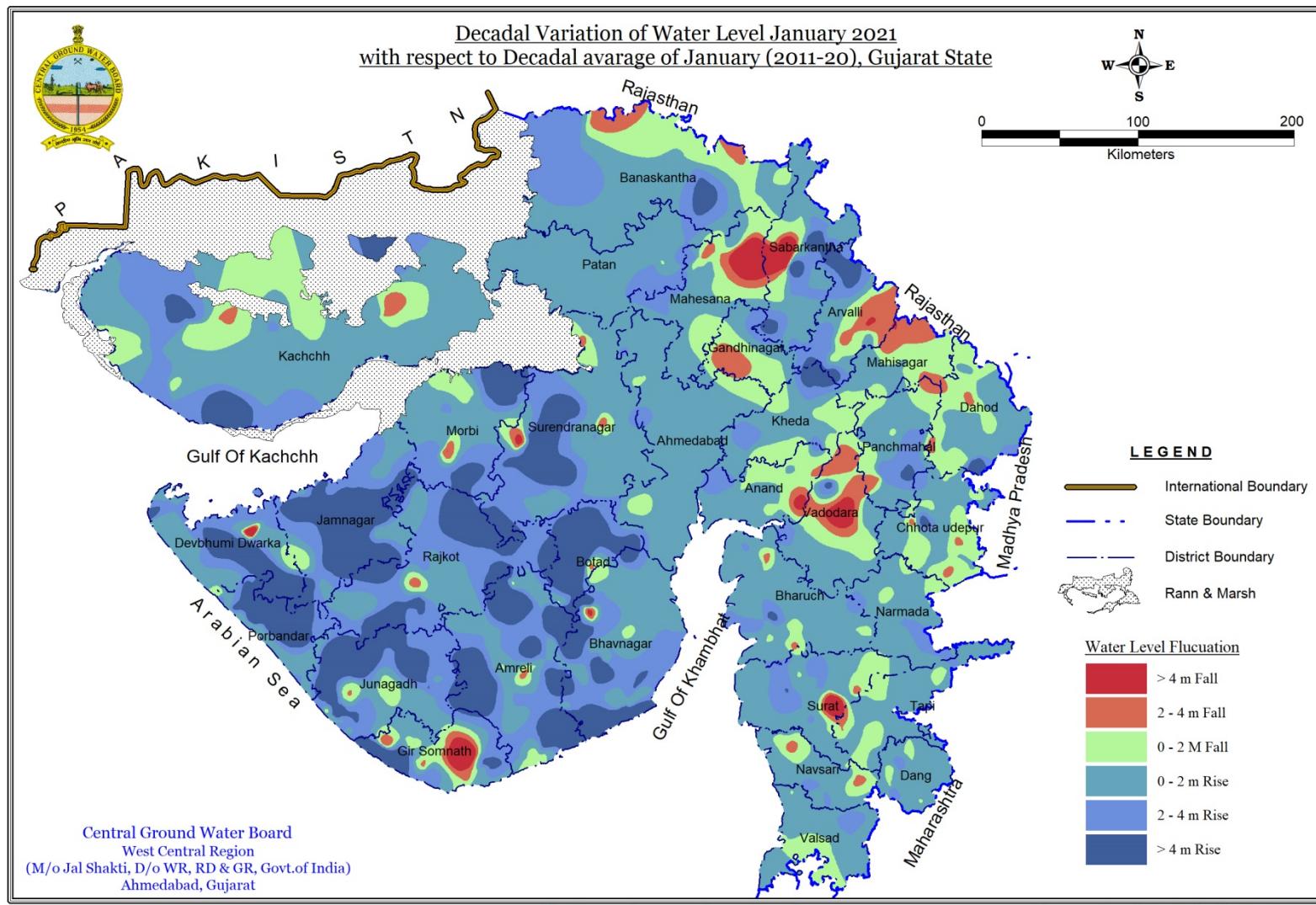


Fig. 26: Variation of water level of January 2021 to decadal average of Janauary 2011-20

Table 18. Well wise categorisation of changes in water level during January 2021 with respect to decadal average of January (2011 to 2020)

Sr. No.	District Name	No of well analysed	Fluctuation range, m		Fluctuation range, m		No. of wells in diffrent depth range						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	Rise	Fall
1	Ahmedabad	14	0.09	2.27	0.10	4.97	9 64.3%	3 21.4%	0 0.0%	1 7.1%	0 0.0%	1 7.1%	12	2
2	Anand	14	0.10	4.22	0.06	5.25	4 28.6%	1 7.1%	1 7.1%	7 50.0%	0 0.0%	1 7.1%	6	8
3	Arvalli	15	-	5.51	0.61	4.16	5 33.3%	3 20.0%	3 20.0%	1 6.7%	2 13.3%	1 6.7%	11	4
4	Banaskantha	15	0.01	4.97	0.25	3.91	4 26.7%	3 20.0%	1 6.7%	4 26.7%	3 20.0%	0 0.0%	8	7
5	Dohad	25	0.12	7.02	0.00	2.95	14 56.0%	1 4.0%	1 4.0%	7 28.0%	2 8.0%	0 0.0%	16	9
6	Gandhinagar	2	-	-1.91	1.91	4.16	0 0.0%	0 0.0%	0 0.0%	1 50.0%	0 0.0%	1 50.0%	0	2
7	Kheda	14	0.05	5.83	0.20	1.03	6 42.9%	2 14.3%	1 7.1%	5 35.7%	0 0.0%	0 0.0%	9	5
8	Mahesana	21	0.12	3.07	0.52	11.65	8 38.1%	4 19.0%	0 0.0%	6 28.6%	2 9.5%	1 4.8%	12	9
9	Mahisagar	17	0.27	1.90	0.28	4.00	8 47.1%	0 0.0%	0 0.0%	6 35.3%	2 11.8%	1 5.9%	8	9
10	Panchmahals	18	0.27	4.24	0.09	2.84	7 38.9%	4 22.2%	1 5.6%	3 16.7%	3 16.7%	0 0.0%	12	6
11	Patan	7	0.03	3.90	0.06	0.06	4 57.1%	2 28.6%	0 0.0%	1 14.3%	0 0.0%	0 0.0%	6	1
12	Sabarkantha	29	0.03	8.91	-	10.16	10 34.5%	6 20.7%	4 13.8%	7 24.1%	0 0.0%	2 6.9%	20	9
	North Gujarat	191	0.01	8.91	0.00	11.65	79 41.4%	29 15.2%	12 6.3%	49 25.7%	14 7.3%	8 4.2%	120	71
13	Bharuch	33	0.14	4.63	0.23	3.23	21 63.6%	4 12.1%	1 3.0%	4 12.1%	3 9.1%	0 0.0%	26	7
14	Chhota Udepur	22	0.09	5.39	0.08	2.80	8 36.4%	1 4.5%	1 4.5%	8 36.4%	4 18.2%	0 0.0%	10	12
15	Narmada	19	0.30	2.85	0.39	1.73	14 73.7%	3 15.8%	0 0.0%	2 10.5%	0 0.0%	0 0.0%	17	2
16	Navsari	19	0.45	2.51	0.23	2.61	13 68.4%	2 10.5%	0 0.0%	1 5.3%	3 15.8%	0 0.0%	15	4
17	Surat	30	0.18	4.06	0.05	7.38	15 50.0%	7 23.3%	1 3.3%	5 16.7%	1 3.3%	1 3.3%	23	7
18	Tapi	16	0.15	2.17	0.08	2.05	9 56.3%	2 12.5%	0 0.0%	4 25.0%	1 6.3%	0 0.0%	11	5
19	The dangs	22	0.17	3.05	0.11	1.30	15 68.2%	3 13.6%	0 0.0%	4 18.2%	0 0.0%	0 0.0%	18	4
20	Vadodara	15	0.69	4.66	0.03	6.29	4 26.7%	2 13.3%	1 6.7%	4 26.7%	3 20.0%	1 6.7%	7	8
21	Valsad	18	0.04	2.25	0.03	0.96	13 72.2%	1 5.6%	0 0.0%	4 22.2%	0 0.0%	0 0.0%	14	4
	South Gujarat	194	0.04	5.39	0.03	7.38	112 57.7%	25 12.9%	4 2.1%	36 18.6%	15 7.7%	2 1.0%	141	53
22	Amreli	39	0.35	15.05	0.08	3.25	12 30.8%	11 28.2%	8 20.5%	5 12.8%	3 7.7%	0 0.0%	31	8
23	Bhavnagar	41	0.10	13.54	0.15	5.21	13 31.7%	12 29.3%	12 29.3%	2 4.9%	1 2.4%	1 2.4%	37	4
24	Botad	4	4.51	7.90	0.00	-4.51	0 0.0%	0 0.0%	4 100.0%	0 0.0%	0 0.0%	0 0.0%	4	0
25	Devbhumi Dwarka	21	0.17	11.78	10.13	10.13	8 38.1%	5 23.8%	7 33.3%	0 0.0%	0 0.0%	1 4.8%	20	1
26	Gir Somnath	21	0.19	7.38	2.06	9.71	6 28.6%	5 23.8%	4 19.0%	0 0.0%	5 23.8%	1 4.8%	15	6
27	Jamnagar	25	0.15	9.30	1.98	1.98	7 28.0%	5 20.0%	12 48.0%	1 4.0%	0 0.0%	0 0.0%	24	1
28	Junagadh	40	0.49	11.72	0.29	2.21	11 27.5%	9 22.5%	15 37.5%	4 10.0%	1 2.5%	0 0.0%	35	5
29	Morbi	17	0.63	7.55	0.62	4.09	7 41.2%	5 29.4%	2 11.8%	2 11.8%	0 0.0%	1 5.9%	14	3
30	Porbandar	30	0.18	16.56	0.06	0.47	11 36.7%	3 10.0%	14 46.7%	2 6.7%	0 0.0%	0 0.0%	28	2
31	Rajkot	29	0.02	8.90	0.06	2.95	6 20.7%	14 48.3%	7 24.1%	1 3.4%	1 3.4%	0 0.0%	27	2
32	Surendranagar	32	-	8.86	0.00	5.26	14 43.8%	7 21.9%	5 15.6%	3 9.4%	2 6.3%	1 3.1%	26	6
	Saurashtra	299	0.02	16.56	0.00	10.13	95 31.8%	76 25.4%	90 30.1%	20 6.7%	13 4.3%	5 1.7%	261	38
33	Kachchh	40	0.08	7.43	0.26	2.93	15 37.5%	10 25.0%	4 10.0%	8 20.0%	3 7.5%	0 0.0%	29	11
	Kachchh	40	0.08	7.43	0.26	2.93	15 37.5%	10 25.0%	4 10.0%	8 20.0%	3 7.5%	0 0.0%	29	11
	Gujarat State	724	0.01	16.56	0.00	11.65	301 41.6%	140 19.3%	110 15.2%	113 15.6%	45 6.2%	15 2.1%	551	173

3.5 Water Table Scenario

A detailed discussion of water table scenario during different monitoring periods is described below.

3.5.1 May 2020 (Water Table in May 2020)

The water table map for pre-monsoon period (Fig. 27) reveals that the water table in different parts of the state ranges between 12 m bmsl and 594 m amsl (Annexure III). The water table mostly follows the topography of the area. Water table is highest along the eastern hilly tract of the eastern side and gradually reduces towards west/south west. Groundwater flow direction is westward and southwest in north Gujarat and it turns to west in south Gujarat. Flow directions in Kachchh and Saurashtra are divergent in all directions from the centre of the regions where the height of the water table is 100 m amsl, thus making groundwater mound in the central parts of both the Regions. The elevation of the water table is more than 400 m amsl in the Banaskantha in north, Valsad and The Dangs in south, part of the main land Gujarat. Water table below mean sea level is observed in coastal Kachchh, Bhavnagar, Jamnagar, Junagadh, Porbandar and Rajkot districts in Saurashtra, Bharuch, Navsari, Surat, Vadodara and Valsad districts in south Gujarat.

3.6 Piezometric Configuration

Northern part of the north Gujarat is underlain by the unconsolidated alluvial deposits of post Miocene age and semi consolidated Mesozoic and Tertiary sediments. These sedimentary formations form the most prolific multi-aquifer system comprising several confined aquifers. Confined aquifers in this area are grouped into, first confined aquifer ranging in depth from 78 to 213 m bgl and second confined aquifer ranging in depth from 154 to 274 m bgl. These aquifers extend from the foothill of the Aravallis in the northeast to the little Rann of Kachchh in the west. The aerial extent of this multi-aquifer system is shown in the maps by dotted line. The data of the depth to water level in confined aquifer is given in Annexure IIB.

3.6.1 First Confined Aquifer – May 2020

In the alluvial area, 21 piezometers tapping the first confined aquifers were monitored and analysed during May 2020. Based on the water levels measured, an Isopiestic map was prepared (Fig 28). A perusal of the map shows that in general depth to piezometric surface declines from east to west. A trough of more than 10 m bmsl is found in Patan and Mahesana districts. Another trough of morethan 40 m bmsl is found in the adjoining area of Ahmedabad and Gandhinagar districts. The elevation of piezometric head varies from 75.79 m amsl at Kharaj Dabhi in Gandhinagar district to 188 m bmsl at Palanpur in Banaskantha district.

3.6.2 Second Confined Aquifer – May 2020

In the alluvial area, 28 piezometers tapping the second confined aquifers were monitored and analysed during May 2020. Based on the water levels measured, an Isopiestic map was prepared Fig 29. A perusal of the map shows that, a trough of more than 80 m bmsl is found in adjoining area of Banaskantha, Patan and Mahesana. The elevation of piezometric head ranges from 154.32 m amsl at at Jangral in Patan district to 194.60 m bmsl at Khuski in Sabarkantha district.

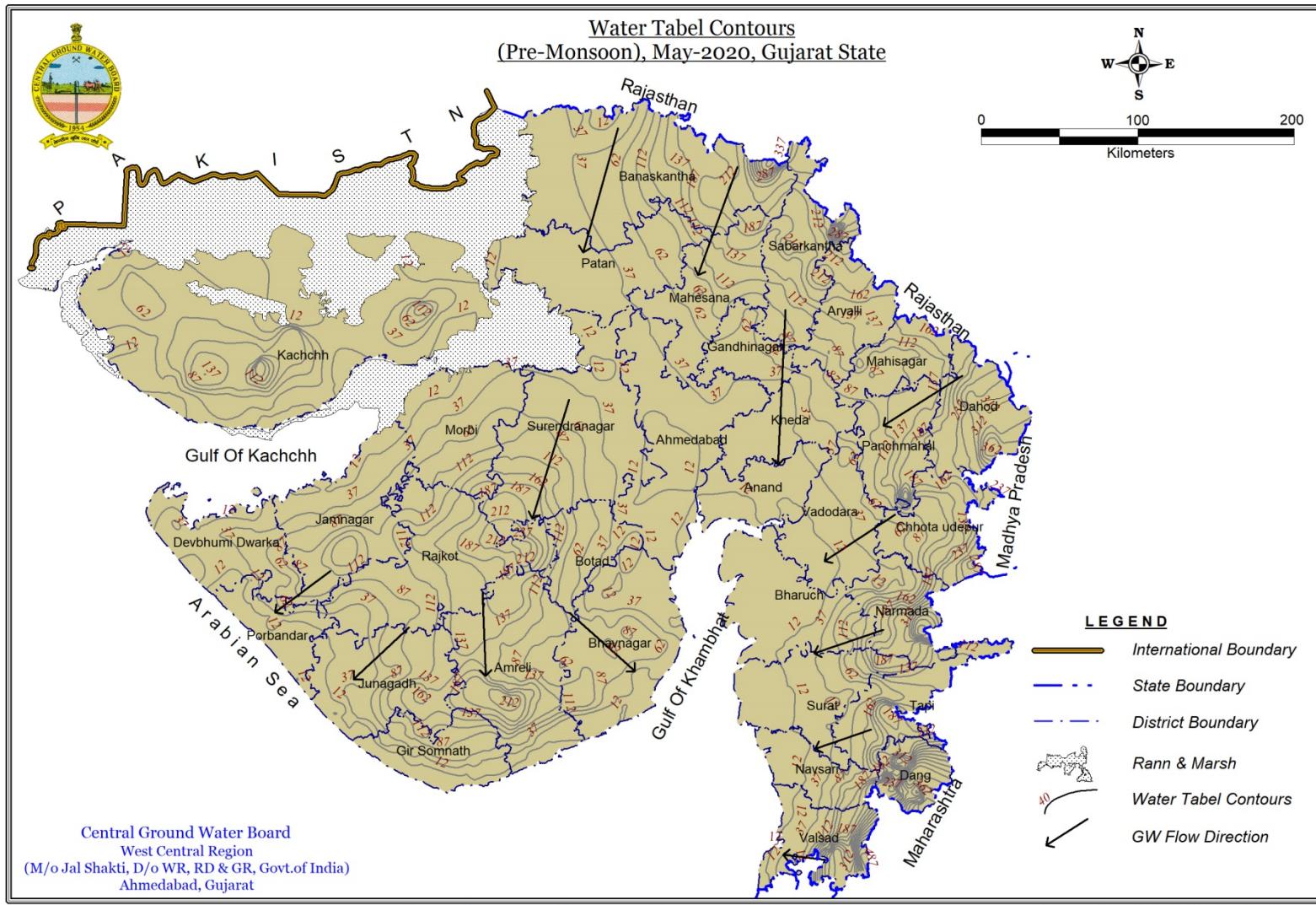


Fig. 27: Groundwater table contours of Gujarat May 2020

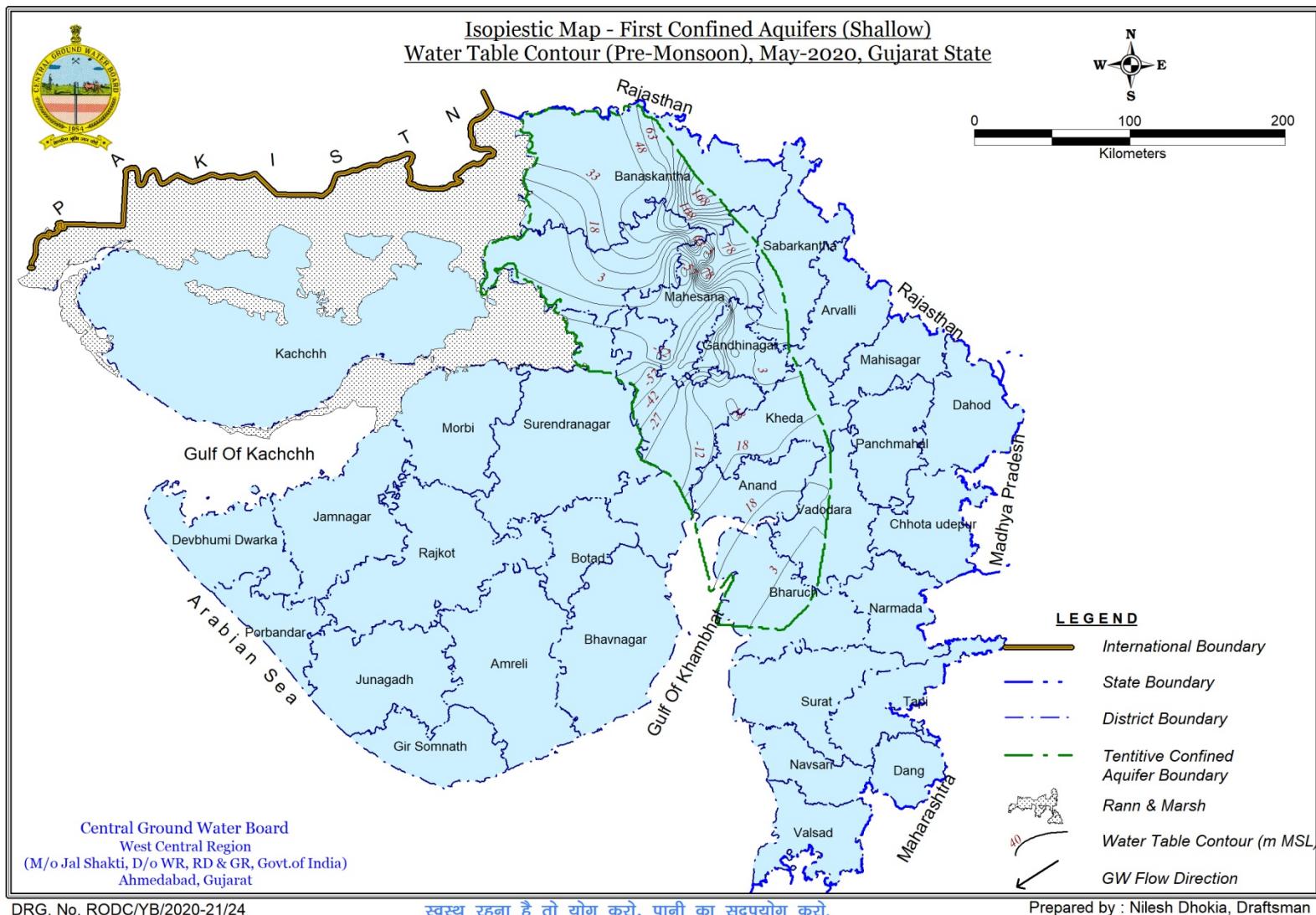


Fig. 28: Piezometric surface contour map of first confined aquifer May 2020 in m a MSL

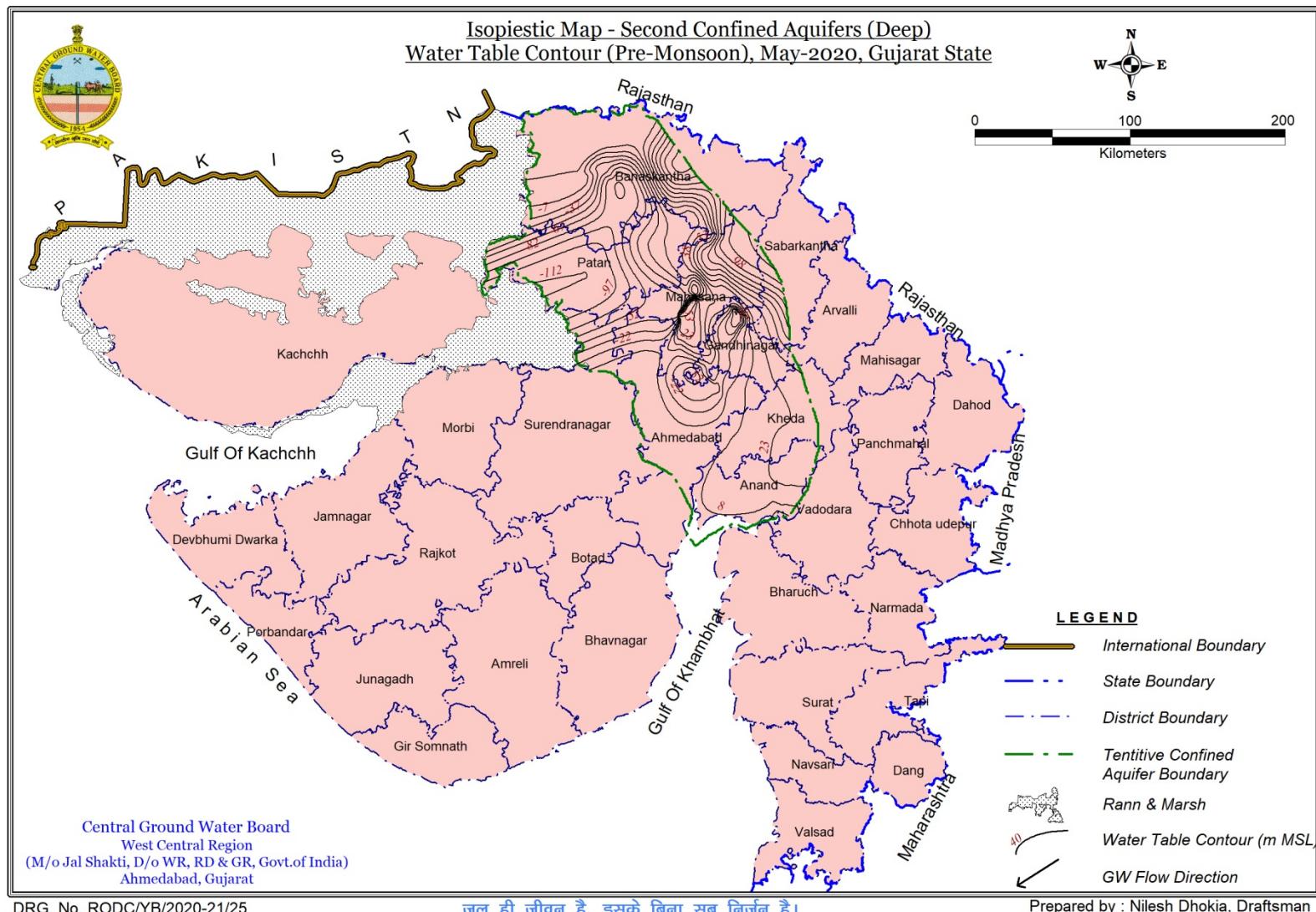


Fig. 29: Piezometric surface contour map of second confined aquifer May 2020 in m a MSL

4. HYDROCHEMISTRY

Hydrochemistry is an interdisciplinary science that deals with the chemistry of water in the natural environment. The classical use of chemical characteristics in hydrochemistry is to provide information about the regional distribution of water qualities. At the same time, hydrochemistry has a potential use for tracing the origin and history of water. The hydrochemistry can also be of immense help in yielding information about the environment through which water has circulated. Hydrochemistry can be helpful in knowing about residence time, flow path and aquifer characteristics, as the chemical reactions are time and space dependent.

The diverse physiographic, climatic, topographic and geologic conditions have given rise to diversified groundwater situations in different parts of Gujarat State. Physiographically, Gujarat State is categorized as the Mainland, Saurashtra and Kachchh. The groundwater quality of Gujarat is variable and complex as its quality is influenced by local geology, coastal salinity, inherent salinity, and contamination and heavy withdrawal of groundwater. Gujarat has the longest coastline in the country with several creeks, as a result, during tides sea water invades inland through these creeks which in turn has impact on groundwater quality along its coasts. High chemical concentrations mostly occur in coastal regions due to seawater intrusion brought by upconing or reversal in hydraulic gradient.

4.1 Groundwater Quality Monitoring

A systematic plan for conducting water quality monitoring is called Monitoring Programme, which includes monitoring network design, preliminary survey, resource estimation, sampling, analysis, data management & reporting. Monitoring of groundwater quality is an effort to obtain information on chemical quality through representative sampling in different hydro geological units. Groundwater is commonly tapped from phreatic aquifers through dug wells in a major part of the state and through springs and hand pumps in hilly areas.

Central Groundwater Board (WCR), Ahmedabad has monitored a total number of 518 water samples collected during May 2020, for basic parameters determining pH, EC, TDS, CO₃, HCO₃, Cl, NO₃, SO₄, F, Ca, Mg, TH, Alkalinity, Na, K and SAR, involving use of instruments such as pH meter, EC meter, flame photometer, UV/Visible Spectrophotometer and titrimetric methods. Further 601 water samples were collected for heavy metal analysis from the all locations of NHNS. The samples for heavy metal analysis was collected in 250 ml Polypropylene (Tarson make) sample bottles and treated with hydrochloric acid to make the final concentration of acid 0.01 N. The Iron analysis was conducted us by Atomic Absorption spectrophotometer.

4.2 Groundwater quality scenario in the state

From the analytical results it has been observed that majority of water samples collected from observation wells of CGWB in a major part of the state fall under desirable or permissible category and hence are suitable for drinking purposes. However, a small percentage of well waters are found to have concentrations of some constituents beyond the permissible limits. Such waters are not fit for human consumption and are likely harmful to

health on continuous use. Based on the results it is found that groundwater in the state is mostly of calcium bicarbonate type when the Electrical conductivity is below 750uS/cm.

There are mixed cation and mixed anions type groundwater in the state when the electrical conductance is between 750 and 3200 uS/cm and waters with electrical conductance more than 3200 uS/cm are of sodium chloride type.

A total number of 601 water samples collected and analyzed for different chemical parameters from National Hydrograph Network Monitoring Station Samples for basic parameters and for Iron analysis spread over 33 districts of Gujarat. The overall results of hydro chemical analysis are attached in Annexure V. District wise maximum range distribution of different pollution parameters observed during analysis is summarized in the attached Table 19.

Major quality findings are described as under

4.2.1 The Electrical conductivity

Electrical conductivity or total dissolved solids or Salinity is the saltiness or dissolved salt contents of a water body. Different substances dissolve in water giving it taste and odour. In fact, human beings have developed senses, which are able to evaluate the potability of water. Electrical conductivity represents total number of cations and anions present in groundwater, indicating ionic mobility of different ions, total dissolved solids and saline nature of water. In general water having EC < 1500 uS/cm, is considered as fresh water, EC 1500 – 15000uS/cm, is considered as Brackish water and > 15000uS/cm is considered as saline water. In general in most parts of the state the EC value is found to be very high i.e. 3200uS/cm to 15000uS/cm and more. It was observed that out of 539 water samples 106 samples show EC value more than 3200 uS/cm, which indicates the gravity of salinity problem in the area. The map showing of electrical conductivity in state is represented in Fig 30.

A close observation of the Annexure-V reveals high EC Values > 3200 uS/cm have been found in 81 numbers of samples out of 601 total numbers of samples analyzed indicating saline nature of water in most part of the state. Salinity problem in Northwestern parts of the state to the extent of EC having > 10000 uS/cm, showing brackish water problem.

Table 19. Quality index of National Hydrograph monitoring stations of Gujarat, May 2020

S.No	District	No of Samples	EC in $\mu\text{S}/\text{cm}$			Cl in mg/l			NO ₃ in mg/l			F in mg/l		
			Max	Min	No of samples with EC >3200 $\mu\text{S}/\text{cm}$	Max	Min	No of samples with Cl >1000 mg/l	Max	Min	No of samples with NO ₃ >45 mg/l	Max	Min	No of samples with F >1.5 mg/l
1	Ahmedabad	12	16640	708	5	5176	35.45	5	220	0.23	2	5	0.32	4
2	Amreli	39	9343	385	4	2567	14.18	2	230	0.39	17	2.5	0.14	3
3	Anand	9	4565	635	2	1035	35	1	91	0.33	3	4.5	0.28	5
4	Aravalli	17	3190	501	0	824	43	0	440	3	10	1.75	0.13	1
5	Banaskantha	12	3494	620	2	709	49.63	0	155	0.24	5	3.5	0.39	5
6	Bharuch	24	5499	450	3	1390	14	1	298	0.73	4	3.2	0.13	2
7	Bhavnagar	32	5062	388	5	1283	28.36	3	365	0.61	11	3.9	0.26	3
8	Chhota Udaipur	14	6995	516	1	2028	28	1	101	1.6	3	4.05	0.45	5
9	Dohad	21	8180	383	1	1740	28	1	822	1.3	8	6.8	0.48	5
10	Daman	2	688	676	0	71	64	0	15	2	0	0.77	0.31	0
11	Diu	3	10250	3468	3	3545	709	2	127	1.1	2	0.64	0.31	0
12	Gandhinagar	1	2460	2460	0	362	361.59	0	107	107	1	1.4	1.4	0
13	Gir Somnath	1	1111	1111	0	85	85	0	8	8	0	0.27	0.27	0
14	Jamnagar	55	8000	478	6	2057	43	4	252	1	26	4.6	0.17	8
15	Junagadh	57	13506	340	9	4106	28.36	7	163	1.6	23	3	0.1	3
16	Kachchh	28	10550	727	11	2982	57	8	175	0	5	6.7	0.19	8
17	Kheda	13	7648	625	3	2070	28.36	2	141	1.4	1	2.5	0.4	1
18	Mahesana	15	4076	452	3	922	21.27	0	170	1.1	3	2	0.24	2
19	Mahisagar	10	1307	346	0	227	28	0	58	0.67	1	1.18	0.41	0
20	Mata no madh	3	1805	470	0	369	43	0	19	1	0	0.8	0.22	0
21	Morvi	8	3827	305	1	1021	35.45	1	131	0.35	4	0.72	0.17	0
22	Narmada	8	1016	473	0	156	14	0	56	0.22	1	0.48	0.29	0
23	Navsari	12	2760	312	0	582	21	0	48	0	1	0.52	0.24	0
24	Panchmahal	19	2432	209	0	412	21	0	157	2.7	5	2	0.3	1
25	Patan	6	15570	440	2	5361	28	2	134	2	2	6.95	0.29	2
26	Porbandar	29	12250	390	7	3546	35	4	170	2	13	3.4	0.09	5
27	Rajkot	26	8752	645	3	2652	42.54	3	168	4.8	13	3.1	0.1	2
28	Sabarkantha	25	4722	512	2	1264	36	1	185	1.6	16	2.33	0.38	9
29	Surat	30	2675	340	0	419	21	0	65	0	2	1.07	0	0
30	Surendranagar	19	9627	464	6	2921	21.27	5	207	0.72	6	3.6	0.22	4
31	The dangs	24	2590	516	0	483	21	0	100	1	2	1.14	0	0
32	Vadodara	13	3522	615	2	681	35	0	159	0.16	3	2.8	0.41	4
33	Valsad	14	1396	230	0	284	21	0	30	3	0	5.81	0.11	1
	Total	601	16640	209	81	5361	14	53	822	0	193	6.95	0	83

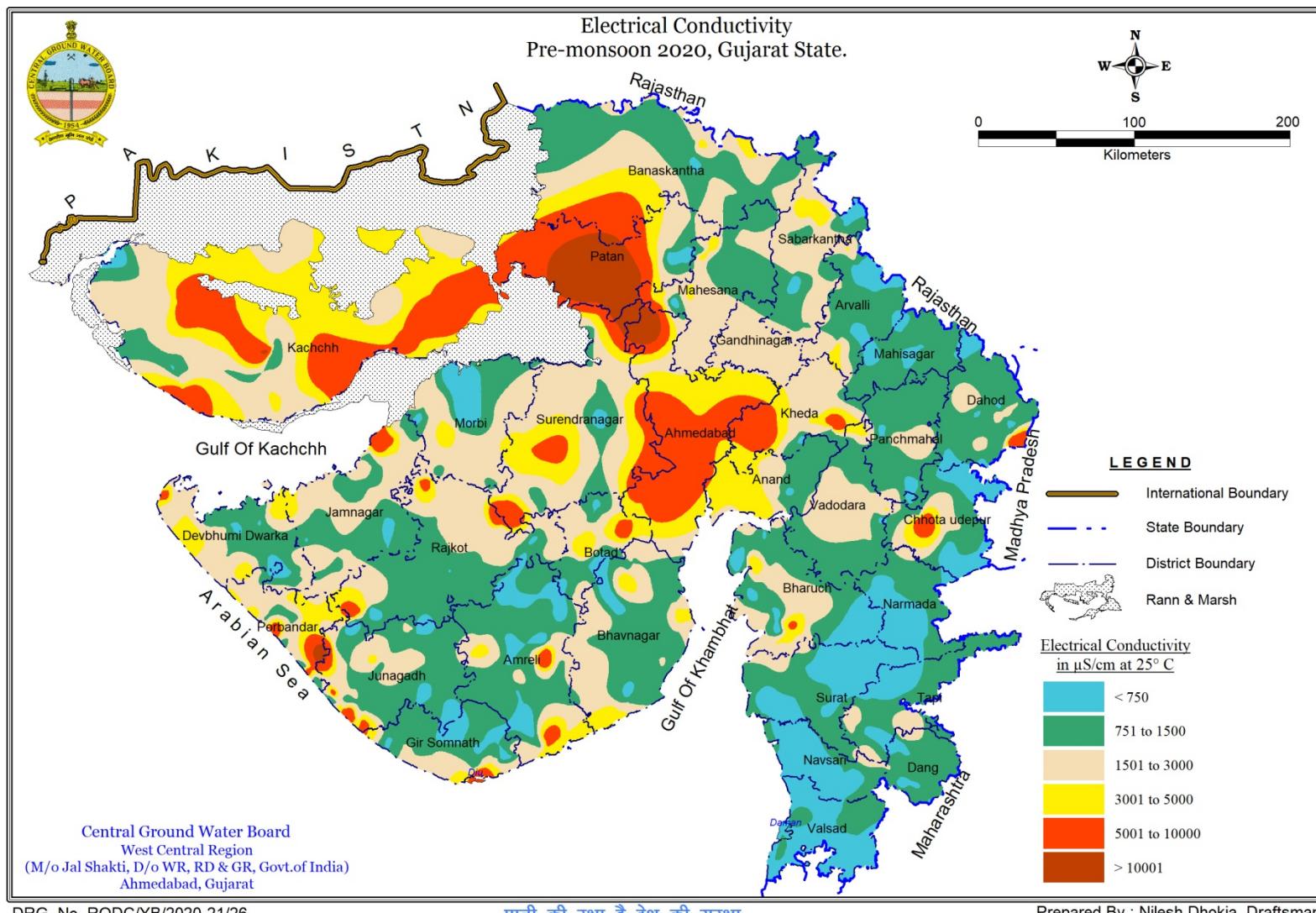


Fig. 30: Isocontour map of EC (May 2020)

4.2.2 Chloride

Chloride is present in all natural waters being highly soluble and moves freely through soil and rock. In groundwater Chloride content is mostly below 250 mg/l except in cases where inland salinity is prevalent and in coastal areas. BIS have recommended a desirable limit of 250mg/l of chloride in drinking water; this concentration limit can be extended to 1000 mg/l of chloride in cases where no alternative source of water with desired concentration is available. The map showing distribution of Chloride in the state is represented in Fig 31.

A close observation of the Annexure-V, High Chloride > 1000mg/L have been found in 53 numbers of samples out of 601 total numbers of samples analyzed indicating saline nature of water in most part of the state. The maximum chloride value is observed in scattered way in western parts of the state to the extent of Chloride having >5000 mg/l, showing high salinity.

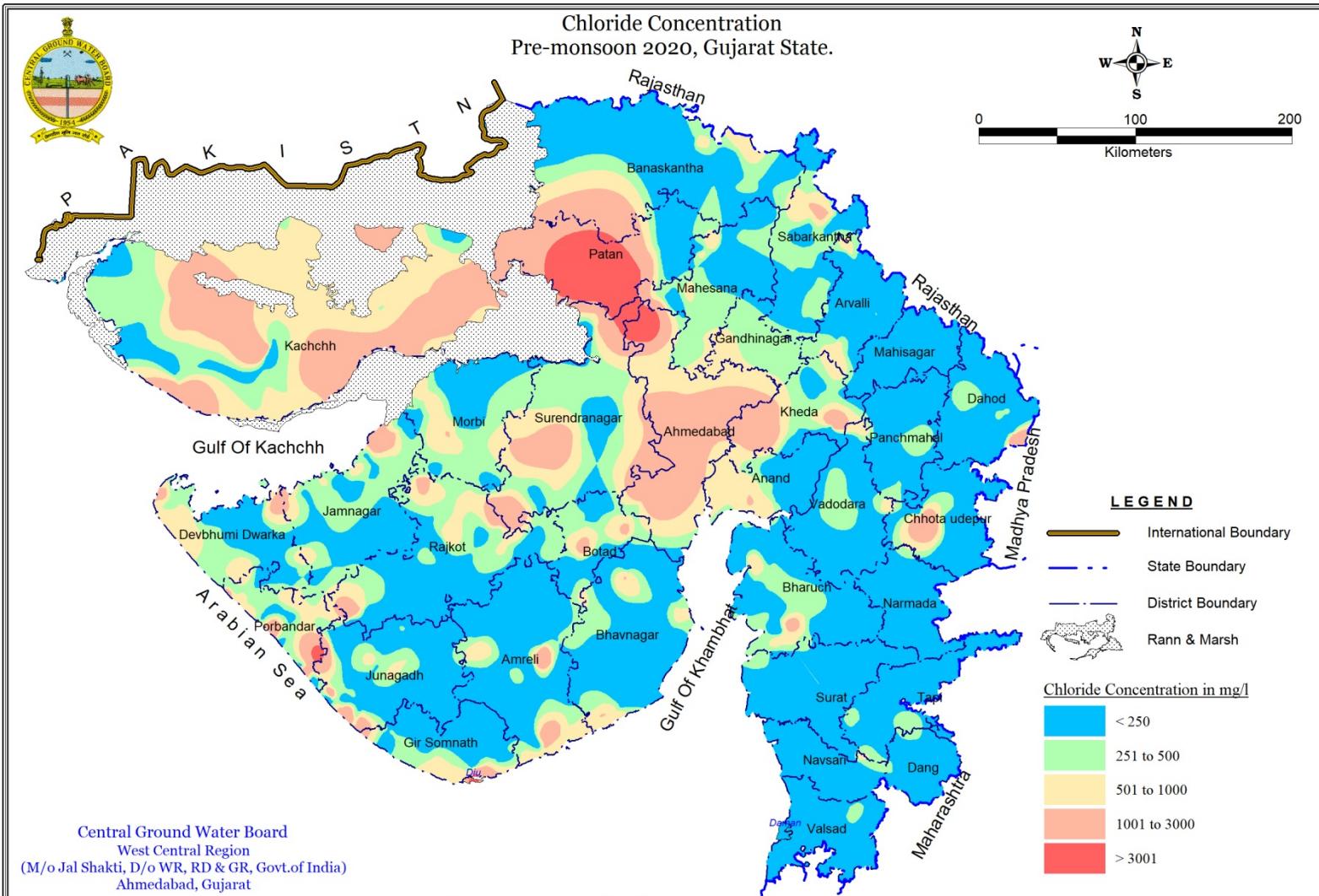


Figure 31: Isocontor map of Chloride (May 2020)

4.2.3 Nitrate

Nitrate is a naturally occurring compound that is formed in the soil when nitrogen and oxygen combine. The primary source of all nitrates is atmospheric nitrogen gas. This is converted into organic nitrogen by some plants by a process called nitrogen fixation. Dissolved nitrogen in the form of nitrate is the most common contaminant of groundwater. Nitrate in groundwater generally originates from non point sources such as leaching of chemical fertilizers and animal manure, groundwater pollution from septic and sewage discharges etc. It is difficult to identify the natural and man-made sources of nitrogen contamination of groundwater. Some chemical and microbiological processes such as nitrification and denitrification also influence the nitrate concentration in groundwater. The map showing distribution of nitrate in the state is represented in Fig 32.

As per the BIS standard for drinking water the maximum desirable limit of nitrate concentration in groundwater is 45 mg/l .Though nitrate is considered relatively non-toxic, a high nitrate concentration in drinking water is an environmental health concern arising from increased risks of methaemoglobinemia particularly to infants. Adults can tolerate little higher concentration.

Nitrate value have been found in the range of 1 to 500 mg/l where high Nitrate > 45mg/L, (Annexure V) have been found in 193 number of samples out of 601 total number of samples analyzed indicating high nitrate pollution due to use of nitrogen containing fertilizer, domestic and agriculture waste and man made anthropogenic activities. The maximum nitrate value is observed in scattered way in all parts of the state.

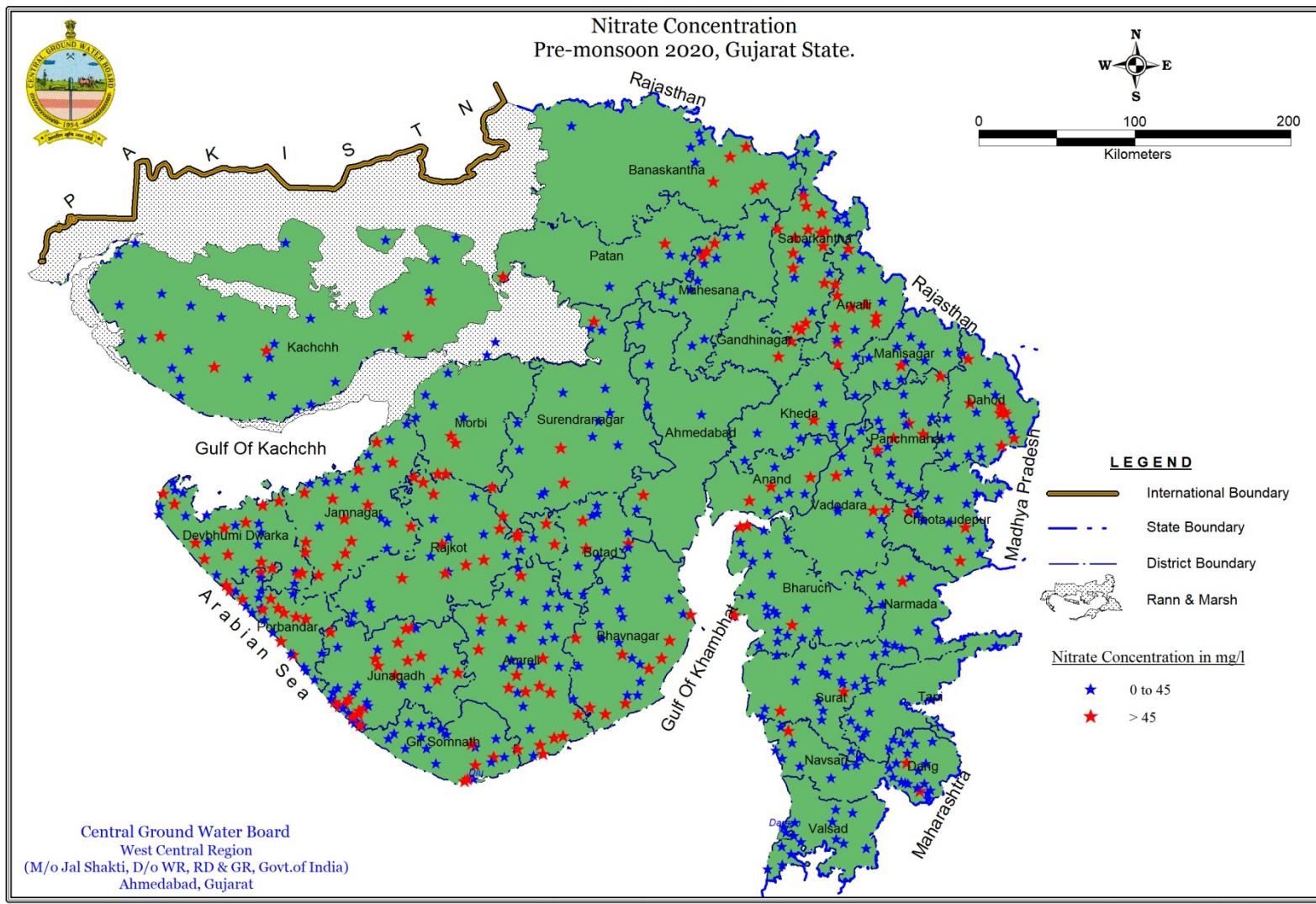


Fig. 32: Map of Nitrate concentration (May 2020)

4.2.4 Fluoride

Fluorine is a fairly common element but it does not occur in the elemental state in nature because of its high reactivity. Fluorine is the most electronegative and reactive of all elements that occur naturally within many type of rocks. It exists in the form of fluorides in a number of minerals of which fluorspar; cryolite, fluorite & fluorapatite are the most common.

Most of the fluoride found in groundwater is naturally occurring from the breakdown of rocks and soils or weathering and deposition of atmospheric particles. Most of the fluorides are sparingly soluble and are present in groundwater in small amount. The type of rocks, climatic conditions, nature of hydro geological strata and time of contact between rock and the circulating groundwater affect the occurrence of fluoride in natural water. Presence of other ions particularly bicarbonate and calcium ions also affects the concentration of fluoride in groundwater. The map showing distribution of Fluoride in the state is represented in Fig 33.

It is well known that small amount of fluoride ($>1.0 \text{ mg/l}$) have proven to be beneficial in reducing tooth decay. Community water supplies commonly are treated with sodium fluoride or fluorosilicates to maintain fluoride level ranging from 0.8 to 1.2 mg/l to reduce the incidences of dental carries. However, high concentrations ($>1.5\text{mg/l}$) have resulted in staining of tooth enamel while higher levels of fluoride ($> 5.0 \text{ mg/l}$) further creates the critical problems such as stiffness of bones. BIS has recommended an upper desirable limit of 1.0 mg/l of fluoride concentration in drinking water, which can be extended to 1.5 mg/l in case no alternative source of drinking water is available. Water having fluoride concentration more than 1.5mg/l is not suitable for drinking purposes.

High Fluoride $>1.5\text{mg/l}$, (Annexure V) which is mainly attributed due to geogenic conditions ranged from 0 to 8.6 mg/l, have been observed in 83 water samples out of 601 water samples analyzed.

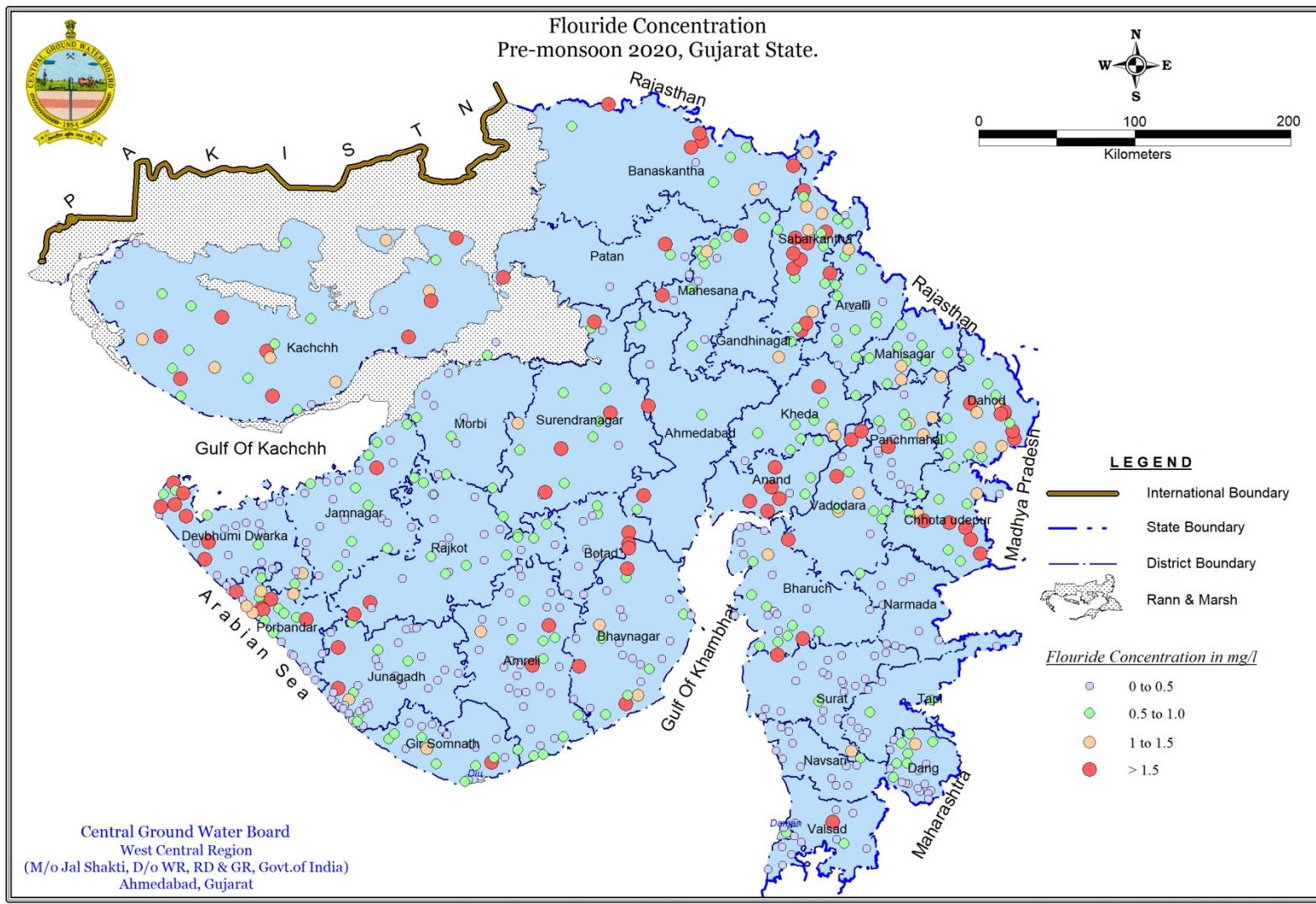


Fig. 33: Map of Flouride concentration (May 2020)

DISTRIBUTION OF GROUND WATER MONITORING WELLS IN THE MAJOR RIVER BASIN

DISTRICT_NAME	BASIN_NAME	SUB_BASIN_NAME	Total
Ahmedabad	Draining into Gulf of Kutch	Rupen	17
	Draining into Gulf of Kutch Total		17
	Luni and other drainage into Great Rann of Kutch	Mostly Great Rann Of Kutch	1
	Luni and other drainage into Great Rann of Kutch Total		1
	Sabarmati	Lb Of Sabarmati Upto Hathmati Rb Of Sabarmati And Upper Part Beyond Hathmati	22 21
	Sabarmati Total		43
	Southern Kathiawar	Draining Into Gulf Of Khambat	10
	Southern Kathiawar Total		10
	Ahmedabad Total		71
	Amreli	Southern Kathiawar Draining Into Gulf Of Khambat Rivers draining into Arabian Sea (Western part)	58 5
Anand	Southern Kathiawar Total		63
	Amreli Total		21
	Mahi	Upto Kadana Dam	21
	Mahi Total		18
	Sabarmati	Lb Of Sabarmati Upto Hathmati	15
	Sabarmati Total		15
	Anand Total		36
	Banaskantha	Draining into Gulf of Kutch Draining into Gulf of Kutch Total	32 32
	Luni and other drainage into Great Rann of Kutch	Mainly Luni Mostly Great Rann Of Kutch	8 32
	Luni and other drainage into Great Rann of Kutch Total		40
	Sabarmati	Lb Of Sabarmati Upto Hathmati Rb Of Sabarmati And Upper Part Beyond Hathmati	1 1
	Sabarmati Total		2
Bharuch	Banaskantha Total		74
	Mahi	Upto Kadana Dam	13
	Mahi Total		13
	Narmada	Confluence With Sea To Navgam Dam	20
	Narmada Total		20
	Tapti	Sea Confluence To Ukai	11
	Tapti Total		11
	Bharuch Total		44
	Bhavnagar	Mahi Mahi Total Southern Kathiawar	1 1 Draining Into Gulf Of Khambat Rivers draining into Arabian Sea (Western part)
	Southern Kathiawar Total		54 1 54
Bhavnagar	Bhavnagar Total		55
	Dohad	Mahi Mahi Total	16 16 32
	Dohad Total		32
	Gandhinagar	Draining into Gulf of Kutch Draining into Gulf of Kutch Total	10 10
	Sabarmati	Lb Of Sabarmati Upto Hathmati Rb Of Sabarmati And Upper Part Beyond Hathmati	9 14
	Sabarmati Total		23
	Gandhinagar Total		33
	Jamnagar	Draining into Gulf of Kutch Draining into Gulf of Kutch Total	42 42
	Southern Kathiawar	Rivers draining into Arabian Sea (Western part)	17
	Southern Kathiawar Total		17
Junagadh	Jamnagar Total		59
	Junagadh	Southern Kathiawar	Draining Into Gulf Of Khambat Rivers draining into Arabian Sea (Western part)
	Southern Kathiawar Total		9 67 76
	Junagadh Total		76
	Kachchh	Draining into Gulf of Kutch Draining into Gulf of Kutch Total	South Flowing Drainage Mostly Bhuj Area 41 41
	Luni and other drainage into Great Rann of Kutch	Mostly Great Rann Of Kutch	29
	Luni and other drainage into Great Rann of Kutch Total		29
	Kachchh Total		70
	Kheda	Mahi Mahi Total Sabarmati	Kadana Dam To Jakham Confluence Upto Kadana Dam Lb Of Sabarmati Upto Hathmati
	Sabarmati Total		5 6 22 22
Mahesana	Kheda Total		28
	Draining into Gulf of Kutch	Ruper	53
	Draining into Gulf of Kutch Total		53
	Sabarmati	Lb Of Sabarmati Upto Hathmati Rb Of Sabarmati And Upper Part Beyond Hathmati	2 6
	Sabarmati Total		8

DISTRICT_NAME	BASIN_NAME	SUB_BASIN_NAME	Total
Mahesana Total			61
Narmada	Narmada	Confluence With Sea To Navgam Dam	22
	Narmada Total		22
	Tapti	Rb Ukai Dam To Purna Confluence	5
	Tapti Total		5
Narmada Total			27
Navsari	Sharavati to Tapti	Savitri To Tapti	25
	Sharavati to Tapti Total		25
Navsari Total			25
Panchmahals	Mahi	Kadana Dam To Jakham Confluence Upto Kadana Dam	3 35
	Mahi Total		39
	Narmada	Confluence With Sea To Navgam Dam	3
	Narmada Total		3
	Sabarmati	Lb Of Sabarmati Upto Hathmati	5
	Sabarmati Total		5
	Sharavati to Tapti	Savitri To Tapti	3
	Sharavati to Tapti Total		3
Panchmahals Total			50
Patan	Draining into Gulf of Kutch	Rupen South Flowing Drainage Mostly Bhuj Area	26 4
	Draining into Gulf of Kutch Total		30
	Luni and other drainage into Great Rann of Kutch	Mainly Luni Mostly Great Rann Of Kutch	2 3
	Luni and other drainage into Great Rann of Kutch Total		5
	Sabarmati	Lb Of Sabarmati Upto Hathmati	3
	Sabarmati Total		3
Patan Total			38
Porbandar	Southern Kathiawar	Rivers draining into Arabian Sea (Western part)	32
	Southern Kathiawar Total		32
Porbandar Total			32
Rajkot	Draining into Gulf of Kutch	North Flowing Drainage Of Jamnagar	30
	Draining into Gulf of Kutch Total		31
	Southern Kathiawar	Draining Into Gulf Of Khambat Rivers draining into Arabian Sea (Western part)	4 26
	Southern Kathiawar Total		30
Rajkot Total			61
Sabarkantha	Sabarmati	Lb Of Sabarmati Upto Hathmati Rb Of Sabarmati And Upper Part Beyond Hathmati	47 13
	Sabarmati Total		60
Sabarkantha Total			60
Surat	Narmada	Confluence With Sea To Navgam Dam	5
	Narmada Total		5
	Sharavati to Tapti	Savitri To Tapti	30
	Sharavati to Tapti Total		30
	Tapti	Lb Ukai Dam To Purna Confluence Sea Confluence To Ukai	4 36
	Tapti Total		40
Surat Total			75
Surendranagar	Draining into Gulf of Kutch	North Flowing Drainage Of Jamnagar Ruper	24 14
	Draining into Gulf of Kutch Total		38
	Sabarmati	Rb Of Sabarmati And Upper Part Beyond Hathmati	17
	Sabarmati Total		17
Surendranagar Total			55
The dangs	Sharavati to Tapti	Savitri To Tapti	33
	Sharavati to Tapti Total		33
The dangs Total			33
Vadodara	Mahi	Upto Kadana Dam	30
	Mahi Total		30
	Narmada	Confluence With Sea To Navgam Dam	36
	Narmada Total		36
Vadodara Total			66
Valsad	Sharavati to Tapti	Savitri To Tapti	30
	Sharavati to Tapti Total		30
Valsad Total			30
Grand Total			1212

Annexure II A
 Water level of the National Hydrograph Stations in Gujarat 2020-21

Sl. No.	District	Well Name	LAT_Y	LONG_X	Well Type	May 2020	Aug 2020	Nov 2020	Jan 2021
1	Ahmedabad	Bagodara_Pz_I	22°38'30" N	72°12'50" E	Tube Well	9.55		7.37	9.28
2	Ahmedabad	Bagodara_Pz_II	22°38'30" N	72°12'50" E	Tube Well	7.00			6.39
3	Ahmedabad	Bopal_Pz_I	23°2'19" N	72°27'28" E	Tube Well	32.29	25.50	27.55	34.63
4	Ahmedabad	Bopal_Pz_III	23°2'19" N	72°27'28" E	Tube Well	2.90	1.57	2.20	2.78
5	Ahmedabad	Dalod	23°22'0" N	71°58'0" E	Dug Well	8.22	5.43	5.95	6.18
6	Ahmedabad	Devalia	22°22'40" N	71°59'10" E	Dug Well	20.40			20.40
7	Ahmedabad	Dhandhuka1	22°22'30" N	71°59'10" E	Dug Well	2.95	1.00	1.94	1.85
8	Ahmedabad	Endla	23°16'20" N	72°3'30" E	Dug Well	2.93	0.52	1.38	2.19
9	Ahmedabad	Gamph	22°21'30" N	72°10'0" E	Dug Well	1.52	0.00	2.18	1.30
10	Ahmedabad	Hansalpur_Pz-I	23°5'20" N	72°1'0" E	Tube Well	16.50			22.76
11	Ahmedabad	Hansalpur_Pz-II	23°5'20" N	72°1'0" E	Tube Well			25.30	26.77
12	Ahmedabad	Hansalpur_Pz-III	23°5'20" N	72°1'0" E	Tube Well			3.10	3.54
13	Ahmedabad	Jholapur_Pz_I	22°59'15" N	72°12'15" E	Tube Well	67.55	72.13	66.50	92.51
14	Ahmedabad	Kumarkhan	22°54'0" N	72°1'0" E	Dug Well	3.74	2.20	2.35	2.00
15	Ahmedabad	Kundal	22°54'5" N	72°13'25" E	Dug Well	7.28	5.41		
16	Ahmedabad	Mandal2	23°16'30" N	71°55'0" E	Dug Well	10.63			2.70
17	Ahmedabad	Pachcham_Pz	22°13'56" N	72°10'44" E	Tube Well				1.04
18	Ahmedabad	Sanand II	23°0'12" N	72°22'25" E	Tube Well		16.08	15.20	16.13
19	Ahmedabad	Sola(HC)_Pz_I	23°4'52" N	72°30'49" E	Tube Well	68.71			
20	Ahmedabad	Tagadi1	22°17'45" N	71°56'50" E	Dug Well	3.91	1.42	2.07	2.97
21	Ahmedabad	Ughraj1	23°22'0" N	72°6'0" E	Dug Well	7.52			
22	Ahmedabad	Upardhal1	22°51'0" N	72°8'45" E	Dug Well	11.90			
23	Ahmedabad	Vagad(Repl)_Pz	22°21'37" N	71°52'5" E	Tube Well	4.22	3.28	3.82	3.42
24	Ahmedabad	Vastrapur(lake)_Pz_I	23°2'18" N	72°31'47" E	Tube Well	89.78			
25	Ahmedabad	Vatwa Pz-II	22°57'12" N	72°36'58" E	Tube Well	44.36			
26	Ahmedabad	Vatwa Pz-III	22°57'13" N	72°36'59" E	Tube Well	27.06	24.82	24.74	25.90
27	Ahmedabad	Virangam2	23°8'30" N	72°2'0" E	Dug Well	3.30	0.00	1.35	2.20
28	Amreli	Amreli	21°36'30" N	71°13'30" E	Dug Well	5.14	1.68	3.58	5.54
29	Amreli	Amreli_Pz	21°36'45" N	71°13'30" E	Bore Well	5.57	1.97	5.66	6.39
30	Amreli	Amritvel_Pz	21°23'50" N	71°21'30" E	Tube Well	2.80	1.45		2.00
31	Amreli	Ankadia mota	21°38'45" N	71°6'30" E	Dug Well	6.19	1.19	3.40	6.00
32	Amreli	Babra_Pz	21°50'50" N	71°17'45" E	Bore Well	7.15	3.45		7.28
33	Amreli	Badhda	21°15'57" N	71°20'20" E	Dug Well	7.45	1.87		
34	Amreli	Bagasara	21°28'45" N	70°57'45" E	Dug Well	15.75	3.14	5.50	10.20
35	Amreli	Bherai	20°52'5" N	71°21'45" E	Dug Well	2.46	0.72	2.20	4.25
36	Amreli	Bhuva	21°25'58" N	71°21'50" E	Dug Well	4.50	3.20	3.24	4.26
37	Amreli	Chalala	21°25'0" N	71°10'0" E	Dug Well	26.05	23.01	21.91	23.52
38	Amreli	Charkhadia_Pz	21°23'15" N	71°17'30" E	Tube Well	26.05	21.08	22.56	23.43
39	Amreli	Charkhadia1	21°23'30" N	71°17'45" E	Dug Well	21.35	15.80	18.88	20.80
40	Amreli	Chavand	21°49'0" N	71°24'45" E	Dug Well	6.00	3.15	3.96	6.86
41	Amreli	Dharangani	21°20'0" N	71°12'0" E	Dug Well	30.65	28.90	34.30	30.50
42	Amreli	Dhari_Pz	21°19'35" N	71°1'5" E	Bore Well	10.55	4.57	5.43	6.25
43	Amreli	Dhrai Balmukand	21°50'3" N	71°13'2" E	Dug Well	10.80	1.99	3.97	3.60
44	Amreli	Fifad	21°26'10" N	71°32'25" E	Dug Well	6.45		4.60	4.32
45	Amreli	Gopalpura Vanda Pz	21°22'30" N	71°29'30" E	Tube Well	26.77	16.30	17.96	15.81
46	Amreli	Goradka	21°13'30" N	71°24'40" E	Dug Well	3.43	0.72	2.87	4.70
47	Amreli	Govadka	21°32'30" N	71°9'30" E	Dug Well	3.10	0.98	1.08	2.82
48	Amreli	Haripur_Pz_I	21°36'35" N	71°26'35" E	Bore Well	12.50	1.98	3.38	4.54
49	Amreli	Hipavadli	21°22'44" N	71°36'53" E	Dug Well	10.30			
50	Amreli	Ingoralala	21°14'0" N	71°12'0" E	Dug Well	11.90	7.43	9.17	10.07
51	Amreli	Jesar_Pz	21°22'17" N	71°40'13" E	Tube Well	5.99	4.60	5.82	6.22
52	Amreli	Kadiyali	20°54'30" N	71°21'37" E	Dug Well	6.12	0.35	2.05	5.36

53	Amreli	Kerala	21°23'50" N	71°13'0" E	Dug Well	37.30	30.24	31.11	33.45
54	Amreli	Khamba	21°9'0" N	71°14'20" E	Dug Well	4.37	2.96	3.11	5.45
55	Amreli	Khamba_Pz	21°8'30" N	71°15'15" E	Bore Well	7.46	4.35	6.53	7.69
56	Amreli	Kotadapitha	21°57'30" N	71°12'15" E	Dug Well	3.35	0.41	2.89	4.94
57	Amreli	Kunkavav	21°39'45" N	70°59'0" E	Dug Well	21.12	1.37	10.63	18.15
58	Amreli	Lathi	21°43'15" N	71°23'0" E	Dug Well	2.23	0.94	2.51	2.32
59	Amreli	Liliya_Pz_I	21°32'5" N	71°22'45" E	Bore Well				1.89
60	Amreli	Lotpur	20°57'45" N	71°26'0" E	Dug Well	6.05			
61	Amreli	Luvariya	21°37'30" N	71°23'45" E	Dug Well	4.20	2.17		
62	Amreli	Mandal	21°6'0" N	71°35'0" E	Dug Well	23.50			7.75
63	Amreli	Manila_Pz	21°26'0" N	71°10'0" E	Tube Well	21.80	18.89	22.86	22.51
64	Amreli	Morjhar	21°22'34" N	71°7'7" E	Dug Well	49.50	26.88	29.37	
65	Amreli	Nageshri	20°55'30" N	71°21'15" E	Dug Well	3.41	1.47	2.23	4.18
66	Amreli	Piyava	21°23'0" N	71°28'0" E	Dug Well	25.55	20.14	18.85	18.25
67	Amreli	Punjapadar	21°31'30" N	71°21'30" E	Dug Well	5.24	2.02	1.70	1.92
68	Amreli	Salena	21°23'10" N	71°32'0" E	Dug Well	16.77			
69	Amreli	Sanaria	21°33'28" N	71°28'5" E	Dug Well	2.10	1.30		2.99
70	Amreli	Savarkundla	21°20'10" N	71°19'5" E	Bore Well				37.69
71	Amreli	Tajpur	21°43'30" N	71°28'0" E	Dug Well	15.15	0.08	1.90	3.07
72	Amreli	Timbi2	20°53'45" N	71°12'15" E	Dug Well	2.44	2.57	2.15	3.52
73	Amreli	Trakuda	21°1'0" N	71°16'50" E	Dug Well	7.58	1.44	1.10	5.19
74	Amreli	Untvad	21°55'0" N	71°13'0" E	Dug Well	13.70	1.28	3.35	13.40
75	Amreli	Vaghania_juna	21°35'0" N	70°58'0" E	Dug Well	6.10	1.64	2.10	2.93
76	Amreli	Vankiya	21°31'15" N	71°8'10" E	Dug Well	4.73	3.72	4.50	6.53
77	Amreli	Vankiya1	21°14'0" N	71°15'0" E	Dug Well	7.10	4.20	5.04	7.40
78	Amreli	Virpur	21°15'15" N	71°9'0" E	Dug Well	13.62	3.67	6.17	
79	Anand	Adas_DW	22°28'43" N	73°1'49" E	Dug Well	23.00	22.70	25.60	24.20
80	Anand	Anand	22°34'30" N	72°58'20" E	Dug Well	29.29	10.29	28.19	11.44
81	Anand	Anklav_Pz_I	22°22'35" N	72°59'50" E	Tube Well	23.79	20.61	23.44	23.89
82	Anand	Anklav_Pz_II	22°22'35" N	72°59'50" E	Tube Well	23.95	20.41	23.90	25.65
83	Anand	Anklav2	22°23'0" N	73°0'30" E	Dug Well	23.78	24.98	31.18	29.38
84	Anand	Bandhani	22°32'30" N	72°49'0" E	Dug Well	6.18	5.18	5.43	5.77
85	Anand	Bhadran	22°21'20" N	72°53'50" E	Dug Well	18.10	16.10	19.80	15.25
86	Anand	Boriyani	22°37'56" N	73°0'15" E	Dug Well	9.80	8.90	6.50	8.00
87	Anand	Borsad_I	22°24'35" N	72°54'5" E	Tube Well	18.36	15.18	17.80	17.55
88	Anand	Borsad_Pz_II	22°24'35" N	72°54'5" E	Tube Well	15.94	14.29	17.76	15.45
89	Anand	Dali	22°16'30" N	72°46'0" E	Dug Cum Bore Well		2.42		
90	Anand	Davalpura_Pz	22°27'30" N	72°48'10" E	Tube Well	2.65	0.33	1.25	2.05
91	Anand	Dharmaj	22°25'15" N	72°47'40" E	Dug Cum Bore Well			6.50	
92	Anand	Ghora	22°41'30" N	73°3'15" E	Dug Well		1.40	4.01	4.66
93	Anand	Hariyan_Pz	22°24'15" N	72°40'20" E	Tube Well			3.40	3.50
94	Anand	Kansari1	22°20'30" N	72°39'0" E	Dug Well	11.80	9.94	11.40	11.00
95	Anand	Kathana_Pz_I	22°17'40" N	72°47'25" E	Tube Well				10.92
96	Anand	Laxmipura	22°25'0" N	72°36'30" E	Dug Well				1.25
97	Anand	Navapura	22°18'45" N	72°57'45" E	Dug Well	28.56	28.56	21.56	
98	Anand	Parvata	22°42'49" N	73°7'36" E	Dug Well	6.80	3.85	4.54	5.40
99	Anand	Petlad_Pz_I	22°28'30" N	72°48'0" E	Tube Well	12.73	9.39	12.70	13.30
100	Anand	Petlad_Pz_II	22°28'30" N	72°48'0" E	Tube Well	12.10	9.33	12.96	13.36
101	Anand	Ras	22°20'45" N	72°50'0" E	Dug Well	2.40	1.55	1.77	2.32
102	Anand	Sarsa_Pz_I	22°32'40" N	73°4'15" E	Tube Well	19.59	16.03	17.00	16.70
103	Anand	Tarapur Pz-I	22°29'10" N	72°39'40" E	Tube Well	3.15		2.85	3.05
104	Anand	Tarapur Pz-II	22°29'10" N	72°39'40" E	Tube Well	3.09		2.45	2.85
105	Anand	Tol	22°30'39" N	72°34'0" E	Dug Well				0.70
106	Anand	Walmi_I	22°30'40" N	72°58'55" E	Tube Well	22.19	19.08	21.70	21.40
107	Anand	Walmi_II	22°30'30" N	72°58'56" E	Tube Well	22.22	19.46	22.02	21.82
108	Arvalli	Alwakampa	23°16'29" N	73°12'30" E	Dug Well	7.01	0.47	7.27	9.27
109	Arvalli	Bayad_Pz	23°13'0" N	73°13'45" E	Tube Well	11.00	9.90	9.75	10.40
110	Arvalli	Bhiloda2	23°46'0" N	73°16'20" E	Dug Cum	6.25		3.78	

					Bore Well				
111	Arvalli	Bibipur1	23°15'10" N	73°12'45" E	Dug Well	17.78	13.65	13.27	13.47
112	Arvalli	Boral	23°7'30" N	73°12'30" E	Dug Well	11.31	3.60	5.60	6.20
113	Arvalli	Dhansura1	23°21'0" N	73°12'0" E	Dug Well	6.99	0.60	3.35	4.34
114	Arvalli	Gadada	23°34'31" N	73°15'11" E	Dug Well	6.56	3.25	4.55	6.89
115	Arvalli	Hamirpur	23°24'30" N	73°27'30" E	Dug Well	11.44	4.90	13.55	18.00
116	Arvalli	Karanpur	23°20'0" N	73°18'0" E	Dug Well	3.36	0.30	1.34	11.80
117	Arvalli	Kuski_Pz	23°38'20" N	73°22'10" E	Bore Well	13.30	1.00	6.80	10.35
118	Arvalli	Malpur_1	23°20'41" N	73°27'52" E	Dug Well	14.89	4.68	8.39	13.57
119	Arvalli	Malpur_Pz	23°20'30" N	73°28'5" E	Bore Well	9.43	7.20		8.70
120	Arvalli	Medasana	23°30'43" N	73°16'28" E	Dug Well	7.27	5.43	7.91	7.09
121	Arvalli	Meghraj_1	23°29'45" N	73°30'30" E	Dug Well	12.12	3.42	6.60	9.52
122	Arvalli	Modasa	23°27'45" N	73°18'30" E	Dug Well	6.60	5.88	6.32	6.45
123	Arvalli	Punasan	23°40'10" N	73°10'25" E	Dug Well	5.48	2.00	3.85	5.95
124	Arvalli	Sathamba	23°10'30" N	73°20'15" E	Dug Well	23.10	2.20	5.68	8.55
125	Arvalli	Seenawad	23°29'11" N	73°23'55" E	Dug Well	9.12	3.30	4.65	
126	Arvalli	Shamlaji	23°41'10" N	73°22'0" E	Dug Well	7.14	5.00	5.71	5.71
127	Arvalli	Takatuka_1	23°51'5" N	73°18'18" E	Dug Well	21.45	1.57	3.65	8.42
128	Arvalli	Vejpur_Pz	23°47'50" N	73°13'15" E	Bore Well	14.77	1.65	3.05	3.95
129	Banaskantha	Ambaji_Pz	24°20'10" N	72°50'50" E	Bore Well	12.58		5.44	6.61
130	Banaskantha	Amirgadh	24°24'20" N	72°38'30" E	Dug Well	15.55	9.22	12.37	13.40
131	Banaskantha	Balodhar_Pz-I	24°13'50" N	71°54'44" E	Tube Well	177.27			
132	Banaskantha	Bhabhar iii	24°3'35" N	71°35'46" E	Tube Well	30.06	29.33	29.80	28.34
133	Banaskantha	Bharol1	24°31'45" N	71°32'30" E	Dug Well	2.80			
134	Banaskantha	Biyok_Pz-II	24°16'20" N	71°39'17" E	Tube Well	29.50	26.63		
135	Banaskantha	Danta	24°11'20" N	72°45'55" E	Bore Well	11.59		7.99	8.86
136	Banaskantha	Dantiwada	24°16'39" N	72°15'41" E	Dug Cum Bore Well	27.72		25.83	
137	Banaskantha	Dantiwada	24°11'20" N	72°45'38" E	Tube Well	34.08	33.81	35.45	33.83
138	Banaskantha	Deesa Pzi	24°15'24" N	72°11'15" E	Tube Well	92.89	88.25	92.43	95.20
139	Banaskantha	Dhanera Pz-I	24°30'22" N	72°1'45" E	Tube Well	106.81	111.33	117.80	120.05
140	Banaskantha	Fagudara Pz	24°25'49" N	72°14'3" E	Bore Well	94.54		71.66	73.58
141	Banaskantha	Ganapipli	24°17'50" N	72°56'50" E	Dug Well	8.44	5.58	7.80	9.95
142	Banaskantha	Gangodra	24°26'10" N	72°21'55" E	Dug Well	22.56	16.54	16.50	17.37
143	Banaskantha	Iqbalgarh	24°20'45" N	72°32'15" E	Dug Well	33.14	30.28	26.85	28.10
144	Banaskantha	Jhat	24°29'15" N	72°21'10" E	Dug Well	16.01	16.01	16.01	
145	Banaskantha	Khoda	24°39'30" N	71°46'0" E	Dug Well	23.26	24.24	23.82	25.93
146	Banaskantha	Lakhani i	24°18'50" N	71°49'5" E	Tube Well	112.17	99.69	113.22	118.56
147	Banaskantha	Mahi twi	24°2'0" N	72°22'0" E	Tube Well		146.96		
148	Banaskantha	Mahi_Pz	24°1'43" N	72°22'51" E	Tube Well	160.94		162.80	
149	Banaskantha	Meda	24°23'50" N	72°17'5" E	Dug Well	9.10		5.80	6.23
150	Banaskantha	Mohabbat gadh	24°10'0" N	72°43'40" E	Dug Well	23.68	21.37	16.53	17.64
151	Banaskantha	Nandotra Brahmanvas Pz (OW II)	24°20'27" N	72°18'51" E	Bore Well		26.01		15.54
152	Banaskantha	Naroli Pzi	24°36'59" N	71°38'19" E	Tube Well	7.18	8.96	7.04	7.02
153	Banaskantha	Naroli Pzii	24°36'59" N	71°38'19" E	Tube Well	6.23	8.30	6.23	6.13
154	Banaskantha	Naroli Pziii	24°36'59" N	71°38'19" E	Tube Well	7.11	8.93	6.48	6.58
155	Banaskantha	Palanpur_Pz	24°10'20" N	72°27'0" E	Tube Well	39.48		39.25	38.48
156	Banaskantha	Palanpur2	24°11'40" N	72°26'0" E	Dug Well	24.57	24.06	22.77	22.09
157	Banaskantha	Rah Pz-III	24°29'45" N	71°50'10" E	Tube Well	44.73			
158	Banaskantha	Rah_Pz I	24°29'45" N	71°50'10" E	Tube Well	63.70	48.65	57.34	61.18
159	Banaskantha	Rah_Pz II	24°29'45" N	71°50'10" E	Tube Well	52.91	48.50	52.88	56.70
160	Banaskantha	Ratanpur2	24°10'30" N	72°44'45" E	Dug Well	21.93	15.75	13.68	15.60
161	Banaskantha	Sodapur	24°24'5" N	72°17'45" E	Dug Well	16.89	9.53	13.57	16.47
162	Banaskantha	Tharad Pzi	24°23'6" N	71°37'10" E	Tube Well	9.33	10.31	9.52	9.54
163	Banaskantha	Tharad Pzii	24°23'6" N	71°37'10" E	Tube Well	10.01	10.37	9.44	9.35
164	Banaskantha	Tharad Pziii	24°23'6" N	71°37'10" E	Tube Well	9.13	9.68	9.36	9.38
165	Banaskantha	Vav ii	24°21'40" N	71°30'40" E	Tube Well		32.73	32.72	35.69

166	Banaskantha	Vav i	24°21'30" N	71°30'30" E	Tube Well		24.96	24.58	26.82
167	Banaskantha	Vinchivadi PZ-I	24°35'10" N	71°56'0" E	Tube Well				75.54
168	Banaskantha	Vinchivadi Pz-II	24°35'10" N	71°56'0" E	Tube Well	73.49			
169	Bharuch	Arethi	21°36'45" N	73°26'7" E	Dug Well	14.45	3.68	6.00	6.75
170	Bharuch	Bharuch	21°42'0" N	73°0'15" E	Dug Well	6.35	2.53	5.09	4.40
171	Bharuch	Bharuch I	21°42'30" N	73°0'0" E	Tube Well	5.84	5.81	2.80	3.90
172	Bharuch	Bharuch II	21°42'30" N	73°0'0" E	Tube Well	8.71	5.32		15.45
173	Bharuch	Bhensli	21°43'30" N	72°45'0" E	Dug Well	2.10	0.83	1.00	1.50
174	Bharuch	Chhindra	22°7'36" N	72°40'11" E	Dug Well	9.68	3.58	8.88	5.58
175	Bharuch	Dahegam	22°11'5" N	72°35'50" E	Dug Well	7.65	3.60	9.50	6.20
176	Bharuch	Hansot	21°35'0" N	72°48'30" E	Tube Well	4.11		2.90	3.45
177	Bharuch	Ilav	21°27'0" N	72°48'0" E	Dug Well	5.99	2.93	2.45	3.85
178	Bharuch	Jambusar	22°3'10" N	72°48'20" E	Tube Well	8.71	8.76	10.55	8.95
179	Bharuch	Jambusar2	22°3'0" N	72°48'0" E	Dug Well	9.60	9.60	9.60	9.60
180	Bharuch	Jetpur1	21°29'30" N	72°42'30" E	Dug Well	1.78	0.30	5.15	1.60
181	Bharuch	Jokhla	21°35'45" N	73°10'9" E	Dug Well			4.80	2.90
182	Bharuch	Juna borbhata	21°40'30" N	72°58'30" E	Dug Well	8.50	3.66	5.50	8.50
183	Bharuch	Kadodara	21°45'45" N	72°38'20" E	Tube Well	9.57	5.83	7.60	7.20
184	Bharuch	Kalak1	22°1'7" N	72°45'47" E	Dug Well	6.99	4.75	5.27	4.80
185	Bharuch	Kaswa	21°41'0" N	72°49'0" E	Dug Well	5.55	2.37	3.00	3.45
186	Bharuch	Kavi	22°11'37" N	72°38'22" E	Dug Well	6.36	5.38	6.45	5.90
187	Bharuch	Kondh	21°34'50" N	73°4'5" E	Dug Well	4.06	3.67	2.90	3.20
188	Bharuch	Luhara	21°40'30" N	72°33'30" E	Dug Well	0.85	0.00	0.40	0.20
189	Bharuch	Mahegam1	21°41'0" N	72°45'30" E	Dug Well	4.85	2.27	3.25	0.45
190	Bharuch	Mokhdi	21°32'0" N	73°17'15" E	Dug Well	11.84	2.04	3.79	4.74
191	Bharuch	Motwan	21°33'20" N	72°53'15" E	Dug Well	2.04	1.75	1.82	2.10
192	Bharuch	Mungaj	21°41'18" N	73°23'2" E	Dug Well				2.75
193	Bharuch	Navetha	21°42'28" N	72°49'50" E	Dug Well	2.90	0.08	0.85	1.60
194	Bharuch	Netrang(Rep)_Pz	21°38'30" N	73°22'0" E	Bore Well	9.01	8.07		6.57
195	Bharuch	Netrang1	21°38'0" N	73°22'0" E	Dug Well	4.30		4.60	6.15
196	Bharuch	Nirnavi	21°47'30" N	72°40'5" E	Dug Well	8.34	1.12	4.55	5.40
197	Bharuch	Panoli	21°32'15" N	72°58'30" E	Dug Well	3.35	1.14	4.15	4.51
198	Bharuch	Raymal	21°31'15" N	72°49'15" E	Dug Well	1.13	1.19	1.10	1.10
199	Bharuch	Roja tankaria	21°55'0" N	72°47'30" E	Dug Well	8.38	4.59	8.15	6.55
200	Bharuch	Sahol	21°28'22" N	72°48'35" E	Dug Well	4.72	3.28	2.80	1.90
201	Bharuch	Sajod	21°37'0" N	72°55'25" E	Dug Well	4.53	0.89	1.14	3.80
202	Bharuch	Sarod	22°9'30" N	72°45'30" E	Dug Well	15.22	9.23	7.66	7.70
203	Bharuch	Sindhav	22°1'37" N	72°38'10" E	Dug Well	7.27	3.23	4.13	4.38
204	Bharuch	Tankari	21°59'30" N	72°40'30" E	Dug Well	4.92	0.88	2.80	2.50
205	Bharuch	Utraj	21°35'30" N	72°49'30" E	Dug Well	2.42	1.36	5.10	5.20
206	Bhavnagar	Ambala	21°42'40" N	71°50'30" E	Dug Well	14.58	18.06	9.48	12.80
207	Bhavnagar	Ayodhayapuram	21°57'37" N	71°53'11" E	Dug Well		7.30	6.60	8.45
208	Bhavnagar	Bhavnagar1	21°46'0" N	72°9'0" E	Dug Well	3.55	2.80	3.51	4.89
209	Bhavnagar	Bhudel	21°41'30" N	72°9'30" E	Dug Well		1.01	1.30	3.05
210	Bhavnagar	Bhumbhalı	21°40'46" N	72°14'39" E	Dug Well	2.55	1.90	2.52	2.60
211	Bhavnagar	Bhutia	21°44'50" N	71°42'0" E	Dug Well	22.30			22.30
212	Bhavnagar	Bora	21°11'28" N	71°55'44" E	Dug Well	24.57	16.82	12.44	18.40
213	Bhavnagar	Chowk Pz	21°25'45" N	71°45'50" E	Tube Well		22.50		16.60
214	Bhavnagar	Datha	21°13'15" N	71°57'0" E	Dug Well	1.71	0.82	2.19	5.38
215	Bhavnagar	Dhasa	21°48'0" N	71°30'30" E	Dug Well	4.94	0.29	2.21	3.33
216	Bhavnagar	Dudhala	21°8'15" N	71°39'30" E	Dug Cum Bore Well				5.25
217	Bhavnagar	Gadhada1	21°58'5" N	71°34'55" E	Bore Well	7.33	2.90	4.91	6.25
218	Bhavnagar	Gadhada2	21°58'0" N	71°34'45" E	Dug Well	3.73	3.03		
219	Bhavnagar	Gariyadhar	21°32'35" N	71°33'55" E	Dug Well	14.52	1.00	2.20	6.85
220	Bhavnagar	Ghogha1	21°41'0" N	72°16'45" E	Dug Well	1.52	1.24	1.51	2.12
221	Bhavnagar	Jalia	21°48'0" N	71°37'0" E	Dug Well	16.25	1.31	3.93	12.90
222	Bhavnagar	Kardej	21°45'7" N	72°1'52" E	Tube Well	24.26	21.45	24.78	20.95
223	Bhavnagar	Khijadiya	21°38'15" N	71°42'0" E	Dug Well	9.21	3.51	4.82	5.63

224	Bhavnagar	Kundheli	21°22'46" N	71°58'50" E	Dug Well		1.27	3.28	11.60
225	Bhavnagar	Longadi	21°12'50" N	71°53'0" E	Dug Well	2.35	1.56	2.37	3.20
226	Bhavnagar	Lonjdhara	22°5'50" N	71°53'50" E	Dug Well	21.62	9.29	10.47	10.87
227	Bhavnagar	Mahuva1	21°5'45" N	71°46'0" E	Dug Cum Bore Well				6.96
228	Bhavnagar	Malvav_Pz	21°9'38" N	71°54'30" E	Tube Well	21.72	13.24	14.09	18.69
229	Bhavnagar	Motivaldal	21°11'50" N	71°33'0" E	Dug Well	3.72	2.25	2.61	3.27
230	Bhavnagar	Ningala	22°1'5" N	71°42'0" E	Dug Well	10.45	7.37	10.71	12.10
231	Bhavnagar	Palitana1	21°31'30" N	71°49'25" E	Bore Well	7.40	2.55	3.94	5.63
232	Bhavnagar	Palitana2	21°31'20" N	71°50'20" E	Dug Well	7.85	3.00	5.03	7.48
233	Bhavnagar	Panchpipla	21°33'0" N	71°43'15" E	Dug Well	1.84	0.15	0.70	2.52
234	Bhavnagar	Panvi1	22°4'30" N	71°53'30" E	Dug Well	3.87	1.89	2.60	3.15
235	Bhavnagar	Pasvi	21°17'30" N	71°58'0" E	Dug Well	11.82	2.56	3.76	7.89
236	Bhavnagar	Piparla	21°38'11" N	71°55'8" E	Dug Well	4.40	1.26	1.73	4.40
237	Bhavnagar	Porbada	21°48'0" N	71°42'0" E	Dug Well	10.93	2.39	3.03	5.23
238	Bhavnagar	Sajnasar	21°25'30" N	71°54'45" E	Dug Well	2.50	1.47	1.94	3.40
239	Bhavnagar	Sandhida	21°41'15" N	71°45'30" E	Dug Well	9.60	1.15	0.66	1.10
240	Bhavnagar	Satanes	21°26'30" N	71°50'15" E	Dug Well	10.57	1.34	0.43	7.37
241	Bhavnagar	Shantinagar	21°14'45" N	71°39'0" E	Dug Well	11.50	0.00	0.78	4.65
242	Bhavnagar	Talaja2	21°22'0" N	72°1'0" E	Dug Well	8.73	1.98	1.96	3.58
243	Bhavnagar	Tansa	21°30'30" N	72°7'30" E	Dug Well	8.10			
244	Bhavnagar	Tardhera	22°13'45" N	71°36'15" E	Dug Cum Bore Well				10.10
245	Bhavnagar	Tatam	22°3'30" N	71°38'0" E	Dug Well	11.74	0.00	1.47	4.31
246	Bhavnagar	Timbi2	21°49'54" N	71°45'58" E	Dug Well	13.63	3.63	7.40	8.60
247	Bhavnagar	Trapaj	21°25'30" N	72°5'45" E	Dug Well	13.46	2.24	4.92	7.70
248	Bhavnagar	Umrala	21°50'50" N	71°48'30" E	Dug Well	14.02	5.14	5.70	5.60
249	Bhavnagar	Vadal	21°28'37" N	71°48'22" E	Dug Well		0.76	2.25	5.55
250	Bhavnagar	Vallabhipur1	21°53'0" N	71°52'40" E	Tube Well	4.80	3.11	3.79	4.45
251	Bhavnagar	Vallbhipur	21°53'0" N	71°52'30" E	Dug Well	4.05	2.42	3.23	3.90
252	Bhavnagar	Vavdi	21°34'5" N	72°11'53" E	Dug Well		1.62		2.15
253	Botad	Barvala	22°9'0" N	71°53'30" E	Dug Well	7.30	3.15	2.95	3.82
254	Botad	Kundali	22°16'10" N	71°42'0" E	Dug Well	4.07	1.10	1.40	2.30
255	Botad	Rajpada	22°18'30" N	71°41'30" E	Dug Well	12.00	1.78	6.01	11.30
256	Botad	Salangpor	22°9'30" N	71°46'15" E	Dug Well	7.00	2.15		7.50
257	Chhota Udepur	Alladpur	22°15'0" N	73°43'0" E	Dug Well	7.22	7.22	7.20	10.43
258	Chhota Udepur	Asala	22°23'0" N	73°56'0" E	Dug Well	12.50	4.57	3.42	4.40
259	Chhota Udepur	Asar	22°12'13" N	74°0'38" E	Dug Well	17.20		11.40	11.90
260	Chhota Udepur	Baladgam	22°8'15" N	74°0'30" E	Dug Well	13.00	7.15	12.05	13.00
261	Chhota Udepur	Bhindol	22°12'0" N	73°54'0" E	Dug Well	8.48	4.29	3.70	5.58
262	Chhota Udepur	Chavaria	22°11'15" N	73°59'15" E	Dug Well	10.90	5.60	10.20	12.30
263	Chhota Udepur	Chhota udepur	22°18'30" N	74°1'0" E	Dug Well	6.90	4.24	4.23	4.90
264	Chhota Udepur	Chisadia	22°24'0" N	74°8'0" E	Dug Well	11.88	4.40	4.40	11.88
265	Chhota Udepur	Chota udepur	22°18'30" N	74°1'0" E	Bore Well	3.20	2.33		
266	Chhota Udepur	Ferkuva	22°22'0" N	74°12'30" E	Dug Well	6.20	1.43	3.00	4.10
267	Chhota Udepur	Ghamodi	22°22'0" N	74°4'30" E	Dug Well	8.85	2.21	4.35	5.65
268	Chhota Udepur	Govindpura	22°12'40" N	73°44'29" E	Dug Well	5.66	2.16	3.99	4.70
269	Chhota Udepur	Jojh	22°26'30" N	73°57'45" E	Dug Well	13.42	6.56	7.50	8.10
270	Chhota Udepur	Kaprali	21°58'45" N	73°56'30" E	Dug Well	8.64	3.69	4.30	5.60
271	Chhota Udepur	Kevadi	22°31'0" N	73°56'30" E	Dug Well	6.90	2.65	4.62	5.35
272	Chhota Udepur	Kosindra Pz-I	22°8'48" N	73°45'20" E	Bore Well	3.88	3.30	2.80	2.90
273	Chhota Udepur	Makni	22°13'30" N	73°40'45" E	Dug Cum Bore Well	14.06		9.70	
274	Chhota Udepur	Moti chikhali	22°0'40" N	74°5'0" E	Dug Well	4.03	3.79	3.10	3.20
275	Chhota Udepur	Panwad	22°12'0" N	74°2'30" E	Dug Well	10.00	2.67	5.72	7.38
276	Chhota Udepur	Pavi	22°20'30" N	73°50'0" E	Dug Well	3.97	0.60	4.85	4.50
277	Chhota Udepur	Pitha	22°15'15" N	73°38'30" E	Dug Well	8.24	1.96	4.86	4.92
278	Chhota Udepur	Saidivasana	22°3'30" N	74°1'0" E	Dug Well	6.70	2.22	2.70	3.45
279	Chhota Udepur	Sengpur	22°2'15" N	73°53'15" E	Dug Well	9.32	2.97	3.82	6.30
280	Chhota Udepur	Vadtalav Pz	22°15'31" N	73°47'2" E	Bore Well	9.86	5.60	4.50	6.70

281	Chhota Udepur	Vagudan	22°4'0" N	74°8'30" E	Dug Well	6.93	4.58	5.60	6.93
282	DAMAN	Ambawadi	20°24'10" N	72°50'40" E	Dug Well	4.10	1.50	3.10	3.28
283	DAMAN	Dabhel	20°24'40" N	72°53'10" E	Dug Well		1.70		7.10
284	DAMAN	Dalwada	20°26'35" N	72°51'7" E	Dug Well	7.55	0.75	3.15	3.27
285	DAMAN	Daman	20°25'27" N	72°51'1" E	Bore Well	9.45	0.95	2.55	2.65
286	DAMAN	Jempore	20°22'40" N	72°49'37" E	Dug Well		1.30	1.30	1.36
287	DAMAN	Morwad	20°26'7" N	72°49'52" E	Dug Well			4.60	4.72
288	DAMAN	Warkund	20°24'29" N	72°51'35" E	Dug Well		0.90	2.80	2.94
289	Devbhumi Dwarka	Amaliya Chokri	22°14'25" N	69°7'31" E	Dug Well	3.39	1.31	2.80	3.65
290	Devbhumi Dwarka	Ambardi	21°54'59" N	69°51'29" E	Dug Well	5.59	1.06		2.44
291	Devbhumi Dwarka	Aramda	22°26'0" N	69°2'30" E	Dug Well	5.95	0.85	4.80	4.30
292	Devbhumi Dwarka	Bhadthar	22°4'45" N	69°34'45" E	Dug Well	9.26	0.86		4.03
293	Devbhumi Dwarka	Bhatia	22°5'30" N	69°18'5" E	Dug Well	3.36	0.43	1.16	1.86
294	Devbhumi Dwarka	Bhatiya	22°5'40" N	69°16'0" E	Bore Well	2.29	0.00		1.00
295	Devbhumi Dwarka	Bhogat1	21°59'30" N	69°14'45" E	Dug Well	5.23	2.06		6.30
296	Devbhumi Dwarka	Dwarka	22°14'45" N	68°57'30" E	Dug Well	7.21	5.73	6.80	7.50
297	Devbhumi Dwarka	Juvanpur	22°10'15" N	69°22'0" E	Dug Well	7.31	1.82	3.63	5.40
298	Devbhumi Dwarka	Kajuda	22°20'0" N	69°42'30" E	Dug Well	3.82	1.17	2.80	2.88
299	Devbhumi Dwarka	Kalyanpur2	22°1'0" N	69°23'30" E	Dug Well	12.85	0.52	1.72	
300	Devbhumi Dwarka	Khambhaliya	22°12'35" N	69°38'45" E	Bore Well	3.93	2.07		4.30
301	Devbhumi Dwarka	Khirsara	21°58'45" N	69°36'0" E	Dug Well	0.60	0.11	1.19	7.42
302	Devbhumi Dwarka	Kuvadia	22°12'5" N	69°35'0" E	Dug Well	4.05	1.77	3.23	21.55
303	Devbhumi Dwarka	Lambha 1	21°53'56" N	69°19'25" E	Dug Well	3.70	1.27	1.05	2.20
304	Devbhumi Dwarka	Modpar	21°51'30" N	69°48'30" E	Dug Well	17.40	1.13	2.84	8.62
305	Devbhumi Dwarka	Mojap	22°22'0" N	68°59'0" E	Dug Well	7.40	1.06	2.76	5.09
306	Devbhumi Dwarka	Mota kalawad	21°54'30" N	69°49'45" E	Dug Well	20.00	1.96	3.16	10.31
307	Devbhumi Dwarka	Pindara1	22°14'50" N	69°15'30" E	Dug Well	5.41	3.21	6.41	3.57
308	Devbhumi Dwarka	Raval	21°55'47" N	69°29'31" E	Dug Well	4.33	1.26	4.65	5.10
309	Devbhumi Dwarka	Salaya	22°18'20" N	69°36'15" E	Dug Well	2.67	1.34	2.44	
310	Devbhumi Dwarka	Samrasar1	22°22'30" N	69°6'15" E	Dug Well	2.65	1.45	2.20	3.15
311	Devbhumi Dwarka	Vadtara	22°12'30" N	69°30'0" E	Dug Well	4.25	0.45	1.63	9.70
312	Devbhumi Dwarka	Varwada	22°17'30" N	68°58'0" E	Dug Cum Bore Well	15.65	0.92		5.60
313	Devbhumi Dwarka	Vinjalpur	22°9'0" N	69°36'0" E	Dug Well	5.33	1.53	3.22	3.70
314	DIU	Chakarteeth_Pz	20°42'30" N	70°58'8" E	Tube Well	5.42	5.85	6.15	5.60

315	DIU	Gomtimata	20°42'30" N	70°52'35" E	Dug Well	8.05	3.69	3.83	4.50
316	DIU	Jalawadi	20°43'18" N	70°55'59" E	Dug Well	5.89	1.55	2.52	5.19
317	Dohad	Ambakatch	22°40'0" N	74°13'13" E	Dug Well	2.55	1.08	1.17	1.31
318	Dohad	Bapda	22°40'12" N	73°50'30" E	Dug Well	7.14	1.52	7.83	8.52
319	Dohad	Dabhava	22°35'0" N	73°54'15" E	Dug Well			3.65	
320	Dohad	Dadhela	22°50'15" N	74°4'0" E	Dug Well	6.97	0.05	3.40	4.15
321	Dohad	Dahod	22°50'25" N	74°15'45" E	Bore Well	1.14	1.13	1.50	1.30
322	Dohad	Dahod2	22°49'30" N	74°14'0" E	Dug Well	8.40			
323	Dohad	Devgadh Baria	22°42'0" N	73°54'50" E	Dug Well	10.83	5.04	7.58	7.74
324	Dohad	Devgadh bariya	22°42'0" N	73°55'0" E	Bore Well	13.66	4.74	7.53	9.70
325	Dohad	Dhanpur	22°38'0" N	74°6'15" E	Dug Well	10.36		7.00	8.20
326	Dohad	Dohad_Urban1	22°51'27" N	74°14'58" E	Dug Well	5.15	3.25	4.13	5.27
327	Dohad	Dohad_Urban2	22°50'41" N	74°16'0" E	Dug Well	7.35	3.63	5.45	5.35
328	Dohad	Dohad_Urban3	22°50'23" N	74°14'2" E	Dug Well	4.70	1.47	4.07	4.77
329	Dohad	Fatepura(Karodia)	23°15'15" N	74°1'45" E	Bore Well	12.02	5.68	9.27	10.90
330	Dohad	Garada	23°9'53" N	74°7'22" E	Dug Well		3.00		
331	Dohad	Garbara	22°40'50" N	74°18'45" E	Dug Well	3.63	2.05	1.75	1.71
332	Dohad	Jhalod	23°5'35" N	74°8'50" E	Bore Well	9.35	4.85	7.24	5.20
333	Dohad	Jhalod1	23°5'30" N	74°8'0" E	Dug Well	13.10	4.00		
334	Dohad	Kanjetha	22°34'50" N	74°6'50" E	Dug Well	9.30	3.75	5.47	0.75
335	Dohad	Khandania	22°42'15" N	73°50'15" E	Dug Well	12.93	7.84	10.60	13.00
336	Dohad	Limbdii2	23°0'15" N	74°9'30" E	Dug Well	2.20	0.75	1.25	1.90
337	Dohad	Limkheda	22°49'50" N	73°59'10" E	Bore Well	7.67	2.34	5.45	4.71
338	Dohad	Mirakhedi	22°56'0" N	74°12'0" E	Dug Well	5.88	0.44	2.38	4.91
339	Dohad	Panchwada	22°43'45" N	74°18'30" E	Dug Well	4.69	1.47	4.01	2.50
340	Dohad	Pipero	22°38'50" N	74°5'25" E	Bore Well	10.89	4.63	6.18	7.80
341	Dohad	Salaya1	22°48'30" N	73°53'30" E	Dug Well	14.20	2.74	6.42	9.72
342	Dohad	Sarsava	23°13'40" N	73°58'37" E	Dug Well	3.95	0.36		
343	Dohad	Sukhsar	23°9'0" N	74°3'0" E	Dug Well	9.55	5.00	6.41	7.55
344	Dohad	Thada	22°56'58" N	74°5'20" E	Dug Well	10.30	0.10	5.15	10.30
345	Dohad	Tokarba	22°36'15" N	74°2'15" E	Dug Well	5.85	0.95	3.95	5.13
346	Dohad	Varamkheda	22°48'0" N	74°16'30" E	Dug Well	1.45	0.48	1.86	0.85
347	Dohad	Wadia	22°54'0" N	74°3'0" E	Dug Well	7.64	1.46	5.49	6.59
348	Gandhinagar	Adalaj_Pz_I	23°10'30" N	72°33'30" E	Tube Well	105.58			139.63
349	Gandhinagar	Adalaj_Pz_II	23°10'30" N	72°33'30" E	Tube Well	89.35		109.82	93.92
350	Gandhinagar	Adalaj_Pz_III	23°10'30" N	72°33'30" E	Tube Well	26.30			
351	Gandhinagar	Amrapur Pzi	23°22'25" N	72°42'18" E	Tube Well	106.60			
352	Gandhinagar	Amrapur Pzii	23°22'25" N	72°42'18" E	Tube Well	86.80			
353	Gandhinagar	Charada Pz -II	23°28'54" N	72°39'6" E	Tube Well	102.40	111.70	117.53	119.77
354	Gandhinagar	Charada_Pz_I	23°28'54" N	72°39'6" E	Tube Well	194.08	182.50	194.28	196.74
355	Gandhinagar	Dahegam I	23°10'15" N	72°50'30" E	Tube Well	74.90	73.26	77.42	80.12
356	Gandhinagar	Gandhinagar II	23°14'5" N	72°38'30" E	Tube Well	58.70			
357	Gandhinagar	Kalol(Rep)_Pz_II	23°14'36" N	72°29'6" E	Tube Well		124.08	129.54	133.34
358	Gandhinagar	Kalol_Pz_IV	23°14'36" N	72°29'6" E	Tube Well	59.21	57.20		
359	Gandhinagar	Kasturinagar(IFFCO)	23°11'25" N	72°33'10" E	Tube Well	14.15	7.65	14.47	14.51
360	Gandhinagar	Kharoj Dabhi Pz I	23°22'48" N	72°31'12" E	Tube Well	142.93			138.75
361	Gandhinagar	Kharoj Dabhi Pz II	23°22'48" N	72°31'12" E	Tube Well	158.79	146.68		
362	Gandhinagar	Lakroda Pz	23°25'48" N	72°47'24" E	Tube Well	75.10			
363	Gandhinagar	Lodra	23°27'50" N	72°43'13" E	Tube Well	52.40			
364	Gandhinagar	Mansa	23°25'23" N	72°39'54" E	Tube Well	180.36	119.65	121.82	119.54
365	Gandhinagar	Nardipur i	23°19'55" N	72°34'0" E	Tube Well	96.89	97.15		
366	Gandhinagar	Padusma Pz I	23°29'39" N	72°37'18" E	Tube Well	183.35			
367	Gandhinagar	Paliya	23°10'45" N	72°50'30" E	Dug Cum Bore Well	17.52	13.10		
368	Gandhinagar	Pethapur_Pz-I	23°16'2" N	72°40'23" E	Tube Well	107.24			111.82
369	Gandhinagar	Pethapur_Pz-II	23°16'2" N	72°40'23" E	Tube Well	76.76			82.40
370	Gandhinagar	Pethapur_Pz-III	23°16'2" N	72°40'23" E	Tube Well				34.86
371	Gandhinagar	Sardhav Pz -I	23°17'50" N	72°34'26" E	Tube Well	122.94	120.60	136.98	121.00

372	Gandhinagar	Sardhav Pz-II	23°17'50" N	72°34'26" E	Tube Well		132.18	144.30	
373	Gandhinagar	Serthapara1	23°11'40" N	72°34'0" E	Dug Well	20.45		15.40	17.33
374	Gir Somnath	Ajotha	20°54'7" N	70°31'5" E	Dug Well	20.67	0.00		4.41
375	Gir Somnath	Alwani	21°13'50" N	70°38'15" E	Dug Well				0.68
376	Gir Somnath	Amervel Nes	21°0'32" N	70°43'33" E	Dug Well			1.07	2.90
377	Gir Somnath	Ankolvadi	21°2'50" N	70°39'30" E	Dug Cum Bore Well	10.31			
378	Gir Somnath	Ankolvadi 1	21°2'49" N	70°39'53" E	Dug Well	19.90	2.15	2.80	
379	Gir Somnath	Bhim Deval	20°58'39" N	70°36'33" E	Dug Well	9.54	2.50	9.20	10.15
380	Gir Somnath	Dhokadva	20°57'30" N	71°4'15" E	Dug Well	10.80	9.88	10.14	9.68
381	Gir Somnath	Gangda_Pz	20°51'30" N	71°10'0" E	Tube Well	6.70	0.58	2.02	2.92
382	Gir Somnath	Girgadhada	20°55'30" N	70°55'0" E	Dug Well	6.75	1.84	3.30	17.82
383	Gir Somnath	Govindpura2	20°56'45" N	70°23'45" E	Dug Well	28.35	5.80	6.00	8.09
384	Gir Somnath	Jambur[madhapar	21°1'45" N	70°36'30" E	Dug Well	6.04	2.47	3.11	3.76
385	Gir Somnath	Jamvala	20°59'5" N	70°46'10" E	Bore Well	5.10	1.25		7.82
386	Gir Somnath	Jamvala1	20°59'0" N	70°45'45" E	Dug Well	5.77	4.12	5.55	5.52
387	Gir Somnath	Jargla Jargali	20°52'51" N	70°59'3" E	Dug Well	7.50	0.94	5.80	12.08
388	Gir Somnath	Kansari	20°52'12" N	71°3'4" E	Dug Well	9.75	1.59	2.34	5.26
389	Gir Somnath	Kesariya1	20°47'47" N	70°56'31" E	Dug Well	16.65	1.25	2.25	13.38
390	Gir Somnath	Kodinar	20°48'0" N	70°41'30" E	Tube Well	9.58	1.46	2.78	5.14
391	Gir Somnath	Kodinar1	20°48'0" N	70°41'30" E	Dug Well	13.48	2.37	5.01	8.18
392	Gir Somnath	Moraj	20°59'0" N	70°26'10" E	Dug Well	9.85	1.98	8.30	10.11
393	Gir Somnath	Prachi_Pz	20°55'19" N	70°36'48" E	Tube Well	8.12	3.12	4.80	6.52
394	Gir Somnath	Prasli	20°51'3" N	70°40'9" E	Dug Well	11.95	0.81	2.20	12.56
395	Gir Somnath	Sametar	20°51'15" N	71°7'15" E	Dug Well	9.75	3.55	5.48	4.65
396	Gir Somnath	Talala_Pz	21°3'50" N	70°32'18" E	Bore Well				8.28
397	Gir Somnath	Talala1	21°3'5" N	70°31'30" E	Dug Well	9.04	2.29	5.26	8.58
398	Gir Somnath	Una1	20°49'30" N	71°2'40" E	Tube Well		4.90		
399	Gir Somnath	Una2	20°49'30" N	71°2'30" E	Dug Well	6.50		5.18	3.42
400	Jamnagar	Amran_Pz	22°49'20" N	70°32'45" E	Bore Well	3.31	0.60		
401	Jamnagar	Amran1	22°49'45" N	70°33'45" E	Dug Well	0.91	0.67	0.76	2.55
402	Jamnagar	Balwa	21°54'15" N	69°57'30" E	Dug Well	12.73	1.90		11.44
403	Jamnagar	Bed1	22°26'15" N	69°54'0" E	Dug Well	6.63	2.02	5.04	5.49
404	Jamnagar	Bedanpur	22°41'0" N	70°19'0" E	Dug Well	1.81	0.53	1.02	1.02
405	Jamnagar	Changa	22°21'0" N	70°2'30" E	Dug Cum Bore Well	10.46	1.01	4.00	8.25
406	Jamnagar	Dhrol1	22°33'45" N	70°25'30" E	Bore Well			0.15	
407	Jamnagar	Dhrol2	22°34'0" N	70°25'0" E	Dug Well	3.66	0.00		1.71
408	Jamnagar	Drafa	21°57'30" N	70°4'30" E	Dug Well	5.59		10.03	2.77
409	Jamnagar	Dudhai2	22°47'30" N	70°30'15" E	Dug Well	3.06	0.58	1.60	1.05
410	Jamnagar	Falla 1	22°32'1" N	70°18'51" E	Dug Well	7.66	0.00		2.41
411	Jamnagar	Gordhanpur	22°27'0" N	70°0'5" E	Dug Well	3.05	1.18	1.50	3.55
412	Jamnagar	Haripur2	22°16'15" N	70°20'0" E	Dug Cum Bore Well	17.16	0.32	1.21	5.88
413	Jamnagar	Haryana	22°36'30" N	70°15'45" E	Dug Well			2.31	4.28
414	Jamnagar	Jambuda	22°31'30" N	70°12'15" E	Dug Well	7.71	1.08	1.74	3.95
415	Jamnagar	Jamjodhpur	21°54'20" N	70°1'50" E	Bore Well	4.39	1.24		4.81
416	Jamnagar	Jamnagar1	22°28'15" N	70°3'0" E	Bore Well	6.32	0.42	0.35	2.79
417	Jamnagar	Jamnagar2	22°27'30" N	70°4'45" E	Dug Well	5.97	0.96		1.88
418	Jamnagar	Kalavad1	22°12'59" N	70°23'20" E	Bore Well			2.30	
419	Jamnagar	Kalawad	22°13'0" N	70°23'0" E	Dug Well	3.10	2.34		2.81
420	Jamnagar	Kesia	22°41'47" N	70°23'49" E	Dug Well	9.10	1.70	3.01	5.85
421	Jamnagar	Lalpur	22°11'30" N	69°56'20" E	Bore Well			5.96	
422	Jamnagar	Lalpur1	22°11'30" N	69°57'40" E	Dug Well	7.65	5.27		5.10
423	Jamnagar	Manapur	22°1'8" N	69°53'2" E	Dug Well			5.98	
424	Jamnagar	Motagop	22°2'15" N	69°52'30" E	Dug Well	5.08	0.05	9.52	9.52
425	Jamnagar	Moti khavdi	22°23'15" N	69°52'0" E	Dug Well	4.02	1.15	2.43	3.20
426	Jamnagar	Moti matli	22°19'0" N	70°15'50" E	Dug Well	20.23	0.70	1.75	4.05

427	Jamnagar	Nikava	22°11'30" N	70°32'0" E	Dug Well	2.24	1.92	2.02	2.25
428	Jamnagar	Seth vadala	22°2'0" N	70°7'30" E	Dug Well	6.98	1.15	4.20	2.85
429	Jamnagar	Sumana	22°6'30" N	70°10'0" E	Dug Well	7.66	1.10	2.13	4.35
430	Jamnagar	Toda	22°3'45" N	70°23'0" E	Dug Well	0.01	0.00	0.60	1.49
431	Jamnagar	Vad panchasara	22°14'0" N	70°7'0" E	Dug Well	15.85	1.39	3.05	4.55
432	Jamnagar	Vijarkha	22°25'0" N	70°11'0" E	Dug Well	2.41	0.71	2.10	2.10
433	Junagadh	Anandpur	21°24'37" N	70°31'5" E	Dug Well	12.17	1.75	3.90	5.55
434	Junagadh	Arena	21°4'50" N	70°10'35" E	Dug Well	10.70	2.09	5.33	6.98
435	Junagadh	Bamanwara	21°13'15" N	70°3'20" E	Dug Well	9.26	0.85	4.31	6.14
436	Junagadh	Bantva	21°29'15" N	70°5'0" E	Dug Well	10.50	0.00	5.85	5.67
437	Junagadh	Bhatsimroli	21°13'25" N	70°11'0" E	Dug Well		1.06	5.92	18.40
438	Junagadh	Bilkha	21°26'20" N	70°36'0" E	Dug Well	7.38	1.67	4.70	4.15
439	Junagadh	Budhecha	21°5'45" N	70°13'0" E	Dug Well	6.88	0.76		5.52
440	Junagadh	Chokli	21°36'7" N	70°32'30" E	Dug Well	16.31	1.18	4.30	6.95
441	Junagadh	Chorwad	21°2'30" N	70°13'0" E	Dug Well	6.38	0.00		4.68
442	Junagadh	Gadu	21°3'15" N	70°16'45" E	Tube Well	44.20	8.84	23.40	25.53
443	Junagadh	Galodar	21°8'50" N	70°16'30" E	Dug Well	7.37	5.07	9.86	12.18
444	Junagadh	Goraj1	21°11'0" N	70°9'15" E	Dug Well	32.55	1.55	7.50	16.00
445	Junagadh	Junagadh	21°30'34" N	70°27'44" E	Bore Well	12.10	4.35	6.80	10.25
446	Junagadh	Junagadh1	21°31'0" N	70°27'30" E	Dug Well	7.10	0.00	1.40	1.92
447	Junagadh	Juthal	21°10'0" N	70°16'0" E	Dug Well	6.34	4.40	6.33	6.71
448	Junagadh	Kalej	21°14'55" N	70°3'30" E	Dug Well	6.10	0.37	4.40	3.35
449	Junagadh	Kanek	21°1'50" N	70°14'30" E	Dug Well	10.01	1.87	3.80	5.76
450	Junagadh	Kasia Naka Check Post	21°16'13" N	70°40'50" E	Dug Well		1.75		1.52
451	Junagadh	Kenedipur	21°16'20" N	70°28'47" E	Bore Well	3.21	0.51	2.15	1.62
452	Junagadh	Kewarda	21°16'0" N	70°12'30" E	Dug Well	12.25	3.00	9.49	14.30
453	Junagadh	Khambalia1	21°2'40" N	70°11'30" E	Dug Well	8.44	6.31	9.13	8.41
454	Junagadh	Khokharda	21°25'15" N	70°19'0" E	Dug Well	17.40	0.77	2.00	5.80
455	Junagadh	Khorada1	21°3'50" N	70°10'25" E	Dug Well	7.31	0.40	4.23	2.20
456	Junagadh	Khoras ahir	21°22'15" N	70°20'20" E	Dug Well	15.75	0.30	4.74	7.75
457	Junagadh	Kukaswada	21°3'15" N	70°12'30" E	Dug Well	11.34	3.01	5.43	8.32
458	Junagadh	Lohej	21°10'0" N	70°40" E	Dug Well	9.01	6.61	9.30	9.60
459	Junagadh	Maktupur1	21°8'35" N	70°5'45" E	Dug Well	7.21	4.08	9.50	7.50
460	Junagadh	Mandawad	21°21'30" N	70°44'45" E	Dug Well	13.02	2.83	5.91	12.51
461	Junagadh	Mangrol	21°7'30" N	70°6'30" E	Tube Well	16.77	12.53	16.60	16.72
462	Junagadh	Mangrol1	21°7'50" N	70°7'10" E	Dug Well	9.40	5.63	9.84	9.59
463	Junagadh	Manketara	21°9'0" N	70°7'45" E	Dug Well	13.14	9.61	13.20	14.43
464	Junagadh	Mendarda	21°19'30" N	70°26'25" E	Bore Well			9.15	
465	Junagadh	Mendarda1	21°19'30" N	70°26'0" E	Dug Well	15.74	1.69	9.60	14.50
466	Junagadh	Patla	21°36'15" N	70°34'9" E	Dug Well	9.38	0.55	2.98	4.52
467	Junagadh	Prempara	21°18'0" N	70°42'0" E	Dug Well	18.20	3.61	5.82	10.50
468	Junagadh	Saradiya	21°35'19" N	70°2'15" E	Dug Well	7.03	0.00	2.40	10.35
469	Junagadh	Sepa	21°7'0" N	70°13'10" E	Dug Well	20.30	1.91	18.20	19.78
470	Junagadh	Seriakhan	21°8'0" N	70°14'55" E	Dug Well	17.33	4.63	15.03	17.03
471	Junagadh	Shardagram	21°6'15" N	70°9'10" E	Dug Well		7.70	9.50	10.32
472	Junagadh	Sil	21°11'8" N	70°2'47" E	Dug Well	4.72	0.12	5.94	4.54
473	Junagadh	Sil bandar	21°13'25" N	70°3'20" E	Dug Well	2.89	1.88	4.85	2.93
474	Junagadh	Vadal	21°36'32" N	70°30'8" E	Dug Well		1.58	3.70	7.45
475	Junagadh	Vanthali ii	21°28'15" N	70°19'40" E	Dug Well	7.93	1.15	3.59	3.22
476	Junagadh	Visavadar	21°20'20" N	70°44'55" E	Bore Well	17.37	5.50		8.73
477	Kachchh	Asambia mota_Pz	22°58'5" N	69°27'5" E	Tube Well	8.50	5.57		2.17
478	Kachchh	Asambia mota1	22°58'5" N	69°26'15" E	Dug Well	16.45	5.50	7.35	4.18
479	Kachchh	Balasar	23°50'40" N	70°40'10" E	Tube Well	8.37	3.00	6.35	7.62
480	Kachchh	Bambhdai	22°56'20" N	69°4'58" E	Dug Well	4.58	2.62	3.20	3.72
481	Kachchh	Bhadreshwar	22°54'0" N	69°54'0" E	Dug Well	9.20	2.80	2.65	3.03
482	Kachchh	Bhuj (Circuit House)	23°15'0" N	69°40'0" E	Dug Well	20.19	18.07	16.42	13.72
483	Kachchh	Chandranagar	23°27'0" N	69°24'0" E	Dug Well	8.67	7.10	8.40	8.67

484	Kachchh	Dayapar1	23°38'0" N	68°52'15" E	Dug Well	23.00			
485	Kachchh	Desalpur	23°12'10" N	69°26'45" E	Tube Well	7.55	2.90	5.85	5.25
486	Kachchh	Deshalpur rapar	23°44'50" N	70°40'45" E	Dug Well	15.22	5.05	8.95	11.92
487	Kachchh	Devisar	23°24'10" N	69°19'45" E	Dug Well	13.43	12.70	12.85	12.04
488	Kachchh	Dholavira	23°53'0" N	70°13'0" E	Dug Well	11.63	2.90	5.70	6.97
489	Kachchh	Dhori1	23°26'0" N	69°45'15" E	Dug Well	12.13			
490	Kachchh	Dunai	23°3'0" N	69°30'0" E	Dug Well	13.01	4.69	7.36	8.01
491	Kachchh	Gadhsisa	23°6'22" N	69°20'28" E	Tube Well	67.55	64.20	69.05	67.01
492	Kachchh	Gagodar	23°25'0" N	70°48'0" E	Dug Well	32.30	33.00	26.10	25.78
493	Kachchh	Gandhidham2	23°4'32" N	70°9'5" E	Dug Well	12.40			
494	Kachchh	Haboi	23°21'30" N	69°52'0" E	Dug Well	0.62	0.00	0.19	0.44
495	Kachchh	Kakarwa	23°28'30" N	70°24'15" E	Dug Well		17.45	17.45	17.45
496	Kachchh	Karagoga	22°56'30" N	69°39'45" E	Dug Well	2.58	1.27	0.50	0.47
497	Kachchh	Kharai_1	23°27'47" N	68°41'8" E	Dug Well	1.42			
498	Kachchh	Kharoi	23°27'15" N	70°21'0" E	Dug Well	7.11	2.35	2.60	4.00
499	Kachchh	Khavada	23°50'20" N	69°43'50" E	Dug Well	6.34	5.49	4.59	5.54
500	Kachchh	Khavda	23°50'40" N	69°43'55" E	Tube Well	8.10	7.30	5.90	6.25
501	Kachchh	Kotada	23°22'37" N	69°11'57" E	Dug Well	37.00	37.00		39.80
502	Kachchh	Kotaya	23°2'30" N	69°4'30" E	Dug Well	13.60	8.90	10.00	10.30
503	Kachchh	Kuda	23°32'4" N	70°26'25" E	Dug Well	26.67	16.30	19.85	27.30
504	Kachchh	Lakhpat	23°49'23" N	68°46'30" E	Dug Well	6.70	5.08	3.30	3.95
505	Kachchh	Lilpur	23°30'40" N	70°39'0" E	Dug Well	0.50	0.30	0.67	0.98
506	Kachchh	Lodai	23°24'0" N	69°53'30" E	Dug Cum Bore Well	16.91	15.20	14.75	15.34
507	Kachchh	Luni	22°52'24" N	69°48'42" E	Dug Well	8.86	5.90	4.45	4.82
508	Kachchh	Madhapor	23°13'55" N	69°41'50" E	Tube Well	55.07	45.67	48.57	47.67
509	Kachchh	Mandvi	22°50'32" N	69°22'15" E	Tube Well	30.85	17.15	19.55	20.85
510	Kachchh	Mata no madh	23°32'0" N	68°57'0" E	Dug Well	9.04	5.51	7.72	6.59
511	Kachchh	Mathak1	22°59'50" N	70°1'30" E	Dug Well	3.87	11.65		
512	Kachchh	Mokha	22°57'0" N	69°48'0" E	Dug Cum Bore Well	17.66			
513	Kachchh	Mothala	23°12'30" N	69°7'30" E	Dug Well	3.08	2.24	1.78	1.94
514	Kachchh	Moti cher	23°45'30" N	68°40'30" E	Dug Well	3.15	1.74	1.96	2.03
515	Kachchh	Mundra	22°49'40" N	69°43'15" E	Tube Well	6.60	1.30	2.45	2.90
516	Kachchh	Naliya	23°15'21" N	68°50'24" E	Tube Well	13.34	11.15	11.35	10.92
517	Kachchh	Naliya (Bus S)	23°16'0" N	68°50'0" E	Dug Well	10.42	8.04	7.54	8.69
518	Kachchh	Nirona	23°27'55" N	69°31'30" E	Tube Well	19.02	17.40	20.50	17.35
519	Kachchh	Palaswa Pz II	23°28'18" N	70°55'15" E	Tube Well	3.30	1.80	2.05	2.67
520	Kachchh	Panchasar Pz I	23°32'53" N	70°46'13" E	Tube Well	100.28	94.55	10.15	11.62
521	Kachchh	Panchasar Pz II	23°32'53" N	70°46'13" E	Tube Well	30.10	29.95	30.65	30.68
522	Kachchh	Rapar	23°34'30" N	70°38'30" E	Tube Well	23.35	22.55	23.00	22.50
523	Kachchh	Rapar2	23°34'0" N	70°38'15" E	Dug Well	28.46	24.96	27.08	26.02
524	Kachchh	Ratanpur Khadir1	23°51'39" N	70°21'47" E	Dug Well	17.81	8.00	8.55	9.75
525	Kachchh	Ratanpur(maum.)	23°6'30" N	69°17'30" E	Dug Well	2.90	0.00	2.25	2.32
526	Kachchh	Rawapar	23°31'0" N	69°4'30" E	Dug Well	14.70			
527	Kachchh	Rudramata	23°23'30" N	69°42'30" E	Dug Well	11.40	2.86	2.92	3.82
528	Kachchh	Samkhiari	23°18'0" N	70°30'30" E	Dug Well	3.62	1.45	16.55	3.30
529	Kachchh	Sedat	23°10'17" N	69°38'15" E	Dug Well	11.43	10.60	11.20	11.00
530	Kachchh	Shinaya	23°2'0" N	70°3'15" E	Dug Well	5.85	1.22	1.65	1.22
531	Kachchh	Sudana Vandh Pz I	23°39'14" N	70°32'20" E	Tube Well	5.00	4.60	5.85	5.38
532	Kachchh	Sudana Vandh Pz II	23°39'14" N	70°32'20" E	Tube Well	4.70	4.51	4.00	3.90
533	Kachchh	Sukhpar	23°12'30" N	69°37'0" E	Dug Well	15.28	13.10	12.15	11.85
534	Kachchh	Suthri	23°2'2" N	68°54'55" E	Dug Well			9.45	10.15
535	Kachchh	Tera	23°17'0" N	68°56'50" E	Dug Well	12.37	11.87	9.62	9.40
536	Kachchh	Ugardi	23°27'47" N	69°8'17" E	Dug Well	30.46	28.10	23.35	26.40
537	Kachchh	Vadala	22°54'58" N	69°51'20" E	Dug Well	12.00	3.95	4.25	6.10
538	Kachchh	Vinjhan1	23°6'0" N	69°1'30" E	Dug Well	8.05	2.05	2.50	3.47
539	Kheda	Alina	22°48'30" N	73°3'30" E	Dug Well	9.25	8.36	8.38	8.47

540	Kheda	Alindra	22°42'3" N	72°58'36" E	Dug Well	11.50	6.15	8.73	11.03
541	Kheda	Boriyavi	22°38'8" N	72°54'33" E	Dug Well	9.76	5.91		
542	Kheda	Dakor	22°45'45" N	73°10'10" E	Dug Well	6.54	4.05	5.17	5.52
543	Kheda	Kalesar	22°43'15" N	73°11'30" E	Dug Well	2.65	0.50	1.85	2.23
544	Kheda	Kapadvanj	23°0'15" N	73°5'30" E	Dug Well	11.12	2.82	5.74	8.16
545	Kheda	Kheda	22°44'15" N	72°42'15" E	Dug Well	6.86	3.82	2.05	2.40
546	Kheda	Ladvel	22°54'30" N	73°7'15" E	Dug Well	1.80	0.10	1.18	1.44
547	Kheda	Mahudha	22°47'0" N	72°56'30" E	Dug Well	4.15	1.65	2.95	2.80
548	Kheda	Matar I	22°42'35" N	72°40'5" E	Tube Well	16.92	15.82	14.82	16.92
549	Kheda	Matar II	22°42'35" N	72°40'5" E	Tube Well	9.58	3.33	4.71	6.40
550	Kheda	Muliyat	22°46'59" N	73°10'36" E	Dug Well	1.30	0.30	1.37	1.37
551	Kheda	Nadiad Pz-I	22°42'40" N	72°52'0" E	Tube Well	20.20	14.82	18.50	18.30
552	Kheda	Nes_Pz	22°42'30" N	73°12'10" E	Tube Well	10.17	1.14	8.17	8.42
553	Kheda	Sarkhej_I	22°59'10" N	72°52'50" E	Tube Well	32.05	32.00	23.90	23.95
554	Kheda	Sarkhej_II	22°59'10" N	72°52'50" E	Tube Well	32.95	32.95	29.42	25.45
555	Kheda	Sarkhej_Pz-III	22°59'10" N	72°52'50" E	Tube Well	36.60	36.15	34.08	34.00
556	Kheda	Shekhupura	22°34'30" N	72°37'30" E	Dug Well	0.55	0.10	0.05	0.30
557	Kheda	Thasra	22°47'40" N	73°12'40" E	Tube Well			2.95	2.92
558	Kheda	Vaso	22°39'40" N	72°45'15" E	Tube Well	6.35	0.04	4.95	6.75
559	Kheda	Vyas vasna	23°6'20" N	73°6'15" E	Bore Well	23.85	12.10	11.32	13.42
560	Mahesana	Asjol	23°30'30" N	72°11'0" E	Dug Well	5.69		2.10	3.32
561	Mahesana	Bhalu Moti Pz I	24°2'24" N	72°42'36" E	Bore Well		14.45	15.89	16.57
562	Mahesana	Bhandupara	23°43'30" N	72°23'0" E	Dug Well	9.11	6.76	7.29	7.60
563	Mahesana	Budasan	23°17'15" N	72°22'30" E	Dug Well	4.93	2.13	2.92	3.60
564	Mahesana	Daran_Pz-I	23°12'23" N	72°16'47" E	Tube Well	101.40	92.73	104.55	105.03
565	Mahesana	Daran_Pz-II	23°12'23" N	72°16'47" E	Tube Well	44.81	44.63	44.63	44.67
566	Mahesana	Daran_Pz-III	23°12'23" N	72°16'47" E	Tube Well	2.58			
567	Mahesana	Dharpura	23°32'45" N	72°6'45" E	Dug Well	7.72	5.96	5.15	5.27
568	Mahesana	Dosaj	23°50'30" N	72°27'0" E	Dug Well	16.85	11.48	11.11	12.06
569	Mahesana	Jaska(Sy_4")Pz_II	23°49'25" N	72°32'5" E	Tube Well	16.16	16.26	17.76	16.18
570	Mahesana	Jotana Pzi	23°28'26" N	72°17'16" E	Tube Well	137.65	124.55	142.90	146.08
571	Mahesana	Jotana Pzii	23°28'26" N	72°17'16" E	Tube Well				18.18
572	Mahesana	Jotana Pziii	23°28'0" N	72°17'50" E	Tube Well	17.18		16.42	
573	Mahesana	Kalyanpur	23°7'37" N	72°11'35" E	Tube Well	4.33			
574	Mahesana	Karalli (i)	23°48'15" N	72°29'10" E	Tube Well	133.89	133.90	142.50	143.12
575	Mahesana	Karalli (iii)	23°48'15" N	72°29'10" E	Tube Well	11.90	12.50	10.75	11.33
576	Mahesana	Karalli II	23°48'15" N	72°29'10" E	Tube Well	48.56	46.08	48.32	48.64
577	Mahesana	Kheralu (deep)	23°53'52" N	72°36'38" E	Tube Well	49.08	46.52	47.66	48.37
578	Mahesana	Kheralu(shallow)	23°53'52" N	72°36'38" E	Tube Well	3.99	2.05	2.15	3.22
579	Mahesana	Kheralu1	23°53'15" N	72°36'45" E	Dug Well	9.85	7.43	12.58	8.52
580	Mahesana	Maguna	23°34'40" N	72°17'20" E	Dug Well	7.45	6.17	4.43	5.47
581	Mahesana	Mau	23°30'37" N	72°31'9" E	Tube Well	9.23	8.20	7.93	8.14
582	Mahesana	Mehsana IV	23°35'51" N	72°23'55" E	Tube Well		29.43		
583	Mahesana	Mehsana v	23°35'51" N	72°23'55" E	Tube Well	29.84			
584	Mahesana	Mehsana I	23°35'51" N	72°23'55" E	Tube Well	154.13		152.33	154.87
585	Mahesana	Mehsana II	23°35'51" N	72°23'55" E	Tube Well	154.33		153.02	155.42
586	Mahesana	Mehsana III	23°35'51" N	72°23'55" E	Tube Well	102.35		101.62	103.88
587	Mahesana	Mewad	23°32'0" N	72°23'0" E	Tube Well	16.58	14.04	13.81	13.89
588	Mahesana	Modhera i	23°43'0" N	72°28'0" E	Tube Well	9.26	6.82	6.44	6.94
589	Mahesana	Modhera iii	23°43'0" N	72°28'0" E	Tube Well	10.21	7.90	6.91	7.62
590	Mahesana	Motipura_Pz_I	23°32'2" N	72°36'15" E	Tube Well	155.32			
591	Mahesana	Motipura_Pz_II	23°32'2" N	72°36'15" E	Tube Well	53.97		59.50	
592	Mahesana	Nani Hirvani Pz	23°52'53" N	72°32'49" E	Tube Well	78.80	73.53	91.68	92.43
593	Mahesana	Padhadya	23°31'21" N	72°32'0" E	Tube Well	12.35	11.52	11.21	11.43
594	Mahesana	Panchot	23°37'45" N	72°20'30" E	Dug Well	4.84	1.55	3.20	4.29
595	Mahesana	Rampura1	23°53'30" N	72°31'0" E	Dug Well	11.63	8.84	9.21	9.52
596	Mahesana	Ramvijaynagar Pz I	23°42'36" N	72°20'24" E	Tube Well	147.62	147.78	171.26	172.33
597	Mahesana	Ramvijaynagar Pz II	23°42'36" N	72°20'24" E	Tube Well	86.38	86.95	86.58	86.87

598	Mahesana	Ramvijaynagar Pz III	23°42'36" N	72°20'24" E	Tube Well	16.33	14.50	14.91	15.30
599	Mahesana	Sihi	23°48'0" N	72°21'0" E	Dug Well	12.08	8.76	8.46	7.98
600	Mahesana	Suraj	23°23'23" N	72°18'24" E	Tube Well	26.62	26.05	25.66	25.34
601	Mahesana	Tarabh	23°45'30" N	72°27'30" E	Dug Well	9.52	8.51	5.60	6.20
602	Mahesana	Thol Pz -IV	23°7'50" N	72°22'34" E	Tube Well	113.53	104.61	112.60	117.58
603	Mahesana	Timba_1	23°59'14" N	72°45'32" E	Dug Well	15.31	12.64	14.26	14.40
604	Mahesana	Unad1	23°50'45" N	72°43'0" E	Dug Well			22.72	22.72
605	Mahesana	Unawa	23°46'0" N	72°21'45" E	Dug Well	3.67	2.92		4.59
606	Mahesana	Unjha	23°47'52" N	72°23'40" E	Dug Well	6.40	2.66	4.35	6.58
607	Mahesana	Vidaj	23°14'50" N	72°18'0" E	Dug Cum Bore Well	2.26	0.80	0.69	1.14
608	Mahesana	Visnagar iv	23°42'0" N	72°32'0" E	Tube Well	4.43	1.89	2.61	3.88
609	Mahisagar	Balasinor	22°57'30" N	73°20'10" E	Bore Well	4.00	3.00	3.50	3.60
610	Mahisagar	Balasinor1	22°57'0" N	73°19'30" E	Dug Well	6.71	0.60	3.05	7.30
611	Mahisagar	Bar	23°10'5" N	73°24'40" E	Dug Well	5.39	0.25	2.54	3.18
612	Mahisagar	Bavaliya_Pz	23°18'24" N	73°33'18" E	Bore Well	27.65	1.07	5.75	17.95
613	Mahisagar	Gadhar	23°9'0" N	73°46'30" E	Dug Well	13.30	5.60	5.55	7.60
614	Mahisagar	Jokha	23°3'43" N	73°37'13" E	Dug Well	7.53	5.35	7.37	6.55
615	Mahisagar	Juna vasadra	23°50" N	73°21'45" E	Dug Well	7.20	0.55	2.42	2.83
616	Mahisagar	Kantha	23°10'42" N	73°39'8" E	Dug Well	1.95	0.80	2.00	2.65
617	Mahisagar	Khanpur	23°22'12" N	73°40'38" E	Dug Well	11.30	11.10	11.95	12.10
618	Mahisagar	Kothamba	23°1'10" N	73°31'10" E	Dug Well	2.81	2.04	4.34	3.40
619	Mahisagar	Limbadia peti	23°12'15" N	73°36'0" E	Dug Well	3.99	2.20	2.54	4.62
620	Mahisagar	Lunawada	23°7'45" N	73°36'30" E	Dug Well	9.62	3.96	5.40	7.05
621	Mahisagar	Malekpur1	23°13'50" N	73°44'10" E	Dug Well	3.35	0.88	2.30	2.65
622	Mahisagar	Pandarvada	23°22'30" N	73°38'0" E	Dug Well	15.56	1.21	7.61	15.56
623	Mahisagar	Santrampur	23°10'15" N	73°54'30" E	Bore Well	9.18	4.85	5.24	6.40
624	Mahisagar	Santrampur1	23°11'30" N	73°54'30" E	Dug Well	8.98	5.57	5.63	8.89
625	Mahisagar	Ucharpi Pz	23°7'9" N	73°28'18" E	Bore Well	17.47	8.35	11.42	13.10
626	Mahisagar	Virpur_Pz	23°11'35" N	73°29'7" E	Bore Well	5.40	0.20	4.70	5.66
627	Morbi	Amar nagar	22°56'0" N	70°48'30" E	Dug Well			1.70	1.41
628	Morbi	Bhalgam	22°26'30" N	71°5'0" E	Dug Well		0.73	6.57	8.07
629	Morbi	Chhatar	22°30'15" N	70°45'15" E	Dug Well	4.90		1.98	2.55
630	Morbi	Hadmatia	22°41'0" N	70°48'30" E	Dug Well	8.14		9.97	9.32
631	Morbi	Halvard2	23°1'15" N	71°11'15" E	Dug Well		1.82	3.01	3.64
632	Morbi	Jetpur Pithad	23°1'19" N	70°55'5" E	Dug Well		1.56	5.77	10.90
633	Morbi	Juna Devaliya 1	22°58'46" N	71°0'32" E	Dug Well		0.40	0.94	1.50
634	Morbi	Kalyanpur2	22°39'30" N	70°44'0" E	Dug Well		0.80	0.90	2.30
635	Morbi	Lajai	22°43'0" N	70°46'45" E	Dug Well	4.45		2.35	2.95
636	Morbi	Macchukunda	23°0'5" N	70°53'45" E	Dug Well			5.55	
637	Morbi	Malia	23°5'30" N	70°45'45" E	Dug Well	3.15	0.00	1.63	2.35
638	Morbi	Mathak	22°50'24" N	71°3'28" E	Dug Well				9.50
639	Morbi	Mathak2	22°50'30" N	71°3'30" E	Dug Well			9.70	
640	Morbi	Modpar1	22°54'0" N	70°40'0" E	Dug Well	1.43			1.46
641	Morbi	Morbi	22°49'30" N	70°51'30" E	Tube Well	2.33	0.88	1.90	2.02
642	Morbi	Morvi	22°49'0" N	70°50'30" E	Dug Well	1.57	1.83		1.92
643	Morbi	Mota dhansura	22°57'30" N	70°37'0" E	Dug Well	7.23	2.21	3.35	4.07
644	Morbi	Neknam	22°30'15" N	70°41'45" E	Dug Well	11.27	7.31		
645	Morbi	Nichi mandal	22°51'30" N	70°57'0" E	Dug Well		1.30	3.47	4.30
646	Morbi	Sarvad	23°0'23" N	70°42'25" E	Dug Well			0.75	1.52
647	Morbi	Sindhavadar	22°33'0" N	70°53'30" E	Dug Well		9.91	5.57	5.60
648	Morbi	Sukhpar1	23°0'30" N	71°17'0" E	Dug Well		14.86	2.00	1.82
649	Narmada	Agar(Rep)_Pz	22°1'52" N	73°39'24" E	Bore Well	10.46	6.77	8.80	11.05
650	Narmada	Almadi	21°36'32" N	73°30'39" E	Dug Well	7.35	0.15	1.60	3.65
651	Narmada	Amayar	21°32'50" N	73°46'0" E	Dug Well	9.25	1.17	2.97	2.70
652	Narmada	Baman Phalia_Pz	21°47'54" N	73°22'45" E	Bore Well	20.50		12.54	14.20
653	Narmada	Chikada	21°31'15" N	73°38'45" E	Dug Well	5.45	1.27	2.60	3.60
654	Narmada	Chuli	21°33'17" N	73°28'32" E	Dug Well	12.23	2.03	2.18	6.63

655	Narmada	Garudeshwar	21°53'30" N	73°39'0" E	Dug Well	11.40	7.76	10.15	9.65
656	Narmada	Hirapura	21°52'5" N	73°36'0" E	Dug Well	7.06			
657	Narmada	Jankh	21°29'32" N	73°35'49" E	Dug Well	2.08	1.16	1.10	1.25
658	Narmada	Kanbi pitha	21°31'15" N	73°38'45" E	Dug Well	2.93	0.56	1.45	2.25
659	Narmada	Kewadia_Pz	21°52'58" N	73°42'2" E	Bore Well	5.88	5.03	2.30	3.35
660	Narmada	Khaidipada	21°30'50" N	73°31'10" E	Dug Well	6.00	0.84	1.80	1.10
661	Narmada	Khota amba	21°44'0" N	73°28'30" E	Dug Well	1.92	1.62	1.39	1.19
662	Narmada	Namaria	22°2'40" N	73°37'20" E	Dug Well	4.50	1.52	2.22	3.20
663	Narmada	Nani singlot	21°40'10" N	73°40'0" E	Dug Well	9.80	5.68	7.94	5.50
664	Narmada	Rajpipla	21°52'30" N	73°30'0" E	Tube Well	29.37	27.64	27.17	27.87
665	Narmada	Ralda	21°36'36" N	73°39'9" E	Dug Well		2.14	0.85	1.95
666	Narmada	Rasela	21°55'30" N	73°29'30" E	Dug Well				14.30
667	Narmada	Rasulpura_Pz	21°58'0" N	73°37'30" E	Tube Well	21.96	20.67	21.40	21.65
668	Narmada	Ringani	21°50'30" N	73°28'0" E	Dug Well	2.45	2.15	3.37	1.85
669	Narmada	Selemba 1	21°36'36" N	73°45'48" E	Dug Well	7.20	5.96	4.82	5.40
670	Narmada	Sunderpura_Pz	21°50'20" N	73°32'5" E	Bore Well			29.10	29.15
671	Narmada	Umran	21°29'17" N	73°52'59" E	Dug Well	7.65	2.12	1.70	2.95
672	Navsari	Abrama	20°51'45" N	72°54'0" E	Dug Well	1.40	0.00	0.80	1.05
673	Navsari	Chadav	20°49'52" N	73°20'4" E	Dug Well	9.70	1.70	4.20	4.60
674	Navsari	Chinam	20°59'30" N	72°53'10" E	Dug Well	3.83	1.43	3.13	3.20
675	Navsari	Dandi	20°53'30" N	72°48'30" E	Dug Well	4.80	1.50	2.10	2.25
676	Navsari	Doldha	20°48'24" N	73°13'39" E	Dug Well	3.80	1.80	4.90	5.12
677	Navsari	Duvada	20°49'43" N	73°3'27" E	Dug Well			4.90	5.14
678	Navsari	Hond	20°44'20" N	73°2'45" E	Dug Well	7.80	1.80	3.30	3.42
679	Navsari	Kaliyari	20°43'30" N	73°9'0" E	Dug Well	9.10	0.90	2.50	2.73
680	Navsari	Kantasel	20°47'50" N	73°17'30" E	Dug Well	8.20	2.55	3.55	3.70
681	Navsari	Khergam	20°38'0" N	73°5'45" E	Dug Well	7.90		4.00	4.16
682	Navsari	Khudvel	20°46'19" N	73°11'10" E	Dug Well		1.45	10.55	
683	Navsari	Manav Khadak	20°40'27" N	73°14'0" E	Dug Well	2.30	2.20	2.70	2.82
684	Navsari	Moti Valzar	20°48'18" N	73°16'0" E	Dug Well	7.75	3.45	3.35	3.73
685	Navsari	Navsari 1	20°57'29" N	72°56'6" E	Dug Well	4.77	0.27		7.07
686	Navsari	Onjal	20°50'0" N	72°50'30" E	Dug Well	5.25	1.15	3.95	4.02
687	Navsari	Panikhadak	20°38'57" N	73°10'1" E	Dug Well	13.50	3.10	6.30	6.46
688	Navsari	Parjan	21°0'40" N	72°50'21" E	Dug Well		3.70		
689	Navsari	Pipalkhed	20°40'30" N	73°17'0" E	Dug Well	17.45		7.95	
690	Navsari	Rankuva	20°48'45" N	73°9'30" E	Dug Well	7.48		3.00	3.71
691	Navsari	Rumla	20°41'21" N	73°9'32" E	Dug Well	9.40	3.50	7.00	7.76
692	Navsari	Sari_khurd	20°47'15" N	72°57'15" E	Dug Well	3.15	1.65	2.25	2.36
693	Navsari	Ubhrat	21°0'30" N	72°44'45" E	Dug Well			2.75	2.85
694	Navsari	Unai	20°51'0" N	73°20'30" E	Dug Well	9.56	3.10		9.56
695	Navsari	Vansda	20°45'52" N	73°21'47" E	Bore Well	11.65	3.85	10.45	10.93
696	Panchmahals	Chhabanpur	22°49'40" N	73°36'45" E	Dug Well	8.53	6.03	8.85	8.09
697	Panchmahals	Dhanol	22°45'31" N	73°30'24" E	Dug Well	1.21	0.48	0.65	1.10
698	Panchmahals	Godhra_UR1	22°47'34" N	73°36'24" E	Dug Well	5.08	2.68	3.86	2.73
699	Panchmahals	Godhra_UR2	22°46'9" N	73°35'28" E	Dug Well				4.05
700	Panchmahals	Godhra_UR3	22°46'48" N	73°36'25" E	Dug Well		0.78	1.53	5.88
701	Panchmahals	Godhra2	22°46'15" N	73°38'0" E	Dug Well	8.49	5.94	6.51	
702	Panchmahals	Jambughoda	22°22'10" N	73°43'30" E	Bore Well	6.58	4.53	5.95	6.25
703	Panchmahals	Jambughoda1	22°22'22" N	73°43'22" E	Dug Well	3.23		2.90	3.00
704	Panchmahals	Javan	22°24'5" N	73°41'6" E	Dug Well	7.91	1.95		
705	Panchmahals	Kalol_UR1	22°36'1" N	73°26'36" E	Dug Well	12.87	10.95	16.08	16.44
706	Panchmahals	Kalol_UR2	22°35'23" N	73°27'5" E	Dug Well	17.96	16.37	10.56	11.02
707	Panchmahals	Khadki_Vadiya	22°39'44" N	73°30'1" E	Dug Well	16.90	14.78	12.60	
708	Panchmahals	Morwa (Hadaf) Pz-I	22°55'5" N	73°50'40" E	Bore Well	11.70		10.26	11.50
709	Panchmahals	Natapur	22°51'26" N	73°49'14" E	Dug Well	8.49	5.03	6.15	6.90
710	Panchmahals	Palla Rajgarh Pz	22°31'22" N	73°42'3" E	Bore Well	20.08	4.28	7.25	11.45
711	Panchmahals	Pavagadh	22°29'15" N	73°33'20" E	Dug Well	8.51	1.88	4.38	5.30
712	Panchmahals	Ranipura	22°43'30" N	73°45'30" E	Dug Well	6.96	2.21	3.48	2.11

713	Panchmahals	Santroad1	22°48'12" N	73°47'35" E	Dug Well	12.95	6.75	10.10	
714	Panchmahals	Shehra	22°57'15" N	73°37'30" E	Dug Well	1.97	0.63	1.45	1.59
715	Panchmahals	Shivrajpur	22°25'30" N	73°35'30" E	Dug Well	9.69	2.35	5.60	7.28
716	Panchmahals	Suliyat	23°3'44" N	73°51'3" E	Dug Well	21.85	6.60	21.30	21.70
717	Panchmahals	Tarkanda	22°32'45" N	73°31'45" E	Dug Well	2.75	0.80	2.50	4.70
718	Panchmahals	Timbi2	22°30'30" N	73°30'30" E	Dug Well		1.32	4.00	7.43
719	Panchmahals	Tuwa	22°48'15" N	73°28'15" E	Dug Well	3.84	1.60	2.58	3.04
720	Panchmahals	Vejalpur	22°41'45" N	73°33'30" E	Dug Well	4.12	1.20	2.95	3.54
721	Patan	Bhutia vasna i	23°55'0" N	72°6'0" E	Tube Well	23.15	21.35	20.80	21.09
722	Patan	Biliya(Temple)_Pz_II	23°53'18" N	72°23'55" E	Tube Well	46.96	32.90		44.92
723	Patan	Dharmoda	23°41'50" N	72°4'10" E	Dug Well	3.37	0.00	0.67	0.87
724	Patan	Dhinoj1	23°39'45" N	72°16'45" E	Dug Well	15.12	8.42	8.45	8.58
725	Patan	Jangral Pzi	23°41'41" N	71°41'38" E	Tube Well	179.42	176.82		155.58
726	Patan	Kakosi Pz-II	24°0'6" N	72°18'21" E	Tube Well	34.00	31.55	32.30	
727	Patan	Kanesara Pz	23°53'24" N	72°20'24" E	Tube Well	104.12	102.15	104.30	124.88
728	Patan	Kot Pz	23°53'59" N	72°24'34" E	Tube Well	96.47	95.71	97.45	101.47
729	Patan	Lukhasan	23°57'36" N	72°28'12" E	Tube Well	133.15	131.27	134.25	136.52
730	Patan	Matarwadi II	23°52'6" N	72°8'50" E	Tube Well	102.63	99.11	102.00	102.62
731	Patan	Moti chander	23°35'40" N	71°46'50" E	Dug Well	2.12	1.36	1.65	1.85
732	Patan	Nagwasan	23°56'52" N	72°27'47" E	Tube Well	98.20	93.92	96.40	103.30
733	Patan	Patan2	23°50'30" N	72°7'25" E	Dug Well	17.73	14.78	15.28	16.47
734	Patan	Piprala_1	23°39'17" N	71°5'9" E	Dug Well	10.76	10.30	10.70	10.55
735	Patan	Sander	23°46'0" N	72°15'15" E	Dug Cum Bore Well	11.95	4.71	11.30	
736	Patan	Sankheshwar	23°31'19" N	71°47'27" E	Tube Well	0.74			0.38
737	Patan	Shankhari	23°46'45" N	72°9'45" E	Dug Well	15.09	13.93	15.56	14.76
738	Patan	Sidhpur Naditat Pz I	23°55'29" N	72°23'54" E	Tube Well	87.62	84.95	87.60	85.66
739	Patan	Vanasan Pz	23°53'51" N	72°15'48" E	Tube Well	105.42			
740	Porbandar	Adityana	21°42'31" N	69°42'39" E	Dug Well	11.96	2.62	6.25	5.82
741	Porbandar	Adwana2	21°55'0" N	69°36'0" E	Dug Well	8.29	0.11	1.86	9.09
742	Porbandar	Babda	21°46'12" N	69°35'17" E	Dug Well	5.81	1.18	2.50	3.90
743	Porbandar	Bakharla	21°45'53" N	69°39'40" E	Dug Well	14.26	1.56	3.28	5.91
744	Porbandar	Balej	21°22'15" N	69°52'30" E	Dug Well	2.64	0.00	5.00	2.48
745	Porbandar	Bhavpura	21°48'35" N	69°24'30" E	Dug Well	3.85	0.73	1.83	4.21
746	Porbandar	Bhod	21°39'32" N	69°49'16" E	Dug Well	18.00	7.05	11.39	7.57
747	Porbandar	Degam	21°42'37" N	69°36'20" E	Dug Well			5.95	7.51
748	Porbandar	Hanumangadh1	21°47'35" N	69°48'10" E	Dug Well	5.15	1.38	1.57	3.22
749	Porbandar	Kadegi	21°27'2" N	69°59'0" E	Dug Well	0.55	0.02	0.00	0.90
750	Porbandar	Kandorna	21°38'52" N	69°53'0" E	Dug Well	15.68	1.59	3.68	6.36
751	Porbandar	Khambodar	21°48'30" N	69°36'5" E	Dug Well	5.56	2.01	2.70	1.60
752	Porbandar	Kolikhada	21°41'59" N	69°36'51" E	Dug Well	21.83	3.60	5.91	7.88
753	Porbandar	Kuchhadi	21°41'0" N	69°33'0" E	Dug Well	2.17	1.20	2.15	2.35
754	Porbandar	Kutiyana_Pz	21°37'20" N	69°59'50" E	Bore Well	4.40	0.62	3.15	6.82
755	Porbandar	Kutiyana1	21°37'50" N	70°1'0" E	Dug Well	4.63	1.54	2.53	8.60
756	Porbandar	Miyani	21°50'0" N	69°23'20" E	Dug Well	6.50	5.86	5.65	7.85
757	Porbandar	Mocha	21°20'54" N	69°53'21" E	Dug Well	3.32	0.48	6.00	3.23
758	Porbandar	Mojiwana	21°53'9" N	69°36'1" E	Dug Well	5.78	0.29	0.75	3.53
759	Porbandar	Nagka	21°49'17" N	69°38'57" E	Bore Well	9.62	0.00	0.84	4.20
760	Porbandar	Navibandar	21°26'45" N	69°47'30" E	Dug Well	1.58	1.52	3.48	2.37
761	Porbandar	Oddar	21°34'0" N	69°40'50" E	Dug Well	5.83	4.70	5.55	5.58
762	Porbandar	Palkhad1	21°45'30" N	69°29'15" E	Dug Well	10.10	1.14	1.93	5.93
763	Porbandar	Pata	21°17'50" N	69°56'30" E	Dug Well	3.60	2.01	4.70	3.75
764	Porbandar	Porbandar	21°38'42" N	69°38'33" E	Tube Well	1.92	0.73	2.20	2.76
765	Porbandar	Porbandar1	21°38'30" N	69°37'30" E	Dug Well	3.88	2.38	3.71	4.19
766	Porbandar	Ranavav2	21°41'0" N	69°44'45" E	Dug Well	10.95	0.35	4.30	4.10
767	Porbandar	Ratadi	21°43'13" N	69°30'43" E	Dug Well	6.05	1.30	2.55	5.39
768	Porbandar	Ratia	21°26'17" N	69°48'22" E	Dug Well	6.55	5.41	7.10	7.10
769	Porbandar	Simar	21°56'49" N	69°41'9" E	Dug Well	5.76	3.76	5.78	5.12

770	Porbandar	Tukda	21°30'58" N	69°43'43" E	Dug Well	2.98	1.48	2.53	2.53
771	Porbandar	Visavada Mul Dwarka	21°47'8" N	69°26'47" E	Dug Well	6.18	1.85	3.32	8.40
772	Rajkot	Bhada jodiya	21°39'45" N	70°20'30" E	Dug Well			1.44	3.18
773	Rajkot	Bhadla	22°11'0" N	71°5'30" E	Dug Well	12.70	2.02	8.35	6.00
774	Rajkot	Chordi	21°55'0" N	70°44'55" E	Dug Well	9.15	0.31	3.60	8.50
775	Rajkot	Dadia	22°5'30" N	70°44'0" E	Dug Well	10.27		4.77	9.27
776	Rajkot	Dhoraji	21°44'45" N	70°17'9" E	Dug Well	10.20	0.45	5.12	11.10
777	Rajkot	Ganod	21°40'30" N	70°10'45" E	Dug Well	6.74		2.40	3.70
778	Rajkot	Gogavadar	21°58'0" N	70°52'30" E	Dug Well	8.35	2.51	3.32	8.13
779	Rajkot	Halenda	22°5'30" N	71°3'0" E	Dug Well	1.70	0.27	0.80	1.23
780	Rajkot	Jamkandorna	21°53'50" N	70°29'30" E	Bore Well	11.20		11.43	12.56
781	Rajkot	Jamwali	21°56'0" N	70°46'0" E	Dug Well	2.33			
782	Rajkot	Jasapur	21°53'30" N	70°29'0" E	Dug Well	9.80		5.42	7.70
783	Rajkot	Jasdan	22°2'40" N	71°12'50" E	Bore Well	8.08	2.10	2.74	4.21
784	Rajkot	Jasdan2	22°3'30" N	71°13'15" E	Dug Well	5.55		1.63	5.95
785	Rajkot	Jetpur	21°45'22" N	70°37'10" E	Bore Well	4.98	1.26	5.17	5.44
786	Rajkot	Jetpur pithad.	21°46'30" N	70°38'0" E	Dug Well				6.01
787	Rajkot	Kalithad1	22°1'10" N	70°39'37" E	Dug Well	3.50	2.02	3.38	7.20
788	Rajkot	Kamlapur	22°8'45" N	71°12'0" E	Dug Well	10.65	1.88	3.65	6.75
789	Rajkot	Kamlapur1	22°9'7" N	71°11'59" E	Dug Well	6.05			
790	Rajkot	Khamta	22°28'30" N	70°33'0" E	Dug Well	8.10	0.47	1.43	2.08
791	Rajkot	Khirsara1	22°14'30" N	70°38'45" E	Dug Well	11.80			
792	Rajkot	Lalavadar	22°8'0" N	71°18'15" E	Dug Well	5.06	1.05	2.23	5.13
793	Rajkot	Lodhika	22°8'0" N	70°37'55" E	Bore Well	7.66	1.20	3.45	4.36
794	Rajkot	Lodhika1	22°8'30" N	70°38'30" E	Dug Well	7.57	0.88		4.31
795	Rajkot	Mota Dadwa	21°59'54" N	70°59'38" E	Dug Well			2.33	4.28
796	Rajkot	Motagundala	21°44'5" N	70°30'5" E	Dug Well		1.69	2.61	2.97
797	Rajkot	Movaiya	22°27'0" N	70°36'30" E	Dug Well	2.06	1.41		11.95
798	Rajkot	Padadhari1	22°26'50" N	70°36'30" E	Dug Well	5.60	1.95	2.85	4.05
799	Rajkot	Patanvav	21°38'40" N	70°15'40" E	Dug Well			3.28	7.20
800	Rajkot	Ranpur1	22°22'0" N	70°55'45" E	Dug Well	17.81	2.62	7.42	8.25
801	Rajkot	Ribda	22°7'30" N	70°46'0" E	Dug Well	8.82	0.93	2.02	6.05
802	Rajkot	Sardhar1	22°8'45" N	70°59'20" E	Dug Well	2.62	0.84		1.90
803	Rajkot	Targhari	22°23'0" N	70°40'0" E	Dug Well	5.62	1.37		
804	Rajkot	Umrali	21°55'10" N	70°36'15" E	Dug Well			4.93	11.90
805	Rajkot	Upleta1	21°44'55" N	70°16'30" E	Dug Well				5.64
806	Rajkot	Upleta3	21°40'13" N	70°10'58" E	Dug Well	13.12		5.80	
807	Rajkot	Vinchhia	22°12'30" N	71°22'45" E	Dug Well	2.18	1.65	1.91	1.98
808	Rajkot	Viranagar	22°1'30" N	71°7'30" E	Dug Well	5.20			
809	Rajkot	Virpur1	21°51'0" N	70°41'45" E	Dug Well	9.13	4.17	7.15	8.95
810	Sabarkantha	Abhapur	23°57'51" N	73°15'29" E	Dug Well	6.30	5.05	7.00	6.10
811	Sabarkantha	Anwarpura Pz	23°24'20" N	72°50'44" E	Tube Well	36.45	34.40	32.70	32.20
812	Sabarkantha	Atarsumba	23°59'10" N	73°12'30" E	Dug Well	7.81	1.13	2.60	3.84
813	Sabarkantha	Bhadreshwar	23°44'45" N	72°58'45" E	Dug Well	24.63	22.40	17.15	18.82
814	Sabarkantha	Boriya	23°14'34" N	72°56'27" E	Dug Well	7.93	7.22	6.76	6.98
815	Sabarkantha	Chandap_DW	23°55'24" N	72°51'12" E	Dug Well	16.45	5.77	15.69	14.77
816	Sabarkantha	Chandap_Pz	23°55'55" N	72°51'25" E	Bore Well	13.87	3.35	9.52	9.60
817	Sabarkantha	Choriwad	23°54'0" N	73°7'10" E	Dug Well	21.04	15.51	13.71	12.45
818	Sabarkantha	Derol Pz-II	23°35'58" N	72°54'9" E	Tube Well	46.81	43.90	44.20	45.80
819	Sabarkantha	Gadha	23°42'30" N	72°56'30" E	Dug Well	16.25	4.26	20.90	19.82
820	Sabarkantha	Harsoli1	23°22'40" N	73°1'0" E	Dug Well	14.04	2.98	6.49	14.65
821	Sabarkantha	Himmatnagar_Pz	23°36'30" N	72°58'15" E	Tube Well	8.50		6.73	6.05
822	Sabarkantha	Idar	23°50'30" N	73°2'15" E	Dug Well	9.09	5.65	4.85	6.00
823	Sabarkantha	Jhaloti	23°57'0" N	73°20'15" E	Dug Well		3.45	6.00	
824	Sabarkantha	Kesharpura	23°54'55" N	73°8'43" E	Dug Well	23.57	9.93	20.55	12.41
825	Sabarkantha	Kesharpura_Mayal	23°19'20" N	72°56'56" E	Dug Well	3.49	0.28	1.75	2.45
826	Sabarkantha	Khedbrahma_Pz	24°2'10" N	73°2'40" E	Bore Well	3.85	0.50	2.14	2.60
827	Sabarkantha	Khedbrahmha_1	24°1'45" N	73°3'0" E	Dug Well	13.75	2.52	7.50	15.19

828	Sabarkantha	Kherwada	23°58'10" N	73°14'1" E	Dug Well	5.82	2.37	4.10	3.96
829	Sabarkantha	Mathasuliya	23°36'9" N	73°9'16" E	Dug Well	6.49	2.38	3.48	4.30
830	Sabarkantha	Matoda	24°6'40" N	73°0'30" E	Dug Well	14.30	3.62	9.40	11.28
831	Sabarkantha	Poshina2	24°22'30" N	73°2'0" E	Dug Well	6.10	0.44	2.21	3.50
832	Sabarkantha	Revas	23°49'15" N	73°7'0" E	Dug Well	15.60	5.62	8.51	12.00
833	Sabarkantha	Sabalwad	23°52'27" N	72°57'47" E	Dug Well	23.71	6.35		21.25
834	Sabarkantha	Silwad	24°0'30" N	73°7'0" E	Dug Well	8.41	2.68	4.50	5.85
835	Sabarkantha	Umadpura	23°18'13" N	72°57'52" E	Dug Well	10.36	1.76	5.20	8.52
836	Sabarkantha	Varvada	23°26'31" N	73°3'24" E	Dug Well	13.87	7.83	12.75	13.60
837	Sabarkantha	Vijaynagar	24°0'30" N	73°21'15" E	Dug Well	4.40	0.50		
838	Sabarkantha	Vijaynagar_Pz	24°0'25" N	73°20'0" E	Bore Well	11.23	3.88	6.55	6.25
839	Sabarkantha	Virpur (Idar)	23°47'0" N	72°56'0" E	Dug Well		3.53	13.70	19.25
840	Sabarkantha	Virpur_1(Himmat)	23°39'6" N	72°57'14" E	Dug Well	14.67	4.07	8.73	13.65
841	Sabarkantha	Wadali	23°56'0" N	73°2'0" E	Dug Well	28.32	15.55		24.74
842	Sabarkantha	Waliampura Pz	23°21'4" N	72°58'15" E	Tube Well	39.67	38.37	37.40	37.57
843	Surat	Allu	21°3'45" N	73°11'30" E	Dug Well	3.55	2.55	3.75	3.90
844	Surat	Anita	21°23'58" N	72°51'21" E	Dug Well				5.33
845	Surat	Bardoli	21°6'55" N	73°6'0" E	Tube Well	6.85		3.45	3.60
846	Surat	Bhatkol	21°22'49" N	73°0'15" E	Dug Well	2.95	2.45	3.25	3.53
847	Surat	Chavada	21°28'29" N	73°35'42" E	Dug Well	3.30	0.70	1.50	2.07
848	Surat	Dungri	21°24'30" N	73°8'0" E	Dug Well		0.45	1.55	1.80
849	Surat	Gangadhra	21°7'7" N	73°4'31" E	Dug Well	10.85	4.95	5.05	5.47
850	Surat	Jhankhavav	21°27'0" N	73°19'45" E	Dug Well	7.40	3.00	4.60	5.10
851	Surat	Jhankhvav	21°28'0" N	72°57'10" E	Bore Well	9.65	4.15	3.15	3.30
852	Surat	Juna umarpada	21°27'30" N	73°29'30" E	Dug Well	4.90	1.50	5.10	5.58
853	Surat	Juna Umarpada2	21°26'57" N	73°29'12" E	Dug Well			3.80	4.85
854	Surat	Kadod 1	21°13'17" N	73°13'8" E	Dug Well	15.25			13.83
855	Surat	Kasal	21°19'20" N	73°7'37" E	Dug Well	8.40	2.30	3.40	3.59
856	Surat	Kathor	21°17'30" N	72°55'45" E	Dug Well	15.50	2.90	7.40	7.78
857	Surat	Katradevi	21°24'53" N	73°25'40" E	Dug Well	6.20	1.10	3.10	3.48
858	Surat	Mahuva2	21°1'15" N	73°8'45" E	Dug Well	17.75	6.05	16.15	16.95
859	Surat	Malda	21°22'0" N	73°21'0" E	Dug Well	10.60	2.60	4.90	5.19
860	Surat	Mandvi2	21°15'15" N	73°17'45" E	Dug Well	12.70	9.30	11.20	11.48
861	Surat	Mota	21°10'13" N	73°4'7" E	Dug Well	2.90	1.70	1.70	1.88
862	Surat	Moti Sarkui	21°16'45" N	73°20'59" E	Dug Well	5.55	2.15	7.95	8.38
863	Surat	Navi pardi	21°19'20" N	72°58'15" E	Dug Well	2.78	2.48	2.18	2.48
864	Surat	Nogama	21°17'27" N	73°12'52" E	Dug Well	1.54	1.14	1.64	2.02
865	Surat	Olpad2	21°20'30" N	72°45'30" E	Dug Well	1.50		1.10	1.26
866	Surat	Palsana	21°4'40" N	72°59'30" E	Dug Well	2.59	1.59	0.99	1.17
867	Surat	Paneshwar	21°27'15" N	73°11'54" E	Dug Well	11.90		8.00	8.42
868	Surat	Puna	20°55'25" N	73°14'0" E	Bore Well		6.60	6.90	7.48
869	Surat	Puna1	20°55'45" N	73°13'45" E	Dug Well	10.20	2.40	6.50	6.88
870	Surat	Sachin town	21°5'30" N	72°52'30" E	Dug Well	10.64			
871	Surat	Sarbhon	21°3'30" N	73°5'30" E	Dug Well	2.50	1.70	2.10	2.38
872	Surat	Sayan	21°18'20" N	72°54'39" E	Dug Well	7.80	1.80		
873	Surat	Sultanabad	21°5'30" N	72°43'30" E	Dug Well	5.41	2.91	4.61	4.83
874	Surat	Tadkeshwar	21°22'51" N	73°4'35" E	Dug Well	8.80		4.20	4.50
875	Surat	Ten-bardoli	21°7'0" N	73°6'0" E	Dug Well	6.10	1.60	2.80	3.23
876	Surat	Ushker	21°20'26" N	73°5'52" E	Dug Well	5.60	3.00	4.50	5.03
877	Surat	Vaheval	20°50'14" N	73°17'16" E	Dug Well	12.80	1.55	7.35	7.83
878	Surat	Wadoli	21°25'30" N	72°49'45" E	Dug Well	5.15			
879	Surendranagar	Adriyana	23°25'30" N	71°42'30" E	Dug Well		0.57		
880	Surendranagar	Anindra	22°48'37" N	71°42'21" E	Dug Well	2.98	0.03	2.63	1.18
881	Surendranagar	Bajana	23°7'0" N	71°47'0" E	Dug Well	1.48	0.00	2.21	1.83
882	Surendranagar	Bamanbor	22°25'0" N	71°2'30" E	Dug Well	10.28	3.26	5.43	7.00
883	Surendranagar	Chotila1	22°25'30" N	71°10'54" E	Bore Well	7.76	1.79		5.64
884	Surendranagar	Dasada	23°19'12" N	71°49'27" E	Tube Well	4.62	2.00	2.95	3.47
885	Surendranagar	Dasadal	23°19'15" N	71°49'45" E	Dug Well		1.68		2.97

886	Surendranagar	Dedadra	22°46'30" N	71°44'0" E	Dug Well	2.42		1.40	0.97
887	Surendranagar	Dhama	23°23'7" N	71°40'46" E	Dug Well	6.10	4.30	4.85	5.19
888	Surendranagar	Dhandhalpur 1	22°22'53" N	71°21'3" E	Dug Well	2.19			
889	Surendranagar	Dhrangadhra 2	22°59'33" N	71°29'53" E	Dug Well	8.22			
890	Surendranagar	Gamda	22°53'54" N	71°33'25" E	Dug Well			2.86	2.16
891	Surendranagar	Ghansyam Gadh	23°6'24" N	71°29'3" E	Dug Well			1.02	
892	Surendranagar	Jhinjhuvada	23°21'0" N	71°39'30" E	Dug Well	6.02	2.95	3.50	8.50
893	Surendranagar	Kharaghoda	23°11'15" N	71°45'0" E	Dug Well		2.15	1.00	1.85
894	Surendranagar	Kherwa	23°0'15" N	71°44'45" E	Dug Well	2.09		0.44	2.14
895	Surendranagar	Kukavati	23°7'22" N	71°28'47" E	Dug Well		1.50	3.22	3.90
896	Surendranagar	Lakhtar	22°51'30" N	71°47'0" E	Dug Well	5.34	3.10	3.77	5.81
897	Surendranagar	Latuda	22°48'47" N	71°36'29" E	Dug Well		0.02		
898	Surendranagar	Limbdi1	22°34'0" N	71°48'45" E	Dug Well				1.11
899	Surendranagar	Limbdi-Pz	22°34'20" N	71°48'30" E	Tube Well	2.51	0.20	1.32	1.81
900	Surendranagar	Modhvana	22°52'53" N	71°44'8" E	Dug Well		0.00	0.80	0.40
901	Surendranagar	Moti Moladi	22°25'15" N	71°6'37" E	Dug Well	8.12	0.98	3.10	5.35
902	Surendranagar	Muli	22°39'0" N	71°28'0" E	Dug Well	5.28	1.21	2.50	3.47
903	Surendranagar	Nava Raisngpur	22°44'31" N	71°15'42" E	Dug Well		11.20	15.90	20.75
904	Surendranagar	Olak	22°55'7" N	71°51'48" E	Dug Well		2.05	2.40	2.30
905	Surendranagar	Pipli	23°3'36" N	71°44'3" E	Dug Well		0.00	0.75	0.85
906	Surendranagar	Rajsitapur	22°50'30" N	71°35'30" E	Dug Well		0.40	2.29	2.72
907	Surendranagar	Ratanpur1	22°51'30" N	71°16'15" E	Dug Well		6.08	6.95	7.72
908	Surendranagar	Sara	22°48'0" N	71°11'50" E	Dug Well	11.46			
909	Surendranagar	Sarla	22°44'0" N	71°22'0" E	Dug Well	10.33	9.05	1.60	4.68
910	Surendranagar	Sayala	22°32'0" N	71°29'0" E	Bore Well	6.97	1.72		4.63
911	Surendranagar	Shiyani	22°40'0" N	71°49'45" E	Dug Well	3.92	2.30	2.70	2.70
912	Surendranagar	Soldi	22°59'38" N	71°24'56" E	Dug Well		20.12		
913	Surendranagar	Sudamda	22°27'15" N	71°29'6" E	Dug Well	3.50		2.18	3.40
914	Surendranagar	Surendranagar	22°43'25" N	71°40'15" E	Tube Well			1.30	1.28
915	Surendranagar	Surendranagar2	22°43'0" N	71°36'30" E	Dug Well	6.83		1.80	
916	Surendranagar	Tarnetar	22°38'30" N	71°13'0" E	Dug Well	15.80	13.25	14.35	13.15
917	Surendranagar	Tavi 1	22°43'13" N	71°51'6" E	Dug Well				0.00
918	Surendranagar	Than	22°34'45" N	71°11'59" E	Dug Well	7.95			
919	Surendranagar	Vanala	22°26'0" N	71°55'15" E	Dug Well		0.50	2.48	0.83
920	Surendranagar	Visawadi	23°20'30" N	71°44'0" E	Dug Well	4.55	2.35	2.78	3.05
921	Surendranagar	Vitthalgarh	22°59'15" N	71°58'30" E	Dug Well		2.91		
922	Tapi	Bedchit	20°57'0" N	73°21'5" E	Dug Well	8.90	2.70	4.80	
923	Tapi	Bhurvel (ukai)	21°13'30" N	73°34'45" E	Dug Well	5.00		3.20	3.44
924	Tapi	Chapawadi	21°9'5" N	73°23'37" E	Dug Well	7.70	2.50	2.90	3.09
925	Tapi	Gandhinagar	21°9'51" N	73°41'44" E	Dug Well		1.71	2.01	2.13
926	Tapi	Jesingpura[sg]	21°10'15" N	73°33'15" E	Dug Well	7.40	1.90	6.90	7.00
927	Tapi	Karanjvel	21°0'46" N	73°27'29" E	Dug Well	7.50		6.80	7.08
928	Tapi	Kelkui	21°2'31" N	73°19'24" E	Dug Well	1.20	0.90	2.70	2.78
929	Tapi	Khedwada (Ashram Falia)	21°16'52" N	73°27'55" E	Dug Well		7.10	3.30	5.80
930	Tapi	Kherwa	21°25'8" N	73°57'35" E	Dug Well			0.40	0.66
931	Tapi	Moticherher	21°12'45" N	73°21'44" E	Dug Well	2.00		1.60	2.18
932	Tapi	Nizar	21°28'50" N	74°12'0" E	Bore Well	11.35		13.25	13.75
933	Tapi	Nizar1	21°28'38" N	74°11'26" E	Dug Well	15.50		6.80	7.62
934	Tapi	Paniwara	21°32'22" N	74°4'10" E	Dug Well	7.45		4.25	5.85
935	Tapi	Tawali	21°22'34" N	73°54'6" E	Dug Well	8.46		6.00	6.53
936	Tapi	Uchchhal	21°10'19" N	73°46'9" E	Dug Well	10.30	3.70	6.50	6.73
937	Tapi	Vadade-Khurd	21°15'6" N	73°49'1" E	Dug Well	3.20		0.60	0.85
938	Tapi	Valod	21°3'0" N	73°16'0" E	Dug Well	4.50	2.10	5.50	5.82
939	Tapi	Vyara1	21°6'30" N	73°23'45" E	Dug Well	3.90	3.00	3.80	3.96
940	The dangs	Aherdi	20°41'30" N	73°37'0" E	Dug Well	1.65		1.35	1.68
941	The dangs	Ahwa_Pz	20°45'32" N	73°41'10" E	Bore Well	1.50		2.00	2.38
942	The dangs	Ahwal	20°45'30" N	73°41'0" E	Dug Well	1.80			1.18

943	The dangs	Bari Pada	20°38'24" N	73°41'29" E	Dug Well	13.40	1.40	0.70	0.88
944	The dangs	Bhenskatri	20°46'5" N	73°32'30" E	Dug Well	8.30			11.30
945	The dangs	Bori Gaotha 1	20°48'39" N	73°30'11" E	Dug Well	9.50	1.50	4.40	4.62
946	The dangs	Chikhli	20°39'30" N	73°41'15" E	Dug Well	1.90	1.00		0.68
947	The dangs	Chinchnogaotha	20°48'30" N	73°33'10" E	Dug Well	7.31		4.11	4.64
948	The dangs	Chinchpada	20°38'15" N	73°46'30" E	Dug Well	1.90		1.20	1.52
949	The dangs	Dhumkal	20°38'45" N	73°47'30" E	Dug Well	1.60	1.30		0.72
950	The dangs	Ghubita	20°48'0" N	73°44'15" E	Dug Well	1.50		0.50	0.66
951	The dangs	Jakana	20°38'0" N	73°44'45" E	Dug Well	1.05	1.45	1.45	1.66
952	The dangs	Jamalpada	20°43'54" N	73°31'14" E	Dug Well	8.00	2.30	4.50	4.79
953	The dangs	Kalibel	20°55'15" N	73°34'50" E	Dug Well	1.90		0.60	0.80
954	The dangs	Mahal	20°55'0" N	73°40'45" E	Dug Well	3.90		3.40	3.82
955	The dangs	Malegaon	20°36'0" N	73°44'45" E	Dug Well	1.10	0.50	0.20	0.44
956	The dangs	Nadak khadi	20°48'15" N	73°36'45" E	Dug Well	7.05		0.95	1.15
957	The dangs	Nana pada	20°42'0" N	73°35'0" E	Dug Well	9.68	1.08	1.98	2.34
958	The dangs	Sakarpatal	20°43'10" N	73°33'25" E	Dug Well	3.00	0.60	1.60	1.80
959	The dangs	Sodmal	20°52'0" N	73°37'0" E	Dug Well	11.83		1.20	1.81
960	The dangs	Subir	20°55'20" N	73°34'50" E	Dug Well	1.60		1.00	1.17
961	The dangs	Umberpada	20°41'0" N	73°43'30" E	Dug Well	2.85		1.25	1.63
962	The dangs	Vaghai	20°45'50" N	73°30'16" E	Dug Well	12.00	4.60	7.60	7.99
963	The dangs	Vazat Amba	20°52'42" N	73°31'6" E	Dug Well	7.50		3.40	3.58
964	Vadodara	Amreshwar	22°13'40" N	73°29'0" E	Dug Well	3.30	0.65	1.95	1.45
965	Vadodara	Chella Karamsiya Pz	22°23'48" N	73°25'56" E	Tube Well	2.10	0.27	1.20	1.65
966	Vadodara	Chhaliyar	22°40'0" N	73°19'0" E	Dug Well	23.28	24.35	24.35	25.45
967	Vadodara	Chitral PZ_II	22°10'55" N	72°56'45" E	Tube Well	23.68	22.51	21.95	21.20
968	Vadodara	Chitral Pz-I	22°10'55" N	72°56'45" E	Tube Well	44.35	43.28	22.42	24.12
969	Vadodara	Ghayaj ii	22°14'0" N	73°3'15" E	Tube Well	21.07	20.26	22.20	22.40
970	Vadodara	Handod1	22°4'25" N	73°2'45" E	Tube Well				29.05
971	Vadodara	Handod2	22°4'25" N	73°2'45" E	Tube Well	31.40	28.85	29.02	
972	Vadodara	Juna samalya	22°30'15" N	73°17'0" E	Dug Well	12.30	5.30	13.40	12.40
973	Vadodara	Karamasiya	22°25'15" N	73°25'10" E	Dug Well	13.20			13.20
974	Vadodara	Masor	22°8'30" N	72°54'30" E	Dug Well	13.12	10.23	12.85	9.45
975	Vadodara	Patiyapura	22°16'30" N	73°26'30" E	Dug Well	7.80	2.35	4.92	5.20
976	Vadodara	Raypura i	22°16'55" N	73°5'25" E	Tube Well	26.55	23.40	34.10	
977	Vadodara	Saidal	22°17'0" N	73°30'10" E	Dug Well	1.40	0.36		
978	Vadodara	Sankarda	22°26'20" N	73°7'20" E	Tube Well	26.93	22.39	26.10	26.10
979	Vadodara	Sankarda1	22°26'20" N	73°7'20" E	Tube Well	26.98	21.48		
980	Vadodara	Sankheda	22°32'20" N	73°10'30" E	Tube Well				26.40
981	Vadodara	Segwa chouki ii	22°0'30" N	73°23'0" E	Tube Well	38.00	34.67	37.60	37.80
982	Vadodara	Segwa chowki I	22°0'30" N	73°23'0" E	Tube Well	37.15	33.19	35.70	35.60
983	Vadodara	Sinor	21°54'45" N	73°20'30" E	Dug Well	22.20	19.30	22.40	22.10
984	Vadodara	Tundav	22°29'0" N	73°12'10" E	Dug Well	5.30	3.83	4.05	4.60
985	Vadodara	Vadodara I	22°18'17" N	73°16'18" E	Tube Well	12.05	8.28	5.17	6.10
986	Vadodara	Vadodara Ii	22°18'17" N	73°16'18" E	Tube Well	4.29	12.03	12.30	12.50
987	Vadodara	Vadodara_Kevada Bag	22°17'36" N	73°11'54" E	Dug Well		5.54		3.20
988	Vadodara	Vadodara_ONGC	22°16'9" N	73°12'46" E	Dug Well	6.70		7.70	5.40
989	Vadodara	Vadodara_Sama	22°20'33" N	73°12'2" E	Dug Well				3.70
990	Vadodara	Vadshala Pzi	22°9'47" N	73°10'10" E	Tube Well	23.45	19.30	12.20	
991	Vadodara	Vega	22°9'34" N	73°24'45" E	Dug Well	6.59	2.73	4.00	5.45
992	Vadodara	Vejpur2	22°44'50" N	73°21'20" E	Dug Well	1.93	1.17	1.45	1.90
993	Vadodara	Waghodia Pz	22°21'50" N	73°22'37" E	Tube Well	6.80			
994	Valsad	Awadha	20°31'0" N	73°17'15" E	Dug Well	3.15		0.85	1.07
995	Valsad	Chavshala	20°19'42" N	73°19'33" E	Dug Well	1.30	0.10	0.90	1.10
996	Valsad	Dahli (bhilad)	20°15'30" N	72°53'0" E	Dug Well	49.20		2.69	2.91
997	Valsad	Dharampur 3	20°31'51" N	73°9'45" E	Dug Well	14.10	4.30	9.60	9.80
998	Valsad	Dharampur1	20°32'11" N	73°10'14" E	Bore Well	9.20	2.20	4.50	4.90
999	Valsad	Dungri	20°41'19" N	72°56'58" E	Dug Well	9.30		6.00	6.13

1000	Valsad	Fali	20°18'47" N	73°22'34" E	Dug Well	9.50	0.10	2.20	2.70
1001	Valsad	Huda	20°17'27" N	73°24'32" E	Dug Well			0.10	
1002	Valsad	Kanadu	20°19'30" N	72°50'30" E	Dug Well	7.80	1.10	5.50	5.95
1003	Valsad	Kaparda	20°20'30" N	73°13'0" E	Dug Well	2.45	1.85	2.55	2.70
1004	Valsad	Karwad	20°21'45" N	72°58'30" E	Dug Well	4.90	0.50	3.20	5.00
1005	Valsad	Lakadmal	20°28'0" N	73°9'30" E	Dug Well	3.80	1.70		
1006	Valsad	Mandwa	20°22'0" N	73°10'30" E	Dug Well			6.55	
1007	Valsad	Mandwa 1	20°21'57" N	73°10'48" E	Dug Well	10.60		8.40	
1008	Valsad	Motaponda	20°21'30" N	73°2'0" E	Dug Well			10.00	
1009	Valsad	Muli1	20°38'0" N	73°1'30" E	Dug Well	3.30		1.80	2.43
1010	Valsad	Nanaponda	20°24'50" N	73°7'15" E	Dug Well	9.30	2.50	7.40	7.80
1011	Valsad	Tithal	20°36'0" N	72°54'0" E	Dug Well	6.30		6.10	6.45
1012	Valsad	Tumb	20°13'0" N	72°50'30" E	Dug Well	4.80	1.10	3.30	3.48
1013	Valsad	Udwada	20°27'49" N	72°55'5" E	Dug Well	5.85		2.55	3.03
1014	Valsad	Umargaon	20°11'30" N	72°45'0" E	Dug Well	4.00	3.60	3.70	3.97
1015	Valsad	Valsad1	20°36'20" N	72°55'40" E	Bore Well			10.90	11.52
1016	Valsad	Vapi Balitha	20°22'49" N	72°54'16" E	Dug Well	9.00		8.10	9.22
1017	Valsad	Wankal	20°33'35" N	73°5'25" E	Dug Well	16.40		6.30	7.01

Annexure IIB

Water levels of the national hydrograph stations in Gujarat 2020-21 (confined)

Sl. No.	District	Site Name	Aquifer Type	LAT_Y	LONG_X	Elevation, m	May 2020, m bgl	WT Elevation, m MSL
1	Ahmedabad	Bopal_Pz_I	Confined I	23.03860	72.45780	44.10	32.29	11.81
2	Ahmedabad	CHANDISAR OW	Confined I	22.79890	72.48030	28.50	28.85	-0.35
3	Ahmedabad	Jholapur_Pz_I	Confined I	22.99040	72.20540	26.10	67.55	-41.45
4	Ahmedabad	Moti Kumad OW II	Confined I	23.13300	72.12670	29.10	91.07	-61.97
5	Ahmedabad	Ukhlod OWI	Confined I	23.22200	72.03960	29.70	62.78	-33.08
6	Ahmedabad	Vatwa Pz-III	Confined I	22.95360	72.61630	45.30	27.06	18.24
7	Anand	Sarsa_Pz_I	Confined I	22.54440	73.07080	52.00	19.59	32.41
8	Anand	Tarapur Pz-I	Confined I	22.48610	72.66110	25.10	3.15	21.95
9	Banaskantha	Bhabhar_iii	Confined I	24.05970	71.59610	37.00	30.06	6.94
10	Banaskantha	Deesa Pzi	Confined I	24.25670	72.18750	143.00	92.89	50.11
11	Banaskantha	Fagudara Pz	Confined I	24.43030	72.23410	181.30	94.54	86.76
12	Banaskantha	Naroli Pzi	Confined I	24.61640	71.63860	50.30	7.18	43.12
13	Banaskantha	Naroli Pzii	Confined I	24.61640	71.63860	50.30	6.23	44.07
14	Banaskantha	Palanpur_Pz	Confined I	24.17220	72.45000	226.30	39.48	186.82
15	Banaskantha	Tharad Pzii	Confined I	24.38500	71.61940	46.30	10.01	36.29
16	Gandhinagar	Adalaj_Pz_I	Confined I	23.17500	72.55830	64.00	105.58	-41.58
17	Gandhinagar	Amrapur Pzii	Confined I	23.37360	72.70500	94.00	86.80	7.20
18	Gandhinagar	Charada Pz -II	Confined I	23.48170	72.65160	110.00	102.40	7.60
19	Gandhinagar	Dahegam I	Confined I	23.17080	72.84160	75.00	74.90	0.10
20	Gandhinagar	Gandhinagar II	Confined I	23.23470	72.64170	78.70	58.70	20.00
21	Gandhinagar	Kharoj Dabhi Pz I	Confined I	23.38000	72.52000	83.00	142.93	-59.93
22	Gandhinagar	Kharoj Dabhi Pz II	Confined I	23.38000	72.52000	83.00	158.79	-75.79
23	Gandhinagar	Nardipur i	Confined I	23.33190	72.56670	83.00	96.89	-13.89
24	Gandhinagar	Padusma Pz I	Confined I	23.49420	72.62160	111.00	183.35	-72.35
25	Kheda	Matar II	Confined I	22.70970	72.66800	26.60	9.58	17.02
26	Kheda	Nadiad Pz-I	Confined I	22.71110	72.86660	36.00	20.20	15.80
27	Mahesana	Dharampur OW I	Confined I	23.21780	72.21360	43.90	49.10	-5.20
28	Mahesana	Karalli (i)	Confined I	23.80420	72.48610	132.30	133.89	-1.59
29	Mahesana	Laxmanpura (OW I)	Confined I	23.17780	72.31170	50.10	108.33	-58.23
30	Mahesana	Manipur OW I	Confined I	23.21580	72.31450	53.40	109.18	-55.78
31	Mahesana	Mehsana III	Confined I	23.59750	72.39860	90.00	102.35	-12.35
32	Mahesana	Modhera i	Confined I	23.71670	72.46660	117.00	9.26	107.74
33	Mahesana	Nani Hirvani Pz	Confined I	23.88140	72.54690	157.80	78.80	79.00
34	Mahesana	Ramvijaynagar Pz I	Confined I	23.71000	72.34000	88.00	147.62	-59.62
35	Patan	Bhutia vasna i	Confined I	23.91670	72.10000	74.00	23.15	50.85
36	Patan	Biliya(Temple)_Pz_II	Confined I	23.88830	72.39860	132.30	46.96	85.34
37	Patan	Kakosi Pz-II	Confined I	24.00170	72.30580	135.00	34.00	101.00
38	Patan	Kanesara Pz	Confined I	23.89000	72.34000	120.00	104.12	15.88
39	Patan	Kot Pz	Confined I	23.89970	72.40940	140.10	96.47	43.63
40	Patan	Nagwasan	Confined I	23.94780	72.46300	155.20	98.20	57.00
41	Patan	Sidhpur Naditat Pz I	Confined I	23.92470	72.39830	140.70	87.62	53.08
42	Vadodara	Raypura i	Confined I	22.28190	73.09030	31.30	26.55	4.75
43	Vadodara	Sankarda	Confined I	22.43890	73.12220	39.90	26.93	12.97
44	Vadodara	Segwa chouki ii	Confined I	22.00830	73.38330	42.00	38.00	4.00
45	Vadodara	Segwa chowki I	Confined I	22.00830	73.38330	42.00	37.15	4.85
46	Vadodara	Vadodara I	Confined I	22.30470	73.27160	36.30	12.05	24.25
47	Vadodara	Vadshala Pzi	Confined I	22.16310	73.16940	25.20	23.45	1.75
48	Ahmedabad	Bagodara_Pz_I	Confined II	22.64167	72.21389	11.70	9.55	2.15
49	Ahmedabad	Hansalpur_Pz-I	Confined II	23.08889	72.01667	23.70	16.50	7.20
50	Ahmedabad	Sola(HC)_Pz_I	Confined II	23.08111	72.51361	49.80	68.71	-18.91
51	Ahmedabad	Vastrapur(lake)_Pz_I	Confined II	23.03833	72.52972	45.70	89.78	-44.08
52	Ahmedabad	Vatwa Pz-II	Confined II	22.95333	72.61611	46.00	44.36	1.64
53	Anand	Anklav_Pz_I	Confined II	22.37639	72.99722	36.20	23.79	12.41

54	Anand	Anklav_Pz_II	Confined II	22.37639	72.99722	36.20	23.95	12.25
55	Anand	Borsad I	Confined II	22.40972	72.90139	34.30	18.36	15.94
56	Anand	Borsad_Pz_II	Confined II	22.40972	72.90139	34.30	15.94	18.36
57	Anand	Petlad_Pz_I	Confined II	22.47500	72.80000	33.00	12.73	20.27
58	Anand	Petlad_Pz_II	Confined II	22.47500	72.80000	33.00	12.10	20.90
59	Anand	Walmi_I	Confined II	22.51111	72.98194	47.20	22.19	25.01
60	Anand	Walmi_II	Confined II	22.50833	72.98222	49.30	22.22	27.08
61	Banaskantha	Balodhar_Pz-I	Confined II	24.23056	71.91222	94.40	177.27	-82.87
62	Banaskantha	Biyok_Pz-II	Confined II	24.27222	71.65472	48.60	29.50	19.10
63	Banaskantha	Dhanera Pz-I	Confined II	24.50611	72.02917	136.30	106.81	29.49
64	Banaskantha	Lakhani_i	Confined II	24.31389	71.81806	81.80	112.17	-30.37
65	Banaskantha	Mahi_Pz	Confined II	24.02861	72.38083	159.00	160.94	-1.94
66	Banaskantha	Nandotra Brahmanvas Pz (OW II)	Confined II	24.34083	72.31417	161.00	26.01	134.99
67	Banaskantha	Rah Pz-III	Confined II	24.49583	71.83611	89.00	44.73	44.27
68	Banaskantha	Rah_Pz I	Confined II	24.49583	71.83611	89.00	63.70	25.30
69	Banaskantha	Rah_Pz II	Confined II	24.49583	71.83611	89.00	52.91	36.09
70	Banaskantha	Tharad Pzi	Confined II	24.38500	71.61944	46.30	9.33	36.97
71	Banaskantha	Vinchivadi Pz-II	Confined II	24.58611	71.93333	103.00	73.49	29.51
72	Bharuch	Bharuch I	Confined II	21.70833	73.00000	21.00	5.84	15.16
73	Bharuch	Bharuch Ii	Confined II	21.70833	73.00000	21.00	8.71	12.29
74	Bharuch	Kadodara	Confined II	21.76250	72.63889	6.70	9.57	-2.87
75	Gandhinagar	Adalaj_Pz_II	Confined II	23.17500	72.55833	64.00	89.35	-25.35
76	Gandhinagar	Amrapur Pzi	Confined II	23.37361	72.70500	94.00	106.60	-12.60
77	Gandhinagar	Charada_Pz_I	Confined II	23.48167	72.65167	110.00	194.08	-84.08
78	Gandhinagar	Kalol_Pz_IV	Confined II	23.24333	72.48500	70.00	59.21	10.79
79	Gandhinagar	Lakroda Pz	Confined II	23.43000	72.79000	105.00	75.10	29.90
80	Gandhinagar	Mansa	Confined II	23.42306	72.66500	103.70	180.36	-76.66
81	Gandhinagar	Pethapur_Pz-I	Confined II	23.26722	72.67306	81.20	107.24	-26.04
82	Gandhinagar	Pethapur_Pz-II	Confined II	23.26722	72.67306	81.20	76.76	4.44
83	Gandhinagar	Sardhav Pz -I	Confined II	23.29722	72.57389	81.10	122.94	-41.84
84	Kheda	Matar I	Confined II	22.70972	72.66806	26.60	16.92	9.68
85	Kheda	Sarkhej _ I	Confined II	22.98611	72.88056	54.20	32.05	22.15
86	Kheda	Sarkhej _ II	Confined II	22.98611	72.88056	54.20	32.95	21.25
87	Mahesana	Daran_Pz-I	Confined II	23.20639	72.27972	49.30	101.40	-52.10
88	Mahesana	Daran_Pz-II	Confined II	23.20639	72.27972	49.30	44.81	4.49
89	Mahesana	Jotana Pzi	Confined II	23.47389	72.28778	73.80	137.65	-63.85
90	Mahesana	Jotana Pzii	Confined II	23.46667	72.29722	72.30	17.18	55.12
91	Mahesana	Karalli II	Confined II	23.80417	72.48611	132.30	48.56	83.74
92	Mahesana	Kheralu (deep)	Confined II	23.89778	72.61056	176.20	49.08	127.12
93	Mahesana	Kherwa OW I	Confined II	23.54635	72.44467	94.80	92.36	2.44
94	Mahesana	Kherwa OW II	Confined II	23.54635	72.44467	94.80	77.53	17.27
95	Mahesana	Mehsana I	Confined II	23.59750	72.39861	90.00	154.13	-64.13
96	Mahesana	Mehsana II	Confined II	23.59750	72.39861	90.00	154.33	-64.33
97	Mahesana	Mewad	Confined II	23.53333	72.38333	85.00	16.58	68.42
98	Mahesana	Motipura_Pz_I	Confined II	23.53389	72.60417	111.00	155.32	-44.32
99	Mahesana	Motipura_Pz_II	Confined II	23.53389	72.60417	111.00	53.97	57.03
100	Mahesana	Ramvijaynagar Pz II	Confined II	23.71000	72.34000	88.00	86.38	1.62
101	Mahesana	Suraj	Confined II	23.38972	72.30667	68.00	26.62	41.38
102	Mahesana	Thol Pz -IV	Confined II	23.13056	72.37611	57.20	113.53	-56.33
103	Patan	Jangral Pzi	Confined II	23.69472	71.69389	25.10	179.42	-154.32
104	Patan	Jangral Pzii	Confined II	23.69472	71.69389	25.10	95.10	-70.00
105	Patan	Lukhasan	Confined II	23.96000	72.47000	151.00	133.15	17.85
106	Patan	Matarwadi II	Confined II	23.86833	72.14722	86.00	102.63	-16.63
107	Patan	Vanasan Pz	Confined II	23.89750	72.26333	105.00	105.42	-0.42
108	Sabarkantha	Kuski_Pz	Confined II	23.63889	73.36944	207.90	13.30	194.60
109	Vadodara	Chitral Pz-I	Confined II	22.18194	72.94583	23.00	44.35	-21.35

Annexure III
Groundwater Table of Gujarat state during May 2020

District	Site Name	LAT_Y	LONG_X	Elevation, m	May 2020, m	WT May, m
Ahmedabad	Bagodara_Pz_II	22.64170	72.21390	11.70	7.00	4.70
Ahmedabad	Barvala	22.15000	71.89170	28.00	7.30	20.70
Ahmedabad	Bopal_Pz_III	23.03860	72.45780	44.10	2.90	41.20
Ahmedabad	Dalod	23.36670	71.96660	31.00	8.22	22.78
Ahmedabad	Devalia	22.37780	71.98610	24.40	20.40	4.00
Ahmedabad	Dhandhuka1	22.37500	71.98610	22.70	2.95	19.75
Ahmedabad	Endla	23.27220	72.05830	34.30	2.93	31.37
Ahmedabad	Gamph	22.35830	72.16660	16.00	1.52	14.48
Ahmedabad	Kumarkhan	22.90000	72.01670	17.00	3.74	13.26
Ahmedabad	Kundal	22.90140	72.22360	22.00	7.28	14.72
Ahmedabad	Kundali	22.26940	71.70000	80.30	4.07	76.23
Ahmedabad	Mandal2	23.27500	71.91660	25.00	10.63	14.37
Ahmedabad	Rajpada	22.30830	71.69170	81.00	12.00	69.00
Ahmedabad	Salangpor	22.15830	71.77080	59.00	7.00	52.00
Ahmedabad	Tagadi1	22.29580	71.94720	23.00	3.91	19.09
Ahmedabad	Ughraj1	23.36670	72.10000	45.00	7.52	37.48
Ahmedabad	Upardhal1	22.85000	72.14580	20.00	11.90	8.10
Ahmedabad	Vagad(Repl)_Pz	22.36030	71.86800	40.20	4.22	35.98
Ahmedabad	Viramgam2	23.14170	72.03330	29.00	3.30	25.70
Amreli	Amreli	21.60830	71.22500	127.00	5.14	121.86
Amreli	Amreli_Pz	21.61250	71.22500	128.00	5.57	122.43
Amreli	Amritvel_Pz	21.39720	71.35830	99.30	2.80	96.50
Amreli	Ankadia mota	21.64580	71.10830	153.00	6.19	146.81
Amreli	Badhda	21.26580	71.33890	175.70	7.45	168.25
Amreli	Bagasara	21.47920	70.96250	152.00	15.75	136.25
Amreli	Bherai	20.86800	71.36250	8.30	2.46	5.84
Amreli	Bhuva	21.43280	71.36380	86.20	4.50	81.70
Amreli	Chalala	21.41670	71.16660	135.00	26.05	108.95
Amreli	Charkhadia_Pz	21.38750	71.29160	112.00	26.05	85.95
Amreli	Charkhadia1	21.39170	71.29580	112.00	21.35	90.65
Amreli	Chavand	21.81670	71.41250	116.00	6.00	110.00
Amreli	Dharangani	21.33330	71.20000	167.00	30.65	136.35
Amreli	Dhari_Pz	21.32640	71.01800	211.00	10.55	200.45
Amreli	Dhrai Balmukand	21.83420	71.21720	191.30	10.80	180.50
Amreli	Fifad	21.43610	71.54020	66.70	6.45	60.25
Amreli	Gopalpura Vanda Pz	21.37500	71.49160	98.00	26.77	71.23
Amreli	Goradka	21.22500	71.41110	134.30	3.43	130.87
Amreli	Govadka	21.54170	71.15830	113.00	3.10	109.90
Amreli	Hipavadli	21.37890	71.61470	93.10	10.30	82.80
Amreli	Ingorala	21.23330	71.20000	267.00	11.90	255.10
Amreli	Jesar_Pz	21.37140	71.67020	95.80	5.99	89.81
Amreli	Kadiyali	20.90830	71.36020	8.30	6.12	2.18
Amreli	Kerala	21.39720	71.21660	127.30	37.30	90.00
Amreli	Khamba	21.15000	71.23880	219.70	4.37	215.33
Amreli	Khamba_Pz	21.14170	71.25420	202.00	7.46	194.54
Amreli	Kotadapitha	21.95830	71.20420	202.00	3.35	198.65
Amreli	Kunkavav	21.66250	70.98330	173.00	21.12	151.88

Amreli	Lathi	21.72080	71.38330	121.00	2.23	118.77
Amreli	Lotpur	20.96250	71.43330	17.00	6.05	10.95
Amreli	Luvariya	21.62500	71.39580	100.00	4.20	95.80
Amreli	Mandal	21.10000	71.58330	46.00	23.50	22.50
Amreli	Manila Pz	21.43330	71.16660	129.00	21.80	107.20
Amreli	Morjhar	21.37610	71.11860	171.00	49.50	121.50
Amreli	Nageshri	20.92500	71.35410	11.00	3.41	7.59
Amreli	Piyava	21.38330	71.46660	98.00	25.55	72.45
Amreli	Punjapadar	21.52500	71.35830	91.00	5.24	85.76
Amreli	Salena	21.38610	71.53330	92.70	16.77	75.93
Amreli	Sanaria	21.55780	71.46800	85.70	2.10	83.60
Amreli	Tajpur	21.72500	71.46660	114.00	15.15	98.85
Amreli	Timbi2	20.89580	71.20420	35.00	2.44	32.56
Amreli	Trakuda	21.01670	71.28050	81.30	7.58	73.72
Amreli	Untvad	21.91670	71.21660	192.00	13.70	178.30
Amreli	Vaghania junia	21.58330	70.96660	152.00	6.10	145.90
Amreli	Vankiya	21.52080	71.13610	120.30	4.73	115.57
Amreli	Vankiya1	21.23330	71.25000	233.00	7.10	225.90
Amreli	Virpur	21.25420	71.15000	242.00	13.62	228.38
Anand	Adas_DW	22.47860	73.03030	41.40	23.00	18.40
Anand	Anand	22.57500	72.97220	42.30	29.29	13.01
Anand	Anklav2	22.38330	73.00830	37.00	23.78	13.22
Anand	Bandhani	22.54170	72.81670	34.00	6.18	27.82
Anand	Bhadran	22.35550	72.89720	28.10	18.10	10.00
Anand	Boriyani	22.63220	73.00420	43.30	9.80	33.50
Anand	Davalpura_Pz	22.45830	72.80270	28.30	2.65	25.65
Anand	Kansari1	22.34170	72.65000	14.00	11.80	2.20
Anand	Navapura	22.31250	72.96250	31.00	28.56	2.44
Anand	Parvata	22.71360	73.12660	51.30	6.80	44.50
Anand	Ras	22.34580	72.83330	24.00	2.40	21.60
Anand	Tarapur Pz-II	22.48610	72.66110	25.10	3.09	22.01
Banaskantha	Ambaji_Pz	24.33610	72.84720	454.30	12.58	441.72
Banaskantha	Amirgadh	24.40550	72.64170	227.30	15.55	211.75
Banaskantha	Bharol1	24.52920	71.54160	34.00	2.80	31.20
Banaskantha	Danta	24.18890	72.76530	279.60	11.59	268.01
Banaskantha	Dantiwada	24.18890	72.76050	271.80	34.08	237.72
Banaskantha	Dantiwada	24.27750	72.26140	158.70	27.72	130.98
Banaskantha	Ganapipli	24.29720	72.94720	259.20	8.44	250.76
Banaskantha	Gangodra	24.43610	72.36520	196.60	22.56	174.04
Banaskantha	Iqbalgarh	24.34580	72.53750	210.00	33.14	176.86
Banaskantha	Jhat	24.48750	72.35270	193.70	16.01	177.69
Banaskantha	Meda	24.39720	72.28470	173.80	9.10	164.70
Banaskantha	Mohabbat gadh	24.16670	72.72770	252.30	23.68	228.62
Banaskantha	Naroli Pziii	24.61640	71.63860	50.30	7.11	43.19
Banaskantha	Palanpur2	24.19440	72.43330	217.00	24.57	192.43
Banaskantha	Ratanpur2	24.17500	72.74580	262.00	21.93	240.07
Banaskantha	Sodapur	24.40140	72.29580	173.30	16.89	156.41
Banaskantha	Tharad Pziii	24.38500	71.61940	46.30	9.13	37.17
Bharuch	Arethi	21.61250	73.43520	158.30	14.45	143.85
Bharuch	Bharuch	21.70000	73.00420	6.00	6.35	-0.35
Bharuch	Bhensli	21.72500	72.75000	8.00	2.10	5.90
Bharuch	Chhindra	22.12670	72.66970	11.70	9.68	2.02
Bharuch	Dahegam	22.18470	72.59720	11.60	7.65	3.95

Bharuch	Hansot	21.58330	72.80830	14.00	4.11	9.89
Bharuch	Ilav	21.45000	72.80000	13.00	5.99	7.01
Bharuch	Jambusar	22.05280	72.80550	14.10	8.71	5.39
Bharuch	Jambusar2	22.05000	72.80000	12.00	9.60	2.40
Bharuch	Jetpur1	21.49170	72.70830	8.00	1.78	6.22
Bharuch	Juna borbhata	21.67500	72.97500	4.00	8.50	-4.50
Bharuch	Kalak1	22.01860	72.76300	8.60	6.99	1.61
Bharuch	Kaswa	21.68330	72.81670	11.00	5.55	5.45
Bharuch	Kavi	22.19360	72.63940	15.90	6.36	9.54
Bharuch	Kondh	21.58060	73.06810	35.10	4.06	31.04
Bharuch	Luhara	21.67500	72.55830	10.00	0.85	9.15
Bharuch	Mahegam1	21.68330	72.75830	6.00	4.85	1.15
Bharuch	Mokhdi	21.53330	73.28750	78.00	11.84	66.16
Bharuch	Motwan	21.55550	72.88750	12.30	2.04	10.26
Bharuch	Navetha	21.70780	72.83050	9.40	2.90	6.50
Bharuch	Netrang(Rep)_Pz	21.64170	73.36660	126.00	9.01	116.99
Bharuch	Netrang1	21.63330	73.36660	128.00	4.30	123.70
Bharuch	Nirnavi	21.79170	72.66800	8.70	8.34	0.36
Bharuch	Panoli	21.53750	72.97500	26.00	3.35	22.65
Bharuch	Raymal	21.52080	72.82080	13.00	1.13	11.87
Bharuch	Roja tankaria	21.91670	72.79160	7.00	8.38	-1.38
Bharuch	Sahol	21.47280	72.80970	12.20	4.72	7.48
Bharuch	Sajod	21.61670	72.92360	10.00	4.53	5.47
Bharuch	Sarod	22.15830	72.75830	19.00	15.22	3.78
Bharuch	Sindhav	22.02690	72.63610	6.00	7.27	-1.27
Bharuch	Tankari	21.99170	72.67500	6.00	4.92	1.08
Bharuch	Utraj	21.59170	72.82500	6.00	2.42	3.58
Bhavnagar	Ambala	21.71110	71.84160	55.00	14.58	40.42
Bhavnagar	Bhavnagar1	21.76670	72.15000	25.00	3.55	21.45
Bhavnagar	Bhumbhalı	21.67940	72.24410	7.70	2.55	5.15
Bhavnagar	Bhutia	21.74720	71.70000	59.00	22.30	36.70
Bhavnagar	Bora	21.19110	71.92880	18.70	24.57	-5.87
Bhavnagar	Datha	21.22080	71.95000	31.00	1.71	29.29
Bhavnagar	Dhasa	21.80000	71.50830	90.00	4.94	85.06
Bhavnagar	Gadhada2	21.96670	71.57920	83.00	3.73	79.27
Bhavnagar	Gariyadhar	21.54300	71.56520	97.60	14.52	83.08
Bhavnagar	Ghogha1	21.68330	72.27910	12.00	1.52	10.48
Bhavnagar	Jalia	21.80000	71.61660	70.00	16.25	53.75
Bhavnagar	Khijadiya	21.63750	71.70000	95.00	9.21	85.79
Bhavnagar	Longadi	21.21390	71.88330	38.30	2.35	35.95
Bhavnagar	Lonjdhara	22.09720	71.89720	23.10	21.62	1.48
Bhavnagar	Malvav_Pz	21.16060	71.90830	33.70	21.72	11.98
Bhavnagar	Motividal	21.19720	71.55000	114.70	3.72	110.98
Bhavnagar	Ningala	22.01810	71.70000	56.30	10.45	45.85
Bhavnagar	Palitana1	21.52500	71.82360	67.70	7.40	60.30
Bhavnagar	Palitana2	21.52220	71.83890	58.20	7.85	50.35
Bhavnagar	Panchpipla	21.55000	71.72080	82.00	1.84	80.16
Bhavnagar	Panvi1	22.07500	71.89170	16.00	3.87	12.13
Bhavnagar	Pasvi	21.29170	71.96660	51.00	11.82	39.18
Bhavnagar	Piparla	21.63640	71.91890	93.70	4.40	89.30
Bhavnagar	Porbada	21.80000	71.70000	45.00	10.93	34.07
Bhavnagar	Sajnasar	21.42500	71.91250	66.00	2.50	63.50
Bhavnagar	Sandhida	21.68750	71.75830	84.00	9.60	74.40

Bhavnagar	Satanes	21.44170	71.83750	85.00	10.57	74.43
Bhavnagar	Shantinagar	21.24580	71.65000	123.00	11.50	111.50
Bhavnagar	Talaja2	21.36670	72.01670	21.00	8.73	12.27
Bhavnagar	Tansa	21.50830	72.12500	84.00	8.10	75.90
Bhavnagar	Tatam	22.05830	71.63330	79.00	11.74	67.26
Bhavnagar	Timbi2	21.83170	71.76610	29.30	13.63	15.67
Bhavnagar	Trapaj	21.42500	72.09580	54.00	13.46	40.54
Bhavnagar	Umrala	21.84720	71.80830	23.30	14.02	9.28
Bhavnagar	Vallabhipur1	21.88330	71.87770	16.00	4.80	11.20
Bhavnagar	Vallbhipur	21.88330	71.87500	16.00	4.05	11.95
DAMAN	Ambawadi	20.40280	72.84440	14.10	4.10	10.00
DAMAN	Dalwada	20.44310	72.85190	22.40	7.55	14.85
DAMAN	Daman	20.42420	72.85020	17.00	9.45	7.55
DIU	Chakarteeth_Pz	20.70830	70.96890	7.30	5.42	1.88
DIU	Gomtimata	20.70830	70.87630	0.00	8.05	-8.05
DIU	Jalawadi	20.72170	70.93300	12.30	5.89	6.41
Dohad	Ambakatch	22.66670	74.22030	390.70	2.55	388.15
Dohad	Bapda	22.67000	73.84160	191.00	7.14	183.86
Dohad	Dadhela	22.83750	74.06670	262.00	6.97	255.03
Dohad	Dahod	22.84030	74.26250	305.00	1.14	303.86
Dohad	Dahod2	22.82500	74.23330	310.00	8.40	301.60
Dohad	Devgadh Baria	22.70000	73.91390	200.70	10.83	189.87
Dohad	Devgadh bariya	22.70000	73.91660	207.00	13.66	193.34
Dohad	Dhanpur	22.63330	74.10410	258.00	10.36	247.64
Dohad	Dohad_Urban1	22.85750	74.24940	319.70	5.15	314.55
Dohad	Dohad_Urban2	22.84470	74.26670	302.00	7.35	294.65
Dohad	Dohad_Urban3	22.83970	74.23390	321.00	4.70	316.30
Dohad	Fatepura(Karodia)	23.25420	74.02910	188.00	12.02	175.98
Dohad	Garbara	22.68050	74.31250	353.70	3.63	350.07
Dohad	Jhalod	23.09300	74.14720	269.70	9.35	260.35
Dohad	Jhalod1	23.09170	74.13330	273.00	13.10	259.90
Dohad	Kanjetha	22.58060	74.11380	253.20	9.30	243.90
Dohad	Khandania	22.70420	73.83750	220.00	12.93	207.07
Dohad	Limbdi2	23.00420	74.15830	277.00	2.20	274.80
Dohad	Limkheda	22.83060	73.98610	205.00	7.67	197.33
Dohad	Mirakhedi	22.93330	74.20000	323.00	5.88	317.12
Dohad	Panchwada	22.72920	74.30830	327.00	4.69	322.31
Dohad	Pipero	22.64720	74.09030	244.10	10.89	233.21
Dohad	Salaya1	22.80830	73.89170	200.00	14.20	185.80
Dohad	Sarsava	23.22780	73.97690	177.70	3.95	173.75
Dohad	Sukhsar	23.15000	74.05000	196.00	9.55	186.45
Dohad	Thada	22.94940	74.08890	309.40	10.30	299.10
Dohad	Tokarba	22.60420	74.03750	232.00	5.85	226.15
Dohad	Varamkheda	22.80000	74.27500	298.00	1.45	296.55
Dohad	Wadia	22.90000	74.05000	229.00	7.64	221.36
Gandhinagar	Adalaj_Pz_III	23.17500	72.55830	64.00	26.30	37.70
Gandhinagar	Kasturinagar (IFFCO)	23.19030	72.55270	74.00	14.15	59.85
Gandhinagar	Lodra	23.46390	72.72030	110.90	52.40	58.50
Gandhinagar	Paliya	23.17920	72.84160	78.00	17.52	60.48
Gandhinagar	Serthapara1	23.19440	72.56670	66.70	20.45	46.25
Jamnagar	Amaliya Chokri	22.24030	69.12520	42.00	3.39	38.61
Jamnagar	Ambardi	21.91640	69.85800	82.30	5.59	76.71
Jamnagar	Amran_Pz	22.82220	70.54580	13.00	3.31	9.69

Jamnagar	Amran1	22.82920	70.56250	12.00	0.91	11.09
Jamnagar	Aramda	22.43330	69.04160	7.00	5.95	1.05
Jamnagar	Balwa	21.90420	69.95830	116.00	12.73	103.27
Jamnagar	Bed1	22.43750	69.90000	16.00	6.63	9.37
Jamnagar	Bedanpur	22.68330	70.31670	13.00	1.81	11.19
Jamnagar	Bhadthar	22.07920	69.57920	48.00	9.26	38.74
Jamnagar	Bhatia	22.09170	69.30130	36.30	3.36	32.94
Jamnagar	Bhatiya	22.09440	69.26670	20.30	2.29	18.01
Jamnagar	Bhogat1	21.99170	69.24580	9.00	5.23	3.77
Jamnagar	Changa	22.35000	70.04160	41.00	10.46	30.54
Jamnagar	Dhrol2	22.56670	70.41660	32.00	3.66	28.34
Jamnagar	Drafa	21.95830	70.07500	102.00	5.59	96.41
Jamnagar	Dudhai2	22.79170	70.50420	14.00	3.06	10.94
Jamnagar	Dwarka	22.24580	68.95830	12.00	7.21	4.79
Jamnagar	Falla 1	22.53360	70.31410	31.70	7.66	24.04
Jamnagar	Gordhanpur	22.45000	70.00130	13.70	3.05	10.65
Jamnagar	Haripur2	22.27080	70.33330	86.00	17.16	68.84
Jamnagar	Jambuda	22.52500	70.20420	8.00	7.71	0.29
Jamnagar	Jamjodhpur	21.90550	70.03050	101.00	4.39	96.61
Jamnagar	Jamnagar1	22.47080	70.05000	22.00	6.32	15.68
Jamnagar	Jamnagar2	22.45830	70.07920	16.00	5.97	10.03
Jamnagar	Juvanpur	22.17080	69.36660	44.00	7.31	36.69
Jamnagar	Kajuda	22.33330	69.70830	22.00	3.82	18.18
Jamnagar	Kalawad	22.21670	70.38330	88.00	3.10	84.90
Jamnagar	Kalyanpur2	22.01670	69.39170	38.00	12.85	25.15
Jamnagar	Kesia	22.69640	70.39690	17.10	9.10	8.00
Jamnagar	Khambaliya	22.20970	69.64580	38.30	3.93	34.37
Jamnagar	Khirsara	21.97920	69.60000	38.00	0.60	37.40
Jamnagar	Kuvadia	22.20140	69.58330	44.00	4.05	39.95
Jamnagar	Lalpur1	22.19170	69.96110	74.70	7.65	67.05
Jamnagar	Lambha 1	21.89890	69.32360	17.60	3.70	13.90
Jamnagar	Modpar	21.85830	69.80830	87.00	17.40	69.60
Jamnagar	Mojap	22.36670	68.98330	10.00	7.40	2.60
Jamnagar	Mota kalawad	21.90830	69.82920	69.00	20.00	49.00
Jamnagar	Motagop	22.03750	69.87500	101.00	5.08	95.92
Jamnagar	Moti khavdi	22.38750	69.86660	23.00	4.02	18.98
Jamnagar	Moti matli	22.31670	70.26390	75.30	20.23	55.07
Jamnagar	Nikava	22.19170	70.53330	126.00	2.24	123.76
Jamnagar	Pindara1	22.24720	69.25830	15.00	5.41	9.59
Jamnagar	Raval	21.92970	69.49190	7.40	4.33	3.07
Jamnagar	Salaya	22.30550	69.60410	7.70	2.67	5.03
Jamnagar	Samrasar1	22.37500	69.10410	9.00	2.65	6.35
Jamnagar	Seth vadala	22.03330	70.12500	149.00	6.98	142.02
Jamnagar	Sumana	22.10830	70.16660	164.00	7.66	156.34
Jamnagar	Vad panchasara	22.23330	70.11660	96.00	15.85	80.15
Jamnagar	Vadtara	22.20830	69.50000	43.00	4.25	38.75
Jamnagar	Varwada	22.29170	68.96660	14.00	15.65	-1.65
Jamnagar	Vijarkha	22.41670	70.18330	29.00	2.41	26.59
Jamnagar	Vinjhälpur	22.15000	69.60000	61.00	5.33	55.67
Junagadh	Ajotha	20.90190	70.51800	29.20	20.67	8.53
Junagadh	Anandpur	21.41030	70.51800	70.20	12.17	58.03
Junagadh	Ankolvadi	21.04720	70.65830	138.30	10.31	127.99
Junagadh	Ankolvadi 1	21.04690	70.66470	142.40	19.90	122.50

Junagadh	Arena	21.08060	70.17630	11.60	10.70	0.90
Junagadh	Bamanwara	21.22080	70.05550	12.30	9.26	3.04
Junagadh	Bantva	21.48750	70.08330	22.00	10.50	11.50
Junagadh	Bhim Deval	20.97750	70.60910	80.00	9.54	70.46
Junagadh	Bilkha	21.43890	70.60000	95.30	7.38	87.92
Junagadh	Budhecha	21.09580	70.21660	24.00	6.88	17.12
Junagadh	Chokli	21.60190	70.54160	98.70	16.31	82.39
Junagadh	Chorwad	21.04170	70.21660	18.00	6.38	11.62
Junagadh	Dhokadva	20.95830	71.07080	75.00	10.80	64.20
Junagadh	Gadu	21.05420	70.27910	31.00	44.20	-13.20
Junagadh	Galodar	21.14720	70.27500	54.00	7.37	46.63
Junagadh	Gangda_Pz	20.85830	71.16660	22.00	6.70	15.30
Junagadh	Girgadhada	20.92500	70.91660	84.00	6.75	77.25
Junagadh	Goraj1	21.18330	70.15410	37.00	32.55	4.45
Junagadh	Govindpura2	20.94580	70.39580	27.00	28.35	-1.35
Junagadh	Jambur[madhapar	21.02920	70.60830	113.00	6.04	106.96
Junagadh	Jamvala	20.98470	70.76940	103.30	5.10	98.20
Junagadh	Jamvala1	20.98330	70.76250	97.00	5.77	91.23
Junagadh	Jargla Jargali	20.88080	70.98410	55.00	7.50	47.50
Junagadh	Junagadh	21.50940	70.46220	100.30	12.10	88.20
Junagadh	Junagadh1	21.51670	70.45830	90.00	7.10	82.90
Junagadh	Juthal	21.16670	70.26670	62.00	6.34	55.66
Junagadh	Kalej	21.24860	70.05830	13.30	6.10	7.20
Junagadh	Kanek	21.03050	70.24160	13.30	10.01	3.29
Junagadh	Kansari	20.87000	71.05110	44.30	9.75	34.55
Junagadh	Kasia Naka Check Post	21.27030	70.68050	169.20	1.75	167.45
Junagadh	Kenedipur	21.27220	70.47970	120.80	3.21	117.59
Junagadh	Kesariya1	20.79640	70.94190	28.40	16.65	11.75
Junagadh	Kewarda	21.26670	70.20830	52.00	12.25	39.75
Junagadh	Khambalia1	21.04440	70.19170	11.00	8.44	2.56
Junagadh	Khokharda	21.42080	70.31670	37.00	17.40	19.60
Junagadh	Khorada1	21.06390	70.17360	11.30	7.31	3.99
Junagadh	Khoras ahir	21.37080	70.33890	47.00	15.75	31.25
Junagadh	Kodinar	20.80000	70.69170	15.00	9.58	5.42
Junagadh	Kodinar1	20.80000	70.69170	15.00	13.48	1.52
Junagadh	Kukaswada	21.05420	70.20830	14.00	11.34	2.66
Junagadh	Lohej	21.16670	70.06670	15.00	9.01	5.99
Junagadh	Maktupur1	21.14310	70.09580	15.70	7.21	8.49
Junagadh	Mandawad	21.35830	70.74580	131.00	13.02	117.98
Junagadh	Mangrol	21.12500	70.10830	14.00	16.77	-2.77
Junagadh	Mangrol1	21.13060	70.11940	18.60	9.40	9.20
Junagadh	Manketara	21.15000	70.12920	26.00	13.14	12.86
Junagadh	Mendarda1	21.32500	70.43330	86.00	15.74	70.26
Junagadh	Moraj	20.98330	70.43610	55.70	9.85	45.85
Junagadh	Patla	21.60420	70.56920	106.00	9.38	96.62
Junagadh	Prachi_Pz	20.92190	70.61330	54.00	8.12	45.88
Junagadh	Prasli	20.85080	70.66910	23.00	11.95	11.05
Junagadh	Prempara	21.30000	70.70000	146.00	18.20	127.80
Junagadh	Sametar	20.85420	71.12080	31.00	9.75	21.25
Junagadh	Saradiya	21.58860	70.03750	15.70	7.03	8.67
Junagadh	Sepa	21.11670	70.21940	40.30	20.30	20.00
Junagadh	Seriakhan	21.13330	70.24860	47.70	17.33	30.37
Junagadh	Sil	21.18550	70.04640	11.10	4.72	6.38

Junagadh	Sil bandar	21.22360	70.05550	13.20	2.89	10.31
Junagadh	Talala1	21.05140	70.52500	87.30	9.04	78.26
Junagadh	Una2	20.82500	71.04160	31.00	6.50	24.50
Junagadh	Vanthali ii	21.47080	70.32780	32.70	7.93	24.77
Junagadh	Visavadar	21.33890	70.74860	135.00	17.37	117.63
Kachchh	Asambia mota_Pz	22.96800	69.45140	67.80	8.50	59.30
Kachchh	Asambia mota1	22.96800	69.43750	61.00	16.45	44.55
Kachchh	Bambhdai	22.93890	69.08280	7.70	4.58	3.12
Kachchh	Bhadreshwar	22.90000	69.90000	10.00	9.20	0.80
Kachchh	Bhuj (Circuit House)	23.25000	69.66660	105.00	20.19	84.81
Kachchh	Chandranagar	23.45000	69.40000	61.00	8.67	52.33
Kachchh	Dayapar1	23.63330	68.87080	103.00	23.00	80.00
Kachchh	Deshalpur rapar	23.74720	70.67910	13.70	15.22	-1.52
Kachchh	Devisar	23.40280	69.32920	82.70	13.43	69.27
Kachchh	Dholavira	23.88330	70.21660	24.00	11.63	12.37
Kachchh	Dhori1	23.43330	69.75420	15.00	12.13	2.87
Kachchh	Dunai	23.05000	69.50000	108.00	13.01	94.99
Kachchh	Gagodar	23.41670	70.80000	43.00	32.30	10.70
Kachchh	Gandhidham2	23.07550	70.15140	12.30	12.40	-0.10
Kachchh	Haboi	23.35830	69.86660	112.00	0.62	111.38
Kachchh	Karagoga	22.94170	69.66250	51.00	2.58	48.42
Kachchh	Kharai_1	23.46300	68.68550	53.30	1.42	51.88
Kachchh	Kharoi	23.45420	70.35000	39.00	7.11	31.89
Kachchh	Khavada	23.83890	69.73050	16.80	6.34	10.46
Kachchh	Kotada	23.37690	69.19920	116.70	37.00	79.70
Kachchh	Kotaya	23.04170	69.07500	35.00	13.60	21.40
Kachchh	Kuda	23.53440	70.44020	58.90	26.67	32.23
Kachchh	Lakhpat	23.82300	68.77500	14.30	6.70	7.60
Kachchh	Lilpur	23.51110	70.65000	123.30	0.50	122.80
Kachchh	Lodai	23.40000	69.89170	27.00	16.91	10.09
Kachchh	Luni	22.87330	69.81160	13.00	8.86	4.14
Kachchh	Mata no madh	23.53330	68.95000	91.00	9.04	81.96
Kachchh	Mathak1	22.99720	70.02500	28.30	3.87	24.43
Kachchh	Mokha	22.95000	69.80000	41.00	17.66	23.34
Kachchh	Mothala	23.20830	69.12500	83.00	3.08	79.92
Kachchh	Moti cher	23.75830	68.67500	16.00	3.15	12.85
Kachchh	Mundra	22.82780	69.72080	7.00	6.60	0.40
Kachchh	Naliya	23.25580	68.84000	24.00	13.34	10.66
Kachchh	Naliya (Bus S)	23.26670	68.83330	21.00	10.42	10.58
Kachchh	Panchasar Pz II	23.54800	70.77030	87.70	30.10	57.60
Kachchh	Rapar	23.57500	70.64170	54.00	23.35	30.65
Kachchh	Rapar2	23.56670	70.63750	63.00	28.46	34.54
Kachchh	Ratanpur Khadir1	23.86080	70.36300	37.00	17.81	19.19
Kachchh	Ratanpur(maum.)	23.10830	69.29160	140.00	2.90	137.10
Kachchh	Rawapar	23.51670	69.07500	71.00	14.70	56.30
Kachchh	Rudramata	23.39170	69.70830	41.00	11.40	29.60
Kachchh	Samkhiari	23.30000	70.50830	42.00	3.62	38.38
Kachchh	Sedat	23.17140	69.63750	221.00	11.43	209.57
Kachchh	Shinaya	23.03330	70.05410	40.00	5.85	34.15
Kachchh	Sukhpar	23.20830	69.61660	120.00	15.28	104.72
Kachchh	Tera	23.28330	68.94720	46.30	12.37	33.93
Kachchh	Ugardi	23.46300	69.13800	89.10	30.46	58.64
Kachchh	Vadala	22.91610	69.85550	19.20	12.00	7.20

Kachchh	Vinjhan1	23.10000	69.02500	47.00	8.05	38.95
Kheda	Alina	22.80830	73.05830	49.00	9.25	39.75
Kheda	Alindra	22.70080	72.97660	44.00	11.50	32.50
Kheda	Balasinor	22.95830	73.33610	92.00	4.00	88.00
Kheda	Balasinor1	22.95000	73.32500	92.00	6.71	85.29
Kheda	Bar	23.16800	73.41110	147.30	5.39	141.91
Kheda	Boriyavi	22.63550	72.90910	39.30	9.76	29.54
Kheda	Dakor	22.76250	73.16940	60.30	6.54	53.76
Kheda	Juna vasadra	23.08330	73.36250	103.00	7.20	95.80
Kheda	Kalesar	22.72080	73.19170	59.00	2.65	56.35
Kheda	Kapadvanj	23.00420	73.09160	73.00	11.12	61.88
Kheda	Kheda	22.73750	72.70420	25.00	6.86	18.14
Kheda	Ladvel	22.90830	73.12080	69.00	1.80	67.20
Kheda	Mahudha	22.78330	72.94170	40.00	4.15	35.85
Kheda	Mulyad	22.78310	73.17660	58.70	1.30	57.40
Kheda	Nes_Pz	22.70830	73.20280	61.70	10.17	51.53
Kheda	Sarkhej _ Pz-III	22.98610	72.88060	54.20	36.60	17.60
Kheda	Shekhupura	22.57500	72.62500	24.00	0.55	23.45
Kheda	Vaso	22.66110	72.75420	32.00	6.35	25.65
Kheda	Virpur_Pz	23.19310	73.48520	103.60	5.40	98.20
Kheda	Vyas vasna	23.10550	73.10410	86.00	23.85	62.15
Mahesana	Asjol	23.50830	72.18330	56.00	5.69	50.31
Mahesana	Bhandupara	23.72500	72.38330	101.00	9.11	91.89
Mahesana	Budasan	23.28750	72.37500	62.00	4.93	57.07
Mahesana	Daran_Pz-III	23.20640	72.27970	49.30	2.58	46.72
Mahesana	Dharpura	23.54580	72.11250	51.00	7.72	43.28
Mahesana	Dosaj	23.84170	72.45000	131.00	16.85	114.15
Mahesana	Jaska(Sy_4")Pz_II	23.82360	72.53470	145.40	16.16	129.24
Mahesana	Kalyanpur	23.12690	72.19310	34.30	4.33	29.97
Mahesana	Karalli (iii)	23.80420	72.48610	132.30	11.90	120.40
Mahesana	Kheralu(shallow	23.89780	72.61050	176.20	3.99	172.21
Mahesana	Kheralu1	23.88750	72.61250	174.00	9.85	164.15
Mahesana	Maguna	23.57780	72.28890	72.60	7.45	65.15
Mahesana	Mau	23.51030	72.51920	100.70	9.23	91.47
Mahesana	Mehsana v	23.59750	72.39860	90.00	29.84	60.16
Mahesana	Modhera iii	23.71670	72.46660	117.00	10.21	106.79
Mahesana	Padhadya	23.52250	72.53330	106.00	12.35	93.65
Mahesana	Panchot	23.62920	72.34160	82.00	4.84	77.16
Mahesana	Rampura1	23.89170	72.51670	160.00	11.63	148.37
Mahesana	Ramvijaynagar Pz III	23.71000	72.34000	88.00	16.33	71.67
Mahesana	Sahi	23.80000	72.35000	111.00	12.08	98.92
Mahesana	Tarabh	23.75830	72.45830	122.00	9.52	112.48
Mahesana	Timba_1	23.98720	72.75890	242.20	15.31	226.89
Mahesana	Unawa	23.76670	72.36250	110.00	3.67	106.33
Mahesana	Unjha	23.79780	72.39440	116.30	6.40	109.90
Mahesana	Vidaj	23.24720	72.30000	56.70	2.26	54.44
Mahesana	Visnagar iv	23.70000	72.53330	125.00	4.43	120.57
Narmada	Agar(Rep)_Pz	22.03110	73.65660	60.00	10.46	49.54
Narmada	Almadi	21.60890	73.51080	168.70	7.35	161.35
Narmada	Amayar	21.54720	73.76670	193.30	9.25	184.05
Narmada	Baman Phalia_Pz	21.79830	73.37920	90.00	20.50	69.50
Narmada	Chikada	21.52080	73.64580	239.00	5.45	233.55
Narmada	Chuli	21.55470	73.47550	199.70	12.23	187.47

Narmada	Garudeshwar	21.89170	73.65000	42.00	11.40	30.60
Narmada	Hirapura	21.86800	73.60000	65.00	7.06	57.94
Narmada	Jankh	21.49220	73.59690	206.80	2.08	204.72
Narmada	Kanbi pitha	21.52080	73.64580	239.00	2.93	236.07
Narmada	Kewadia_Pz	21.88280	73.70050	60.90	5.88	55.02
Narmada	Khaidipada	21.51390	73.51940	220.00	6.00	214.00
Narmada	Khota amba	21.73330	73.47500	155.00	1.92	153.08
Narmada	Namaria	22.04440	73.62220	62.10	4.50	57.60
Narmada	Nani singlot	21.66940	73.66660	242.30	9.80	232.50
Narmada	Rajpipla	21.87500	73.50000	37.00	29.37	7.63
Narmada	Rasulpura_Pz	21.96670	73.62500	52.00	21.96	30.04
Narmada	Ringani	21.84170	73.46660	73.00	2.45	70.55
Narmada	Selemba 1	21.61000	73.76330	383.00	7.20	375.80
Narmada	Umran	21.48810	73.88300	111.60	7.65	103.95
Navsari	Abrama	20.86250	72.90000	4.00	1.40	2.60
Navsari	Chadav	20.83110	73.33440	73.70	9.70	64.00
Navsari	Chinam	20.99170	72.88610	7.70	3.83	3.87
Navsari	Dandi	20.89170	72.80830	4.00	4.80	-0.80
Navsari	Doldha	20.80670	73.22750	49.00	3.80	45.20
Navsari	Hond	20.73890	73.04580	20.70	7.80	12.90
Navsari	Kaliyari	20.72500	73.15000	47.00	9.10	37.90
Navsari	Kantasvel	20.79720	73.29160	69.00	8.20	60.80
Navsari	Khergam	20.63330	73.09580	41.00	7.90	33.10
Navsari	Manav Khadak	20.67420	73.23330	81.00	2.30	78.70
Navsari	Moti Valzar	20.80500	73.26670	72.00	7.75	64.25
Navsari	Navsari 1	20.95810	72.93500	7.00	4.77	2.23
Navsari	Onjal	20.83330	72.84160	11.00	5.25	5.75
Navsari	Panikhadak	20.64920	73.16690	62.30	13.50	48.80
Navsari	Pipalkhed	20.67500	73.28330	134.00	17.45	116.55
Navsari	Rankuva	20.81250	73.15830	38.00	7.48	30.52
Navsari	Rumla	20.68920	73.15890	47.70	9.40	38.30
Navsari	Sari_khurd	20.78750	72.95420	5.00	3.15	1.85
Navsari	Unai	20.85000	73.34160	80.00	9.56	70.44
Navsari	Vansda	20.76440	73.36300	108.90	11.65	97.25
Panchmahals	Bavaliya_Pz	23.30670	73.55500	166.00	27.65	138.35
Panchmahals	Chhabanpur	22.82780	73.61250	128.30	8.53	119.77
Panchmahals	Dhanol	22.75860	73.50670	103.30	1.21	102.09
Panchmahals	Gadhar	23.15000	73.77500	149.00	13.30	135.70
Panchmahals	Godhra_UR1	22.79280	73.60660	126.70	5.08	121.62
Panchmahals	Godhra2	22.77080	73.63330	128.00	8.49	119.51
Panchmahals	Jambughoda	22.36940	73.72500	107.00	6.58	100.42
Panchmahals	Jambughoda1	22.37280	73.72270	104.30	3.23	101.07
Panchmahals	Javan	22.40140	73.68500	269.70	7.91	261.79
Panchmahals	Jokha	23.06190	73.62020	96.10	7.53	88.57
Panchmahals	Kalol_UR1	22.60030	73.44330	82.00	12.87	69.13
Panchmahals	Kalol_UR2	22.58970	73.45140	84.70	17.96	66.74
Panchmahals	Kantha	23.17830	73.65220	109.00	1.95	107.05
Panchmahals	Khadki_Vadiya	22.66220	73.50020	94.60	16.90	77.70
Panchmahals	Khanpur	23.37000	73.67720	178.70	11.30	167.40
Panchmahals	Kothamba	23.01940	73.51940	92.10	2.81	89.29
Panchmahals	Limbadia peti	23.20420	73.60000	91.00	3.99	87.01
Panchmahals	Lunawada	23.12920	73.60830	103.00	9.62	93.38
Panchmahals	Malekpur1	23.23050	73.73610	110.00	3.35	106.65

Panchmahals	Morwa (Hadaf) Pz-I	22.91800	73.84440	147.60	11.70	135.90
Panchmahals	Natapur	22.85720	73.82050	153.90	8.49	145.41
Panchmahals	Palla Rajgarh Pz	22.52280	73.70080	191.70	20.08	171.62
Panchmahals	Pandarvada	23.37500	73.63330	158.00	15.56	142.44
Panchmahals	Pavagadh	22.48750	73.55550	127.00	8.51	118.49
Panchmahals	Ranipura	22.72500	73.75830	174.00	6.96	167.04
Panchmahals	Santrampur	23.17080	73.90830	136.00	9.18	126.82
Panchmahals	Santrampur1	23.19170	73.90830	144.00	8.98	135.02
Panchmahals	Santroad1	22.80330	73.79300	153.00	12.95	140.05
Panchmahals	Shehra	22.95420	73.62500	126.00	1.97	124.03
Panchmahals	Shivrajpur	22.42500	73.59160	100.00	9.69	90.31
Panchmahals	Suliyat	23.06220	73.85080	148.30	21.85	126.45
Panchmahals	Tarkanda	22.54580	73.52910	103.00	2.75	100.25
Panchmahals	Tuwa	22.80420	73.47080	82.00	3.84	78.16
Panchmahals	Ucharpi Pz	23.11920	73.47160	104.00	17.47	86.53
Panchmahals	Vejalpur	22.69580	73.55830	105.00	4.12	100.88
Patan	Dharmoda	23.69720	72.06940	60.20	3.37	56.83
Patan	Dhinoj1	23.66250	72.27910	80.00	15.12	64.88
Patan	Moti chander	23.59440	71.78050	27.30	2.12	25.18
Patan	Patan2	23.84170	72.12360	80.70	17.73	62.97
Patan	Piprala_1	23.65470	71.08580	22.70	10.76	11.94
Patan	Sander	23.76670	72.25420	89.00	11.95	77.05
Patan	Sankheshwar	23.52190	71.79080	25.70	0.74	24.96
Patan	Shankhari	23.77920	72.16250	80.00	15.09	64.91
Porbandar	Adityana	21.70860	69.71080	23.30	11.96	11.34
Porbandar	Adwana2	21.91670	69.60000	20.00	8.29	11.71
Porbandar	Babda	21.77000	69.58800	15.30	5.81	9.49
Porbandar	Bakharla	21.76470	69.66110	46.80	14.26	32.54
Porbandar	Balej	21.37080	69.87500	6.00	2.64	3.36
Porbandar	Bhavpura	21.80970	69.40830	10.00	3.85	6.15
Porbandar	Bhod	21.65890	69.82110	21.90	18.00	3.90
Porbandar	Hanumangadh1	21.79300	69.80270	72.70	5.15	67.55
Porbandar	Kadegi	21.45050	69.98330	10.00	0.55	9.45
Porbandar	Kandorna	21.64780	69.88330	22.00	15.68	6.32
Porbandar	Khambodar	21.80830	69.60140	22.00	5.56	16.44
Porbandar	Kolikhada	21.69970	69.61410	19.00	21.83	-2.83
Porbandar	Kuchhadi	21.68330	69.55000	0.00	2.17	-2.17
Porbandar	Kutiyana_Pz	21.62220	69.99720	10.70	4.40	6.30
Porbandar	Kutiyana1	21.63060	70.01670	21.00	4.63	16.37
Porbandar	Miyani	21.83330	69.38890	10.00	6.50	3.50
Porbandar	Mocha	21.34830	69.88920	16.00	3.32	12.68
Porbandar	Mojiwana	21.88580	69.60020	21.00	5.78	15.22
Porbandar	Nagka	21.82140	69.64910	48.30	9.62	38.68
Porbandar	Navibandar	21.44580	69.79160	9.00	1.58	7.42
Porbandar	Oddar	21.56670	69.68050	9.30	5.83	3.47
Porbandar	Palkhadal	21.75830	69.48750	13.00	10.10	2.90
Porbandar	Pata	21.29720	69.94170	5.30	3.60	1.70
Porbandar	Porbandar	21.64500	69.64250	7.00	1.92	5.08
Porbandar	Porbandar1	21.64170	69.62500	8.00	3.88	4.12
Porbandar	Ranavav2	21.68330	69.74580	30.00	10.95	19.05
Porbandar	Ratadi	21.72030	69.51190	6.10	6.05	0.05
Porbandar	Ratia	21.43800	69.80610	6.60	6.55	0.05
Porbandar	Simar	21.94690	69.68580	54.70	5.76	48.94

Porbandar	Tukda	21.51610	69.72860	6.90	2.98	3.92
Porbandar	Visavada Mul Dwarka	21.78560	69.44640	16.70	6.18	10.52
Rajkot	Bhadla	22.18330	71.09160	230.00	12.70	217.30
Rajkot	Chhatar	22.50420	70.75420	97.00	4.90	92.10
Rajkot	Chordi	21.91670	70.74860	127.30	9.15	118.15
Rajkot	Dadia	22.09170	70.73330	153.00	10.27	142.73
Rajkot	Dhoraji	21.74580	70.28580	44.00	10.20	33.80
Rajkot	Ganod	21.67500	70.17910	31.00	6.74	24.26
Rajkot	Gogavadar	21.96670	70.87500	155.00	8.35	146.65
Rajkot	Hadmatia	22.68330	70.80830	80.00	8.14	71.86
Rajkot	Halenda	22.09170	71.05000	212.00	1.70	210.30
Rajkot	Jamwali	21.93330	70.76670	131.00	2.33	128.67
Rajkot	Jasapur	21.89170	70.48330	99.00	9.80	89.20
Rajkot	Jasdan	22.04440	71.21390	200.60	8.08	192.52
Rajkot	Jasdan2	22.05830	71.22080	205.00	5.55	199.45
Rajkot	Jetpur	21.75610	70.61940	89.60	4.98	84.62
Rajkot	Kalithad1	22.01940	70.66020	126.80	3.50	123.30
Rajkot	Kamlapur	22.14580	71.20000	243.00	10.65	232.35
Rajkot	Kamlapur1	22.15190	71.19970	245.00	6.05	238.95
Rajkot	Khamta	22.47500	70.55000	73.00	8.10	64.90
Rajkot	Khirsara1	22.24170	70.64580	125.00	11.80	113.20
Rajkot	Lajai	22.71670	70.77910	62.00	4.45	57.55
Rajkot	Lalavadar	22.13330	71.30410	255.00	5.06	249.94
Rajkot	Lodhika1	22.14170	70.64170	159.00	7.57	151.43
Rajkot	Malia	23.09170	70.76250	6.00	3.15	2.85
Rajkot	Modpar1	22.90000	70.66660	24.00	1.43	22.57
Rajkot	Morvi	22.81670	70.84160	47.00	1.57	45.43
Rajkot	Mota dhansura	22.95830	70.61660	9.00	7.23	1.77
Rajkot	Movaiya	22.45000	70.60830	70.00	2.06	67.94
Rajkot	Neknam	22.50420	70.69580	86.00	11.27	74.73
Rajkot	Padadhari1	22.44720	70.60830	70.00	5.60	64.40
Rajkot	Ranpur1	22.36670	70.92910	164.00	17.81	146.19
Rajkot	Ribda	22.12500	70.76670	173.00	8.82	164.18
Rajkot	Sardhar1	22.14580	70.98880	213.70	2.62	211.08
Rajkot	Targhari	22.38330	70.66660	84.00	5.62	78.38
Rajkot	Upleta3	21.67030	70.18270	34.80	13.12	21.68
Rajkot	Vinchhia	22.20830	71.37920	171.00	2.18	168.82
Rajkot	Viranagar	22.02500	71.12500	181.00	5.20	175.80
Rajkot	Virpur1	21.85000	70.69580	114.00	9.13	104.87
Sabarkantha	Abhapur	23.96420	73.25800	491.70	6.30	485.40
Sabarkantha	Alwakampa	23.27470	73.20830	104.00	7.01	96.99
Sabarkantha	Anwarpura Pz	23.40550	72.84550	113.10	36.45	76.65
Sabarkantha	Atarsumba	23.98610	73.20830	275.30	7.81	267.49
Sabarkantha	Bayad_Pz	23.21670	73.22910	104.00	11.00	93.00
Sabarkantha	Bhadreshwar	23.74580	72.97910	167.00	24.63	142.37
Sabarkantha	Bhiloda2	23.76670	73.27220	205.00	6.25	198.75
Sabarkantha	Bibipur1	23.25280	73.21250	103.70	17.78	85.92
Sabarkantha	Boral	23.12500	73.20830	104.00	11.31	92.69
Sabarkantha	Boriya	23.24280	72.94080	80.70	7.93	72.77
Sabarkantha	Chandap_DW	23.92330	72.85330	176.00	16.45	159.55
Sabarkantha	Chandap_Pz	23.93190	72.85690	163.70	13.87	149.83
Sabarkantha	Choriwad	23.90000	73.11940	218.70	21.04	197.66
Sabarkantha	Derol Pz-II	23.59940	72.90250	142.70	46.81	95.89

Sabarkantha	Dhansura1	23.35000	73.20000	131.00	6.99	124.01
Sabarkantha	Gadada	23.57530	73.25310	170.30	6.56	163.74
Sabarkantha	Gadha	23.70830	72.94170	166.00	16.25	149.75
Sabarkantha	Hamirpur	23.40830	73.45830	148.00	11.44	136.56
Sabarkantha	Harsol1	23.37780	73.01670	116.70	14.04	102.66
Sabarkantha	Himmatnagar_Pz	23.60830	72.97080	137.00	8.50	128.50
Sabarkantha	Idar	23.84170	73.03750	200.00	9.09	190.91
Sabarkantha	Karanpur	23.33330	73.30000	134.00	3.36	130.64
Sabarkantha	Kesharpura	23.91530	73.14530	248.40	23.57	224.83
Sabarkantha	Kesharpura_Mayal	23.32220	72.94890	104.10	3.49	100.61
Sabarkantha	Khedbrahma_Pz	24.03610	73.04440	200.00	3.85	196.15
Sabarkantha	Khedbramha_1	24.02920	73.05000	213.00	13.75	199.25
Sabarkantha	Kherwada	23.96940	73.23360	280.20	5.82	274.38
Sabarkantha	Malpur_1	23.34470	73.46440	181.90	14.89	167.01
Sabarkantha	Malpur_Pz	23.34170	73.46800	150.00	9.43	140.57
Sabarkantha	Mathasuliya	23.60250	73.15440	191.70	6.49	185.21
Sabarkantha	Matoda	24.11110	73.00830	208.00	14.30	193.70
Sabarkantha	Medasana	23.51190	73.27440	155.80	7.27	148.53
Sabarkantha	Meghraj_1	23.49580	73.50830	164.00	12.12	151.88
Sabarkantha	Modasa	23.46250	73.30830	147.00	6.60	140.40
Sabarkantha	Poshina2	24.37500	73.03330	286.00	6.10	279.90
Sabarkantha	Punasan	23.66940	73.17360	239.10	5.48	233.62
Sabarkantha	Revas	23.82080	73.11660	199.00	15.60	183.40
Sabarkantha	Sabalwad	23.87420	72.96300	243.30	23.71	219.59
Sabarkantha	Sathamba	23.17500	73.33750	148.00	23.10	124.90
Sabarkantha	Seenawad	23.48640	73.39860	163.10	9.12	153.98
Sabarkantha	Shamlaji	23.68610	73.36660	218.30	7.14	211.16
Sabarkantha	Silwad	24.00830	73.11660	224.00	8.41	215.59
Sabarkantha	Takatuka_1	23.85140	73.30500	264.70	21.45	243.25
Sabarkantha	Umadpura	23.30360	72.96440	98.40	10.36	88.04
Sabarkantha	Varvada	23.44190	73.05660	119.30	13.87	105.43
Sabarkantha	Vejpur_Pz	23.79720	73.22080	216.00	14.77	201.23
Sabarkantha	Vijaynagar	24.00830	73.35410	356.00	4.40	351.60
Sabarkantha	Vijaynagar_Pz	24.00690	73.33330	350.70	11.23	339.47
Sabarkantha	Virpur_1(Himmat)	23.65170	72.95390	149.70	14.67	135.03
Sabarkantha	Wadali	23.93330	73.03330	217.00	28.32	188.68
Sabarkantha	Waliampura Pz	23.35110	72.97080	109.00	39.67	69.33
Surat	Allu	21.06250	73.19170	42.00	3.55	38.45
Surat	Bardoli	21.11530	73.10000	34.30	6.85	27.45
Surat	Bedchit	20.95000	73.35140	73.70	8.90	64.80
Surat	Bhatkol	21.38030	73.00420	27.00	2.95	24.05
Surat	Bhurvel (ukai)	21.22500	73.57920	85.00	5.00	80.00
Surat	Chapawadi	21.15140	73.39360	85.10	7.70	77.40
Surat	Chavada	21.47470	73.59500	222.70	3.30	219.40
Surat	Gangadhra	21.11860	73.07530	28.10	10.85	17.25
Surat	Jesingpura[sg]	21.17080	73.55410	215.00	7.40	207.60
Surat	Jhankhavav	21.45000	73.32920	116.00	7.40	108.60
Surat	Jhankhvav	21.46670	72.95280	30.70	9.65	21.05
Surat	Juna umarpada	21.45830	73.49160	236.00	4.90	231.10
Surat	Kadod 1	21.22140	73.21890	22.10	15.25	6.85
Surat	Karanjvel	21.01280	73.45800	111.70	7.50	104.20
Surat	Kasal	21.32220	73.12690	38.20	8.40	29.80
Surat	Kathor	21.29170	72.92910	21.00	15.50	5.50

Surat	Katradevi	21.41470	73.42770	141.10	6.20	134.90
Surat	Kelkui	21.04190	73.32330	63.00	1.20	61.80
Surat	Khedwada (Ashram Falia)	21.28110	73.46530	57.10	7.10	50.00
Surat	Mahuva2	21.02080	73.14580	32.00	17.75	14.25
Surat	Malda	21.36670	73.35000	88.00	10.60	77.40
Surat	Mandvi2	21.25420	73.29580	41.00	12.70	28.30
Surat	Mota	21.17030	73.06860	26.80	2.90	23.90
Surat	Moti Sarkui	21.27920	73.34970	43.30	5.55	37.75
Surat	Motichher	21.21250	73.36220	57.30	2.00	55.30
Surat	Navi pardi	21.32220	72.97080	23.30	2.78	20.52
Surat	Nizar	21.48050	74.20000	119.00	11.35	107.65
Surat	Nizar1	21.47720	74.19060	119.90	15.50	104.40
Surat	Nogama	21.29080	73.21440	51.30	1.54	49.76
Surat	Olpad2	21.34170	72.75830	9.00	1.50	7.50
Surat	Palsana	21.07780	72.99160	16.70	2.59	14.11
Surat	Paneshwar	21.45420	73.19830	56.00	11.90	44.10
Surat	Paniwara	21.53940	74.06940	117.40	7.45	109.95
Surat	Puna1	20.92920	73.22910	53.00	10.20	42.80
Surat	Sachin town	21.09170	72.87500	11.00	10.64	0.36
Surat	Sarbhon	21.05830	73.09160	27.00	2.50	24.50
Surat	Sayan	21.30550	72.91080	17.30	7.80	9.50
Surat	Sultanabad	21.09170	72.72500	2.00	5.41	-3.41
Surat	Tadkeshwar	21.38080	73.07640	42.00	8.80	33.20
Surat	Tawali	21.37610	73.90160	132.00	8.46	123.54
Surat	Ten-bardoli	21.11670	73.10000	34.00	6.10	27.90
Surat	Uchchhal	21.17190	73.76920	119.70	10.30	109.40
Surat	Ushker	21.34050	73.09770	34.10	5.60	28.50
Surat	Vadade-Khurd	21.25170	73.81690	111.70	3.20	108.50
Surat	Vaheval	20.83720	73.28770	68.00	12.80	55.20
Surat	Valod	21.05000	73.26670	54.00	4.50	49.50
Surat	Vyara1	21.10830	73.39580	81.00	3.90	77.10
Surat	Wadoli	21.42500	72.82920	10.00	5.15	4.85
Surendranagar	Anindra	22.81030	71.70580	58.30	2.98	55.32
Surendranagar	Bajana	23.11670	71.78330	10.00	1.48	8.52
Surendranagar	Bamanbor	22.41670	71.04160	194.00	10.28	183.72
Surendranagar	Chotila1	22.42500	71.18160	197.00	7.76	189.24
Surendranagar	Dasada	23.32000	71.82420	27.00	4.62	22.38
Surendranagar	Dedadra	22.77500	71.73330	51.00	2.42	48.58
Surendranagar	Dhama	23.38530	71.67940	19.30	6.10	13.20
Surendranagar	Dhandhalpur 1	22.38140	71.35080	186.30	2.19	184.11
Surendranagar	Dhrangadhra 2	22.99250	71.49800	50.30	8.22	42.08
Surendranagar	Jhinjhuwada	23.35000	71.65830	18.00	6.02	11.98
Surendranagar	Kherwa	23.00420	71.74580	39.00	2.09	36.91
Surendranagar	Lakhtar	22.85830	71.78330	42.00	5.34	36.66
Surendranagar	Limbdhi-Pz	22.57220	71.80830	48.00	2.51	45.49
Surendranagar	Moti Moladi	22.42080	71.11020	194.70	8.12	186.58
Surendranagar	Muli	22.65000	71.46660	110.00	5.28	104.72
Surendranagar	Sara	22.80000	71.19720	85.00	11.46	73.54
Surendranagar	Sarla	22.73330	71.36660	118.00	10.33	107.67
Surendranagar	Sayala	22.53330	71.48330	122.00	6.97	115.03
Surendranagar	Shiyani	22.66670	71.82920	36.00	3.92	32.08
Surendranagar	Sudamda	22.45420	71.48500	114.00	3.50	110.50

Surendranagar	Surendranagar2	22.71670	71.60830	75.00	6.83	68.17
Surendranagar	Tarnetar	22.64170	71.21660	126.00	15.80	110.20
Surendranagar	Than	22.57920	71.19970	139.70	7.95	131.75
Surendranagar	Visawadi	23.34170	71.73330	29.00	4.55	24.45
The dangs	Aherdi	20.69170	73.61660	355.00	1.65	353.35
The dangs	Ahwa_Pz	20.75890	73.68610	470.70	1.50	469.20
The dangs	Ahwa1	20.75830	73.68330	464.00	1.80	462.20
The dangs	Bari Pada	20.64000	73.69130	440.70	13.40	427.30
The dangs	Bhenskatri	20.76810	73.54160	352.30	8.30	344.00
The dangs	Bori Gaota 1	20.81080	73.50310	124.70	9.50	115.20
The dangs	Chikhli	20.65830	73.68750	397.00	1.90	395.10
The dangs	Chinchnogaota	20.80830	73.55270	172.00	7.31	164.69
The dangs	Chinchpada	20.63750	73.77500	596.00	1.90	594.10
The dangs	Dhumkal	20.64580	73.79160	484.00	1.60	482.40
The dangs	Ghubita	20.80000	73.73750	462.00	1.50	460.50
The dangs	Jakana	20.63330	73.74580	458.00	1.05	456.95
The dangs	Jamalpada	20.73170	73.52050	271.30	8.00	263.30
The dangs	Kalibel	20.92080	73.58050	173.00	1.90	171.10
The dangs	Mahal	20.91670	73.67910	212.00	3.90	208.10
The dangs	Malegaon	20.60000	73.74580	553.00	1.10	551.90
The dangs	Nadak khadi	20.80420	73.61250	207.00	7.05	199.95
The dangs	Nana pada	20.70000	73.58330	236.00	9.68	226.32
The dangs	Sakarpatal	20.71940	73.55690	232.30	3.00	229.30
The dangs	Sodmal	20.86670	73.61660	342.00	11.83	330.17
The dangs	Subir	20.92220	73.58050	170.80	1.60	169.20
The dangs	Umberpada	20.68330	73.72500	361.00	2.85	358.15
The dangs	Vaghai	20.76390	73.50440	158.00	12.00	146.00
The dangs	Vazat Amba	20.87830	73.51830	217.00	7.50	209.50
Vadodara	Alladpur	22.25000	73.71660	83.00	7.22	75.78
Vadodara	Amreshwar	22.22780	73.48330	51.00	3.30	47.70
Vadodara	Asala	22.38330	73.93330	136.00	12.50	123.50
Vadodara	Asar	22.20360	74.01050	175.80	17.20	158.60
Vadodara	Baladgam	22.13750	74.00830	160.00	13.00	147.00
Vadodara	Bhindol	22.20000	73.90000	109.00	8.48	100.52
Vadodara	Chavaria	22.18750	73.98750	151.00	10.90	140.10
Vadodara	Chella Karamsiya Pz	22.39670	73.43220	70.70	2.10	68.60
Vadodara	Chhaliyar	22.66670	73.31670	50.00	23.28	26.72
Vadodara	Chhota udepur	22.30830	74.01670	151.00	6.90	144.10
Vadodara	Chisadia	22.40000	74.13330	204.00	11.88	192.12
Vadodara	Chitral PZ_II	22.18190	72.94580	23.00	23.68	-0.68
Vadodara	Chota udepur	22.30830	74.01670	151.00	3.20	147.80
Vadodara	Ferkuva	22.36670	74.20830	241.00	6.20	234.80
Vadodara	Ghamodi	22.36670	74.07500	174.00	8.85	165.15
Vadodara	Ghayaj ii	22.23330	73.05410	29.00	21.07	7.93
Vadodara	Govindpura	22.21110	73.74130	78.80	5.66	73.14
Vadodara	Handod2	22.07360	73.04580	26.70	31.40	-4.70
Vadodara	Jojh	22.44170	73.96250	164.00	13.42	150.58
Vadodara	Juna samalya	22.50420	73.28330	55.00	12.30	42.70
Vadodara	Kaprali	21.97920	73.94170	229.00	8.64	220.36
Vadodara	Karamasiya	22.42080	73.41940	75.00	13.20	61.80
Vadodara	Kevadi	22.51670	73.94170	198.00	6.90	191.10
Vadodara	Kosindra Pz-I	22.14670	73.75560	83.30	3.88	79.42
Vadodara	Makni	22.22500	73.67910	73.00	14.06	58.94

Vadodara	Masor	22.14170	72.90830	21.00	13.12	7.88
Vadodara	Moti chikhali	22.01110	74.08330	296.70	4.03	292.67
Vadodara	Panwad	22.20000	74.04160	174.00	10.00	164.00
Vadodara	Patiyapura	22.27500	73.44170	60.00	7.80	52.20
Vadodara	Pavi	22.34170	73.83330	102.00	3.97	98.03
Vadodara	Pitha	22.25420	73.64170	71.00	8.24	62.76
Vadodara	Saidal	22.28330	73.50270	65.70	1.40	64.30
Vadodara	Saidivasana	22.05830	74.01670	218.00	6.70	211.30
Vadodara	Sankarda1	22.43890	73.12220	39.90	26.98	12.92
Vadodara	Sengpur	22.03750	73.88750	162.00	9.32	152.68
Vadodara	Sinor	21.91250	73.34160	40.00	22.20	17.80
Vadodara	Tundav	22.48330	73.20280	44.70	5.30	39.40
Vadodara	Vadodara Ii	22.30470	73.27160	36.30	4.29	32.01
Vadodara	Vadodara_Kevada Bag	22.29330	73.19830	35.00	5.54	29.46
Vadodara	Vadodara_ONGC	22.26920	73.21280	37.30	6.70	30.60
Vadodara	Vadtalav Pz	22.25860	73.78390	97.00	9.86	87.14
Vadodara	Vagudan	22.06670	74.14170	263.00	6.93	256.07
Vadodara	Vega	22.15940	73.41250	46.00	6.59	39.41
Vadodara	Vejpur2	22.74720	73.35550	70.80	1.93	68.87
Vadodara	Waghodia Pz	22.36390	73.37690	66.30	6.80	59.50
Valsad	Awadha	20.51670	73.28750	157.00	3.15	153.85
Valsad	Chavshala	20.32830	73.32580	242.00	1.30	240.70
Valsad	Dahli (bhilad)	20.25830	72.88330	42.00	49.20	-7.20
Valsad	Dharampur 3	20.53080	73.16250	70.00	14.10	55.90
Valsad	Dharampur1	20.53640	73.17050	78.60	9.20	69.40
Valsad	Dungri	20.68860	72.94940	15.90	9.30	6.60
Valsad	Fali	20.31300	73.37610	500.60	9.50	491.10
Valsad	Kanadu	20.32500	72.84160	43.00	7.80	35.20
Valsad	Kaparda	20.34170	73.21660	337.00	2.45	334.55
Valsad	Karwad	20.36250	72.97500	25.00	4.90	20.10
Valsad	Lakadmal	20.46670	73.15830	69.00	3.80	65.20
Valsad	Mandwa 1	20.36580	73.18000	176.00	10.60	165.40
Valsad	Muli1	20.63330	73.02500	32.00	3.30	28.70
Valsad	Nanaponda	20.41390	73.12080	63.30	9.30	54.00
Valsad	Tithal	20.60000	72.90000	6.00	6.30	-0.30
Valsad	Tumb	20.21670	72.84160	20.00	4.80	15.20
Valsad	Udwada	20.46360	72.91800	20.00	5.85	14.15
Valsad	Umargaon	20.19170	72.75000	10.00	4.00	6.00
Valsad	Vapi Balitha	20.38030	72.90440	25.90	9.00	16.90
Valsad	Wankal	20.55970	73.09030	50.00	16.40	33.60

Annexure IV

Mean decadal water level of the National Hydrograph Stations in Gujarat state (phreatic)
2020-21

Sl. No.	District	Site Name	LAT_Y	LONG_X	Pre- Monsoon	Post- Monsoon
1	Ahmedabad	Bagodara_Pz_II	22.64167	72.21389	6.90	5.75
2	Ahmedabad	Dalod	23.36667	71.96667	6.81	5.78
3	Ahmedabad	Devalia	22.37778	71.98611	20.31	18.89
4	Ahmedabad	Dhandhuka1	22.37500	71.98611	4.08	2.96
5	Ahmedabad	Endla	23.27222	72.05833	3.27	2.00
6	Ahmedabad	Gamph	22.35833	72.16667	2.84	1.61
7	Ahmedabad	Ghuma	23.03333	72.44583	5.05	3.11
8	Ahmedabad	Ghuma_Pz_II	23.03389	72.44972	5.11	3.49
9	Ahmedabad	Hansalpur_Pz-III	23.08889	72.01667	4.00	2.99
10	Ahmedabad	Kumarkhan	22.90000	72.01667	7.44	3.38
11	Ahmedabad	Kundal	22.90139	72.22361	9.85	7.11
12	Ahmedabad	Mandal2	23.27500	71.91667	5.90	3.94
13	Ahmedabad	Pachcham_Pz	22.23222	72.17889	2.74	1.26
14	Ahmedabad	Tagadi1	22.29583	71.94722	6.07	2.73
15	Ahmedabad	Ughraj1	23.36667	72.10000	8.35	6.56
16	Ahmedabad	Upardhal1	22.85000	72.14583	11.21	9.43
17	Ahmedabad	Vagad(Repl)_Pz	22.36028	71.86806	7.11	5.12
18	Ahmedabad	Viramgam2	23.14167	72.03333	3.50	1.88
19	Ahmedabad	Visalpur_Pz-II	22.91861	72.48778	8.76	5.74
20	Amreli	Amreli	21.60833	71.22500	11.57	5.91
21	Amreli	Amreli_Pz	21.61250	71.22500	12.70	7.53
22	Amreli	Amritvel_Pz	21.39722	71.35833	3.31	3.07
23	Amreli	Ankadia mota	21.64583	71.10833	10.20	6.59
24	Amreli	Badhda	21.26583	71.33889	9.86	7.54
25	Amreli	Bagasara	21.47917	70.96250	17.65	13.42
26	Amreli	Bhavardi1	21.10833	71.25833	5.81	0.87
27	Amreli	Bherai	20.86806	71.36250	3.12	2.46
28	Amreli	Bhuva	21.43278	71.36389	4.52	3.81
29	Amreli	Chalala	21.41667	71.16667	29.03	26.42
30	Amreli	Charkhadia_Pz	21.38750	71.29167	22.80	20.74
31	Amreli	Charkhadia1	21.39167	71.29583	18.37	17.88
32	Amreli	Chavand	21.81667	71.41250	9.55	5.12
33	Amreli	Dharangani	21.33333	71.20000	31.27	32.22
34	Amreli	Dhari_Pz	21.32639	71.01806	20.37	9.45
35	Amreli	Dhrai Balmukand	21.83417	71.21722	19.50	9.68
36	Amreli	Fifad	21.43611	71.54028	5.99	5.06
37	Amreli	Gopalpura Vanda Pz	21.37500	71.49167	27.51	25.78
38	Amreli	Goradka	21.22500	71.41111	9.90	3.95
39	Amreli	Govadka	21.54167	71.15833	6.67	2.59
40	Amreli	Hipavadli	21.37889	71.61472	9.51	8.49
41	Amreli	Ingorala	21.23333	71.20000	15.54	9.85
42	Amreli	Jafrabad	20.86667	71.36250	2.36	1.74
43	Amreli	Jira	21.23750	71.09167	9.37	4.57
44	Amreli	Kadiyali	20.90833	71.36028	6.15	2.65
45	Amreli	Kerala	21.39722	71.21667	38.46	33.57
46	Amreli	Khamba	21.15000	71.23889	9.46	4.17
47	Amreli	Khamba_Pz	21.14167	71.25417	12.38	8.13

48	Amreli	Kunkavav	21.66250	70.98333	18.14	20.36
49	Amreli	Lathi	21.72083	71.38333	7.92	3.72
50	Amreli	Lotpur	20.96250	71.43333	5.34	5.14
51	Amreli	Luvariya	21.62500	71.39583	10.09	4.74
52	Amreli	Mandal	21.10000	71.58333	28.53	24.31
53	Amreli	Manila_Pz	21.43333	71.16667	19.89	18.65
54	Amreli	Nageshri	20.92500	71.35417	5.14	2.83
55	Amreli	Piyava	21.38333	71.46667	28.78	25.72
56	Amreli	Punjapadar	21.52500	71.35833	10.18	5.36
57	Amreli	Tajpur	21.72500	71.46667	21.38	7.57
58	Amreli	Timbi2	20.89583	71.20417	6.93	5.26
59	Amreli	Trakuda	21.01667	71.28056	10.72	5.17
60	Amreli	Untvad	21.91667	71.21667	14.67	10.25
61	Amreli	Vaghania_juna	21.58333	70.96667	9.94	4.67
62	Amreli	Vankiya	21.52083	71.13611	10.40	6.18
63	Amreli	Vankiya1	21.23333	71.25000	16.34	6.44
64	Amreli	Victor	21.01250	71.54167	1.26	0.79
65	Amreli	Virpur	21.25417	71.15000	18.16	9.87
66	Anand	Anand	22.57500	72.97222	14.68	10.89
67	Anand	Anklav2	22.38333	73.00833	25.96	24.95
68	Anand	Bandhani	22.54167	72.81667	5.89	4.46
69	Anand	Bhadran	22.35556	72.89722	17.83	15.60
70	Anand	Boriyani	22.63222	73.00417	8.23	4.97
71	Anand	Dali	22.27500	72.76667	4.63	2.72
72	Anand	Davalpura_Pz	22.45833	72.80278	3.66	1.49
73	Anand	Dharmaj	22.42083	72.79444	12.63	10.68
74	Anand	Ghora	22.69167	73.05417	6.42	3.97
75	Anand	Kansari1	22.34167	72.65000	13.01	9.74
76	Anand	Laxmipura	22.41667	72.60833	3.26	1.36
77	Anand	Navapura	22.31250	72.96250	26.22	25.14
78	Anand	Ras	22.34583	72.83333	2.37	1.68
79	Anand	Tarapur_Pz-II	22.48611	72.66111	3.77	2.39
80	Arvalli	Alwakampa	23.27472	73.20833	13.76	7.38
81	Arvalli	Bayad_Pz	23.21667	73.22917	10.72	9.54
82	Arvalli	Bhiloda_Pz	23.76667	73.25000	9.02	3.24
83	Arvalli	Boral	23.12500	73.20833	17.50	9.70
84	Arvalli	Dhansura1	23.35000	73.20000	9.79	4.17
85	Arvalli	Gadada	23.57528	73.25306	10.84	5.67
86	Arvalli	Hamirpur	23.40833	73.45833	15.98	9.64
87	Arvalli	Karanpur	23.33333	73.30000	11.82	8.34
88	Arvalli	Malpur_1	23.34472	73.46444	16.68	7.82
89	Arvalli	Malpur_Pz	23.34167	73.46806	13.68	7.63
90	Arvalli	Medasana	23.51194	73.27444	9.07	6.46
91	Arvalli	Meghraj_1	23.49583	73.50833	9.72	4.33
92	Arvalli	Modasa	23.46250	73.30833	7.11	6.06
93	Arvalli	Punasan	23.66944	73.17361	6.99	4.78
94	Arvalli	Sathamba	23.17500	73.33750	18.47	6.21
95	Arvalli	Seenawad	23.48639	73.39861	11.20	4.54
96	Arvalli	Shamlaji	23.68611	73.36667	12.31	8.71
97	Arvalli	Takatuka_1	23.85139	73.30500	31.21	10.43
98	Arvalli	Vejpur_Pz	23.79722	73.22083	16.85	4.89
99	Banaskantha	Ambaji_Pz	24.33611	72.84722	11.66	6.59
100	Banaskantha	Amirgadh	24.40556	72.64167	13.26	10.58

101	Banaskantha	Bharol1	24.52917	71.54167	2.94	2.62
102	Banaskantha	Danta	24.18889	72.76528	10.54	7.95
103	Banaskantha	Dantiwada	24.18889	72.76056	36.18	34.03
104	Banaskantha	Dantiwada	24.27750	72.26139	28.72	25.95
105	Banaskantha	Ganapipli	24.29722	72.94722	12.20	8.79
106	Banaskantha	Gangodra	24.43611	72.36528	22.50	14.83
107	Banaskantha	Iqbalgarh	24.34583	72.53750	29.68	26.21
108	Banaskantha	Jhat	24.48750	72.35278	15.87	13.38
109	Banaskantha	Khoda	24.65833	71.76667	21.83	20.58
110	Banaskantha	Kidotar	24.39444	72.62778	19.81	17.12
111	Banaskantha	Meda	24.39722	72.28472	10.35	7.40
112	Banaskantha	Mohabbat gadh	24.16667	72.72778	23.13	17.73
113	Banaskantha	Naroli Pziii	24.61639	71.63861	9.41	8.20
114	Banaskantha	Palanpur2	24.19444	72.43333	30.05	25.92
115	Banaskantha	Ratanpur2	24.17500	72.74583	18.73	14.30
116	Banaskantha	Sodapur	24.40139	72.29583	15.05	12.30
117	Banaskantha	Tharad Pziii	24.38500	71.61944	13.12	11.57
118	Bharuch	Arethi	21.61250	73.43528	11.05	6.03
119	Bharuch	Bharuch	21.70000	73.00417	6.11	3.81
120	Bharuch	Bhensli	21.72500	72.75000	3.06	1.93
121	Bharuch	Chhindra	22.12667	72.66972	9.60	8.79
122	Bharuch	Dahegam	22.18472	72.59722	7.63	8.19
123	Bharuch	Hansot	21.58333	72.80833	4.72	3.09
124	Bharuch	Ilav	21.45000	72.80000	7.77	6.10
125	Bharuch	Jambusar	22.05278	72.80556	7.23	6.70
126	Bharuch	Jetpur1	21.49167	72.70833	3.52	2.36
127	Bharuch	Jokhla	21.59583	73.16917	3.01	1.71
128	Bharuch	Juna borbhata	21.67500	72.97500	6.94	5.19
129	Bharuch	Kalak1	22.01861	72.76306	8.03	5.45
130	Bharuch	Kaswa	21.68333	72.81667	7.18	4.23
131	Bharuch	Kavachiya	21.52917	73.35417	6.57	3.80
132	Bharuch	Kavi	22.19361	72.63944	7.22	6.18
133	Bharuch	Kondh	21.58056	73.06806	4.74	2.98
134	Bharuch	Luhara	21.67500	72.55833	3.21	1.83
135	Bharuch	Mahegam1	21.68333	72.75833	5.24	2.88
136	Bharuch	Modoliya	21.63333	73.29583	8.87	7.85
137	Bharuch	Mokhdi	21.53333	73.28750	9.94	5.14
138	Bharuch	Motwan	21.55556	72.88750	2.51	2.14
139	Bharuch	Mulad	21.68333	73.01944	7.32	5.00
140	Bharuch	Navetha	21.70778	72.83056	6.32	4.73
141	Bharuch	Netrang(Rep)_Pz	21.64167	73.36667	9.51	6.11
142	Bharuch	Netrang1	21.63333	73.36667	7.05	3.32
143	Bharuch	Nirnavi	21.79167	72.66806	9.73	5.83
144	Bharuch	Panoli	21.53750	72.97500	2.79	2.18
145	Bharuch	Raymal	21.52083	72.82083	1.78	1.50
146	Bharuch	Roja tankaria	21.91667	72.79167	8.90	7.82
147	Bharuch	Sahol	21.47278	72.80972	4.37	2.27
148	Bharuch	Sajod	21.61667	72.92361	4.72	3.45
149	Bharuch	Sarod	22.15833	72.75833	11.79	9.35
150	Bharuch	Simodra	21.74167	73.20833	6.72	3.97
151	Bharuch	Sindhav	22.02694	72.63611	7.96	6.45
152	Bharuch	Tankari	21.99167	72.67500	5.22	3.08
153	Bharuch	Utraj	21.59167	72.82500	5.26	4.27

154	Bhavnagar	Ambala	21.71111	71.84167	21.08	15.47
155	Bhavnagar	Ayodhayapuram	21.96028	71.88639	9.57	7.49
156	Bhavnagar	Bhavnagar1	21.76667	72.15000	7.06	4.99
157	Bhavnagar	Bhudel	21.69167	72.15833	4.52	2.50
158	Bhavnagar	Bhumbhalı	21.67944	72.24417	3.02	2.44
159	Bhavnagar	Bhutia	21.74722	71.70000	19.43	14.83
160	Bhavnagar	Bora	21.19111	71.92889	26.95	24.25
161	Bhavnagar	Chowk Pz	21.42917	71.76389	24.94	23.42
162	Bhavnagar	Datha	21.22083	71.95000	5.39	3.93
163	Bhavnagar	Dhasa	21.80000	71.50833	5.83	2.57
164	Bhavnagar	Dudhala	21.13750	71.65833	13.84	7.58
165	Bhavnagar	Gadhada2	21.96667	71.57917	4.58	4.04
166	Bhavnagar	Gariyadhar	21.54306	71.56528	20.66	11.14
167	Bhavnagar	Ghogha1	21.68333	72.27917	3.88	1.58
168	Bhavnagar	Jalia	21.80000	71.61667	17.97	13.37
169	Bhavnagar	Khijadiya	21.63750	71.70000	12.10	9.19
170	Bhavnagar	Kundheli	21.37944	71.98056	20.30	11.35
171	Bhavnagar	Longadi	21.21389	71.88333	4.81	3.13
172	Bhavnagar	Lonjdhara	22.09722	71.89722	25.84	18.25
173	Bhavnagar	Mahuva1	21.09583	71.76667	19.75	18.25
174	Bhavnagar	Malvav_Pz	21.16056	71.90833	28.79	22.61
175	Bhavnagar	Motivadal	21.19722	71.55000	6.54	3.07
176	Bhavnagar	Ningala	22.01806	71.70000	13.17	8.27
177	Bhavnagar	Palitana1	21.52500	71.82361	9.28	5.80
178	Bhavnagar	Palitana2	21.52222	71.83889	11.90	5.90
179	Bhavnagar	Paliyad2	22.25556	71.56389	21.11	7.13
180	Bhavnagar	Panchpipla	21.55000	71.72083	6.17	1.91
181	Bhavnagar	Panvi1	22.07500	71.89167	10.01	4.14
182	Bhavnagar	Pasvi	21.29167	71.96667	15.41	7.86
183	Bhavnagar	Porbada	21.80000	71.70000	12.59	7.85
184	Bhavnagar	Sajnasar	21.42500	71.91250	9.25	2.44
185	Bhavnagar	Sandhida	21.68750	71.75833	6.29	2.38
186	Bhavnagar	Satanes	21.44167	71.83750	14.77	4.49
187	Bhavnagar	Shantinagar	21.24583	71.65000	11.88	5.13
188	Bhavnagar	Talaja2	21.36667	72.01667	11.83	6.00
189	Bhavnagar	Tansa	21.50833	72.12500	13.78	8.21
190	Bhavnagar	Tardhera	22.22917	71.60417	21.95	19.34
191	Bhavnagar	Tatam	22.05833	71.63333	25.59	16.90
192	Bhavnagar	Timbi2	21.83167	71.76611	13.09	10.27
193	Bhavnagar	Trapaj	21.42500	72.09583	15.51	8.95
194	Bhavnagar	Umrala	21.84722	71.80833	13.33	8.64
195	Bhavnagar	Vadal	21.47694	71.80611	11.76	3.36
196	Bhavnagar	Vallabhipur1	21.88333	71.87778	5.63	4.53
197	Bhavnagar	Vallbhipur	21.88333	71.87500	5.41	3.88
198	Bhavnagar	Vavdi	21.56806	72.19806	11.59	2.44
199	Botad	Barvala	22.15000	71.89167	10.38	8.69
200	Botad	Kundali	22.26944	71.70000	14.94	7.10
201	Botad	Rajpada	22.30833	71.69167	18.97	14.45
202	Botad	Salangpor	22.15833	71.77083	19.05	10.32
203	Chhota Udepur	Alladpur	22.25000	73.71667	8.38	8.13
204	Chhota Udepur	Asala	22.38333	73.93333	11.78	5.68
205	Chhota Udepur	Baladgam	22.13750	74.00833	12.76	9.75
206	Chhota Udepur	Bhindol	22.20000	73.90000	9.37	4.79

207	Chhota Udepur	Bodeli	22.27083	73.71667	3.99	1.93
208	Chhota Udepur	Chavaria	22.18750	73.98750	11.80	11.37
209	Chhota Udepur	Chhota udepur	22.30833	74.01667	7.35	3.56
210	Chhota Udepur	Chisadia	22.40000	74.13333	11.88	10.32
211	Chhota Udepur	Devat (thadgam)	22.10000	73.98333	10.27	6.71
212	Chhota Udepur	Ferkuva	22.36667	74.20833	7.74	3.52
213	Chhota Udepur	Ghamodi	22.36667	74.07500	8.71	5.03
214	Chhota Udepur	Govindpura	22.21111	73.74139	6.79	4.02
215	Chhota Udepur	Jojh	22.44167	73.96250	12.82	8.41
216	Chhota Udepur	Kaprali	21.97917	73.94167	8.20	3.01
217	Chhota Udepur	Kevadi	22.51667	73.94167	6.96	4.30
218	Chhota Udepur	Kosindra Pz-I	22.14667	73.75556	3.15	2.90
219	Chhota Udepur	Makni	22.22500	73.67917	10.32	8.83
220	Chhota Udepur	Moti chikhali	22.01111	74.08333	4.34	3.01
221	Chhota Udepur	Panwad	22.20000	74.04167	12.55	5.57
222	Chhota Udepur	Pavi	22.34167	73.83333	4.74	3.98
223	Chhota Udepur	Pitha	22.25417	73.64167	8.55	5.29
224	Chhota Udepur	Saidivasana	22.05833	74.01667	6.49	3.07
225	Chhota Udepur	Sengpur	22.03750	73.88750	10.30	5.54
226	Chhota Udepur	Tokri	22.14722	74.02778	14.40	6.27
227	Chhota Udepur	Vadtalav Pz	22.25861	73.78389	12.59	8.56
228	Chhota Udepur	Vagudan	22.06667	74.14167	6.79	5.43
229	Chhota Udepur	Waghach	22.07083	73.85000	9.95	6.76
230	Devbhumi Dwarka	Amaliya Chokri	22.24028	69.12528	4.16	3.27
231	Devbhumi Dwarka	Ambardi	21.91639	69.85806	10.03	7.43
232	Devbhumi Dwarka	Aramda	22.43333	69.04167	5.87	4.87
233	Devbhumi Dwarka	Bhadthar	22.07917	69.57917	14.27	8.22
234	Devbhumi Dwarka	Bhanvad	21.92778	69.79583	14.55	8.51
235	Devbhumi Dwarka	Bhatia	22.09167	69.30139	14.08	6.37
236	Devbhumi Dwarka	Bhatiya	22.09444	69.26667	4.67	2.49
237	Devbhumi Dwarka	Bhogat1	21.99167	69.24583	9.13	5.28
238	Devbhumi Dwarka	Dwarka	22.24583	68.95833	7.98	7.74
239	Devbhumi Dwarka	Juvanpur	22.17083	69.36667	20.91	11.96
240	Devbhumi Dwarka	Kajuda	22.33333	69.70833	6.42	4.10
241	Devbhumi Dwarka	Kalyanpur2	22.01667	69.39167	21.76	12.42
242	Devbhumi Dwarka	Kambhaliya	22.20972	69.64583	10.01	4.40
243	Devbhumi Dwarka	Khirsara	21.97917	69.60000	11.96	4.72
244	Devbhumi Dwarka	Kuvadia	22.20139	69.58333	13.44	8.03

245	Devbhumi Dwarka	Lambha 1	21.89889	69.32361	10.38	4.54
246	Devbhumi Dwarka	Modpar	21.85833	69.80833	17.40	9.82
247	Devbhumi Dwarka	Mojap	22.36667	68.98333	8.48	7.12
248	Devbhumi Dwarka	Mota kalawad	21.90833	69.82917	22.44	16.23
249	Devbhumi Dwarka	Pindara1	22.24722	69.25833	7.05	4.68
250	Devbhumi Dwarka	Raval	21.92972	69.49194	7.70	3.77
251	Devbhumi Dwarka	Salaya	22.30556	69.60417	3.05	2.72
252	Devbhumi Dwarka	Samrasar1	22.37500	69.10417	5.31	3.70
253	Devbhumi Dwarka	Vadtara	22.20833	69.50000	11.45	8.04
254	Devbhumi Dwarka	Varwada	22.29167	68.96667	14.95	9.05
255	Devbhumi Dwarka	Vinjhalpur	22.15000	69.60000	8.34	5.40
256	Dohad	Ambakatch	22.66667	74.22028	3.34	1.61
257	Dohad	Bapda	22.67000	73.84167	7.89	2.98
258	Dohad	Dabhava	22.58333	73.90417	5.61	3.90
259	Dohad	Dadhela	22.83750	74.06667	7.70	3.28
260	Dohad	Dahod	22.84028	74.26250	3.07	1.79
261	Dohad	Dahod2	22.82500	74.23333	8.67	5.59
262	Dohad	Devgadh Baria	22.70000	73.91389	11.58	7.44
263	Dohad	Devgadh bariya	22.70000	73.91667	13.66	7.23
264	Dohad	Dhanpur	22.63333	74.10417	12.90	7.09
265	Dohad	Dohad_Urban1	22.85750	74.24944	5.22	4.20
266	Dohad	Dohad_Urban2	22.84472	74.26667	8.48	5.26
267	Dohad	Dohad_Urban3	22.83972	74.23389	6.82	3.20
268	Dohad	Fatepura(Karodia)	23.25417	74.02917	12.72	8.30
269	Dohad	Garbara	22.68056	74.31250	7.05	2.62
270	Dohad	Jhalod	23.09306	74.14722	9.29	6.26
271	Dohad	Jhalod1	23.09167	74.13333	8.69	4.96
272	Dohad	Kanjetha	22.58056	74.11389	10.19	5.84
273	Dohad	Khandania	22.70417	73.83750	13.01	10.53
274	Dohad	Limbdi2	23.00417	74.15833	4.24	2.20
275	Dohad	Limkheda	22.83056	73.98611	8.41	5.16
276	Dohad	Mirakhedi	22.93333	74.20000	6.62	2.93
277	Dohad	Panchwada	22.72917	74.30833	5.87	4.06
278	Dohad	Pipero	22.64722	74.09028	11.77	6.07
279	Dohad	Salaya1	22.80833	73.89167	13.40	5.48
280	Dohad	Sarsava	23.22778	73.97694	10.71	4.28
281	Dohad	Sukhsar	23.15000	74.05000	9.96	6.79
282	Dohad	Thada	22.94944	74.08889	9.55	6.12
283	Dohad	Tokarba	22.60417	74.03750	5.94	3.27
284	Dohad	Varamkheda	22.80000	74.27500	2.26	1.66
285	Dohad	Wadia	22.90000	74.05000	7.92	4.31
286	Gandhinagar	Adalaj_Pz_III	23.17500	72.55833	23.69	23.87

287	Gandhinagar	Kasturinagar(IFFCO)	23.19028	72.55278	13.47	11.62
288	Gandhinagar	Paliya	23.17917	72.84167	14.09	11.67
289	Gandhinagar	Serthapara1	23.19444	72.56667	15.25	12.62
290	Gir Somnath	Ajotha	20.90194	70.51806	21.21	6.83
291	Gir Somnath	Alwani	21.23056	70.63750	3.53	2.64
292	Gir Somnath	Amervel Nes	21.00889	70.72583	5.10	1.85
293	Gir Somnath	Bhim Deval	20.97750	70.60917	12.44	5.58
294	Gir Somnath	Dhokadva	20.95833	71.07083	13.38	10.20
295	Gir Somnath	Gangda_Pz	20.85833	71.16667	8.57	4.41
296	Gir Somnath	Girgadhada	20.92500	70.91667	8.40	6.92
297	Gir Somnath	Govindpura2	20.94583	70.39583	29.97	10.72
298	Gir Somnath	Jambur[madhapar	21.02917	70.60833	8.11	3.67
299	Gir Somnath	Jamvala1	20.98333	70.76250	6.37	5.10
300	Gir Somnath	Jargla Jargali	20.88083	70.98417	13.14	3.42
301	Gir Somnath	Kansari	20.87000	71.05111	13.58	8.40
302	Gir Somnath	Kesariya1	20.79639	70.94194	14.67	6.81
303	Gir Somnath	Kodinar	20.80000	70.69167	12.20	7.00
304	Gir Somnath	Kodinar1	20.80000	70.69167	14.38	8.77
305	Gir Somnath	Moraj	20.98333	70.43611	10.67	5.79
306	Gir Somnath	Prachi_Pz	20.92194	70.61333	16.56	6.84
307	Gir Somnath	Prasli	20.85083	70.66917	16.35	4.21
308	Gir Somnath	Sametar	20.85417	71.12083	16.31	9.04
309	Gir Somnath	Talala_Pz	21.06389	70.53833	11.36	6.20
310	Gir Somnath	Talala1	21.05139	70.52500	11.31	6.71
311	Gir Somnath	Una2	20.82500	71.04167	6.01	4.04
312	Jamnagar	Amran_Pz	22.82222	70.54583	4.50	2.02
313	Jamnagar	Amran1	22.82917	70.56250	4.70	2.53
314	Jamnagar	Balwa	21.90417	69.95833	20.53	14.14
315	Jamnagar	Bed1	22.43750	69.90000	8.74	5.56
316	Jamnagar	Bedanpur	22.68333	70.31667	5.90	4.06
317	Jamnagar	Changa	22.35000	70.04167	15.31	10.04
318	Jamnagar	Dhrol2	22.56667	70.41667	5.55	2.80
319	Jamnagar	Dudhai2	22.79167	70.50417	3.90	1.83
320	Jamnagar	Gordhanpur	22.45000	70.00139	12.11	7.05
321	Jamnagar	Haripur2	22.27083	70.33333	18.71	6.74
322	Jamnagar	Haryana	22.60833	70.26250	8.86	5.77
323	Jamnagar	Jambuda	22.52500	70.20417	8.18	4.09
324	Jamnagar	Jamjodhpur	21.90556	70.03056	6.86	4.95
325	Jamnagar	Jamnagar1	22.47083	70.05000	12.66	4.69
326	Jamnagar	Jamnagar2	22.45833	70.07917	7.76	4.61
327	Jamnagar	Kalawad	22.21667	70.38333	4.00	2.97
328	Jamnagar	Lalpur1	22.19167	69.96111	12.47	8.10
329	Jamnagar	Motagop	22.03750	69.87500	8.57	6.81
330	Jamnagar	Moti khavdi	22.38750	69.86667	9.33	7.26
331	Jamnagar	Moti matli	22.31667	70.26389	21.07	8.28
332	Jamnagar	Nikava	22.19167	70.53333	4.18	2.56
333	Jamnagar	Seth vadala	22.03333	70.12500	10.87	5.04
334	Jamnagar	Sumana	22.10833	70.16667	12.24	8.97
335	Jamnagar	Toda	22.06250	70.38333	11.99	4.80
336	Jamnagar	Vad panchasara	22.23333	70.11667	16.81	8.71
337	Jamnagar	Vijarkha	22.41667	70.18333	11.85	6.88
338	Junagadh	Anandpur	21.41028	70.51806	18.16	7.37
339	Junagadh	Antroli	21.23611	70.00694	6.95	4.97

340	Junagadh	Arena	21.08056	70.17639	12.15	6.55
341	Junagadh	Bamanwara	21.22083	70.05556	10.74	6.14
342	Junagadh	Bantva	21.48750	70.08333	18.61	11.64
343	Junagadh	Bhatsimroli	21.22361	70.18333	21.94	10.87
344	Junagadh	Bilkha	21.43889	70.60000	13.14	8.26
345	Junagadh	Budhecha	21.09583	70.21667	7.81	4.71
346	Junagadh	Chokli	21.60194	70.54167	21.51	8.58
347	Junagadh	Chorwad	21.04167	70.21667	7.21	4.37
348	Junagadh	Gadu	21.05417	70.27917	35.69	22.53
349	Junagadh	Galodar	21.14722	70.27500	20.48	8.84
350	Junagadh	Goraj1	21.18333	70.15417	33.24	10.58
351	Junagadh	Junagadh	21.50944	70.46222	12.85	9.67
352	Junagadh	Junagadh1	21.51667	70.45833	11.04	5.90
353	Junagadh	Juthal	21.16667	70.26667	8.62	8.63
354	Junagadh	Kalej	21.24861	70.05833	13.67	10.17
355	Junagadh	Kanek	21.03056	70.24167	14.36	7.00
356	Junagadh	Kasia Naka Check Post	21.27028	70.68056	4.84	2.12
357	Junagadh	Kewarda	21.26667	70.20833	15.31	9.53
358	Junagadh	Khambalia1	21.04444	70.19167	9.00	8.39
359	Junagadh	Khokharda	21.42083	70.31667	22.54	11.28
360	Junagadh	Khorada1	21.06389	70.17361	9.03	6.15
361	Junagadh	Khoras ahir	21.37083	70.33889	13.79	8.94
362	Junagadh	Kukaswada	21.05417	70.20833	9.96	7.05
363	Junagadh	Lohej	21.16667	70.06667	9.80	9.30
364	Junagadh	Maktpur1	21.14306	70.09583	9.40	9.04
365	Junagadh	Mandawad	21.35833	70.74583	14.04	8.51
366	Junagadh	Mangrol	21.12500	70.10833	17.44	16.56
367	Junagadh	Mangrol1	21.13056	70.11944	12.93	11.69
368	Junagadh	Manketara	21.15000	70.12917	30.32	19.16
369	Junagadh	Mendarda	21.32500	70.44028	17.96	11.98
370	Junagadh	Mendarda1	21.32500	70.43333	16.86	10.94
371	Junagadh	Patla	21.60417	70.56917	9.76	3.70
372	Junagadh	Prempara	21.30000	70.70000	19.49	10.12
373	Junagadh	Saradiya	21.58861	70.03750	13.41	3.12
374	Junagadh	Sepa	21.11667	70.21944	27.57	20.89
375	Junagadh	Seriakan	21.13333	70.24861	19.94	13.93
376	Junagadh	Shardagram	21.10417	70.15278	11.97	9.73
377	Junagadh	Sil	21.18556	70.04639	6.95	5.33
378	Junagadh	Sil bandar	21.22361	70.05556	8.02	5.52
379	Junagadh	Vadal	21.60889	70.50222	15.47	9.98
380	Junagadh	Vanthali ii	21.47083	70.32778	13.52	6.54
381	Junagadh	Visavadar	21.33889	70.74861	15.85	10.07
382	Kachchh	Asambia mota_Pz	22.96806	69.45139	7.90	6.70
383	Kachchh	Asambia mota1	22.96806	69.43750	13.34	10.90
384	Kachchh	Bambhdai	22.93889	69.08278	5.73	4.76
385	Kachchh	Bhadreshwar	22.90000	69.90000	8.19	6.65
386	Kachchh	Bhuj (Circuit House)	23.25000	69.66667	15.29	14.57
387	Kachchh	Chandranagar	23.45000	69.40000	7.61	6.55
388	Kachchh	Dayapar	23.63056	68.90000	18.55	21.66
389	Kachchh	Deshalpur rapar	23.74722	70.67917	13.06	11.19
390	Kachchh	Devisar	23.40278	69.32917	12.42	11.07
391	Kachchh	Dholavira	23.88333	70.21667	10.71	8.84
392	Kachchh	Dhori1	23.43333	69.75417	14.93	12.89

393	Kachchh	Dunai	23.05000	69.50000	11.07	9.07
394	Kachchh	Gagodar	23.41667	70.80000	29.72	26.66
395	Kachchh	Haboi	23.35833	69.86667	0.98	0.56
396	Kachchh	Kakarwa	23.47500	70.40417	16.68	15.89
397	Kachchh	Karagoga	22.94167	69.66250	2.62	2.24
398	Kachchh	Kharoi	23.45417	70.35000	6.83	5.47
399	Kachchh	Khavada	23.83889	69.73056	6.43	4.95
400	Kachchh	Kotada	23.37694	69.19917	38.00	35.58
401	Kachchh	Kotadi	23.04167	69.19167	8.44	8.07
402	Kachchh	Kotaya	23.04167	69.07500	10.62	9.13
403	Kachchh	Kothara	23.16194	68.91194	5.42	4.87
404	Kachchh	Kuda	23.53444	70.44028	26.25	23.39
405	Kachchh	Kumbhariya	23.34111	70.72361	7.64	6.94
406	Kachchh	Lakhpat	23.82306	68.77500	8.83	5.76
407	Kachchh	Lilpur	23.51111	70.65000	0.76	0.61
408	Kachchh	Lodai	23.40000	69.89167	15.20	14.51
409	Kachchh	Luni	22.87333	69.81167	9.38	7.35
410	Kachchh	Mandvi (Shitla Mata)	22.83333	69.33333	7.54	5.53
411	Kachchh	Mata no madh	23.53333	68.95000	11.35	10.08
412	Kachchh	Mathak1	22.99722	70.02500	8.86	9.31
413	Kachchh	Mothala	23.20833	69.12500	4.00	3.29
414	Kachchh	Moti cher	23.75833	68.67500	3.99	3.41
415	Kachchh	Mundra	22.82778	69.72083	5.99	4.90
416	Kachchh	Naliya	23.25583	68.84000	10.59	9.22
417	Kachchh	Naliya (Bus S)	23.26667	68.83333	10.70	8.47
418	Kachchh	Rapar2	23.56667	70.63750	27.09	22.94
419	Kachchh	Ratanpur Khadir1	23.86083	70.36306	17.17	13.21
420	Kachchh	Rawapar	23.51667	69.07500	14.61	14.11
421	Kachchh	Rudramata	23.39167	69.70833	9.39	5.71
422	Kachchh	Samkhiari	23.30000	70.50833	7.39	5.41
423	Kachchh	Sedat	23.17139	69.63750	12.39	11.69
424	Kachchh	Shinaya	23.03333	70.05417	3.30	1.90
425	Kachchh	Shivlakha	23.37500	70.62361	16.61	8.32
426	Kachchh	Sukhpar	23.20833	69.61667	14.07	13.06
427	Kachchh	Tera	23.28333	68.94722	11.85	11.27
428	Kachchh	Ugardi	23.46306	69.13806	28.24	27.20
429	Kachchh	Vinjhan1	23.10000	69.02500	9.09	6.54
430	Kheda	Alina	22.80833	73.05833	10.96	8.85
431	Kheda	Dakor	22.76250	73.16944	7.32	5.31
432	Kheda	Kalesar	22.72083	73.19167	3.91	1.98
433	Kheda	Kapadvanj	23.00417	73.09167	13.15	7.63
434	Kheda	Ladvel	22.90833	73.12083	2.53	1.13
435	Kheda	Mahudha	22.78333	72.94167	5.03	2.89
436	Kheda	Muliyad	22.78306	73.17667	2.63	1.10
437	Kheda	Nadiad2	22.68333	72.88333	9.73	7.31
438	Kheda	Nes_Pz	22.70833	73.20278	9.40	6.57
439	Kheda	Sarkhej _ Pz-III	22.98611	72.88056	39.66	34.37
440	Kheda	Shekhupura	22.57500	72.62500	1.18	1.07
441	Kheda	Thasra	22.79444	73.21111	5.39	2.46
442	Kheda	Vaso	22.66111	72.75417	7.07	4.37
443	Kheda	Vyas vasna	23.10556	73.10417	24.98	15.40
444	Mahesana	Asjol	23.50833	72.18333	7.37	4.11
445	Mahesana	Bhandupara	23.72500	72.38333	9.54	8.26

446	Mahesana	Budasan	23.28750	72.37500	5.53	2.77
447	Mahesana	Daran_Pz-III	23.20639	72.27972	2.83	2.20
448	Mahesana	Dharpura	23.54583	72.11250	8.06	6.61
449	Mahesana	Dosaj	23.84167	72.45000	10.29	8.05
450	Mahesana	Jaska(Sy_4")Pz_II	23.82361	72.53472	15.21	15.71
451	Mahesana	Kalyanpur	23.12694	72.19306	5.20	4.53
452	Mahesana	Karalli (iii)	23.80417	72.48611	11.32	10.95
453	Mahesana	Kheralu(shallow	23.89778	72.61056	6.51	4.35
454	Mahesana	Kheralu1	23.88750	72.61250	12.77	9.21
455	Mahesana	Maguna	23.57778	72.28889	9.07	6.16
456	Mahesana	Mau	23.51028	72.51917	9.25	7.60
457	Mahesana	Mehsana v	23.59750	72.39861	29.71	30.17
458	Mahesana	Modhera iii	23.71667	72.46667	9.66	8.29
459	Mahesana	Padhadya	23.52250	72.53333	11.85	11.27
460	Mahesana	Panchot	23.62917	72.34167	6.21	4.01
461	Mahesana	Rampura1	23.89167	72.51667	9.13	7.71
462	Mahesana	Sahi	23.80000	72.35000	12.92	10.48
463	Mahesana	Tarabh	23.75833	72.45833	9.02	6.63
464	Mahesana	Timba_1	23.98722	72.75889	15.89	11.70
465	Mahesana	Unad1	23.84583	72.71667	13.69	13.84
466	Mahesana	Unawa	23.76667	72.36250	4.52	3.70
467	Mahesana	Unjha	23.79778	72.39444	5.75	4.96
468	Mahesana	Vidaj	23.24722	72.30000	4.11	2.48
469	Mahesana	Visnagar iv	23.70000	72.53333	3.16	2.31
470	Mahisagar	Balasinor	22.95833	73.33611	4.26	2.75
471	Mahisagar	Balasinor1	22.95000	73.32500	7.68	3.67
472	Mahisagar	Bar	23.16806	73.41111	6.06	2.73
473	Mahisagar	Bavaliya	23.32500	73.56944	8.83	4.41
474	Mahisagar	Bavaliya_Pz	23.30667	73.55500	25.21	4.39
475	Mahisagar	Gadhar	23.15000	73.77500	11.99	3.66
476	Mahisagar	Jokha	23.06194	73.62028	8.20	5.42
477	Mahisagar	Juna vasadra	23.08333	73.36250	5.53	2.91
478	Mahisagar	Kantha	23.17833	73.65222	5.10	2.75
479	Mahisagar	Khanpur	23.37000	73.67722	10.76	9.96
480	Mahisagar	Kothamba	23.01944	73.51944	4.41	2.94
481	Mahisagar	Limbadia peti	23.20417	73.60000	5.54	2.55
482	Mahisagar	Lunawada	23.12917	73.60833	9.95	6.73
483	Mahisagar	Malekpur1	23.23056	73.73611	3.74	1.92
484	Mahisagar	Pandarvada	23.37500	73.63333	15.40	4.46
485	Mahisagar	Santrampur	23.17083	73.90833	9.52	5.16
486	Mahisagar	Santrampur1	23.19167	73.90833	9.82	5.03
487	Mahisagar	Ucharpi Pz	23.11917	73.47167	17.73	10.49
488	Mahisagar	Virpur_Pz	23.19306	73.48528	8.69	4.44
489	Morbi	Amar nagar	22.93333	70.80833	3.46	2.94
490	Morbi	Bhalgam	22.44167	71.08333	15.42	8.04
491	Morbi	Chhatar	22.50417	70.75417	6.17	4.14
492	Morbi	Hadmatia	22.68333	70.80833	8.87	6.31
493	Morbi	Halvad2	23.02083	71.18750	12.73	10.57
494	Morbi	Juna Devaliya 1	22.97944	71.00889	3.49	2.15
495	Morbi	Kalyanpur2	22.65833	70.73333	7.85	4.21
496	Morbi	Lajai	22.71667	70.77917	6.36	3.66
497	Morbi	Macchukunda	23.00139	70.89583	5.98	5.12
498	Morbi	Malia	23.09167	70.76250	3.33	2.45

499	Morbi	Modpar1	22.90000	70.66667	3.00	2.12
500	Morbi	Morvi	22.81667	70.84167	3.36	2.17
501	Morbi	Mota dhansura	22.95833	70.61667	8.88	5.97
502	Morbi	Neknam	22.50417	70.69583	13.98	10.97
503	Morbi	Nichi mandal	22.85833	70.95000	5.92	4.28
504	Morbi	Sarvad	23.00639	70.70694	2.76	1.30
505	Morbi	Sindhavadar	22.55000	70.89167	11.74	9.73
506	Morbi	Sukhpar1	23.00833	71.28333	6.03	3.05
507	Morbi	Wankaner-1	22.62083	70.92917	6.66	4.97
508	Narmada	Agar(Rep)_Pz	22.03111	73.65667	9.86	7.49
509	Narmada	Almadi	21.60889	73.51083	7.35	1.71
510	Narmada	Amayar	21.54722	73.76667	8.77	4.26
511	Narmada	Baman Phalia_Pz	21.79833	73.37917	19.65	15.57
512	Narmada	Chikada	21.52083	73.64583	5.45	3.27
513	Narmada	Chuli	21.55472	73.47556	12.23	4.96
514	Narmada	Garudeshwar	21.89167	73.65000	11.69	9.78
515	Narmada	Hirapura	21.86806	73.60000	5.92	4.11
516	Narmada	Jankh	21.49222	73.59694	3.29	1.51
517	Narmada	Kanbi pitha	21.52083	73.64583	3.62	1.93
518	Narmada	Kewadia_Pz	21.88278	73.70056	5.82	3.15
519	Narmada	Khaidipada	21.51389	73.51944	5.48	0.68
520	Narmada	Khota amba	21.73333	73.47500	2.02	1.29
521	Narmada	Namaria	22.04444	73.62222	4.48	2.97
522	Narmada	Nani singlot	21.66944	73.66667	9.76	7.05
523	Narmada	Rajpipla	21.87500	73.50000	29.15	28.36
524	Narmada	Ralda	21.61000	73.65250	4.78	1.98
525	Narmada	Rasela	21.92500	73.49167	14.67	16.35
526	Narmada	Rasulpura_Pz	21.96667	73.62500	24.85	22.16
527	Narmada	Ringani	21.84167	73.46667	2.08	2.02
528	Narmada	Sunderpura_Pz	21.83889	73.53472	31.70	28.14
529	Narmada	Umran	21.48806	73.88306	8.06	4.19
530	Navsari	Abrama	20.86250	72.90000	3.26	1.04
531	Navsari	Anklas	20.61944	73.26667	10.32	7.89
532	Navsari	Chadav	20.83111	73.33444	10.97	4.88
533	Navsari	Chinam	20.99167	72.88611	3.25	2.08
534	Navsari	Dandi	20.89167	72.80833	3.85	2.29
535	Navsari	Duvada	20.82861	73.05750	5.24	4.41
536	Navsari	Hond	20.73889	73.04583	8.72	3.79
537	Navsari	Kaliyari	20.72500	73.15000	11.28	2.54
538	Navsari	Kantasvel	20.79722	73.29167	8.20	3.93
539	Navsari	Khergam	20.63333	73.09583	8.06	2.98
540	Navsari	Manav Khadak	20.67417	73.23333	3.82	2.82
541	Navsari	Moti Valzar	20.80500	73.26667	7.64	3.45
542	Navsari	Navsari	20.95000	72.93333	28.60	20.75
543	Navsari	Navsari 1	20.95806	72.93500	5.42	2.26
544	Navsari	Onjal	20.83333	72.84167	6.19	3.50
545	Navsari	Panikhadak	20.64917	73.16694	12.78	5.89
546	Navsari	Pipalkhed	20.67500	73.28333	16.53	5.69
547	Navsari	Rankuva	20.81250	73.15833	7.48	2.17
548	Navsari	Sari_khurd	20.78750	72.95417	3.87	1.99
549	Navsari	Ubhrat	21.00833	72.74583	4.61	2.56
550	Navsari	Unai	20.85000	73.34167	9.32	5.91
551	Navsari	Vansda	20.76444	73.36306	11.36	8.22

552	Panchmahals	Chhabanpur	22.82778	73.61250	10.14	7.30
553	Panchmahals	Dhanol	22.75861	73.50667	4.70	1.54
554	Panchmahals	Godhra	22.78333	73.60972	3.75	1.95
555	Panchmahals	Godhra_UR1	22.79278	73.60667	7.13	4.04
556	Panchmahals	Godhra_UR3	22.78000	73.60694	6.76	2.18
557	Panchmahals	Godhra2	22.77083	73.63333	7.45	5.31
558	Panchmahals	Jambughoda	22.36944	73.72500	6.98	5.80
559	Panchmahals	Javan	22.40139	73.68500	8.60	5.47
560	Panchmahals	Kalol_UR1	22.60028	73.44333	14.90	14.57
561	Panchmahals	Kalol_UR2	22.58972	73.45139	18.27	11.49
562	Panchmahals	Khadki_Vadiya	22.66222	73.50028	15.65	11.02
563	Panchmahals	Morwa (Hadaf) Pz-I	22.91806	73.84444	13.09	10.34
564	Panchmahals	Natapur	22.85722	73.82056	8.70	6.57
565	Panchmahals	Palla Rajgarh Pz	22.52278	73.70083	24.17	11.66
566	Panchmahals	Pavagadh	22.48750	73.55556	9.90	5.29
567	Panchmahals	Ranipura	22.72500	73.75833	8.77	4.46
568	Panchmahals	Santroad	22.80000	73.81250	13.33	8.58
569	Panchmahals	Santroad1	22.80333	73.79306	15.03	8.61
570	Panchmahals	Shehra	22.95417	73.62500	3.50	1.26
571	Panchmahals	Shivrajpur	22.42500	73.59167	11.81	6.05
572	Panchmahals	Suliyat	23.06222	73.85083	20.18	16.14
573	Panchmahals	Tarkanda	22.54583	73.52917	11.41	3.70
574	Panchmahals	Timbi2	22.50833	73.50833	6.99	4.71
575	Panchmahals	Tuwa	22.80417	73.47083	4.78	3.29
576	Panchmahals	Vejalpur	22.69583	73.55833	6.38	3.97
577	Patan	Dharmoda	23.69722	72.06944	5.17	3.86
578	Patan	Dhinoj1	23.66250	72.27917	13.19	11.72
579	Patan	Moti chander	23.59444	71.78056	3.06	1.97
580	Patan	Patan2	23.84167	72.12361	17.45	16.88
581	Patan	Piprala_1	23.65472	71.08583	10.37	9.81
582	Patan	Radhanpur2	23.82500	71.61389	1.93	0.54
583	Patan	Sander	23.76667	72.25417	14.39	11.49
584	Patan	Sankheshwar	23.52194	71.79083	2.35	1.20
585	Patan	Shankhari	23.77917	72.16250	17.81	16.53
586	Porbandar	Adityana	21.70861	69.71083	22.47	12.39
587	Porbandar	Adwana2	21.91667	69.60000	13.61	8.07
588	Porbandar	Babda	21.77000	69.58806	13.82	5.19
589	Porbandar	Bakharla	21.76472	69.66111	21.99	10.52
590	Porbandar	Bhavpura	21.80972	69.40833	9.37	6.72
591	Porbandar	Bhod	21.65889	69.82111	24.54	16.66
592	Porbandar	Degam	21.71028	69.60556	18.45	13.08
593	Porbandar	Hanumangadh1	21.79306	69.80278	25.84	14.80
594	Porbandar	Kadegi	21.45056	69.98333	2.63	0.55
595	Porbandar	Kandorna	21.64778	69.88333	20.16	11.99
596	Porbandar	Khambodar	21.80833	69.60139	11.00	5.31
597	Porbandar	Kolikhada	21.69972	69.61417	28.65	17.51
598	Porbandar	Kuchhadi	21.68333	69.55000	3.04	2.35
599	Porbandar	Kutiyana_Pz	21.62222	69.99722	13.31	5.57
600	Porbandar	Kutiyana1	21.63056	70.01667	12.80	5.34
601	Porbandar	Miyani	21.83333	69.38889	7.44	6.16
602	Porbandar	Mocha	21.34833	69.88917	5.10	5.53
603	Porbandar	Mojiwana	21.88583	69.60028	13.82	5.59
604	Porbandar	Navibandar	21.44583	69.79167	5.11	3.77

605	Porbandar	Oddar	21.56667	69.68056	6.55	6.02
606	Porbandar	Palkhada1	21.75833	69.48750	12.88	7.24
607	Porbandar	Pata	21.29722	69.94167	5.31	4.33
608	Porbandar	Porbandar	21.64500	69.64250	5.67	2.68
609	Porbandar	Porbandar1	21.64167	69.62500	4.37	3.51
610	Porbandar	Ranavav2	21.68333	69.74583	18.26	9.36
611	Porbandar	Ratadi	21.72028	69.51194	7.11	4.94
612	Porbandar	Ratia	21.43806	69.80611	7.09	6.30
613	Porbandar	Simar	21.94694	69.68583	14.27	7.75
614	Porbandar	Tukda	21.51611	69.72861	3.72	2.50
615	Porbandar	Visavada Mul Dwarka	21.78556	69.44639	9.08	7.16
616	Rajkot	Bhada jodiya	21.66250	70.34167	22.45	10.20
617	Rajkot	Bhadla	22.18333	71.09167	18.04	11.91
618	Rajkot	Chordi	21.91667	70.74861	10.11	7.09
619	Rajkot	Dadia	22.09167	70.73333	12.42	7.64
620	Rajkot	Dhoraji	21.74583	70.28583	17.86	10.87
621	Rajkot	Ganod	21.67500	70.17917	5.39	3.46
622	Rajkot	Gogavadar	21.96667	70.87500	10.37	5.82
623	Rajkot	Halenda	22.09167	71.05000	8.27	2.97
624	Rajkot	Jamwali	21.93333	70.76667	7.04	3.18
625	Rajkot	Jasapur	21.89167	70.48333	12.91	8.82
626	Rajkot	Jasdan	22.04444	71.21389	8.94	5.63
627	Rajkot	Jasdan2	22.05833	71.22083	10.81	5.68
628	Rajkot	Jetpur	21.75611	70.61944	12.46	5.88
629	Rajkot	Jetpur pithad.	21.77500	70.63333	14.46	8.47
630	Rajkot	Kalithad1	22.01944	70.66028	7.82	5.20
631	Rajkot	Kamlapur	22.14583	71.20000	12.42	12.24
632	Rajkot	Kamlapur1	22.15194	71.19972	11.34	7.33
633	Rajkot	Khamta	22.47500	70.55000	13.57	7.55
634	Rajkot	Lalavadar	22.13333	71.30417	11.11	5.54
635	Rajkot	Lodhika1	22.14167	70.64167	9.61	5.88
636	Rajkot	Mota Dadwa	21.99833	70.99389	12.85	5.61
637	Rajkot	Motagundala	21.73472	70.50139	10.70	6.09
638	Rajkot	Movaiya	22.45000	70.60833	10.26	7.80
639	Rajkot	Padadhari1	22.44722	70.60833	7.54	5.22
640	Rajkot	Patanvav	21.64444	70.26111	17.03	7.64
641	Rajkot	Pedhla	21.75139	70.59167	22.16	13.84
642	Rajkot	Rajkot	22.30556	70.80833	5.55	3.57
643	Rajkot	Rajkot1	22.30000	70.80000	7.62	4.66
644	Rajkot	Ranpur1	22.36667	70.92917	15.13	10.87
645	Rajkot	Ribda	22.12500	70.76667	11.09	6.52
646	Rajkot	Targhari	22.38333	70.66667	7.67	5.57
647	Rajkot	Umrali	21.91944	70.60417	9.60	5.60
648	Rajkot	Upleta1	21.74861	70.27500	7.88	6.65
649	Rajkot	Upleta3	21.67028	70.18278	12.65	11.59
650	Rajkot	Vinchhia	22.20833	71.37917	5.25	2.94
651	Rajkot	Viranagar	22.02500	71.12500	10.31	6.68
652	Rajkot	Virpur1	21.85000	70.69583	10.40	8.34
653	Sabarkantha	Anwarpura Pz	23.40556	72.84556	38.98	37.84
654	Sabarkantha	Atarsumba	23.98611	73.20833	10.06	5.85
655	Sabarkantha	Bhadreshwar	23.74583	72.97917	26.63	22.48
656	Sabarkantha	Boriya	23.24278	72.94083	7.66	6.54
657	Sabarkantha	Chandap_DW	23.92333	72.85333	16.75	13.38

658	Sabarkantha	Chandap_Pz	23.93194	72.85694	14.10	8.84
659	Sabarkantha	Choriwad	23.90000	73.11944	25.07	18.72
660	Sabarkantha	Gadha	23.70833	72.94167	18.56	15.42
661	Sabarkantha	Harsol1	23.37778	73.01667	16.11	10.67
662	Sabarkantha	Himmatnagar_Pz	23.60833	72.97083	9.21	7.43
663	Sabarkantha	Idar	23.84167	73.03750	9.05	5.21
664	Sabarkantha	Jhaloti	23.95000	73.33750	11.39	5.16
665	Sabarkantha	Kesharpura	23.91528	73.14528	23.80	14.70
666	Sabarkantha	Kesharpura_Mayal	23.32222	72.94889	4.42	3.20
667	Sabarkantha	Khedbrahma_Pz	24.03611	73.04444	4.61	1.90
668	Sabarkantha	Khedbramha_1	24.02917	73.05000	18.90	8.82
669	Sabarkantha	Kherwada	23.96944	73.23361	10.71	3.84
670	Sabarkantha	Mathasuliya	23.60250	73.15444	11.43	6.25
671	Sabarkantha	Matoda	24.11111	73.00833	17.27	10.31
672	Sabarkantha	Panvath/porvad	23.89722	73.33194	9.96	6.10
673	Sabarkantha	Poshina2	24.37500	73.03333	7.10	3.09
674	Sabarkantha	Ratanpur	24.20833	72.99861	15.21	11.41
675	Sabarkantha	Revas	23.82083	73.11667	19.93	11.83
676	Sabarkantha	Sabalwad	23.87417	72.96306	19.11	9.86
677	Sabarkantha	Silwad	24.00833	73.11667	12.10	6.89
678	Sabarkantha	Umadpura	23.30361	72.96444	12.77	8.52
679	Sabarkantha	Varvada	23.44194	73.05667	14.87	11.36
680	Sabarkantha	Vijaynagar	24.00833	73.35417	8.31	2.42
681	Sabarkantha	Vijaynagar_Pz	24.00694	73.33333	12.05	4.85
682	Sabarkantha	Wadali	23.93333	73.03333	29.26	17.03
683	Sabarkantha	Walampura Pz	23.35111	72.97083	38.23	37.18
684	Surat	Allu	21.06250	73.19167	3.93	2.67
685	Surat	Bardoli	21.11528	73.10000	6.93	3.70
686	Surat	Bhatkol	21.38028	73.00417	3.96	3.08
687	Surat	Chavada	21.47472	73.59500	3.89	1.80
688	Surat	Digas	21.24833	73.02556	11.53	4.90
689	Surat	Dungri	21.40833	73.13333	10.74	3.05
690	Surat	Gangadhra	21.11861	73.07528	10.06	7.09
691	Surat	Jhankhavav	21.45000	73.32917	7.40	4.37
692	Surat	Jhankhvav	21.46667	72.95278	9.34	3.94
693	Surat	Juna umarpada	21.45833	73.49167	5.60	3.18
694	Surat	Kadod 1	21.22139	73.21889	7.61	6.51
695	Surat	Kasal	21.32222	73.12694	7.86	3.68
696	Surat	Kathor	21.29167	72.92917	13.79	9.79
697	Surat	Kosamba	21.46667	72.95278	20.06	18.27
698	Surat	Mahuva2	21.02083	73.14583	17.75	15.79
699	Surat	Malda	21.36667	73.35000	7.98	3.59
700	Surat	Mandvi2	21.25417	73.29583	13.75	10.97
701	Surat	Mota	21.17028	73.06861	3.20	2.06
702	Surat	Moti Sarkui	21.27917	73.34972	8.63	4.60
703	Surat	Navi pardi	21.32222	72.97083	3.37	3.15
704	Surat	Nogama	21.29083	73.21444	3.01	1.73
705	Surat	Olpad2	21.34167	72.75833	2.34	1.73
706	Surat	Palsana	21.07778	72.99167	2.76	1.38
707	Surat	Paneshwar	21.45417	73.19833	14.16	7.64
708	Surat	Puna	20.92361	73.23333	12.78	7.69
709	Surat	Puna1	20.92917	73.22917	10.12	5.75
710	Surat	Sachin town	21.09167	72.87500	4.58	2.06

711	Surat	Sarbhon	21.05833	73.09167	3.61	2.53
712	Surat	Sayan	21.30556	72.91083	7.48	5.05
713	Surat	Sultanabad	21.09167	72.72500	5.88	4.57
714	Surat	Ten-bardoli	21.11667	73.10000	7.18	3.18
715	Surat	Ushker	21.34056	73.09778	5.44	4.52
716	Surat	Vaheval	20.83722	73.28778	11.56	4.54
717	Surat	Wadoli	21.42500	72.82917	2.20	1.19
718	Surendranagar	Adriyana	23.42500	71.70833	3.09	3.06
719	Surendranagar	Anindra	22.81028	71.70583	6.20	2.33
720	Surendranagar	Bajana	23.11667	71.78333	2.28	2.22
721	Surendranagar	Bamanbor	22.41667	71.04167	9.86	6.92
722	Surendranagar	Chotila1	22.42500	71.18167	10.22	6.02
723	Surendranagar	Dasada	23.32000	71.82417	4.92	3.72
724	Surendranagar	Dasada1	23.32083	71.82917	2.80	3.25
725	Surendranagar	Dedadra	22.77500	71.73333	4.16	3.02
726	Surendranagar	Dhama	23.38528	71.67944	7.65	5.60
727	Surendranagar	Dhandhalpur 1	22.38139	71.35083	8.16	3.06
728	Surendranagar	Jhinjhuvada	23.35000	71.65833	7.24	5.48
729	Surendranagar	Kharaghoda	23.18750	71.75000	1.68	1.84
730	Surendranagar	Kherwa	23.00417	71.74583	3.02	1.34
731	Surendranagar	Lakhtar	22.85833	71.78333	4.91	3.71
732	Surendranagar	Latuda	22.81306	71.60806	4.77	3.28
733	Surendranagar	Limbdi1	22.56667	71.81250	3.14	1.99
734	Surendranagar	Limbdi-Pz	22.57222	71.80833	2.67	1.72
735	Surendranagar	Moti Moladi	22.42083	71.11028	11.21	6.67
736	Surendranagar	Muli	22.65000	71.46667	9.20	6.18
737	Surendranagar	Olak	22.91861	71.86333	7.20	3.31
738	Surendranagar	Pipli	23.06000	71.73417	0.94	0.25
739	Surendranagar	Rajsitapur	22.84167	71.59167	7.25	3.32
740	Surendranagar	Ratanpur1	22.85833	71.27083	7.92	6.77
741	Surendranagar	Sara	22.80000	71.19722	4.04	2.89
742	Surendranagar	Sarla	22.73333	71.36667	13.04	8.50
743	Surendranagar	Sayala	22.53333	71.48333	14.08	6.49
744	Surendranagar	Shiyani	22.66667	71.82917	4.27	2.88
745	Surendranagar	Sudamda	22.45417	71.48500	5.30	2.57
746	Surendranagar	Surendranagar	22.72361	71.67083	3.36	1.88
747	Surendranagar	Surendranagar2	22.71667	71.60833	5.26	4.42
748	Surendranagar	Tarnetar	22.64167	71.21667	17.63	15.35
749	Surendranagar	Vanala	22.43333	71.92083	3.74	2.95
750	Surendranagar	Visawadi	23.34167	71.73333	4.50	3.33
751	Surendranagar	Vitthalgarh	22.98750	71.97500	9.03	5.74
752	Tapi	Bedchit	20.95000	73.35139	9.99	5.02
753	Tapi	Bhurvel (ukai)	21.22500	73.57917	5.18	2.57
754	Tapi	Chapawadi	21.15139	73.39361	6.94	2.80
755	Tapi	Gandhinagar	21.16417	73.69556	6.42	2.57
756	Tapi	Jesingpura[sg]	21.17083	73.55417	7.85	6.14
757	Tapi	Karanjvel	21.01278	73.45806	8.48	4.74
758	Tapi	Kelkui	21.04194	73.32333	2.40	2.07
		Khedwada (Ashram Falia)				
759	Tapi	Falia	21.28111	73.46528	7.42	5.32
760	Tapi	Kherwa	21.41889	73.95972	5.75	1.11
761	Tapi	Motichher	21.21250	73.36222	4.00	2.31
762	Tapi	Nizar	21.48056	74.20000	14.85	13.33

763	Tapi	Nizar1	21.47722	74.19056	11.87	8.03
764	Tapi	Tawali	21.37611	73.90167	7.77	4.94
765	Tapi	Tokarwa 1	21.31000	73.85111	8.10	4.03
766	Tapi	Uchchhal	21.17194	73.76917	11.63	7.48
767	Tapi	Vadade-Khurd	21.25167	73.81694	3.20	0.90
768	Tapi	Valod	21.05000	73.26667	4.83	2.85
769	Tapi	Vyara1	21.10833	73.39583	4.20	3.47
770	The dangs	Aherdi	20.69167	73.61667	4.22	1.63
771	The dangs	Ahwa_Pz	20.75889	73.68611	3.42	2.45
772	The dangs	Ahwa1	20.75833	73.68333	3.75	1.17
773	The dangs	Bari Pada	20.64000	73.69139	11.77	0.59
774	The dangs	Bori Gaotha 1	20.81083	73.50306	9.27	4.36
775	The dangs	Chikhli	20.65833	73.68750	8.70	0.92
776	The dangs	Chinchnogaotha	20.80833	73.55278	7.58	2.48
777	The dangs	Chinchpada	20.63750	73.77500	5.60	1.20
778	The dangs	Dhumkal	20.64583	73.79167	3.92	1.21
779	The dangs	Gadad	20.63750	73.77500	5.05	2.24
780	The dangs	Ghubita	20.80000	73.73750	2.56	0.67
781	The dangs	Jakana	20.63333	73.74583	5.61	1.22
782	The dangs	Jamalpada	20.73167	73.52056	7.15	4.25
783	The dangs	Kalibel	20.92083	73.58056	3.25	0.91
784	The dangs	Mahal	20.91667	73.67917	5.51	3.09
785	The dangs	Malegaon	20.60000	73.74583	4.03	0.68
786	The dangs	Nadak khadi	20.80417	73.61250	6.09	1.55
787	The dangs	Nana pada	20.70000	73.58333	7.96	2.23
788	The dangs	Sakarpatal	20.71944	73.55694	5.62	1.44
789	The dangs	Sodmal	20.86667	73.61667	11.19	1.96
790	The dangs	Subir	20.92222	73.58056	6.07	1.17
791	The dangs	Umberpada	20.68333	73.72500	5.41	1.44
792	The dangs	Vaghai	20.76389	73.50444	12.61	8.20
793	The dangs	Vazat Amba	20.87833	73.51833	6.83	3.44
794	Vadodara	Amreshwar	22.22778	73.48333	4.03	2.17
795	Vadodara	Chella Karamsiya Pz	22.39667	73.43222	3.81	1.99
796	Vadodara	Chhaliyar	22.66667	73.31667	22.44	22.04
797	Vadodara	Chitral PZ_II	22.18194	72.94583	25.17	24.05
798	Vadodara	Ghayaj ii	22.23333	73.05417	24.45	22.46
799	Vadodara	Juna samalya	22.50417	73.28333	12.46	11.00
800	Vadodara	Karamasiya	22.42083	73.41944	12.51	8.24
801	Vadodara	Masor	22.14167	72.90833	13.41	12.09
802	Vadodara	Patiyapura	22.27500	73.44167	8.85	5.48
803	Vadodara	Saidal	22.28333	73.50278	2.92	1.77
804	Vadodara	Sinor	21.91250	73.34167	23.63	22.52
805	Vadodara	Tundav	22.48333	73.20278	12.49	8.40
806	Vadodara	Vadodara Ii	22.30472	73.27167	6.45	6.61
807	Vadodara	Vadodara_Kevada Bag	22.29333	73.19833	9.06	7.19
808	Vadodara	Vadodara_ONGC	22.26917	73.21278	12.32	10.19
809	Vadodara	Vega	22.15944	73.41250	6.46	4.05
810	Vadodara	Vejpur2	22.74722	73.35556	2.46	1.76
811	Vadodara	Waghodia Pz	22.36389	73.37694	7.28	4.70
812	Valsad	Awadha	20.51667	73.28750	3.75	4.68
813	Valsad	Chavshala	20.32833	73.32583	4.80	1.31
814	Valsad	Dahl (bhilad)	20.25833	72.88333	9.08	2.42
815	Valsad	Dharampur 3	20.53083	73.16250	13.01	8.47

816	Valsad	Dharampur1	20.53639	73.17056	10.49	4.62
817	Valsad	Dungri	20.68861	72.94944	9.88	5.00
818	Valsad	Fali	20.31306	73.37611	11.42	1.21
819	Valsad	Kanadu	20.32500	72.84167	6.46	3.34
820	Valsad	Kaparda	20.34167	73.21667	6.04	2.09
821	Valsad	Karwad	20.36250	72.97500	4.65	3.08
822	Valsad	Lakadmal	20.46667	73.15833	7.55	3.67
823	Valsad	Muli1	20.63333	73.02500	3.42	1.92
824	Valsad	Nanaponda	20.41389	73.12083	10.04	5.39
825	Valsad	Tithal	20.60000	72.90000	7.81	5.69
826	Valsad	Tumb	20.21667	72.84167	4.31	2.83
827	Valsad	Udwada	20.46361	72.91806	6.48	1.96
828	Valsad	Umargaon	20.19167	72.75000	3.97	3.43
829	Valsad	Valsad1	20.60556	72.92778	21.63	8.85
830	Valsad	Vapi Balitha	20.38028	72.90444	9.81	4.67

Annexure V

Water quality data of National Hydrograph Stations of Gujarat State May 2020

Sl. No	District	Site	pH	EC µs/cm at 25°C	mg/l														SAR
					TDS	CO ₃	HCO ₃	Cl	NO ₃	SO ₄	F	Alk	Ca	Mg	TH	Na	K		
1	Ahmedabad	Dalod	8.20	16640	11149	0	1257	5176	26	822	1.0	1030.82	152	260	1451	3535	45	40	
2	Ahmedabad	Endla	7.35	715	479	0	354	50	0.23	18	0.46	290	56	34	280	47	11.0	1.2	
3	Ahmedabad	Viramgam	8.08	2810	1883	0	329	596	4.9	230	0.32	270	16	19	120	541	4.4	21.5	
4	Ahmedabad	Kumar Khan	7.34	6118	4099	0	1403	1120	21	397	3.5	1150.92	148	61	620	1100	63	19.2	
5	Ahmedabad	Kundal	7.7	1243	833	0	354	184	2.2	64	0.73	290	44	24	210	178	1.70	5.3	
6	Ahmedabad	Bavla	7.48	4998	3349	0	342	1092	11	580	0.52	280	152	41	550	863	2.7	16.00	
7	Ahmedabad	Dhandhuka1	8.20	7328	4910	0	1135	1546	220	494	5.0	931	72	122	681	1384	44	23.08	
8	Ahmedabad	Tagadi1	8.10	2960	1983	0	427	269	43	798	0.8	350	132	54	550	437	24	8.10	
9	Ahmedabad	Barvala	8.19	7338	4916.46	0	1293	1198	33	1002	3.8	1060.85	32	73	380	1550	0.27	34.571	
10	Ahmedabad	Lonjdhara	8.18	1264	847	0	500	142	49	30	2.4	410	20	29	170	225	0.51	7.50	
11	Ahmedabad	Rajpada	8.08	708	474	0	293	57	37	30	0.73	240	40.08	34	240	70	0.31	1.96	
12	Ahmedabad	Kundali	8.19	735	492	0	403	35	11	17	0.37	330	44	49	310	45	0.26	1.11	
13	Amreli	Punjapadar	7.08	436	292	0	183	35	0.39	38	0.51	150	24	4.9	80	68	4.2	3.31	
14	Amreli	Sanaliya	8.15	1916	1284	0	281	241	20	450	0.88	230	56	49	340	323	1.8	7.62	
15	Amreli	Luvariya 1	8.19	996	667	0	573	28	20	19	2.5	470	28	7.3	100	198	4.9	8.61	
16	Amreli	Lathi	8.18	1055	707	0	390	149	12	41	0.50	320	36	32	220	157	0.23	4.60	
17	Amreli	Tajpur	7.85	444	297	0	220	28	5.5	19	0.40	180	40	15	160	37	1.94	1.27	
18	Amreli	Chavand	8.09	607	407	0	305	35	5.2	23	0.40	250	40	27	210	58	0.90	1.74	
19	Amreli	Untvad	7.99	1215	814	0	244	156	174	57	0.42	200	128	46	510	63	0.38	1.21	
20	Amreli	Kotadapitha	8.09	385	258	0	183	28	4.8	16	0.40	150	24	19	140	30	1.94	1.10	
21	Amreli	DhraiValmukund	8.19	465	312	0	256	14	6.9	10	0.36	210	32	17	150	49	0.29	1.74	
22	Amreli	Bhildi	8.07	620	415	0	317	35	14	18	0.55	260	40	19	180	71	0.21	2.30	
23	Amreli	AnkodiaMota	7.76	1278	856	0	366	170	94	85	0.33	300	72	56	410	136	1.2	2.92	
24	Amreli	Kunkavav	7.82	1306	875	0	305	199	68	101	0.22	250	60	54	370	143	0.71	3.23	
25	Amreli	Vaghania junia	8.02	1296	868	0	598	106	35	41	1.1	490	28	39	230	220	8.05	6.31	
26	Amreli	Bagasara	7.81	3589	2405	0	403	780	230	260	0.46	330	132	187	1101	357	0.39	4.68	
27	Amreli	Amreli	7.40	1280	858	0	317	199	50	96	0.14	260	100	39	410	112	1.3	2.40	
28	Amreli	Govadka	7.58	507	340	0	195	50	18	26	0.29	160	32	19	160	50	9.5	1.72	
29	Amreli	Vankiya	7.86	725	486	0	342	57	13	28	0.69	280	16	12	90	136	0.67	6.23	
30	Amreli	Chalala	8.20	580	389	0	220	71	8.8	32	0.22	180	36	27	200	52	0.99	1.60	
31	Amreli	Morjhar	7.83	833	558	0	293	121	22	30	0.18	240	60	44	330	61	0.30	1.46	

32	Amreli	Kerala	8.09	1369	917	0	500	206	23	36	0.41	410	28	12	120	286	0.68	11.4
33	Amreli	Charkhadia1	7.57	1152	772	0	622	50	17	35	2.25	510	16	2.4	50	262	2.9	16.1
34	Amreli	Bhuva	8.13	9343	6260	0	805	2552	221	560	0.84	661	40	151	721	2008	81	32.5
35	Amreli	Dharangani	7.99	1687	1130	0	293	347	135	64	0.29	240	96	61	490	188	0.86	3.69
36	Amreli	Ingoral	8.19	676	453	0	342	35	16	30	0.31	280	60	29	270	47	0.52	1.24
37	Amreli	Virpur	7.30	1098	736	0	488	57	90	51	0.25	400	104	46	450	65	3.5	1.33
38	Amreli	Timbi2	8.20	2073	1389	0	451	390	85	112	0.83	370	48	66	390	341	19	7.51
39	Amreli	Kadiyali	8.38	2680	1796	24	342	674	8.9	27	1.00	320	132	29	450	363	12	7.44
40	Amreli	Jafrabad	8.15	3374	2261	0	549	645	150	177	0.61	450	40	54	320	528	210	12.83
41	Amreli	Lotpur	8.20	8755	5866	0	256	2567	114	477	0.27	210	64	179.968	901	1698	6.1	24.61
42	Amreli	Bherai	8.43	3112	2085	36	683	581	46	154	0.86	620	32	90	450	515	13	10.56
43	Amreli	Nageshri	7.73	1390	931	0	476	156	49	107	0.27	390	72	46	370	164	7.5	3.71
44	Amreli	Trakuda	7.46	452	303	0	171	50	0.76	26	0.27	140	36	15	150	44	1.5	1.56
45	Amreli	Khamba	8.20	698	468	0	366	35	24	22	0.26	300	48	29	240	68	0.41	1.91
46	Amreli	Vankiya1	8.19	1408	943	0	464	142	136	85	0.28	380	92	58	470	136	1.9	2.73
47	Amreli	Badhda	8.18	1275	854	0	244	177	124	100	0.21	200	52	73	430	101	0.79	2.12
48	Amreli	Goradka	7.7	1324	887	0	183	234	135	97	0.23	150	104	66	530	86	0.64	1.62
49	Amreli	Mandal	7.92	1976	1324	0	329	376	123	101	0.59	270	68	71	460	268	3.9	5.43
50	Amreli	Piyava	8.22	1260	844	0	659	78	33	20	0.39	540	28	36	220	220	0.37	6.45
51	Amreli	Hipabadi	9.14	2657	1780	78	1198	113	26	54	2.25	1112	8.0	17	90	580	7.26	26.6
52	Anand	Parvata	8.33	1148	769.16	36	476	71	6.9	76	0.93	450	40	78	420	96	1.9	2.04
53	Anand	Adas	8.06	1216	814.72	0	512	92	91	39	0.52	420	36	102	510	75	1.2	1.44
54	Anand	Anklav	8.19	1476	988.92	0	683	121	37	53	0.73	560	36	124	600	97	2	1.72
55	Anand	Bhadran	7.93	635	425.45	0	342	35	0.33	20	0.28	281	64	27	270	32	1.3	0.85
56	Anand	Ras	8.09	1442	966.14	0	659	149	16	25	4.5	541	28	22	160	284	8.5	9.76
57	Anand	Dali	8.18	3721	2493.07	0	805	808	12	154	3.4	660	80	85	550	605	21	11.22
58	Anand	Kansari	8.19	4565	3058.55	0	744	1035	46	262	1.6	610	88	90	590	784	10	14.03
59	Anand	Dharmaj	9.23	2488	1666.96	180	573	262	79	154	2.2	770	12	44	210	498	0.13	14.94
60	Anand	Bandhani	8.52	1834	1228.78	36	903	106	28	38	2.3	801	8.0	27	130	408	0.56	15.56
61	Aravalli	Punasan	7.9	810	542.7	0	256	64	36	90	1.75	209.97	72	17	250	77	0.49	2.12
62	Aravalli	Shamlaji	8	501	335.67	0	220	50	3	15	0.51	180	36	4.9	110	70	0.85	2.9
63	Aravalli	Bhiloda	7.74	1173	785.91	0	305	156	37	140	0.85	250	84	45	395	105	2.85	2.3
64	Aravalli	Takatuka	7.7	3100	2077	0	244	724	108	145	1.01	200	176	73	740	381	1.52	6.09
65	Aravalli	Gadada	7.6	1758	1177.86	0	317	227	140	207	0.98	260	112	78	600	116	0.76	2.06
66	Aravalli	Madasana	7.69	1034	692.78	0	183	170	60	127	0.73	150	84	29	330	106	2.1	2.54
67	Aravalli	Modasa2	7.62	963	645.21	0	232	128	55	56	0.13	190	112	2.5	290	82	2.6	2.09
68	Aravalli	Seenawad	7.44	1427	956.09	0	305	227	109	100	0.46	250	144	34	500	97	11.5	1.89
69	Aravalli	Megraj_1	7.53	810	542.7	0	268	99	8.7	76	0.40	220	48	17	190	109	1.9	3.44
70	Aravalli	Hamirpur	7.49	1509	1011.03	0	293	256	85	132	0.63	240	144	29	480	125	0.99	2.48
71	Aravalli	Malpur_1	7.59	807	540.69	0	280	64	106	11	0.72	230	76	39	350	26	0.42	0.6

72	Aravalli	Sathamba	7.94	918	615.06	0	366	43	18	90	0.74	300	56	46	330	58	1.6	1.39
73	Aravalli	Boral	7.69	3142	2105.14	0	268	824	125	77	0.49	220	304	15	820	398	1.1	6.04
74	Aravalli	Bibipur1	7.5	3190	2137.3	0	256	568	440	240	0.31	210	272	170	1380	95	3.5	1.11
75	Aravalli	Alwa Kampa	7.87	1146	767.82	0	378	99	36	122	0.57	310	52	53	350	92	0.5	2.14
76	Aravalli	Karanpur	7.84	682	456.94	0	122	99	38	90	0.72	100	56	19	220	60	0.4	1.76
77	Aravalli	Dhansura	7.8	1350	904.5	0	366	156	74	85	0.47	300	168	24	520	69	0.55	1.32
78	Banaskantha	Amirgadh	7.02	3275	2194	0	586	709	125	116	0.78	480	140	151	971	330	3.1	4.6
79	Banaskantha	Bharol1	7.14	825	553	0	378	78	5.3	17	0.64	310	76	27	300	40	52	1.0
80	Banaskantha	Dantiwada	7.04	620	415	0	281	50	30	17	0.42	230	80	17	270	33	1.1	0.9
81	Banaskantha	Ganapipli	7.08	918	615	0	390	78	33	39	2.1	320	76	34	330	81	2.0	1.9
82	Banaskantha	Gangodra	7.12	3494	2341	0	671	709	0.96	144	3.5	550	204	85	861	335	19	5.0
83	Banaskantha	Iqbalgarh	7.38	810	543	0	329	57	54	23	0.58	270	76	34	330	45	1.0	1.1
84	Banaskantha	Jhat	7.68	2000	1340	0	476	355	0.24	137	1.6	390	28	27	180	375	4.2	12.2
85	Banaskantha	Khoda	7.66	1575	1055	0	573	177	22	107	1.9	470	20	19	130	320	13	12.2
86	Banaskantha	Mohabbat gadh	7.17	1488	997	0	305	262	73	68	1.3	250	156	22	480	110	3.60	2.2
87	Banaskantha	Palanpur2	7.48	1579	1058	0	427	248	103	67	0.80	350	76	46	380	210	0.70	4.7
88	Banaskantha	Ratanpur2	7.08	1480	992	0	268	233.97	155	93	0.39	220	188	22	560	95	2.5	1.7
89	Banaskantha	Sodapur	7.45	915	613	0	403	78	19	38	2.2	330	32	19	160	158	2.8	5.4
90	Bharuch	Kalak1	7.01	835	559.45	0	354	64	15	24	1.5	290.348	80	12	250	60	36	1.65
91	Bharuch	Tankari	7.93	4492	3009.64	0	879	908	13	227	0.66	720.95	96	158	891	544	113	7.93
92	Bharuch	Sindhav	8	567	379.89	0	268	35	1.4	18	0.34	220	32	15	140	66	14	2.43
93	Bharuch	Chhindra	7.84	850	569.5	0	378	64	21	31	0.42	310	64	27	270	59	55	1.56
94	Bharuch	Dahegam	7.76	1644	1101.48	0	512	213	61	85	0.19	420	96	63	500	133	49	2.59
95	Bharuch	Kavi	8.2	2962	1984.54	0	854	312	121	157	0.39	700	40	44	280	190	510	4.94
96	Bharuch	Sarod	8.02	735	492.45	0	293	85	7.2	17	0.45	240	48	34	260	55	16	1.48
97	Bharuch	Roja Tankaria	7.59	1739	1165.13	0	476	326	5.8	34	0.36	390	132	49	530	131	46	2.47
98	Bharuch	Nirnavi	7.57	595	398.65	0	329	28	7.7	8.5	0.62	270	48	12	170	66	12	2.2
99	Bharuch	Luhala	8.14	2526	1692.42	0	732	255	115	164	0.5	600	40	54	320	255	315	6.2
100	Bharuch	Bhensali	7.91	1006	674.02	0	305	142	5.2	72	0.54	250	48	27	230	119	17	3.41
101	Bharuch	Mahegam	7.79	1579	1057.93	0	476	269	0.73	74	0.28	390	116	68	570	92	36	1.68
102	Bharuch	Kaswa	7.93	450	301.5	0	207	35	4.7	13	0.45	170	44	12	160	37	3.4	1.27
103	Bharuch	Navetha	7.81	695	465.65	0	305	92	2.5	2.1	0.32	250	64	27	270	34	23	0.9
104	Bharuch	Bharuch	7.75	2416	1618.72	0	635	347	1.2	129	0.31	521	144	85	711	206	5.3	3.36
105	Bharuch	Sajod	8.58	2035	1363.45	72	683	191	11	58	3.2	680	16	36	190	400	2.8	12.6
106	Bharuch	Utraj	7.88	475	318.25	0	207	28	2.8	17	0.45	170	48	10	160	35	0.69	1.2
107	Bharuch	Jetpur	7.68	1750	1172.5	0	451	347	11	67	0.86	370	96	32	370	240	36	5.42
108	Bharuch	Sahol	7.62	5499	3684.33	0	281	1390	298	360	0.68	230	521	117	1781	390	3.1	4.02
109	Bharuch	Raymal	7.92	3069	2056.23	0	281	752	5.7	69	0.61	230	76	100	600	340	14	6.03
110	Bharuch	Motwan	7.98	3445	2308.15	0	464	794	3.3	287	0.72	381	124	71	600	602	12	10.69
111	Bharuch	Panoli	7.9	2502	1676.34	0	537	447	29	229	1.6	440	40	39	260	495	0.75	13.35

112	Bharuch	Kondh	7.78	847	567.49	0	305	71	20	58	0.99	250	48	19	200	97	6.3	2.98
113	Bharuch	Mungaj	7.48	528	353.76	0	305	14	1.5	14	0.13	250	56	27	250	19	0.3	0.52
114	Bhavnagar	Panvi1	8.22	1798	1205	0	940	106	2.9	52	3.9	771	16	15	100	408	4.6	17.74
115	Bhavnagar	Aayodhyapuram	8.02	1351	905	0	561	156	33	37	1.9	460	28	10	110	278	7.6	11.52
116	Bhavnagar	Vallabhipur	8.20	4290	2874	0	451	1021	12	380	0.79	370	84	58	450	767	9.3	15.72
117	Bhavnagar	Timbi	7.23	388	260	0	183	28	0.61	21	0.45	150	32	10	120	40	1.7	1.59
118	Bhavnagar	Jalia	7.38	2464	1651	0	427	553	27	170	0.40	350	216	112	1001	148	3.8	2.03
119	Bhavnagar	Motividal	8.20	1273	853	0	476	170	28	81	0.29	390	92	68	510	110	9.2	2.12
120	Bhavnagar	Dudhala	8.19	1873	1255	0	415	362	71	99	0.50	340	44	63.232	370	287	6.7	6.49
121	Bhavnagar	Mahuva	8.22	4600	3082	0	830	1014	68	190	0.87	681	24	36.48	210	1007	1.9	30.21
122	Bhavnagar	Bora	8.56	1566	1049	72	647	78	55	54	2.0	651	16	7.296	70	364	1.7	18.92
123	Bhavnagar	Datha	8.08	1228	823	0	366	213	7.3	51	1.3	300	28	14.592	130	238	6.7	9.08
124	Bhavnagar	Longadi	8.05	668	448	0	293	64	4.5	31	0.57	240	36	14.592	150	85	27	3.02
125	Bhavnagar	Pasvi	7.75	805	539	0	342	64	31	46	0.3	280	60	43.776	330	50	5.9	1.20
126	Bhavnagar	Kundheli	7.85	1203	806	0	244	241	32	83	0.34	200	80	48.64	400	105	0.90	2.28
127	Bhavnagar	Talaja2	8.06	1240	831	0	415	142	94	61	0.51	340	92	63	490	89	0.56	1.75
128	Bhavnagar	Trapaj	7.02	1518	1017	0	317	163	185	160	0.31	260	176	56	671	57	0.47	0.96
129	Bhavnagar	Vavdi	7.43	1010	677	0	342	78	70	110	0.36	280	52	66	400	65	0.99	1.41
130	Bhavnagar	Bhumbhalı	8.09	4605	3085	0	696	858	7.7	637	0.63	570	80	88	560	820	17	15.0658
131	Bhavnagar	Ghogha	8.36	3279	2197	72	488	546	181	194	0.28	520	96	41	410	500	53	10.7362
132	Bhavnagar	Bhavnagar1	7.82	1268	850	0	403	184	38	74	0.38	330	60	24	250	208	0.77	5.7196
133	Bhavnagar	Ambala	8.03	411	275	0	195	28	1.9	16	0.45	160	28	15	130	40	1.8	1.53
134	Bhavnagar	Piperla	7.66	888	595	0	317	92	34	52	0.26	260	84	34	350	48	0.77	1.12
135	Bhavnagar	Palitana2	7.21	950	637	0	366	113	10	51	0.26	300	92	34	370	57	6.22	1.29
136	Bhavnagar	Sajnasar	7.77	895	600	0	378	78	27	49	0.42	310	76	34	330	65	3.1	1.56
137	Bhavnagar	Vadal	7.84	1055	707	0	305	142	100	52	0.32	250	72	56	410	80	0.48	1.72
138	Bhavnagar	Ningala	8.09	598	401	0	256	57	8.4	32	0.45	210	16	12	90	105	0.67	4.81
139	Bhavnagar	Dhasa	8.19	861	577	0	305	92	39	48	0.33	250	68	24	270	94	0.32	2.49
140	Bhavnagar	Gariyadhar	8.15	1523	1020	0	207	319	94	142	0.45	170	60	68	430	190	0.46	3.99
141	Bhavnagar	Panchpipla	8.14	1156	775	0	366	170	26	73	0.55	300	40	49	300	157	0.2	3.94
142	Bhavnagar	Khijadiya	8.18	2267	1519	0	512	432	23	108	1.28	420	40	44	280	390	0.16	10.13
143	Bhavnagar	Gadhada2	8.11	814	545	0	366	78	10	32	0.31	300	80	22	290	69	7.97	1.76
144	Bhavnagar	Tatam	8.08	5062	3392	0	317	1283	365	288	0.48	260	289	316	2022	322	1.52	3.11
145	Bhavnagar	Tardhera	8.23	1812	1214	0	244	319	234	99	0.42	200	116	90	661	114	1.04	1.93
146	Chhota Udaipur	Govindpur	7.96	6995	4686.65	0	500	2028	20	488	1.9	410	148.296	297	1591	1000	5.8	10.9
147	Chhota Udaipur	Alhadpura	8.02	1049	702.83	0	427	113	32	41	1.1	350	44.088	51	320	110	2.8	2.67
148	Chhota Udaipur	Pitha	7.96	865	579.55	0	293	113	47	18	0.90	240	52.104	54	350	57	1.9	1.32

149	Chhota Udaipur	Kaprali	7.78	632	423.44	0	281	28	54	22	0.67	230	68	24	270	36	1.5	0.95
150	Chhota Udaipur	Sengpur	7.72	541	362.47	0	268	28	22	14	0.57	220	60	22	240	27	0.3	0.76
151	Chhota Udaipur	Motichikli	7.78	648	434.16	0	317	28	19	28	3.6	260	64	22	250	50	0.41	1.37
152	Chhota Udaipur	Bhindol	8.2	1750	1172.5	0	976	92	3.9	26	4.0	801	28	68	350	285	0.77	6.62
153	Chhota Udaipur	Chavaria	7.86	1449	970.83	0	439	199	101	55	4.05	360	64	61	410	178	2.6	3.8
154	Chhota Udaipur	Panvad	8.02	1498	1003.66	0	549	177	20	100	1.8	450	36	34	230	272	4.4	7.8
155	Chhota Udaipur	Chhota Udaipur	7.53	828	554.76	0	207	85	40	59	1	170	60	21.888	240	74	0.71	2.08
156	Chhota Udaipur	Ferkuva	7.57	642	430.14	0	244	71	37	23	0.45	200	88	19.456	300	17	3.4	0.43
157	Chhota Udaipur	Ghamodi	7.72	516	345.72	0	232	50	1.6	13	1.1	190	48	9.728	160	50	0.86	1.72
158	Chhota Udaipur	Kevadi	7.54	518	347.06	0	220	43	9.3	21	0.93	180	60	9.728	190	39	0.22	1.23
159	Chhota Udaipur	Pavi	8	2007	1344.69	0	525	376	12	132	0.95	431	128	38.912	480	258	10	5.12
160	Dahod	Salaya	7.92	890	596.3	0	366	78	7.4	38	0.6	300	84	12	260	88	2.1	2.37
161	Dohad	Wadia	8.1	2323	1556.41	0	219	483	65	185	1.7	180	208	68	800	160	10	2.46
162	Dohad	Limbdi	7.83	779	521.93	0	329	78	1.3	15	0.79	270	68	7.3	200	89	5.18	2.74
163	Dohad	Sukhsar	7.69	844	565.48	0	317	50	55	35	0.97	260	80	4.9	220	89	1.9	2.61
164	Dohad	Sarsava	7.74	383	256.61	0	183	29	8.0	5	0.48	150	52	0	130	31	7.77	1.18
165	Dohad	Bapda	7.96	1172	785.24	0	366	135	20	72	0.91	300	44	17	180	184	2.67	5.96
166	Dohad	Devgadh bariya	8.2	918	615.06	0	220	142	16	67	0.96	180	40	27	210	119	3.3	3.57
167	Dohad	Khandania	7.88	699	468.33	0	317	28	24	20	1.0	260	60	15	210	57	1.5	1.71
168	Dohad	Tokarba	8.04	981	657.27	0	378	107	4.0	37	1.0	310	84	10	250	112	2.57	3.08
169	Dohad	Kanjetha	8.09	753	504.51	0	378	43	9.4	2	0.97	310	68	10	210	77	3	2.31
170	Dohad	Dhanpur	7.98	1700	1139	0	512	227	30	98	1.3	420	184	34	600	117	11.6	2.08
171	Dohad	Amba Katch	8.19	1075	720.25	0	390	85	70	38	1.2	320	80	24	300	108	9	2.71
172	Dohad	Garbara	7.9	8180	5480.6	0	463	1740	822	396	6.8	380	120	389	1900	1079	28.5	10.76
173	Dohad	Panchwada	8.15	907	607.69	0	390	64	24	24	1.76	320	16	75	350	48	3.69	1.12
174	Dohad	Varamkheda	8.11	580	388.6	0	220	50	30	11	1	180	28	41	240	24	1.54	0.67
175	Dohad	Dahod Urban-3	7.88	1641	1099.47	0	317	220	137	97	0.74	260	48	80	450	179	3.39	3.67
176	Dohad	Dahod Urban-2	7.97	2311	1548.37	0	317	390	155	175	3.45	260	52	136	690	250	4.94	4.14
177	Dohad	Dahod Urban-1	8.06	633	424.11	0	171	57	56	31	1.16	140	40	36	250	25	0.38	0.69

178	Dohad	Mirakhedi	8.11	863	578.21	0	256	85	32	50	0.88	210	56	54	360	26	0.85	0.6
179	Dohad	Dahod2	7.97	1771	1186.57	0	342	291	76	43	2.3	281	28	90	440	160	2.27	3.32
180	Dohad	Dadhela	8.16	712	477.04	0	232	64	30	38	1.26	190	36	41	260	43	4.36	1.16
181	Daman	Warkund	8.08	676	452.92	0	293	71	2.0	22	0.77	240	36	34	230	65	0.5	1.87
182	Daman	Dalwada	8.14	688	460.96	0	293	64	15	34	0.31	240	48	36	270	50	3.8	1.33
183	Dangs-Ahwa	Mehskatri	7.73	516	345.72	0	281	21	3.0	18	0.2	230	68	15	230	23	0.34	0.66
184	Dangs-Ahwa	Kalibel	8.09	695	465.65	0	305	50	3.0	69	0.52	250	64	32	290	45	0.55	1.14
185	Dangs-Ahwa	Sodmal	8.25	714	478.38	0	366	36	11	27	0.94	300	40	46	290	48	0.22	1.23
186	Dangs-Ahwa	Bardipada	8.21	2590	1735.3	0	598	483	15	170	0.86	490	56	56	370	459	2.07	10
187	Dangs-Ahwa	Mahal	8.24	1028	688.76	0	390	107	2.0	65	1.14	320	36	39	250	125	2.37	3.44
188	Dangs-Ahwa	Subir	8.14	1045	700.15	0	549	64	3.0	43	0.51	450	72	49	380	85	2.64	1.9
189	Dangs-Ahwa	Ghubita	7.73	925	619.75	0	268	149	1.0	30	0	220	76	24	290	67	7.1	1.7
190	Dangs-Ahwa	Ahwal	8.13	1130	757.1	0	451	128	18	60	0	370	40	61	350	101	20	2.34
191	Dangs-Ahwa	Umberpada	8.34	1028	688.76	48	427	57	16	33	0.35	430	40	63	360	97	0.64	2.21
192	Dangs-Ahwa	Chichpada	7.8	1629	1091.43	0	659	199	36	45	1.12	541	104	63	520	175	7.5	3.34
193	Dangs-Ahwa	Dhumkhal	7.81	872	584.24	0	403	64	17	33	0.47	331	76	41	360	50	0.5	1.15
194	Dangs-Ahwa	Jakana	8.1	940	629.8	0	403	107	12	45	0.31	331	112	41	450	31	0.85	0.64
195	Dangs-Ahwa	Malegaon	8.27	746	499.82	0	159	135	2	35	0.23	130	48	22	210	70	0.64	2.1
196	Dangs-Ahwa	Baripada	7.12	1080	723.6	0	317	121	100	84	0.5	260	68	56	400	85	1.15	1.84
197	Dangs-Ahwa	Chikhli	8.1	542	363.14	0	232	43	19	31	0.22	190	64	19	240	28	0.45	0.78
198	Dangs-Ahwa	Aherdi	8.01	685	458.95	0	317	43	9.0	33	0.39	260	60	34	290	38	1.92	1.02
199	Dangs-Ahwa	Nana pada	7.95	706	473.02	0	244	92	24	43	0.27	200	64	36	310	36	0.25	0.89
200	Dangs-Ahwa	Sakarpatal	7.91	655	438.85	0	281	43	43	36	0.34	230	48	29	240	62	2.07	1.77
201	Dangs-Ahwa	Jamalpada	8.15	929	622.43	0	329	142	1.0	43	0.85	270	48	46	310	93	1.36	2.3
202	Dangs-Ahwa	Waghai	7.85	1550	1038.5	0	171	376	18	140	0.30	140	136	54	560	115	0.92	2.11
203	Dangs-Ahwa	Chinchnogaotha	7.82	1063	712.21	0	476	92	32	30	0.57	390	72	51	390	87	8.33	1.91
204	Dangs-Ahwa	Nadak khadi	8.27	1084	726.28	0	305	135	60	60	0.8	250	40	66	370	97	0.34	2.19
205	Dangs-Ahwa	Bori Goatha 1	8.17	628	420.76	0	354	28	4.0	13	0.14	290	44	41	280	24	0.83	0.63
206	Dangs-Ahwa	Vanzat Amba	7.43	655	438.85	0	232	78	15	35	0.43	190	56	27	250	50	2.5	1.37
207	Diu	Jalawadi	7.88	10250	6868	0	281	3545	1.1	118	0.31	230	569.136	357.504	2892	1082	52	8.75
208	Diu	Moiwachawadi	7.98	4940	3310	0	378	1205	127	322	0.62	310	196.392	172.672	1201	538	64	6.75
209	Diu	Gomtimata	8.19	3468	2324	0	610	709	104	189	0.64	500	68	116.736	651	508	39	8.66
210	Gandhinagar	Paliya	7.41	2460	1648	0	598	362	107	109	1.4	490	88	117	701	250	3.5	4.1
211	Gir Somnath	Ankolwadi	7.2	1111	744.37	0	488	85	8.0	30	0.27	400	68	49	370	85	0.88	1.92
212	Jamnagar	Amaliya Chokdi	7.04	3021	2024.07	0	366	780	13	112	2.3	300	140	122	850	299	7.19	4.46
213	Jamnagar	Ambardi	7.43	1920	1286.4	0	464	298	86	84	1.3	381	80	77	515	204	2.16	3.91
214	Jamnagar	Amran1	6.64	478	320.26	0	134	78	3.0	13	0.62	110	24	22	150	41	4.79	1.46
215	Jamnagar	Aramda or Arambhada	7.47	2350	1574.5	0	549	426	5.0	110	4.3	450	48	46	310	370	31.17	9.14
216	Jamnagar	Balwa	7.26	1425	954.75	0	342	191	114	75	0.25	281	136	54	560	68	0.36	1.25
217	Jamnagar	Bangour Choukdi	7.27	755	505.85	0	183	78	84	45	0.27	150	72	27	290	40	0.56	1.02

218	Jamnagar	Bed1	7.67	1560	1045.2	0	403	301	5	14	0.97	331	180	58	690	37	1.92	0.61
219	Jamnagar	Bedanpur	7.72	8000	5360	0	488	2057	72	572	0.6	400	32	272	1200	1290	2.32	16.19
220	Jamnagar	Bhadthar	7.61	880	589.6	0	268	113	15	48	0.68	220	48	41	290	68	1.45	1.74
221	Jamnagar	Bhatia	7.62	2550	1708.5	0	342	468	14	309	2.2	281	140	71	640	278	28.17	4.78
222	Jamnagar	Bhogat1	7.34	2025	1356.75	0	220	454	82	121	2.2	180	116	46	480	240	5.67	4.76
223	Jamnagar	Changa	7.13	1746	1169.82	0	305	340	64	88	0.17	250	144	68	640	105	0.6	1.8
224	Jamnagar	Dhrol2	7.36	2110	1413.7	0	488	369	63	86	0.32	400	76	83	530	242	1.56	4.57
225	Jamnagar	Drafa	7.56	1425	954.75	0	329	248	87	24	0.69	270	80	85	550	75	0.37	1.39
226	Jamnagar	Dudhai2(Jam Dudhai)	7.51	950	636.5	0	329	71	3.0	99	0.8	270	44	28	225	113	1.44	3.28
227	Jamnagar	Dwarka	7.36	2533	1697.11	0	439	574	24	78	0.48	360	80	111	655	264	29.52	4.48
228	Jamnagar	Gordhanpur	7.49	1950	1306.5	0	207	560	4.0	20	0.36	170	108	56	500	220	2.66	4.28
229	Jamnagar	Falla	7.75	1325	887.75	0	329	227	2.0	66	1.7	270	20	56	280	175	0.13	4.55
230	Jamnagar	Humbusar)	7.87	1892	1267.64	0	500	369	2.0	8	0.87	410	40	5	120	360	30.98	14.29
231	Jamnagar	Hanzarapur)	7.07	530	355.1	0	134	67	1.0	53	0.37	110	48	22	210	18	8.5	0.54
232	Jamnagar	Haripur2	7.22	1120	750.4	0	305	206	10	13	0.53	250	92	36	380	83	0.37	1.85
233	Jamnagar	Hadiyana	7.51	818	548.06	0	195	50	5	167	0.45	160	36	56	320	40	2.39	0.97
234	Jamnagar	Jambuda	7.11	2565	1718.55	0	232	702	56	48	0.29	190	168	128	945	151	5.25	2.14
235	Jamnagar	Jamnagar2	7.36	940	629.8	0	354	92	3	48	0.43	290	44	36	260	96	0.65	2.59
236	Jamnagar	Juvanpur	7.23	1555	1041.85	0	354	248	58	81	0.36	290	60	88	510	125	1.97	2.41
237	Jamnagar	Khajuda	6.98	4630	3102.1	0	305	1312	57	157	0.21	250	400	165	1680	290	3.19	3.08
238	Jamnagar	Kalawad	7.13	625	418.75	0	183	78	4.0	47	0.4	150	40	26	205	48	2.91	1.46
239	Jamnagar	Kalyanpur	7.54	1880	1259.6	0	378	340	65	89	3.3	310	52	73	430	235	1.44	4.93
240	Jamnagar	Kalyanpur2	7.4	1491	998.97	0	244	291	83	68	0.3	200	44	107	550	89	0.75	1.65
241	Jamnagar	Kesia	7.43	5555	3721.85	0	214	1702	28	175	0.2	176	60	304	1400	650	0.87	7.55
242	Jamnagar	Khirsara	7.32	1250	837.5	0	171	269	46	60	0.4	140	76	9	225	183	0.42	5.3
243	Jamnagar	Kuvadia	7.29	700	469	0	281	43	33	28	0.49	230	62	22	245	47	0.12	1.31
244	Jamnagar	Lalpur1	7.52	1170	783.9	0	220	220	35	64	0.38	180	76	27	300	128	1.56	3.21
245	Jamnagar	Lambha 1	7.32	1850	1239.5	0	159	468	1.0	130	0.44	130	68	51	380	251	3.2	5.6
246	Jamnagar	Mewasha	7.09	788	527.96	0	122	191	3.0	18	0.39	100	36	27	200	88	2.49	2.71
247	Jamnagar	Modpar	7.22	925	619.75	0	244	142	33	38	0.88	200	60	19	230	105	3.02	3.01
248	Jamnagar	Mojap	7.12	6211	4161.37	0	610	1482	252	312	0.86	500	344	195	1660	660	9.71	7.04
249	Jamnagar	Mota Kalawad	7.48	3010	2016.7	0	305	780	74	102	0.23	250	334	113	1300	90	1.21	1.09
250	Jamnagar	Motagop	7.23	1055	706.85	0	342	99	67	55	0.28	281	70	61	425	46	0.12	0.97
251	Jamnagar	Moti Khavdi	7.09	1920	1286.4	0	500	234	65	160	0.24	410	44	126	630	152	0.27	2.63
252	Jamnagar	Moti Matli	7.53	1830	1226.1	0	293	362	83	93	0.56	240	48	24	220	321	0.64	9.41
253	Jamnagar	Nikava	7.41	1160	777.2	0	305	135	100	59	0.38	250	72	56	410	78	0.17	1.67
254	Jamnagar	Pindara1	7.47	1020	683.4	0	207	170	2.0	93	0.9	170	60	32	280	101	6.75	2.62
255	Jamnagar	Raval	7.53	3644	2441.48	0	427	922	44	113	0.18	350	140	231	1300	232	0.85	2.8
256	Jamnagar	Salaya	7.56	1050	703.5	0	305	124	61	55	0.39	250	80	27	310	93	11.75	2.3
257	Jamnagar	Samrasar1	7.43	1995	1336.65	0	549	291	27	107	4.6	450	76	63	450	231	33.34	4.73

258	Jamnagar	Seth Vadala	7.23	1555	1041.85	0	415	177	112	91	0.32	340	124	46	500	127	0.31	2.47
259	Jamnagar	Sumana	7.69	1300	871	0	311	184	68	79	0.84	255	68	54	390	117	0.64	2.58
260	Jamnagar	Toda	7.56	750	502.5	0	256	67	24	50	0.63	210	52	22	220	73	2.32	2.14
261	Jamnagar	Vad Panchasara	7.28	1957	1311.19	0	256	355	175	113	0.36	210	164	41	580	177	0.23	3.2
262	Jamnagar	Vadtara	7.39	1250	837.5	0	256	220	50	61	0.35	210	100	24	350	123	2.82	2.86
263	Jamnagar	Vamansa	7.55	2905	1946.35	0	494	610	16	164	2.9	405	60	63	410	471	4.81	10.11
264	Jamnagar	Varwada or Varvala	6.98	3950	2646.5	0	549	805	48	323	0.49	450	300	219	1650	131	15.5	1.4
265	Jamnagar	Vijarkhi	7.46	912	611.04	0	305	113	7.0	36	0.68	250	80	19	280	82	0.47	2.13
266	Jamnagar	Vinjhalpur	7.49	1070	716.9	0	354	113	36	50	0.45	290	96	32	370	73	1.03	1.65
267	Junagadh	Anandpur	8.62	1920	1286.4	0	159	504	64	65	0.57	130	100	105	680	125	1.41	2.08
268	Junagadh	Arena	6.94	5558	3723.86	0	610	1425	60	210	0.11	500	72	175	900	830	39.13	12.03
269	Junagadh	Bamanwara	7.44	340	227.8	0	98	46	5.0	18	0.19	80	24	17	130	17	1.43	0.65
270	Junagadh	Bantva	8.04	1200	804	0	476	113	12	40	3.0	390	20	15	110	226	0.29	9.37
271	Junagadh	Bhat_Simroli	7.23	1820	1219.4	0	482	312	11	68	0.55	395	112	44	460	205	6.71	4.16
272	Junagadh	Bilkha	7.45	1560	1045.2	0	311	234	79	110	0.47	255	80	27	310	195	6.24	4.82
273	Junagadh	Budhecha	6.97	2200	1474	0	427	418	54	108	0.6	350	100	95	640	210	1.14	3.61
274	Junagadh	Chokhli	7.14	1685	1128.95	0	500	149	163	84	0.48	410	84	83	550	137	0.27	2.54
275	Junagadh	Chorwad	7.04	4890	3276.3	0	702	1206	77	92	0.13	576	220	224	1470	443	1.69	5.02
276	Junagadh	Galodar	7.77	780	522.6	0	232	99	6.0	50	0.29	190	44	46	300	40	1.4	1
277	Junagadh	Goraj1	7.83	1150	770.5	0	366	121	57	49	1.5	300	56	56	370	90	1.69	2.03
278	Junagadh	Junagadh1	6.98	1207	808.69	0	329	156	48	60	0.28	270	50	34	265	149	1.98	3.98
279	Junagadh	Juthal	7.48	820	549.4	0	207	135	5.0	44	0.37	170	60	36	300	48	1.6	1.2
280	Junagadh	Kalej	7.5	2150	1440.5	0	403	383	30	169	1.51	331	80	22	290	356	2.46	9.09
281	Junagadh	Kanedipur	7.13	880	589.6	0	378	64	8.0	29	0.38	310	104	7	290	66	0.24	1.69
282	Junagadh	Kanek	6.66	6701	4489.67	0	610	1830	23	255	0.15	500	688	56	1950	625	22.29	6.15
283	Junagadh	Kewarda	7.52	1060	710.2	0	342	128	41	45	0.33	281	68	63	430	44	1.76	0.92
284	Junagadh	Khambalia1	7.61	4830	3236.1	0	732	1241	20	50	0.18	600	242	105	1035	635	10.16	8.58
285	Junagadh	Khokharda	7.74	3525	2361.75	0	488	702	145	250	0.37	400	180	73	750	465	1.01	7.38
286	Junagadh	Khorada1	7.74	7880	5279.6	0	244	2482	14	216	0.22	200	680	109	2150	815	0.39	7.64
287	Junagadh	Khorasa_Ahir	7.51	1215	814.05	0	171	234	77	72	0.49	140	124	17	380	105	0.37	2.34
288	Junagadh	Kukaswada	7.66	723	484.41	0	128	106	40	78	0.58	105	80	5	220	65	1.32	1.91
289	Junagadh	Lohej	7.24	1256	841.52	0	268	213	73	45	0.36	220	144	12	410	88	20.19	1.89
290	Junagadh	Maktupur1	7.11	3505	2348.35	0	549	745	155	115	0.28	450	180	90	820	248	300	3.77
291	Junagadh	Mangrol	7.51	2575	1725.25	0	366	596	44	98	0.27	300	120	56	530	325	36.57	6.14
292	Junagadh	Manketara	7.43	1922	1287.74	0	232	479	64	45	0.50	190	120	117	780	81	5.67	1.26
293	Junagadh	Mendarda1	7.44	2750	1842.5	0	354	645	134	62	0.44	290	56	168	830	248	0.83	3.74
294	Junagadh	Patla	7.56	660	442.2	0	226	71	12	31	0.41	185	96	5	260	31	0.29	0.84
295	Junagadh	Saradiya	7.76	2120	1420.4	0	610	241	54	163	0.33	500	128	75	630	196	0.48	3.4
296	Junagadh	Sepa	7.21	1065	713.55	0	329	113	65	49	0.47	270	62	13	210	146	0.77	4.38
297	Junagadh	Seriakhan	7.24	1250	837.5	0	305	177	64	67	0.50	250	100	44	430	82	14.48	1.72

298	Junagadh	Shardagram	7.36	9450	6331.5	0	305	3021	21	204	0.21	250	280	474	2650	975	8.95	8.23
299	Junagadh	Sil	7.59	700	469	0	232	78	22	29	0.22	190	84	15	270	36	1.08	0.95
300	Junagadh	Sil_Bandar	7.61	13506	9049.02	0	793	4106	5.0	213	0.19	650	224	314	1850	2192	70.34	22.16
301	Junagadh	Vadal	7.76	1540	1031.8	0	317	262	75	76	0.32	260	60	95	540	96	1.94	1.8
302	Junagadh	Vanthali II	7.78	2000	1340	0	659	245	40	75	0.63	541	40	90	470	242	0.46	4.85
303	Junagadh	Jetalvad	8.15	769	515	0	183	99	76	53	0.10	150	28	58	310	51	0.39	1.26
304	Junagadh	Mandawad	8.22	760	509	0	220	135	3.1	44	0.17	180	36	49	290	57	1.9	1.46
305	Junagadh	Prempara	8.20	952	638	0	207	121	92	98	0.28	170	60	56	380	55	0.54	1.23
306	Junagadh	KasiaNaka Checkpost	7.90	696	466	0	342	50	2.2	33	0.19	280	52	39	290	44	0.16	1.12
307	Junagadh	Ajotha	7.72	1563	1047	0	220	376	41	80	0.39	180	100	61	500	138	1.6	2.68
308	Junagadh	Govindpura2	7.37	667	447	0	281	71	20	19	0.53	230	76	22	280	38	1.5	0.99
309	Junagadh	Moraj	7.76	1068	716	0	159	262	15	37	0.93	130	76	15	250	130	0.32	3.57
310	Junagadh	Talala1	7.68	758	508	0	329	78	14	26	0.26	270	56	32	270	67	1.0	1.77
311	Junagadh	Jambur(madhapar)	7.74	748	501	0	329	78	6.7	24	0.23	270	60	36	300	50	0.88	1.26
312	Junagadh	AmverVnelnes	7.99	615	412	0	281	43	7.5	41	0.28	230	68	22	260	35	1.1	0.94
313	Junagadh	Jamvala1	7.83	478	320	0	220	43	5.9	17	0.34	180	44	19	190	34	0.35	1.07
314	Junagadh	Bhimdeval	7.72	1030	690	0	329	135	44	60	0.59	270	80	34	340	90	2.6	2.12
315	Junagadh	Prasli	7.75	979	656	0	256	142	42	51	1.2	210	68	19	250	91	35	2.50
316	Junagadh	Kodinar1	7.82	2188	1466	0	305	581	44	87	0.8	250	104	100	671	230	0.93	3.86
317	Junagadh	Kesariyaji	7.84	1083	726	0	256	177	50	52	0.77	210	84	24	310	108	3.8	2.67
318	Junagadh	Una2	8.13	2965	1987	0	708	525	41	195	2.2	580	72	97	580	469	2.8	8.47
319	Junagadh	Kansari	7.67	1468	984	0	415	199	132	71	0.77	340	104	44	440	152	1.9	3.15
320	Junagadh	Jargla Jargli	8.07	570	382	0	268	50	2.5	21	0.34	220	76	12	240	32	0.42	0.90
321	Junagadh	Girgadhada	7.84	832	557	0	342	71	47	33	0.28	280	72	41	350	51	0.66	1.19
322	Junagadh	Dhokadva	8.21	721	483	0	354	50	3.5	23	0.22	290	44	49	310	40	2.0	0.99
323	Junagadh	Sametar	8.18	396	265	0	195	28	1.6	15	0.26	160	36	19	170	22	1.6	0.73
324	Kachchh	Rapar	7.9	3832	2567.44	0	305	710	44	731	1.07	250	244	114	1080	363	46	4.8
325	Kachchh	Lilpar	7.75	8480	5681.6	0	342	1882	60	1635	1.68	281	480	292	2400	1000	50	8.87
326	Kachchh	Desalpar	7.15	3560	2385.2	0	268	767	43	359	0.84	220	152	102	800	368	42	5.66
327	Kachchh	Ratanpur (Khadir)	7.7	4410	2954.7	0	403	1172	1.0	228	1.01	331	116	109	740	608	18	9.72
328	Kachchh	Kuda	7.38	1626	1089.42	0	671	178	18	40	2.33	550	128	39	480	140	32	2.78
329	Kachchh	Kharoi	7.45	2300	1541	0	305	497	1.0	166	0.35	250	168	109	870	152	6.9	2.23
330	Kachchh	Sedat	7.92	782	523.94	0	268	107	0	42	0.19	220	60	44	330	48	3.6	1.15
331	Kachchh	Sukhpar	7.58	10550	7068.5	0	281	2982	175	2400	1.63	230	580	304	2700	1778	9.0	15
332	Kachchh	Bhuj	7.46	1302	872.34	0	281	234	22	171	0.68	230	132	34	470	125	14	2.51
333	Kachchh	Haboi	7.5	1641	1099.47	0	317	256	15	210	1.46	260	96	75	550	150	16	2.78
334	Kachchh	Lodai	7.45	4680	3135.6	0	390	873	4.0	867	0.92	320	200	146	1100	541	33	7.09
335	Kachchh	Khavda	7.87	2632	1763.44	0	329	511	2.0	235	0.55	270	116	71	580	318	21	5.74
336	Kachchh	Devisar	7.62	5480	3671.6	0	281	1456	16	351	2.85	230	344	156	1500	447	88	5.02
337	Kachchh	Ugardi	7.87	7730	5179.1	0	390	2095	42	846	0.65	320	228	195	1370	1184	7.4	13.9

338	Kachchh	Kharai	7.95	2420	1621.4	0	281	497	4.0	247	0.34	230	120	24	400	327	23	7.11
339	Kachchh	Naliya	8.68	1271	851.57	60	464	142	12	55	1.09	481	16	10	80	300	2.8	14.6
340	Kachchh	Tera	8.38	2748	1841.16	120	451	469	49	255	6.7	570	44	36	260	586	6.2	15.8
341	Kachchh	Mothara	8.2	1925	1289.75	0	317	447	1.0	187	0.8	260	48	41	290	396	2.0	10.1
342	Kachchh	Vinjan	7.83	727	487.09	0	378	57	1.0	57	0.71	310	52	51	340	51	5.9	1.2
343	Kachchh	Kotaya	8.25	1593	1067.31	0	464	277	20	107	4.05	381	40	36	250	325	1.3	8.94
344	Kachchh	Bhabhdai	7.89	6625	4438.75	0	439	1803	5.0	500	0.99	360	216	141	1120	1130	9.4	14.7
345	Kachchh	Ratanpur (maum)	8.08	1518	1017.06	0	427	213	55	143	1.18	350	60	58	390	225	3.4	4.95
346	Kachchh	Dunai	7.96	1297	868.99	0	488	149	11	83	0.96	400	100	51	460	119	2.1	2.42
347	Kachchh	Kharoghoyha	8.66	3075	2060.25	60	281	540	11	380	5.45	331	24	24	160	659	1.3	22.7
348	Kachchh	Luni	7.98	2700	1809	0	586	547	18	86	0.89	481	84	54	430	422	13	8.85
349	Kachchh	Bhadreshwar	8.08	2345	1571.15	0	305	525	15	111	0.35	250	148	83	710	206	9.3	3.35
350	Kachchh	Shinaya	7.96	7375	4941.25	0	464	2016	2.0	508	1.16	381	232	109	1030	1380	7.0	18.7
351	Kachchh	Samkhiali	7.8	5550	3718.5	0	488	1448	100	250	3.8	400	160	195	1200	827	16	10.4
352	Kheda	Kapadvanj	7.18	1794	1202	0	805	142	37	30	2.5	661	44	22	200	336	14	10.3
353	Kheda	Ladvel	7.45	1975	1323	0	439	411	2.0	33	0.58	360	96	54	460	215	13	4.4
354	Kheda	Balasinor 1	7.12	953	639	0	342	113	14	34	0.52	280	104	24	360	55	0.60	1.3
355	Kheda	Bar	7.38	677	454	0	305	50	2.4	21	0.73	250	32	29	200	55	23	1.7
356	Kheda	Mahudha	7.73	2580	1729	0	683	411	18	123	0.75	560	60	90	520	341	34	6.5
357	Kheda	Alina	7.48	3129	2096	0	525	510	141	225	0.90	430	112	114	751	359	7.0	5.7
358	Kheda	Muliyad	7.32	6780	4543	0	305	1773	24	440	0.56	250	297	119	1231	855	7.6	10.6
359	Kheda	Dakor	7.54	1505	1008	0	561	177	5.1	36	1.2	460	44	54	330	182	8.30	4.4
360	Kheda	Kalesar	7.83	1198	803	0	647	64	9.3	41	1.5	530	28	54	290	178	0.68	4.5
361	Kheda	Kheda	7.31	7648	5124	0	390	2070.28	1.9	639	0.58	320	417	187	1811	911	5.0	9.3
362	Kheda	Shekhupura	8.98	3728	2498	36	1025	518	1.4	258	0.40	901	24	56	290	550	355	14.0
363	Kheda	Boriyavi	7.76	1132	758	0	525	99	23	24	0.58	430	36	41	260	145	17	3.9
364	Kheda	Alindra	7.48	625	419	0	348	28	1.4	17	0.67	285	32	39	240	45	3.0	1.3
365	Mahesana	Asjol	6.98	452	303	0	256	21	4.9	3.8	0.26	210	56	15	200	16	7.1	0.5
366	Mahesana	Bhandupara	7.36	1588	1064	0	500	233.97	8.4	126	0.59	410	52	51	340	227	12	5.4
367	Mahesana	Budasan	7.24	2398	1607	0	451	503	7.9	144	0.24	370	124	83	651	232	17	4.0
368	Mahesana	Dharpura	7.58	3160	2117	0	1208	326	1.1	193	2.0	991	52	54	350	610	41	14.2
369	Mahesana	Dosaj	7.25	4070	2727	0	598	922	78	313	0.61	490	80	100	610	579	162	10.2
370	Mahesana	Kheralu1	7.23	1610	1079	0	500	262	13	89	1.6	410	56	61	390	210	1.6	4.6
371	Mahesana	Maguna	7.52	3686	2470	0	952	709	7.6	245	0.73	781	44	219	1011	413	27	5.7
372	Mahesana	Panchot	7.73	1925	1290	0	512	319	9.8	177	0.49	420	64	56	390	245	77	5.4
373	Mahesana	Rampura1	7.03	810	543	0	414.868	57	8.8	15	0.51	340	56	41	310.248	63	1.7	1.6
374	Mahesana	Sihi	7.20	773	518	0	329.454	71	16	27	0.51	270	40	39	260.208	56	37	1.5
375	Mahesana	Tarabh	7.25	1036	694	0	463.676	113	7.0	27	0.29	380	64	51	370.296	84	11	1.9
376	Mahesana	Timba_1	7.02	785	526	0	378.262	64	3.8	17	0.77	310	92	22	320.256	39	3.9	0.9
377	Mahesana	Unawa	7.15	4076	2731	0	866.342	709	170	373	0.61	711	80	156	840.672	545	102	8.2

378	Mahesana	Unjha	7.25	3080	2064	0	658.908	461	137	277	1.1	540	56	100	550.44	459	80	8.5
379	Mahesana	Vidaj	7.37	1989	1333	0	561.292	284	24	78	0.58	460	56	36	290.232	211	160	5.4
380	Mahisagar	Limbadia peti	7.51	902	604.34	0	451	32	11	32	0.99	370	52	46	320	64	1.4	1.56
381	Mahisagar	Pandarvada	7.61	700	469	0	317	64	0.67	5.0	0.59	260	48	27	230	58	0.66	1.66
382	Mahisagar	Khanpur	7.55	970	649.9	0	232	85	40	102	0.41	190	72	24	280	86	0.91	2.23
383	Mahisagar	Malekpur1	7.76	730	489.1	0	232	71	12	88	0.69	190	60	2.5	160	100	2.8	3.44
384	Mahisagar	Godhar	7.5	1153	772.51	0	366	107	27	101	0.76	300	88	54	440	63	3.1	1.31
385	Mahisagar	Kantha	7.18	346	231.82	0	134	28	3.5	21	0.51	110	24	15	120	17	16	0.67
386	Mahisagar	Lunawada	7.29	1223	819.41	0	244	227	58	103	1.18	200	80	22	290	149	14.5	3.8
387	Mahisagar	Jokha	7.68	1025	686.75	0	427	57	13	110	1.17	350	80	22	290	119	9.5	3.04
388	Mahisagar	Kothamba	7.79	1307	875.69	0	415	149	21	75	0.84	340	76	29	310	154	2.79	3.8
389	Mahisagar	Santrampur1	7.8	952	637.84	0	342	114	11	36	0.66	281	92	2.5	240	110	2.54	3.09
390	Mata no madh	Mata no madh	7.63	1640	1098.8	0	268	312	19	204	0.8	220	124	29	430	225	10	4.72
391	Mata no madh	Lakhpat	7.98	1805	1209.35	0	281	369	1.0	254	0.43	230	116	78	610	199	6.8	3.5
392	Mata no madh	Moti cher	8.1	470	314.9	0	244	43	3.0	19	0.22	200	52	22	220	18	13	0.53
393	Morvi	Morvi	7.95	305	204	0	49	64	0.35	13	0.17	40	16	9.728	80	31	1.3	1.5
394	Morvi	Chhatar	7.69	1622	1087	0	281	312	59	128	0.72	230	120	58.368	540	127	0.85	2.38
395	Morvi	Maliya	7.70	531	356	0	256	35	3.1	16	0.40	210	48	17.024	190	33	7.1	1.04
396	Morvi	Lajai	7.36	3827	2564	0	207	1020.96	131	213	0.53	170	253	160.512	1291	261	3.3	3.16
397	Morvi	Modpar	7.64	2730	1829	0	232	681	2.5	149	0.35	190	72	39	340	422	7.4	10
398	Morvi	Hadmatiya	7.59	2528	1694	0	244	567	97	186	0.41	200	216	61	791	220	1.9	3.4
399	Morvi	Neknam	7.75	1338	896	0	354	170	84	109	0.45	290	96	49	440	110	0.92	2.3
400	Morvi	Mota Dhansura	7.72	2391	1602	0	329	553	2.9	166	0.48	270	136	51	550	283	12	5.2
401	Narmada	Jankh	7.71	620	415.4	0	293	35	15	22	0.45	240	76.152	19	270	21	0.1	0.56
402	Narmada	Umran	7.75	473	316.91	0	195	43	0.22	25	0.31	160	52.104	19	210	16	0.1	0.48
403	Narmada	Salemba	7.43	985	659.95	0	220	156	45	61	0.43	180	88.176	15	280	94	0.46	2.44
404	Narmada	Kanbipitha	7.79	515	345.05	0	232	35	10	23	0.36	190	44.088	32	240	20	0.13	0.56
405	Narmada	Khota Amba	7.89	598	400.66	0	329	21	12	20	0.32	270	80.16	22	290	15	1.1	0.38
406	Narmada	Ringani	7.95	574	384.58	0	342	14	1.2	7.7	0.29	281	56.112	32	270	21	0.11	0.56
407	Narmada	Hirapura	7.73	820	549.4	0	317	78	56	36	0.48	260	80.16	39	360	43	0.28	0.99
408	Narmada	Garudeshwar	7.69	1016	680.72	0	500	71	13	39	0.39	410	100	46	440	54	4.2	1.12
409	Navsari	Parujan	7.67	508	340.36	0	256	28	12	12	0.27	210	68	17	240	17	0.14	0.48
410	Navsari	Chinam	7.8	550	368.5	0	171	64	48	23	0.25	140	64	22	250	16	1.25	0.45
411	Navsari	Navsari 1	7.7	312	209.04	0	134	21	17	17	0.29	110	36	15	150	10	0.23	0.35
412	Navsari	Dandi	7.83	798	534.66	0	305	71	37	29	0.29	250	92	29	350	24	0.78	0.56
413	Navsari	Onjal	7.78	383	256.61	0	195	21	10	11	0.27	160	48	15	180	15	0.41	0.49
414	Navsari	Sari khurd	7.8	417	279.39	0	134	36	30	27	0.31	110	48	17	190	14	0.53	0.44
415	Navsari	Chandav	8.1	2760	1849.2	0	512	582	3.0	158	0.52	420	120	66	570	400	8.35	7.28
416	Navsari	Moti Valzar	8.23	818	548.06	0	427	50	7.0	13	0.4	350	88	19	300	62	14	1.56
417	Navsari	Doldha	8.08	821	550.07	0	268	92	42	56	0.28	220	100	27	360	45	0.47	1.03

418	Navsari	Kaliyari	8.06	355	237.85	0	159	28	6.0	16	0.28	130	32	15	140	24	0.66	0.88
419	Navsari	Rumla	8.07	432	289.44	0	183	36	0.0	30	0.44	150	40	22	190	21	0.44	0.66
420	Navsari	Manav Khadak	8.36	480	321.6	0	171	71	0.0	22	0.24	140	44	17	180	36	0.24	1.18
421	Panchmahals	Shehra	8.25	1255	840.85	0	549	107	7.0	34	0.41	450	72	19	260	72	166	1.94
422	Panchmahals	Chhabanpur	7.68	790	529.3	0	329	64	37	31	0.64	270	80	19	280	70	1.67	1.82
423	Panchmahals	Tuwa	7.8	872	584.24	0	366	99	14	25	0.51	300	88	15	280	80	21.8	2.08
424	Panchmahals	Dhanol	7.89	585	391.95	0	244	21	2.7	33	0.43	200	16	22	130	61	10.41	2.33
425	Panchmahals	Vejalpur	7.8	1724	1155.08	0	488	246	47	81	0.38	400	92	97	630	127	8.26	2.2
426	Panchmahals	Santroad_1	7.91	942	631.14	0	390	78	14	34	0.61	320	48	44	300	81	2.74	2.03
427	Panchmahals	Suliyat	7.26	1056	707.52	0	305	121	46	51	1.1	250	120	32	430	40	21.4	0.84
428	Panchmahals	Natapur	7.71	931	623.77	0	305	92	41	41	1.2	250	85	16	280	80	2	2.08
429	Panchmahals	Godhra2	8.1	980	656.6	0	329	78	75	60	1.2	270	80	15	260	105	0.9	2.83
430	Panchmahals	Godhra UR_1	7.8	1273	852.91	0	415	163	19	55	0.93	340	52	44	310	148	1	3.65
431	Panchmahals	Ranipura	7.98	2432	1629.44	0	500	412	157	106	1.1	410	136	112	800	200	3.98	3.07
432	Panchmahals	Khadki Vadiya	8.21	1242	832.14	0	587	71	3.1	58	2	481	20	78	370	123	1.42	2.78
433	Panchmahals	Kalol UR_1	8.23	209	140.03	0	85	21	5.3	9	0.3	70	32	4.9	100	5	3.13	0.22
434	Panchmahals	Kalol UR_2	8.04	1883	1261.61	0	537	298	84	52	0.3	440	20	148	660	155	0.6	2.62
435	Panchmahals	Tarkanda	7.88	827	554.09	0	195	107	17	53	0.48	160	60	29	270	50	2.8	1.32
436	Panchmahals	Pavagadh	8.15	900	603	0	293	107	39	21	0.35	240	48	68	400	25	0.29	0.54
437	Panchmahals	Shivrajpur	7.8	1317	882.39	0	256	270	12	40	0.4	210	80	68	480	80	0.39	1.59
438	Panchmahals	Javan	8.02	372	249.24	0	159	36	5.2	15	0.43	130	40	15	160	14	12.04	0.48
439	Panchmahals	Jambugoda	7.86	1049	702.83	0	281	136	32	32	0.76	230	44	56	340	73	1.25	1.72
440	Patan	Dhinoj	7.71	1585	1061.95	0	488	256	6.0	100	0.29	400	92	27	340	200	35	4.72
441	Patan	Sander	7.54	440	294.8	0	232	36	2.0	8.0	0.34	190	44	24	210	19	3.6	0.58
442	Patan	Patan	7.5	2100	1407	0	1086	121	58	90	3.2	891	80	54	420	300	37	6.36
443	Patan	Sankhari	7.83	460	308.2	0	232	28	3.0	11	0.58	190	32	17	150	36	10	1.29
444	Patan	Motichander	7.32	15570	10431.9	0	183	5361	9.0	583	0.30	150	300	637	3370	2280	45	17
445	Patan	Piprala	8.15	7336	4915.12	0	769	1882	134	494	6.95	631	68	165	850	1364	1.6	20.3
446	Porbandar	Adityana	7.15	1072	718.24	0	268	156	64	41	0.57	220	52	57	365	72	2.58	1.64
447	Porbandar	Adwana2	7.29	1503	1007.01	0	476	163	90	60	0.37	390	48	97	520	100	1.91	1.91
448	Porbandar	Babda	7.67	1760	1179.2	0	512	262	18	75	0.88	420	40	78	420	202	2.59	4.29
449	Porbandar	Bakharla	7.38	2416	1618.72	0	476	433	82	139	1.9	390	24	122	560	276	41.57	5.07
450	Porbandar	Balej	7.23	962	644.54	0	207	199	2.0	28	0.33	170	24	24	160	133	28.57	4.57
451	Porbandar	Bhavpura	7.17	4177	2798.59	0	183	1241	104	93	0.16	150	360	97	1300	350	7.56	4.22
452	Porbandar	Bhod	7.12	1310	877.7	0	342	199	54	52	0.52	281	88	17	290	164	2.79	4.19
453	Porbandar	Degam	7.95	2135	1430.45	0	207	532	22	123	2	170	52	49	330	276	2.69	6.61
454	Porbandar	Hanumangadh1	7.23	3412	2286.04	0	488	780	39	147	1.2	400	100	207	1100	251	4.25	3.29
455	Porbandar	Kadegi	7.42	12250	8207.5	0	427	3546	3.0	754	0.43	350	38	840	3550	1173	27.14	8.56
456	Porbandar	Kandorna_Rana	7.21	3580	2398.6	0	976	574	50	124	1.8	801	40	195	900	405	2.28	5.87
457	Porbandar	Khambodar	7.61	1660	1112.2	0	439	269	18	65	1.4	360	44	51	320	228	10.25	5.54

458	Porbandar	Kolikhada village-2	7.78	1772	1187.24	0	732	35	47	192	3.4	600	24	32	190	330	0.98	10.41
459	Porbandar	Kuchhadi	7.43	4221	2828.07	0	976	752	27	177	1.1	801	100	97	650	603	105.78	10.28
460	Porbandar	Kutiyana1	7.23	390	261.3	0	183	35	4.0	20	0.88	150	36	15	150	33	4.12	1.17
461	Porbandar	Miyani	7.22	2074	1389.58	0	488	277	170	86	0.16	400	52	12	180	361	46.27	11.7
462	Porbandar	Mocha	7.18	6800	4556	0	366	2199	14	28	0.09	300	220	298	1775	751	30.66	7.75
463	Porbandar	Mojiwana	7.41	1340	897.8	0	403	177	21	65	0.73	331	24	41	230	201	1.58	5.76
464	Porbandar	Navibandar	7.12	810	542.7	0	195	121	39	44	0.42	160	40	27	210	80	7.16	2.4
465	Porbandar	Oddar(Gosa)	7.52	8810	5902.7	0	366	2624	30	440	0.63	300	100	420	1975	1125	42	11.01
466	Porbandar	Palkhadal	7.36	2950	1976.5	0	354	660	117	178	0.5	290	44	133	655	363	40.89	6.17
467	Porbandar	Pata(પાતા)	7.63	1010	676.7	0	305	135	9.0	55	0.48	250	40	39	260	110	3.46	2.97
468	Porbandar	Porbandar1	7.16	1410	944.7	0	451	227	4.0	103	0.93	370	40	34	240	230	26.43	6.45
469	Porbandar	Ranavav2	7.15	1160	777.2	0	305	191	71	37	0.56	250	20	86	405	95	1.65	2.05
470	Porbandar	Ratadi	7.87	2810	1882.7	0	451	574	25	194	1.3	370	32	51	290	524	6.06	13.38
471	Porbandar	Ratia	7.15	2801	1876.67	0	329	652	101	121	0.35	270	24	119	550	293	160	5.43
472	Porbandar	Simar	7.38	460	308.2	0	49	50	104	33	0.42	40	24	24	160	30	2.26	1.03
473	Porbandar	Tukda(Gosa)	7.61	1302	872.34	0	268	184	116	76	0.31	220	44	27	220	170	49.43	4.98
474	Porbandar	Visavada	7.46	1730	1159.1	0	232	362	16	141	1.91	190	56	64	405	197	16.58	4.26
475	Rajkot	Goghavadar	7.04	1171	785	0	220	184	82	115	0.82	180	92.184	54	450	89	2.64	1.8
476	Rajkot	kamlapur 1	7.02	2705	1812	0	73	716	135	176	0.54	60	240.48	36	751	295	2.4	4.7
477	Rajkot	Kalithad 1	7.38	1212	812	0	146	277	31	77	0.59	120	104.208	29	380	98	0.56	2.2
478	Rajkot	Lalavadar	7.50	656	440	0	317	43	16	21	0.67	260	60.12	27	260	43	0.75	1.2
479	Rajkot	Bhadla	7.02	2040	1367	0	171	482	96	127	0.45	140	124.248	95	701	170	2.2	2.8
480	Rajkot	Movaiya	7.19	8752	5864	0	256	2652	168	615	0.74	210	573	467	3353	690	0.72	5.2
481	Rajkot	Motadadva	7.40	1515	1015	0	195	355	60	120	0.50	160	120	83	641	85	3.4	1.5
482	Rajkot	Upleta	7.83	2630	1762	0	720	468	36	60	3.1	590	28	27	180	565	0.88	18.3
483	Rajkot	Virnagar	7.99	2167	1452	0	427	489	34	95	0.62	350	52	122	631	265	0.36	4.6
484	Rajkot	Dhorajee	7.63	645	432	0	146	121	5.8	37	0.35	120	40	29	220	52	3.20	1.5
485	Rajkot	Jamvadi	7.43	729	488	0	183	135	4.8	40	0.50	150	48	29	240	62	3.6	1.7
486	Rajkot	Ganod	7.68	6006	4024	0	464	1432	27	694	2.9	380	128	122	821	1125	1.9	17.1
487	Rajkot	Targhari	7.78	657	440	0	220	99	4.8	33	0.81	180	36	29	210	66	1.3	2.0
488	Rajkot	Chordi	7.47	1199	803	0	244	206	102	51	0.75	200	112	41	450	70	0.37	1.4
489	Rajkot	kamlapur	7.00	2702	1810	0	73	716	125	172	0.59	60	253	29	751	292	2.3	4.6
490	Rajkot	Khirsara	7.14	1450	972	0	415	241	6.4	80	0.10	340	100	68	530	93	3.9	1.8
491	Rajkot	Dadiya	7.56	850	570	0	134	106	102	83	0.40	110	52	41	300	56	0.83	1.4
492	Rajkot	Vinchchiya	7.38	1778	1191	0	342	291	128	123	0.66	280	136	58	580	150	2.2	2.7
493	Rajkot	Halenda	7.49	1767	1184	0	342	333	48	121	0.46	280	64	114	631	122	4.8	2.1
494	Rajkot	Khamta	7.87	2246	1505	0	329	383	93	228	0.53	270	100	63	510	259	6.1	5.0
495	Rajkot	Sardhar 2	7.72	1735	1162	0	610	184	37	84	0.38	500	64	46	350.28	185	74	4.3
496	Rajkot	Jasapar	7.69	1054	706	0	73	170	82	117	0.33	60	68.136	39	330.264	72	0.8	1.7

497	Rajkot	Ranpur	7.46	2019	1353	0	159	539	24	121	0.30	130	204.408	68	790.632	95	0.43	1.4
498	Rajkot	Jasdan 2	7.64	867	581	0	281	99	23	46	0.34	230	76	32	320.256	47	0.56	1.1
499	Rajkot	Paddhari	7.49	5749	3852	0	464	1347	119	586	0.82	380	220	139	1120.9	793	1.4	10.3
500	Rajkot	Ribda	7.41	2327	1559	0	244	674	10	76	0.37	200	224	68	840.672	148	15	2.2
501	Sabarkantha	Boriya	7.6	2784	1865.28	0	403	483	148	282	0.67	331	152	122	880	266	1.2	3.9
502	Sabarkantha	Umedpura	7.9	1544	1034.48	0	488	199	72	97	1.6	400	64	78	480	166	0.7	3.29
503	Sabarkantha	Harsol1	7.8	1456	975.52	0	488	156	73	119	2.1	400	60	41	320	199	0.96	4.84
504	Sabarkantha	varvada	7.8	2334	1563.78	0	732	412	15	47	1.5	600	120	112	760	206	12.9	3.25
505	Sabarkantha	Kesarpura(Mayal)	7.92	1657	1110.19	0	366	199	146	193	2	300	60	51	360	235	0.44	5.39
506	Sabarkantha	Virpur_1(Himmat)	7.8	593	397.31	0	244	36	33	15	0.81	200	12	51	240	27	0.39	0.76
507	Sabarkantha	Gadha1	7.87	2875	1926.25	0	476	511	147	190	1.8	390	148	27	480	452	2.3	8.97
508	Sabarkantha	Bhadreshwar(Daramli)	7.74	2470	1654.9	0	634	355	44	179	1.9	520	72	68	460	364	1.57	7.38
509	Sabarkantha	Virpur2	7.86	1910	1279.7	0	354	341	64	180	2.2	290	68	29	290	338	3.59	8.63
510	Sabarkantha	Sabalwad	7.64	1186	794.62	0	342	121	76	128	2.3	281	108	24	370	117	1.14	2.64
511	Sabarkantha	Chandap_DW	7.76	1754	1175.18	0	329	376	50	125	1.0	270	148	39	530	180	5.17	3.4
512	Sabarkantha	Vadali	7.73	1155	773.85	0	244	156	95	86	1.4	200	112	17	350	102	3.45	2.37
513	Sabarkantha	Silwad	7.6	4722	3163.74	0	561	1264	91	135	1.2	460	208	180	1260	516	13.98	6.32
514	Sabarkantha	Khedbrahma_1	7.65	3750	2512.5	0	256	966	135	126	1.2	210	384	73	1260	292	2.36	3.58
515	Sabarkantha	Matoda	7.5	3071	2057.57	0	390	738	68	159	0.64	320	240	54	820	317	24.3	4.81
516	Sabarkantha	Hingatiya	7.69	2306	1545.02	0	464	398	43	139	2.28	381	112	88	640	251	7.65	4.31
517	Sabarkantha	Poshina2	7.71	1320	884.4	0	488	128	42	110	1.29	400	108	44	450	113	3.5	2.32
518	Sabarkantha	Idar	8.1	1565	1048.55	0	549	199	35	99	2.33	450	84	44	390	209	4.76	4.6
519	Sabarkantha	Mathasuliya	7.7	1842	1234.14	0	293	284	185	186	0.7	240	152	17	450	203	0.83	4.16
520	Sabarkantha	kherwada	7.79	690	462.3	0	195	92	1.6	45	0.6	160	68	7.3	200	57	1.66	1.75
521	Sabarkantha	Atarsumba_2	7.75	984	659.28	0	244	142	43	89	0.52	200	100	12	300	90	2.28	2.26
522	Sabarkantha	Abhapur	7.22	512	343.04	0	268	36	3.4	3	0.38	220	64	12	210	24	9.1	0.72
523	Sabarkantha	Kesharpura	7.44	1337	895.79	0	305	213	123	68	0.63	250	84	75	520	67	1.6	1.28
524	Sabarkantha	Choriwad	7.45	2004	1342.68	0	293	426	165	127	0.60	240	280	34	840	77	2.1	1.16
525	Sabarkantha	Revas	7.58	1820	1219.4	0	342	284	185	140	0.91	281	168	73	720	87	0.97	1.41
526	Surat	Bhatkol	7.04	764	511.88	0	366	57	2.0	37	0.22	300	68	36	320	44	2.5	1.06
527	Surat	Kathor	8.07	972	651.24	0	427	85	19	33	0.26	350	72	49	380	61	22	1.36
528	Surat	Mota	7.87	1050	703.5	0	464	92	1.0	61	0.88	381	80	41	370	98	0.95	2.21
529	Surat	Ten-bardoli	7.86	550	368.5	0	281	36	2.0	8	0.29	230	76	19	270	15	0.21	0.42
530	Surat	Jiav	7.93	442	296.14	0	134	36	65	19	0.18	110	48	19	200	11	0.43	0.35
531	Surat	Sultanabad	7.7	900	603	0	293	92	44	43	0.14	240	92	22	320	58	13	1.41
532	Surat	Gaviyar	7.79	478	320.26	0	183	36	35	12	0.26	150	60	15	210	16	0.3	0.48
533	Surat	Kodad	7.79	608	407.36	0	171	57	49	38	0.31	140	72	22	270	16	0.79	0.43
534	Surat	Kasal	7.93	660	442.2	0	268	57	29	37	0.21	220	76	29	310	19	0	0.47
535	Surat	Nogama	8.22	625	418.75	0	317	43	7.0	19	0.16	260	52	2	140	88	0.74	3.25
536	Surat	Ushker	8.07	538	360.46	0	293	28	1.0	5	0.22	240	56	29	260	16	0.74	0.44

537	Surat	Dungri	7.85	340	227.8	0	134	28	16	15	0.24	110	48	10	160	11	0.63	0.41
538	Surat	Paneshwar	8	455	304.85	0	232	21	2.0	33	0.38	190	40	7	130	54	0.98	2.05
539	Surat	Katrajdevi	7.86	390	261.3	0	195	21	8.0	18	0.31	160	52	12	180	12	0.28	0.4
540	Surat	Juna umarpada	7.95	646	432.82	0	317	43	9.0	24	0.39	260	68	34	310	18	0.17	0.45
541	Surat	Chavada2	7.86	365	244.55	0	134	21	39	33	0.35	110	40	19	180	10	0.13	0.33
542	Surat	Sarkui	8.04	430	288.1	0	244	21	2.0	13	0.34	200	52	17	200	18	0.22	0.55
543	Surat	Khervada	7.9	450	301.5	0	195	36	20	28	0.27	160	52	19	210	16	1.51	0.49
544	Surat	Mandvi2	8	515	345.05	0	220	43	27	15	0.27	180	60	22	240	13	0.17	0.36
545	Surat	Moti Chher	8.04	470	314.9	0	232	28	7.0	13	0.28	190	52	24	230	13	0	0.37
546	Surat	Jesingpura [sg]	7.98	652	436.84	0	281	64	8.0	29	0.28	230	80	29	320	16	0	0.38
547	Surat	Uchchhal1	7.97	838	561.46	0	342	57	11	55	0.57	281	108	19	350	38	0.94	0.88
548	Surat	Nizar1	8.05	865	579.55	0	329	107	17	42	0.36	270	84	49	410	25	0.25	0.54
549	Surat	Sarbhon	8.03	815	546.05	0	342	78	18	29	0.36	281	92	32	360	27	0.13	0.62
550	Surat	Allu	7.65	855	572.85	0	390	71	0	16	0	320	48	17	190	107	15	3.38
551	Surat	Valod	8.16	2675	1792.25	0	634	419	24	156	0.13	520	48	46	310	400	17	9.88
552	Surat	Kelkui	8.03	1173	785.91	0	586	85	8.0	58	0.1	481	72	36	330	104	65	2.48
553	Surat	Bedchit	8.36	995	666.65	48	354	99	3.0	20	0.23	370	104	19	340	84	5.75	1.97
554	Surat	Vaheval	8.25	1435	961.45	0	708	92	10	72	1.07	581	28	44	250	245	2.13	6.74
555	Surat	Vyara1	7.66	989	662.63	0	378	107	10	45	0.57	310	104	34	400	51	1.5	1.11
556	Surendranagar	Dhandhalpur 1	7.79	865	580	0	305	78	9.2	26	0.46	250	44	32	240	72	4.90	2.0
557	Surendranagar	Kherva	7.63	1473	987	0	171	297.78	0.72	169	0.70	140	68	27	280	220	6	5.7
558	Surendranagar	Moti Moladi	7.56	9627	6450	0	232	2921	170	550	0.73	190	673	666	4424	342	3.4	2.2
559	Surendranagar	Muli	7.95	5506	3689.02	0	561	1489	55	9.8	3.6	460	152	109	831	775	2.8	11.7
560	Surendranagar	Bajana	7.91	854	572.18	0	281	77.99	2.4	69	0.54	230	64	10	200	89	4.7	2.7
561	Surendranagar	Thangadh	7.38	5537	3710	0	281	1305	80	600	0.22	230	385	85	1311	612	1.4	7.4
562	Surendranagar	Surendranagar	7.99	1518	1017.06	0	342	199	14	249	0.80	280	40	54	320	222	0.12	5.4
563	Surendranagar	Anindra	7.42	464	311	0	171	21	3.1	39	0.77	140	48	7.3	150	30	5.9	1.1
564	Surendranagar	Sara	7.44	2346	1572	0	244	539	17	200	1.1	200	100	39	410	327	3.1	7.0
565	Surendranagar	Jhinjhuvada	7.52	900	603	0	427	64	1.6	33	0.74	350	52	32	260	85	20	2.3
566	Surendranagar	Sudamba	7.86	3022	2025	0	390	546	207	255	0.76	320	261	85	1001	211	3.3	2.9
567	Surendranagar	Baman Bor	7.5	1458	977	0	366.06	177	85	138	0.73	300	152	44	560.448	79	1.6	1.5
568	Surendranagar	Lakhtar	7.63	830	556	0	353.858	71	2.7	39	2.1	290	64	15	220.176	89	9.4	2.6
569	Surendranagar	Tarnetar	7.54	4522	3030	0	292.848	1170	12	378	0.84	240	156	83	730.584	674	4.6	10.8
570	Surendranagar	Dhangadhara	7.58	2304	1544	0	280.646	383	5.9	410	0.57	230	208	66	790.632	168	7.4	2.6
571	Surendranagar	Shiyani	7.81	1920	1286	0	244.04	383	1.0	255	0.36	200	96	29	360.288	276	6.4	6.3
572	Surendranagar	Visawadi	7.24	4205	2817	0	219.636	1262	13	163	0.31	180	393	158	1631.3	195	28	2.1
573	Surendranagar	Sarla	7.49	2095	1404	0	512.484	369	32	54	1.8	420	148	61	620.496	170	55	3.0
574	Surendranagar	Dhama	8.05	3350	2245	0	488.08	510	135	430	2.4	400	96	85	590.472	408	182	7.3
575	Vadodara	ONGC	8.59	3301	2211.67	72	683	596	1.7	140	1.5	680	20.04	77.824	370	587	1.5	13.27
576	Vadodara	Kevda Bag	7.6	700	469	0	329	50	7.1	26	0.79	270	32.064	19.456	160	92	9.8	3.16

577	Vadodara	Masor	7.89	1290	864.3	0	781	35	2.4	12	2.8	641	12.024	12.16	80	290	1.4	14.1
578	Vadodara	Rasulpura	7.64	975	653.25	0	390	113	23	39	0.41	320	56.112	68.096	420	50	0.82	1.06
579	Vadodara	Saidal	7.65	3063	2052.21	0	403	652	159	158	0.85	331	80.16	182.4	951	264	3.0	3.72
580	Vadodara	Amreshwar	7.86	615	412.05	0	293	57	0.16	11	0.51	240	60.12	12.16	200	64	0.89	1.97
581	Vadodara	Patiyapura	7.93	1530	1025.1	0	476	213	71	97	0.63	390	56.112	114.304	610	109	0.72	1.92
582	Vadodara	Sinor	8.2	1079	722.93	0	500	64	45	40	0.75	410	40.08	85.12	450	67	0.73	1.37
583	Vadodara	Vega	8.18	1522	1019.74	0	573	177	8.6	104	0.45	470	104.208	38.912	420	170	31	3.61
584	Vadodara	Tundav	7.89	1929	1292.43	0	439	305	63	178	1.7	360	68.136	38.912	330	296	26	7.08
585	Vadodara	Juna Somaliya	8.08	1235	827.45	0	366	220	12	32	0.79	300	40.08	41.344	270	166	0.65	4.39
586	Vadodara	Chhaliyar	8.35	1236	828.12	36	586	64	33	19	2.0	541	20.04	17.024	120	254	0.41	10.08
587	Vadodara	Vejpur	8.66	3522	2359.74	96	744	681	2.1	173	2.3	770	24.048	55.936	290	760	6.4	19.4
588	Valsad	Dharampur 3	7.83	497	332.99	0	195	43	25	23	0.28	160	48	19	200	34	0.28	1.08
589	Valsad	Awadha	8.15	1396	935.32	0	366	284	15	82	0.22	300	60	95	540	105	0.22	1.96
590	Valsad	Lakadmal	7.23	714	478.38	0	305	71	4.0	31	5.81	250	20	56	280	50	5.81	1.31
591	Valsad	Mandwa	7.89	560	375.2	0	256	57	6.0	16	0.42	210	88	5	240	33	0.42	0.92
592	Valsad	Kaparda	8.25	447	299.49	0	195	36	6.0	19	0.66	160	44	22	200	20	1.98	0.61
593	Valsad	Chavshala	7.95	566	379.22	0	220	64	6.0	31	0.43	180	52	19	210	40	0.33	1.2
594	Valsad	Fali	8.2	432	289.44	0	134	50	25	28	0.26	110	44	17	180	21	5.21	0.67
595	Valsad	Karwad	8.07	237	158.79	0	73	21	25	21	0.30	60	32	2	90	17	0.8	0.78
596	Valsad	Balitha (Vapi)	8.02	230	154.1	0	73	21	25	17	0.11	60	20	12	100	8.0	4.47	0.37
597	Valsad	Bhilad	6.99	356	238.52	0	171	28	3.0	15	0.15	140	40	15	160	16	1.36	0.55
598	Valsad	Tumb	7.97	668	447.56	0	281	71	4.0	4.0	0.22	230	56	24	240	45	8.1	1.26
599	Valsad	Umargaon	8.03	641	429.47	0	281	57	12	50	0.34	230	56	22	230	59	0.54	1.68
600	Valsad	Kanadu	7.63	943	631.81	0	366	114	24	58	0.28	300	80	49	400	57	0.24	1.25
601	Valsad	Udwada	8.07	820	549.4	0	220	128	30	75	0.44	180	64	44	340	54	0.49	1.27