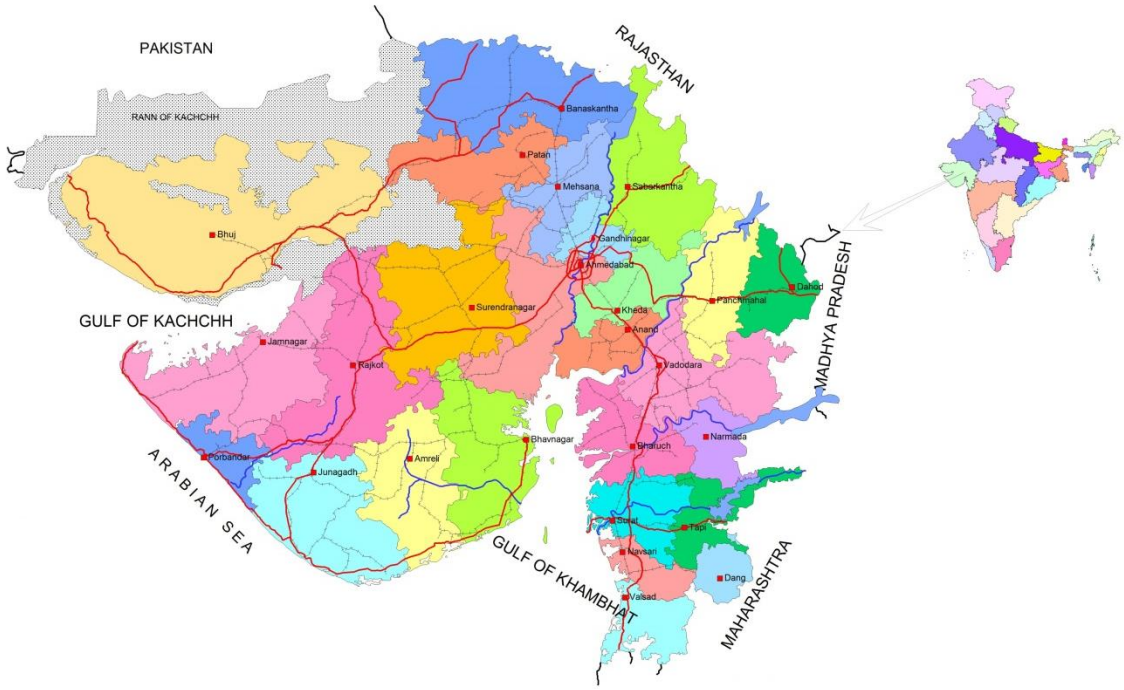
CENTRAL GROUND WATER BOARD

MINISTRY OF WATER RESOURCES, RIVER DEVELOPMENT AND GANGA REJUVENEATION

GOVERNMENT OF INDIA



GROUNDWATER YEAR BOOK – 2016 -17

GUJARAT STATE AND UT OF DAMAN & DIU

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

March - 2018

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GUJARAT STATE AND UT OF DAMAN & DIU

Compiled by

H N Tiwari Scientist D
&
Nilesh Dhokia Draftsman

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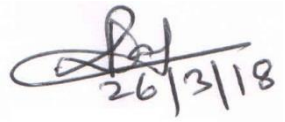
FOREWORD

Central Ground Water Board, West Central Region, has been issuing Ground Water Year Book annually for Gujarat and UT of Daman & Diu by compiling the hydrogeological, hydrochemical and groundwater level data collected from the Groundwater Monitoring Wells established by the Board in Gujarat State and UT of Daman & Diu. Monitoring of groundwater level and chemical quality furnish valuable information on the ground water 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 ground water year (June to May) indicate the pattern of ground water movement, changes in recharge-discharge relationship, behavior of water level and qualitative & quantitative changes of ground water 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 ground water 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 ground water regime monitoring for the year 2016-17.

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 ground water 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 2016 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 ground water, the concentration of arsenic has been measured and produced in the report.

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



(D P Pati)
Regional Director

Contents

GROUNDWATER YEAR BOOK, (2016-17)
GUJARAT AND UT OF DAMAN & DIU

EXECUTIVE SUMMARY

- Central Ground Water Board has set up a network of 1267 Groundwater Monitoring Wells including 395 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 Sq Km/well in Gujarat, whereas in UT of Daman & Diu, it is approximately 7 Sq. Km. per well.

- The average decadal rainfall varies from about 2220 mm in Danan to about 474 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 2016 is 859 mm, which is 12 percent less than the decadal average.

- 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.

- 72% of the wells have depth to water levels in the range of 5 to 20 mbgl (meter below ground level) during pre-monsoon 2016. The water levels were deeper in Amreli, Junagadh, Gandhinagar and Sabarkantha districts.

- Deeper water levels were observed mainly in the over exploited and Critical talukas are in some parts of Saurashtra.

- 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 ground water scenario indicates that the fall is more in water levels during pre monsoon 2016 as it is observed in 65% during post monsoon it oserved 54% 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 54 mbmsl in the first confined aquifer and it is more than 63 mbmsl in second confined aquifer noticed in and around Mahesana, Gandhinagar, Ahmedabad and Patan districts.

- The water levels are declining at an average rate of 2m per year in deeper aquifers in north Gujarat. Steep declines have been observed during the last five years.

- In general ground water 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 ground water quality is variable.

- The quality of ground water deteriorates in discharge area. Quality of ground water is inferior along the coast, the Rann and in the low-lying saline tract between Saurashtra and main land Gujarat.

- The deterioration in ground water 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.

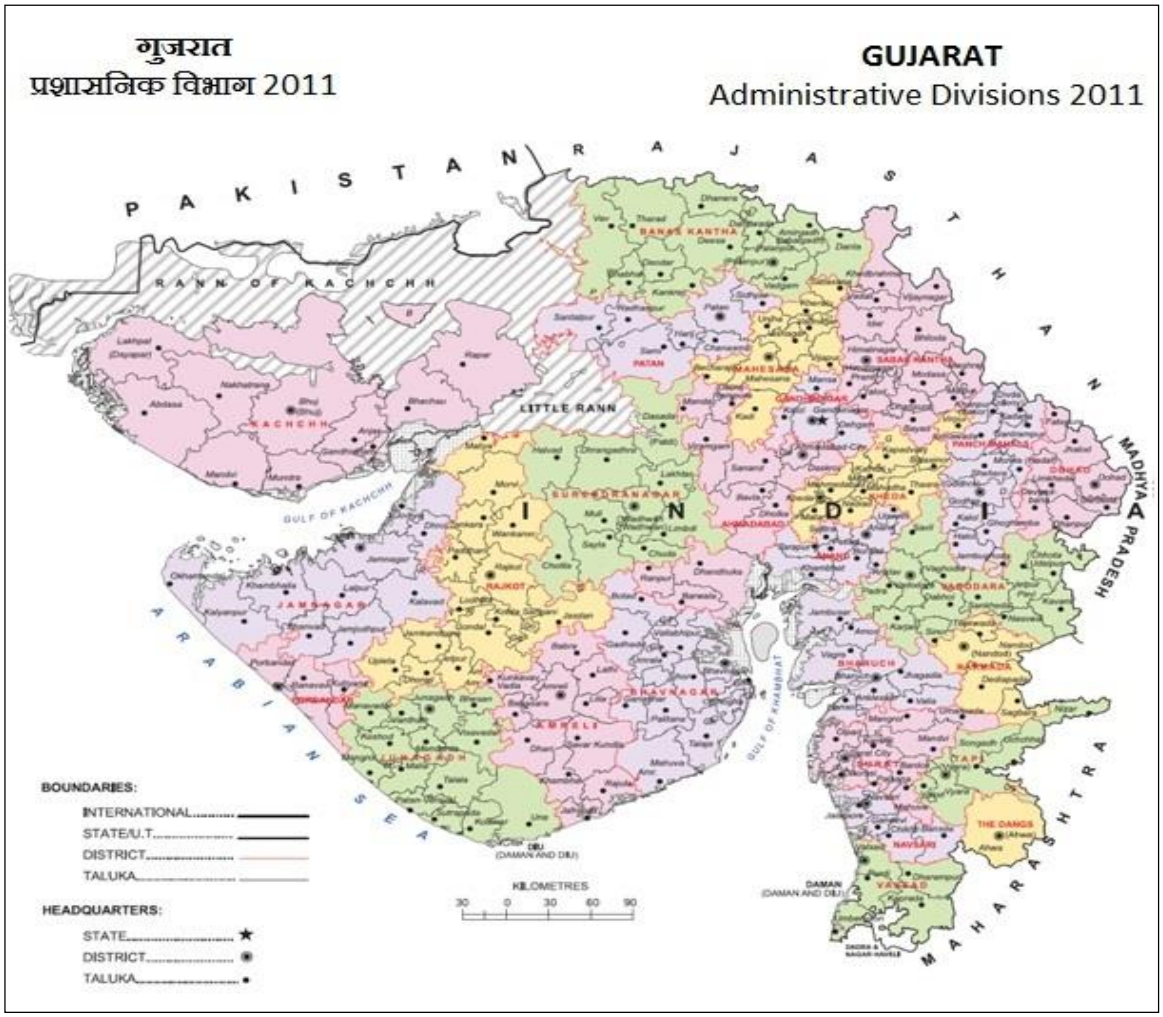
GROUNDWATER YEAR BOOK, 2016-17, GUJARAT STATE AND UT OF DAMAN & DIU

1.0 INTRODUCTION

The West Central Region of Central Ground Water Board has jurisdiction over the State of Gujarat (1,96,024 Sq. Km.) and Union Territory (UT) of Daman & Diu (112 Sq. Km.) covering an area of 1,96,136 sq km. The Gujarat State is situated between North latitudes 20° 06' 00" to 24° 42' 00" and East longitudes 68° 10' 00" to 74° 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 sq. km. 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).

Map showing administrative divisions of Gujarat State Figure : 1

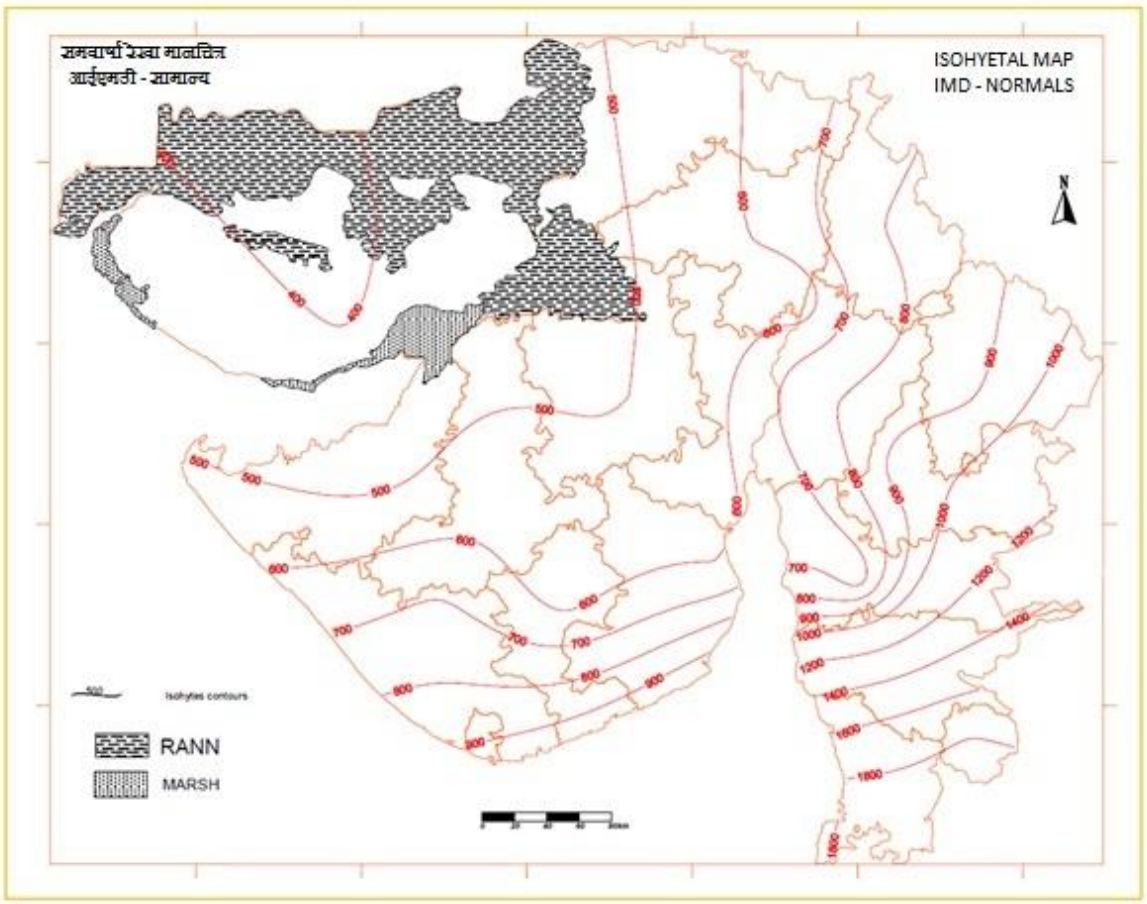


The tribal areas are located all along the interstate boundary, extending from Banaskantha district in the north to The Dangs district in the south. The tribal belt has a total geographical area of 29,560 Sq. Km. and is shown in **Fig. 1**.

The diverse physiographic, climatic, topographic and geologic conditions have given rise to diversified ground water 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 ground water 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 steep reduction from 1883 mm in the extreme south (Valsad) to 386 mm in Kachchh district. The distribution of normal rainfall in the state is depicted in **Fig. 2.**

Map showing distribution of IMD normal rainfall Figure :2



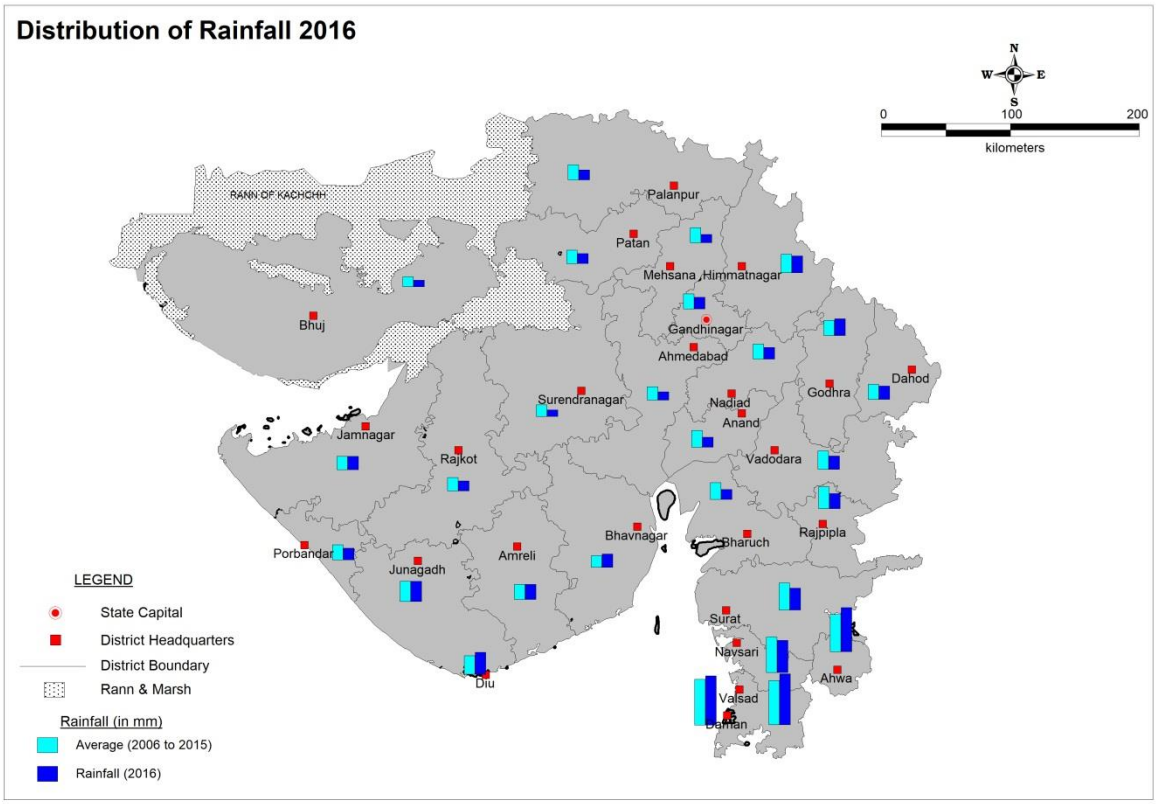
During 2016 Gujarat received 11.17 % less the average rainfall (Annexure I). Eleven districts including UT of Daman and Diu has received average rainfall + -20% as compared to decadal average annual rainfall (2006-2015) and only The Dangs district received rainfall above normal 20.46%. While forteen districts has received

20-40% less annual rainfall as compared to decadal average annual rainfall (2006-2015). The only one district namely Bharuch has received more than 40% less rainfall as compared to decadal average raianfall. Annual rainfall during 2016, Average decadal annual rainfall (2006-2015) and its departure from average decadal annual rainfall in the state and UT of Daman & Diu 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 and U T of Daman & Diu

District	Rainfall 2016	Average Rainfall in mm (2006 to 2015)	Departure % (Year 2016)
Ahmedabad	419	673	-37.76
Amreli	711	752	-5.50
Anand	492	804	-38.84
Banaskantha	466	716	-34.95
Bharuch	485	866	-43.98
Bhavnagar	652	624	4.57
Dahod	632	726	-12.92
Gandhinagar	572	764	-25.18
Jamnagar	675	705	-4.24
Junagadh	978	981	-0.32
Kheda	554	741	-25.20
Kutchh	307	474	-35.19
Mehsana	457	726	-37.08
Narmada	733	1045	-29.88
Navsari	1590	1728	-8.01
Panchmahal	806	776	3.90
Patan	463	654	-29.17
Porbandar	624	789	-20.91
Rajkot	476	676	-29.58
Sabarkantha	816	919	-11.20
Surat	1046	1341	-21.98
Surendranagar	355	546	-34.95
The Dang	2201	1827	20.46
UT of Daman	2422	2220	9.12
UT of Diu	1079	945	14.24
Vadodara	675	907	-25.54
Valsad	2500	2176	14.87
STATE	**859**	**967**	**-11.17**

Fig:- 3 Distribution of rainfall in Gujarat state and UT of Daman & Diu



Central Ground Water Board, as a part of its national programme, has established a network of observation wells in the state of Gujarat and U.T. of Daman and Diu 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, and 16 groundwater monitoring wells including 5 Pz are being monitored in the U.T. of Daman and Diu. The distributions of monitoring wells in different districts are given in **Table 2**.

Two distinct hydro-geological units are identified in Gujarat viz., hard rocks and soft rocks. The distributions of monitoring wells in different hydro-geological units are given in **Table 3**.

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 ground water monitoring wells in these different river basins are given in Annexure II a and Annexure-IIb. Map showing Hydrograph stations monitored during the year and their distribution in different basin and the district is presented as **Fig. 4**.

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

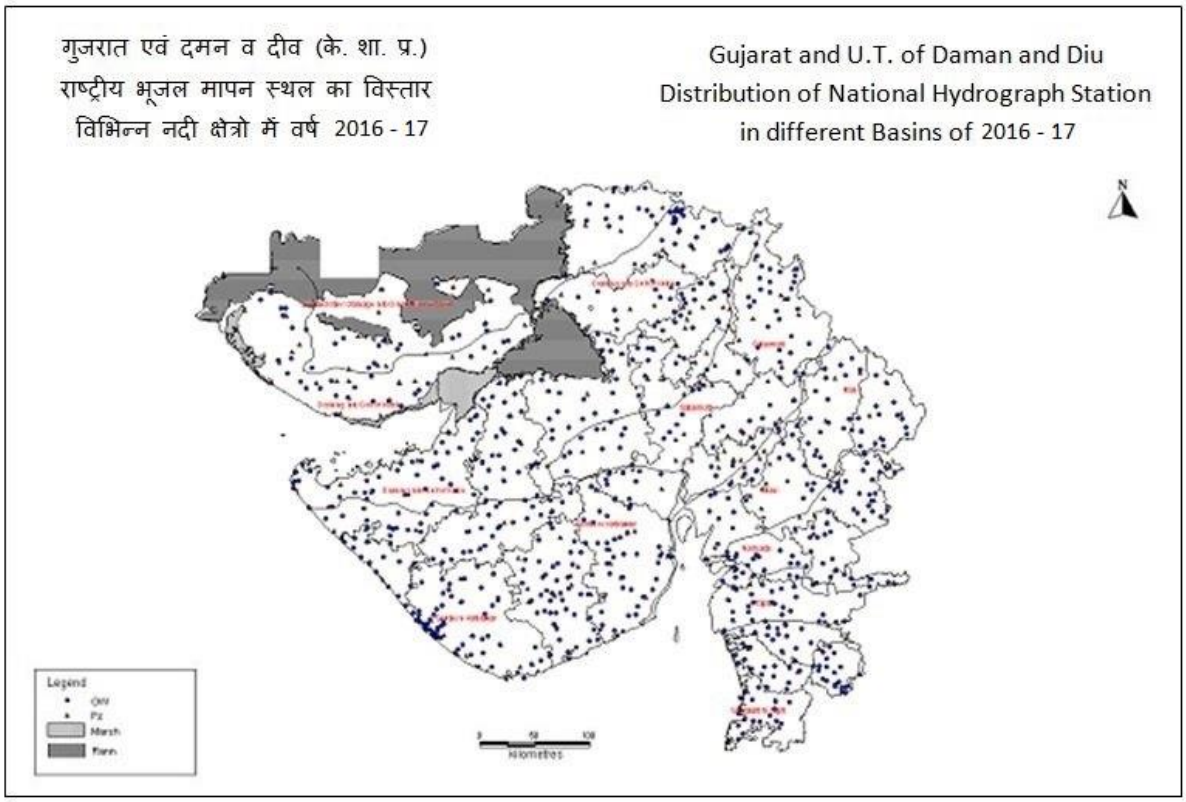


Table-2 DISTRICT WISE DISTRIBUTION OF OF GROUND WATER MONITORING WELLS MONITORED DURING 2016-17

Sl. No.	District	As on May 2016			As on rest of the field season 2016-17			Monitored During MAY- 2016			Monitored During AUGUST- 2016			Monitored During November - 2016			Monitored During January - 2017		
		DW	Pz	Total	DW	Pz	Total	DW	Pz	Total	DW	Pz	Total	DW	Pz	Total	DW	Pz	Total
1	Ahmedabad	17	54	71	17	54	71	15	30	45	17	25	42	17	27	44	18	23	41
2	Amreli	47	16	63	47	16	63	44	11	55	46	13	59	46	11	57	48	9	57
3	Anand	18	15	33	21	15	36	15	14	29	13	14	27	13	11	24	15	13	28
4	Banaskantha	20	51	72	21	50	72	14	27	41	14	27	41	14	30	44	14	32	46
5	Bharuch	36	6	42	38	6	44	35	6	41	26	3	29	32	5	37	34	5	39
6	Bhavnagar	41	12	53	43	12	55	39	6	45	42	7	49	40	6	46	39	5	44
7	Dohad	24	6	30	26	6	32	25	6	31	24	6	30	24	6	30	25	5	30
8	Gandhinagar	3	30	33	3	30	33	2	19	21	2	20	22	2	19	21	2	20	22
9	Jamnagar	50	7	57	52	7	59	46	4	50	48	5	53	49	5	54	49	5	54
10	Junagadh	59	15	74	61	15	76	52	11	63	47	11	58	57	11	68	57	11	68
11	Kachchh	50	19	69	51	19	70	46	11	57	49	11	60	43	10	53	50	10	60
12	Kheda	15	13	28	15	13	28	14	12	26	14	12	26	14	11	25	14	12	26
13	Mahesana	17	44	61	17	44	61	16	26	42	16	21	37	15	29	44	16	30	46
14	Narmada	21	6	27	21	6	27	15	6	21	17	5	22	18	5	23	17	5	22
15	Navsari	23	2	25	23	2	25	19	2	21	19	2	21	20	2	22	21	2	23
16	Panchmahals	39	9	48	41	9	50	33	8	41	31	7	38	30	8	38	34	7	41
17	Patan	15	23	38	15	23	38	9	19	28	8	12	20	10	13	23	9	14	23
18	Porbandar	27	4	31	30	2	32	30	3	33	30	3	33	30	3	33	31	3	34
19	Rajkot	54	7	60	54	7	61	44	5	49	55	6	61	54	6	60	54	6	60
20	Sabarkantha	45	12	57	48	12	60	44	12	56	43	12	55	45	11	56	42	10	52
21	Surat	63	6	70	69	6	75	50	5	55	55	5	60	53	5	58	59	5	64
22	Surendranagar	46	9	55	46	9	55	38	6	44	43	5	48	43	5	48	43	6	49
23	TheDangs	29	2	31	30	2	32	23	1	24	25	2	27	24	1	25	27	1	28
24	Vadodara	45	19	64	47	19	66	40	19	59	34	17	51	40	15	55	39	19	58
25	Valsad	26	2	28	28	2	30	16	1	17	21	2	23	16	2	18	22	1	23
State Total		**830**	**389**	**1220**	**864**	**386**	**1251**	**724**	**270**	**994**	**739**	**253**	**992**	**749**	**257**	**1006**	**779**	**259**	**1038**
UT OF DAMAN AND DIU																			
1	U.T.of Daman	8	1	9	8	1	9	8	1	9	8	1	9	8	1	9	8	1	9
2	U.T. of Diu	3	4	7	3	4	7	3	2	5	3	2	5	3	2	5	3	2	5
	UT Total	**11**	**5**	**16**	**11**	**5**	**16**	**11**	**3**	**14**	**11**	**3**	**14**	**11**	**3**	**14**	**11**	**3**	**14**
Grand Total		**841**	**394**	**1236**	**875**	**391**	**1267**	**735**	**273**	**1008**	**750**	**256**	**1006**	**760**	**260**	**1020**	**790**	**262**	**1052**

Table 3

DISTRIBUTION OF GROUND WATER MONITORING WELLS IN DIFFERENT HYDROGEOLOGICAL UNITS 2016-2017

S.No	DISTRICT	Hard Rock		Soft Rock		Total		
		DW	PZ	DW	PZ	DW	PZ	Total
1	Ahmedabad	4	0	13	54	17	54	71
2	Amreli	38	12	9	4	47	16	63
3	Anand	1	0	20	15	21	15	36
4	Banaskantha	7	1	13	51	20	52	72
5	Bharuch	12	3	26	3	38	6	44
6	Bhavnagar	34	9	9	3	43	12	55
7	Dohad	26	6	0	0	26	6	32
8	Gandhinagar	0	0	3	30	3	30	33
9	Jamnagar	28	7	24	0	52	7	59
10	Junagadh	39	15	22	0	61	15	76
11	Kachchh	9	3	42	16	51	19	70
12	Kheda	3	3	12	10	15	13	28
13	Mahesana	0	0	17	44	17	44	61
14	Narmada	19	6	2	0	21	6	27
15	Navasari	12	1	11	1	23	2	25
16	Panchmahals	34	9	7	0	41	9	50
17	Patan	0	0	15	23	15	23	38
18	Porbandar	18	2	10	2	28	4	32
19	Rajkot	38	4	16	3	54	7	61
20	Sabarkantha	38	5	10	7	48	12	60
21	Surat	42	3	27	3	69	6	75
22	Surendranagar	14	1	32	8	46	9	55
23	The dangs	30	2	0	0	30	2	32
24	Vadodara	25	10	22	9	47	19	66
25	Valsad	24	2	4	0	28	2	30
	Gujarat TOTAL	**495**	**104**	**366**	**286**	**861**	**390**	**1251**
UT OF DAMAN AND DIU								
1	U.T.of Daman	8	1	0	0	8	1	9
2	U.T. of Diu	0	0	3	4	3	4	7
U.T. Total		**8**	**1**	**3**	**4**	**11**	**5**	**16**
Grand Total		**503**	**105**	**369**	**290**	**872**	**395**	**1267**

2.0 HYDROGEOLOGY

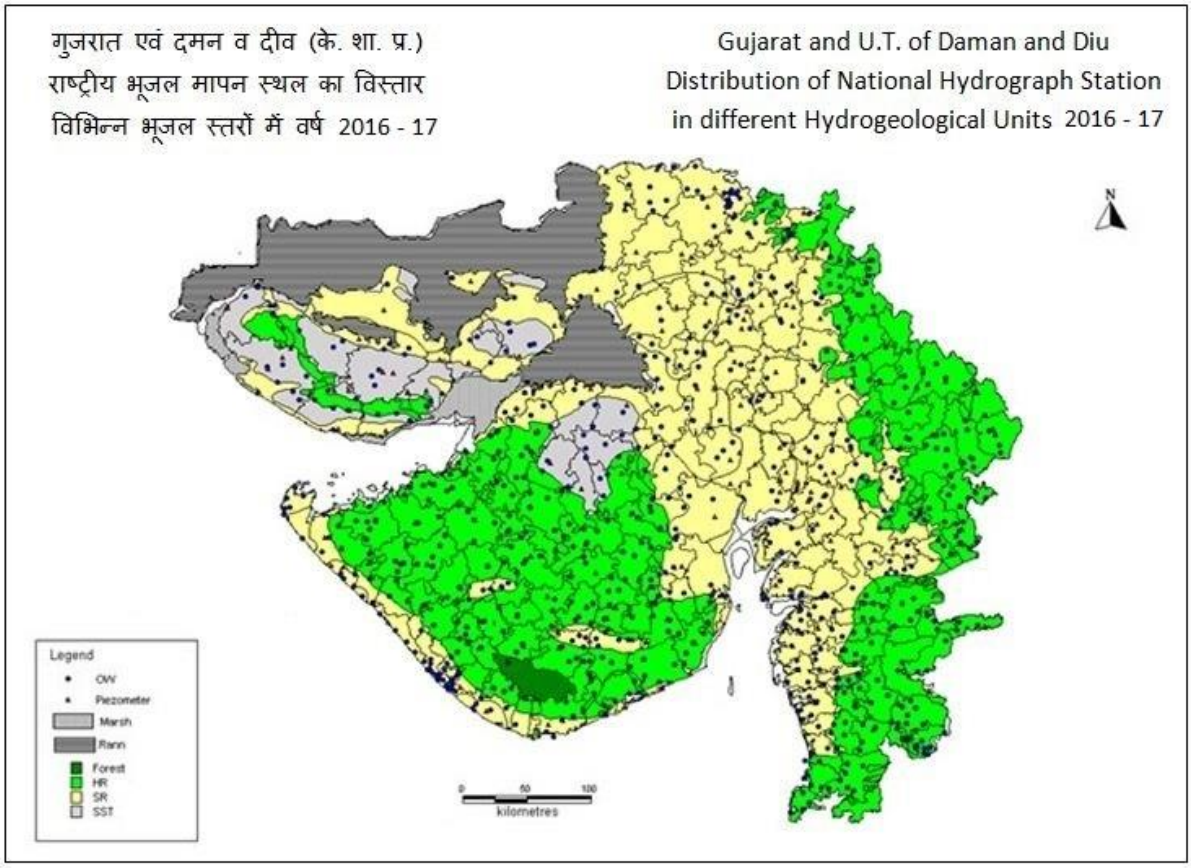
The high relief areas in the eastern and north-eastern parts of the state occupied by the Deccan Traps and the Archeans respectively have steep topographic gradients resulting in high run-off, and therefore, provide little scope for groundwater recharge. The groundwater potential in this terrain is limited. 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 ground water 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 4.**

Table 4. 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: 1.6x10E-4 to 7.3x 10E-4, Hydraulic Conductivity: 5 to 20m/day, Transmissivity: 50 to 2000m2/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 1000m2/day
Fissured formation			
Mesozoic to Palaeozoic	Basalt with intertrappean clays	Uplands of saurashtra, Kachchh Region, scattered patches in Panchmahals,	Ground water occurrence restricted to weathered and fractured zones, limited to 200m,

		Sabarkantha and Vadodara districts, Continuous belt in eastern part of Bharuch, Surat and Valsad districts	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.	Ground water occurrence restricted to weathered and fractured zones having secondary porosity, limited yield prospects of 2 to 5 lps.

Figure: 5 Map showing major hydrogeological units and distribution of Ground Water 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 Wadhwan 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 Wadhwan 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 m^3/hour for drawdown of about 10m. 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 of 14 to 80 m^3/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 m^3/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 m^3/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°28': 69°16') and Veraval (20°54': 70°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° 11': 70° 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 m^3/day and tube wells yield about 22 m^3/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 m^3/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. Ground water 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 m^3/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 sq km. 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 ground water 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 1961at most of the area. The yield of tube wells tapping users confined aquifer vary from 20 to 40 lps.

3.0 GROUND WATER 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 ground water 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 (water level of pre-monsoon period).
b) August - 20th to 30th (peak monsoon water level).
c) November - 1st to 10th (water levels of post-monsoon period).
d) January - 1st to 10th (the recession stage of water level).

Water level data of the ground water monitoring wells collected during the year 2016 – 2017 has been utilized to prepare various maps showing depth to water level and fluctuation of water level.Depth to water level maps are 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, Junagadh, Jamnagar, 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, Dahod, Banaskantha, Gandhinagar, Kheda, Mahesana, Panchmahals, Patan and Sabarkantha districts, and South Gujarat comprising Bharuch, Narmda, Navsari, Surat, The Dangs Vadodara and Valsad districts. The Union Territory of Daman & Diu has been described separately. The water level data of these open wells and piezometers are presented in the Annexure III-a and III-b.

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 ground water 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

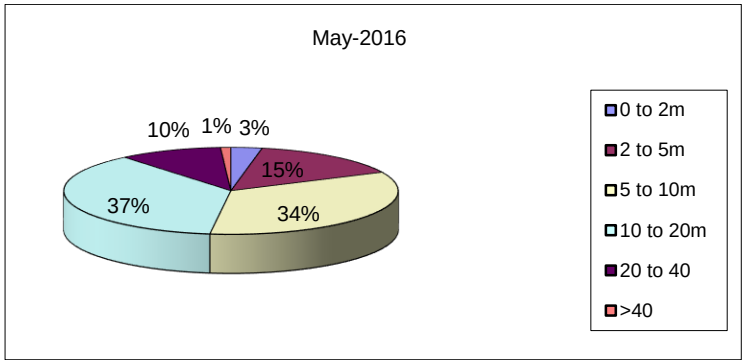


Fig 6 b

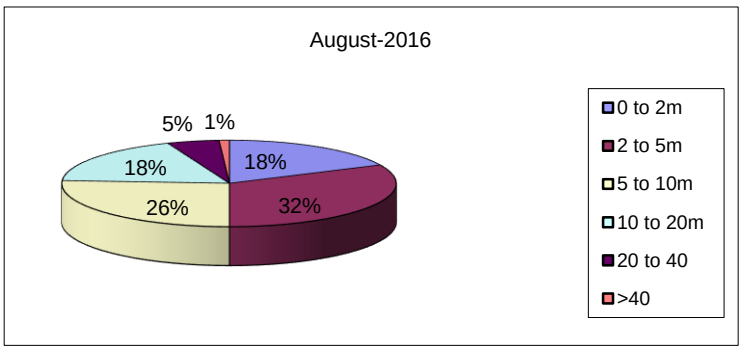


Fig 6 c

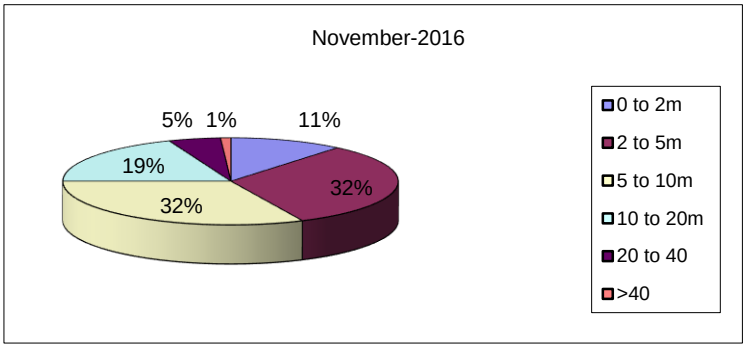
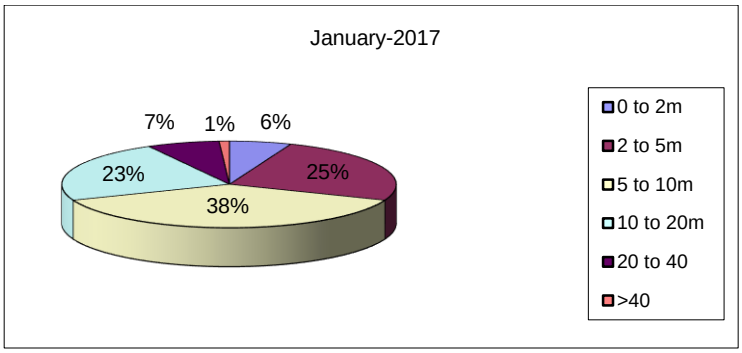


Fig 6 d



3.1.1 Depth to Water Level May 2016

In the pursuance of Fig no. 7 reveals that 72% of the area (table- 5) of the state falls in the water levels ranges 5 - 20m bgl. Water levels of 20 to 40 mbgl are observed in 10% area of the state and ut of Daman & Diu. Deeper water level more than 40m bgl are observed in parts of Gandhinagar, Kheda and Sabarkantha districts. The shallowest water level recoreded is 0.05 m bgl at Lilpur village in Kachchh district. The deepest water level recorded is 58.24 m bgl at Amarpua in Gandhinagar district.

In North Gujarat, about 71% of the area falls in the water level range of 5 - 20 m bgl. 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. Deeper water levels ranges 20 to 40 mbgl are experienced in major part Banaskantha, Mahesana districts and adjoining area of Ahmedabad, Kheda, Anand,Panchmahals and Sabarkantha districts. The deepest water level recorded is 58.24 m bgl at Amarpua in Gandhinagar district. Whereas shallowest water level of 0.09 mbgl has been recorded at Radhanpur in Patan district.

In South Gujarat, more than 72% of the area has recorded water level between 5- 20 mbgl. Deeper water levels of more than 20 m bgl is mainly observed in parts of Vadodara, Narmada and Navsari districts. The deepest water level of

33.03m bgl is recorded at Rasulpura in Narmada district whereas the shallowest water level of 0.53 mbgl has been recorded at Kelkui in Surat district.

In Saurashtra region, about 70% of the area shows water levels 5 - 20 mbgl. Water levels of 20 to 40 m are found as isolated patches scattered all over the region except Surendra nagar district. The shallowest water level, 0.2 mbgl, has been recorded at Tavi village in Surendranagar district and the deepest water level of 46.61 mbgl recorded at Kerala in Amreli district.

In Kachchh region, more than 75 % of the area, the water level is between 5 - 20 mbgl. Western part of the area shows water level rages 2 to 5 m bgl. The water level more than 20 m occur as isolated patches scattered in the central and eastern part of the Kachchh district. The deepest water level of 37.66 mbgl is recorded at Kotada and the shallowest water level of 0.05 mbgl has been recorded at Lilpur.

The depth to water level is in the range of 3.50 to 10.41 mbgl in Daman and 6.01 to 7.70 mbgl in Diu.

3.1.2 Depth to Water Level August 2015

The depth to water level of unconfined aquifer range from near ground level to 59.30 mbgl (Amarpura in Gandhinagar district) during August 2015 (**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 20m, 20 to 40 m and more than 40 mbgl is presented in table – 6. The perusal of the depth to water level reveals that 49% of the area of the state falls in the water level ranges 0 to 5 mbgl whereas 5 to 20 mbgl water level are observed in 43% of the area in Gujarat state and UT of Daman & Diu. Water levels of 20 to 40 mbgl are observed in Mahesana, Gandhinagar, Kheda, Banaskantha, Sabarkantha, Kachchh, Amreli, Bhavnagar, Navsari, Narmada, Jamnagar, Junagadh, Porbandar and Vadodara districts in isolated patches. Deeper water levels more than 40m bgl are observed in northern Banaskanth, Gandhinagar and in Amreli in Saurashtra as isolated patch. The shallowest water level, near to ground level has been recorded at Radhanpur of Patan district.

In North Gujarat, about 93% of the area falls within the water level of 20 mbgl. 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 and Sabarkantha district. Deeper water levels ranges from 20 to 40 mbgl in major part of Banaskantha, adjoining area of Ahmedabad, Kheda and Gandhinagar and as isolated patches in Mahesana and Sabarkantha districts. The deepest water level of 59.30 m bgl is recorded at Amarpura in Gandhinagr district whereas The shallowest water level, near to ground level 0.02m bgl has been recorded at Radhanpur in Patan district.

In South Gujarat, more than 98% of the area has recorded water level below 20 mbgl of which 70% alone has the water level in the range of 0 – 5 mbgl. Deeper water levels of 20 – 40 mbgl are mainly observed as isolated patch in parts of Vadodara & Navsari district. The deepest water level of 25.80 m bgl is recorded at Navsari in Navsari district whereas the shallowest water level of 0.05 magl at Saidel in Vadodara district.

In Saurashtra region, about 92% of the area shows water levels in less than 20 m bgl and water levels of 20 to 40 m are found as isolated patch in all districts of the region except Rajkot and Surendranagar. The shallowest water level, near to ground level 0.05 m bgl has been recorded at Saidal of Vadodarar district and the deepest water level of 48.15 m bgl recorded at Kerala in Amreli district.

In Kachchh region, in about 87 % of the area, the water level ranges less than 20m bgl. Central east part of the area shows water level ranges 20 to 40 mbgl occur as isolated patches. The deepest water level of 37.72 m bgl is recorded at Kotada and the shallowest water level of 0.37 m bgl has been recorded at Haboi.

The depth to water level in Daman ranges from 0.79 mbgl at Warkund to 2.72 mbgl at Khariwad Daman where as in Diu area depth to water levels range is 3.75 mbgl in Diu to 6.18mbgl in Chakraterth.

Fig- 7

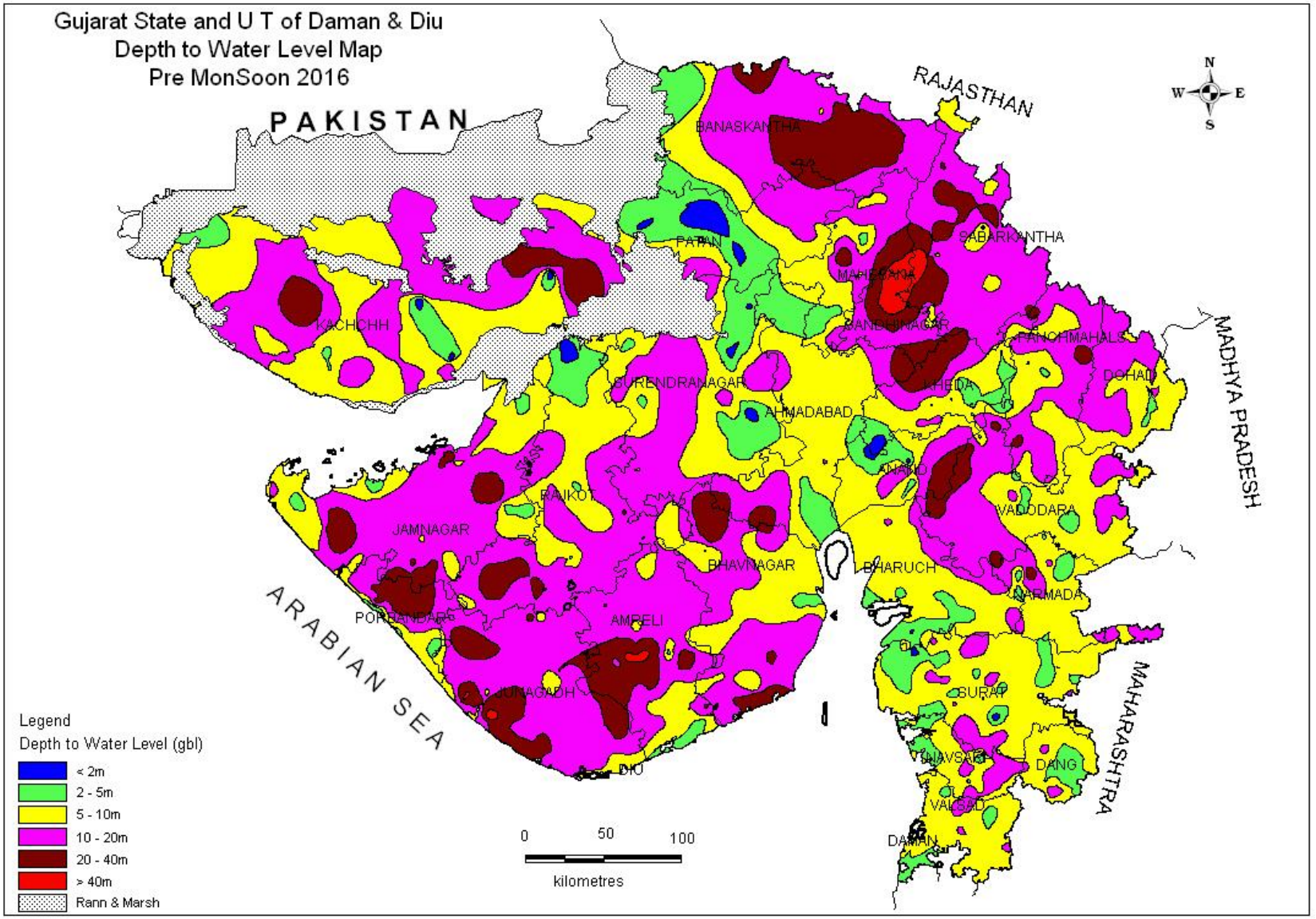
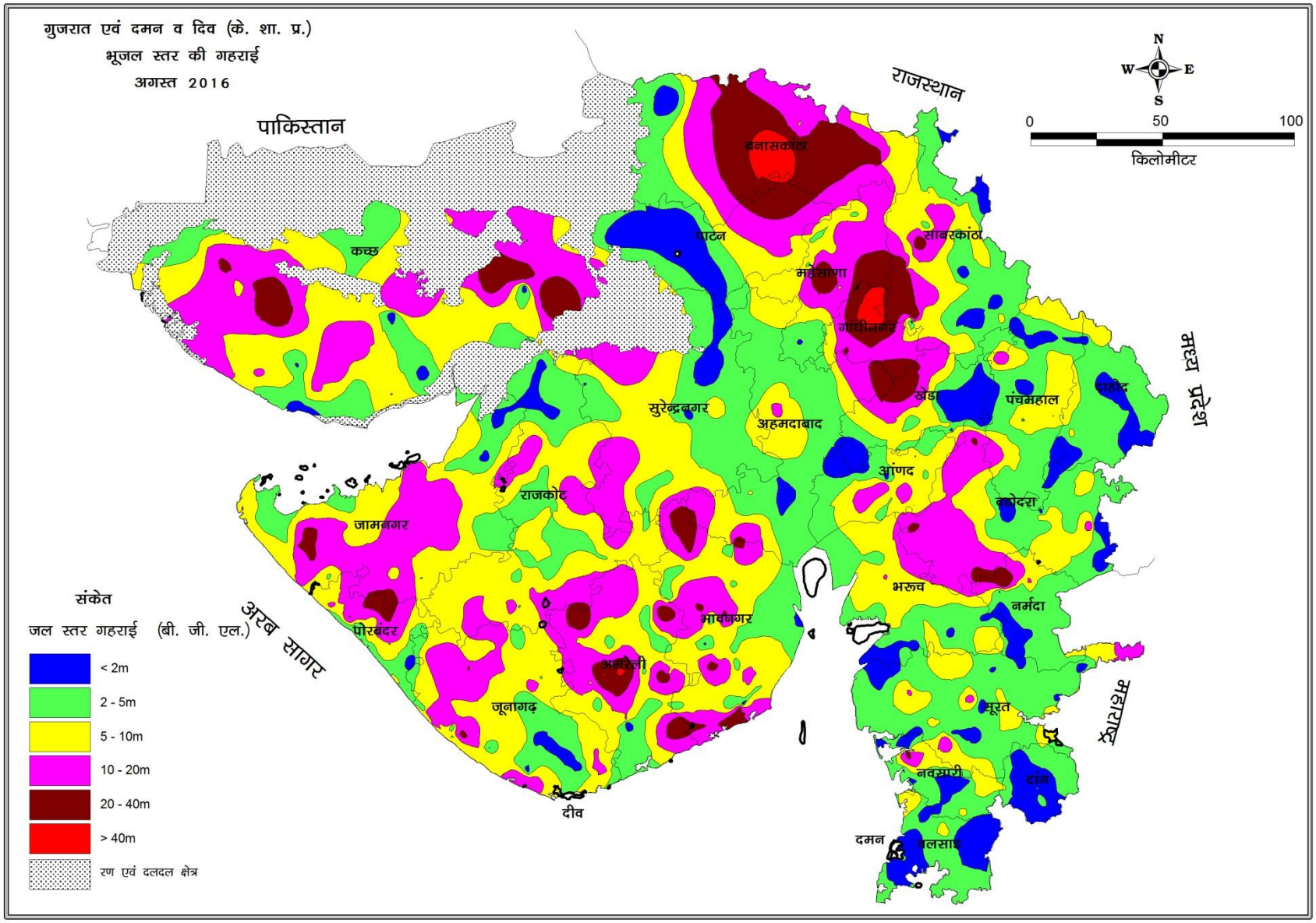

Gujarat State and U T of Daman & Diu
Depth to Water Level Map
Pre MonSoon 2016
PAKISTAN
RAJASTHAN
MADHYA PRADESH
MAHARASHTRA
ARABIAN SEA
BANASKANTHA
PATAN
SABARKANTHA
MAHESANA
GANDHINAGAR
PANCHMAHALS
DOHAD
KACHCHH
SURENDRANAGAR
KHEDA
AHMADABAD
ANAND
RAJKOT
VADODARA
JAMNAGAR
BHAVNAGAR
BHARUCH
NARMADA
PORBANDAR
AMRELI
JUNAGADH
SURAT
NAVSARI
DANG
VALSAD
DAMAN
DIU
N
W
E
S
0
50
100
kilometres
Legend
Depth to Water Level (gbl)
< 2m
2 - 5m
5 - 10m
10 - 20m
20 - 40m
> 40m
Rann & Marsh

Fig- 8


गुजरात एवं दमन व दिव (के. शा. प्र.)
भूजल स्तर की गहराई
अगस्त 2016
पाकिस्तान
राजस्थान
मध्य प्रदेश
महाराष्ट्र
अरब सागर
N
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किलोमीटर
बनासकांठा
पाटन
साबरकांठा
कच्छ
मेहसाणा
गांधीनगर
खेडा
पंचमहाल
दाहोद
सुरेन्द्रनगर
अहमदाबाद
आंणद
राजकोट
जामनगर
छोटा उदेपुर
भरूच
नर्मदा
भावनगर
पोरबंदर
अमरेली
जूनागढ़
सूरत
नवसारी
डांग
दीव
दमन
वलसाड
संकेत
जल स्तर गहराई (बी. जी. एल.)
< 2m
2 - 5m
5 - 10m
10 - 20m
20 - 40m
> 40m
रण एवं दलदल क्षेत्र

Table-5

WELL WISE CATEGORISATION OF DEPTH TO WATER LEVEL - MAY 2016

Sl.No.	District	No. of Wells Analysed	DTWL in mbgl		No of well in different Ranges					
			Min	Max	0 to 2 (m)	2 to 5(m)	5 to 10(m)	10 to 20(m)	20 to 40(m)	>40(m)
1	Ahmedabad	14	2.46	21.62	0	5	4	3	2	0
					5.00%	45.00%	20.00%	10.00%	20.00%	0.00%
2	Anand	16	1.08	26.94	2	4	4	4	2	0
					12.50%	25.00%	25.00%	25.00%	12.50%	0.00%
3	Banaskantha	19	2.68	35.23	0	1	2	8	8	0
					0.00%	5.26%	10.53%	42.11%	42.11%	0.00%
4	Dohad	30	1.90	16.40	1	3	12	14	0	0
					5.00%	15.00%	60.00%	70.00%	0.00%	0.00%
5	Gandhinagar	5	13.06	58.24	0	0	0	3	0	2
					0.00%	0.00%	0.00%	60.00%	0.00%	40.00%
6	Kheda	22	0.85	40.40	2	5	8	5	1	1
					11.11%	27.78%	44.44%	27.78%	5.56%	5.56%
7	Mahesana	27	2.56	29.36	0	5	12	9	1	0
					0.00%	18.52%	44.44%	33.33%	3.70%	0.00%
8	Panchmahals	39	4.00	29.68	0	3	11	22	3	0
					0.00%	7.69%	28.21%	56.41%	7.69%	0.00%
9	Patan	10	0.09	19.91	3	1	4	2	0	0
					30.00%	10.00%	40.00%	20.00%	0.00%	0.00%
10	Sabarkantha	54	4.15	47.90	0	2	9	32	10	1
					0.00%	3.70%	16.67%	59.26%	18.52%	1.85%
North Gujarat		**236**	**0.09**	**58.24**	**8**	**29**	**66**	**102**	**27**	**4**
					3.39%	**12.29%**	**27.97%**	**43.22%**	**11.44%**	**1.69%**
11	Bharuch	38	1.65	14.45	1	10	25	2	0	0
					2.63%	26.32%	65.79%	5.26%	0.00%	0.00%
12	Narmada	24	2.25	33.03	0	5	12	4	3	0
					0.00%	20.83%	50.00%	16.67%	12.50%	0.00%
13	Navsari	28	1.78	29.34	1	7	11	8	1	0
					3.57%	25.00%	39.29%	28.57%	3.57%	0.00%
14	Surat	61	0.55	19.81	3	13	28	17	0	0
					4.92%	21.31%	45.90%	27.87%	0.00%	0.00%
15	The dangs	24	2.05	13.10	0	7	13	4	0	0
					0.00%	29.17%	54.17%	16.67%	0.00%	0.00%
16	Vadodara	47	2.30	28.99	0	7	18	17	5	0
					0.00%	14.89%	38.30%	36.17%	10.64%	0.00%
17	Valsad	21	2.90	12.20	0	6	10	5	0	0
					0.00%	28.57%	47.62%	23.81%	0.00%	0.00%
South Gujarat		**243**	**0.55**	**33.03**	**5**	**55**	**117**	**57**	**9**	**0**
					2.06%	**22.63%**	**48.15%**	**23.46%**	**3.70%**	**0.00%**
18	Amreli	41	2.21	46.61	0	3	8	19	9	2
					0.00%	7.32%	19.51%	46.34%	21.95%	4.88%
19	Bhavnagar	37	3.15	35.80	0	5	8	19	5	0
					0.00%	13.51%	21.62%	51.35%	13.51%	0.00%
20	Jamnagar	49	3.37	30.01	0	6	14	20	9	0
					0.00%	12.24%	28.57%	40.82%	18.37%	0.00%
21	Junagadh	55	5.85	46.20	0	0	12	29	11	3
					0.00%	0.00%	20.34%	49.15%	18.64%	5.08%
22	Porbandar	29	2.74	34.20	0	4	9	9	7	0
					0.00%	13.79%	31.03%	31.03%	24.14%	0.00%
23	Rajkot	50	0.33	29.66	1	7	17	21	4	0
					2.00%	14.00%	34.00%	42.00%	8.00%	0.00%
24	Surendranagar	41	0.20	19.00	4	11	13	13	0	0
					9.76%	26.83%	31.71%	31.71%	0.00%	0.00%
Saurashtra		**302**	**0.20**	**46.61**	**5**	**36**	**81**	**130**	**45**	**5**
					1.66%	**11.92%**	**26.82%**	**43.05%**	**14.90%**	**1.66%**
25	**Kachchh**	**44**	**0.05**	**37.66**	**3**	**3**	**13**	**20**	**5**	**0**
					6.82%	**6.82%**	**29.55%**	**45.45%**	**11.36%**	**0.00%**
26	DAMAN	9	3.50	10.41	0	1	7	1	0	0
					0.00%	11.11%	77.78%	11.11%	0.00%	0.00%
27	DIU	3	6.01	7.70	0	0	3	0	0	0
					0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
Daman & Diu		**12**	**3.50**	**10.41**	**0**	**1**	**10**	**1**	**0**	**0**
					0.00%	**8.33%**	**83.33%**	**8.33%**	**0.00%**	**0.00%**
Grand Total		**837**	**0.05**	**58.24**	**21**	**124**	**287**	**310**	**86**	**9**
					2.51%	**14.81%**	**34.29%**	**37.04%**	**10.27%**	**1.08%**

RODC, CGWB - WCR, Ahmedabad

Table-6

WELL WISE CATEGORISATION OF DEPTH TO WATER LEVEL - AUGUST 2016

Sl.No.	District	No. of Wells Analysed	DTWL in mbgl		No of well in different Ranges					
			Min	Max	0 to 2 (m)	2 to 5(m)	5 to 10(m)	10 to 20(m)	20 to 40(m)	>40(m)
1	Ahmedabad	24	1.71	15.25	2	11	6	5	0	0
					33.33%	25.00%	29.17%	12.50%	0.00%	0.00%
2	Anand	15	0.40	15.20	3	7	1	4	0	0
					20.00%	46.67%	6.67%	26.67%	0.00%	0.00%
3	Banaskantha	20	0.70	58.79	1	0	6	7	5	1
					5.00%	0.00%	30.00%	35.00%	25.00%	5.00%
4	Dohad	29	0.20	9.60	11	15	3	0	0	0
					55.00%	75.00%	15.00%	0.00%	0.00%	0.00%
5	Gandhinagar	6	12.99	59.30	0	0	0	3	1	2
					0.00%	0.00%	0.00%	60.00%	20.00%	40.00%
6	Kheda	21	0.20	35.40	8	4	7	1	1	0
					44.44%	22.22%	38.89%	5.56%	5.56%	0.00%
7	Mahesana	27	1.75	33.24	1	8	9	7	2	0
					3.70%	29.63%	33.33%	25.93%	7.41%	0.00%
8	Panchmahals	38	0.10	15.80	6	14	14	4	0	0
					15.79%	36.84%	36.84%	10.53%	0.00%	0.00%
9	Patan	9	0.02	17.78	3	0	3	3	0	0
					33.33%	0.00%	33.33%	33.33%	0.00%	0.00%
10	Sabarkantha	56	0.10	34.40	6	24	16	5	5	0
					10.71%	42.86%	28.57%	8.93%	8.93%	0.00%
North Gujarat		**245**	**0.02**	**59.30**	**41**	**83**	**65**	**39**	**14**	**3**
					16.73%	**33.88%**	**26.53%**	**15.92%**	**5.71%**	**1.22%**
11	Bharuch	36	0.97	10.23	8	14	13	1	0	0
					22.22%	38.89%	36.11%	2.78%	0.00%	0.00%
12	Narmada	20	0.72	11.15	8	7	4	1	0	0
					40.00%	35.00%	20.00%	5.00%	0.00%	0.00%
13	Navsari	26	0.50	25.80	11	10	4	0	1	0
					42.31%	38.46%	15.38%	0.00%	3.85%	0.00%
14	Surat	57	0.20	14.63	11	27	13	6	0	0
					19.30%	47.37%	22.81%	10.53%	0.00%	0.00%
15	The dangs	24	0.22	5.47	17	6	1	0	0	0
					70.83%	25.00%	4.17%	0.00%	0.00%	0.00%
16	Vadodara	41	0.05	23.80	7	13	11	7	3	0
					17.07%	31.71%	26.83%	17.07%	7.32%	0.00%
17	Valsad	19	0.30	9.02	8	8	3	0	0	0
					42.11%	42.11%	15.79%	0.00%	0.00%	0.00%
South Gujarat		**223**	**0.05**	**25.80**	**70**	**85**	**49**	**15**	**4**	**0**
					31.39%	**38.12%**	**21.97%**	**6.73%**	**1.79%**	**0.00%**
18	Amreli	52	0.22	48.15	3	12	16	11	8	2
					5.77%	23.08%	30.77%	21.15%	15.38%	3.85%
19	Bhavnagar	44	0.82	30.80	3	13	11	9	8	0
					6.82%	29.55%	25.00%	20.45%	18.18%	0.00%
20	Jamnagar	50	1.00	23.10	4	10	16	17	3	0
					8.00%	20.00%	32.00%	34.00%	6.00%	0.00%
21	Junagadh	65	0.92	23.45	7	12	23	20	3	0
					11.86%	20.34%	38.98%	33.90%	5.08%	0.00%
22	Porbandar	30	0.74	33.06	2	10	6	10	2	0
					6.67%	33.33%	20.00%	33.33%	6.67%	0.00%
23	Rajkot	54	1.06	19.90	4	19	20	11	0	0
					7.41%	35.19%	37.04%	20.37%	0.00%	0.00%
24	Surendranagar	35	0.10	18.48	7	14	9	5	0	0
					20.00%	40.00%	25.71%	14.29%	0.00%	0.00%
Saurashtra		**330**	**0.10**	**48.15**	**30**	**90**	**101**	**83**	**24**	**2**
					9.09%	**27.27%**	**30.61%**	**25.15%**	**7.27%**	**0.61%**
25	**Kachchh**	**48**	**0.37**	**37.72**	**5**	**9**	**13**	**15**	**6**	**0**
					10.42%	**18.75%**	**27.08%**	**31.25%**	**12.50%**	**0.00%**
26	DAMAN	9	0.79	2.92	7	2	0	0	0	0
					77.78%	22.22%	0.00%	0.00%	0.00%	0.00%
27	DIU	4	3.75	6.18	0	3	1	0	0	0
					0.00%	75.00%	25.00%	0.00%	0.00%	0.00%
Daman & Diu		**13**	**0.79**	**6.18**	**7**	**5**	**1**	**0**	**0**	**0**
					53.85%	**38.46%**	**7.69%**	**0.00%**	**0.00%**	**0.00%**
Grand Total		**859**	**0.02**	**59.30**	**153**	**272**	**229**	**152**	**48**	**5**
					17.81%	**31.66%**	**26.66%**	**17.69%**	**5.59%**	**0.58%**

RODC, CGWB - WCR, Ahmedabad

3.1.3 Depth to Water Level November 2016

The depth to water level of unconfined aquifer ranges from near ground level to 57.59 mbgl (Deesa district Banaskantha) during November 2016 **(Fig 9 and table no 7)**. The perusal of the water level reveals that 95% of the total well analysed has water level less than 20 mbgl, in Gujarat state and UT of Daman & Diu. Water levels of 20 to 40 mbgl are observed in Ahmedabad, Anand, Banaskantha, Gandhinagar, Kheda, Mahesana, Sabarkantha, Navsari, Vadodara, Amreli, Bhavnagar, Junagarh, Jamnagar, Porbandar and Kachchh districts in isolated patches. The shallowest water level recorded is 0.07 mbgl at Ladvel in Kheda district.

In North Gujarat, about 94% 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 Panchmahals, Dohad and Sabarkantha district. Deeper water levels ranges 20 to 40 mbgl are experienced in major part Banaskantha, the adjoining area of Ahmedabad, Kheda and Gandhinagar and as isolated patch in Mahesana and Ahmedabad districts. The deepest water level of 57.59 mbgl at Deesa in Banaskantha district whereas shallowest water level of 0.07 mbgl has been recorded at Ladval in Kheda district.

In South Gujarat, more than 97% of the area has recorded water level within 20 mbgl of which 77 % alone has the water level in the range of 2 – 10 mbgl. Deeper water levels of 20 – 40 mbgl are mainly observed as isolated patch in parts of Vadodara and Navsari districts. The deepest water level of 26.82 mbgl is recorded at Navsari in Navsari district whereas the shallowest water level of 0.10 mbgl has been recorded at Dhomkal in The Dangs disrtict.

In Saurashtra region, about 94% 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 all districts. The shallowest water level recorded is 0.10 mbgl at Victor in Amreli district and the deepest water level of 41.55 mbgl recorded at Morajhar in Amreli district.

In Kachchh region, in about 91% of the total well analysed, the water level ranges within 20 mbgl in major part of the district. Central east part of the area shows water level ranges 20 to 40 mbgl, which cover about 10% of total well in Kachchh region and occur as isolated patches. The deepest water level of 37.14 mbgl is recorded at Kotada and the shallowest water level of 0.12 mbgl has been recorded at Haboi.

The depth to water level is within the range of 1.40(Jampore) to 6.33 mbgl (Khariwad Daman) in Daman and minimum water level in Diu is 3.42 mbgl at Gomtimata dug well with deepest water level in Chakrateeth 6.83 mbgl in Diu.

3.1.4 Depth to Water Level January 2017

A perusal of **Fig 10** and **Table 8** revels that the depth to water level of unconfined aquifer ranges from 0.01 mbgl at Pipli in Surendranagar district to 59.30 mbgl in Amarpura district Gandhinagar during January 2017. 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 20m, 20 to 40 m and more than 40 mbgl is presented in table – 8. The perusal of the Depth To Water map reveals that about 32% of the total well analysed falls in the water level range of 0 to 5 mbgl whereas water level of 5 to 20 mbgl is observed in 61% of Gujarat state and UT of Daman & Diu. Water levels of 20 to 40 mbgl are observed in Anand, Banaskantha, Kheda, Gandhinagar, Panchmahal, Sabarkantha, Narmada, Navsari, Vadodara and in hole Saurastra and Kachchh region as isolated patches. The deepest water level more than 40 mbgl is recorded in Banaskantha, Gandhinagar and Sabarkantha, districts.

In North Gujarat, about 92% of the total well analysed falls with in the water level range of 20 mbgl of which alone 65% represent the water level range of 0 – 10 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 Panchmahals, Dohad and Sabarkantha district. Deeper water levels ranges 20 to 40 mbgl are experienced in major part of Banaskantha district, the adjoining area of Kheda and Gandhinagar and as isolated patch in Sabarkantha district. The deepest water level of 59.38 mbgl at Amarpura district Gandhinagar whereas shallowest water level of 0.58 mbgl has been recorded at Shakhupura in Kheda district.

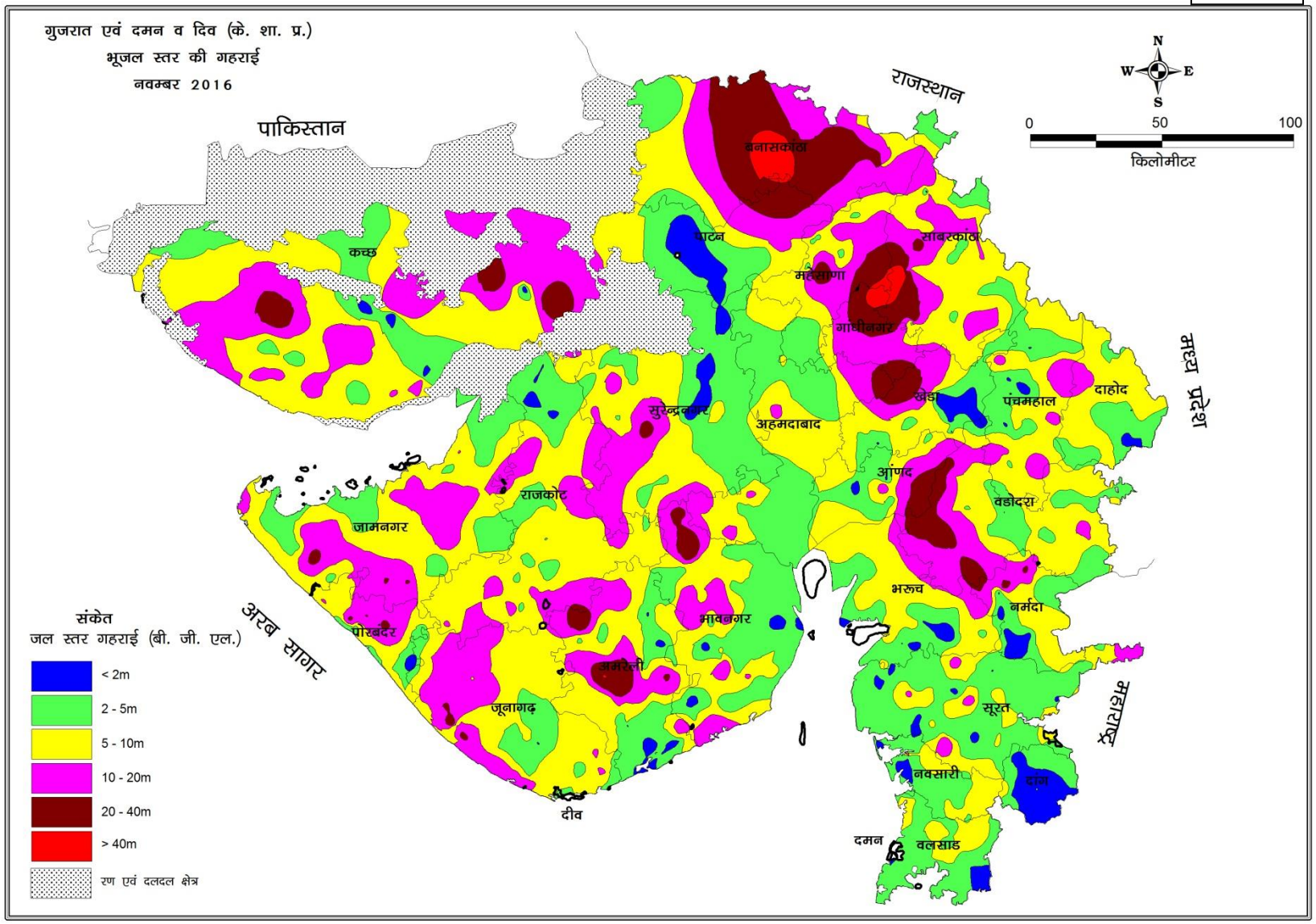
In South Gujarat, about 85% of the area has recorded water level less than 10 mbgl of which 40% alone has the water level in the range of 5-10 mbgl. Deeper water levels of 20 – 40 mbgl mainly observed as isolated patch in major parts of Vadodara and Navsari districts. The deepest water level of 29.06 mbgl is recorded at Navsari in Navsari district whereas the shallowest water level of 0.94 mbgl has been recorded at Khaidiapada in Narmada district.

In Saurashtra region, about 91% 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 all area of the region. The shallowest water level, 0.01 mbgl, has been recorded at Pipli of Surendranagar district. The deepest water level of 35.82 mbgl recorded at Kerala in Amreli district.

In Kachchh region, more than 89% of the total well analysed, the water level ranges in less than 20 mbgl in major part of the district. Central part from east to west of the area shows water level ranges 20 to 40 mbgl, which cover only about 11% of total well in Kachchh region and occur as isolated patches. The deepest water level of 39.21 mbgl is recorded at Kotada and the shallowest water level of 0.35 m bgl has been recorded at Haboi.

The depth to water level is within the range of 1.90(Jampore) to 6.11 mbgl (Dabhel) in Daman and minimum water level in Diu is 4.24 mbgl at Gomtimata dug well with deepest water level in Pothia bapa Pz 6.83 mbgl.

Fig- 9


गुजरात एवं दमन व दिव (के. शा. प्र.)
भूजल स्तर की गहराई
नवम्बर 2016
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राजस्थान
महाराष्ट्र प्रदेश
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पाटन
साबरकांठा
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कच्छ
सुरेन्द्रनगर
अहमदाबाद
खेडा
पंचमहाल
दाहोद
आंणद
वडोदरा
राजकोट
जामनगर
भरूच
नर्मदा
भावनगर
पोरबंदर
अमरेली
जूनागढ
सूरत
नवसारी
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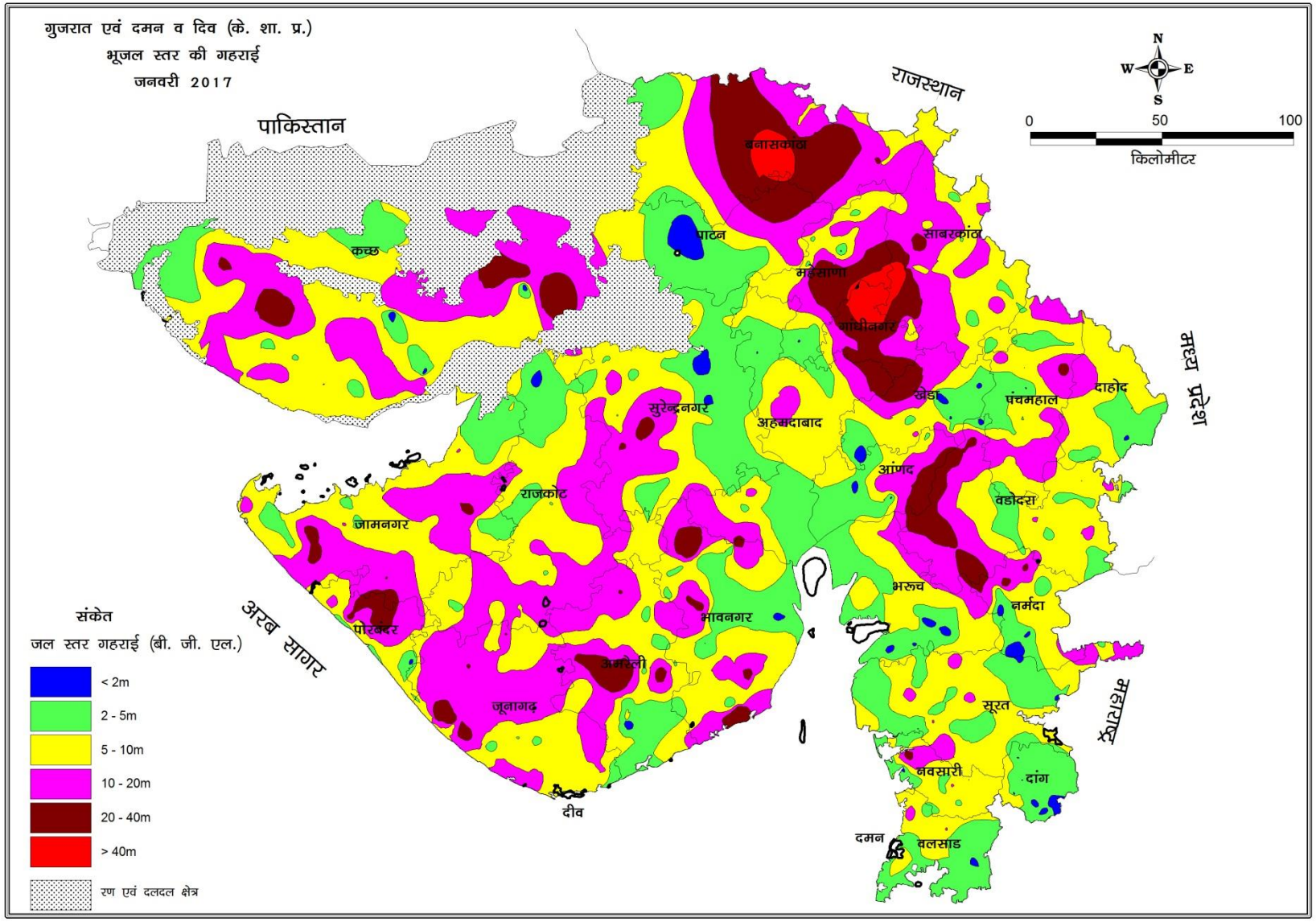
Fig- 10


गुजरात एवं दमन व दिव (के. शा. प्र.)
भूजल स्तर की गहराई
जनवरी 2017
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खेडा
पंचमहाल
दाहोद
सुरेन्द्रनगर
अहमदाबाद
आंणद
राजकोट
वडोदरा
जामनगर
भरूच
नर्मदा
भावनगर
पोरबंदर
अमरेली
जूनागढ
सूरत
नवसारी
दांग
दीव
दमन
वलसाड
संकेत
जल स्तर गहराई (बी. जी. एल.)
< 2m
2 - 5m
5 - 10m
10 - 20m
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रण एवं दलदल क्षेत्र

Table-7

WELL WISE CATEGORISATION OF DEPTH TO WATER LEVEL - NOVEMBER 2016

Sl.No.	District	No. of Wells Analysed	DTWL in mbgl		No of well in different Ranges					
			Min	Max	0 to 2 (m)	2 to 5(m)	5 to 10(m)	10 to 20(m)	20 to 40(m)	>40(m)
1	Ahmedabad	23	1.99	20.40	1	10	7	4	1	0
					4.35%	43.48%	30.43%	17.39%	4.35%	0.00%
2	Anand	15	0.98	27.48	2	4	4	3	2	0
					13.33%	26.67%	26.67%	20.00%	13.33%	0.00%
3	Banaskantha	18	2.31	57.59	0	1	5	6	5	1
					0.00%	5.56%	27.78%	33.33%	27.78%	5.56%
4	Dohad	30	1.30	9.40	3	10	17	0	0	0
					15.00%	50.00%	85.00%	0.00%	0.00%	0.00%
5	Gandhinagar	4	13.11	45.43	0	0	0	3	0	1
					0.00%	0.00%	0.00%	60.00%	0.00%	20.00%
6	Kheda	22	0.07	36.46	5	7	7	2	1	0
					27.78%	38.89%	38.89%	11.11%	5.56%	0.00%
7	Mahesana	25	2.05	31.41	0	8	11	5	1	0
					0.00%	32.00%	44.00%	20.00%	4.00%	0.00%
8	Panchmahals	39	0.97	19.10	4	14	13	8	0	0
					10.26%	35.90%	33.33%	20.51%	0.00%	0.00%
9	Patan	9	0.35	16.68	3	1	2	3	0	0
					33.33%	11.11%	22.22%	33.33%	0.00%	0.00%
10	Sabarkantha	53	0.81	47.96	1	11	21	16	3	1
					1.89%	20.75%	39.62%	30.19%	5.66%	1.89%
North Gujarat		**238**	**0.07**	**57.59**	**19**	**66**	**87**	**50**	**13**	**3**
					7.98%	**27.73%**	**36.55%**	**21.01%**	**5.46%**	**1.26%**
11	Bharuch	33	0.25	9.96	5	11	17	0	0	0
					15.15%	33.33%	51.52%	0.00%	0.00%	0.00%
12	Narmada	21	0.24	19.32	7	3	7	4	0	0
					33.33%	14.29%	33.33%	19.05%	0.00%	0.00%
13	Navsari	27	0.80	26.82	4	15	7	0	1	0
					14.81%	55.56%	25.93%	0.00%	3.70%	0.00%
14	Surat	60	0.15	16.05	8	33	12	7	0	0
					13.33%	55.00%	20.00%	11.67%	0.00%	0.00%
15	The dangs	24	0.10	8.60	17	6	1	0	0	0
					70.83%	25.00%	4.17%	0.00%	0.00%	0.00%
16	Vadodara	40	1.54	25.60	2	14	14	5	5	0
					5.00%	35.00%	35.00%	12.50%	12.50%	0.00%
17	Valsad	21	1.02	8.35	3	11	7	0	0	0
					14.29%	52.38%	33.33%	0.00%	0.00%	0.00%
South Gujarat		**226**	**0.10**	**26.82**	**46**	**93**	**65**	**16**	**6**	**0**
					20.35%	**41.15%**	**28.76%**	**7.08%**	**2.65%**	**0.00%**
18	Amreli	49	0.10	41.55	8	12	11	11	6	1
					16.33%	24.49%	22.45%	22.45%	12.24%	2.04%
19	Bhavnagar	39	1.00	35.80	6	14	8	9	2	0
					15.38%	35.90%	20.51%	23.08%	5.13%	0.00%
20	Jamnagar	51	2.20	24.75	0	16	16	16	3	0
					0.00%	31.37%	31.37%	31.37%	5.88%	0.00%
21	Junagadh	60	1.72	30.10	2	9	30	16	3	0
					3.39%	15.25%	50.85%	27.12%	5.08%	0.00%
22	Porbandar	29	0.27	24.72	1	8	9	8	3	0
					3.45%	27.59%	31.03%	27.59%	10.34%	0.00%
23	Rajkot	54	1.41	20.60	4	14	25	10	1	0
					7.41%	25.93%	46.30%	18.52%	1.85%	0.00%
24	Surendranagar	47	0.19	24.11	4	25	11	6	1	0
					8.51%	53.19%	23.40%	12.77%	2.13%	0.00%
Saurashtra		**329**	**0.10**	**41.55**	**25**	**98**	**110**	**76**	**19**	**1**
					7.60%	**29.79%**	**33.43%**	**23.10%**	**5.78%**	**0.30%**
25	**Kachchh**	**47**	**0.12**	**37.14**	**4**	**6**	**12**	**21**	**4**	**0**
					8.51%	**12.77%**	**25.53%**	**44.68%**	**8.51%**	**0.00%**
26	DAMAN	8	1.40	6.33	3	4	1	0	0	0
					37.50%	50.00%	12.50%	0.00%	0.00%	0.00%
27	DIU	4	3.42	6.63	0	3	1	0	0	0
					0.00%	75.00%	25.00%	0.00%	0.00%	0.00%
Daman & Diu		**12**	**1.40**	**6.63**	**3**	**7**	**2**	**0**	**0**	**0**
					25.00%	**58.33%**	**16.67%**	**0.00%**	**0.00%**	**0.00%**
Grand Total		**852**	**0.07**	**57.59**	**97**	**270**	**276**	**163**	**42**	**4**
					11.38%	**31.69%**	**32.39%**	**19.13%**	**4.93%**	**0.47%**

RODC, CGWB - WCR, Ahmedabad

Table-8

WELL WISE CATEGORISATION OF DEPTH TO WATER LEVEL - JANUARY 2017

Sl.No.	District	No. of Wells Analysed	DTWL in mbgl		No of well in different Ranges					
			Min	Max	0 to 2 (m)	2 to 5(m)	5 to 10(m)	10 to 20(m)	20 to 40(m)	>40(m)
1	Ahmedabad	22	1.95	20.40	1	11	3	6	1	0
					4.55%	50.00%	13.64%	27.27%	4.55%	0.00%
2	Anand	15	1.35	26.56	2	3	3	4	3	0
					13.33%	20.00%	20.00%	26.67%	20.00%	0.00%
3	Banaskantha	20	2.27	57.40	0	1	7	6	5	1
					0.00%	5.00%	35.00%	30.00%	25.00%	5.00%
4	Dohad	27	1.70	12.10	3	9	14	1	0	0
					11.11%	33.33%	51.85%	3.70%	0.00%	0.00%
5	Gandhinagar	6	13.57	59.30	0	0	0	3	1	2
					0.00%	0.00%	0.00%	50.00%	16.67%	33.33%
6	Kheda	21	0.58	35.70	5	4	8	3	1	0
					23.81%	19.05%	38.10%	14.29%	4.76%	0.00%
7	Mahesana	25	1.69	31.38	2	6	11	5	1	0
					8.00%	24.00%	44.00%	20.00%	4.00%	0.00%
8	Panchmahals	39	1.85	22.70	1	11	16	10	1	0
					2.56%	28.21%	41.03%	25.64%	2.56%	0.00%
9	Patan	9	0.70	19.18	1	3	0	5	0	0
					11.11%	33.33%	0.00%	55.56%	0.00%	0.00%
10	Sabarkantha	52	3.15	49.70	0	4	22	22	3	1
					0.00%	7.69%	42.31%	42.31%	5.77%	1.92%
North Gujarat		**236**	**0.58**	**59.30**	**15**	**52**	**84**	**65**	**16**	**4**
					6.36%	**22.03%**	**35.59%**	**27.54%**	**6.78%**	**1.69%**
11	Bharuch	33	1.08	10.22	4	14	14	1	0	0
					12.12%	42.42%	42.42%	3.03%	0.00%	0.00%
12	Narmada	20	0.94	19.76	5	5	6	4	0	0
					25.00%	25.00%	30.00%	20.00%	0.00%	0.00%
13	Navsari	24	1.41	29.06	1	9	12	1	1	0
					4.17%	37.50%	50.00%	4.17%	4.17%	0.00%
14	Surat	51	1.09	19.81	3	14	26	8	0	0
					5.88%	27.45%	50.98%	15.69%	0.00%	0.00%
15	The dangs	23	1.05	9.70	6	12	5	0	0	0
					26.09%	52.17%	21.74%	0.00%	0.00%	0.00%
16	Vadodara	42	1.66	26.86	1	10	15	10	6	0
					2.38%	23.81%	35.71%	23.81%	14.29%	0.00%
17	Valsad	20	1.81	14.73	1	11	6	2	0	0
					5.00%	**55.00%**	**30.00%**	**10.00%**	**0.00%**	**0.00%**
South Gujarat		**213**	**0.94**	**29.06**	**21**	**75**	**84**	**26**	**7**	**0**
					9.86%	**35.21%**	**39.44%**	**12.21%**	**3.29%**	**0.00%**
18	Amreli	47	0.25	38.52	2	12	17	8	8	0
					4.26%	25.53%	36.17%	17.02%	17.02%	0.00%
19	Bhavnagar	34	1.56	35.80	3	10	11	4	6	0
					8.82%	29.41%	32.35%	11.76%	17.65%	0.00%
20	Jamnagar	53	2.35	24.06	0	10	22	17	4	0
					0.00%	18.87%	41.51%	32.08%	7.55%	0.00%
21	Junagadh	62	2.25	33.33	0	6	29	20	7	0
					0.00%	10.17%	49.15%	33.90%	11.86%	0.00%
22	Porbandar	30	1.45	28.98	1	4	13	7	5	0
					3.33%	13.33%	43.33%	23.33%	16.67%	0.00%
23	Rajkot	55	1.21	20.90	1	12	26	15	1	0
					1.82%	21.82%	47.27%	27.27%	1.82%	0.00%
24	Surendranagar	51	0.01	24.11	3	22	14	10	2	0
					5.88%	43.14%	27.45%	19.61%	3.92%	0.00%
Saurashtra		**332**	**0.01**	**38.52**	**10**	**76**	**132**	**81**	**33**	**0**
					3.01%	**22.89%**	**39.76%**	**24.40%**	**9.94%**	**0.00%**
25	**Kachchh**	**54**	**0.35**	**39.21**	**3**	**8**	**16**	**21**	**6**	**0**
					5.56%	**14.81%**	**29.63%**	**38.89%**	**11.11%**	**0.00%**
26	DAMAN	6	1.90	6.11	1	3	2	0	0	0
					16.67%	**50.00%**	**33.33%**	**0.00%**	**0.00%**	**0.00%**
27	DIU	5	4.24	6.83	0	2	3	0	0	0
					0.00%	**40.00%**	**60.00%**	**0.00%**	**0.00%**	**0.00%**
Daman & Diu		**11**	**1.90**	**6.83**	**1**	**5**	**5**	**0**	**0**	**0**
					9.09%	**45.45%**	**45.45%**	**0.00%**	**0.00%**	**0.00%**
Grand Total		**846**	**0.01**	**59.30**	**50**	**216**	**321**	**193**	**62**	**4**
					5.91%	**25.53%**	**37.94%**	**22.81%**	**7.33%**	**0.47%**

RODC, CGWB - WCR, Ahmedabad

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 in the region over different periods is presented in **Fig. 11(a,b,c)** and a summary of each observation is discussed below.

SEASONAL FLUCTUATION OF WATER LEVEL DURING 2015-2016

Figure 11 a

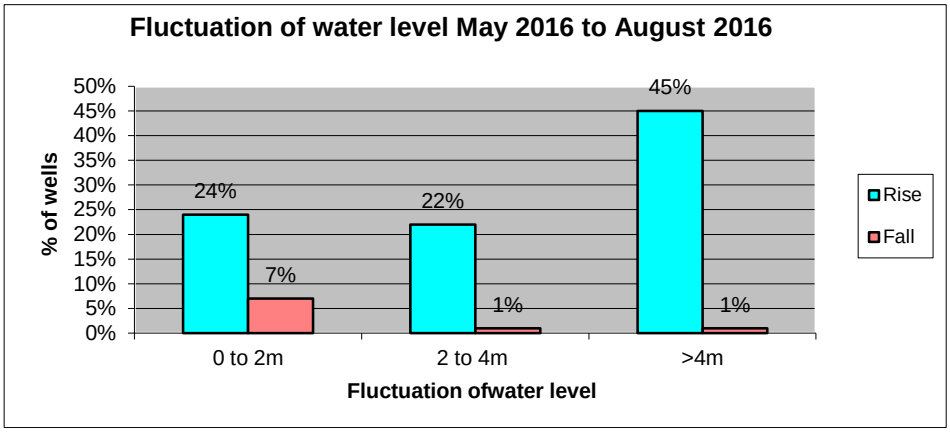


Figure 11 b

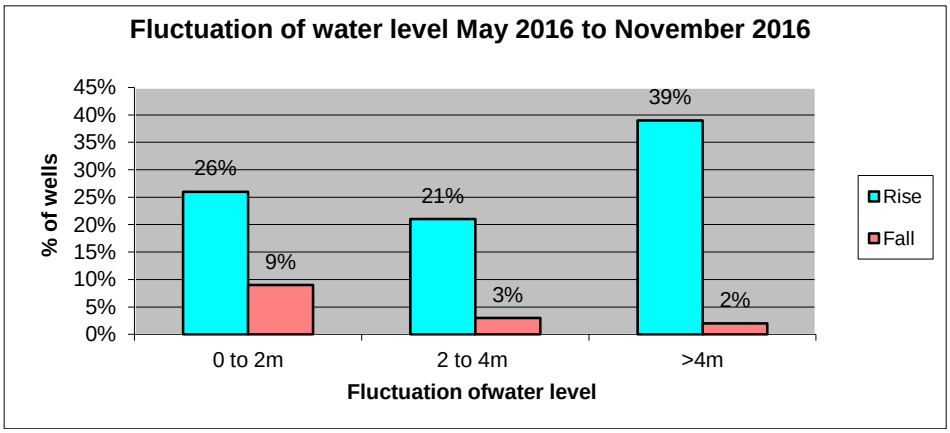
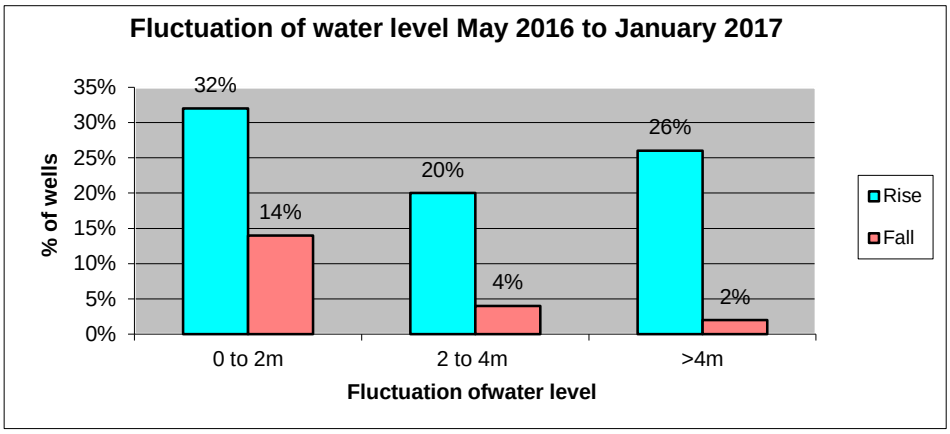


Figure 11 c



3.2.1 May 2016 to August 2016

A perusal of **Fig 12** and **Table 9** reveals that 91% of the Gujarat state and UT of Daman & Diu shows a rise in water level. Rise in water level with in range of 0 – 2 m is observed in about 23.22% area of the state and 22.61% in the range of 2 – 4 m. More than 4 m rise is shown in 44.62% of the state and UT of Daman & Diu. Fall in water level is mainly observed in parts of Saurashtra region, small isolated patches scattered in rest of the area of Gujarat except in Kachchh. Fall is mainly in the range of 0 – 2 m and it covers about 7% area of the state and UT of Daman & Diu. The maximum rise of 29.58 m is recorded at Bavliya in Panchmahals district whereas the maximum decline of 15.38 m is recorded at Mandal in Amreli district.

About 91% of the area observed rise of water level in the North Gujarat and most of which (53% area) is in the range more than 4m of fluctuation of water level. Fall of 0 – 2 m range is observed in 7 % area of the region in adjoining area of Ahmedabad, Gandhinagar, Mahesana and Sabarkantha districts as isolated patches.

In South Gujarat region, 94% area shows rise in water level and in the range 0 to 2m covers 27% area in the region. Rise of water level in 2 to 4 and more than 4m covers an area of about 67 % of the region. Fall in water level is observed maximum in the range of 0 – 2 m in 5% of the area.

About 92% of the Saurashtra region has experienced rise of water level and in the range of 0 – 2 m covers about 23%. Rise of water level more than 4 m is predominantly found in 45% of the area. Fall of 0 to 2m is observed in (5% area).

In Kachchh region, 65% of the area is covered by a rise in water level. Fall of 0-2 m is observed in 29% of the area.

In UT of Daman only rise in water level is observed in August 2016 as compered to May 2016 and maximum rise is 9.36 m in Daman and in UT of Diu rise is 3.53 m.

3.2.2 May 2016 to November 2016

The seasonal water level fluctuation shows rise in 88% of the total wells monitored in the Gujarat state and UT of Daman & Diu area during the Pre and Post Monsoon 2016. Fall in water level is observed mainly in Kachchh, Saurashtra and central part of Gujarat due to local phenomena. In the state, The maximum rise of 29.22 m is recorded at Goraj in Junagadh district whereas the maximum decline of 10.96 m is observed at Sarla in Surendranagar district. (Fig 13 and Table 10).

In North Gujarat region, rise in water level observed in entire area except 26 observation station of entire north Gujarat district. Out of the total well analysed and maximum rise (40%) is more than 4 m.

The 89% of the total well in the area of South Gujarat have recorded rise and maximum (56%) is less than 2 m. The fall is only in 11% of total well and maximum (8%) in the range of 0 – 2 m.

Over all 90% of total well analysed show 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 6% of the total area of region.

In Kachchh 57% of the total well analysed recorded rise in water level. The fall is mostly in the range of 0 – 2 m recorded in about 32% of the total well. Rise is observed in all parts of the region and mostly in the range of 0-2 m.

In UT of Daman only rise in water level has been observed with a maximum 7.59m and in UT of Diu 4.28m.

Fig- 12

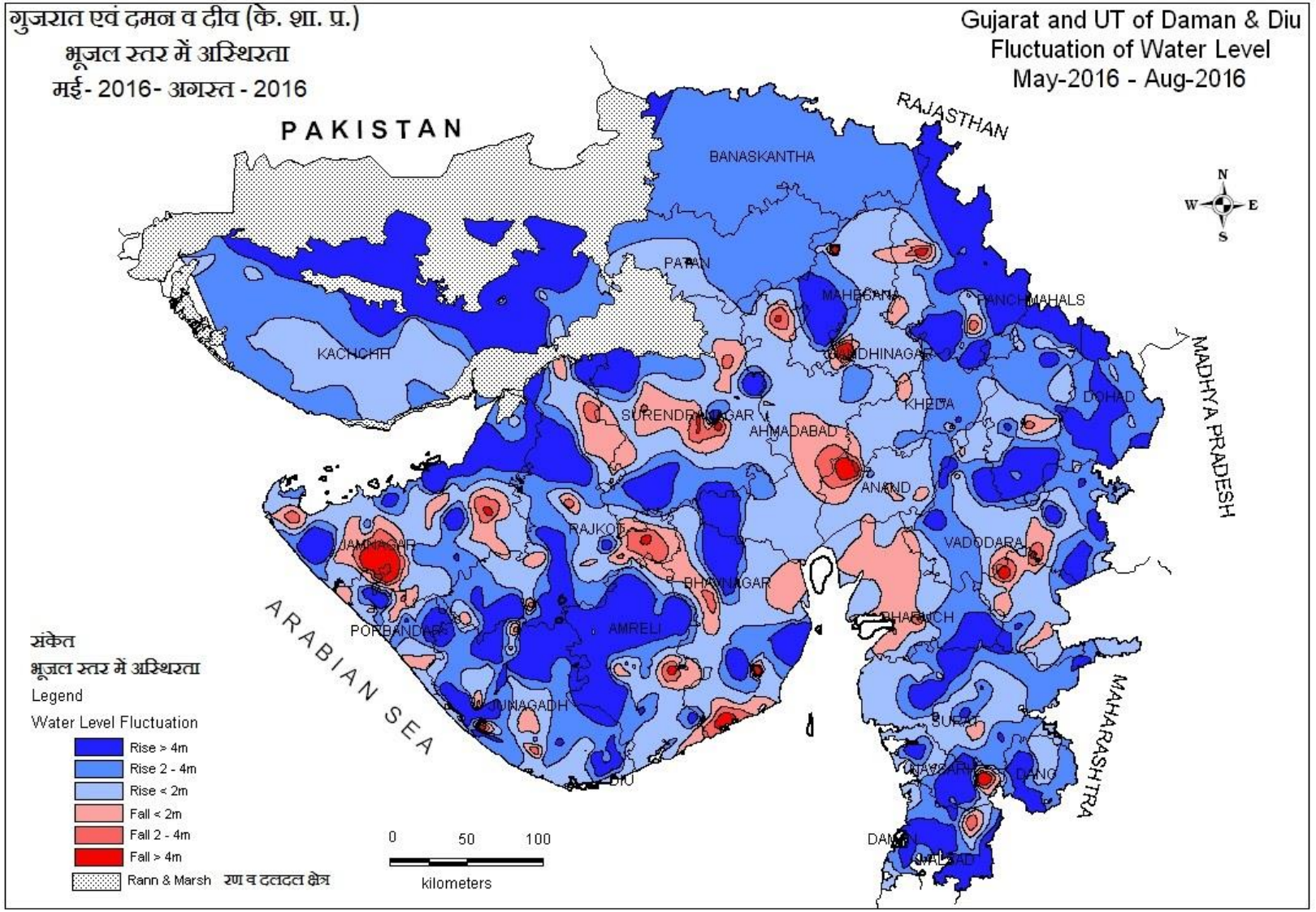

गुजरात एवं दमन व दीव (के. शा. प्र.)
भूजल स्तर में अस्थिरता
मई- 2016- अगस्त - 2016
Gujarat and UT of Daman & Diu
Fluctuation of Water Level
May-2016 - Aug-2016
PAKISTAN
RAJASTHAN
MADHYA PRADESH
MAHARASHTRA
ARABIAN SEA
BANASKANTHA
PATAN
KACHCHH
MAHESANA
PANCHMAHALS
GANDHINAGAR
KHEDA
DOHAD
SURENDRANAGAR
AHMADABAD
ANAND
RAJKOT
JAMNAGAR
VADODARA
BHAVNAGAR
BHARUCH
PORBANDAR
AMRELI
JUNAGADH
SURAT
NAVSARI
DANG
DIU
DAMAN
VALSAD
N
W
E
S
संकेत
भूजल स्तर में अस्थिरता
Legend
Water Level Fluctuation
Rise > 4m
Rise 2 - 4m
Rise < 2m
Fall < 2m
Fall 2 - 4m
Fall > 4m
Rann & Marsh रण व दलदल क्षेत्र
0
50
100
kilometers

Fig- 13

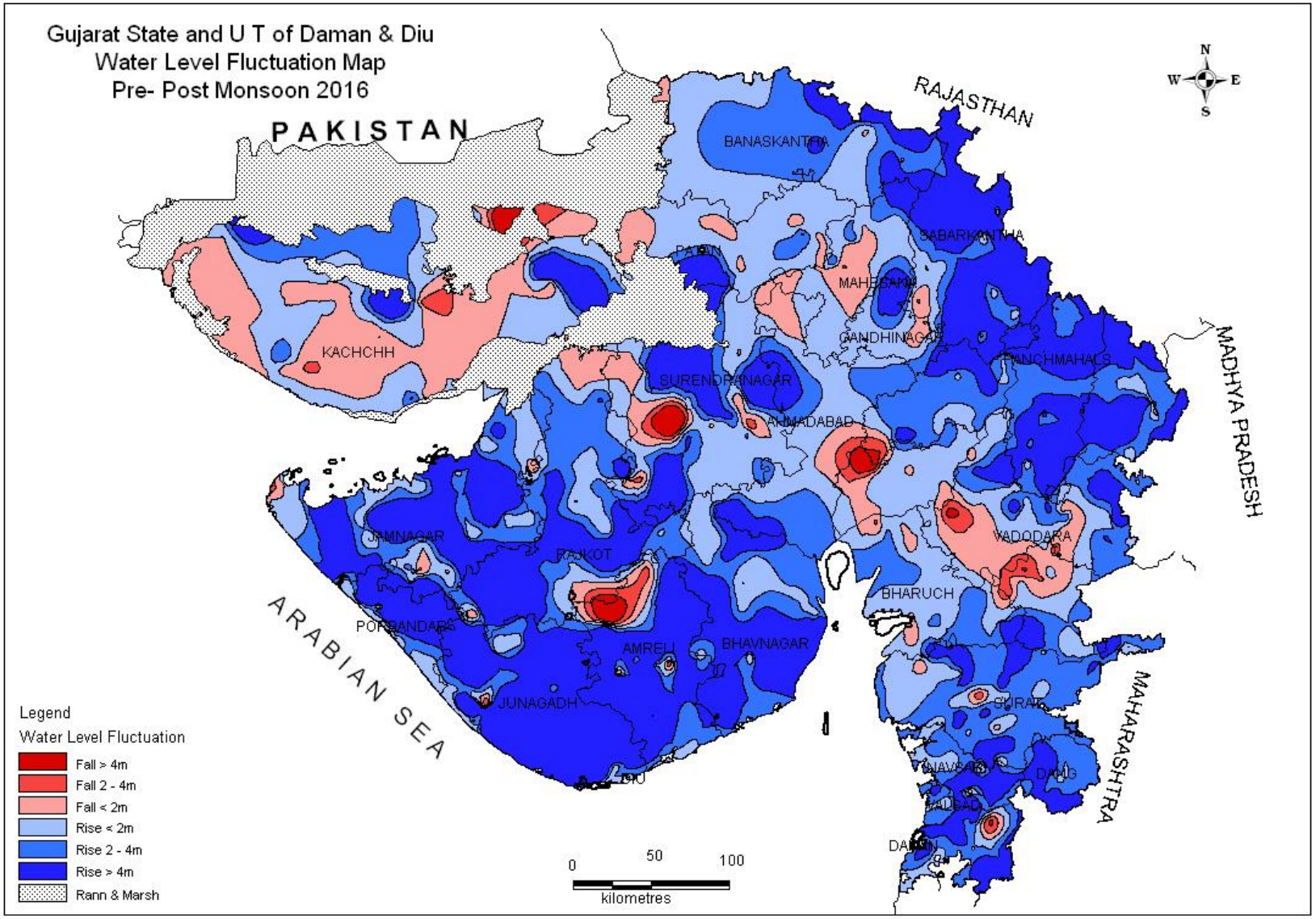

Gujarat State and U T of Daman & Diu
Water Level Fluctuation Map
Pre- Post Monsoon 2016
PAKISTAN
RAJASTHAN
MADHYA PRADESH
MAHARASHTRA
ARABIAN SEA
BANASKANTHA
PATAN
SABARKANTHA
MAHESANA
GANDHINAGAR
PANCHMAHALS
KACHCHH
SURENDRANAGAR
AHMADABAD
JAMNAGAR
RAJKOT
VADODARA
BHARUCH
PORBANDAR
AMRELI
BHAVNAGAR
JUNAGADH
SURAT
NAVSARI
DANG
VALSAD
DAMAN
DIU
N
W
E
S
Legend
Water Level Fluctuation
Fall > 4m
Fall 2 - 4m
Fall < 2m
Rise < 2m
Rise 2 - 4m
Rise > 4m
Rann & Marsh
0
50
100
kilometres

Table -9

CATEGORISATION OF CHANGES IN WATER LEVEL BETWEEN MAY 2016 TO AUGUST 2016

Sr. No.	District Name	No of well analysed	Range of Fluctuation (m)				No. of Wells Showing Fluctuation						Total No. of Wells	
			Rise		Fall		Rise			Fall				
			Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4	Rise	Fall
1	Ahmedabad	13	0.72	12.7	0.32	0.65	3	4	3	3	0	0	10	3
							23.08%	30.77%	23.08%	23.08%	0.00%	0.00%		
2	Anand	14	0.26	21.64	2.44	2.44	8	2	3	0	1	0	13	1
							57.14%	14.29%	21.43%	0.00%	7.14%	0.00%		
3	Banaskantha	18	0.82	8.63	0.04	0.82	6	6	3	2	0	0	15	2
							33.33%	33.33%	16.67%	11.11%	0.00%	0.00%		
4	Dohad	29	1.64	14.7	-	-	2	3	24	0	0	0	29	0
							6.90%	10.34%	82.76%	0.00%	0.00%	0.00%		
5	Gandhinagar	5	0.03	9.74	0.36	1.06	2	0	1	0	0	0	3	2
							40.00%	0.00%	20.00%	0.00%	0.00%	0.00%		
6	Kheda	21	0.65	8.1	-	-	4	8	9	0	0	0	21	0
							19.05%	38.10%	42.86%	0.00%	0.00%	0.00%		
7	Mahesana	25	0.32	6.9	0.01	1.6	10	6	1	8	0	0	17	8
							40.00%	24.00%	4.00%	32.00%	0.00%	0.00%		
8	Panchmahals	38	1.9	29.58	1.66	1.66	1	5	31	1	0	0	37	1
							2.63%	13.16%	81.58%	2.63%	0.00%	0.00%		
9	Patan	9	0.07	3.9	0.6	3.56	4	1	0	3	1	0	5	4
							44.44%	11.11%	0.00%	33.33%	11.11%	0.00%		
10	Sabarkantha	52	1.2	29	0.1	0.1	2	5	43	1	0	0	50	1
							3.85%	9.62%	82.69%	1.92%	0.00%	0.00%		
North Gujarat		**224**	**0.03**	**29.58**	**0.01**	**3.56**	**42**	**40**	**118**	**18**	**2**	**0**	**200**	**22**
							18.75%	17.86%	52.68%	8.04%	0.89%	0.00%		
11	Bharuch	34	0.04	7.23	0.58	2.05	12	10	8	3	1	0	30	4
							35.29%	29.41%	23.53%	8.82%	2.94%	0.00%		
12	Narmada	19	0.37	25.08	0.15	1.87	6	2	9	2	0	0	17	2
							31.58%	10.53%	47.37%	10.53%	0.00%	0.00%		
13	Navsari	26	0.1	15	-	-	7	8	11	0	0	0	26	0
							26.92%	30.77%	42.31%	0.00%	0.00%	0.00%		
14	Surat	56	0.31	7.6	0.13	0.25	19	16	19	2	0	0	54	2
							33.93%	28.57%	33.93%	3.57%	0.00%	0.00%		
15	The dangs	23	1.12	12.8	-	-	2	7	14	0	0	0	23	0
							8.70%	30.43%	60.87%	0.00%	0.00%	0.00%		
16	Vadodara	37	0.21	15	0.05	1.77	7	8	17	4	0	0	33	4
							18.92%	21.62%	45.95%	10.81%	0.00%	0.00%		
17	Valsad	19	0.8	11.9	-	-	3	6	10	0	0	0	19	0
							15.79%	31.58%	52.63%	0.00%	0.00%	0.00%		
South Gujarat		**214**	**0.04**	**25.08**	**0.05**	**2.05**	**56**	**57**	**88**	**11**	**1**	**0**	**202**	**12**
							26.17%	26.64%	41.12%	5.14%	0.47%	0.00%		
18	Amreli	39	0.06	16.76	1.54	15.38	10	6	17	1	0	4	33	5
							25.64%	15.38%	43.59%	2.56%	0.00%	10.26%		
19	Bhavnagar	36	0.52	14.61	0.1	8.77	5	8	17	1	1	1	30	3
							13.89%	22.22%	47.22%	2.78%	2.78%	2.78%		
20	Jamnagar	47	0.06	18.21	0.95	1.14	13	13	17	2	0	0	43	2
							27.66%	27.66%	36.17%	4.26%	0.00%	0.00%		
21	Junagadh	54	0.8	28.49	1.27	4.19	5	10	37	1	0	1	52	2
							9.26%	18.52%	68.52%	1.85%	0.00%	1.85%		
22	Porbandar	28	0.1	26.3	0.13	0.13	12	3	12	1	0	0	27	1
							42.86%	10.71%	42.86%	3.57%	0.00%	0.00%		
23	Rajkot	47	0.05	16.96	0.15	4.4	8	16	18	3	0	1	42	4
							17.02%	34.04%	38.30%	6.38%	0.00%	2.13%		
24	Surendranagar	29	0.1	15.85	0.2	2.45	11	5	8	3	2	0	24	5
							37.93%	17.24%	27.59%	10.34%	6.90%	0.00%		
Saurashtra		**280**	**0.05**	**28.49**	**0.1**	**15.38**	**64**	**61**	**126**	**12**	**3**	**7**	**251**	**22**
							22.86%	21.79%	45.00%	4.29%	1.07%	2.50%		
25	**Kachchh**	**41**	**0.06**	**6.78**	0.06	7.83	**15**	**6**	**5**	**12**	**1**	**2**	**26**	**15**
							36.59%	14.63%	12.20%	29.27%	2.44%	4.88%		
Total		**759**	**0.03**	**29.58**	**0.01**	**15.38**	**177**	**164**	**337**	**53**	**7**	**9**	**679**	**71**
							23.32%	21.61%	44.40%	6.98%	0.92%	1.19%		
26	Daman	9	2.48	9.36	-	-	0	2	7	0	0	0	9	0
							0.00%	22.22%	77.78%	0.00%	0.00%	0.00%		
27	Diu	3	0.43	3.53	-	-	2	1	0	0	0	0	3	0
							66.67%	33.33%	0.00%	0.00%	0.00%	0.00%		
UT of Daman & Diu		**12**	**0.43**	**9.36**	-	-	**2**	**3**	**7**	**0**	**0**	**0**	**12**	**0**
							16.67%	25.00%	58.33%	0.00%	0.00%	0.00%		
Grand Total		**771**	**0.03**	**29.58**	**0.01**	**15.38**	**179**	**167**	**344**	**53**	**7**	**9**	**691**	**71**
							23.22%	21.66%	44.62%	6.87%	0.91%	1.17%		

Table -10

CATEGORISATION OF CHANGES IN WATER LEVEL BETWEEN MAY 2016 TO NOVEMBER 2016

Sr. No.	District Name	No of well analysed	Range of Fluctuation (m)				No. of Wells Showing Fluctuation						Total No. of Wells	
			Rise		Fall		Rise			Fall				
			Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4	Rise	Fall
1	Ahmedabad	12	0.39	11.87	0.78	0.95	5	2	2	2	0	0	9	2
							41.67%	16.67%	16.67%	16.67%	0.00%	0.00%		
2	Anand	15	0.23	3.6	0.25	7.56	7	3	0	3	0	1	10	4
							46.67%	20.00%	0.00%	20.00%	0.00%	6.67%		
3	Banaskantha	17	0.37	8.45	0.3	0.3	5	6	5	1	0	0	16	1
							29.41%	35.29%	29.41%	5.88%	0.00%	0.00%		
4	Dohad	30	0.12	9.68	1.13	1.13	4	5	19	1	0	0	28	1
							13.33%	16.67%	63.33%	3.33%	0.00%	0.00%		
5	Gandhinagar	4	0.97	9.83	0.05	0.63	1	0	1	2	0	0	2	2
							25.00%	0.00%	25.00%	50.00%	0.00%	0.00%		
6	Kheda	22	0.37	13.61	3.8	3.8	7	9	5	0	1	0	21	1
							31.82%	40.91%	22.73%	0.00%	4.55%	0.00%		
7	Mahesana	25	0.08	6.31	0.12	2.05	12	5	1	6	1	0	18	7
							48.00%	20.00%	4.00%	24.00%	4.00%	0.00%		
8	Panchmahals	38	0.26	25.91	-	-	2	11	24	0	0	0	37	0
							5.26%	28.95%	63.16%	0.00%	0.00%	0.00%		
9	Patan	9	0.79	4.11	0.26	0.68	1	1	1	6	0	0	3	6
							11.11%	11.11%	11.11%	66.67%	0.00%	0.00%		
10	Sabarkantha	50	0.43	25.2	0.06	2.17	8	7	31	1	1	0	46	2
							16.00%	14.00%	62.00%	2.00%	2.00%	0.00%		
North Gujarat		**222**	**0.08**	**25.91**	**0.05**	**7.56**	**52**	**49**	**89**	**22**	**3**	**1**	**190**	**26**
							23.42%	22.07%	40.09%	9.91%	1.35%	0.45%		
11	Bharuch	32	0.22	7.5	0.19	2.25	12	10	2	4	1	0	24	5
							37.50%	31.25%	6.25%	12.50%	3.13%	0.00%		
12	Narmada	22	0.17	10.73	0.92	4.24	5	5	5	1	4	1	15	6
							22.73%	22.73%	22.73%	4.55%	18.18%	4.55%		
13	Navsari	27	0.04	11.8	0.22	1.94	6	9	10	2	0	0	25	2
							22.22%	33.33%	37.04%	7.41%	0.00%	0.00%		
14	Surat	59	0.41	12.21	0.06	3.38	19	18	17	4	1	0	54	5
							32.20%	30.51%	28.81%	6.78%	1.69%	0.00%		
15	The dangs	23	1.02	12.8	-	-	2	7	14	0	0	0	23	0
							8.70%	30.43%	60.87%	0.00%	0.00%	0.00%		
16	Vadodara	38	0.6	9.62	0.5	4.99	12	8	10	6	0	1	30	7
							31.58%	21.05%	26.32%	15.79%	0.00%	2.63%		
17	Valsad	21	0.37	11.18	4.69	4.69	7	4	9	0	0	1	20	1
							33.33%	19.05%	42.86%	0.00%	0.00%	4.76%		
South Gujarat		**222**	**0.04**	**12.80**	**0.06**	**4.99**	**63**	**61**	**67**	**17**	**6**	**3**	**191**	**26**
							28.38%	27.48%	30.18%	7.66%	2.70%	1.35%		
18	Amreli	37	0.88	21.44	1.36	8.39	4	8	20	1	3	1	32	5
							10.81%	21.62%	54.05%	2.70%	8.11%	2.70%		
19	Bhavnagar	33	0.54	17.89	-	-	5	4	20	0	0	0	29	0
							15.15%	12.12%	60.61%	0.00%	0.00%	0.00%		
20	Jamnagar	48	0.01	18.55	0.3	2.5	13	5	21	1	2	0	39	3
							27.08%	10.42%	43.75%	2.08%	4.17%	0.00%		
21	Junagadh	51	0.15	29.22	4.22	4.22	12	8	28	0	0	1	48	1
							23.53%	15.69%	54.90%	0.00%	0.00%	1.96%		
22	Porbandar	28	0.14	22.73	0.11	0.11	11	2	13	1	0	0	26	1
							39.29%	7.14%	46.43%	3.57%	0.00%	0.00%		
23	Rajkot	46	0.14	16.73	0.23	5.3	8	13	18	6	0	1	39	7
							17.39%	28.26%	39.13%	13.04%	0.00%	2.17%		
24	Surendranagar	37	0.01	15.4	0.09	10.96	11	4	11	6	4	1	26	11
							29.73%	10.81%	29.73%	16.22%	10.81%	2.70%		
Saurashtra		**280**	**0.01**	**29.22**	**0.09**	**10.96**	**64**	**44**	**131**	**15**	**9**	**4**	**239**	**28**
							22.86%	15.71%	46.79%	5.36%	3.21%	1.43%		
25	**Kachchh**	**40**	**0.18**	**12.49**	**0.07**	**7.59**	**14**	**1**	**5**	**13**	**3**	**1**	**20**	**17**
							35.00%	2.50%	12.50%	32.50%	7.50%	2.50%		
Total		**764**	**0.01**	**29.22**	**0.05**	**10.96**	**193**	**155**	**292**	**67**	**21**	**9**	**640**	**97**
							25.26%	20.29%	38.22%	8.77%	2.75%	1.18%		
26	Daman	8	0.64	7.59	-	-	1	3	4	0	0	0	8	0
							12.50%	37.50%	50.00%	0.00%	0.00%	0.00%		
27	Diu	2	0.33	4.28	-	-	1	0	1	0	0	0	2	0
							50.00%	0.00%	50.00%	0.00%	0.00%	0.00%		
UT of Daman & Diu		**10**	**0.33**	**7.59**	**0**	**0**	**2**	**3**	**5**	**0**	**0**	**0**	**10**	**0**
							20.00%	30.00%	50.00%	0.00%	0.00%	0.00%		
Grand Total		**774**	**0.01**	**29.22**	**0**	**10.96**	**195**	**158**	**297**	**67**	**21**	**9**	**650**	**97**
							25.19%	20.41%	38.37%	8.66%	2.71%	1.16%		

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3.2.3 May 2015 to January 2016

A perusal of **Fig 14** and **Table 11** reveals that about 82% of the total well in the Gujarat state and UT of Daman & Diu area have recorded rise in water level between May 2016 and January 2017. Fall in water level is observed mainly in Kachchh, Saurashtra and in eastern part of Gujarat in small isolated patches distributed sporadically all over Gujarat state. In the state, the maximum rise of 30.70 m is at Takatuka in Sabarkantha district whereas the maximum decline of 10.96 m is observed at Sarala in Surendranagar district.

In North Gujarat region, water level rises mainly observed in 83% of the total well analysed and maximum rises (52%) are in less than 2 m. Fall of water level observed in all districts of the region.

The 83% of the total well in the area of south Gujarat have recorded rise and maximum (64%) in the range of 0 to 4 m of rise in the region. The fall is only 17% of total well and maximum (12%) in the range of 0 – 2 m.

Over all 852% of total well analysed are shown rise in water level in the entire Saurashtra region. About 35% of areas have shown rise of water level more than 4 m and 28 % shows less than 2 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 12% of the region.

In Kachchh, 53% of the total well analysed recorded fall in water level. The rise and fall is mostly in the range of 0 – 2 m. Rise of water level more than 2 m has observed in 20% of the area.

In UT of Daman and Diu both is showing rise in water level is observed in January 2017 as compered to May 2016 and maximum rise is 5.94 m in Daman and in UT of Diu it is 3.46m.

Fig- 14

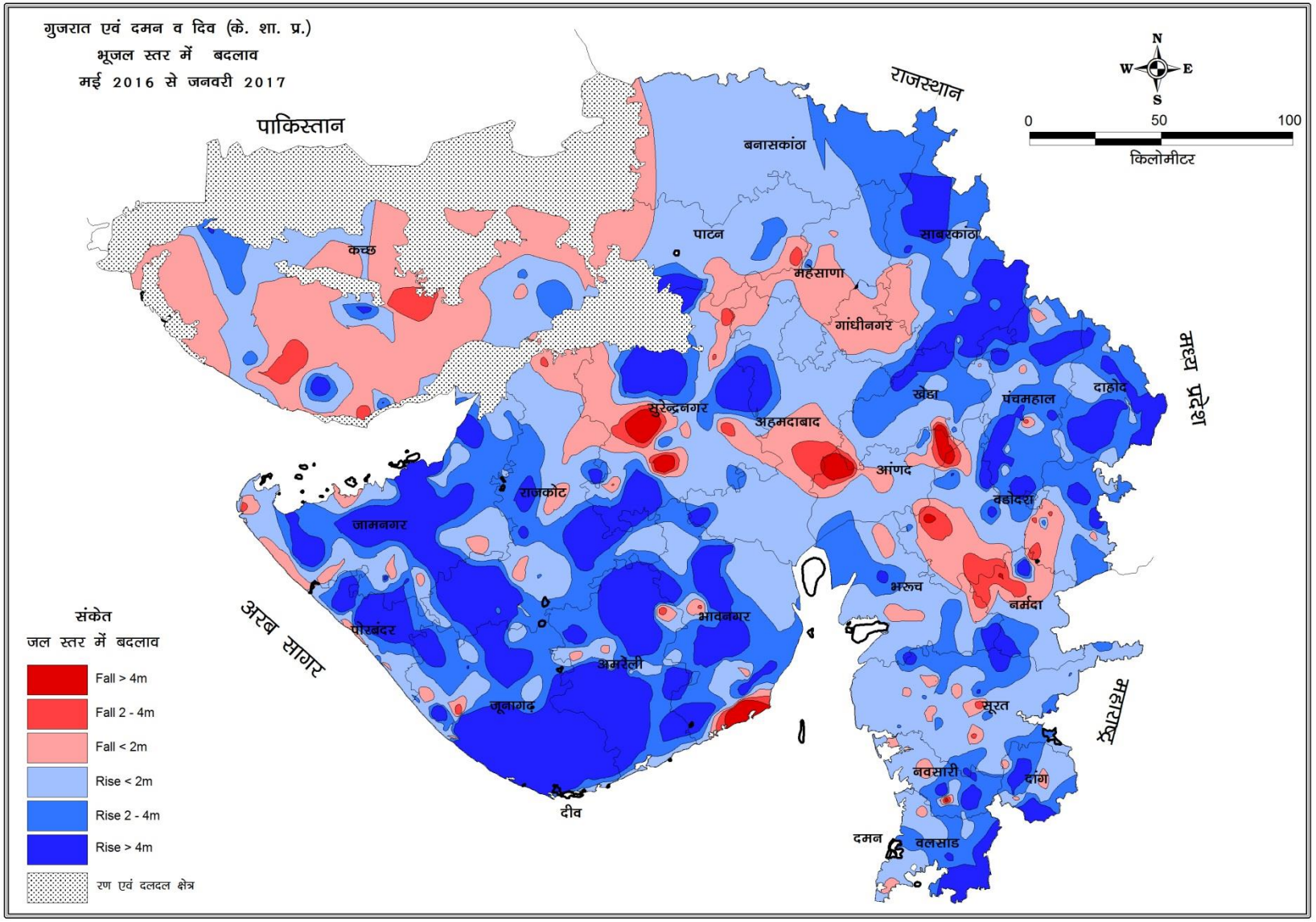

गुजरात एवं दमन व दिव (के. शा. प्र.)
भूजल स्तर में बदलाव
मई 2016 से जनवरी 2017
पाकिस्तान
राजस्थान
मध्य प्रदेश
महाराष्ट्र
अरब सागर
N
W
E
S
0
50
100
किलोमीटर
बनासकांठा
पाटन
साबरकांठा
कच्छ
महेसाणा
गांधीनगर
खेडा
पंचमहाल
दाहोद
सुरेन्द्रनगर
अहमदाबाद
आंणद
राजकोट
वडोदरा
जामनगर
भरूच
नर्मदा
पोरबंदर
भावनगर
अमरेली
जूनागढ
सूरत
नवसारी
डांग
दीव
दमन
वलसाड
संकेत
जल स्तर में बदलाव
Fall > 4m
Fall 2 - 4m
Fall < 2m
Rise < 2m
Rise 2 - 4m
Rise > 4m
रण एवं दलदल क्षेत्र

Table -11

CATEGORISATION OF CHANGES IN WATER LEVEL BETWEEN MAY 2016 TO JANUARY 2017

Sr. No.	District Name	No of well analysed	Range of Fluctuation (m)				No. of Wells Showing Fluctuation						Total No. of Wells	
			Rise		Fall		Rise			Fall				
			Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4	Rise	Fall
1	Ahmedabad	12	0.17	7.57	1.08	1.86	8	0	1	2	0	0	9	2
							66.67%	0.00%	8.33%	16.67%	0.00%	0.00%		
2	Anand	14	0.21	3.52	0.1	10.07	6	2	0	3	0	2	8	5
							42.86%	14.29%	0.00%	21.43%	0.00%	14.29%		
3	Banaskantha	19	0.41	9.29	0.43	0.58	4	5	8	2	0	0	17	2
							21.05%	26.32%	42.11%	10.53%	0.00%	0.00%		
4	Dohad	27	0.1	7	0.1	0.4	7	6	12	2	0	0	25	2
							25.93%	22.22%	44.44%	7.41%	0.00%	0.00%		
5	Gandhinagar	5	0.25	0.25	0.14	1.06	1	0	0	4	0	0	1	4
							20.00%	0.00%	0.00%	80.00%	0.00%	0.00%		
6	Kheda	21	0.1	10.7	0.25	0.3	9	8	2	2	0	0	19	2
							42.86%	38.10%	9.52%	9.52%	0.00%	0.00%		
7	Mahesana	24	0.09	5.9	0.15	2.02	14	4	1	4	1	0	19	5
							58.33%	16.67%	4.17%	16.67%	4.17%	0.00%		
8	Panchmahals	38	0.13	21.63	0.65	2.9	5	11	18	2	1	0	34	3
							13.16%	28.95%	47.37%	5.26%	2.63%	0.00%		
9	Patan	9	2.51	2.99	0.21	3.25	0	2	0	5	2	0	2	7
							0.00%	22.22%	0.00%	55.56%	22.22%	0.00%		
10	Sabarkantha	49	0.1	30.7	0.3	1.8	12	10	19	6	0	0	41	6
							24.49%	20.41%	38.78%	12.24%	0.00%	0.00%		
North Gujarat		**218**	**0.09**	**30.7**	**0.1**	**10.07**	**66**	**48**	**61**	**32**	**4**	**2**	**175**	**38**
							30.28%	22.02%	27.98%	14.68%	1.83%	0.92%		
11	Bharuch	32	0.17	7.27	0.03	1.93	16	5	3	5	0	0	24	5
							50.00%	15.63%	9.38%	15.63%	0.00%	0.00%		
12	Narmada	19	0.02	4.91	1.02	4.24	7	3	3	1	3	1	13	5
							36.84%	15.79%	15.79%	5.26%	15.79%	5.26%		
13	Navsari	24	0.15	9.45	0.2	5.94	10	6	3	3	0	1	19	4
							41.67%	25.00%	12.50%	12.50%	0.00%	4.17%		
14	Surat	51	0.03	5.74	0.55	3.79	24	13	6	3	3	0	43	6
							47.06%	25.49%	11.76%	5.88%	5.88%	0.00%		
15	The dangs	22	0.72	10.6	0.79	1.3	4	6	9	3	0	0	19	3
							18.18%	27.27%	40.91%	13.64%	0.00%	0.00%		
16	Vadodara	41	0.05	8.26	0.03	4.89	12	12	5	6	3	2	29	11
							29.27%	29.27%	12.20%	14.63%	7.32%	4.88%		
17	Valsad	19	0.16	9.8	0.69	0.7	8	6	2	2	0	0	16	2
							42.11%	31.58%	10.53%	10.53%	0.00%	0.00%		
South Gujarat		**208**	**0.02**	**10.60**	**0.03**	**5.94**	**81**	**51**	**31**	**23**	**9**	**4**	**163**	**36**
							38.94%	24.52%	14.90%	11.06%	4.33%	1.92%		
18	Amreli	35	0.15	2.31	0.75	3.66	7	6	18	2	2	0	31	4
							20.00%	17.14%	51.43%	5.71%	5.71%	0.00%		
19	Bhavnagar	29	0.07	13.08	1.3	10.45	6	5	12	1	1	1	23	3
							20.69%	17.24%	41.38%	3.45%	3.45%	3.45%		
20	Jamnagar	49	0.14	17.92	0.45	3.43	14	6	15	7	1	0	35	8
							28.57%	12.24%	30.61%	14.29%	2.04%	0.00%		
21	Junagadh	52	0.05	23.06	0.71	3.82	14	6	26	3	1	0	46	4
							26.92%	11.54%	50.00%	5.77%	1.92%	0.00%		
22	Porbandar	29	0.05	13.88	0.3	2.25	9	8	7	2	1	0	24	3
							31.03%	27.59%	24.14%	6.90%	3.45%	0.00%		
23	Rajkot	47	0.04	15.14	0.13	2.31	16	8	12	9	1	0	36	10
							34.04%	17.02%	25.53%	19.15%	2.13%	0.00%		
24	Surendranagar	39	0.17	16.33	0.05	10.96	13	4	7	8	5	2	24	15
							33.33%	10.26%	17.95%	20.51%	12.82%	5.13%		
Saurashtra		**280**	**0.04**	**23.06**	**0.05**	**10.96**	**79**	**43**	**97**	**32**	**12**	**3**	**219**	**47**
							28.21%	15.36%	34.64%	11.43%	4.29%	1.07%		
25	**Kachchh**	**42**	**0.08**	**6.73**	**0.25**	**8.66**	**9**	**4**	**4**	**16**	**5**	**1**	**17**	**22**
							21.43%	9.52%	9.52%	38.10%	11.90%	2.38%		
Total		**748**	**0.02**	**30.70**	**0.03**	**10.96**	**235**	**146**	**193**	**103**	**30**	**10**	**574**	**143**
							31.42%	19.52%	25.80%	13.77%	4.01%	1.34%		
26	Daman	6	0.15	5.94	-	-	3	2	1	0	0	0	6	0
							50.00%	33.33%	16.67%	0.00%	0.00%	0.00%		
27	Diu	3	0.38	3.46	-	-	2	1	0	0	0	0	3	0
							66.67%	33.33%	0.00%	0.00%	0.00%	0.00%		
UT of Daman & Diu		**9**	**0.15**	**5.94**	**0**	**0**	**5**	**3**	**1**	**0**	**0**	**0**	**9**	**0**
							55.56%	33.33%	11.11%	0.00%	0.00%	0.00%		
Grand Total		**757**	**0.02**	**30.70**	**0**	**10.96**	**240**	**149**	**194**	**103**	**30**	**10**	**583**	**143**
							31.70%	19.68%	25.63%	13.61%	3.96%	1.32%		

RODC, CGWB - WCR, Ahmedabad

3.3 Annual Water Level Fluctuation

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

Fig : 15 a

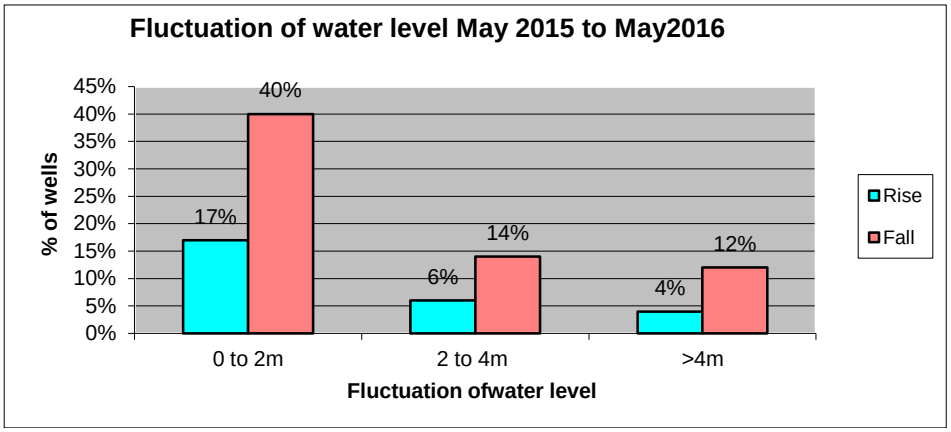


Fig : 15b

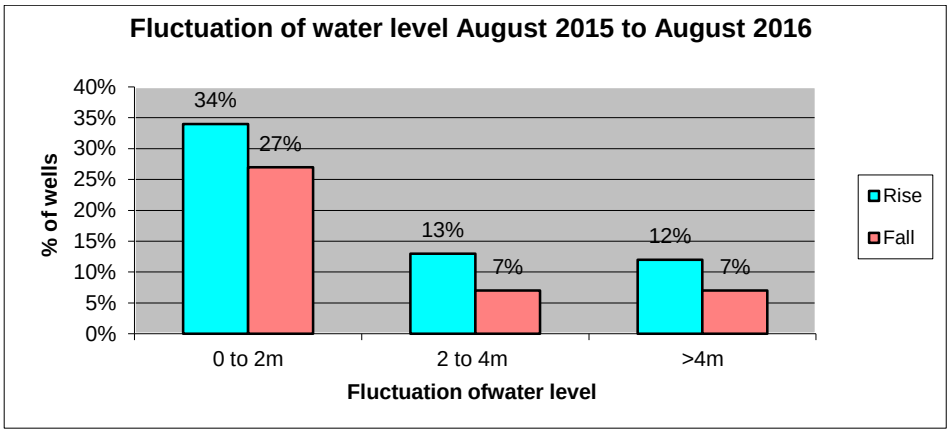


Fig: 15c

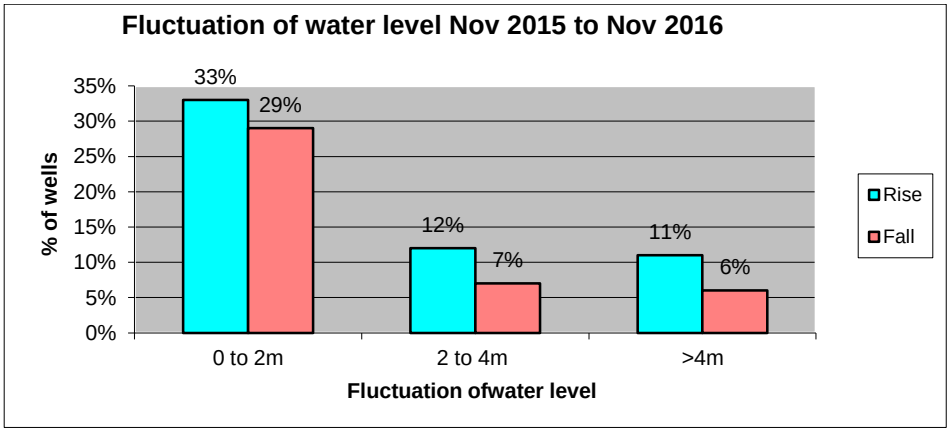
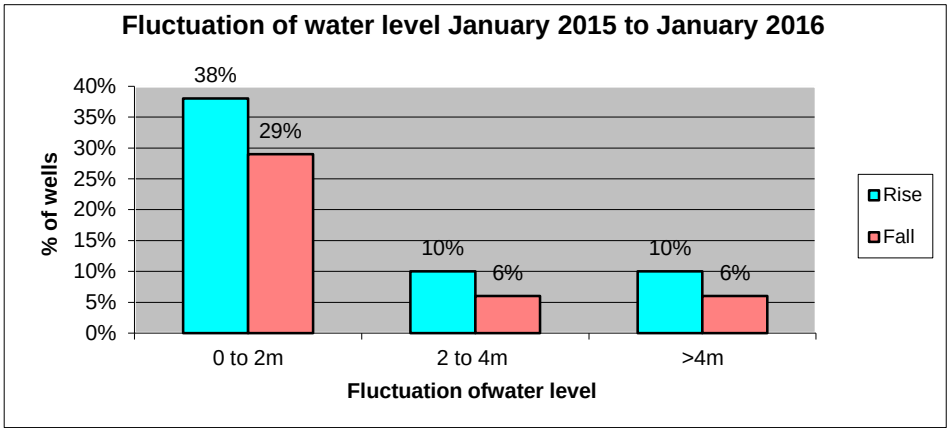


Fig : 15d



3.3.1 May 2015 to May 2016

A perusal **of Fig 16** and **Table 12** reveals that 66% of the state shows a fall in water level. Fall of 0-2 m is observed in about 40% area of the state. More than 4m fall is (12% area of the state) in adjoining area of Jamnagar, Porbandar, Surendranagar, Amreli, Bhavnagar, Rajkot and Junagarh in Saurashtra region, and in Kachchh. Rise in water level is observed mainly in parts of North Gujarat, small isolated patches scattered in rest of the area of Gujarat. Rise is also mainly in the range of 0-2 m and covers about 17% of area of the state. The maximum rise of 13.48 m is recorded in Shamkhairi in Kachchh district, whereas the maximum decline of 28.5 m is recorded in Gadu of Junagadh district.

About 70% of the area observed fall of water level in the North Gujarat and most of which (45% area) is in the range of 0 to 2m. Fall of more than 4 m is mostly seen as isolated patches in the region. Rise of water level mostly observed in Kheda, Patan and Sabarkantha districts. In other areas rise mostly observed as isolated loactions.

South Gujarat region shows fall in water level in the range of 0-2 m and covers an area of about 47 % of the region. Rise in water level is observed in the range of 0-2 m in 18 % of area. Rise and fall of more than 4 m has observed at few locations.

About 30% of the Saurashtra region has experienced rise of 0-2 m range. Fall of more than 4 m is predominantly found in Porbandar, Amreli, Jamnagar, Junagarh and Bhavnagar and covers an area of 22 % area of the region. 0-2 m rise is observed in 15% area of the region.

In Kachchh region, 30% of the area is covered by a rise in water level less than 2 m. About 27% of area shows rise of 0 to 2 m in central and Eastern part of the area. Rise or fall of more than 4 m has observed in isolated locations.

In UT of Daman and Diu recored both rise and fall the range is less the than 4m for rise and 0.14 to 0.81m with range from 0.04 to 3.42l.

3.3.2 August 2015 to August 2016

A perusal of **Fig 17** and **Table 13** reveals that 58% of the Gujarat state and UT of Daman & Diu shows a rise in water level. Rise in water level with in range of 0 – 2 m is observed in about 33% area of the state. Fall in the range of 0 – 2 m covers about 27% area of the state. Rise of more than 2 m & 4m is found in South and Central Gujarat & Saurashtra region. The maximum rise of 26.7 m is recorded in Bavliya of Panchmahal district whereas the maximum decline of 18.87 m is recorded in Bhatiya of Jamnagar district.

About 61% of the area observed Rise of water level in the North Gujarat and most of which (33% area) is in the range of 0 to 2m of fluctuation of water level. Rise of more than 4 m is mostly seen in 15% of the region mostly in Ahmedabad, Banskantha, Anand, Mahesana, Pachmahals and Sabarkantha districts. Fall of 0 – 2 m range is observed in 28 % area of the region. Fall of water level in the range of 2 to 4 and more than 4 m are scattered as isolated patches in the region.

In South Gujarat region, 65% area shows rise in water level and in the range of 0 – 2 m covers 44% area in the region. Fall in water level is observed maximum in the range of 0 – 2 m in 27 % of the area out of 35% total fall.

About 55% of the Saurashtra region has experienced Rise of water level and in the range of >4 m is 16% of the total area. Fall of water level in 45 % with less than 2 m range is 26% of the total number of wells analysed.

In Kachchh region, 67% of the area is covered by a fall in water level of less than 2 m about 30% of area. Fall in water level of which more than m cover 26% of the district. rise of less than 2 m is observed in 18% of the area located in eastern and western part of the district.

In the UT of Diu shows only rise in water level with maximum 0.67 m. In UT of Daman shows both rise and fall in water level rise is 0.04- 2.28 m and fall in the range of 1.04 to 1.59m..

Fig- 16

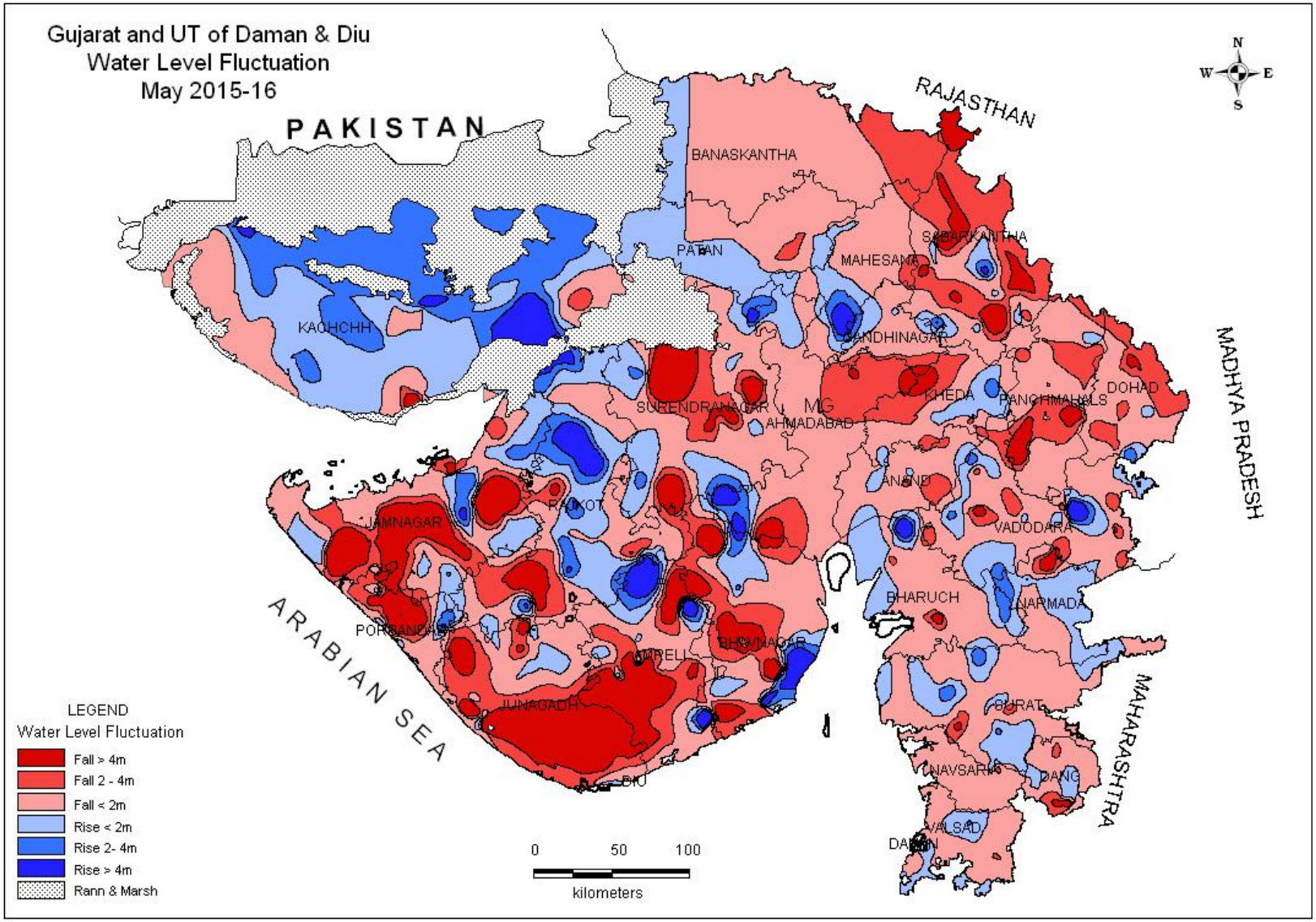

Gujarat and UT of Daman & Diu
Water Level Fluctuation
May 2015-16
PAKISTAN
RAJASTHAN
MADHYA PRADESH
MAHARASHTRA
ARABIAN SEA
BANASKANTHA
PATAN
MAHESANA
SABARKANTHA
GANDHINAGAR
KACHCHH
SURENDRANAGAR
AHMADABAD
KHEDA
PANCHMAHALS
DOHAD
ANAND
RAJKOT
JAMNAGAR
VADODARA
BHARUCH
NARMADA
PORBANDAR
AMRELI
BHAVNAGAR
JUNAGADH
SURAT
NAVSARI
DANG
VALSAD
DAMAN
DIU
N
W
E
S
LEGEND
Water Level Fluctuation
Fall > 4m
Fall 2 - 4m
Fall < 2m
Rise < 2m
Rise 2- 4m
Rise > 4m
Rann & Marsh
0
50
100
kilometers

Fig- 17

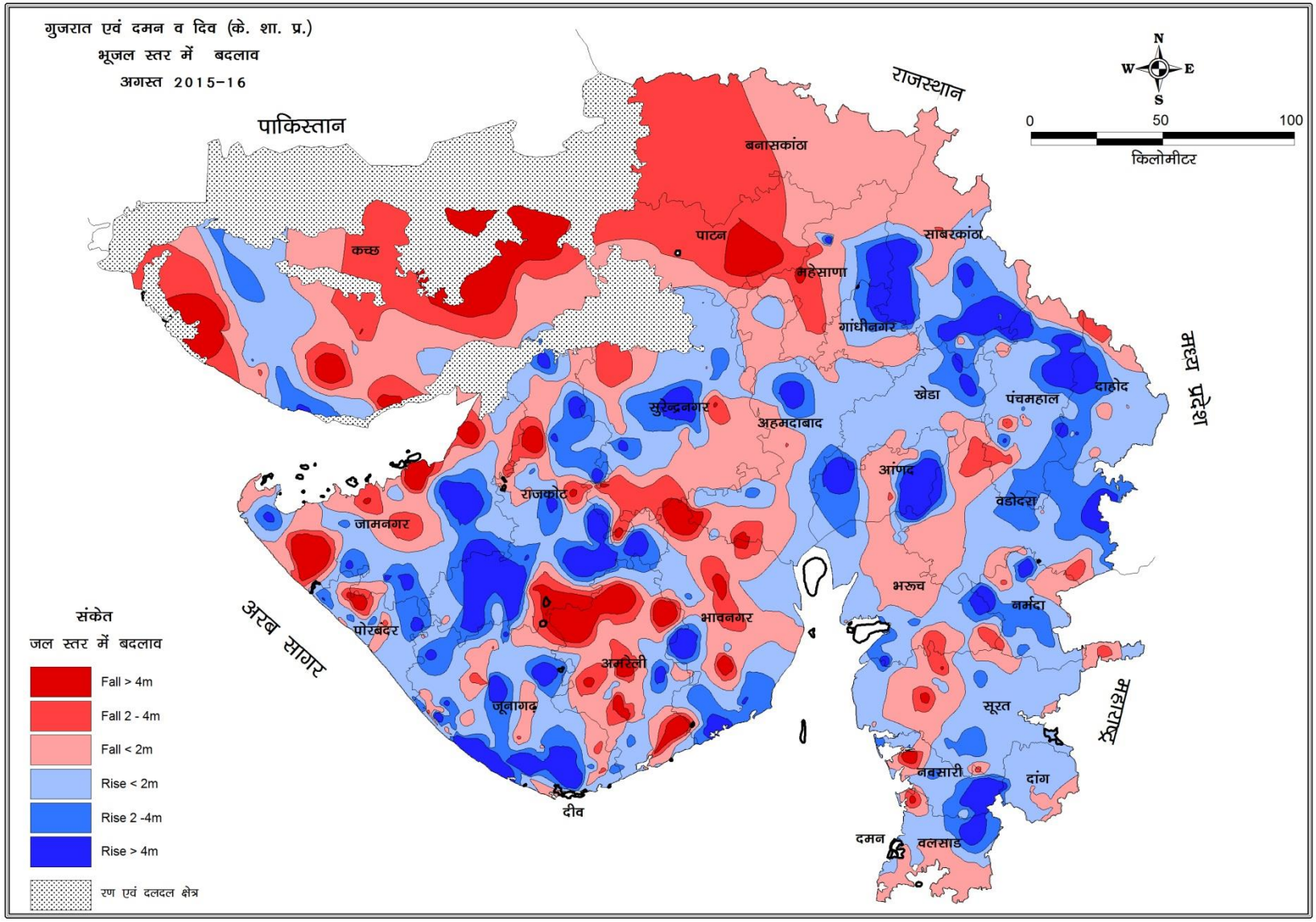

गुजरात एवं दमन व दिव (के. शा. प्र.)
भूजल स्तर में बदलाव
अगस्त 2015–16
पाकिस्तान
राजस्थान
मध्य प्रदेश
महाराष्ट्र
अरब सागर
N
W
E
S
0
50
100
किलोमीटर
बनासकांठा
पाटन
साबरकांठा
कच्छ
महेसाणा
गांधीनगर
खेडा
पंचमहाल
दाहोद
सुरेन्द्रनगर
अहमदाबाद
आंणद
राजकोट
वडोदरा
जामनगर
भरूच
नर्मदा
पोरबंदर
भावनगर
अमरेली
सूरत
जूनागढ
नवसारी
दांग
दीव
दमन
वलसाड
संकेत
जल स्तर में बदलाव
Fall > 4m
Fall 2 - 4m
Fall < 2m
Rise < 2m
Rise 2 -4m
Rise > 4m
रण एवं दलदल क्षेत्र

Table - 12

CATEGORISATION OF CHANGES IN WATER LEVEL BETWEEN MAY 2015 TO MAY 2016

Sr. No.	District Name	No of well analysed	Range of Fluctuation (m)				No. of Wells Showing Fluctuation						Total No. of Wells	
			Rise		Fall		Rise			Fall				
			Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4	Rise	Fall
1	Ahmedabad	10	0.66	7.45	0.63	4.21	1	2	2	3	0	1	5	4
							10.00%	20.00%	20.00%	30.00%	0.00%	10.00%		
2	Anand	16	0.48	0.57	0.01	3.14	2	0	0	9	5	0	2	14
							12.50%	0.00%	0.00%	56.25%	31.25%	0.00%		
3	Banaskantha	19	0.48	5.86	0.13	2.58	3	3	2	8	1	0	8	9
							15.79%	15.79%	10.53%	42.11%	5.26%	0.00%		
4	Dohad	30	1.35	3.3	0.07	5.9	1	1	0	16	7	2	2	25
							3.33%	3.33%	0.00%	53.33%	23.33%	6.67%		
5	Gandhinagar	5	0.06	0.06	0.49	1.44	1	0	0	4	0	0	1	4
							20.00%	0.00%	0.00%	80.00%	0.00%	0.00%		
6	Kheda	21	0.3	3	0.1	5.6	4	2	0	9	4	1	6	14
							19.05%	9.52%	0.00%	42.86%	19.05%	4.76%		
7	Mahesana	27	0.53	7.5	0.01	6.23	5	0	1	18	1	1	6	20
							18.52%	0.00%	3.70%	66.67%	3.70%	3.70%		
8	Panchmahals	39	0.1	1.9	0.06	14.2	4	0	0	16	9	7	4	32
							10.26%	0.00%	0.00%	41.03%	23.08%	17.95%		
9	Patan	9	0.1	1.56	2.1	3.29	7	0	0	0	2	0	7	2
							77.78%	0.00%	0.00%	0.00%	22.22%	0.00%		
10	Sabarkantha	51	0.1	5.1	0.1	11.3	7	2	2	20	5	9	11	34
							13.73%	3.92%	3.92%	39.22%	9.80%	17.65%		
North Gujarat		**227**	**0.06**	**7.5**	**0.01**	**14.2**	**35**	**10**	**7**	**103**	**34**	**21**	**52**	**158**
							15.42%	4.41%	3.08%	45.37%	14.98%	9.25%		
11	Bharuch	35	0.15	8.88	0.14	6.93	6	1	1	18	2	1	8	21
							17.14%	2.86%	2.86%	51.43%	5.71%	2.86%		
12	Narmada	23	0.73	3.89	0.04	8.88	3	2	0	9	1	2	5	12
							13.04%	8.70%	0.00%	39.13%	4.35%	8.70%		
13	Navsari	19	0.03	0.06	0.14	3.17	2	0	0	11	2	0	2	13
							10.53%	0.00%	0.00%	57.89%	10.53%	0.00%		
14	Surat	49	0.02	3.94	0.12	5.04	7	3	0	29	1	2	10	32
							14.29%	6.12%	0.00%	59.18%	2.04%	4.08%		
15	The dangs	22	0.11	0.8	0.01	7.56	8	0	0	8	2	3	8	12
							36.36%	0.00%	0.00%	36.36%	9.09%	13.64%		
16	Vadodara	46	0.01	12.65	0.2	6.18	6	3	1	16	8	2	10	26
							13.04%	6.52%	2.17%	34.78%	17.39%	4.35%		
17	Valsad	17	0.18	2.55	0.12	2.55	5	2	0	8	1	0	7	9
							29.41%	11.76%	0.00%	47.06%	5.88%	0.00%		
South Gujarat		**211**	**0.01**	**12.65**	**0.01**	**8.88**	**37**	**11**	**2**	**99**	**17**	**10**	**50**	**125**
							17.54%	5.21%	0.95%	46.92%	8.06%	4.74%		
18	Amreli	40	0.09	12.08	0.5	12.86	5	0	3	13	7	12	8	32
							12.50%	0.00%	7.50%	32.50%	17.50%	30.00%		
19	Bhavnagar	35	1.27	8.17	0.34	17.35	1	1	2	9	8	9	6	26
							2.86%	2.86%	5.71%	25.71%	22.86%	25.71%		
20	Jamnagar	47	0.03	5.4	0.1	23.21	8	5	1	11	8	7	14	26
							17.02%	10.64%	2.13%	23.40%	17.02%	14.89%		
21	Junagadh	51	0.13	2.81	0.14	28.5	6	1	0	17	13	12	7	42
							11.76%	1.96%	0.00%	33.33%	25.49%	23.53%		
22	Porbandar	29	0.15	4.9	0.04	24.23	4	1	1	10	5	7	6	22
							13.79%	3.45%	3.45%	34.48%	17.24%	24.14%		
23	Rajkot	40	0.05	9.58	0.02	8.33	10	2	6	9	7	4	18	20
							25.00%	5.00%	15.00%	22.50%	17.50%	10.00%		
24	Surendranagar	31	0.09	7.35	0.09	10.7	6	2	1	12	2	7	9	21
							19.35%	6.45%	3.23%	38.71%	6.45%	22.58%		
Saurashtra		**273**	**0.03**	**12.08**	**0.02**	**28.5**	**40**	**12**	**14**	**81**	**50**	**58**	**68**	**189**
							14.65%	4.40%	5.13%	29.67%	18.32%	21.25%		
25	**Kachchh**	**41**	**0.1**	**13.48**	**0.02**	**8.3**	**12**	**8**	**4**	**11**	**1**	**1**	**24**	**13**
							29.27%	19.51%	9.76%	26.83%	2.44%	2.44%		
Total		**752**	**0.01**	**13.48**	**0.01**	**28.5**	**124**	**41**	**27**	**294**	**102**	**90**	**194**	**485**
							16.49%	5.45%	3.59%	39.10%	13.56%	11.97%		
26	Daman	9	0.14	0.14	0.04	1.95	1	0	0	7	0	0	1	7
							11.11%	0.00%	0.00%	77.78%	0.00%	0.00%		
27	Diu	2	0.81	0.81	3.42	3.42	1	0	0	0	1	0	1	1
							50.00%	0.00%	0.00%	0.00%	50.00%	0.00%		
UT of Daman & Diu		**11**	**0.14**	**0.81**	**0.04**	**3.42**	**2**	**0**	**0**	**7**	**1**	**0**	**2**	**8**
							18.18%	0.00%	0.00%	63.64%	9.09%	0.00%		
Grand Total		**763**	**0.01**	**13.48**	**0.01**	**28.5**	**126**	**41**	**27**	**301**	**103**	**90**	**196**	**493**
							16.51%	5.37%	3.54%	39.45%	13.50%	11.80%		

RODC, CGWB - WCR, Ahmedabad

Table -13

CATEGORISATION OF CHANGES IN WATER LEVEL BETWEEN AUGUST 2015 TO AUGUST 2016

Sr. No.	District Name	No of well analysed	Range of Fluctuation (m)				No. of Wells Showing Fluctuation						Total No. of Wells	
			Rise		Fall		Rise			Fall				
			Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4	Rise	Fall
1	Ahmedabad	24	0.05	6.78	0.03	4.19	7	0	2	11	2	1	9	14
							29.17%	0.00%	8.33%	45.83%	8.33%	4.17%		
2	Anand	13	0.22	19.04	0.44	2.5	3	0	3	6	1	0	6	7
							23.08%	0.00%	23.08%	46.15%	7.69%	0.00%		
3	Banaskantha	17	0.15	4.61	0.22	11.26	4	2	1	5	3	2	7	10
							23.53%	11.76%	5.88%	29.41%	17.65%	11.76%		
4	Dohad	28	0.02	8.51	0.27	3.1	14	7	2	4	1	0	23	5
							50.00%	25.00%	7.14%	14.29%	3.57%	0.00%		
5	Gandhinagar	4	0.12	0.12	0.4	1.68	1	0	0	3	0	0	1	3
							25.00%	0.00%	0.00%	75.00%	0.00%	0.00%		
6	Kheda	21	0.22	5.3	0.24	1.18	12	2	1	6	0	0	15	6
							57.14%	9.52%	4.76%	28.57%	0.00%	0.00%		
7	Mahesana	21	0.31	7.01	0.05	5.06	2	0	2	12	3	2	4	17
							9.52%	0.00%	9.52%	57.14%	14.29%	9.52%		
8	Panchmahals	34	0.02	26.7	0.3	4.12	16	6	4	4	3	1	26	8
							47.06%	17.65%	11.76%	11.76%	8.82%	2.94%		
9	Patan	7	-	-	0.02	9.32	0	0	0	3	3	1	0	7
							0.00%	0.00%	0.00%	42.86%	42.86%	14.29%		
10	Sabarkantha	54	0.1	16.6	0.2	5.8	15	10	18	8	2	1	43	11
							27.78%	18.52%	33.33%	14.81%	3.70%	1.85%		
North Gujarat		**223**	**0.02**	**26.7**	**0.02**	**11.26**	**74**	**27**	**33**	**62**	**18**	**8**	**134**	**88**
							33.18%	12.11%	14.80%	27.80%	8.07%	3.59%		
11	Bharuch	25	0.04	6.19	0.04	3.83	9	6	1	6	3	0	16	9
							36.00%	24.00%	4.00%	24.00%	12.00%	0.00%		
12	Narmada	18	0.99	10.92	0.06	3.13	5	4	2	6	1	0	11	7
							27.78%	22.22%	11.11%	33.33%	5.56%	0.00%		
13	Navsari	20	0.43	12.6	0.3	10.3	8	5	2	3	1	1	15	5
							40.00%	25.00%	10.00%	15.00%	5.00%	5.00%		
14	Surat	53	0.01	3.92	0.01	5.18	26	6	0	17	1	2	32	20
							49.06%	11.32%	0.00%	32.08%	1.89%	3.77%		
15	The dangs	24	0.08	5.53	0.02	1.3	19	0	1	4	0	0	20	4
							79.17%	0.00%	4.17%	16.67%	0.00%	0.00%		
16	Vadodara	31	0.02	5.16	0.2	3.01	11	9	2	5	3	0	22	8
							35.48%	29.03%	6.45%	16.13%	9.68%	0.00%		
17	Valsad	17	0.1	6.85	0.07	4.9	4	2	1	9	0	1	7	10
							23.53%	11.76%	5.88%	52.94%	0.00%	5.88%		
South Gujarat		**188**	**0.01**	**12.60**	**0.01**	**10.30**	**82**	**32**	**9**	**50**	**9**	**4**	**123**	**63**
							43.62%	17.02%	4.79%	26.60%	4.79%	2.13%		
18	Amreli	50	0.04	7.38	0.22	13.49	17	1	1	17	2	13	19	31
							34.00%	2.00%	2.00%	34.00%	4.00%	26.00%		
19	Bhavnagar	43	0.05	14.41	0.06	11.54	10	6	3	17	2	5	19	24
							23.26%	13.95%	6.98%	39.53%	4.65%	11.63%		
20	Jamnagar	49	0.03	8.28	0.41	18.87	15	2	8	14	1	8	25	23
							30.61%	4.08%	16.33%	28.57%	2.04%	16.33%		
21	Junagadh	63	0.04	18.62	0.03	3.15	17	11	13	14	7	0	41	21
							26.98%	17.46%	20.63%	22.22%	11.11%	0.00%		
22	Porbandar	26	0.04	4.93	0.13	6.62	12	3	4	3	2	2	19	7
							46.15%	11.54%	15.38%	11.54%	7.69%	7.69%		
23	Rajkot	52	0.05	12.94	0.2	7.15	10	10	16	7	4	4	36	15
							19.23%	19.23%	30.77%	13.46%	7.69%	7.69%		
24	Surendranagar	34	0.4	7.35	0.08	5	9	5	4	9	5	2	18	16
							26.47%	14.71%	11.76%	26.47%	14.71%	5.88%		
Saurashtra		**317**	**0.03**	**18.62**	**0.03**	**18.87**	**90**	**38**	**49**	**81**	**23**	**34**	**177**	**137**
							28.39%	11.99%	15.46%	25.55%	7.26%	10.73%		
25	**Kachchh**	**39**	**0.02**	**4.45**	**0.15**	**9**	**7**	**4**	**1**	**12**	**4**	**10**	**12**	**26**
							17.95%	10.26%	2.56%	30.77%	10.26%	25.64%		
Total		**767**	**0.01**	**26.70**	**0.01**	**18.87**	**253**	**101**	**92**	**205**	**54**	**56**	**446**	**314**
							32.99%	13.17%	11.99%	26.73%	7.04%	7.30%		
26	Daman	9	0.04	2.28	1.04	1.59	5	2	0	2	0	0	7	2
							55.56%	22.22%	0.00%	22.22%	0.00%	0.00%		
27	Diu	2	-	-	0.08	0.67	0	0	0	2	0	0	0	2
							0.00%	0.00%	0.00%	100.00%	0.00%	0.00%		
UT of Daman & Diu		**11**	**0.04**	**2.28**	**0.08**	**1.59**	**5**	**2**	**0**	**4**	**0**	**0**	**7**	**4**
							45.45%	18.18%	0.00%	36.36%	0.00%	0.00%		
Grand Total		**778**	**0.01**	**26.70**	**0.01**	**18.87**	**258**	**103**	**92**	**209**	**54**	**56**	**453**	**318**
							33.16%	13.24%	11.83%	26.86%	6.94%	7.20%		

RODC, CGWB - WCR, Ahmedabad

3.3.3. November 2015 to November 2016

A perusal of **Fig 18** and **Table 14** reveals that 57% shows a rise and 43% shows fall in water level of the Gujarat state and UT of Daman & Diu. Fall in water level within range of 0 – 2 m is observed in about 29%, 2 – 4 m in 7% and more than 4 m in 6% of the total well in the state and UT of Daman and Diu. Rise in the water level is in the range of less than 2m and is about 42 % of the total area. The maximum rise of 23.73 m is recorded in Hanumnagrah of Porbandar district where as the maximum decline of 15.38 m is recorded in Tatam of Bhavnagar district.

About 52% of the total well shows fall of water level in the North Gujarat and most of which (40%) shows fluctuation in the range of 0 to 2 m of water level. Fall of more than 4 m is mostly seen in the parts of Ahmedabad, Panchmahals and Sabarkantha districts in 13% of total well analysed in the region. Rise of 0 – 2 m range is observed in 28% of the total well found mainly in the northern and central part of the north Gujarat region.

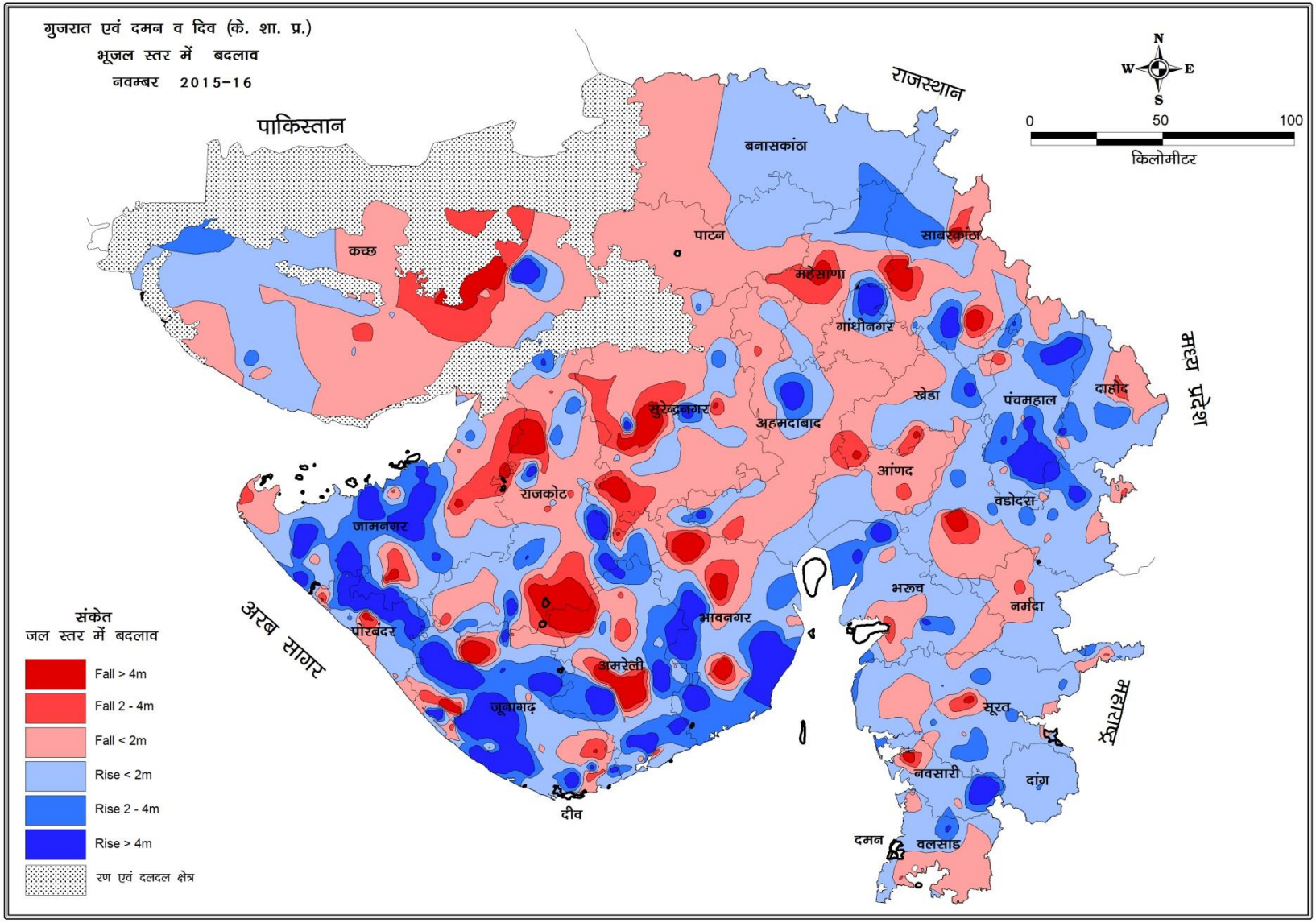
In South Gujarat region, 67% of total well analyzed shows rise in water level and in the range of 0 – 2 m represents 52% of well in the region. Rise of water level in 2 to 4 m and more than 4 m mainly observed in Surat, Vadodara and Navsari districts representing 10% of the total well in south Gujarat region. Fall in water level is observed maximum in the range of 0 – 2 m in 22 % of the total well analyzed lying mainly in Bharuch, Vadodara, Valsad and Narmada districts of the region.

About 63% of the Saurashtra region has experienced rise in water level and rise in the range of more than 4 m represents about 18% of the total well analysed. Fall of water level more than 4 m is predominantly found in all district of the region. Rise in water level found in isolated patches scattered mainly in Amreli, Rajkot, Junagardh, Jamnagar and Surendranagar district.

In Kachchh region, 55% of the total well analysed shows fall in water level and 41% shows fall in the range of 0 – 2 m. Fall of more than 4 m is observed as isolated patches in the area located in eastern and central east part of the district. The rise in water level 27% in the range of less than 2m.

In the UT of Daman and Diu, rise and fall both were found the range of rise is 0.10 to 0.70 m and fall is 0.88 to 1.11m.

Fig- 18


गुजरात एवं दमन व दिव (के. शा. प्र.)
भूजल स्तर में बदलाव
नवम्बर 2015-16
पाकिस्तान
राजस्थान
मध्य प्रदेश
महाराष्ट्र
अरब सागर
N
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S
0
50
100
किलोमीटर
बनासकांठा
पाटन
साबरकांठा
कच्छ
मेहसाणा
गांधीनगर
खेडा
पंचमहाल
दाहोद
सुरेन्द्रनगर
अहमदाबाद
आंणद
राजकोट
वडोदरा
जामनगर
भरूच
नर्मदा
भावनगर
पोरबंदर
अमरेली
जूनागढ
सूरत
नवसारी
दांग
दीव
दमन
वलसाड
संकेत
जल स्तर में बदलाव
Fall > 4m
Fall 2 - 4m
Fall < 2m
Rise < 2m
Rise 2 - 4m
Rise > 4m
रण एवं दलदल क्षेत्र

Table -14

CATEGORISATION OF CHANGES IN WATER LEVEL BETWEEN NOVEMBER 2015 TO NOVEMBER 2016

Sr. No.	District Name	No of well analysed	Range of Fluctuation (m)				No. of Wells Showing Fluctuation						Total No. of Wells	
			Rise		Fall		Rise			Fall				
			Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4	Rise	Fall
1	Ahmedabad	22	0.35	6.7	0.02	3.3	3	0	2	14	2	0	5	16
							13.64%	0.00%	9.09%	63.64%	9.09%	0.00%		
2	Anand	13	0.04	1.49	0.41	3.07	3	0	0	8	1	0	3	9
							23.08%	0.00%	0.00%	61.54%	7.69%	0.00%		
3	Banaskantha	17	0.01	6.63	0.26	1.31	8	1	1	7	0	0	10	7
							47.06%	5.88%	5.88%	41.18%	0.00%	0.00%		
4	Dohad	29	0.33	5.12	0.16	3.7	13	7	1	6	2	0	21	8
							44.83%	24.14%	3.45%	20.69%	6.90%	0.00%		
5	Gandhinagar	4	8.85	8.85	0.82	1.75	0	0	1	3	0	0	1	3
							0.00%	0.00%	25.00%	75.00%	0.00%	0.00%		
6	Kheda	20	0.13	5.24	0.03	4.8	8	1	1	7	1	2	10	10
							40.00%	5.00%	5.00%	35.00%	5.00%	10.00%		
7	Mahesana	24	0.01	2.03	0.04	6.19	4	1	0	12	4	3	5	19
							16.67%	4.17%	0.00%	50.00%	16.67%	12.50%		
8	Panchmahals	37	0.77	11.2	0.6	3.69	11	8	9	7	1	0	28	8
							29.73%	21.62%	24.32%	18.92%	2.70%	0.00%		
9	Patan	9	1.01	1.01	0.02	2	1	0	0	8	0	0	1	8
							11.11%	0.00%	0.00%	88.89%	0.00%	0.00%		
10	Sabarkantha	51	0.03	7.59	0.15	12.06	11	6	6	18	2	5	23	25
							21.57%	11.76%	11.76%	35.29%	3.92%	9.80%		
North Gujarat		**226**	**0.01**	**11.2**	**0.02**	**12.06**	**62**	**24**	**21**	**90**	**13**	**10**	**107**	**113**
							27.43%	10.62%	9.29%	39.82%	5.75%	4.42%		
11	Bharuch	32	0.1	8.48	0.11	2.91	11	2	3	12	2	0	16	14
							34.38%	6.25%	9.38%	37.50%	6.25%	0.00%		
12	Narmada	20	0.09	2.37	0.1	2.89	11	1	0	3	1	0	12	4
							55.00%	5.00%	0.00%	15.00%	5.00%	0.00%		
13	Navsari	21	0.1	14.35	0.12	8.42	12	5	1	2	0	1	18	3
							57.14%	23.81%	4.76%	9.52%	0.00%	4.76%		
14	Surat	55	0.1	4	0.01	5.1	28	11	0	13	2	1	39	16
							50.91%	20.00%	0.00%	23.64%	3.64%	1.82%		
15	The dangs	24	0.05	2.6	-	-	20	2	0	0	0	0	22	0
							83.33%	8.33%	0.00%	0.00%	0.00%	0.00%		
16	Vadodara	37	0.02	7.97	0.06	9.12	19	4	1	7	1	1	24	9
							51.35%	10.81%	2.70%	18.92%	2.70%	2.70%		
17	Valsad	17	0.15	4.4	0.02	2.2	6	0	2	8	1	0	8	9
							35.29%	0.00%	11.76%	47.06%	5.88%	0.00%		
South Gujarat		**206**	**0.02**	**14.35**	**0.01**	**9.12**	**107**	**25**	**7**	**45**	**7**	**3**	**139**	**55**
							51.94%	12.14%	3.40%	21.84%	3.40%	1.46%		
18	Amreli	46	0.1	12.58	0.15	15.2	17	7	6	6	3	7	30	16
							36.96%	15.22%	13.04%	13.04%	6.52%	15.22%		
19	Bhavnagar	35	0.35	13.4	0.01	15.38	8	5	6	11	2	3	19	16
							22.86%	14.29%	17.14%	31.43%	5.71%	8.57%		
20	Jamnagar	50	0.11	15.89	0.08	5.72	12	8	9	9	5	3	29	17
							24.00%	16.00%	18.00%	18.00%	10.00%	6.00%		
21	Junagadh	60	0.05	11.95	0.07	12.94	6	6	20	16	6	5	32	27
							10.00%	10.00%	33.33%	26.67%	10.00%	8.33%		
22	Porbandar	28	0.03	22.73	0.1	6.05	10	4	6	4	0	3	20	7
							35.71%	14.29%	21.43%	14.29%	0.00%	10.71%		
23	Rajkot	51	0.11	12.14	0.05	9.67	9	8	6	15	8	5	23	28
							17.65%	15.69%	11.76%	29.41%	15.69%	9.80%		
24	Surendranagar	44	0.4	6.68	0.06	11.95	10	2	3	17	7	5	15	29
							22.73%	4.55%	6.82%	38.64%	15.91%	11.36%		
Saurashtra		**314**	**0.03**	**22.73**	**0.01**	**15.38**	**72**	**40**	**56**	**78**	**31**	**31**	**168**	**140**
							22.93%	12.74%	17.83%	24.84%	9.87%	9.87%		
25	**Kachchh**	**42**	**0.1**	**13.65**	**0.1**	**9.46**	**11**	**3**	**1**	**17**	**3**	**3**	**15**	**23**
							26.19%	7.14%	2.38%	40.48%	7.14%	7.14%		
Total		**788**	**0.01**	**22.73**	**0.01**	**15.38**	**252**	**92**	**85**	**230**	**54**	**47**	**429**	**331**
							31.98%	11.68%	10.79%	29.19%	6.85%	5.96%		
26	Daman	8	0.1	0.7	4.6	4.6	6	0	0	0	0	1	6	1
							75.00%	0.00%	0.00%	0.00%	0.00%	12.50%		
27	Diu	3	0.38	0.38	0.88	1.11	1	0	0	2	0	0	1	2
							33.33%	0.00%	0.00%	66.67%	0.00%	0.00%		
UT of Daman & Diu		**11**	**0.1**	**0.7**	**0.88**	**1.11**	**7**	**0**	**0**	**2**	**0**	**1**	**7**	**3**
							63.64%	0.00%	0.00%	18.18%	0.00%	9.09%		
Grand Total		**799**	**0.01**	**22.73**	**0.01**	**15.38**	**259**	**92**	**85**	**232**	**54**	**48**	**436**	**334**
							32.42%	11.51%	10.64%	29.04%	6.76%	6.01%		

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3.3.4 January 2016 to January 2017

A perusal of **Fig 19** and **Table 15** reveals that 58% shows a rise and 42% shows fall in water level of the Gujarat state and UT of Daman & Diu. Rise in water level mainly within range of 0 – 2 m is observed in about 38% of the total well in the state and UT of Daman and Diu. Rise in water level is mainly observed in, Saurashtra, northern and in southern part of Gujarat state. Fall mainly observed in the range of 0 – 2 m covers about 29% of the total well in state. Fall of water level more than 4 m is more commonly observed mainly in Saurashtra region & northern part of Gujarat state. The maximum rise of 21.70 m is recorded in Govindpura of Junagadh district whereas the maximum decline of 18.43 m is recorded in Khundali of Bhavnagar district.

About 55% of the total well shows rlse of water level in the North Gujarat and most of which (36%) shows fall in the range of 0 to 2 m of water level. Rise of more than 4 m is mostly seen in the parts of Kheda, Panchmahal and Sabarkantha districts in 9% of total well analysed in the region. Fall of 0 – 2 m range is observed in 28% of the total well observed in the area near the the area along the little Rann of Kachchh and in western part of north Gujarat region.

In South Gujarat region, 63% of total well analysed shows rise in water level and 51% represents in the range of 0 – 2 m of total well in the region. Rise of water level in 2 to 4 m and more than 4 m mainly observed in Vadodara, Narmada and Bharuch representing 12% of the total well in south Gujarat region. Fall in water level is observed maximum in the range of 0 – 2 m in 24% of the total well analysed lying mainly in Surat and Vadodara districts of the region.

About 65% of the Saurashtra region has experienced rise in water level and rise in the range of 0 – 2 m represents about 31% of the total well analysed. Rise of water level more than 4 m is predominantly found in Jamnagar, Junagadh and Porbandar district all over the region and 15% area. Fall in water level also found in isolated patches scattered mainly in Bhavnagar, Amreli, and Junagarh districts.

In Kachchh region, 55% of the total well analysed shows fall in water level and 27% shows rise in the range of 0 – 2 m. Fall of more than 4 m is observed as isolated patches in the area located in eastern and central east part of the district. 27% of observation stations shows rise less than 2m.

In the UT of Diu shows both rise and fall of water level the range is 0.27 to 1.60m for rise and 1.3 m as fall. But UT of Daman shows only rise of water level the range is 0.30 to 2.65m.

Fig- 19

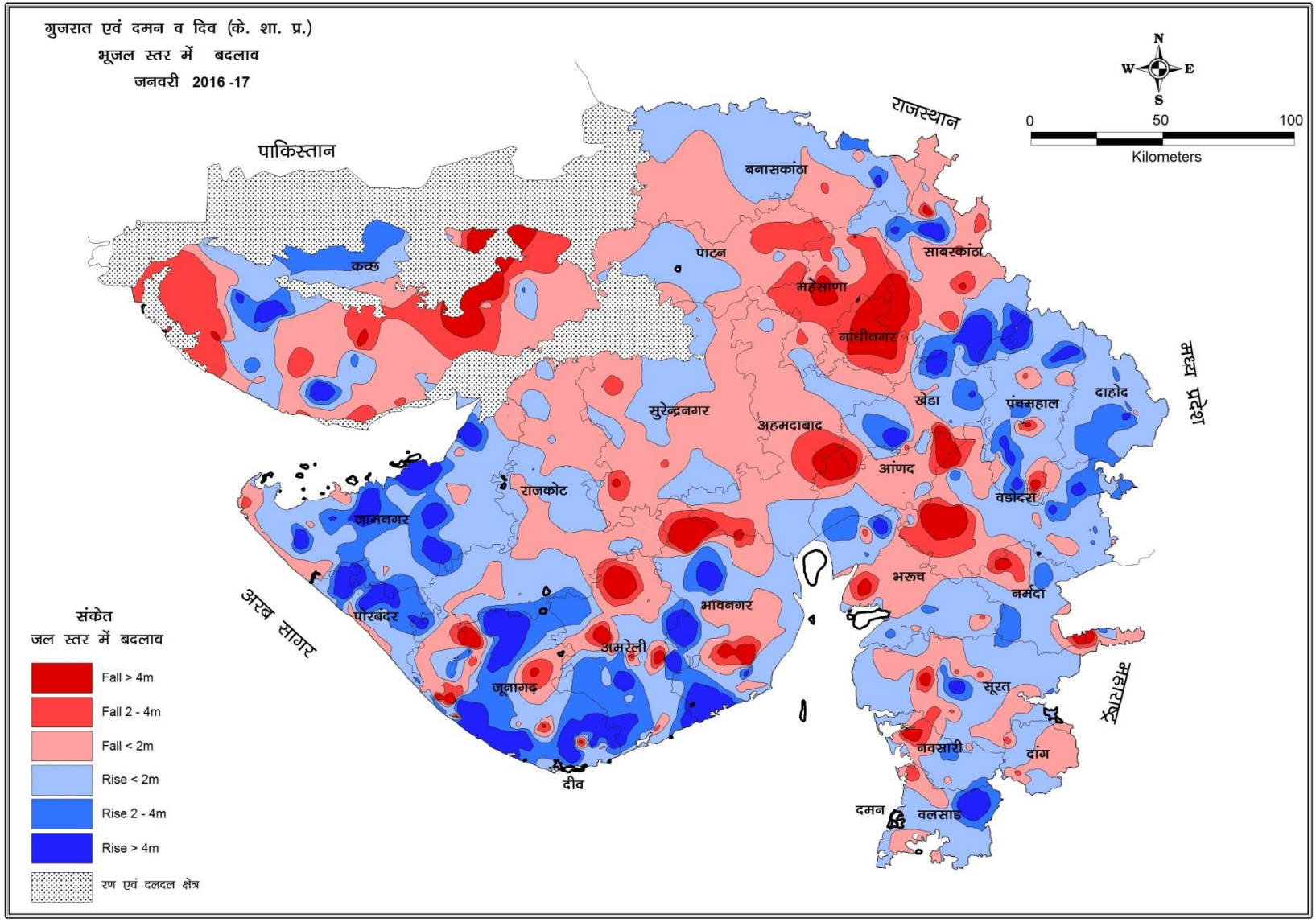

गुजरात एवं दमन व दिव (के. शा. प्र.)
भूजल स्तर में बदलाव
जनवरी 2016 -17
N
W
E
S
0
50
100
Kilometers
पाकिस्तान
राजस्थान
मध्य प्रदेश
महाराष्ट्र
अरब सागर
बनासकांठा
पाटन
साबरकांठा
कच्छ
महेसाणा
गांधीनगर
सुरेन्द्रनगर
अहमदाबाद
खेडा
पंचमहाल
दाहोद
आंणद
राजकोट
वडोदरा
जामनगर
भरूच
नर्मदा
भावनगर
पोरबंदर
अमरेली
जूनागढ
सूरत
नवसारी
दांग
दीव
दमन
वलसाड
संकेत
जल स्तर में बदलाव
Fall > 4m
Fall 2 - 4m
Fall < 2m
Rise < 2m
Rise 2 - 4m
Rise > 4m
रण एवं दलदल क्षेत्र

Table -15

CATEGORISATION OF CHANGES IN WATER LEVEL BETWEEN JANUARY 2016 TO JANUARY 2017

Sr. No.	District Name	No of well analysed	Range of Fluctuation (m)				No. of Wells Showing Fluctuation						Total No. of Wells	
			Rise		Fall		Rise			Fall				
			Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4	Rise	Fall
1	Ahmedabad	22	0.05	1.85	0.05	4.6	6	0	0	11	2	1	6	14
							27.27%	0.00%	0.00%	50.00%	9.09%	4.55%		
2	Anand	15	0.02	1.65	0.33	12.7	5	0	0	6	1	2	5	9
							33.33%	0.00%	0.00%	40.00%	6.67%	13.33%		
3	Banaskantha	20	0.29	10.1	0.05	2.16	11	1	1	6	1	0	13	7
							55.00%	5.00%	5.00%	30.00%	5.00%	0.00%		
4	Dohad	25	0.1	5.16	0.4	0.4	15	8	1	1	0	0	24	1
							60.00%	32.00%	4.00%	4.00%	0.00%	0.00%		
5	Gandhinagar	4	-	-	1.97	4.56	0	0	0	2	0	2	0	4
							0.00%	0.00%	0.00%	50.00%	0.00%	50.00%		
6	Kheda	20	0.03	8	0.12	2.48	5	3	3	7	1	0	11	8
							25.00%	15.00%	15.00%	35.00%	5.00%	0.00%		
7	Mahesana	24	0.06	1.17	0.06	6.28	7	0	0	7	8	2	7	17
							29.17%	0.00%	0.00%	29.17%	33.33%	8.33%		
8	Panchmahals	37	0.21	20.78	0.08	6.4	14	6	8	3	2	2	28	7
							37.84%	16.22%	21.62%	8.11%	5.41%	5.41%		
9	Patan	9	0.05	1.82	0.5	3.73	4	0	0	3	2	0	4	5
							44.44%	0.00%	0.00%	33.33%	22.22%	0.00%		
10	Sabarkantha	47	0.05	13.77	0.17	6.7	13	1	7	16	3	6	21	25
							27.66%	2.13%	14.89%	34.04%	6.38%	12.77%		
North Gujarat		**223**	**0.02**	**20.78**	**0.05**	**12.7**	**80**	**19**	**20**	**62**	**20**	**15**	**119**	**97**
							35.87%	8.52%	8.97%	27.80%	8.97%	6.73%		
11	Bharuch	32	0.04	7.17	0.03	6.26	14	4	1	7	2	1	19	10
							43.75%	12.50%	3.13%	21.88%	6.25%	3.13%		
12	Narmada	19	0.1	3.78	0.4	5.58	10	5	0	1	1	1	15	3
							52.63%	26.32%	0.00%	5.26%	5.26%	5.26%		
13	Navsari	21	0.09	3.65	0.1	10.21	15	1	0	4	0	1	16	5
							71.43%	4.76%	0.00%	19.05%	0.00%	4.76%		
14	Surat	50	0.03	6.7	0.05	8.21	21	3	1	19	4	2	25	25
							42.00%	6.00%	2.00%	38.00%	8.00%	4.00%		
15	The dangs	23	0.03	2.1	0.09	3.2	15	1	0	4	3	0	16	7
							65.22%	4.35%	0.00%	17.39%	13.04%	0.00%		
16	Vadodara	42	0.04	6.38	0.09	8.42	18	6	2	10	2	3	26	15
							42.86%	14.29%	4.76%	23.81%	4.76%	7.14%		
17	Valsad	18	0.1	9.18	0.3	4.03	10	0	1	4	0	1	11	5
							55.56%	0.00%	5.56%	22.22%	0.00%	5.56%		
South Gujarat		**205**	**0.03**	**9.18**	**0.03**	**10.21**	**103**	**20**	**5**	**49**	**12**	**9**	**128**	**70**
							50.24%	9.76%	2.44%	23.90%	5.85%	4.39%		
18	Amreli	44	0.01	11.6	0.23	9.1	20	8	5	5	2	4	33	11
							45.45%	18.18%	11.36%	11.36%	4.55%	9.09%		
19	Bhavnagar	33	0.1	16.28	0.08	18.43	10	3	5	10	0	5	18	15
							30.30%	9.09%	15.15%	30.30%	0.00%	15.15%		
20	Jamnagar	51	0.05	14.9	0.5	3.9	18	4	11	11	1	0	33	12
							35.29%	7.84%	21.57%	21.57%	1.96%	0.00%		
21	Junagadh	60	0.09	21.7	0.03	11.14	13	10	19	8	3	7	42	18
							21.67%	16.67%	31.67%	13.33%	5.00%	11.67%		
22	Porbandar	29	0.1	13.98	0.12	1.88	9	6	6	7	0	0	21	7
							31.03%	20.69%	20.69%	24.14%	0.00%	0.00%		
23	Rajkot	54	0.07	2.12	0.07	1.05	16	2	0	36	0	0	18	36
							29.63%	3.70%	0.00%	66.67%	0.00%	0.00%		
24	Surendranagar	49	0.04	0.58	0.05	4.75	14	0	0	27	2	1	14	30
							28.57%	0.00%	0.00%	55.10%	4.08%	2.04%		
Saurashtra		**320**	**0.01**	**21.70**	**0.03**	**18.43**	**100**	**33**	**46**	**104**	**8**	**17**	**179**	**129**
							31.25%	10.31%	14.38%	32.50%	2.50%	5.31%		
25	**Kachchh**	**49**	**0.01**	**11.67**	**0.02**	**6.95**	**13**	**4**	**3**	**13**	**8**	**5**	**20**	**26**
							26.53%	8.16%	6.12%	26.53%	16.33%	10.20%		
Total		**797**	**0.01**	**21.70**	**0.02**	**18.43**	**296**	**76**	**74**	**228**	**48**	**46**	**446**	**322**
							37.14%	9.54%	9.28%	28.61%	6.02%	5.77%		
26	Daman	6	0.3	2.65	-	-	5	1	0	0	0	0	6	0
							83.33%	16.67%	0.00%	0.00%	0.00%	0.00%		
27	Diu	4	0.27	1.6	1.3	1.3	3	0	0	1	0	0	3	1
							75.00%	0.00%	0.00%	25.00%	0.00%	0.00%		
UT of Daman & Diu		**10**	**0.27**	**2.65**	**1.3**	**1.3**	**8**	**1**	**0**	**1**	**0**	**0**	**9**	**1**
							80.00%	10.00%	0.00%	10.00%	0.00%	0.00%		
Grand Total		**807**	**0.01**	**21.70**	**0.02**	**18.43**	**304**	**77**	**74**	**229**	**48**	**46**	**455**	**323**
							37.67%	9.54%	9.17%	28.38%	5.95%	5.70%		

RODC, CGWB - WCR, Ahmedabad

3.4 Long Term Ground Water Scenario

Long-term behaviour of water levels was studied by analysing the data for decadal average water levels and fluctuation of water level with respect to decadal average water levels. Maps showing variation in water level scenario over the decade 2006-15 for May, August, November and 2007-16 for January 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 2007-16 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

Decadal average water level map for the period May 2007 to May 2016 (**Fig. 20**) reveals that the decadal average water level in Gujarat is generally 2 to 40 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 in north Gujarat region.

The Decadal average Water levels in North Gujarat generally range from 10 to 40 mbgl.Deep water level more than 40 m are observed in small isolated pockets in Banaskantha, Sabarkanth, Gandhinagar and Ahmedabad districts.

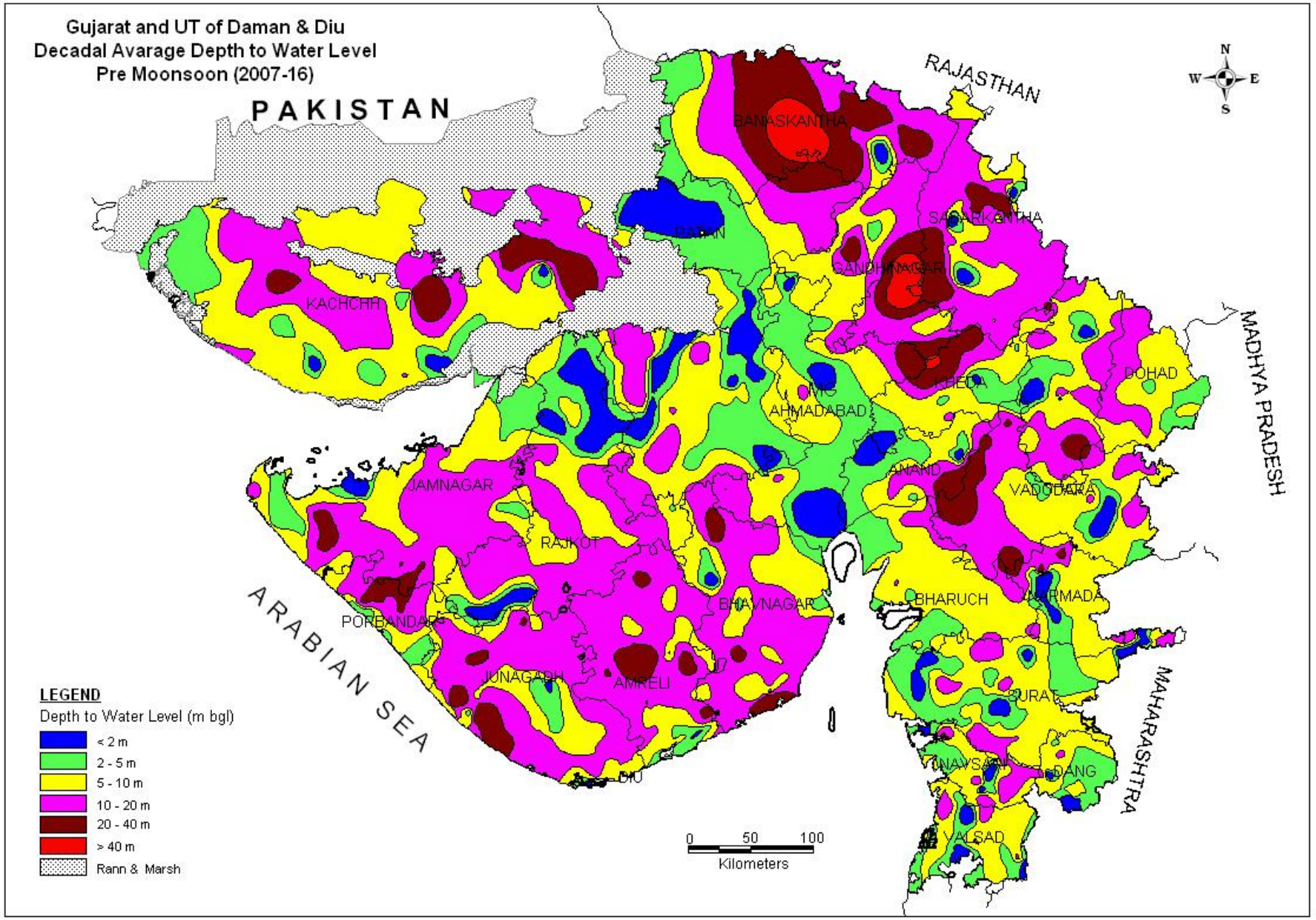
In South Gujarat average water level is less than 10 m bgl. Deep water levels of more than 20 m are observed in central part of Vadodara district and as isolated patch in Narmada district. Water level of less than 5 mbgl is found along the coast and in parts of Bharuch, The Dangs, Valsad and Surat districts.

In Saurashtra the average water level is less than 20 m with pockets having water level in the range of 20-40 m are found in all districts of Saurashtra region except Surendranagar district.

In Kachchh district ranges of the average water level is found from less than 5m to 20m. Deeper water levels of more than 20m are observed in central and eastern parts of Kachchh as in isolated patches.

In UT of Daman and Diu the water level in general is less than 10 mbgl.

Fig- 20


Gujarat and UT of Daman & Diu
Decadal Avarage Depth to Water Level
Pre Moonsoon (2007-16)
PAKISTAN
RAJASTHAN
MADHYA PRADESH
MAHARASHTRA
ARABIAN SEA
BANASKANTHA
PATAN
SABARKANTHA
GANDHINAGAR
KACHCHH
MEHSANA
AHMADABAD
DOHAD
ANAND
VADODARA
JAMNAGAR
RAJKOT
BHARUCH
NARMADA
PORBANDAR
BHAVNAGAR
JUNAGADH
AMRELI
SURAT
NAVSARI
DANG
VALSAD
DIU
LEGEND
Depth to Water Level (m bgl)
< 2 m
2 - 5 m
5 - 10 m
10 - 20 m
20 - 40 m
> 40 m
Rann & Marsh
0 50 100
Kilometers
N
W
E
S

3.4.1.2 Post-monsoon Water Levels

Decadal average water level map for the period November 2007 to November 2016(**Fig. 21**) reveals that in major part of Gujarat state, the decadal average water level is mostly in the range of 2 m to 20 mbgl. Deep water levels of moré than 20 m are also observed mainly in Banaskantha, Mahsana and Sabarkantha districts of North Gujarat, in parts of Kheda, Gandhinagar, Vadodara and Kachchh districts. Deepest water level more than 40 mbgl found in Banaskantha and Gandhinagar districts. 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

In North Gujarat, the water levels during post monsoon period are generally less than 20 mbgl. Deeper water levels of more than 20 mbgl 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 mbgl are observed in major parts of Panchmahals, some parts of Dohad, Kheda and Anand districts.

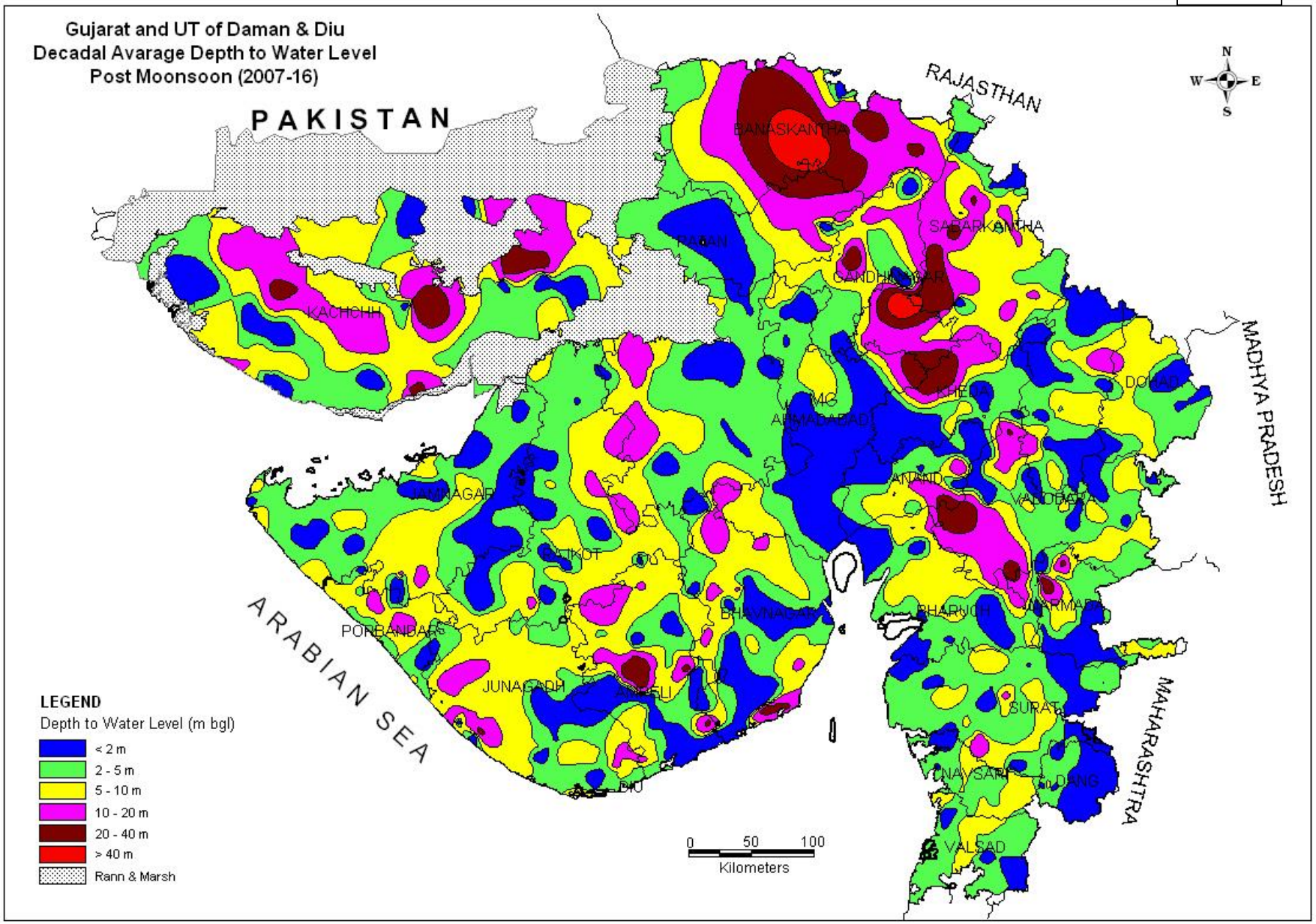
In South Gujarat water levels are generally shallower in contrast to North Gujarat areas. The water levels are generally less than 10 mbgl. Deep water levels of more than 10 mbgl are observed in central part of Navsari district. Deeper Water level more than 20 mbgl are observed mostly in Vadodara and 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 are also recorded in Surat and The Dangs district.

In Saurashtra Region, water levels are in the range of 5m 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 5 m are recorded in isolated pockets along the coastal parts and the parts connecting Gulf of Cambay with little Rann and in central parts of the Saurashtra Region.

In Kachchh district, the average water level is generally less than 10m except the eastern and central parts where the water level is about 20 m. In western parts, along cost line, water levels less than 5 mbgl is observed.

In UT of Daman and Diu average water level is less than 5 mbgl.

Fig- 21


Gujarat and UT of Daman & Diu
Decadal Avarage Depth to Water Level
Post Moonsoon (2007-16)
PAKISTAN
RAJASTHAN
MADHYA PRADESH
MAHARASHTRA
ARABIAN SEA
BANASKANTHA
SABARKANTHA
PATAN
GANDHINAGAR
KACHCHH
KHEDA
DOHAD
AHMADABAD
ANAND
VADODARA
JAMNAGAR
RAJKOT
BHARUCH
NARMADA
PORBANDAR
BHAVNAGAR
JUNAGADH
AMRELI
SURAT
NAVSARI
DANG
DIU
VALSAD
N
W
E
S
0
50
100
Kilometers
LEGEND
Depth to Water Level (m bgl)
< 2 m
2 - 5 m
5 - 10 m
10 - 20 m
20 - 40 m
> 40 m
Rann & Marsh

3.4.1 Decadal Variations

Fig. 22 (a, b, c & d) illustrates a comparison of the changes of the water levels during different seasons with their respective decadal averages **(Annexure- III C)**

DECADAL WATER LEVEL FLUCTUATION

Fig : 22 a

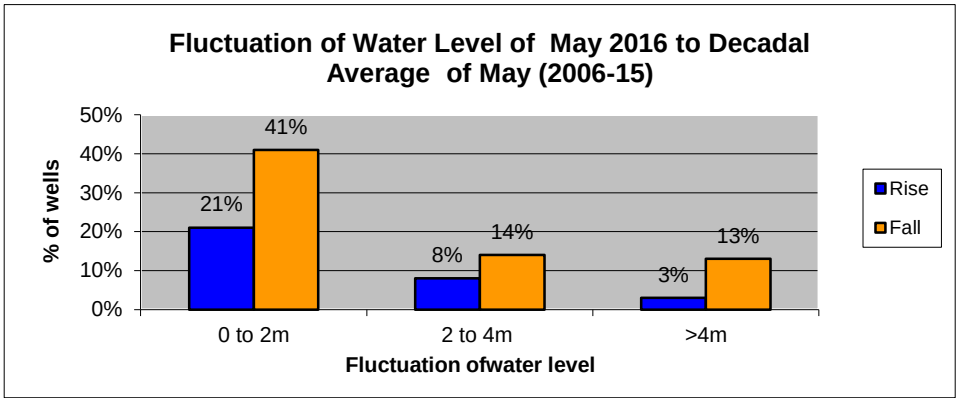


Fig : 22 b

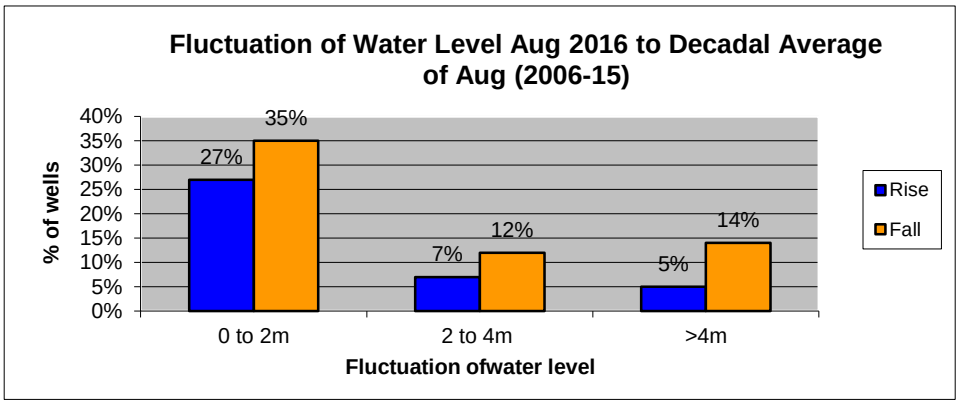


Fig : 22 c

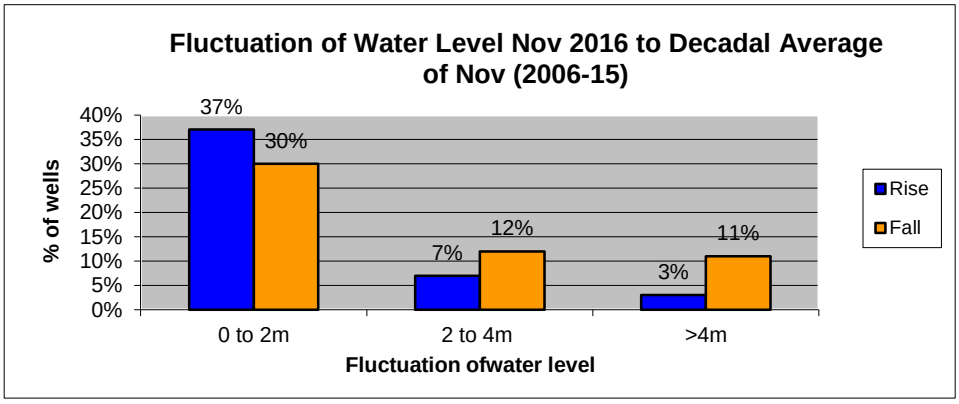
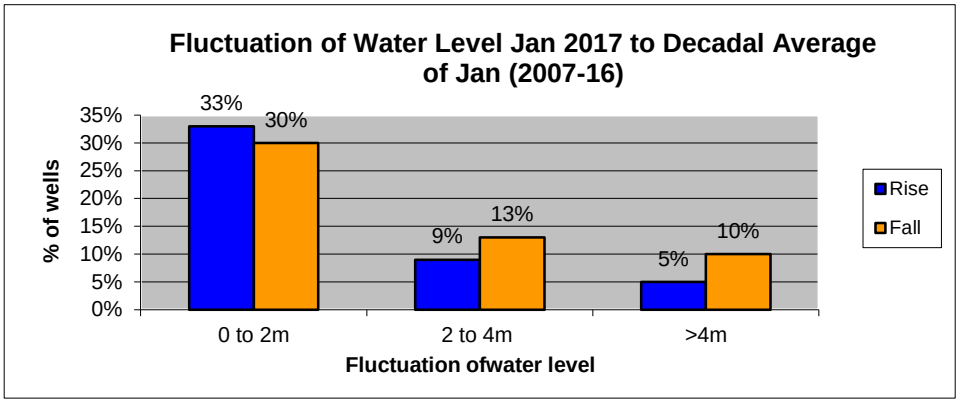


Fig : 22 d



3.4.2.1 Decadal average of May (2006-2015)to May 2016

A comparison of the water level of the May 2016 with the average water level of the May for last one decade (2006-2015) reveals that there is a fall of 67% of the wells monitored.Rise and fall is mostly in the range of 0 to 2m. Fall of more than 4m is observed in most of the districts of Saurashtra region. The maximum rise of 16.32 m is recorded at Jetpura of Rajkot district whereas the maximum fall of 22.43 m is recorded at Ranavav in Porbandar district.

In North Gujarat 65% of wells show fall and mostly are in range of 0 to 2 m (39% of wells) in entire North Gujarat. The rise of water level is mostly less than 2 m and in about 22% of the wells analyzed.

In south Gujarat the major part has experienced fall (67% of wells analyzed). The fall is mainly (53% of wells) in the range of 0 -2 m. About 24% of wells recorded rise of decadal fluctuation of water level in the range of 0 to 2 m.

In Saurashtra region about 70% of wells observed fall in water level and out of which 34% wells shows fall in the range of 0 to 2m. Fall more than 4 m observed in 25% of the well analysed. Rise of water level are less than 2 m in 17% in whole region.

In Kachchh, 48% of the wells have recorded rise in water level in the district. Fall is mostly (40% of wells) in the range of 0-2m, were rise of 0-2 m is recorded in 28% of wells.

.

In Union Territory of Daman both rise and fall is observed. In Daman the maximum rise 0.76 m and fall 3.53 m are observed. In Diu 0.85 m rise and fall is 1.42m recorded.

Fig- 23

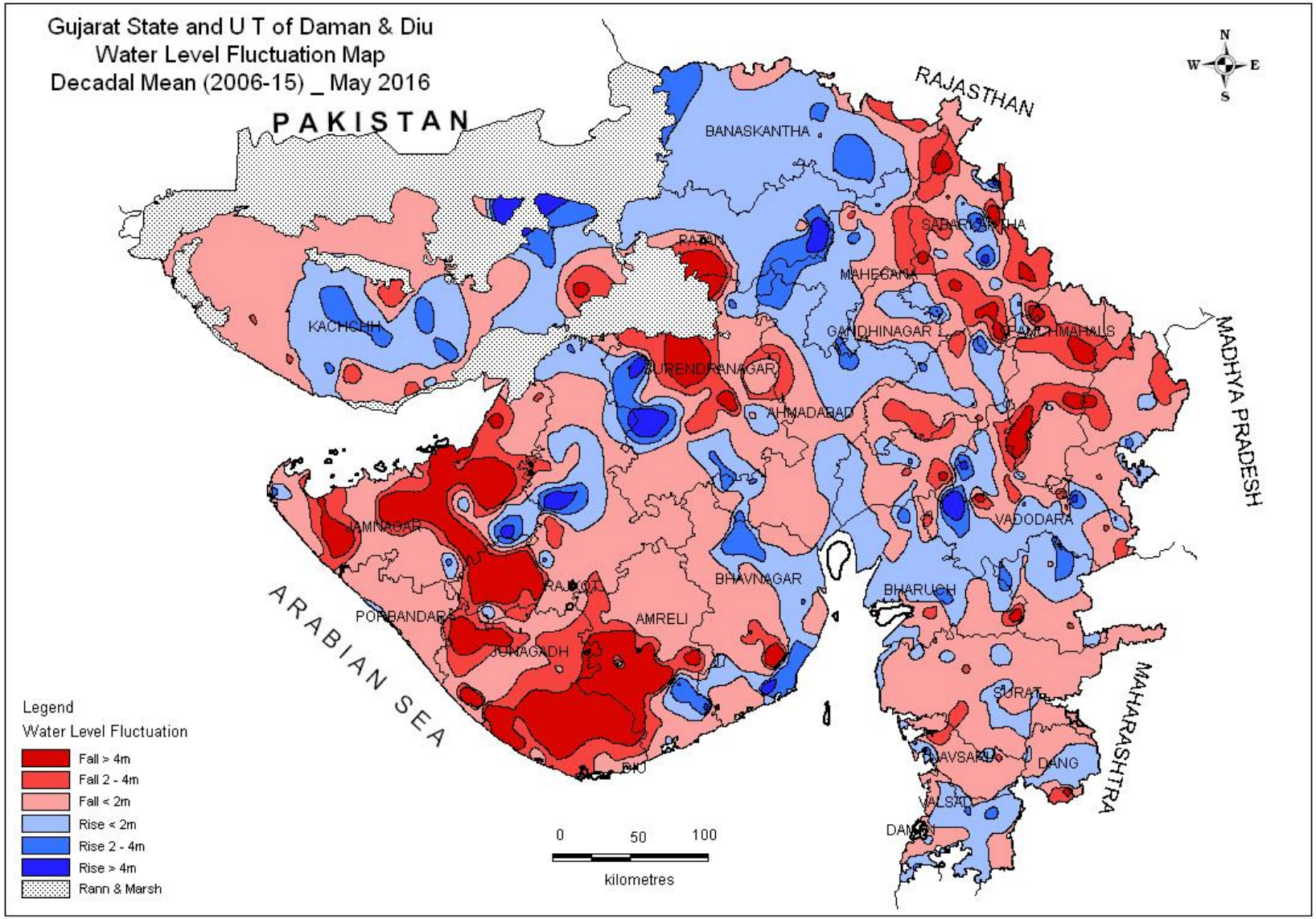

Gujarat State and U T of Daman & Diu
Water Level Fluctuation Map
Decadal Mean (2006-15) _ May 2016
PAKISTAN
RAJASTHAN
MADHYA PRADESH
MAHARASHTRA
ARABIAN SEA
BANASKANTHA
PATAN
MAHESANA
SABARKANTHA
KACHCHH
GANDHINAGAR
PANCHMAHALS
SURENDRANAGAR
AHMADABAD
JAMNAGAR
VADODARA
RAJKOT
BHAVNAGAR
BHARUCH
PORBANDAR
AMRELI
JUNAGADH
SURAT
DIU
NAVSARI
DANG
VALSAD
DAMAN
N
W
E
S
Legend
Water Level Fluctuation
Fall > 4m
Fall 2 - 4m
Fall < 2m
Rise < 2m
Rise 2 - 4m
Rise > 4m
Rann & Marsh
0
50
100
kilometres

Table-16

WELL WISE CATEGORISATION OF CHANGES IN WATER LEVEL DURING MAY 2016 WITH RESPECT TO DECADAL AVERAGE OF MAY (2006TO 2015)

Sr. No.	District Name	No of well analysed	Range of Fluctuation (m)				No. of Wells Showing Fluctuation						Total No. of Wells	
			Rise		Fall		Rise			Fall				
			Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4	Rise	Fall
1	Ahmedabad	14	1.23	3.32	0.35	7.25	3 21.43%	5 35.71%	0 0.00%	4 28.57%	0 0.00%	2 14.29%	8	6
2	Anand	16	0.21	2.68	0.24	4.91	3 18.75%	1 6.25%	0 0.00%	6 37.50%	5 31.25%	1	4	12
3	Banaskantha	19	0.4	3.52	0.07	3.07	7 36.84%	3 15.79%	0 0.00%	5 26.32%	3 15.79%	0 0.00%	10	8
4	Dohad	30	0.07	2.64	0.1	4.86	2 6.67%	2 6.67%	0 0.00%	19 63.33%	4 13.33%	2 6.67%	4	25
5	Gandhinagar	5	0.82	0.82	0.69	1.85	1 20.00%	0 0.00%	0 0.00%	4 80.00%	0 0.00%	0 0.00%	1	4
6	Kheda	22	0.02	2.5	0.1	3.59	6 27.27%	2 9.09%	0 0.00%	9 40.91%	5 22.73%	0 0.00%	8	14
7	Mahesana	27	0.14	3.94	0.31	2.75	15 55.56%	5 18.52%	0 0.00%	5 18.52%	2 7.41%	0 0.00%	20	7
8	Panchmahals	39	0.58	0.69	0.06	14.2	3 7.69%	0 0.00%	0 0.00%	19 48.72%	8 20.51%	9 23.08%	3	36
9	Patan	10	0.1	8.8	2.28	2.28	7 70.00%	0 0.00%	2 20.00%	0 0.00%	1 10.00%	0 0.00%	9	1
10	Sabarkantha	52	0.1	5.2	0.09	10	5 9.62%	4 7.69%	4 7.69%	20 38.46%	8 15.38%	9 17.31%	13	37
North Gujarat		**234**	**0.02**	**8.80**	**0.06**	**14.20**	**52** 22.22%	**22** 9.40%	**6** 2.56%	**91** 38.89%	**36** 15.38%	**23** 9.83%	**80**	**150**
11	Bharuch	37	0.19	3.64	0.02	6.88	11 29.73%	2 5.41%	0 0.00%	19 51.35%	3 8.11%	1 2.70%	13	23
12	Narmada	23	0.72	3.33	0.1	9.87	5 21.74%	3 13.04%	0 0.00%	10 43.48%	2 8.70%	1 4.35%	8	13
13	Navsari	21	0.01	3.12	0.02	4.48	5 23.81%	1 4.76%	0 0.00%	13 61.90%	1 4.76%	1 4.76%	6	15
14	Surat	54	0.15	2.35	0.01	4.33	7 12.96%	2 3.70%	0 0.00%	40 74.07%	2 3.70%	2 3.70%	9	44
15	The dangs	24	0.01	1.21	0.17	7.4	9 37.50%	0 0.00%	0 0.00%	12 50.00%	2 8.33%	1 4.17%	9	15
16	Vadodara	46	0.1	10.51	0.01	6.18	9 19.57%	3 6.52%	3 6.52%	18 39.13%	9 19.57%	2 4.35%	15	29
17	Valsad	18	0.03	2.91	0.39	1.98	8 44.44%	3 16.67%	0 0.00%	6 33.33%	0 0.00%	0 0.00%	11	6
South Gujarat		**223**	**0.01**	**10.51**	**0.01**	**9.87**	**54** 24.22%	**14** 6.28%	**3** 1.35%	**118** 52.91%	**19** 8.52%	**8** 3.59%	**71**	**145**
18	Amreli	41	0.11	9.28	0.12	12.45	10 24.39%	0 0.00%	3 7.32%	9 21.95%	5 12.20%	14 34.15%	13	28
19	Bhavnagar	37	0.08	8.79	0.1	17.35	7 18.92%	5 13.51%	1 2.70%	11 29.73%	4 10.81%	9 24.32%	13	24
20	Jamnagar	49	0.01	5.3	0.01	14.87	5 10.20%	3 6.12%	1 2.04%	16 32.65%	11 22.45%	13 26.53%	9	40
21	Junagadh	55	0.01	1.36	0.02	11.86	8 14.55%	0 0.00%	0 0.00%	23 41.82%	10 18.18%	14 25.45%	8	47
22	Porbandar	29	0.14	1.02	0.04	22.43	6 20.69%	0 0.00%	0 0.00%	12 41.38%	4 13.79%	7 24.14%	6	23
23	Rajkot	49	0.32	16.32	0	11.39	6 12.24%	6 12.24%	3 6.12%	17 34.69%	7 14.29%	10 20.41%	15	34
24	Surendranagar	40	0.01	8.25	0.13	12.77	9 22.50%	4 10.00%	2 5.00%	13 32.50%	5 12.50%	7 17.50%	15	25
Saurashtra		**300**	**0.01**	**16.32**	**0.00**	**22.43**	**51** 17.00%	**18** 6.00%	**10** 3.33%	**101** 33.67%	**46** 15.33%	**74** 24.67%	**79**	**221**
25	**Kachchh**	**43**	**0.1**	**9.4**	**0.04**	**4.68**	12 27.91%	7 16.28%	1 2.33%	17 39.53%	4 9.30%	2 4.65%	20	23
26	**Total**	**800**	**0.01**	**16.32**	**0.00**	**22.43**	**169** 21.13%	**61** 7.63%	**20** 2.50%	**327** 40.88%	**105** 13.13%	**107** 13.38%	**250**	**539**
27	Daman	9	0.06	0.76	0.63	3.53	2 22.22%	0 0.00%	0 0.00%	3 33.33%	4 44.44%	0 0.00%	2	7
28	Diu	3	0.81	0.81	0.4	3.42	1 33.33%	0 0.00%	0 0.00%	1 33.33%	1 33.33%	0 0.00%	1	2
UT ofDaman & Diu		**12**	**0.06**	**0.81**	**0.40**	**3.53**	**3** 25.00%	**0** 0.00%	**0** 0.00%	**4** 33.33%	**5** 41.67%	**0** 0.00%	**3**	**9**
Grand Total		**812**	**0.01**	**16.32**	**0.00**	**22.43**	**172** 21.18%	**61** 7.51%	**20** 2.46%	**331** 40.76%	**110** 13.55%	**107** 13.18%	**253**	**548**

3.4.2.2 Decadal average of August (2006 to 2015) to August 2016

A comparison of the water level of the August 2016 with the average water level of the August for last one decade (2006-2015) **Fig 24** & **Table 17** reveals that there is a fall in (60% of well analysed). Fall is mostly in the range of 0 to 2 m. The fall of more than 2m observed mostly in Saurashtra region. The maximum rise of 21.04 m is recorded in Sundarpura of Narmada district whereas the maximum fall of 23.20 m is recorded in Hanumnagarh of Porbandar district.

In North Gujarat 59% of wells have shown rise and mostly in range of 0 to 2 m (33% of wells) & 2 - 4m (14%) in entire North Gujarat. A prominent patch of fall of water level is located in all of the districts of North Gujarat.

South Gujarat has experienced Fall (63% of wells analysed), the fall is mainly (48% of wells) in the range of 0 to 2 m. About 37% of wells recorded rise of decadal fluctuation of water level of which 31% of well are in the range of 0 to 2 m and scattered in whole South Gujarat region.

In Saurashtra region fall of water level in more than 4m is observed in more than 28% of the wells. The rise in water level is mostly in Bhavnagar, Amreli, Junagarh and Surendranagar districts but fall of water level covers the entire area.

In Kachchh, 61% of the wells analysed have recorded fall in water level in the district. Fall is mostly (35% of wells) in the range of 0 – 2 m. Rise is observed in 28% wells in the district ain the range of 0-2m.

In Union Territory of Daman both Maximum rise 1.55 m and fall 1.54 m and in Diu Maximum rise 0.10 m and fall 0.58m.

Fig- 24

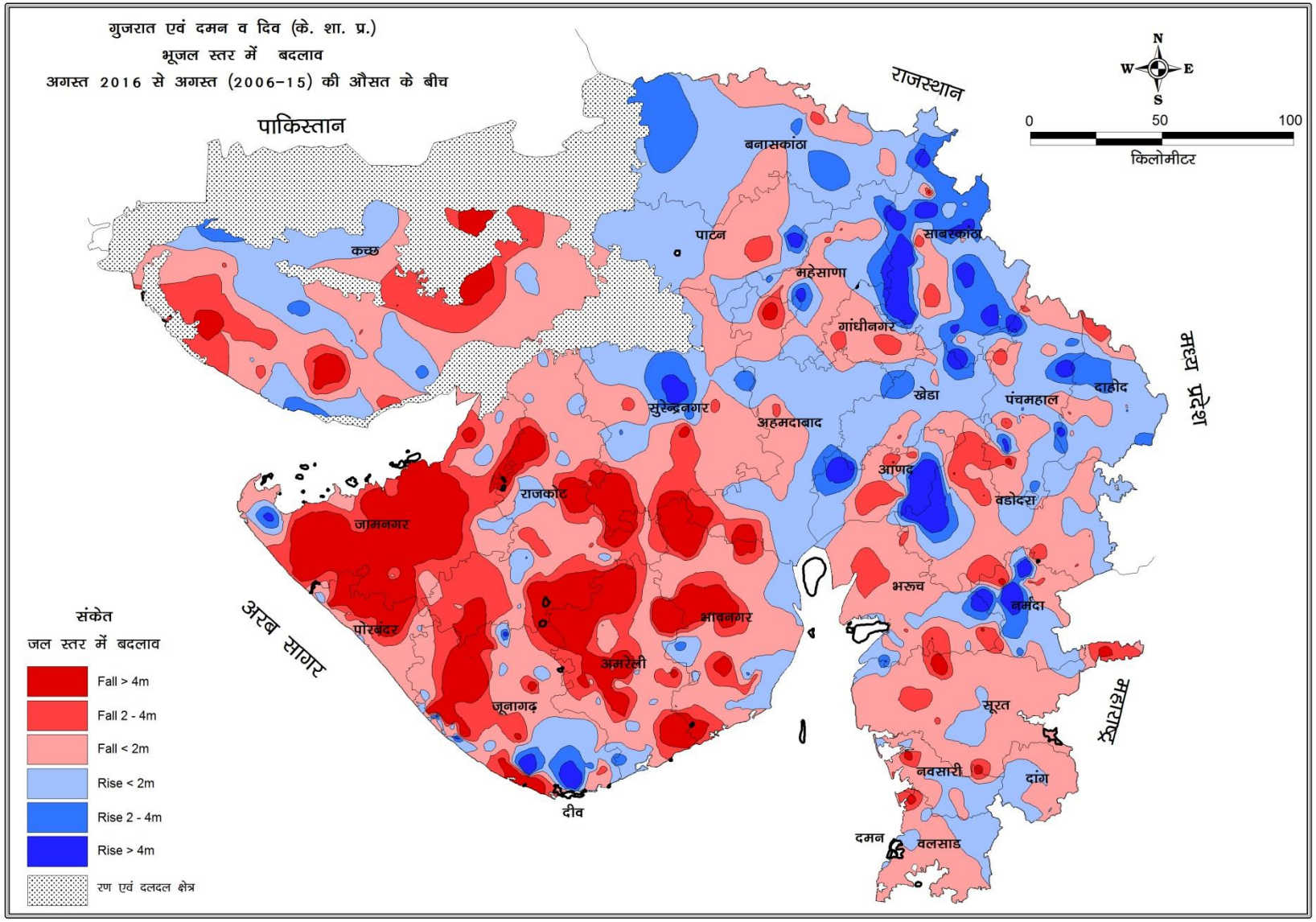

गुजरात एवं दमन व दिव (के. शा. प्र.)
भूजल स्तर में बदलाव
अगस्त 2016 से अगस्त (2006–15) की औसत के बीच
पाकिस्तान
राजस्थान
मध्य प्रदेश
महाराष्ट्र
अरब सागर
N
W
E
S
0
50
100
किलोमीटर
बनासकांठा
पाटन
साबरकांठा
कच्छ
महेसाणा
गांधीनगर
खेडा
दाहोद
पंचमहाल
सुरेन्द्रनगर
अहमदाबाद
आणंद
वडोदरा
राजकोट
जामनगर
भरूच
नर्मदा
पोरबंदर
भावनगर
अमरेली
जूनागढ़
सूरत
नवसारी
डांग
दीव
दमन
वलसाड
संकेत
जल स्तर में बदलाव
Fall > 4m
Fall 2 - 4m
Fall < 2m
Rise < 2m
Rise 2 - 4m
Rise > 4m
रण एवं दलदल क्षेत्र

Table-17

WELL WISE CATEGORISATION OF CHANGES IN WATER LEVEL DURING AUGUST 2016 WITH RESPECT TO DECADAL AVERAGE OF AUGUST (2006 To 2015)

Sr. No.	District Name	No of well analysed	Range of Fluctuation (m)				No. of Wells Showing Fluctuation						Total No. of Wells	
			Rise		Fall		Rise			Fall				
			Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4	Rise	Fall
1	Ahmedabad	24	0.15	3.34	0.43	8.75	9 37.50%	2 8.33%	0 0.00%	8 33.33%	2 8.33%	3 12.50%	11	13
2	Anand	15	0.22	17.9	0.21	3.68	3 20.00%	0 0.00%	3 20.00%	3 20.00%	6 40.00%	0 0.00%	6	9
3	Banaskantha	20	0.24	3.28	0.22	3.02	8 40.00%	4 20.00%	0 0.00%	6 30.00%	3 15.00%	0 0.00%	12	8
4	Dohad	28	0.02	6.11	0.09	2.85	13 46.43%	5 17.86%	1 3.57%	7 25.00%	2 7.14%	0 0.00%	19	9
5	Gandhinagar	5	0.15	0.15	0.86	3.44	1 20.00%	0 0.00%	0 0.00%	2 40.00%	2 40.00%	0 0.00%	1	4
6	Kheda	21	0.08	3.52	0.05	2.21	9 42.86%	2 9.52%	0 0.00%	9 42.86%	1 4.76%	0 0.00%	11	10
7	Mahesana	23	0.15	5.34	0.09	2.91	9 39.13%	2 8.70%	1 4.35%	8 34.78%	3 13.04%	0 0.00%	12	11
8	Panchmahals	37	0.4	7.87	0.08	5.91	9 24.32%	3 8.11%	4 10.81%	15 40.54%	4 10.81%	2 5.41%	16	21
9	Patan	9	0.13	7.75	1.17	3.33	4 44.44%	0 0.00%	1 11.11%	3 33.33%	1 11.11%	0 0.00%	5	4
10	Sabarkantha	55	0.02	8.7	0.03	5.8	14 25.45%	15 27.27%	16 29.09%	6 10.91%	3 5.45%	1 1.82%	45	10
North Gujarat		**237**	**0.02**	**17.90**	**0.03**	**8.75**	**79** 33.33%	**33** 13.92%	**26** 10.97%	**67** 28.27%	**27** 11.39%	**6** 2.53%	**138**	**99**
11	Bharuch	30	0.1	4.25	0.01	4.58	7 23.33%	2 6.67%	1 3.33%	13 43.33%	5 16.67%	2 6.67%	10	20
12	Narmada	19	0.27	21.04	0.01	3.13	7 36.84%	3 15.79%	2 10.53%	2 10.53%	5 26.32%	0 0.00%	12	7
13	Navsari	21	0.06	1.25	0.16	6.17	11 52.38%	0 0.00%	0 0.00%	6 28.57%	2 9.52%	2 9.52%	11	10
14	Surat	53	0.15	1.81	0.02	6.43	8 15.09%	0 0.00%	0 0.00%	35 66.04%	7 13.21%	2 3.77%	8	44
15	The dangs	24	0.04	1.89	0.06	1.71	14 58.33%	0 0.00%	0 0.00%	10 41.67%	0 0.00%	0 0.00%	14	10
16	Vadodara	37	0.2	8.34	0.07	4.19	11 29.73%	1 2.70%	1 2.70%	16 43.24%	6 16.22%	2 5.41%	13	24
17	Valsad	17	0.02	0.64	0.05	4.9	5 29.41%	0 0.00%	0 0.00%	11 64.71%	0 0.00%	1 5.88%	5	12
South Gujarat		**201**	**0.02**	**21.04**	**0.01**	**6.43**	**63** 31.34%	**6** 2.99%	**4** 1.99%	**93** 46.27%	**25** 12.44%	**9** 4.48%	**73**	**127**
18	Amreli	52	0.02	3.31	0.14	19.81	14 26.92%	1 1.92%	0 0.00%	16 30.77%	6 11.54%	15 28.85%	15	37
19	Bhavnagar	44	0.06	2.75	0.03	15.27	6 13.64%	2 4.55%	0 0.00%	19 43.18%	7 15.91%	10 22.73%	8	36
20	Jamnagar	50	0.35	4.96	0.63	18.91	4 8.00%	0 0.00%	1 2.00%	13 26.00%	7 14.00%	25 50.00%	5	45
21	Junagadh	66	0.03	10.93	0.04	13.26	15 22.73%	6 9.09%	5 7.58%	17 25.76%	6 9.09%	17 25.76%	26	40
22	Porbandar	26	0.03	0.81	0.03	23.2	4 15.38%	0 0.00%	0 0.00%	10 38.46%	2 7.69%	10 38.46%	4	26
23	Rajkot	53	0.2	2.44	0.06	13.18	10 18.87%	3 5.66%	0 0.00%	21 39.62%	8 15.09%	11 20.75%	13	40
24	Surendranagar	35	0.04	6.9	0.02	7.81	7 20.00%	2 5.71%	3 8.57%	16 45.71%	4 11.43%	3 8.57%	12	23
Saurashtra		**326**	**0.02**	**10.93**	**0.02**	**23.20**	**60** 18.40%	**14** 4.29%	**9** 2.76%	**112** 34.36%	**40** 12.27%	**91** 27.91%	**83**	**247**
25	**Kachchh**	**43**	**0.02**	**3.68**	**0.31**	**7.96**	12 27.91%	5 11.63%	0 0.00%	10 23.26%	8 18.60%	8 18.60%	17	26
26	**Total**	**807**	**0.02**	**21.04**	**0.01**	**23.20**	**214** 26.52%	**58** 7.19%	**39** 4.83%	**282** 34.94%	**100** 12.39%	**114** 14.13%	**311**	**499**
27	Daman	9	0.01	1.55	0.13	1.54	5 55.56%	0 0.00%	0 0.00%	4 44.44%	0 0.00%	0 0.00%	5	4
28	Diu	2	0.1	0.1	0.56	0.56	1 50.00%	0 0.00%	0 0.00%	1 50.00%	0 0.00%	0 0.00%	1	1
UT ofDaman & Diu		**11**	**0.01**	**1.55**	**0.13**	**1.54**	**6** 54.55%	**0** 0.00%	**0** 0.00%	**5** 45.45%	**0** 0.00%	**0** 0.00%	**6**	**5**
Grand Total		**818**	**0.01**	**21.04**	**0.01**	**23.20**	**220** 26.89%	**58** 7.09%	**39** 4.77%	**287** 35.09%	**100** 12.22%	**114** 13.94%	**317**	**504**

3.4.2.3 Decadal average of November(2006-2015) to November 2016

A comparison of the water level of the November 2016 with the average water level of the November for last one decade (2006-20115) **Fig 25** & **Table 17** reveals that there is a fall in water level in the state (54% of total well analysed). Rise and fall is mostly in the range of 0 to 2m. Fall of more than 2m is observed as isolated patches scattered in all over the state. The maximum rise of 14.41 m is recorded in Rapar of Kachchh district whereas the maximum fall of 20.97 m is recorded in Tatam of Bhavnagar district.

In North Gujarat 52% of wells are shown fall and mostly well are in range of 0 to 2 m (31% of wells) in entire North Gujarat. The rise of water level 36% of the observed wells has been found in the range of 0 to 2m.

In South Gujarat, has experienced rise (59% of total wells analysed). The rise is mainly (52% of wells) in the range of 0 to 2 m. About 41% of wells recorded fall in decadal fluctuation of water level of which 30% of well are in the range of 0 to 2 m and scattered in whole South Gujarat region.

In Saurashtra region about 61% of wells observed fall in water level and out of which 30% wells shows fall in the range of more than 4m. Rise of water level are experienced in 38% of the region.

In Kachchh, 70% of the total wells analysed are recorded fall in water level in the district. Fall is mostly (36% of wells) in the range of 0 – 2 m. Rise is observed in 30% of the wells analysed in which 27 % is less than 4 m

In Union Territory of Daman and Diu both showing rise and fall of water level in their region. Range of rise 0.35 to 1.07m and fall is 0.17 to 4.26m.

Fig- 25

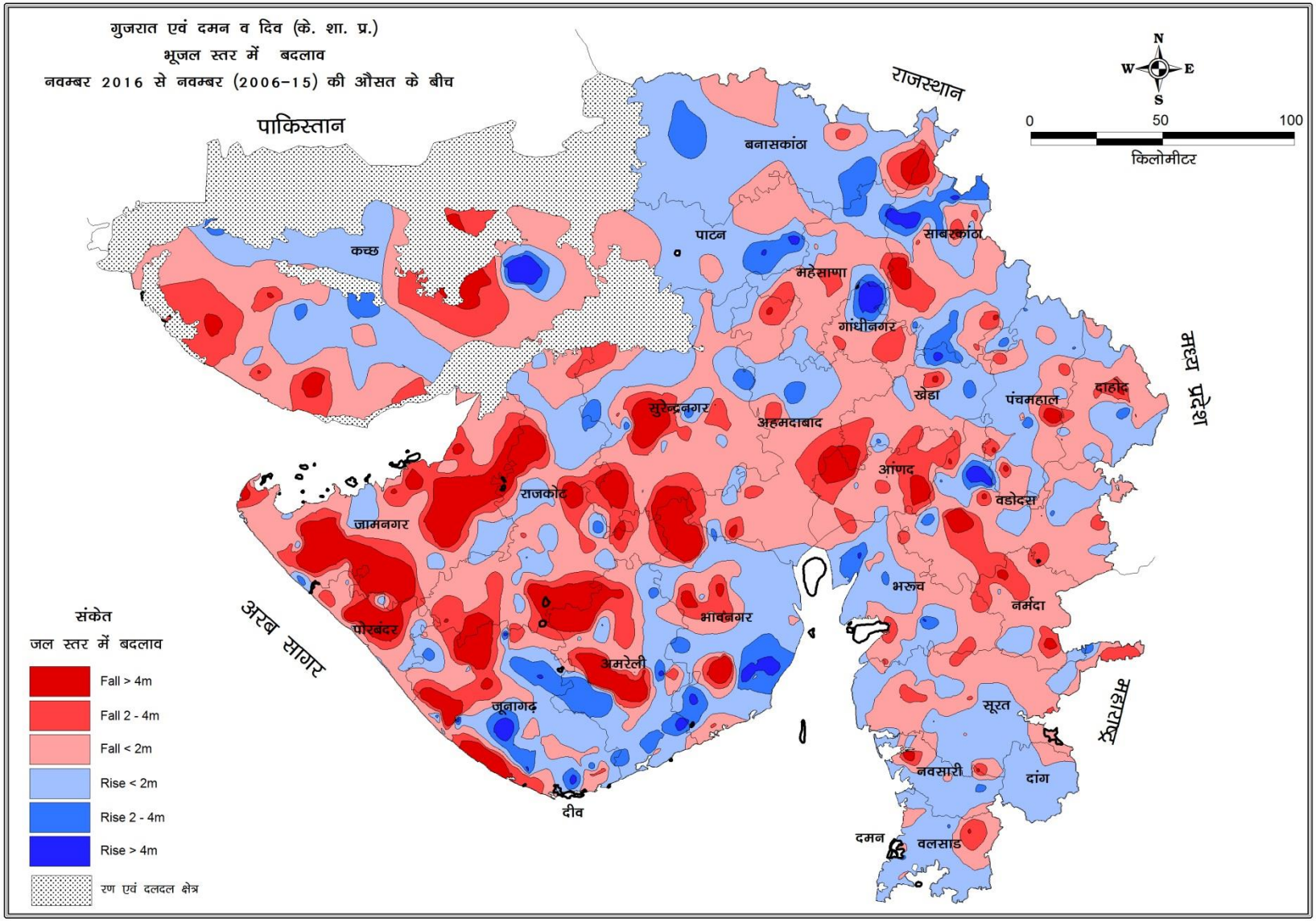

गुजरात एवं दमन व दिव (के. शा. प्र.)
भूजल स्तर में बदलाव
नवम्बर 2016 से नवम्बर (2006–15) की औसत के बीच
पाकिस्तान
राजस्थान
मध्य प्रदेश
महाराष्ट्र
अरब सागर
N
W
E
S
0
50
100
किलोमीटर
बनासकांठा
पाटन
साबरकांठा
कच्छ
महेसाणा
गांधीनगर
खेडा
पंचमहाल
दाहोद
सुरेन्द्रनगर
अहमदाबाद
आंणद
राजकोट
वडोदरा
जामनगर
भरूच
नर्मदा
पोरबंदर
भावनगर
अमरेली
जूनागढ़
सूरत
नवसारी
दांग
दीव
दमन
वलसाड
संकेत
जल स्तर में बदलाव
Fall > 4m
Fall 2 - 4m
Fall < 2m
Rise < 2m
Rise 2 - 4m
Rise > 4m
रण एवं दलदल क्षेत्र

Table-18

WELL WISE CATEGORISATION OF CHANGES IN WATER LEVEL DURING NOVEMBER 2016 WITH RESPECT TO DECADAL AVERAGE OF NOVEMBER (2006 To 2015)

Sr. No.	District Name	No of well analysed	Range of Fluctuation (m)				No. of Wells Showing Fluctuation						Total No. of Wells	
			Rise		Fall		Rise			Fall				
			Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4	Rise	Fall
1	Ahmedabad	23	0.42	2.77	0.02	6.79	5 21.74%	2 8.70%	0 0.00%	10 43.48%	3 13.04%	3 13.04%	7	16
2	Anand	14	0.11	0.34	0.01	8.33	3 21.43%	0 0.00%	0 0.00%	5 35.71%	3 21.43%	3 21.43%	3	11
3	Banaskantha	18	0.06	3.23	0.11	2.86	11 61.11%	2 11.11%	0 0.00%	4 22.22%	1 5.56%	0 0.00%	13	5
4	Dohad	30	0.02	3.01	0.14	4.67	11 36.67%	3 10.00%	0 0.00%	10 33.33%	4 13.33%	1 3.33%	14	15
5	Gandhinagar	4	8.26	8.26	1.36	3.57	0 0.00%	0 0.00%	1 25.00%	1 25.00%	2 50.00%	0 0.00%	1	3
6	Kheda	22	0.05	4.63	0.08	4.93	7 31.82%	3 13.64%	1 4.55%	5 22.73%	4 18.18%	2 9.09%	11	11
7	Mahesana	24	0.06	2.68	0.1	2.4	13 54.17%	1 4.17%	0 0.00%	7 29.17%	3 12.50%	0 0.00%	14	10
8	Panchmahals	39	0.04	4.01	0.03	8.5	19 48.72%	2 5.13%	1 2.56%	11 28.21%	3 7.69%	3 7.69%	22	17
9	Patan	9	0.09	5.45	0.68	1.73	4 44.44%	0 0.00%	2 22.22%	3 33.33%	0 0.00%	0 0.00%	6	3
10	Sabarkantha	53	0.3	6.18	0.05	9.35	12 22.64%	9 16.98%	3 5.66%	18 33.96%	6 11.32%	5 9.43%	24	29
North Gujarat		**236**	**0.02**	**8.26**	**0.01**	**9.35**	**85** 36.02%	**22** 9.32%	**8** 3.39%	**74** 31.36%	**29** 12.29%	**17** 7.20%	**115**	**120**
11	Bharuch	33	0.05	4.42	0.09	3.02	9 27.27%	1 3.03%	2 6.06%	16 48.48%	5 15.15%	0 0.00%	12	21
12	Narmada	20	0.01	0.9	0.06	5.73	9 45.00%	0 0.00%	0 0.00%	6 30.00%	2 10.00%	3 15.00%	9	11
13	Navsari	21	0.16	2.51	0.015	7.71	15 71.43%	1 4.76%	0 0.00%	3 14.29%	0 0.00%	2 9.52%	16	5
14	Surat	55	0.1	3.03	0.01	3.3	27 49.09%	2 3.64%	0 0.00%	17 30.91%	9 16.36%	0 0.00%	29	26
15	The dangs	24	0.12	1.56	-	-	24 100.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	24	0
16	Vadodara	40	0.03	6.71	0.15	9.87	12 30.00%	3 7.50%	2 5.00%	17 42.50%	3 7.50%	3 7.50%	17	23
17	Valsad	18	0.04	2.47	0.04	4.21	11 61.11%	2 11.11%	0 0.000%	4 22.22%	0 0.00%	1 5.56%	13	5
South Gujarat		**211**	**0.01**	**6.71**	**0.01**	**9.87**	**107** 50.71%	**9** 4.27%	**4** 1.90%	**63** 29.86%	**19** 9.00%	**9** 4.27%	**120**	**91**
18	Amreli	49	0.11	5.72	0.3	18.28	19 38.78%	7 14.29%	2 4.08%	7 14.29%	4 8.16%	10 20.41%	28	21
19	Bhavnagar	39	0.36	7.57	0.03	20.97	17 43.59%	3 7.69%	3 7.69%	7 17.95%	3 7.69%	6 15.38%	23	16
20	Jamnagar	51	0.1	3	0.08	15.11	9 17.65%	1 1.96%	0 0.00%	17 33.33%	6 11.76%	18 35.29%	10	41
21	Junagadh	61	0.02	6.76	0.07	14.03	10 16.39%	6 9.84%	6 9.84%	20 32.79%	11 18.03%	8 13.11%	22	39
22	Porbandar	29	0.22	1.92	0.1	11.48	7 24.14%	0 0.00%	0 0.00%	12 41.38%	2 6.90%	8 27.59%	7	22
23	Rajkot	53	0.05	3.68	0.01	11.02	16 30.19%	4 7.55%	0 0.00%	15 28.30%	10 18.87%	8 15.09%	20	33
24	Surendranagar	46	0.06	3.87	0.01	15.42	15 32.61%	4 8.70%	0 0.00%	15 32.61%	8 17.39%	4 8.70%	19	27
Saurashtra		**328**	**0.02**	**7.57**	**0.01**	**20.97**	**93** 28.35%	**25** 7.62%	**11** 3.35%	**93** 28.35%	**44** 13.41%	**62** 18.90%	**129**	**199**
25	**Kachchh**	**47**	**0.02**	**14.41**	**0.02**	**8.55**	**10** 21.28%	**3** 6.38%	**1** 2.13%	**17** 36.17%	**9** 19.15%	**7** 14.89%	**14**	**33**
26	**Total**	**822**	**0.01**	**14.41**	**0.01**	**20.97**	**295** 35.89%	**59** 7.18%	**24** 2.92%	**247** 30.05%	**101** 12.29%	**95** 11.56%	**378**	**443**
27	Daman	8	0.35	1.07	1.82	4.26	6 75.00%	0 0.00%	0 0.00%	1 12.50%	0 0.00%	1 12.50%	6	2
28	Diu	3	0.51	0.51	0.17	0.64	1 33.33%	0 0.00%	0 0.00%	3 100.00%	0 0.00%	0 0.00%	1	2
UT ofDaman & Diu		**11**	**0.35**	**1.07**	**0.17**	**4.26**	**7** 63.64%	**0** 0.00%	**0** 0.00%	**4** 36.36%	**0** 0.00%	**1** 9.09%	**7**	**4**
Grand Total		**833**	**0.01**	**14.41**	**0.01**	**20.97**	**302** 36.25%	**59** 7.08%	**24** 2.88%	**251** 30.13%	**101** 12.12%	**96** 11.52%	**385**	**447**

3.4.2.4 Decadal average of January(2007-2016) to January 2017

A comparison of the water level of the January 2017 with the average water level of the January for last one decade (2007-2016) **Fig 26** & **Table 18** reveals that there is a fall in water level in the state (53% of well analysed). Rise and fall is mostly in the range of 0 to 2m. Fall of more than 4m is observed mostly in Saurashtra and Kachchh region and occur as isolated patches scattered in North Gujarat region. The maximum rise of 11.67 m is recorded in Ugardi of Kachchh district whereas the maximum fall of 20.78 m is recorded in Kundeli in Bhavnagar district.

In North Gujarat 50% of wells are shown rise with mostly well are in range of 0 to 2 m (32% of wells) fall also 50% with 31% in the range of 0-2 m. A prominent patch of fall of water level is located Anand, Dohad, Panchmahals and Sabarkantha districts.

In south Gujarat, the rise 45% for this decadal variation. The rise and fall mainly in the range of 0 to 2 m (41% rise & 37% fall). More than 2m fall is found in all over the region.

In Saurashtra region, about 25% of wells observed fall in water level and out of which 29% wells shows rise in the range of 0 to 2m. Fall of water level more than 4m are experienced in 14% of the total well in region as isolated patches. Rise in the water level in the region 47%.

In Kachchh, 70% of the total wells analysed are recorded fall in water level in the district. Fall is mostly (60% of wells) in the range of 0 – 4 m. Rise is mainly observed in the range of 0 – 2 m in eastern part of Kachchh and has 26% of total wells.

In Union Territory of Daman & Diu, rise and fall is observed. The rise range 0.06 to 1.60m and fall 1.77 to 2.78 m.

Fig- 26

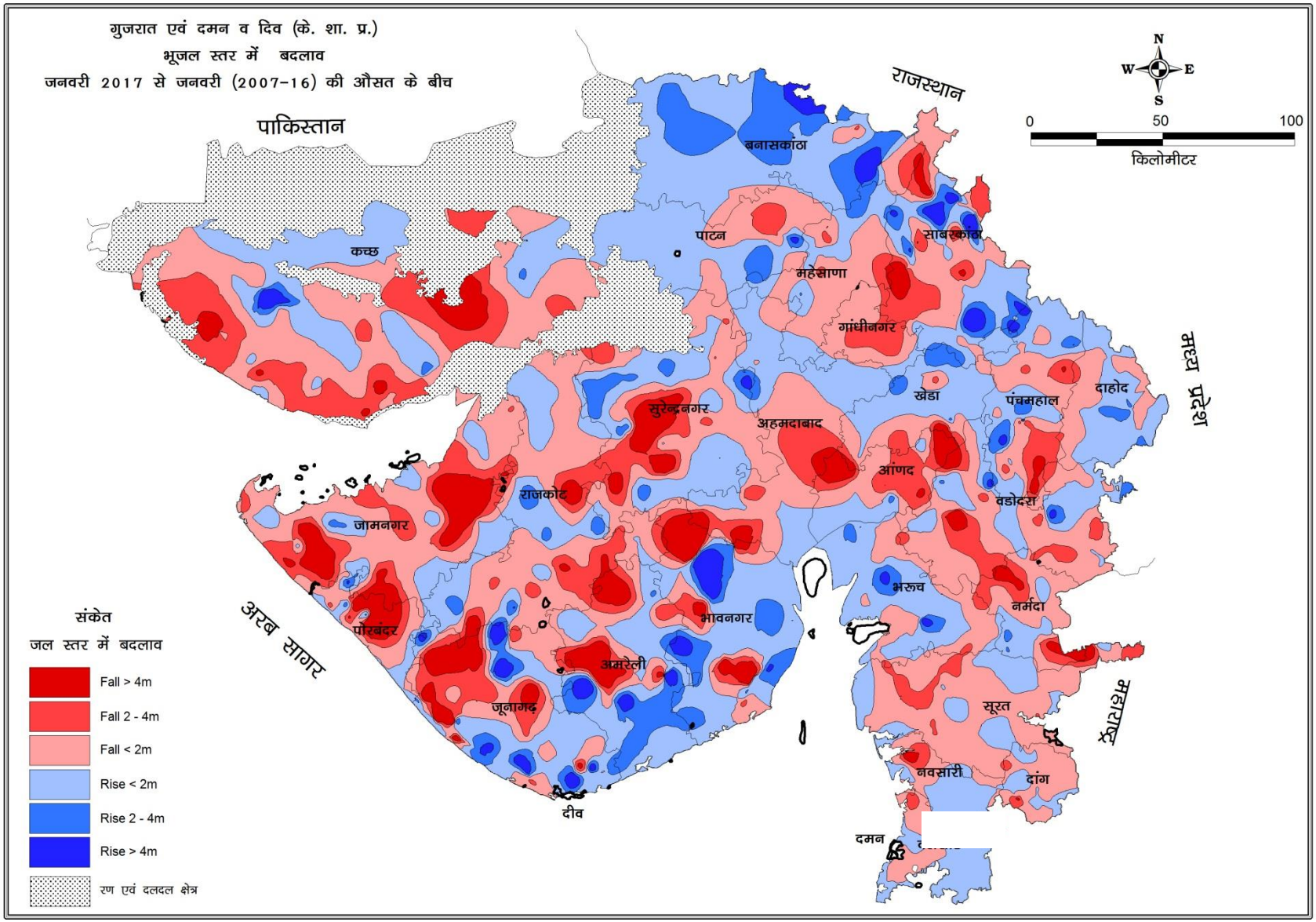

गुजरात एवं दमन व दिव (के. शा. प्र.)
भूजल स्तर में बदलाव
जनवरी 2017 से जनवरी (2007-16) की औसत के बीच
पाकिस्तान
राजस्थान
मध्य प्रदेश
महाराष्ट्र
अरब सागर
N
W
E
S
0
50
100
किलोमीटर
बनासकांठा
पाटन
साबरकांठा
कच्छ
महेसाणा
गांधीनगर
खेडा
दाहोद
पंचमहाल
सुरेन्द्रनगर
अहमदाबाद
आंणद
राजकोट
वडोदरा
जामनगर
भरूच
नर्मदा
पोरबंदर
भावनगर
अमरेली
सूरत
जूनागढ
नवसारी
दांग
दीव
दमन
संकेत
जल स्तर में बदलाव
Fall > 4m
Fall 2 - 4m
Fall < 2m
Rise < 2m
Rise 2 - 4m
Rise > 4m
रण एवं दलदल क्षेत्र

Table-19

WELL WISE CATEGORISATION OF CHANGES IN WATER LEVEL DURING JANUARY 2016 WITH RESPECT TO DECADAL AVERAGE OF JANUARY (2006 To 2015)

Sr. No.	District Name	No of well analysed	Range of Fluctuation (m)				No. of Wells Showing Fluctuation						Total No. of Wells	
			Rise		Fall		Rise			Fall				
			Min	Max	Min	Max	0 to 2	2 to 4	>4	0 to 2	2 to 4	>4	Rise	Fall
1	Ahmedabad	25	0.37	4.28	0.01	5.41	7 28.00%	2 8.00%	2 8.00%	8 32.00%	5 20.00%	1 4.00%	11	14
2	Anand	13	0.79	3.91	0.26	6.7	2 15.38%	1 7.69%	0 0.00%	5 38.46%	4 30.77%	1 7.69%	3	10
3	Banaskantha	20	0.16	7.38	0.16	2.7	6 30.00%	3 15.00%	5 25.00%	5 25.00%	1 5.00%	0 0.00%	14	6
4	Dohad	20	1.01	1.01	0.64	8.26	1 5.00%	0 0.00%	0 0.00%	11 55.00%	6 30.00%	2 10.00%	1	19
5	Gandhinagar	5	0.28	2.09	-	-	4 80.00%	1 20.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	5	0
6	Kheda	17	0.09	5.18	0.4	12.2	2 11.76%	0 0.00%	1 5.88%	9 52.94%	4 23.53%	1 5.88%	3	14
7	Mahesana	23	0.47	7.64	0.09	1.26	11 47.83%	5 21.74%	3 13.04%	4 17.39%	0 0.00%	0 0.00%	19	4
8	Panchmahals	25	0.1	2.99	0.59	16.65	3 12.00%	1 4.00%	0 0.00%	7 28.00%	9 36.00%	5 20.00%	4	24
9	Patan	8	0.11	8.24	0.05	2.42	3 37.50%	0 0.00%	2 25.00%	1 12.50%	2 25.00%	0 0.00%	5	3
10	Sabarkantha	36	0.06	5.42	0.71	8.15	12 33.33%	6 16.67%	1 2.78%	7 19.44%	4 11.11%	6 16.67%	19	17
North Gujarat		**192**	**0.06**	**8.24**	**0.01**	**16.65**	**51** 26.56%	**19** 9.90%	**14** 7.29%	**57** 29.69%	**35** 18.23%	**16** 8.33%	**84**	**111**
11	Bharuch	35	0.02	7.95	0.09	7.98	9 25.71%	2 5.71%	2 5.71%	13 37.14%	7 20.00%	1 2.86%	13	21
12	Narmada	18	0.36	1.83	0.32	5.26	3 16.67%	0 0.00%	0 0.00%	10 55.56%	3 16.67%	2 11.11%	3	15
13	Navsari	21	0.2	2.56	0.02	3.79	7 33.33%	1 4.76%	0 0.00%	9 42.86%	4 19.05%	0 0.00%	8	13
14	Surat	57	0.04	4.34	0.02	7.58	13 22.81%	1 1.75%	1 1.75%	29 50.88%	11 19.30%	2 3.51%	15	42
15	The dangs	24	0.02	0.63	0.01	2.89	7 29.17%	0 0.00%	0 0.00%	14 58.33%	3 12.50%	0 0.00%	7	17
16	Vadodara	46	0.01	11.28	0.07	6.21	9 19.57%	1 2.17%	4 8.70%	14 30.43%	13 28.26%	5 10.87%	14	32
17	Valsad	18	0.08	1.77	0.05	7.33	5 27.78%	0 0.00%	0 0.00%	12 66.67%	0 0.00%	1 5.56%	5	13
South Gujarat		**219**	**0.01**	**11.28**	**0.01**	**7.98**	**53** 24.20%	**5** 2.28%	**7** 3.20%	**101** 46.12%	**41** 18.72%	**11** 5.02%	**65**	**153**
18	Amreli	51	0.13	6.19	0.32	15.02	12 23.53%	7 13.73%	2 3.92%	17 33.33%	5 9.80%	8 15.69%	21	30
19	Bhavnagar	42	0.01	8.4	0.1	10.72	11 26.19%	2 4.76%	3 7.14%	10 23.81%	6 14.29%	10 23.81%	16	26
20	Jamnagar	49	0.27	1.76	0.02	15	3 6.12%	0 0.00%	0 0.00%	15 30.61%	9 18.37%	22 44.90%	3	46
21	Junagadh	60	0.45	3.8	0.12	19.41	7 11.67%	4 6.67%	0 0.00%	21 35.00%	12 20.00%	16 26.67%	11	49
22	Porbandar	26	0.98	1.34	0.05	20.41	2 7.69%	0 0.00%	0 0.00%	8 30.77%	3 11.54%	13 50.00%	2	24
23	Rajkot	52	0.06	4.18	0.45	9.03	12 23.08%	5 9.62%	2 3.85%	21 40.38%	5 9.62%	7 13.46%	19	33
24	Surendranagar	49	0.2	7.76	0.03	12.93	9 18.37%	6 12.24%	4 8.16%	15 30.61%	12 24.49%	3 6.12%	19	30
Saurashtra		**329**	**0.01**	**8.40**	**0.02**	**20.41**	**56** 17.02%	**24** 7.29%	**11** 3.34%	**107** 32.52%	**52** 15.81%	**79** 24.01%	**91**	**238**
25	**Kachchh**	**47**	**0.13**	**5.43**	**0.09**	**10.03**	7 14.89%	6 12.77%	4 8.51%	17 36.17%	8 17.02%	5 10.64%	17	30
26	**Total**	**787**	**0.01**	**11.28**	**0.01**	**20.41**	**167** 21.22%	**54** 6.86%	**36** 4.57%	**282** 35.83%	**136** 17.28%	**111** 14.10%	**257**	**532**
27	Daman	9	0.36	0.6	0.4	3.86	2 22.22%	0 0.00%	0 0.00%	4 44.44%	3 33.33%	0 0.00%	2	7
28	Diu	2	0.05	0.05	0.56	0.56	1 50.00%	0 0.00%	0 0.00%	1 50.00%	0 0.00%	0 0.00%	1	1
UT ofDaman & Diu		**11**	**0.05**	**0.60**	**0.40**	**3.86**	**3** 27.27%	**0** 0.00%	**0** 0.00%	**5** 45.45%	**3** 27.27%	**0** 0.00%	**3**	**8**
Grand Total		**798**	**0.01**	**11.28**	**0.01**	**20.41**	**170** 21.30%	**54** 6.77%	**36** 4.51%	**287** 35.96%	**139** 17.42%	**111** 13.91%	**260**	**540**

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 Kacchh. 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 it's coasts. High chemical concentrations mostly occur in coastal regions due to seawater intrusion brought by upcoming 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 Ground Water Board (WCR), Ahmedabad has monitored a total number of 606 water samples collected during May 2016, 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 73 water samples were collected for Iron analysis from the identified locations. The samples for Iron analysis was collected in 250ml 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 Ground water 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 606 water samples collected and analyzed for different chemical parameters from National Hydrograph Network Monitoring Station Samples out of which 606 were for basic parameters and 73 for Iron analysis spread over 33 districts of Gujarat and UT of Daman & Diu, 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: -

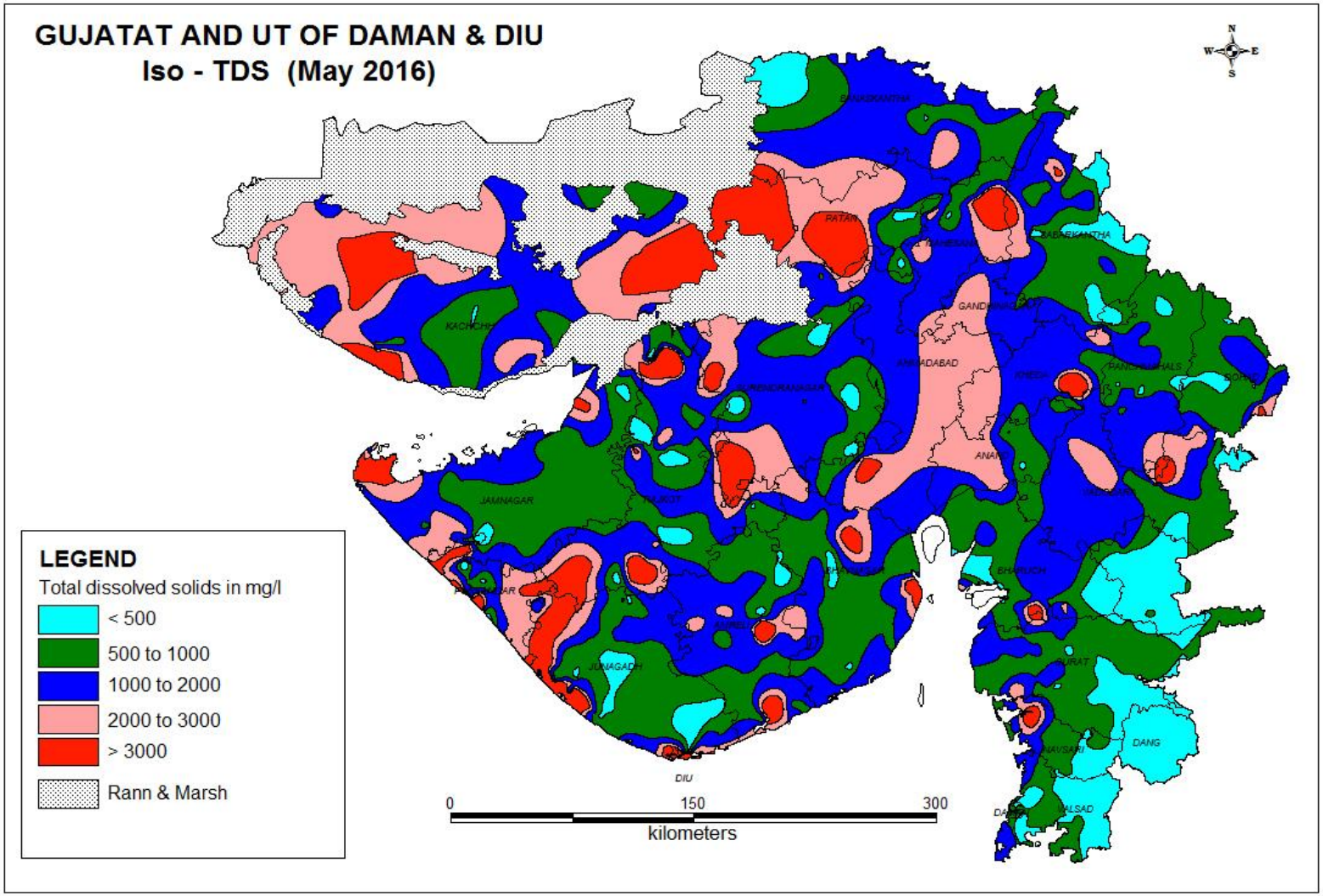
4.2.1 The Electrical conductivity

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 < 1500uS/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 599 water samples 104 samples show EC value more than 3200 uS/cm, which indicates the gravity of salinity problem in the area. The map showing of total dissolved solid in state is represented in **fig 27**.

A close observation of the **Annexure-V** reveals High **EC Values** > 3200 uS/cm have been found in 103 number of samples out of 606 total number 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 at Dhanduka 10980 **Ahmedabad**, Bhuva 11530 **Amreli**, Gomti Mata 10640, Jolawadi 13030 **Diu**, Samrasar 10650 **Jamnagar,** Antroli 10410, Arena 10250, Maktupur1 10680, Shardagram 12250,**(Junagarh)** , Motichander 11450, Santhalpur 10895 **Patan**. Ratanpur 10790 **Porbander** Amarnagar 14250 **Rajkot**, Brackish nature of water is also eminent in Barwala 5440 **Ahmedabad**, Jafrabad 3454, Vankiya 3400, Fifad 4290, Lotpur 7450 **Amreli**, Dali 3694, Laxmipura 4159 **Anand**, Palanpur 2 3600 **Banaskantha**, Panoli 6044, Valia 3574 **Bharuch**, Bhumbali 5451, Tardhrra 3476, Ghogha 6504, Ayodhyapuram 5724 **Bhavnagar**, Diu 4486 **Diu**, Garbara 4650 **Dahod**, serthapara 3694 **Gandhinagar**, Bedanpur 4655, Kalyanpur 2 3979, khirsara 3248, Pindara 3526, Mojap 5226, Varwada 8026, Ambaliya 4443, Lambha 4255 **Jamnagar**, Kanek 9891, Khambaliya 3926, kukaswada 8320, Bantwa 5505, Bamanwara 8244, Kalej 7280, Lohej 8453, Sepa 3973, Silbander 4275 **Junagadh**, Bambhedai, 8230, Ugadi 7514, Vadala 3905, Kothara 3750, Tera 5000, Samkhiari 4385, Moticher 4000, Chandernagar 3904,

Lilpur 6861, Rapar 2 4207, Siranivandh 6640, **kacchh,** Juna vasadra 4370**,** Shekhupura 4253, Muliyad 9879, **Kheda**, Unad 9000, Maguna 4260, unawa 4090, **Mahesana**, Navsari 1 6349 **Nasari**, Patan 2 3260, Radhanpur 2 3548, Piprala 6040, **Patan**, Kadegi 4075, Kutiyana 5027, Balej 4520, Bhavpura 5145, Kuchadi 5194, Oddar 7584, Pata 3201, mojieana 6729, Ratadi 4310, Visawada 5223, Kandorna 4360, **Porbander**, Patanvav 4987, Chordi 3360, Kamlapur 4779,. Jetpur pithad 7791, Mota dhansura 4106, Movaiya 3423, Chattar 3869, Ganod 5326, Upletha 5215, Padadhari 5319, Modpar 5564, **Rajkot**, Khedbrhma 3253, Silwad 4900, **Sabarkantha**, Valecha 6201, Sachin Town 3660, Anita 6003, **Surat**, Kharaghoda 3904, Sudamda 4295, Moti moladi 5452, Mathak 5578, Miyani 3891 **Surendranagar**, Amreshwar 3629, Govindpura 5417, Saidal 4211 **Vadodara** having EC in the range of 3200 uS/cm-10000uS/cm. In most other parts of the state water is almost fresh with respect to EC and salinity.

Fig- 27


GUJATAT AND UT OF DAMAN & DIU
Iso - TDS (May 2016)
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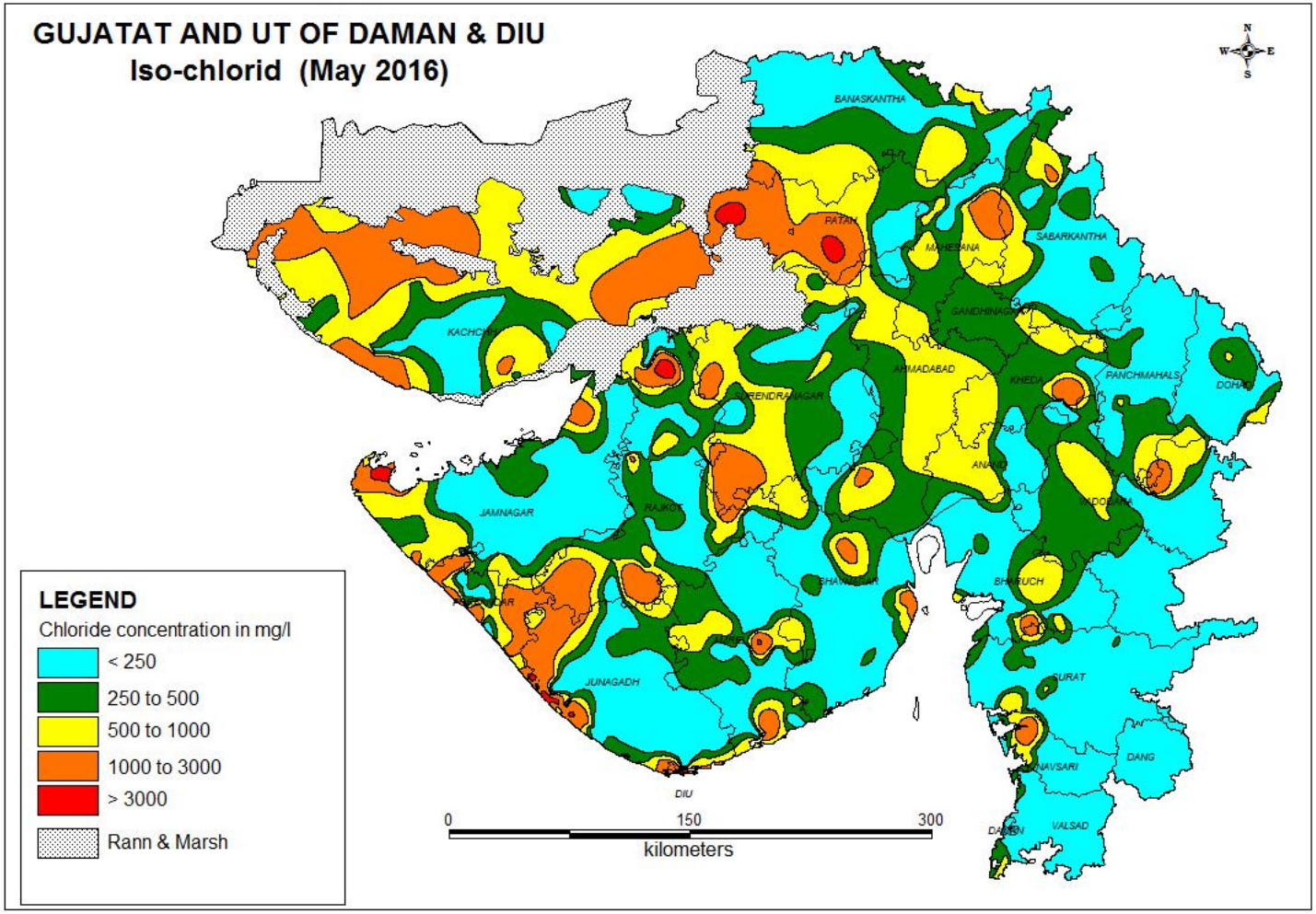
S
LEGEND
Total dissolved solids in mg/l
< 500
500 to 1000
1000 to 2000
2000 to 3000
> 3000
Rann & Marsh
KACHCHH
PATAN
JAMNAGAR
JUNAGADH
DIU
DANG
0
150
300
kilometers

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 28**.

A close observation of the **Annexure-IV**, High **Chloride** > 1000mg/L have been found in 63 numbers of samples out of 599 total number of samples analyzed indicating saline nature of water in most part of the state. That maximum chloride value is observed in western parts of the state to the extent of Chloride having >5000 mg/L, showing high salinity problem at Vinjhan 1 5141mg/L, Kacchh, Motichander 11132mg/l (Patan) , Khara ghoda 24318mg/L Surendranagar. Chloride values ranging between 1000 –5000 mg/L have been found in , Dalod 4402mg/L,Gamph 1028mg/L,Viramgam2 1250 mg/l (Ahmedabad), Bhuva 2304mg/l, (Amreli).Panoli 1631mg/l, (Bharuch), Vallbhipur 1382mg/L, Tardhera 2056mg/L (Bhavnagar), Jolawadi 1064mg/L Diu, Varwada 2801mg/l, Mojap 1702mg/l ,Samrasar 31917mg/l, Kalyanpur 1205mg/l , Kajoda 1489mg/L,Bedanpur 1028mg/L, Lambha 1134mg/L (Jamnagar), Antroli 3479mg/l, Khambaliya1 2308mg/l, Lohej 2201mg/l, Shardagram 3195mg/l , Bamanwara 2592g/l, Chorwad 3337mg/l, Maktupur1 3408mg/l, SIl 1598mg/L, Kanek 2308mg/l ,Arena 2592mg/L, Bantwa 1747mg/L, Kalej 2059mg/L, Khorada 1 1420mg/L (Junagarh) , Lilpur 2482mg/l, Ughedi 2375mg/L, Bambhedai 1985mg/L, Vadala 1063mg/L, Sukhpar 2730mg/L, Khavda 2836mg/L Devisar 1418mg/L, Ratanpur Khadir 1099mg/L, Samkhiari 1134mg/L, Shinaya 1347mg/L, Moticher 1064mg/L, Desalpur RaPAR 1985MG/l (Kacchh) ,Alina 2286mg/L (Kheda), Unad 1527mg/l, (Mahesana), Navsari 1 2095mg/l (Navsari) , Piprala 1631mg/L (Patan), Bhavpura 1666mg/l, , Oddar 1420mg/l, Kuchadi 1276mg/l , Mojieana 1985mg/l, , Kadegi 1008mg/L, Ratanpur 1846g/L, Visawada 1311mg/L (Porbander), Amarnagar 2911mg/l, Ganod 1704mg/L, Pedhla 1463mg/L, Chordi 1377mg/L l(Rajkot), Silwad 1250mg/l, (Sabarkhantha), Moti moladi 1278mg/l, Shiyani 1065mg/L(Surendranagar), Govindpura 1702mg/l, Saidal 1028m Vadodara). In most of the other places chloride problem is not eminent.

Fig- 28


GUJATAT AND UT OF DAMAN & DIU
Iso-chlorid (May 2016)
N
W
E
S
BANASKANTHA
PATAN
MAHESANA
SABARKANTHA
GANDHINAGAR
KACHCHH
AHMADABAD
KHEDA
PANCHMAHALS
DOHAD
SURENDRANAGAR
ANAND
JAMNAGAR
RAJKOT
BHARUCH
JUNAGADH
SURAT
DANG
NAVSARI
DIU
VALSAD
DAMAN
0
150
300
kilometers
LEGEND
Chloride concentration in mg/l
< 250
250 to 500
500 to 1000
1000 to 3000
> 3000
Rann & Marsh

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 ground water. Some chemical and microbiological processes such as nitrification and denitrification also influence the nitrate concentration in ground water. The map showing distribution of nitrate in the state is represented in **Fig 29**.

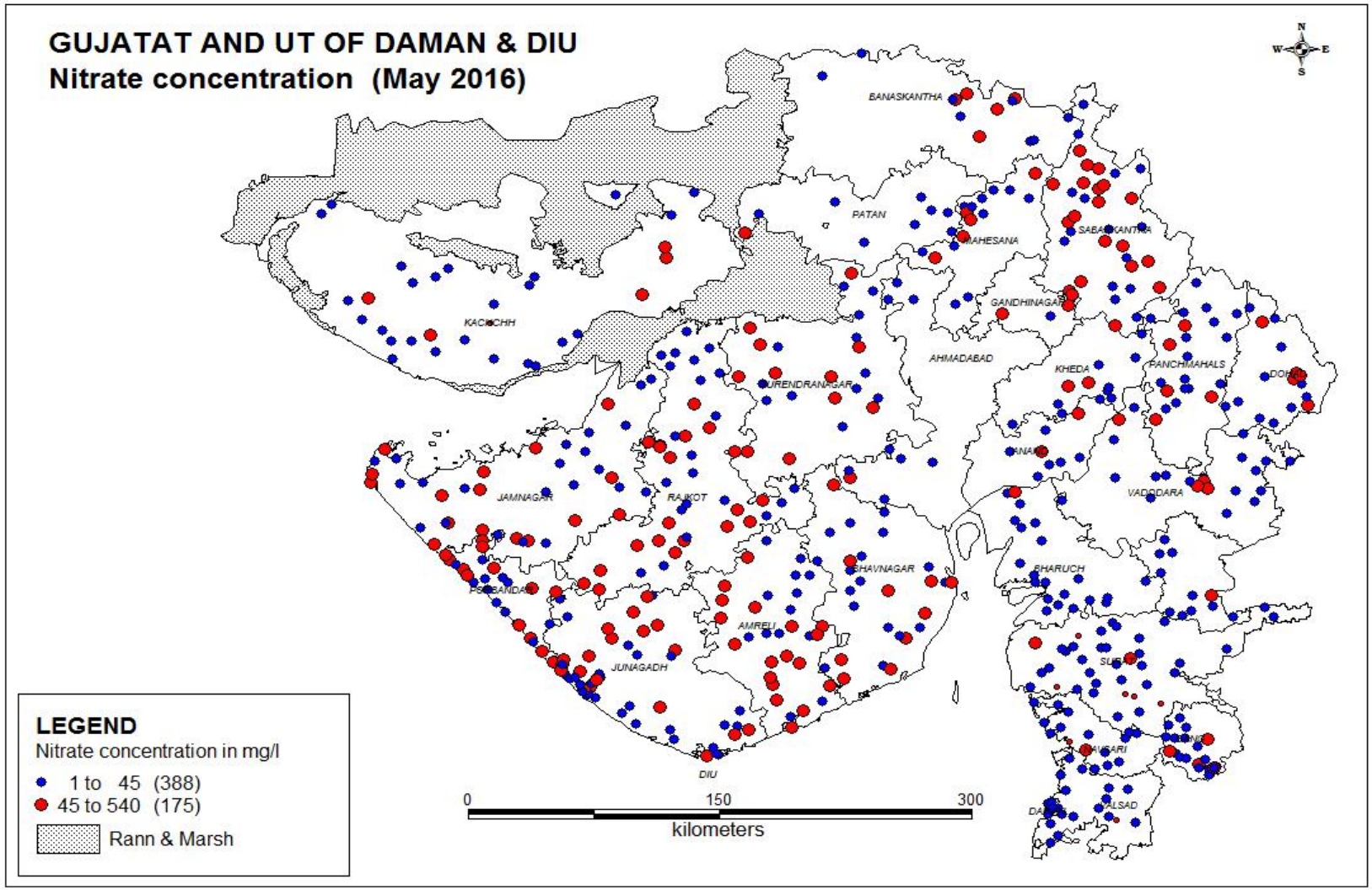
As per the BIS standard for drinking water the maximum desirable limit of nitrate concentration in groundwater is 45 mg/l .Though nitrate is considered relatively non-toxic, a high nitrate concentration in drinking water is an environmental health concern arising from increased risks of methaemoglobinemia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

High Nitrate > 45mg/L,(**Annexure V**) have been found in 179 number of samples out of 599 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. Nitrate value have been found in the range of 100mg/l– 400mg/l at 220mg/l Goradka, 210mg/l Bhuva,225mg/l Bagasara, 230mg/L Badhda, Govadka 105mg/L, Ankadia Mota 115mg/L, Dhari 125mg/l, Veerpur 114mg/L,Fifad 185mg/L (Amreli). Amirgarh 115mg/L, Ratanpur 2 110mg/L (Banaskantha), 130mg/l Kavi, (Bharuch), 114mg/L Vavdi, 135mg/L Shantinagar, 108mg/L Bhutia (Bhavnagar), 200mg/l Dahod UrbanII, 220mg/l Dahod I, 105mg/L Dhanpur, 400mg/L Garbara (Dahod), 126mg/L Gomtimata (Diu), 140mg/L Paliya (Gandhinagar), 160mg/l Bed, 120mg/L Vadtara, 102mg?l Bedanpur, 190mg/L Khirsara, (Jamnagar), 110mg/L Seriakhan, 130mg/L Kalej (Junagardh), 110mg/l Samkhiyari, (kacchh), 175mg/L Ladvel, 105mg/L Shekhupura, (Kheda), 185mg/L Unjha (Mehsana), 230mg/L Nemaria, (Narmada), 135mg/L Ranipura, (Panchmahal), 245mg/L Patan 2, 150mg/L Piprala (Patan), 175mg/l Palkheda , 108mg/L Bakhrala (Porbander), 150mg/l Kamlapur, 105mg/L Dhoraji 1, 140mg/L Hadmadia, 120mg/L Mota Dadwa, 125mg/L Jaspur, 120mg/L Jasdan

2, 105mg/L Movaiya (Rajkot),135g/l Boral, 190mg/l Choriwad, 100mg/l Silwad, , 140mg/l Gadada, 115mg/l Kesarpur-Idar, 165mg/l Khedbramah,120mg/l Matoda, 140mg/l Wadali, 130mg/L Gadha 1, 130mg/L varwada, 125mg/L Idar, 125mg/L Modasa 2, 125mg/L Seenawad, 130mg/L Matha Suliya (Sabarkhantha), 130mg/L Mandvi2, 105mg/L Nizar 1 (Surat), 165mg/l Sukhpar, 145mg/l Motimoladi, 215mg/l Sudamda (Suredranagar), 130mg/L Saidal (Vadodara)

In addition to above critically nitrate affected locations, 112 water samples at different locations have been found to contain nitrate in the range of 45mg/l- 100mg/l representing of nitrate content . In most of other places having nitrate < 45mg/l there is no problem with respect to nitrate pollution

Fig- 29


GUJATAT AND UT OF DAMAN & DIU
Nitrate concentration (May 2016)
N
W
E
S
BANASKANTHA
PATAN
MAHESANA
SABARKANTHA
GANDHINAGAR
KACHCHH
AHMADABAD
KHEDA
PANCHMAHALS
DOHAD
SURENDRANAGAR
JAMNAGAR
RAJKOT
VADODARA
BHAVNAGAR
BHARUCH
PORBANDAR
AMRELI
JUNAGADH
SURAT
NAVSARI
DIU
VALSAD
LEGEND
Nitrate concentration in mg/l
1 to 45 (388)
45 to 540 (175)
Rann & Marsh
0
150
300
kilometers

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 30**.

It is well known that small amount of fluoride (>1.0 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 (>1.5mg/l) have resulted in staining of tooth enamel while at still higher levels of fluoride (> 5.0 mg/l) further 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 >1.5mg/l, (**Annexure VI**) which is mainly attributed due to geogenic conditions, have been observed in 46 water samples out of 599 water samples analyzed. Fluoride values to the extent of 4.50 mg/l Barvala, 2.80 mg/L Dalod, 1.92mg/l Tagadi (Ahmedabad**)**, 2.50 mg/L Victor (Amreli,), 1.80 mg/l Ganapipli and 2.30 mg/L khoda (Banaskantha), 2.84mg/l Sajod (Bharuch), 4.35 mg/l Ayodhayapuram, 2.96mg/L Vallabhipur, 1.75mg/l Ningala (Bhavnagar**)**, 2.80 mg/l Garbara, 2.66mg/l Badpa,2.56mg/l Dahod Urban3,2.60 mg/l Dahod1, 2.50mg/l Khandaniya (Dohad**)**, 3.00mg/l Samrasar 2.20 mg/L Bhogat, 2.98mg/l Kalyanpur1, 1.80mg/l Mojap, 3.00mg/l Ambaliya, 2.16 Aramda (Jamnagar), 2.68 mg/l Kothara (Kacchh**)**, 2.50 mg/l Kapadvanj (Kheda), 1.80mg/l unad and 1.90 Dosaj (Mahesana**)**, 2.80mg/l Dhanol nani, 1.60mg/l Natapur, 1.80 mg/l Khadki,1.70mg/l Ranipura, 1.70mg/l Santrampur1 (Panchmahal), 3.00mg/l Piprala, (Patan), 1.60mg/l Degam (Porbandar), 2.90 mg/l Amarnagar, 2.34mg/l Ganod, 2.70mg/l Upleta (Rajkot), 2.56mg/l Sabalwad and 2.60mg/l Idar (Sabarkhantha), 3.52mg/l Ratanpur1, 2.20mg/l Muli, 1.60mg/l Dhama, 1.55mg/l Lakhtar, 2.20mg/l Dhandhalpur (Suredranagar**),** 1.94mg/l Motichikhali, 2.36mg/l Chotaudaipur, 1.92mg/l Vega, 2.90mg/l Masor, (Vadodara), have been observed indicating prominence of fluoride problem in these areas.

Fig- 30

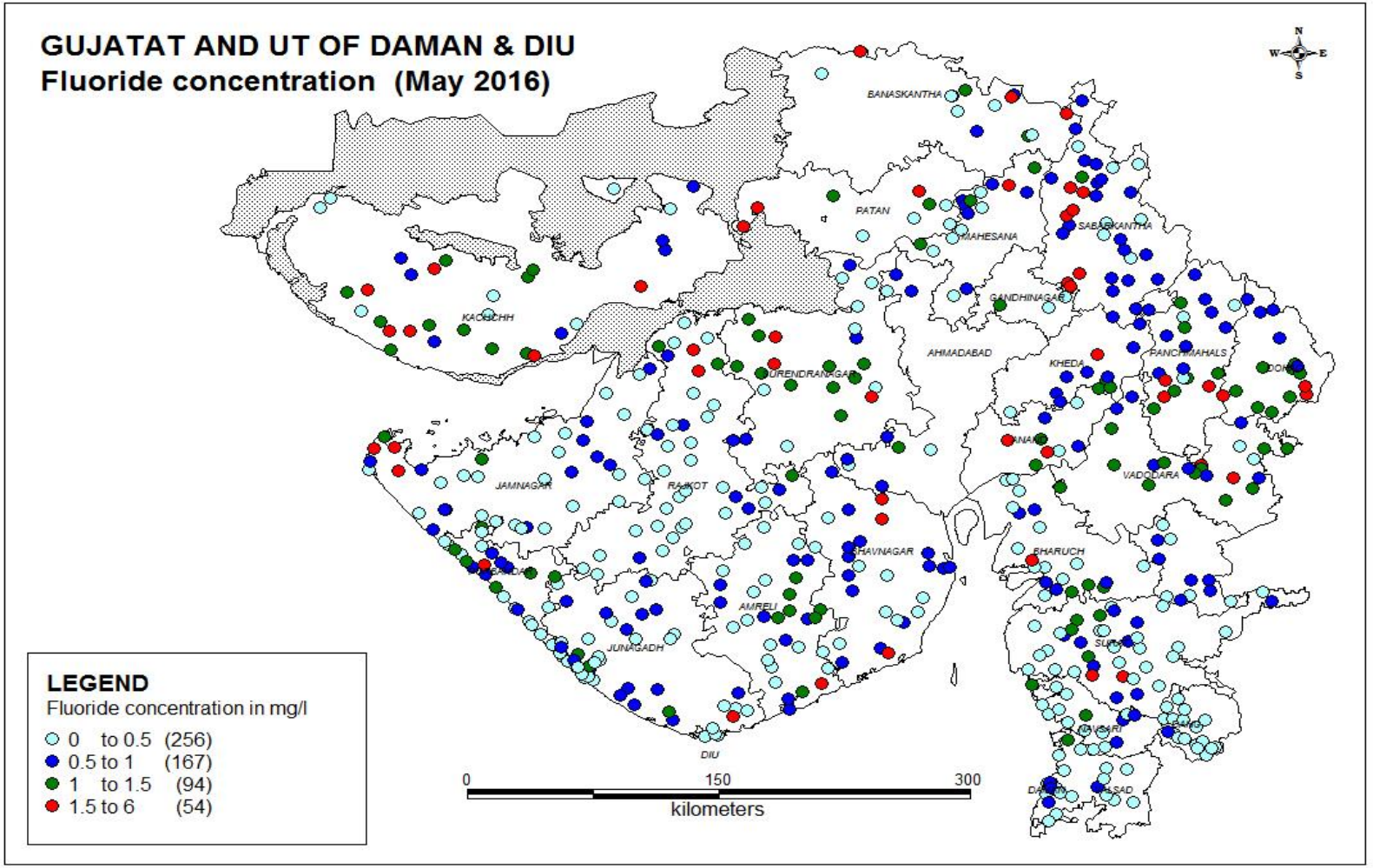

GUJATAT AND UT OF DAMAN & DIU
Fluoride concentration (May 2016)
N
W
E
S
BANASKANTHA
PATAN
MAHESANA
SABARKANTHA
GANDHINAGAR
AHMADABAD
KHEDA
PANCHMAHALS
SURENDRANAGAR
JAMNAGAR
RAJKOT
VADODARA
BHAVNAGAR
BHARUCH
AMRELI
JUNAGADH
DIU
LEGEND
Fluoride concentration in mg/l
0 to 0.5 (256)
0.5 to 1 (167)
1 to 1.5 (94)
1.5 to 6 (54)
0
150
300
kilometers

Table 20

Distrct wise range distribution of pollutioin parameters observed during NHS monitoring 2016

S.N.	District	samples analysed for Basic	No of samplese with EC > 3200 uS/cm	No of samplese with Cl > 1000mg\L	No of samples with NO3 > 45mg/L	No of samplese with F > 1.5 mg\L	samples analysed for Iron	No of samples with > 0.3 mg\L
1	Ahmedabad	11	5 (Max.14520,Dalod)	3 (Max.4361,Dalod)	2 (Max.250,Rajpara)	5(Max.3.25,Barwala)	2	1(Max 0..40,Dalod)
			6(Min.698,Endla)	8(Min.35,Endla)	9(Min.2,Endla)	6(Min.0.25,Gamph)		1(Min.0.10,Mandal 2)
2	Amreli	34	5 (Max.12150,Bhua)	2(Max.3408,Bhuva)	14 (Max.330,Goradka)	4 (Max.2.05,Kadiyali)	13	3(Max.0.76,Punjapadar)
			29(Min.580,Chavand)	32(Min.36,Chavand)	20(Min.3,Victor)	30(Min.0.08,Goradka)		10(Min.0.00,Piyavav)
3	Anand	11	2(Max.4278,Kansari 1)	0 (Max.993,Kansari 1)	2 (Max.115,Ghora)	1(Max.2.00,Ras)	0	
			9(min.680,Utiyapara)	11(Min.42,Utiyapara)	9(Min.2,Utiyapara)	10(Min.0.0.15,Utiyapara)		
4	Banaskantha	14	2(Max. 3942,Amirgarh)	0 (Max. 993,Amirgarh)	6 (Max.100,Amirgarh)	2(Max.4.20,Khoda)	8	0(Max.0.05,Amirgarh)
			12(Min.517,Bharol 1)	14(Min.35,Bharol 1)	8(Min.6,Bharol 1)	12(Min.0.10,Bharol 1)		8(Min.0.00,Kidotar)
5	Bharuch	35	6(Max.16130,Sindhav)	4(Max.5814,Sindhav)	4(Max.180,Kavi)	2 (Max. 2.10,Sajod)	19	5 (Max.6.25,Nirnavi)
			29(Min. 490,Arethi)	31(Min. 21,Arethi)	31(Min. 1,Roza tankariya	33(Min.0.03,Roza tankariya)		14(Min.0.00,Bharuch)
6	Bhavnagar	35	7(Max.7366,Bhumbali)	4(Max.1882,Bhumbali)	16 (Max. 380,Ghogha)	4(Max. 4.40,Ayodhyapuran	12	1(Max.0.65,Tardhera)
			28(Min.404,Timbi 2)	31(Min. 43,Timbi 2)	19(Min.2,Datha)	31(Min.0.10,Timbi 2)		11(Min.0.00,Longadi)
7	Daman	7	0(Max.1460,Warkhund)	0 (Max. 262,Warkhund	0 (Max.42,Jempore)	0 (Max 0.70,Warkhund)	0	
			7(Min.701,Dalwada)	7(Min.43,Manawad)	7(Min.1,Dalwada)	7(Min.0.14,Manwad)		
8	Dahod	19	1 (Max. 5303,Garbada)	1 (Max.1136, Garbara)	5 (Max. 205,Dahodurban2	5 (Max.2.90,Badpa).	8	1(Max 2.04,Thada)
			18(Min.437,Thada)	18(Min.14,Dahod 2)	14(Min. 3, limbdi 2)	14(Min.0.55,Dahod urban 3)		7(Min.0.00 Dahod urban 3)
9	Diu	3	2(Max.11700,Jolawadi)	1(Max.3728,Jolawadi)	1 (Max. 135,Gomtimata)	0(Max.0.70,Gomtimata).	3	1(Max 0.57,Diu)
			1(Min.1208,Diu)	2(Min.135,Diu)	2(Min.1 3,Diu)	3(Min.0.15,Jolawadi)		2(Min.0.00 Gomtimata)
10	Gandhinagar	2	0 (Max. 3100,Serthapara	0 (Max. 319,Serthapar	1 (Max.100,Paliya)	1 (Max. 2.10,Serthapara).	2	0(Max.0.00,Serthsapara)
			2(Min.1906,Paliya)	2(Min.227,Paliya)	1(Min.34,Serthapara)	1(Min.1.10,Paliya)		2(Min. 0.00Paliya)
11	Jamnagar	40	9(Max.11280,Samrasar)	7(Max.3657,Samrasar)	19 (Max. 250,Bed)	5 (Max. 3.48, Samrasar)	5	2 (Max.6.40,Bhanwad)
			31(Min. 645,Vizarkha)	33(Min.64,Vizarkha)	21(Min. 2,Pindara)	35(Min. 0.12,Vizakha)		3(Min.0.00,Kalwad)
12	Junagadh	50	13(Max.10233,Bamanwa	11 (Max. 3515,Chorwa	18(Max. 155,Khorada)	1 (Max. 2.30, Una)	12	3(Max. 1.70,Keshod)
			37(Min. 519,Jagrala)	39(Min. 28, Jagrala)	32(Min. 2, Jagrala)	49(Min. 0.05,Alwani)		9(Min.0.00, Kukaswasda)
13	Kachchh	41	19 (Max. 28360,Kharoi)	13(Max. 8190,Kharoi)	5 (Max. 200,Samkhiyari)	1 (Max.2.20,Kharoi)	13	6(Max 4.90,Gagodar)
			22(Min. 590,Sedat)	28(Min. 57, Mandvi)	36(Min. 0, Sedat)	40(Min.0.00 Bhadreshwar)		7(Min.0.00,Kharagoga)
14	Kheda	12	2 (Max.6945,Muliyad)	1 (Max.2304,Muliyad)	1 (Max. 115,Alina)	0 (Max. 0.92,Kalesar)	0	
			10(Min.663,Balasinor 1)	11(Min. 28,Alindra)	11(Min. 1,Nadiyad 2)	12(Min.0.10,Bariyavi)		
15	Mahesana	15	3 (Max. 9124,Unad 1)	2(Max.2304, Unad 1)	4 (Max. 150, Unjha)	1 (Max. 1.76,Kheralu)	12	1 (Max. 0.85,Asjol)
			12(Min. 512,Tarabh)	13(Min.28,Asjol)	11(Min. 2,Tarabh)	14(Min.0.08,Asjol)		11(Min.0.00,Bhandupara)
16	Narmada	16	1 (Max. 4700,Namariya)	0(Max. 908,Namaria)	4 (Max. 720,Nemaria)	0 (Max. 0.87, Suderpura)	8	6(Max. 3.50,Jhankh)
			15(Min. 390,Besana)	16 (Min. 14,Besana)	12 (Min. 0,Khota amba)	16(Min0.02,Khadiapara)		2(Min0.00,Heerapur)
17	Navsari	16	1 (Max 6000,Navsari)	1 (Max. 1879,Navsari)	0 (Max. 24,Unai)	0 (Max. 1.07,Dhanav)	5	0(Max. 0.03,Moti Valzar)
			15(Min. 520,Khergam)	15(Min. 35,Manavkhad	16(Min.1,Sarikhurd)	16(Min.0.15,Dandi)		5(Min.0.00,Unai)
18	Panchmahals	26	0(Max. 3014,Dhanol Nani	0 (Max. 483,Godhara u	4 (Max. 66,Suliyat)	2(Max. 2.70,Dhanol nani)	11	1(Max. 2.55,Sarsawa)
			26(Min. 463,Jawan)	26(Min.57,Limidiya pe	22(Min. 3, Khadki)	24(Min. 0.15,Shivrajpur)		10(Min.0.00,Khadki)
19	Patan	8	3 (Max.20800,Motichand	3 (Max.6878,Motichan	1 (Max.48,Sander)	1 (Max. 2.50,Piprala)	0	

			5(Min. 595,Sander)	5(Min.57,Sander)	7(Min.Radhanpur 2)	7(Min.0.00,Dharmoda)		
20	Porbandar	35	15(Max.8500,Kalej)	12(Max.2911,Kalej)	13 (Max.420,Palkhada)	1(Max.2.10,Kolikhera)	2	2(Max.2.40,Kuchhadi)
			20(Min.806,Patla)	23(Min.92,Kevadra)	22(Min.3,Kadegi)	34(Min.0.05,Pata)		0(Min.0.85,Patla)
21	Rajkot	48	8(Max.14900,Wakaner1)	6 (Max.4864 ,Amarnag	15(Max. 230,Movaiya)	10(Max.4.75,Amarnagar)	5	0 (Max.0.08,Sardhar1)
			40(Min.189,Lodhika1)	42(Min.36,Gavridad)	33(Min.1,Jamwali)	38(Min.0.00,Ribda)		5(Min.0.00,Dadia)
22	Sabarkantha	31	3(Max. 4371,Silwad	1 (Max. 1243, Silwad)	23 (Max.200,Choriwad	4(Max.3.50,Sabbalwad)	17	1(Max.0.78,Sabbalwad)
			28(Min. 701,Virpur2j	30(Min.43,Virpur2)	8(Min. 0,,Kherwada)	27(Min.0.25,Kherwada)		16(Min.0.00,Malpur)
23	Surat	41	0 (Max. 2973,Gangadhara	0(Max.745,Wadoli)	3(Max 125,Mandvi2)	0(Max.1.17,Allu)	23	0(Max. 0.20,Gangatha)
			41(Min.390,Vyara 1)	41(Min.7,Kalkui)	38(Min. 3,Jaisingpura)	41(Min.0.10,Palsana)		23(Min.0.00,Digas)
24	Surendranaga	23	6 (Max. 12576,Sara)	5 (Max. 3621,Sara)	8 (Max. 900,Dhandhalpur	5(Max.5.00,Surendranagar	12	0 (Max.0.06,Bajana)
			17(Min.549,Jhinjhuwada	18(Min.64,Bajana)	15(Min.3,Vanala)	18(Min.0.40,Dheduki)		12(Min.0.00,Muli)
25	The dangs	21	0 (Max. 820,Ahwa 1)	0 (Max. 156,Ahwa)	1(Max.46,Chincingoatha)	0 (Max.. 0.40,Jakana)	15	1(Max.0.60,Dhumkal)
			21(Min.350,Jakana)	21(Min.14,Baripada)	20(Min.1,Dhumkal)	21(Min.0.05,Aherdi)		14(Min.0.00,waghai)
26	Vadodara	31	2 (Max. 7163,Govindpura	1 (Max.2127,Govindpu	6(Max.115,Devat)	5 (Max. 3.20, (Masor)	4	1(Max.0.45,ONGC Campus)
			29(Min.514,Kevadi)	30(Min.21,Kaprali)	25(Min.3,Kevadi)	26(Min.0.15,Suskal)		3(Min.0.00,Rasulpur)
27	Valsad	16	0 (Max.1850, Teethal)	0 (MAX. 333,Muli 1)	0 (Max.17,Vapi)	0 (Max.1.05,Tumb)	4	0 (Max.0.25,Fali)
			16(Min.200,Kapardha)	16(Min.21,Kanadu)	16(Min.1,Muli 1)	16(Min.0.05,Kapardha)		4(Min.0.00,,Lakadmal)
	Gujrat & UT of	641	115(Max. 28360,Kharoi,)	78 (Max. 8190,Kharoi,)	177(Max. 900,Dhandhalpu	60(Max.5.00,Surendranaga	215	36 (Max.6.40,Bhanwad)
	Daman & Diu		526(Min.189,Lodhika 1)	563(Min.7,Kalkui)	464(Min.0,Kherwada)	581(Min.0.00,Ribda)		179(Min.0.00,Lakadmal)

Annexure-I

DISTRICTWISE RAINFALL DATA OF GUJARAT STATE AND UT OF DAMAN & DIU

District	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Average Rainfall in mm (2006 to 2015)	Departure % (Year 2016)
Ahmedabad	907	880	874	328	656	612	413	929	676	458	419	673	-37.76
Amreli	941	1155	828	651	735	689	321	901	524	780	711	752	-5.50
Anand	1339	937	864	405	534	735	604	1160	998	470	492	804	-38.84
Banaskantha	1234	849	436	332	711	775	417	966	514	929	466	716	-34.95
Bharuch	1294	1216	988	678	1011	634	449	1165	727	496	485	866	-43.98
Bhavnagar	663	1010	665	355	628	586	349	933	541	504	652	624	4.57
Dahod	1470	1060	439	493	668	574	692	802	614	446	632	726	-12.92
Gandhinagar	963	1177	522	467	780	697	574	1112	712	641	572	764	-25.18
Jamnagar	630	1159	592	713	799	859	334	934	574	455	675	705	-4.24
Junagadh	1066	1402	1173	865	850	1071	403	1252	1052	677	978	981	-0.32
Kheda	1221	974	731	377	699	552	625	1027	764	436	554	741	-25.20
Kutchh	624	591	469	361	371	667	173	652	298	531	307	474	-35.19
Mehsana	1116	1010	561	397	685	749	386	905	776	679	457	726	-37.08
Narmada	1394	1332	1170	749	1156	1012	673	1686	685	596	733	1045	-29.88
Navsari	2178	1842	2020	1269	2050	1910	1031	2412	1439	1134	1590	1728	-8.01
Panchmahal	1191	922	589	449	881	592	743	1104	804	483	806	776	3.90
Patan	1081	865	534	314	728	717	317	765	556	661	463	654	-29.17
Porbandar	618	935	554	1236	1015	937	201	1114	892	389	624	789	-20.91
Rajkot	771	995	738	507	649	852	307	801	557	583	476	676	-29.58
Sabarkantha	1572	1163	596	641	769	978	704	1135	818	813	816	919	-11.20
Surat	1649	1422	1625	1205	1439	1246	809	2104	918	989	1046	1341	-21.98
Surendranagar	604	724	694	303	367	679	298	672	672	444	355	546	-34.95
The Dang	3512	1846	1979	1324	1634	1635	1527	1742	1706	1368	2201	1827	20.46
UT of Daman	2478	2361	2398	2045	2618	2207	1361	2804	2318	1605	2422	2220	9.12
Ut of Diu	1066	1402	840	908	1183	793	376	1252	905	720	1079	945	14.24
Vadodara	1479	1144	831	472	936	838	671	1443	787	464	675	907	-25.54
Valsad	2478	2361	2471	1883	2342	2283	1708	2804	1961	1472	2500	2176	14.87
STATE	**1316**	**1212**	**970**	**731**	**996**	**958**	**610**	**1281**	**881**	**712**	**859**	**967**	**-11.17**

Source I M D
Govt of India

Annexure - II

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	22
		Rb Of Sabarmati And Upper Part Beyond Hathmati	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	58
		Rivers draining into Arabian Sea (Western part)	5
	Southern Kathiawar Total		63
Amreli Total			21
Anand	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	Rupen	32
	Draining into Gulf of Kutch Total		32
	Luni and other drainage into Great Rann of Kutch	Mainly Luni	8
		Mostly Great Rann Of Kutch	32
	Luni and other drainage into Great Rann of Kutch Total		40
	Sabarmati	Lb Of Sabarmati Upto Hathmati	1
		Rb Of Sabarmati And Upper Part Beyond Hathmati	1
	Sabarmati Total		2
Banaskantha Total			74
Bharuch	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	Upto Kadana Dam	1
	Mahi Total		1
	Southern Kathiawar	Draining Into Gulf Of Khambat	54
		Rivers draining into Arabian Sea (Western part)	1
	Southern Kathiawar Total		54
Bhavnagar Total			55
DAMAN	Sharavati to Tapti	Savitri To Tapti	8
		Sharavati To Savitri	1
	Sharavati to Tapti Total		9
DAMAN Total			9
DIU	Sharavati to Tapti	Savitri To Tapti	
	Sharavati to Tapti Total		
	Southern Kathiawar	Draining Into Gulf Of Khambat	7
	Southern Kathiawar Total		7
DIU Total			7
Dohad	Mahi	Kadana Dam To Jakham Confluence	16
		Upto Kadana Dam	16
	Mahi Total		32
Dohad Total			32
Gandhinagar	Draining into Gulf of Kutch	Rupen	10
	Draining into Gulf of Kutch Total		10
	Sabarmati	Lb Of Sabarmati Upto Hathmati	9
		Rb Of Sabarmati And Upper Part Beyond Hathmati	14
	Sabarmati Total		23
Gandhinagar Total			33
Jamnagar	Draining into Gulf of Kutch	North Flowing Drainage Of Jamnagar	42
	Draining into Gulf of Kutch Total		42
	Southern Kathiawar	Rivers draining into Arabian Sea (Western part)	17
	Southern Kathiawar Total		17
Jamnagar Total			59
Junagadh	Southern Kathiawar	Draining Into Gulf Of Khambat	9
		Rivers draining into Arabian Sea (Western part)	67
	Southern Kathiawar Total		76
Junagadh Total			76
Kachchh	Draining into Gulf of Kutch	South Flowing Drainage Mostly Bhuj Area	41
	Draining into Gulf of Kutch Total		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	Kadana Dam To Jakham Confluence	1

DISTRICT_NAME	BASIN_NAME	SUB_BASIN_NAME	Total
		Upto Kadana Dam	5
	Mahi Total		6
	Sabarmati	Lb Of Sabarmati Upto Hathmati	22
	Sabarmati Total		22
Kheda Total			28
Mahesana	Draining into Gulf of Kutch	Ruper	53
	Draining into Gulf of Kutch Total		53
	Sabarmati	Lb Of Sabarmati Upto Hathmati	2
		Rb Of Sabarmati And Upper Part Beyond Hathmati	6
	Sabarmati Total		8
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	3
		Upto Kadana Dam	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	26
		South Flowing Drainage Mostly Bhuj Area	4
	Draining into Gulf of Kutch Total		30
	Luni and other drainage into Great Rann of Kutch	Mainly Luni	2
		Mostly Great Rann Of Kutch	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	4
		Rivers draining into Arabian Sea (Western part)	26
	Southern Kathiawar Total		30
Rajkot Total			61
Sabarkantha	Sabarmati	Lb Of Sabarmati Upto Hathmati	47
		Rb Of Sabarmati And Upper Part Beyond Hathmati	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	4
		Sea Confluence To Ukai	36
	Tapti Total		40
Surat Total			75
Surendranagar	Draining into Gulf of Kutch	North Flowing Drainage Of Jamnagar	24
		Ruper	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			1267

Annexure_III

WATER LEVELS OF THE NATIONAL HYDROGRAPH STATIONS IN GUJARAT AND UT OF DAMAN & DIU 2016-17

Sl No	Diatrict	Location	lat	long	May-16	Aug-16	Nov-16	Jan-17
1	Ahmedabad	Bagodara_Pz_I	22.642	72.214	7.6	7.34	7.44	8.3
2	Ahmedabad	Bagodara_Pz_II	22.642	72.214	6.89	7.21	6.07	8.75
3	Ahmedabad	Barvala	22.15	71.892	-	11.04	12.8	12.4
4	Ahmedabad	Dalod	23.367	71.967	4.1	4.75	5.05	5.18
5	Ahmedabad	Devalia	22.378	71.986	20.4	7.7	20.4	20.4
6	Ahmedabad	Dhandhuka1	22.375	71.986	4.05	2.82	3.15	3.46
7	Ahmedabad	Endla	23.272	72.058	2.46	3.01	3.24	2.29
8	Ahmedabad	Fedra	22.462	72.158	-	1.87	2.01	2.29
9	Ahmedabad	Gamph	22.358	72.167	4.1	1.71	1.99	2.45
10	Ahmedabad	Ghuma	23.033	72.446	-	2.85	3	3.15
11	Ahmedabad	Ghuma_Pz_I	23.034	72.45	104.78	96.4	97.35	-
12	Ahmedabad	Ghuma_Pz_II	23.034	72.45	5.05	2.81	3.02	-
13	Ahmedabad	Hansalpur_Pz-I	23.089	72.017	-	34.26	34.64	36.62
14	Ahmedabad	Hansalpur_Pz-II	23.089	72.017	-	29.9	30.7	-
15	Ahmedabad	Hansalpur_Pz-III	23.089	72.017	-	2.85	3.2	3.83
16	Ahmedabad	Ingoli_Pz	22.599	72.488	3.23	-	-	-
17	Ahmedabad	Koth I	22.631	72.297	14.5	-	-	-
18	Ahmedabad	Koth III	22.464	72.297	10.2	-	-	-
19	Ahmedabad	Kumarkhan	22.9	72.017	-	3.9	4.22	3.12
20	Ahmedabad	Kundal	22.901	72.224	-	5.02	5.1	11.8
21	Ahmedabad	Kundali	22.269	71.7	21.62	14.89	9.75	14.05
22	Ahmedabad	Mandal2	23.275	71.917	5.23	3.13	3.47	4.96
23	Ahmedabad	Pachcham_Pz	22.232	72.179	2.99	2.07	-	2.08
24	Ahmedabad	Rajpada	22.308	71.692	17.75	15.25	16.25	16.7
25	Ahmedabad	Salangpor	22.158	71.771	14.85	7.63	9.09	14.45
26	Ahmedabad	Sanand I	23.003	72.374	-	66.6	68.33	67.4
27	Ahmedabad	Sanand II	23.003	72.374	-	18.55	19.5	17.8
28	Ahmedabad	Sola I	23.081	72.519	-	99.37	-	-
29	Ahmedabad	Sola(HC)_Pz_I	23.081	72.514	68.25	61.35	61.75	68.81
30	Ahmedabad	Sola_II	23.081	72.519	-	-	100.92	-
31	Ahmedabad	Sola_Pz_III	23.081	72.519	-	10.58	10.85	-
32	Ahmedabad	Tagadi1	22.296	71.947	-	2.6	3.32	4.37
33	Ahmedabad	Ughraj1	23.367	72.1	-	9.32	9.84	9.81
34	Ahmedabad	Upardhal1	22.85	72.146	-	11.9	11.9	11.9
35	Ahmedabad	Vagad(Repl)_Pz	22.36	71.868	5.77	5.05	5.38	4.9
36	Ahmedabad	Vastrapur(lake)_	23.038	72.53	100.18	100.9	102.53	100.94
37	Ahmedabad	Vatwa Pz-II	22.953	72.616	45.69	48.09	49.31	45.75
38	Ahmedabad	Vatwa Pz-III	22.954	72.616	32.26	30.64	32.39	32.04
39	Ahmedabad	Viramgam2	23.142	72.033	-	2.95	3.13	1.95
40	Amreli	Amreli	21.608	71.225	11.85	6.58	13.21	6.73
41	Amreli	Amreli_Pz	21.613	71.225	13.01	8.08	6.6	8.25
42	Amreli	Amritvel_Pz	21.397	71.358	3.46	3.39	6.65	2.7
43	Amreli	Ankadia mota	21.646	71.108	-	5.43	3.85	7.2
44	Amreli	Babra_Pz	21.847	71.296	13.12	6.02	6.55	9.23
45	Amreli	Badhda	21.266	71.339	16.77	7.49	13.55	6.75
46	Amreli	Bagasara	21.479	70.963	19.47	13.84	14.25	20.98
47	Amreli	Bhavardi1	21.108	71.258	5.83	0.22	1.9	0.25
48	Amreli	Bherai	20.868	71.363	-	2.44	1.61	3.03
49	Amreli	Bhuva	21.433	71.364	5.02	3.91	3.5	3.84
50	Amreli	Chalala	21.417	71.167	29.42	27.74	26.58	31.58
51	Amreli	Charkhadia_Pz	21.388	71.292	22.05	21.99	21.17	21.59
52	Amreli	Charkhadia1	21.392	71.296	19.35	17.15	17.18	16.85
53	Amreli	Chavand	21.817	71.413	18.31	5.43	3.44	6.33
54	Amreli	Devaliya	21.821	71.108	-	-	13.75	13.75
55	Amreli	Dharangani	21.333	71.2	-	28.85	39.65	30.85
56	Amreli	Dhari	21.338	71.042	12.15	8.93	14.53	-
57	Amreli	Dhari_Pz	21.326	71.018	27.01	14.1	5.57	7.88
58	Amreli	Dhrai Balmukan	21.834	71.217	-	18.78	13.38	20.55
59	Amreli	Fifad	21.436	71.54	5.42	5.12	4.5	4.68
60	Amreli	Gopalpura Vand	21.375	71.492	-	27.41	26.4	19.5

61	Amreli	Goradka	21.225	71.411	8.29	3.07	4.1	4.55
62	Amreli	Govadka	21.542	71.158	6.35	3.4	-	6.2
63	Amreli	Haripur_Pz_I	21.61	71.443	-	5.77	4.5	5.4
64	Amreli	Hinderana	20.975	71.413	-	5.22	0.96	3.8
65	Amreli	Hipavadli	21.379	71.615	-	9.37	8	8.02
66	Amreli	Ingorala	21.233	71.2	19.95	18.85	11.4	7.43
67	Amreli	Jafrabad	20.867	71.363	2.49	1.71	1.17	1.35
68	Amreli	Jesar_Pz	21.371	71.67	-	5.19	-	6.65
69	Amreli	Jira	21.238	71.092	-	3.68	-	-
70	Amreli	Kadiyali	20.908	71.36	-	2.09	1.36	3.7
71	Amreli	Kerala	21.397	71.217	46.61	48.15	35.01	38.52
72	Amreli	Khamba	21.15	71.239	11.12	8.38	3.06	3.41
73	Amreli	Khamba_Pz	21.142	71.254	12.51	11.55	7.17	8.2
74	Amreli	Kotadapitha	21.958	71.204	18.29	-	-	-
75	Amreli	Kunkavav	21.663	70.983	20.26	27.55	28.65	16.72
76	Amreli	Lathi	21.721	71.383	12.46	2.89	1.75	3.4
77	Amreli	Liliya_Pz_I	21.535	71.379	-	3.65	2.3	-
78	Amreli	Lotpur	20.963	71.433	8.06	7.14	5.4	5.47
79	Amreli	Luvariya	21.625	71.396	13.54	4.73	3.06	5.8
80	Amreli	Mandal	21.1	71.583	21.12	36.5	16.1	-
81	Amreli	Manila Pz	21.433	71.167	20.75	19.86	-	19.6
82	Amreli	Morjhar	21.376	71.119	46.26	41.27	41.55	37.55
83	Amreli	Nageshri	20.925	71.354	5.38	2.57	2.55	2.07
84	Amreli	Piyava	21.383	71.467	31.3	25.74	18.22	29.2
85	Amreli	Punjapadar	21.525	71.358	11.88	6.7	4.3	6.38
86	Amreli	Salena	21.386	71.533	16.77	16.77	13.67	6.13
87	Amreli	Sanaria	21.558	71.468	-	1.97	1.62	2.45
88	Amreli	Savarkundla	21.336	71.318	-	52.03	-	-
89	Amreli	Tajpur	21.725	71.467	16.29	27.65	8.96	19.95
90	Amreli	Timbi2	20.896	71.204	-	2.95	2.77	-
91	Amreli	Trakuda	21.017	71.281	12.63	4.36	3.56	5.45
92	Amreli	Untvad	21.917	71.217	7.21	14.32	9.95	-
93	Amreli	Vaghania juna	21.583	70.967	11.6	9.35	3.85	5.14
94	Amreli	Vanda	21.39	71.508	22.31	5.55	-	-
95	Amreli	Vankiya	21.521	71.136	14.05	5.44	5.7	14.8
96	Amreli	Vankiya1	21.233	71.25	24.91	12.59	9.4	2.6
97	Amreli	Victor	21.013	71.542	2.21	-	0.1	-
98	Amreli	Virpur	21.254	71.15	-	14.23	6.1	15.4
99	Anand	Adas_DW	22.479	73.03	-	4.42	-	22.28
100	Anand	Anand	22.575	72.972	10.53	10.18	10.04	10.92
101	Anand	Anklav_Pz_I	22.376	72.997	24.31	-	25.53	21.85
102	Anand	Anklav_Pz_II	22.376	72.997	24.45	-	24.97	25.88
103	Anand	Anklav2	22.383	73.008	26.94	-	27.48	25.93
104	Anand	Bandhani	22.542	72.817	5.69	5.35	5.19	5.48
105	Anand	Bhadran	22.356	72.897	17.65	15.2	15.64	16.62
106	Anand	Boriyani	22.632	73.004	8.14	2.6	5.16	5.75
107	Anand	Borsad I	22.41	72.901	17.75	17.05	17.04	17.45
108	Anand	Borsad_Pz_II	22.41	72.901	14.22	14.76	14.8	15.46
109	Anand	Dali	22.275	72.767	4.69	3.93	3.3	3.6
110	Anand	Davalpura_Pz	22.458	72.803	1.08	0.82	1.49	-
111	Anand	Dharmaj	22.421	72.794	14.2	13.35	13.38	15.06
112	Anand	Ghora	22.692	73.054	7.41	3.41	3.81	3.89
113	Anand	Hariyan_Pz	22.404	72.672	4.52	1.85	4.63	-
114	Anand	Kansari1	22.342	72.65	13.9	13.52	-	-
115	Anand	Kathana_Pz_I	22.294	72.79	17.55	-	-	-
116	Anand	Laxmipura	22.417	72.608	2.97	-	0.98	1.35
117	Anand	Navapura	22.313	72.963	26.56	4.92	26.56	26.56
118	Anand	Parvata	22.714	73.127	7.88	3.7	8.13	17.95
119	Anand	Petlad_Pz_I	22.475	72.8	11.8	4.63	13.08	13.1
120	Anand	Petlad_Pz_II	22.475	72.8	10.27	3.54	12.58	13.8
121	Anand	Ras	22.346	72.833	2.33	4.77	2.1	1.5
122	Anand	Sarsa_Pz_I	22.544	73.071	16.5	-	15.74	21.32
123	Anand	Tarapur Pz-I	22.486	72.661	3.32	2.77	2.6	3.15
124	Anand	Tarapur Pz-II	22.486	72.661	3.05	1.81	2.23	3.15
125	Anand	Tol	22.511	72.567	1.18	0.4	8.74	9.26
126	Anand	Walmi_ I	22.511	72.982	19.65	13.93	21.15	21.42

127	Anand	Walmi_ II	22.508	72.982	19.69	9.46	20.85	21.34
128	Banaskantha	Ambaji_Pz	24.336	72.847	-	5.34	5.52	5.57
129	Banaskantha	Amirgadh	24.406	72.642	14.7	7.98	9.68	9.86
130	Banaskantha	Balodhar_Pz-I	24.231	71.912	145.34	141.34	141.23	142.52
131	Banaskantha	Balodhar_Pz-II	24.231	71.913	-	-	105.85	108.4
132	Banaskantha	Bhabhar iii	24.06	71.596	36.74	33.67	33.53	34.11
133	Banaskantha	Bharol1	24.529	71.542	2.68	0.7	2.31	2.27
134	Banaskantha	Biyok_Pz-II	24.272	71.655	40.26	35.67	35.78	34.76
135	Banaskantha	Danta	24.189	72.765	-	8.76	9.19	9.11
136	Banaskantha	Dantiwada	24.189	72.761	35.23	34.41	34.23	25.94
137	Banaskantha	Deesa Pzi	24.257	72.188	78.3	72.59	73.59	74.3
138	Banaskantha	Deesa Pzii	24.257	72.188	-	58.79	57.59	57.4
139	Banaskantha	Dhanera Pz- II	24.503	72.186	73.59	-	72.63	71.41
140	Banaskantha	Dhanera Pz-I	24.506	72.029	86.16	80.25	80.06	85.44
141	Banaskantha	Ganapipli	24.297	72.947	12.25	7.02	8.51	9.73
142	Banaskantha	Gangodra	24.436	72.365	21.87	18.56	14.49	15.16
143	Banaskantha	Iqbalgarh	24.346	72.538	28.46	27.59	28.76	27.91
144	Banaskantha	Jalotra Pz-I	24.141	72.585	20.69	19.49	18.61	19.56
145	Banaskantha	Jerda Pz-I	24.377	72.126	167.5	165.9	168.53	167.86
146	Banaskantha	Jerda Pz-II	24.377	72.126	-	-	-	101.79
147	Banaskantha	Jhat	24.488	72.353	16.01	16.01	-	9.74
148	Banaskantha	Khoda	24.658	71.767	21.5	21.54	21.04	20.8
149	Banaskantha	Kidotar	24.394	72.628	20.88	17.07	17.24	16.82
150	Banaskantha	Lakhani i	24.314	71.818	79.43	77.03	78.1	-
151	Banaskantha	Lakhani iii	24.314	71.818	-	-	-	69.4
152	Banaskantha	Mahi_Pz	24.029	72.381	153.28	138.4	147.01	147.41
153	Banaskantha	Mangrol Pzii	24.531	71.697	19.54	-	-	-
154	Banaskantha	Meda	24.397	72.285	8.5	9.32	-	8.93
155	Banaskantha	Miyal ii	24.636	71.753	-	18.37	-	-
156	Banaskantha	Miyal iii	24.636	71.753	-	16.39	-	-
157	Banaskantha	Mohabbat gadh	24.167	72.728	22.3	18.81	16.44	14.36
158	Banaskantha	Naroli Pzi	24.616	71.639	9.42	7.65	8.04	7.6
159	Banaskantha	Naroli Pzii	24.616	71.639	8.58	6.45	7.46	7.2
160	Banaskantha	Naroli Pziii	24.616	71.639	9.46	7.66	8.01	7.78
161	Banaskantha	Palanpur_Pz	24.172	72.45	41.55	39.55	39.57	38.77
162	Banaskantha	Palanpur2	24.194	72.433	28.06	27	27.54	28.64
163	Banaskantha	Rah Pz-III	24.496	71.836	41.44	39.54	42.74	40.12
164	Banaskantha	Rah_Pz I	24.496	71.836	49.02	42.1	45.88	46.22
165	Banaskantha	Rah_Pz II	24.496	71.836	42.84	40.43	42.02	41.26
166	Banaskantha	Rasna(Repl)_Pz	24.218	72.248	82.02	77.79	80.59	80.95
167	Banaskantha	Ratanpur2	24.175	72.746	16.54	14.9	13.77	12.76
168	Banaskantha	Rupal_Pz_I	24.025	72.502	32.43	30	28.14	30.47
169	Banaskantha	Rupal_Pz_II	24.025	72.502	-	-	-	30.47
170	Banaskantha	Sodapur	24.401	72.296	14.37	-	12.1	12.06
171	Banaskantha	Takarwada Pz-I	24.108	72.331	-	173.69	-	174.4
172	Banaskantha	Tharad Pzi	24.385	71.619	14.92	11.78	11.76	11.79
173	Banaskantha	Tharad Pzii	24.385	71.619	14.79	11.48	11.42	11.44
174	Banaskantha	Tharad Pziii	24.385	71.619	14.78	11.45	11.43	11.41
175	Banaskantha	Vav ii	24.361	71.511	24.52	23.64	20.94	21.09
176	Banaskantha	Vav i	24.358	71.508	19.44	20.81	23.6	23.79
177	Banaskantha	Vinchivadi PZ-I	24.586	71.933	57.34	58.94	57.67	62.21
178	Banaskantha	Vinchivadi Pz-II	24.586	71.933	57.27	58.06	57.31	57.56
179	Banaskantha		24.278	72.261	29.75	26.18	25.27	25.71
180	Bharuch	Arethi	21.613	73.435	14.45	7.22	6.95	7.18
181	Bharuch	Bhadkodra	22.058	72.592	5.5	-	-	-
182	Bharuch	Bharuch	21.7	73.004	3.97	3.7	3.75	4.38
183	Bharuch	Bharuch I	21.708	73	7.02	5.6	6.3	6.65
184	Bharuch	Bharuch Ii	21.708	73	16.98	16.85	4.25	6.7
185	Bharuch	Bhensli	21.725	72.75	3.58	2.9	2.98	2.38
186	Bharuch	Chhindra	22.127	72.67	10.42	8.03	8.2	8.68
187	Bharuch	Dahegam	22.185	72.597	7.71	5.45	9.96	5.2
188	Bharuch	Hansot	21.583	72.808	-	3.7	-	-
189	Bharuch	Ilav	21.45	72.8	8.19	1.27	8.19	8.19
190	Bharuch	Jambusar	22.053	72.806	5.7	7.05	7.11	7.63
191	Bharuch	Jambusar2	22.05	72.8	9.6	-	-	-
192	Bharuch	Jetpur1	21.492	72.708	3.54	1.23	2.35	2.42

193	Bharuch	Jokhla	21.596	73.169	3.9	1.46	0.25	1.52
194	Bharuch	Juna borbhata	21.675	72.975	8.5	2.62	6.25	8.5
195	Bharuch	Kadodara	21.763	72.639	7.83	6.3	7.98	8.26
196	Bharuch	Kalak1	22.019	72.763	8	2.53	6.46	6.92
197	Bharuch	Kaswa	21.683	72.817	7.2	7.16	7.2	7.23
198	Bharuch	Kavachiya	21.529	73.354	7.3	-	-	-
199	Bharuch	Kavi	22.194	72.639	7.72	7.23	7.05	6.48
200	Bharuch	Kondh	21.581	73.068	4.94	6.99	2.78	3.4
201	Bharuch	Luhara	21.675	72.558	2.82	3.4	1.56	2.01
202	Bharuch	Mahegam1	21.683	72.758	6.5	3.62	-	-
203	Bharuch	Modoliya	21.633	73.296	8.87	3.77	8.87	8.87
204	Bharuch	Mokhdi	21.533	73.288	9.84	4.47	7.7	8.58
205	Bharuch	Motwan	21.556	72.888	2.9	1.8	1.97	2.33
206	Bharuch	Mulad	21.683	73.019	-	5.1	1.85	1.08
207	Bharuch	Mungaj	21.688	73.384	7.31	1.15	-	-
208	Bharuch	Navetha	21.708	72.831	6.4	6	6.05	8.13
209	Bharuch	Netrang(Rep)_P	21.642	73.367	8.25	5.3	6.68	7.68
210	Bharuch	Netrang1	21.633	73.367	8.96	7.65	3.34	4.95
211	Bharuch	Nirnavi	21.792	72.668	8.98	6.79	7.18	8.06
212	Bharuch	Panoli	21.538	72.975	2.86	0.97	1.27	1.76
213	Bharuch	Raymal	21.521	72.821	1.65	1.36	2.77	1.48
214	Bharuch	Roja tankaria	21.917	72.792	8.73	10.23	5.84	4.01
215	Bharuch	Sahol	21.473	72.81	3.55	1.46	2.38	2.57
216	Bharuch	Sajod	21.617	72.924	6.32	4.67	4.2	4.45
217	Bharuch	Sarod	22.158	72.758	9.26	-	9.45	10.22
218	Bharuch	Simodra	21.742	73.208	7.97	3.03	4.07	4.71
219	Bharuch	Sindhav	22.027	72.636	7.51	4.74	4.19	4.47
220	Bharuch	Tankari	21.992	72.675	6.01	5.33	3.15	3.03
221	Bharuch	Utraj	21.592	72.825	5.73	2.53	6.45	4.86
222	Bharuch	Valia1	21.573	73.155	4.91	2.98	-	-
223	Bhavnagar	Ambala	21.711	71.842	-	21.67	17.1	-
224	Bhavnagar	Ayodhayapuram	21.96	71.886	8.3	7.75	7.7	8
225	Bhavnagar	Bhavnagar1	21.767	72.15	6.21	4.2	4.39	-
226	Bhavnagar	Bhudel	21.692	72.158	3.15	2.24	1.13	1.56
227	Bhavnagar	Bhumbhali	21.679	72.244	3.34	2.46	2.5	2.75
228	Bhavnagar	Bhutia	21.747	71.7	19.84	22.3	15	22.3
229	Bhavnagar	Bora	21.191	71.929	19.55	28.32	-	30
230	Bhavnagar	Chowk Pz	21.429	71.764	-	24.55	-	-
231	Bhavnagar	Datha	21.221	71.95	-	0.82	-	7.32
232	Bhavnagar	Dhasa	21.8	71.508	11.69	3.44	1.92	3.94
233	Bhavnagar	Dudhala	21.138	71.658	19.43	11.08	-	6.35
234	Bhavnagar	Gadhada1	21.968	71.582	9.98	8.39	8.08	-
235	Bhavnagar	Gadhada2	21.967	71.579	4.85	4.25	3.65	4.5
236	Bhavnagar	Gadhula	21.747	71.722	-	22.78	-	-
237	Bhavnagar	Gariyadhar	21.543	71.565	-	8.59	7.3	9.12
238	Bhavnagar	Ghogha1	21.683	72.279	4.68	1.18	1.69	2
239	Bhavnagar	Jalia	21.8	71.617	-	19.9	18	20.85
240	Bhavnagar	Kardej	21.752	72.031	26.8	25.13	-	-
241	Bhavnagar	Khijadiya	21.638	71.7	16.35	10.3	9.59	12.05
242	Bhavnagar	Kundheli	21.379	71.981	27.63	16.94	11.74	28.93
243	Bhavnagar	Longadi	21.214	71.883	4.94	2.38	2.43	3.34
244	Bhavnagar	Lonjdhara	22.097	71.897	30.8	30.8	-	30.8
245	Bhavnagar	Mahuva1	21.096	71.767	-	19.51	-	17.56
246	Bhavnagar	Malvav_Pz	21.161	71.908	30.31	25.54	-	-
247	Bhavnagar	Motivadal	21.197	71.55	6.78	2.92	2.68	3.15
248	Bhavnagar	Ningala	22.018	71.7	11.37	7.25	6.39	3.63
249	Bhavnagar	Palitana1	21.525	71.824	11.1	7.58	5.58	-
250	Bhavnagar	Palitana2	21.522	71.839	15.55	5.23	4.1	7.52
251	Bhavnagar	Paliyad2	22.256	71.564	23.61	-	23.61	-
252	Bhavnagar	Panchpipla	21.55	71.721	7.26	1.6	1	1.91
253	Bhavnagar	Panvi1	22.075	71.892	8.7	2.68	2.55	3.95
254	Bhavnagar	Pasvi	21.292	71.967	16.46	8.42	-	9.65
255	Bhavnagar	Piparla	21.636	71.919	7.5	4.78	2	-
256	Bhavnagar	Porbada	21.8	71.7	12.63	12.11	7.73	-
257	Bhavnagar	Sajnasar	21.425	71.913	10.12	3.48	2.7	10.05
258	Bhavnagar	Sandhida	21.688	71.758	5.35	2.66	3.05	2.93

259	Bhavnagar	Satanes	21.442	71.838	16.57	16.57	16.57	16.57
260	Bhavnagar	Shantinagar	21.246	71.65	9.65	7.04	1.06	7.5
261	Bhavnagar	Talaja2	21.367	72.017	14.88	8.76	4.84	9.53
262	Bhavnagar	Tansa	21.508	72.125	12.4	6.65	5.1	9.48
263	Bhavnagar	Tardhera	22.229	71.604	-	29.71	-	-
264	Bhavnagar	Tatam	22.058	71.633	35.8	21.19	35.8	35.8
265	Bhavnagar	Timbi2	21.832	71.766	12.9	13	12.36	4.07
266	Bhavnagar	Trapaj	21.425	72.096	12	6.13	5.44	7.4
267	Bhavnagar	Umrala	21.847	71.808	14.02	14.02	14.02	-
268	Bhavnagar	Vadal	21.477	71.806	13.5	6.12	4.1	5.65
269	Bhavnagar	Vallabhipur1	21.883	71.878	-	4.31	-	-
270	Bhavnagar	Vallbhipur	21.883	71.875	-	-	3.85	4.18
271	Bhavnagar	Vavdi	21.568	72.198	13.8	4.45	2.8	-
272	Bhavnagar	Wadia Pz	21.778	71.933	-	66.39	-	-
273	Daman	Ambawadi	20.403	72.844	5.34	2.85	3.3	3.9
274	Daman	Bhimpor k.falia	20.458	72.871	8.25	1.27	3.75	-
275	Daman	Dabhel	20.411	72.886	6.26	1.74	4.1	6.11
276	Daman	Dalwada	20.443	72.852	9.44	1.41	1.85	3.5
277	Daman	Daman	20.424	72.85	10.41	1.05	-	-
278	Daman	Jempore	20.378	72.827	3.5	1.02	1.4	1.9
279	Daman	Khariwad damar	20.425	72.846	6.97	2.92	6.33	-
280	Daman	Morwad	20.435	72.831	9.1	1.66	4.4	5.95
281	Daman	Warkund	20.408	72.86	7.05	0.79	1.63	3.8
282	Diu	Chakarteeth_Pz	20.708	70.969	6.61	6.18	6.28	6.23
283	Diu	Diu	20.715	70.949	-	3.75	4.01	5.2
284	Diu	Gomtimata	20.708	70.876	7.7	4.17	3.42	4.24
285	Diu	Jalawadi	20.722	70.933	6.01	4.05	-	4.45
286	Diu	Pothia Bapa	20.702	70.912	-	-	6.63	6.83
287	Dohad	Ambakatch	22.667	74.22	4.3	0.85	1.3	1.8
288	Dohad	Bapda	22.67	73.842	8.1	0.8	2.06	-
289	Dohad	Dabhava	22.583	73.904	5.78	0.3	3.2	4
290	Dohad	Dadhela	22.838	74.067	10.55	4.75	2.71	3.81
291	Dohad	Dahod	22.84	74.263	3.2	0.35	1.71	1.7
292	Dohad	Dahod2	22.825	74.233	6.97	2.42	2.95	3.67
293	Dohad	Devgadh Baria	22.7	73.914	14.3	6.4	7.8	9.3
294	Dohad	Devgadh bariya	22.7	73.917	16.4	3.7	7.98	9.8
295	Dohad	Dhanpur	22.633	74.104	13.85	-	8.83	-
296	Dohad	Dohad_Urban1	22.858	74.249	3.5	1.86	3.38	3.9
297	Dohad	Dohad_Urban2	22.845	74.267	11.35	3.65	6.95	6.7
298	Dohad	Dohad_Urban3	22.84	74.234	9.72	0.42	2.39	4.02
299	Dohad	Fatepura(Karodi	23.254	74.029	13.9	9.6	8.61	9.7
300	Dohad	Garada	23.165	74.123	9.2	3.75	2.32	7.8
301	Dohad	Garbara	22.681	74.313	9.55	1.35	1.87	2.75
302	Dohad	Jhalod	23.093	74.147	10.8	5	7.15	6.25
303	Dohad	Jhalod1	23.092	74.133	13.1	2.8	5.06	6.1
304	Dohad	Kanjetha	22.581	74.114	7.55	4.25	6.09	7
305	Dohad	Khandania	22.704	73.838	13.37	2.5	7.98	12.1
306	Dohad	Limbdi2	23.004	74.158	5.5	1.6	3.2	-
307	Dohad	Limkheda	22.831	73.986	9.6	2.9	5.48	6.2
308	Dohad	Mirakhedi	22.933	74.2	7.3	0.8	7.3	4.45
309	Dohad	Panchwada	22.729	74.308	7	2.18	3.95	3.35
310	Dohad	Pipero	22.647	74.09	13.05	4.45	6.62	7.7
311	Dohad	Salaya1	22.808	73.892	15.52	5.12	7.54	-
312	Dohad	Sarsava	23.228	73.977	15.1	0.4	5.42	8.2
313	Dohad	Sukhsar	23.15	74.05	10.65	3.05	6.3	8.25
314	Dohad	Thada	22.949	74.089	10.3	0.2	9.4	9.5
315	Dohad	Tokarba	22.604	74.038	7.15	2.49	2.85	2.95
316	Dohad	Varamkheda	22.8	74.275	1.9	0.23	3.03	2
317	Dohad	Wadia	22.9	74.05	8.34	3.14	6.04	8.24
318	Gandhinagar	Adalaj_Pz_I	23.175	72.558	-	97.86	97.97	100.44
319	Gandhinagar	Adalaj_Pz_II	23.175	72.558	70.99	-	-	79.89
320	Gandhinagar	Adalaj_Pz_III	23.175	72.558	-	23.38	-	23.13
321	Gandhinagar	Amrapur Pzi	23.374	72.705	116.48	93.66	108.3	107.46
322	Gandhinagar	Amrapur Pzii	23.374	72.705	85.42	84.24	-	82.93
323	Gandhinagar	Amrapur Pziii	23.374	72.705	58.24	59.3	-	59.3
324	Gandhinagar	Charada Pz -II	23.482	72.652	99.59	100.5	100.64	95.3

325	Gandhinagar	Charada_Pz_I	23.482	72.652	185.72	168.64	169.81	177.01
326	Gandhinagar	Chiloda_Pz_I	23.227	72.739	-	103.16	96.08	-
327	Gandhinagar	Chiloda_Pz_II	23.227	72.739	111.43	103.62	-	111.36
328	Gandhinagar	Dahegam I	23.171	72.842	63.35	74.68	67.98	64.46
329	Gandhinagar	Dahegam II	23.171	72.842	-	-	-	-
330	Gandhinagar	Kalol(Nest)_Pz_	23.258	72.472	73.99	89.68	89.76	90.14
331	Gandhinagar	Kalol(Nest)_Pz_	23.258	72.472	123.95	117.35	119.04	120.39
332	Gandhinagar	Kalol(Nest)_Pz_	23.258	72.472	65.61	60.69	61.09	60.09
333	Gandhinagar	Kalol(Rep)_Pz_I	23.243	72.485	54.28	53.95	54.49	53.78
334	Gandhinagar	Kasturinagar(IFF	23.19	72.553	13.43	13.4	13.48	13.57
335	Gandhinagar	Lodra	23.464	72.72	55.26	45.52	45.43	55.01
336	Gandhinagar	Mansa	23.423	72.665	118.34	118.49	118.16	118.93
337	Gandhinagar	Nardipur i	23.332	72.567	95.99	96.58	96.54	96.01
338	Gandhinagar	Paliya	23.179	72.842	13.06	13.42	13.69	14.03
339	Gandhinagar	Pethapur_Pz-I	23.267	72.673	108.6	102.5	-	105.11
340	Gandhinagar	Pethapur_Pz-II	23.267	72.673	79.12	77.74	78.66	79.31
341	Gandhinagar	Sardhav ii	23.3	72.567	-	122.77	-	-
342	Gandhinagar	Sardhav Pz -I	23.297	72.574	117.53	116.88	122.91	116.56
343	Gandhinagar	Sardhav Pz-II	23.297	72.574	136.14	126.21	-	133.91
344	Gandhinagar	Serthapara1	23.194	72.567	14.08	12.99	13.11	14.86
345	Jamnagar	Amaliya Chokri	22.24	69.125	3.37	1.98	3.36	2.59
346	Jamnagar	Ambardi	21.916	69.858	10.49	6.72	12.74	11.84
347	Jamnagar	Amran_Pz	22.822	70.546	6.57	2.29	-	3.44
348	Jamnagar	Amran1	22.829	70.563	6.87	1.7	3.62	5.38
349	Jamnagar	Aramda	22.433	69.042	5.75	4.97	5.1	5.25
350	Jamnagar	Balwa	21.904	69.958	22.52	16.02	20.82	18.27
351	Jamnagar	Bed1	22.438	69.9	10.94	8.77	5.34	6.12
352	Jamnagar	Bedanpur	22.683	70.317	10.15	7.7	5.1	2.8
353	Jamnagar	Bhadthar	22.079	69.579	15.1	-	15.1	15.1
354	Jamnagar	Bhanvad	21.928	69.796	16.05	13.73	13.7	15.9
355	Jamnagar	Bhatia	22.092	69.301	20.21	20.13	3.82	6.02
356	Jamnagar	Bhatiya	22.094	69.267	7.36	5.21	3.16	4.05
357	Jamnagar	Bhogat1	21.992	69.246	9.53	7.05	6.49	10.85
358	Jamnagar	Changa	22.35	70.042	-	17.28	11.76	14.87
359	Jamnagar	Dhrol2	22.567	70.417	5.23	1.16	3.17	2.66
360	Jamnagar	Dudhai2	22.792	70.504	3.65	1	2.64	3.15
361	Jamnagar	Dwarka	22.246	68.958	8.5	7.32	7.7	7.7
362	Jamnagar	Gordhanpur	22.45	70.001	21.6	17.75	16.16	6.7
363	Jamnagar	Haripur2	22.271	70.333	25.71	7.5	8.91	22.51
364	Jamnagar	Haryana	22.608	70.263	10.3	6.44	10.3	10.3
365	Jamnagar	Jambuda	22.525	70.204	9.04	3.82	3.66	7.39
366	Jamnagar	Jamjodhpur	21.906	70.031	4.95	4.89	5.25	6.25
367	Jamnagar	Jamnagar1	22.471	70.05	24.15	10.65	5.6	6.23
368	Jamnagar	Jamnagar2	22.458	70.079	7.59	8.73	6.64	6.17
369	Jamnagar	Juvanpur	22.171	69.367	26.58	23.1	16.25	24.06
370	Jamnagar	Kajuda	22.333	69.708	-	8.77	2.85	8.76
371	Jamnagar	Kalawad	22.217	70.383	3.8	2.53	2.86	2.93
372	Jamnagar	Kalyanpur2	22.017	69.392	30.01	20.93	23.15	22.42
373	Jamnagar	Khambhaliya	22.21	69.646	15.65	6.6	3.72	4.05
374	Jamnagar	Khirsara	21.979	69.6	11.83	12.78	6.03	11.69
375	Jamnagar	Kuvadia	22.201	69.583	17	10.9	8.6	10.42
376	Jamnagar	Lalpur1	22.192	69.961	19.4	12.95	6.42	9.28
377	Jamnagar	Lambha 1	21.899	69.324	13.45	11.56	6.1	13.9
378	Jamnagar	Manapur	22.019	69.884	-	-	-	15.25
379	Jamnagar	Modpar	21.858	69.808	17.4	17.4	17.4	17.4
380	Jamnagar	Mojap	22.367	68.983	9.64	7.67	12.14	9.27
381	Jamnagar	Mota kalawad	21.908	69.829	27.65	17.6	24.75	20.95
382	Jamnagar	Motagop	22.038	69.875	9.52	-	9.52	9.52
383	Jamnagar	Moti khavdi	22.388	69.867	11.33	8.57	11.33	11.33
384	Jamnagar	Moti matli	22.317	70.264	27.75	10.65	16.62	19.95
385	Jamnagar	Nikava	22.192	70.533	3.79	2.04	2.2	2.35
386	Jamnagar	Pindara1	22.247	69.258	10.97	4.04	3.35	6.45
387	Jamnagar	Raval	21.93	69.492	8.58	4.54	4	9.84
388	Jamnagar	Salaya	22.306	69.604	3.84	2.95	2.54	4.45
389	Jamnagar	Samrasar1	22.375	69.104	6.4	3.51	5.28	5.42
390	Jamnagar	Seth vadala	22.033	70.125	18.1	7.63	3.85	7.85

391	Jamnagar	Sumana	22.108	70.167	13.95	13.95	13.95	13.95
392	Jamnagar	Toda	22.063	70.383	9.07	5.13	4.94	9.92
393	Jamnagar	Vad panchasara	22.233	70.117	14.8	13.29	12.8	9.08
394	Jamnagar	Vadtara	22.208	69.5	12.8	12.35	12.43	9.15
395	Jamnagar	Varwada	22.292	68.967	12.27	10.46	11.85	15.7
396	Jamnagar	Vijarkha	22.417	70.183	17.5	13.24	11.95	15.8
397	Jamnagar	Vinjhalpur	22.15	69.6	-	8.74	6.02	6.1
398	Junagadh	Ajotha	20.902	70.518	-	9.25	-	10.57
399	Junagadh	Amervel Nes	21.009	70.726	-	0.95	1.72	3.12
400	Junagadh	Anandpur	21.41	70.518	17.89	10.38	7.08	8.55
401	Junagadh	Ankolvadi 1	21.047	70.665	-	-	6.77	8.02
402	Junagadh	Antroli	21.236	70.007	6.87	4.58	5.08	3.71
403	Junagadh	Arena	21.081	70.176	12.53	6.93	8.08	9.8
404	Junagadh	Bamanwara	21.221	70.056	10.51	6.08	7.61	9.61
405	Junagadh	Bantva	21.488	70.083	24.95	11.5	9.9	19.6
406	Junagadh	Bhatsimroli	21.224	70.183	22.3	10.85	22.3	22.3
407	Junagadh	Bhim Deval	20.978	70.609	18.34	6.01	-	8.35
408	Junagadh	Bilkha	21.439	70.6	15.36	6.14	5.45	7.82
409	Junagadh	Budhecha	21.096	70.217	7.93	1.85	5.53	6.23
410	Junagadh	Chokli	21.602	70.542	25.4	14.13	4.9	21.9
411	Junagadh	Chorwad	21.042	70.217	-	3.96	-	-
412	Junagadh	Dhokadva	20.958	71.071	22.12	10.43	10.4	12.5
413	Junagadh	Gadu	21.054	70.279	46.2	23.45	23.6	28.3
414	Junagadh	Galodar	21.147	70.275	22.44	9.82	7.56	17.56
415	Junagadh	Gangda_Pz	20.858	71.167	10.71	4.37	3.66	3.5
416	Junagadh	Girgadhada	20.925	70.917	-	0.92	6.62	6.53
417	Junagadh	Goraj1	21.183	70.154	42.12	17.21	12.9	33.33
418	Junagadh	Govindpura2	20.946	70.396	31.76	8.18	16.7	8.7
419	Junagadh	Jambur[madhap	21.029	70.608	-	8.26	3.32	4.56
420	Junagadh	Jamvala	20.985	70.769	-	1.73	4.55	-
421	Junagadh	Jamvala1	20.983	70.763	-	4.35	4.5	8.65
422	Junagadh	Jargla Jargali	20.881	70.984	16.28	1.36	2.77	8.92
423	Junagadh	Junagadh	21.509	70.462	15.82	10.85	-	10.35
424	Junagadh	Junagadh1	21.517	70.458	10.54	9.1	9.3	5.13
425	Junagadh	Juthal	21.167	70.267	8.51	7.28	12.73	12.33
426	Junagadh	Kalej	21.249	70.058	16	8.35	14.75	17.65
427	Junagadh	Kanek	21.031	70.242	14.91	0	8.84	16.42
428	Junagadh	Kansari	20.87	71.051	16.64	9.99	8.88	9.43
429	Junagadh	Kasia Naka Che	21.27	70.681	5.85	2.95	3	-
430	Junagadh	Kesariya1	20.796	70.942	14.85	3.28	5.35	6.35
431	Junagadh	Kewarda	21.267	70.208	15.75	10.6	11.15	13.45
432	Junagadh	Khambalia1	21.044	70.192	8.78	7.03	8.63	8.73
433	Junagadh	Khokharda	21.421	70.317	24.98	21.02	12.05	20.7
434	Junagadh	Khorada1	21.064	70.174	8.89	7.33	7.63	7.36
435	Junagadh	Khoras ahir	21.371	70.339	13.78	15.05	9.8	12.55
436	Junagadh	Kodinar	20.8	70.692	15.13	12.67	10.15	10.88
437	Junagadh	Kodinar1	20.8	70.692	17.55	13.35	10.75	13.23
438	Junagadh	Kukaswada	21.054	70.208	9.7	6.43	7.93	9
439	Junagadh	Lohej	21.167	70.067	9.26	13.45	8.58	8.8
440	Junagadh	Maktupur1	21.143	70.096	11.21	8.24	9.2	8.2
441	Junagadh	Mandawad	21.358	70.746	-	4.75	5.01	11.28
442	Junagadh	Mangrol	21.125	70.108	17.4	16.6	16.92	16.5
443	Junagadh	Manketara	21.15	70.129	43.4	14.91	15.3	32.69
444	Junagadh	Mendarda	21.325	70.44	18.95	8.45	-	-
445	Junagadh	Mendarda1	21.325	70.433	16.45	11.95	13.05	15.02
446	Junagadh	Moraj	20.983	70.436	12.1	1.83	5.43	2.25
447	Junagadh	Patla	21.604	70.569	8.85	3.54	6.2	8.76
448	Junagadh	Prachi_Pz	20.922	70.613	23.1	3.88	4.1	5.2
449	Junagadh	Prasli	20.851	70.669	19.61	1.28	1.97	9.69
450	Junagadh	Prasnawada_Pz	20.838	70.555	21.4	-	-	-
451	Junagadh	Prempara	21.3	70.7	20.21	17.76	8.4	19.85
452	Junagadh	Sametar	20.854	71.121	-	12.33	11.13	11.18
453	Junagadh	Saradiya	21.589	70.038	15.03	2.61	2.35	7.02
454	Junagadh	Sepa	21.117	70.219	34.84	20.43	30.1	31.85
455	Junagadh	Seriakhan	21.133	70.249	18.82	14.13	7.28	17.78
456	Junagadh	Shardagram	21.104	70.153	11.5	8.73	10.7	11.15

457	Junagadh	Sil	21.186	70.046	7.28	2.74	6.34	7.09
458	Junagadh	Sil bandar	21.224	70.056	8.17	5.87	7.3	8.88
459	Junagadh	Talala_Pz	21.064	70.538	16.3	7.37	0	7.92
460	Junagadh	Talala1	21.051	70.525	-	7.42	-	8.29
461	Junagadh	Una1	20.825	71.044	-	6.48	6.34	6.81
462	Junagadh	Una2	20.825	71.042	7.59	3.15	6.49	3.2
463	Junagadh	Vadal	21.609	70.502	18.4	13.03	15.6	8.51
464	Junagadh	Vanthali ii	21.471	70.328	17.36	7.53	17.36	17.36
465	Junagadh	Visavadar	21.339	70.749	-	7.71	6.7	-
466	Kachchh	Asambia mota_P	22.968	69.451	-	9.73	9.49	10.15
467	Kachchh	Asambia mota1	22.968	69.438	14.63	16.45	16.45	7.9
468	Kachchh	Balasar	23.844	70.669	7.32	7.15	7.48	8.43
469	Kachchh	Bambhdai	22.939	69.083	6.04	3.97	5.19	5.5
470	Kachchh	Bhadia mota	22.983	69.333	4.74	4.35	-	-
471	Kachchh	Bhadreshwar	22.9	69.9	7.25	7.92	8.25	8.8
472	Kachchh	Bhuj (Circuit Hou	23.25	69.667	15.21	15.47	15	16.97
473	Kachchh	Chandranagar	23.45	69.4	5.73	6.21	6.54	7.1
474	Kachchh	Dayapar1	23.633	68.871	-	23	-	23
475	Kachchh	Deshalpur rapar	23.747	70.679	11.66	11.6	11.48	12.66
476	Kachchh	Devisar	23.403	69.329	10.84	10.38	10.65	11.64
477	Kachchh	Dholavira	23.883	70.217	11.63	9.83	11.29	11.55
478	Kachchh	Dhori1	23.433	69.754	16.03	11.08	-	12.01
479	Kachchh	Dunai	23.05	69.5	9.89	16.44	10.13	9.71
480	Kachchh	Gadhsisa	23.106	69.341	63.45	66.82	67.55	-
481	Kachchh	Gagodar	23.417	70.8	33	27.82	27.1	29.2
482	Kachchh	Gandhidham1	23.083	70.142	-	-	-	6.35
483	Kachchh	Gandhidham2	23.076	70.151	6.44	5.54	-	7.2
484	Kachchh	Haboi	23.358	69.867	0.43	0.37	0.12	0.35
485	Kachchh	Kakarwa	23.475	70.404	17.45	-	17.45	17.45
486	Kachchh	Karagoga	22.942	69.663	-	2.18	2.43	2.45
487	Kachchh	Kharai_1	23.463	68.686	-	-	-	4.15
488	Kachchh	Kharoi	23.454	70.35	-	7.95	8.29	10.75
489	Kachchh	Khavada	23.839	69.731	-	2.51	3.56	3.95
490	Kachchh	Khavda	23.844	69.732	-	3.85	2.61	3.78
491	Kachchh	Kotada	23.377	69.199	37.66	37.72	37.14	39.21
492	Kachchh	Kotadi	23.042	69.192	8.61	8.14	10.97	11.95
493	Kachchh	Kotaya	23.042	69.075	11.66	11.2	12.6	13.7
494	Kachchh	Kothara	23.162	68.912	6.88	4.94	6.12	6.62
495	Kachchh	Kuda	23.534	70.44	26.53	27.2	28.06	26
496	Kachchh	Kumbhariya	23.341	70.724	8.13	7.85	7.55	7.65
497	Kachchh	Lakhpat	23.823	68.775	8.8	3.74	3.19	4.65
498	Kachchh	Lilpur	23.511	70.65	0.05	0.55	0.5	0.4
499	Kachchh	Lodai	23.4	69.892	12.43	14.92	15.55	15.88
500	Kachchh	Luni	22.873	69.812	12	7.95	7.77	7.77
501	Kachchh	Madhapar	23.232	69.697	-	47.57	47.54	43.47
502	Kachchh	Mandvi	22.842	69.371	28.22	28.9	33.12	32.55
503	Kachchh	Mandvi (Shitla M	22.833	69.333	7.56	0.78	5.61	7.84
504	Kachchh	Mata no madh	23.533	68.95	10.74	7.62	9.97	7.77
505	Kachchh	Mathak1	22.997	70.025	11.65	-	11.65	11.65
506	Kachchh	Mau Moti_1	23.076	69.299	4.2	1.69	-	7.16
507	Kachchh	Mokha	22.95	69.8	-	-	-	17.66
508	Kachchh	Mothala	23.208	69.125	-	5.73	3.17	3.76
509	Kachchh	Moti cher	23.758	68.675	4.05	2.93	4.12	4.35
510	Kachchh	Mundra	22.828	69.721	6.52	3.73	6.15	9.15
511	Kachchh	Naliya	23.256	68.84	11.47	10.77	10.6	10.35
512	Kachchh	Naliya (Bus S)	23.267	68.833	11.66	13.54	12.64	13.14
513	Kachchh	Nirona	23.465	69.525	16.46	16.3	16.88	16.8
514	Kachchh	Rapar2	23.567	70.638	24.97	24.61	12.48	22.49
515	Kachchh	Ratanpur Khadir	23.861	70.363	10.22	18.05	17.81	18.88
516	Kachchh	Ratanpur(maum	23.108	69.292	-	-	3.36	4.55
517	Kachchh	Rawapar	23.517	69.075	14.7	-	14.7	14.7
518	Kachchh	Rudramata	23.392	69.708	11.4	5.34	0.9	6.45
519	Kachchh	Samkhiari	23.3	70.508	7.77	4.84	-	-
520	Kachchh	Sedat	23.171	69.638	10.9	11.15	12.28	11.15
521	Kachchh	Shinaya	23.033	70.054	0.74	1	1.7	1.1
522	Kachchh	Sukhpar	23.208	69.617	12.43	12.82	14.46	12.7

523	Kachchh	Suthri	23.034	68.915	10.8	10.13	10.89	10.7
524	Kachchh	Tera	23.283	68.947	-	11.02	12.82	13.45
525	Kachchh	Tunga	23.818	69.855	-	-	-	2.4
526	Kachchh	Ugardi	23.463	69.138	27.6	28.87	28.96	29.13
527	Kachchh	Vadala	22.916	69.856	10.62	10.13	10.25	11.7
528	Kachchh	Vinjhan1	23.1	69.025	8.67	6.15	5.05	5.57
529	Kheda	Alina	22.808	73.058	10.1	7.15	8.51	8.85
530	Kheda	Alindra	22.701	72.977	10.8	6.6	9.6	10.7
531	Kheda	Balasinor	22.958	73.336	4.4	0.6	2.77	1.6
532	Kheda	Balasinor1	22.95	73.325	6.6	1.5	1.56	4
533	Kheda	Bar	23.168	73.411	6.44	2.34	2.37	2.86
534	Kheda	Boriyavi	22.636	72.909	9	4.1	5.8	7.6
535	Kheda	Dakor	22.763	73.169	7.6	6.3	5.87	6.6
536	Kheda	Juna vasadra	23.083	73.363	4.85	1.75	3.09	5.1
537	Kheda	Kalesar	22.721	73.192	3.9	0.6	1.39	1.91
538	Kheda	Kapadvanj	23.004	73.092	14.32	6.22	12.8	13.62
539	Kheda	Kheda	22.738	72.704	8.1	-	5.25	5.2
540	Kheda	Ladvel_1	22.913	73.115	3.35	0.55	0.07	1.15
541	Kheda	Mahudha	22.783	72.942	4.75	2.85	2.7	3.3
542	Kheda	Matar I	22.71	72.668	18.42	11.62	15.22	18.62
543	Kheda	Matar II	22.71	72.668	6.71	0.23	5.13	6.33
544	Kheda	Muliyad	22.783	73.177	1.4	0.3	1.03	1.7
545	Kheda	Nadiad Pz-I	22.711	72.867	20.6	18.3	18.47	9
546	Kheda	Nadiad2	22.683	72.883	10.8	6.05	7.03	9.8
547	Kheda	Nes_Pz	22.708	73.203	10.62	7.72	8.3	8.52
548	Kheda	Sarkhej _ I	22.986	72.881	27.05	24.65	25.97	30.95
549	Kheda	Sarkhej _ II	22.986	72.881	36.75	31.85	32.18	34.05
550	Kheda	Sarkhej _ Pz-III	22.986	72.881	40.4	34.4	36.46	35.7
551	Kheda	Shekhupura	22.575	72.625	0.85	0.2	4.65	0.58
552	Kheda	Thasra	22.794	73.211	5.05	0.95	2.26	2.85
553	Kheda	Vaso	22.661	72.754	7.55	4.55	1.86	-
554	Kheda	Virpur_Pz	23.193	73.485	8.88	6	2.57	5.7
555	Kheda	Vyas vasna	23.106	73.104	26.75	19.75	13.14	16.05
556	Mahesana	Asjol	23.508	72.183	7.91	5.57	6.94	7.36
557	Mahesana	Bhandupara	23.725	72.383	8.58	8.67	8.37	8.46
558	Mahesana	Budasan	23.288	72.375	4.37	3.38	3.98	4.26
559	Mahesana	Daran_Pz-I	23.206	72.28	102.42	100.24	101.44	100.08
560	Mahesana	Daran_Pz-II	23.206	72.28	46.39	45.21	46.18	45.87
561	Mahesana	Daran_Pz-III	23.206	72.28	2.76	1.75	2.05	1.88
562	Mahesana	Dharpura	23.546	72.113	6.44	6.48	7.11	7.35
563	Mahesana	Dharusana	23.533	72.485	-	33.24	-	-
564	Mahesana	Dosaj	23.842	72.45	11.86	4.96	9.61	9.77
565	Mahesana	Jaska(Sy_4")Pz_	23.824	72.535	15.12	15.24	15.31	13.16
566	Mahesana	Jaska(Sy_8")Pz_	23.824	72.535	57.21	56.8	57.42	54.09
567	Mahesana	Jotana Pzi	23.474	72.288	117.26	115.37	115.67	115.11
568	Mahesana	Jotana Pzii	23.474	72.288	-	10.51	-	14.9
569	Mahesana	Jotana Pziii	23.467	72.297	14.7	14.61	15.13	110.09
570	Mahesana	Kalyanpur	23.127	72.193	5.26	4.92	5.18	4.87
571	Mahesana	Karalli (i)	23.804	72.486	139.46	133.12	132.96	133.41
572	Mahesana	Karalli (iii)	23.804	72.486	10.81	10.26	10.31	10.96
573	Mahesana	Karalli II	23.804	72.486	40.82	40.5	43.46	44.09
574	Mahesana	Kheralu (deep)	23.898	72.611	48.22	43.43	43.34	43.64
575	Mahesana	Kheralu(shallow	23.898	72.611	6.32	3.47	3.49	3.43
576	Mahesana	Kheralu1	23.888	72.613	12.35	8.43	8.7	8.94
577	Mahesana	Maguna	23.578	72.289	6.55	6.56	6.67	6.89
578	Mahesana	Mau	23.51	72.519	9.08	8.07	-	-
579	Mahesana	Mehsana v	23.598	72.399	29.36	29.39	31.41	31.38
580	Mahesana	Mehsana I	23.598	72.399	151.97	140.17	141.25	142.41
581	Mahesana	Mehsana II	23.598	72.399	151.71	139.78	141.41	142.44
582	Mahesana	Mehsana III	23.598	72.399	101.81	99.25	101.34	101.63
583	Mahesana	Mewad	23.533	72.383	7.84	7.69	7.75	8.03
584	Mahesana	Modhera II	23.717	72.467	56.37	54.36	54.53	54.98
585	Mahesana	Modhera iii	23.717	72.467	7.39	7.66	8.2	7.77
586	Mahesana	Motipura_Pz_I	23.534	72.604	52.12	66.31	50.41	172.94
587	Mahesana	Motipura_Pz_II	23.534	72.604	-	-	70.43	-
588	Mahesana	Motipura_Pz_III	23.534	72.604	-	-	-	47.69

589	Mahesana	Padhadya	23.523	72.533	10.83	12.43	12.56	-
590	Mahesana	Panchot	23.629	72.342	7.04	3.95	3.41	3.53
591	Mahesana	Rampura1	23.892	72.517	8.76	8.07	8.18	8.29
592	Mahesana	Sihi	23.8	72.35	12.8	10.24	11.66	11.87
593	Mahesana	Suraj	23.39	72.307	35.86	29.66	30.02	30.21
594	Mahesana	Tarabh	23.758	72.458	9.09	8.77	5.18	8.66
595	Mahesana	Thol Pz -V	23.131	72.376	111.02	103.29	-	-
596	Mahesana	Thol Pz-I	23.297	72.376	67.69	68.62	69.53	69.31
597	Mahesana	Thol Pz-III	23.131	72.376	-	-	102.71	102.72
598	Mahesana	Thol Pz-IV	23.131	72.376	17.3	-	-	-
599	Mahesana	Timba_1	23.987	72.759	15.36	16.7	9.05	9.46
600	Mahesana	Unad1	23.846	72.717	13.68	12.3	12.9	12.48
601	Mahesana	Unawa	23.767	72.363	4.25	3.2	3.4	3.51
602	Mahesana	Unjha	23.798	72.394	6.19	3.16	4.41	5.56
603	Mahesana	Vidaj	23.247	72.3	4.33	2.98	2.4	4.24
604	Mahesana	Visnagar iv	23.7	72.533	2.56	-	3.57	1.69
605	Narmada	Agar(Rep)_Pz	22.031	73.657	8.72	7.2	11.32	12.05
606	Narmada	Almadi	21.609	73.511	7.35	0.72	1.6	3.47
607	Narmada	Amayar	21.547	73.767	9.25	-	9.25	9.25
608	Narmada	Baman Phalia_P	21.798	73.379	15.78	7.71	19.32	19.76
609	Narmada	Chikada	21.521	73.646	5.45	1.07	3.05	4.24
610	Narmada	Chuli	21.555	73.476	12.23	7.33	5.65	7.32
611	Narmada	Dediapada	21.633	73.583	7.98	1.64	-	-
612	Narmada	Dev Mogra	21.585	73.724	-	4.15	7	7
613	Narmada	Garudeshwar	21.892	73.65	11.95	11.15	10.46	11.35
614	Narmada	Hirapura	21.868	73.6	5.22	3.75	7.35	8.65
615	Narmada	Jankh	21.492	73.597	5.4	1.2	0.98	1.25
616	Narmada	Kanbi pitha	21.521	73.646	4.55	4.7	1.39	1.74
617	Narmada	Kewadia_Pz	21.883	73.701	2.63	4.5	3.55	3.65
618	Narmada	Khaidipada	21.514	73.519	5.68	0.8	0.24	0.94
619	Narmada	Khota amba	21.733	73.475	2.89	0.99	1.34	1.19
620	Narmada	Namaria	22.044	73.622	4.73	4.15	4.56	4.35
621	Narmada	Nani singlot	21.669	73.667	9.8	3.7	7.8	8.4
622	Narmada	Rajpipla	21.875	73.5	26	30.07	29.31	29.82
623	Narmada	Ralda	21.61	73.653	5.05	1.45	1.54	1.73
624	Narmada	Rasela	21.925	73.492	13.26	-	17.5	17.5
625	Narmada	Rasulpura_Pz	21.967	73.625	33.03	9.58	22.3	22.39
626	Narmada	Ringani	21.842	73.467	2.25	1.88	1.6	2.23
627	Narmada	Selemba 1	21.61	73.763	8	-	5.95	6.4
628	Narmada	Sunderpura	21.847	73.536	30.05	4.97	-	-
629	Narmada	Umran	21.488	73.883	8	5.17	7.64	-
630	Navsari	Abrama	20.863	72.9	2.15	1.86	0.8	1.41
631	Navsari	Amba Talat	20.604	73.283	7.91	2.4	4	-
632	Navsari	Anklas	20.619	73.267	11	6.96	8.1	9.2
633	Navsari	Chadav	20.831	73.334	13.01	9.16	7.35	8.11
634	Navsari	Chinam	20.992	72.886	3.29	1.29	2.33	3.14
635	Navsari	Dandi	20.892	72.808	3.8	2.3	2.4	3.1
636	Navsari	Doldha	20.807	73.228	1.78	1.3	2	-
637	Navsari	Duvada	20.829	73.058	5.72	2.2	4.6	6.3
638	Navsari	Eru	20.936	72.926	4.94	-	2.1	-
639	Navsari	Hond	20.739	73.046	9	4.1	4.6	6.15
640	Navsari	Kaliyari	20.725	73.15	11.82	1.42	2.3	4.45
641	Navsari	Kantasvel	20.797	73.292	8.2	1.84	4.05	4.92
642	Navsari	Khergam	20.633	73.096	8.35	1.42	2.15	4.45
643	Navsari	Khudvel	20.772	73.186	10.55	1.3	4.3	10.55
644	Navsari	Manav Khadak	20.674	73.233	5.3	3.63	3.4	3.65
645	Navsari	Moti Valzar	20.805	73.267	7.63	3.17	3.85	6.03
646	Navsari	Navsari	20.95	72.933	29.34	25.8	26.82	29.06
647	Navsari	Navsari 1	20.958	72.935	5.65	2.17	2.65	5.85
648	Navsari	Onjal	20.833	72.842	6.58	4.88	3.75	5.1
649	Navsari	Panikhadak	20.649	73.167	12.7	4.3	6.5	8.75
650	Navsari	Parjan	21.011	72.839	5.16	2.3	2.68	6.05
651	Navsari	Pipalkhed	20.675	73.283	17.45	2.45	5.65	8
652	Navsari	Rankuva	20.813	73.158	7.48	0.5	2.7	3.83
653	Navsari	Rankuva 1	20.81	73.153	10.3	-	-	-
654	Navsari	Rumla	20.689	73.159	3.86	1.63	5.8	9.8

655	Navsari	Sari_khurd	20.788	72.954	4	1.77	1.95	3.35
656	Navsari	Ubhrat	21.008	72.746	4.63	1.32	1.59	3.05
657	Navsari	Unai	20.85	73.342	9.56	9.46	9.52	7.72
658	Navsari	Vansda	20.764	73.363	12.39	7.05	7.2	-
659	Panchmahals	Bavaliya	23.325	73.569	10.46	-	3.73	5.71
660	Panchmahals	Bavaliya_Pz	23.307	73.555	29.68	0.1	3.77	8.05
661	Panchmahals	Chhabanpur	22.828	73.613	12.95	6.5	8.05	8.55
662	Panchmahals	Dhanol	22.759	73.507	10.3	4.7	1.58	2.46
663	Panchmahals	Gadhar	23.15	73.775	15.85	5.45	3.9	6.05
664	Panchmahals	Godhra_UR1	22.793	73.607	9.93	5.03	6.14	4.59
665	Panchmahals	Godhra_UR2	22.769	73.591	11.75	7.55	8.28	8.95
666	Panchmahals	Godhra_UR3	22.78	73.607	9.48	0.98	3.58	2.7
667	Panchmahals	Godhra2	22.771	73.633	5.84	7.5	2.11	8.74
668	Panchmahals	Jambughoda	22.369	73.725	6.35	3.25	6.09	6.15
669	Panchmahals	Jambughoda1	22.373	73.723	4	1.2	-	-
670	Panchmahals	Javan	22.401	73.685	11	2.1	5.1	6.4
671	Panchmahals	Jokha	23.062	73.62	9.38	3.83	4.91	10.03
672	Panchmahals	Kalol_UR1	22.6	73.443	17.7	15.8	14.85	12.7
673	Panchmahals	Kalol_UR2	22.59	73.451	27.04	15.54	11.24	14.84
674	Panchmahals	Kantha	23.178	73.652	7.3	1.35	1.9	3.4
675	Panchmahals	Khadki_Vadiya	22.662	73.5	17.4	5.6	9.15	10.75
676	Panchmahals	Khanpur	23.37	73.677	10.6	6	8.7	12.2
677	Panchmahals	Kothamba	23.019	73.519	5	2.37	1.96	3.8
678	Panchmahals	Limbadia peti	23.204	73.6	6.9	2.3	2.72	3.2
679	Panchmahals	Lunawada	23.129	73.608	11.81	7.81	7.83	9.01
680	Panchmahals	Malekpur1	23.231	73.736	5.2	0.9	2.48	3
681	Panchmahals	Morwa (Hadaf) F	22.918	73.844	13.8	9.3	10.17	11.4
682	Panchmahals	Natapur	22.857	73.821	10.8	6.48	6.75	8.1
683	Panchmahals	Palla Rajgarh Pz	22.523	73.701	-	-	13.5	17.9
684	Panchmahals	Pandarvada	23.375	73.633	15.56	6.36	4.17	4.36
685	Panchmahals	Pavagadh	22.488	73.556	10.84	4.86	5.8	7.76
686	Panchmahals	Ranipura	22.725	73.758	10.3	4.75	6.3	8.08
687	Panchmahals	Santrampur	23.171	73.908	11.3	4.45	3.4	6.32
688	Panchmahals	Santrampur1	23.192	73.908	11.3	2.3	4.6	4.76
689	Panchmahals	Santroad1	22.803	73.793	18.2	10.1	12.7	13.4
690	Panchmahals	Shehra	22.954	73.625	4.2	0.55	0.97	1.85
691	Panchmahals	Shivrajpur	22.425	73.592	12.5	4.9	7.7	7
692	Panchmahals	Suliyat	23.062	73.851	24	5.85	19.1	22.7
693	Panchmahals	Tarkanda	22.546	73.529	13.3	6.9	3.8	7.7
694	Panchmahals	Tarvada	22.606	73.522	12.83	6.7	10.7	12.7
695	Panchmahals	Timbi2	22.508	73.508	8.2	3.2	8.2	8.2
696	Panchmahals	Tuwa	22.804	73.471	5.9	2.3	3	4
697	Panchmahals	Ucharpi Pz	23.119	73.472	19.25	14.3	12.99	13
698	Panchmahals	Vejalpur	22.696	73.558	8.1	3.5	4	4.6
699	Patan	Baspa (Repl) i	23.73	71.68	-	-	-	59.78
700	Patan	Baspa (Repl) ii	23.73	71.68	-	-	-	3.5
701	Patan	Bhutia vasna i	23.917	72.1	23.27	22.15	21.85	25.15
702	Patan	Biliya(Temple)_F	23.888	72.399	76.67	74.75	75.3	74.8
703	Patan	Biliya(Temple)_F	23.888	72.399	39.02	47.75	46.77	46.6
704	Patan	Chanasma II	23.711	72.115	-	-	62.3	67.52
705	Patan	Dharmoda	23.697	72.069	5.81	9.37	2.44	2.82
706	Patan	Dhinoj1	23.663	72.279	8.92	9.64	9.35	12.17
707	Patan	Jangral Pzi	23.695	71.694	-	-	140.87	142.9
708	Patan	Jangral Pzii	23.706	71.675	-	-	133.25	135.16
709	Patan	Kakosi Pz-I	24.002	72.306	137.2	134.3	135.45	-
710	Patan	Kakosi Pz-II	24.002	72.306	36	36.8	37.18	37.45
711	Patan	Lanwa Pz-I	23.687	72.249	128.04	-	-	155.65
712	Patan	Matarwadi I	23.868	72.147	103.43	94.42	93.75	93.75
713	Patan	Moti chander	23.594	71.781	1.64	-	1.92	2.5
714	Patan	Patan2	23.842	72.124	16.34	17.78	16.68	19.18
715	Patan	Piprala_1	23.655	71.086	9.7	10.3	10.38	10.85
716	Patan	Radhanpur2	23.825	71.614	0.09	0.02	0.35	0.7
717	Patan	Sander	23.767	72.254	8.74	8.3	9.02	10.36
718	Patan	Sankheshwar	23.522	71.791	2.08	1.09	1.29	2.29
719	Patan	Santhalpur	23.758	71.175	1.8	0.8	-	-
720	Patan	Shankhari	23.779	72.163	19.91	16.01	15.8	17.4

721	Patan	Sidhada	23.806	71.299	4.22	-	-	4.1
722	Porbandar	Adityana	21.709	69.711	26.05	14.48	20.5	14.18
723	Porbandar	Adwana2	21.917	69.6	14.65	13.2	10.44	11.5
724	Porbandar	Babda	21.77	69.588	21.9	10.06	6.83	8.02
725	Porbandar	Bakharla	21.765	69.661	27.11	19.25	15.44	23.81
726	Porbandar	Balej_1	21.371	69.875	6.05	5.06	5.85	6
727	Porbandar	Bhavpura	21.81	69.408	12.81	5.75	11.4	9.51
728	Porbandar	Bhod	21.659	69.821	-	19.41	23.02	26.94
729	Porbandar	Degam	21.71	69.606	19.35	17.69	19.35	19.35
730	Porbandar	Hanumangadh1	21.793	69.803	34.2	33.06	11.47	27.4
731	Porbandar	Kadegi	21.451	69.983	2.74	0.74	0.27	1.45
732	Porbandar	Kandorna	21.648	69.883	25.28	16.66	16.78	17.77
733	Porbandar	Khambodar	21.808	69.601	12.9	11.03	-	7.92
734	Porbandar	Kolikhada	21.7	69.614	29.78	21.71	24.72	28.98
735	Porbandar	Kuchhadi	21.683	69.55	2.85	2.75	2.5	2.7
736	Porbandar	Kutiyana_Pz	21.622	69.997	13.55	2.45	3.35	9.57
737	Porbandar	Kutiyana1	21.631	70.017	13.63	3.73	3.49	10.64
738	Porbandar	Miyani	21.833	69.389	7.45	6.25	7.12	7.33
739	Porbandar	Mocha	21.348	69.889	6.5	5.38	6.15	6.38
740	Porbandar	Mojiwana	21.886	69.6	16.82	12.72	6.25	9.67
741	Porbandar	Navibandar	21.446	69.792	7.36	4.01	3.88	4.13
742	Porbandar	Oddar	21.567	69.681	6.2	5.19	6.31	6.55
743	Porbandar	Palkhada1	21.758	69.488	16.48	11.22	9.31	13.11
744	Porbandar	Pata	21.297	69.942	5.85	4.01	5	5.1
745	Porbandar	Porbandar	21.645	69.643	8.18	1.7	3.66	4.4
746	Porbandar	Porbandar1	21.642	69.625	3.44	3.57	3.3	5.69
747	Porbandar	Ranavav2	21.683	69.746	32.43	6.13	13.6	22.8
748	Porbandar	Ratadi	21.72	69.512	7.26	4.6	5.74	5.84
749	Porbandar	Ratanpur	21.601	69.658	-	2.1	-	-
750	Porbandar	Ratia	21.438	69.806	7	4.8	6	7.3
751	Porbandar	Simar	21.947	69.686	17.03	-	15.26	15.17
752	Porbandar	Tukda	21.516	69.729	3.08	2.28	2.93	3.08
753	Porbandar	Visavada Mul Dv	21.786	69.446	10.97	5.43	10.55	8.1
754	Rajkot	Amar nagar	22.933	70.808	3.7	3.5	3.93	3.4
755	Rajkot	Bhada jodiya	21.663	70.342	-	13.3	14.4	15.1
756	Rajkot	Bhadla	22.183	71.092	20.44	7.5	8.3	9.92
757	Rajkot	Bhalgam	22.442	71.083	19.32	10.2	11.42	12.22
758	Rajkot	Chhatar	22.504	70.754	7.25	4.2	5.13	5.38
759	Rajkot	Chordi	21.917	70.749	10.5	6.8	6.86	8.14
760	Rajkot	Dadia	22.092	70.733	13.67	8.67	8.37	12.39
761	Rajkot	Dhoraji	21.746	70.286	25.7	11.7	9.86	11.94
762	Rajkot	Ganod	21.675	70.179	5.95	4.1	4.24	3.89
763	Rajkot	Gogavadar	21.967	70.875	12.55	-	-	12.55
764	Rajkot	Hadmadiya	21.978	70.623	-	5.35	5.71	6.96
765	Rajkot	Hadmatia	22.683	70.808	7.25	3.55	3.93	5.5
766	Rajkot	Halenda	22.092	71.05	13.33	4.73	5.25	5.64
767	Rajkot	Jamkandorna	21.897	70.492	13.55	6.85	6.99	13.18
768	Rajkot	Jamwali	21.933	70.767	4.25	2.75	3.07	3.88
769	Rajkot	Jasapur	21.892	70.483	23	10	11.3	13.55
770	Rajkot	Jasdan	22.044	71.214	9.47	6.65	6.73	7.88
771	Rajkot	Jasdan2	22.058	71.221	12.72	8.8	9.22	11.6
772	Rajkot	Jetpur	21.756	70.619	6.09	3.25	3.55	7.13
773	Rajkot	Jetpur Pithad	23.022	70.918	-	-	8.19	7.2
774	Rajkot	Jetpur pithad.	21.775	70.633	17.42	7.66	-	13.01
775	Rajkot	Kalithad1	22.019	70.66	8.87	3.5	3.84	9
776	Rajkot	Kalyanpur2	22.658	70.733	-	12.1	11.44	4.31
777	Rajkot	Kamlapur	22.146	71.2	-	19.9	20.6	20.9
778	Rajkot	Kamlapur1	22.152	71.2	15.45	-	8.34	9.42
779	Rajkot	Khamta	22.475	70.55	14.7	14.65	15.79	12.8
780	Rajkot	Khirsara1	22.242	70.646	12.41	-	-	-
781	Rajkot	Lajai	22.717	70.779	-	3.65	3.97	4
782	Rajkot	Lalavadar	22.133	71.304	9.23	6.43	7.39	8.44
783	Rajkot	Lodhika	22.133	70.632	9.35	6.05	6.53	8.73
784	Rajkot	Lodhika1	22.142	70.642	12	6.8	7.13	7.53
785	Rajkot	Macchukunda	23.001	70.896	4.25	4.4	5.1	5.2
786	Rajkot	Malia	23.092	70.763	0.33	1.6	1.95	2.64

787	Rajkot	Modpar1	22.9	70.667	3.81	1.06	1.41	2.1
788	Rajkot	Morbi	22.825	70.858	3.55	1.65	1.94	3.02
789	Rajkot	Morvi	22.817	70.842	4.03	1.7	1.84	2.72
790	Rajkot	Mota Dadwa	21.998	70.994	14.84	6.18	6.48	9.25
791	Rajkot	Mota dhansura	22.958	70.617	7	4	4.5	5.27
792	Rajkot	Motagundala	21.735	70.501	11.05	6.75	6.88	7.86
793	Rajkot	Movaiya	22.45	70.608	15.85	7	7.41	9.17
794	Rajkot	Neknam	22.504	70.696	13.55	9.6	9.9	9.83
795	Rajkot	Nichi mandal	22.858	70.95	7.9	3.5	3.63	6.63
796	Rajkot	Padadhari1	22.447	70.608	7	7	7.38	8.1
797	Rajkot	Patanvav	21.644	70.261	13.65	9.55	9.32	11.16
798	Rajkot	Pedhla	21.751	70.592	29.66	12.7	12.93	14.25
799	Rajkot	Rajkot	22.306	70.808	3.45	2.45	2.77	4.47
800	Rajkot	Rajkot1	22.3	70.8	5.77	5.27	6.01	7.09
801	Rajkot	Ranpur1	22.367	70.929	-	16.65	17.5	19.05
802	Rajkot	Ribda	22.125	70.767	11.22	4.5	4.96	8.32
803	Rajkot	Sardhar1	22.146	70.989	5.3	4.45	5.16	-
804	Rajkot	Sarvad	23.006	70.707	2.25	1.65	1.89	1.21
805	Rajkot	Sayapar	22.335	70.959	18.65	15.4	16.47	-
806	Rajkot	Sindhavadar	22.55	70.892	8.95	6.9	7.33	9.08
807	Rajkot	Targhari	22.383	70.667	9.49	2.5	3.05	3.25
808	Rajkot	Umrali	21.919	70.604	7.02	3.4	4.02	8.09
809	Rajkot	Upleta1	21.749	70.275	-	6.56	7.16	3.6
810	Rajkot	Upleta3	21.67	70.183	11.1	15.5	16.4	11.06
811	Rajkot	Vinchhia	22.208	71.379	7.4	4.05	4.21	4.99
812	Rajkot	Viranagar	22.025	71.125	14.83	4.73	5.03	11.68
813	Rajkot	Virpur1	21.85	70.696	12.63	10.28	10.93	11.71
814	Rajkot	Wankaner-1	22.621	70.929	6.65	7	-	7.5
815	Sabarkantha	Abhapur	23.964	73.258	8.2	5.7	-	-
816	Sabarkantha	Alwakampa	23.275	73.208	18.7	2.2	6.34	12.2
817	Sabarkantha	Anwarpura Pz	23.406	72.846	36.7	29.5	38.87	38
818	Sabarkantha	Atarsumba	23.986	73.208	11.37	2.4	2.98	3.15
819	Sabarkantha	Atarsumba_2	23.986	73.212	-	1.4	-	-
820	Sabarkantha	Bayad_Pz	23.217	73.229	10.8	9.6	9.45	9.9
821	Sabarkantha	Bhadreshwar	23.746	72.979	30.1	27.3	24.7	27
822	Sabarkantha	Bhiloda_Pz	23.767	73.25	4.15	4.15	3.29	3.65
823	Sabarkantha	Bhiloda2	23.767	73.272	-	4.08	3.94	7
824	Sabarkantha	Bibipur1	23.253	73.213	18.03	-	-	9.9
825	Sabarkantha	Boral	23.125	73.208	15.1	4.7	9.2	11.3
826	Sabarkantha	Boriya	23.243	72.941	7.3	7.4	7.3	8
827	Sabarkantha	Chandap_DW	23.923	72.853	17.1	6.5	9.84	10.2
828	Sabarkantha	Chandap_Pz	23.932	72.857	15.9	6.3	7.7	6.9
829	Sabarkantha	Choriwad	23.9	73.119	24.71	20.01	17.87	11.91
830	Sabarkantha	Derol Pz-II	23.599	72.903	47.9	34.4	47.96	49.7
831	Sabarkantha	Dhansura1	23.35	73.2	12.3	2.4	4.05	10.4
832	Sabarkantha	Gadada	23.575	73.253	12.55	0.63	6.02	11.79
833	Sabarkantha	Gadha	23.708	72.942	19.9	5.4	16.4	15
834	Sabarkantha	Hamirpur	23.408	73.458	16.4	1.36	9.94	13.9
835	Sabarkantha	Harsol1	23.378	73.017	16.35	9.35	11.19	15.75
836	Sabarkantha	Himmatnagar_P	23.608	72.971	8.85	7.45	8.28	8.35
837	Sabarkantha	Idar	23.842	73.038	9.7	3.1	5.22	7.1
838	Sabarkantha	Jhaloti	23.95	73.338	11.5	2.8	5.8	10.1
839	Sabarkantha	Karanpur	23.333	73.3	16.8	0.4	12.9	3.5
840	Sabarkantha	Kesharpura	23.915	73.145	24.85	16.05	15.02	17.85
841	Sabarkantha	Kesharpura_May	23.322	72.949	4.43	0.68	3.58	5.28
842	Sabarkantha	Khedbrahma_Pz	24.036	73.044	-	4.25	0.81	9.75
843	Sabarkantha	Khedbramha_1	24.029	73.05	18.5	10.3	10.4	18.4
844	Sabarkantha	Kherwada	23.969	73.234	14.5	2.5	3.87	5.1
845	Sabarkantha	Kuski_Pz	23.639	73.369	6.74	0.37	6.26	12.05
846	Sabarkantha	Malpur_1	23.345	73.464	13.1	3.7	12.67	8.85
847	Sabarkantha	Malpur_Pz	23.342	73.468	17.7	7.5	7.74	8.6
848	Sabarkantha	Mathasuliya	23.603	73.154	13.13	6.53	7.23	9.53
849	Sabarkantha	Matoda	24.111	73.008	20.4	4.8	16.69	16.8
850	Sabarkantha	Medasana	23.512	73.274	10.65	5.35	6.67	6.65
851	Sabarkantha	Meghraj_1	23.496	73.508	13.5	2.5	2.81	3.65
852	Sabarkantha	Modasa	23.463	73.308	6.08	3.98	5.15	6.08

853	Sabarkantha	Panvath/porvad	23.897	73.332	9.96	2.83	9.96	-
854	Sabarkantha	Poshina2	24.375	73.033	9.1	2.1	3.97	5.5
855	Sabarkantha	Punasan	23.669	73.174	7.35	4.35	4.41	5.88
856	Sabarkantha	Ramgarh	23.605	72.919	11.88	5.68	11.06	11.88
857	Sabarkantha	Ratanpur	24.208	72.999	-	4.7	17.1	17.1
858	Sabarkantha	Revas	23.821	73.117	21.7	14.52	12.2	14.9
859	Sabarkantha	Sabalwad	23.874	72.963	14.1	5.1	6.19	13.1
860	Sabarkantha	Sathamba	23.175	73.338	20.45	4.75	8.85	9.95
861	Sabarkantha	Seenawad	23.486	73.399	13.8	2.25	4.17	6.2
862	Sabarkantha	Shamlaji	23.686	73.367	15.15	6.55	10.48	11.85
863	Sabarkantha	Silwad	24.008	73.117	13.9	4.1	6.41	6.72
864	Sabarkantha	Takatuka	23.847	73.308	-	-	-	0
865	Sabarkantha	Takatuka_1	23.851	73.305	-	9.7	13.5	8
866	Sabarkantha	Umadpura	23.304	72.964	10.3	4.4	7.2	9.8
867	Sabarkantha	Varvada	23.442	73.057	18.7	12	13.6	15.6
868	Sabarkantha	Vejpur_Pz	23.797	73.221	13.95	3.25	9.83	13.7
869	Sabarkantha	Vijaynagar	24.008	73.354	12	0.1	-	-
870	Sabarkantha	Vijaynagar_Pz	24.007	73.333	8.36	3.6	2.52	-
871	Sabarkantha	Virpur (Idar)	23.783	72.933	16.65	-	-	-
872	Sabarkantha	Virpur_1(Himma	23.652	72.954	16.25	5.65	12.25	16.55
873	Sabarkantha	Wadali	23.933	73.033	30.7	10.1	15.2	18.2
874	Sabarkantha	Waliampura Pz	23.351	72.971	38.1	32.75	37.55	39.1
875	Surat	Aarda Boratha	21.488	74.115	8.08	7.77	8.15	-
876	Surat	Allu	21.063	73.192	5.04	1.72	2.55	4.65
877	Surat	Anita	21.399	72.856	1.81	-	3.2	-
878	Surat	Bagumda	21.158	72.989	5.54	4.42	1.6	-
879	Surat	Bardoli	21.115	73.1	7.16	5.55	3.55	5.77
880	Surat	Bedchit	20.95	73.351	11.35	4.16	4.2	8.62
881	Surat	Bhatkol	21.38	73.004	3.6	2.57	2.95	3.57
882	Surat	Bhurvel (ukai)	21.225	73.579	4.58	2.18	2.8	3.67
883	Surat	Chapawadi	21.151	73.394	7.7	2.65	3.1	4.4
884	Surat	Chavada	21.475	73.595	4.28	1.73	2.41	1.8
885	Surat	Digas	21.248	73.026	11	6.28	7.5	8.8
886	Surat	Dungri	21.408	73.133	11.44	8.72	4.25	7.55
887	Surat	Gandhinagar	21.164	73.696	6.42	2.88	3.39	5.87
888	Surat	Gangadhra	21.119	73.075	10.85	6.99	6.45	10.85
889	Surat	Gangtha	21.525	74	19.81	-	7.6	19.81
890	Surat	Jesingpura[sg]	21.171	73.554	7.58	6.94	5.6	7.17
891	Surat	Jhankhavav	21.45	73.329	7.4	4.69	5.1	5.1
892	Surat	Jhankhvav	21.467	72.953	11.34	3.74	4.3	5.6
893	Surat	Juna umarpada	21.458	73.492	-	3.27	3.4	-
894	Surat	Juna Umarpada2	21.449	73.487	8.38	2.58	3	2.98
895	Surat	Kadod 1	21.221	73.219	5.72	4.65	9.1	5.45
896	Surat	Karanjvel	21.013	73.458	8.09	4.68	5.2	6.31
897	Surat	Kasal	21.322	73.127	8.9	2.75	2.6	5.26
898	Surat	Kathor	21.292	72.929	12.85	11.18	11.5	13.4
899	Surat	Katradevi	21.415	73.428	7.44	1.67	1.91	-
900	Surat	Kelkui	21.042	73.323	0.53	0.78	1.2	3.23
901	Surat	Khedwada (Ashr	21.281	73.465	8.07	5.53	5.7	6.4
902	Surat	Kherwa	21.419	73.96	6.3	0.8	2.45	-
903	Surat	Madhi	21.142	73.254	4.77	-	-	-
904	Surat	Madhi 1	21.134	73.249	8.47	2.97	3.6	-
905	Surat	Mahuva2	21.021	73.146	17.75	14.63	16.05	17.55
906	Surat	Malda	21.367	73.35	7.6	3.34	3.85	6.35
907	Surat	Mandvi2	21.254	73.296	14.19	12.8	13.5	13.4
908	Surat	Mota	21.17	73.069	3.17	3.3	2.6	4.3
909	Surat	Moti Sarkui	21.279	73.35	9.87	2.57	4.65	5.35
910	Surat	Motichher	21.213	73.362	2.54	0.6	2.6	6.33
911	Surat	Navi pardi	21.322	72.971	4.56	3.28	3.08	3.28
912	Surat	Nizar	21.481	74.2	16.23	13.5	13.58	15.15
913	Surat	Nizar1	21.477	74.191	10.68	10.1	10.27	10.6
914	Surat	Nogama	21.291	73.214	3.69	2.3	1.14	4.54
915	Surat	Olpad2	21.342	72.758	2.57	1.45	1.6	2.35
916	Surat	Palsana	21.078	72.992	2.84	1.53	1.74	1.95
917	Surat	Paneshwar	21.454	73.198	14.62	9.4	11.9	12.02
918	Surat	Paniwara	21.539	74.069	7.13	-	3.45	3.4

919	Surat	Puna	20.924	73.233	12.75	8.1	7.53	9.74
920	Surat	Puna1	20.929	73.229	10.05	5.89	5.3	8.25
921	Surat	Sachin town	21.092	72.875	4.92	2.6	2.5	2.82
922	Surat	Sarbhon	21.058	73.092	7.64	2.8	2.8	5.65
923	Surat	Sayan	21.306	72.911	7.78	6.96	7	7.7
924	Surat	Sultanabad	21.092	72.725	6.77	4.85	4.91	5.56
925	Surat	Surat_DW	21.246	72.786	4.16	-	3.3	-
926	Surat	Tawali	21.376	73.902	8.46	3.5	3.72	6.4
927	Surat	Ten-bardoli	21.117	73.1	10.8	5.14	4.1	6.12
928	Surat	Tokarwa 1	21.31	73.851	8.1	4.03	4.32	6.42
929	Surat	Uchchhal	21.172	73.769	12.94	10.47	10.68	8.5
930	Surat	Ushker	21.341	73.098	5.83	3.48	4.8	7.9
931	Surat	Vadade-Khurd	21.252	73.817	3.2	1.08	1.28	1.09
932	Surat	Vaheval	20.837	73.288	11.42	4.36	4.58	6.95
933	Surat	Valod	21.05	73.267	5.25	1.5	3.1	4.3
934	Surat	Velachha	21.444	73.049	5.66	5.16	-	-
935	Surat	Vyara1	21.108	73.396	5.14	3.48	3.7	3.88
936	Surat	Wadoli	21.425	72.829	0.7	0.2	0.15	-
937	Surendranagar	Adriyana	23.425	71.708	3.45	3.08	3.44	4.22
938	Surendranagar	Anindra	22.81	71.706	14.58	-	-	-
939	Surendranagar	Bajana	23.117	71.783	1.96	1.76	2.1	4.33
940	Surendranagar	Bamanbor	22.417	71.042	10.95	8.85	9.13	10.17
941	Surendranagar	Chotila1	22.425	71.182	9.75	12.2	12.65	12
942	Surendranagar	Dasada	23.32	71.824	-	-	-	4.45
943	Surendranagar	Dasada1	23.321	71.829	1.35	0.65	0.83	5.28
944	Surendranagar	Dedadra	22.775	71.733	9.51	-	4.92	5.73
945	Surendranagar	Degam	23.113	71.663	-	-	-	-
946	Surendranagar	Dhama	23.385	71.679	-	-	4.37	8.21
947	Surendranagar	Dhandhalpur 1	22.381	71.351	19	3.15	3.6	2.67
948	Surendranagar	Dheduki 1	22.501	71.322	16.6	9.1	9.76	12.48
949	Surendranagar	Dhrangadhra 2	22.993	71.498	14.38	6.38	7.18	6.68
950	Surendranagar	Gamda	22.898	71.557	-	4.58	5	11.48
951	Surendranagar	Ghansyam Gadh	23.107	71.484	-	-	-	3.51
952	Surendranagar	Halvad2	23.021	71.188	12.31	11.86	12.93	12.52
953	Surendranagar	Jhinjhuwada	23.35	71.658	7.75	4.2	4.65	7.37
954	Surendranagar	Juna Devaliya 1	22.979	71.009	-	1.88	2.62	2.03
955	Surendranagar	Kharaghoda	23.188	71.75	3	2	2.44	2.06
956	Surendranagar	Kherwa	23.004	71.746	4.09	1.34	2.09	3.92
957	Surendranagar	Kukavati	23.123	71.48	-	-	-	6.98
958	Surendranagar	Lakhtar	22.858	71.783	5.25	6.4	6.92	2.26
959	Surendranagar	Latuda	22.813	71.608	7.85	0.95	1.03	7.5
960	Surendranagar	Limbdi1	22.567	71.813	-	2.95	3.42	1.53
961	Surendranagar	Limbdi-Pz	22.572	71.808	-	2.75	3.25	3
962	Surendranagar	Mathak2	22.842	71.058	11.4	-	10.7	12.34
963	Surendranagar	Miani	23.113	71.129	4.17	-	4.26	4.74
964	Surendranagar	Modhvana	22.881	71.736	-	-	0.74	1.14
965	Surendranagar	Moti Moladi	22.421	71.11	10	11.6	12.2	10.05
966	Surendranagar	Muli	22.65	71.467	11.3	6.5	6.85	7.46
967	Surendranagar	Nava Raisngpur	22.742	71.262	-	-	7.04	13.3
968	Surendranagar	Olak	22.919	71.863	15.45	3.55	3.95	4.68
969	Surendranagar	Pipli	23.06	71.734	0.85	0.1	0.19	0.01
970	Surendranagar	Rajsitapur	22.842	71.592	8.75	2.13	2.28	6.86
971	Surendranagar	Ranipet	22.708	71.217	6.45	8.5	9.1	9.03
972	Surendranagar	Ratanpur1	22.858	71.271	-	7.7	8	9.2
973	Surendranagar	Sara	22.8	71.197	3.8	4	4.53	4.8
974	Surendranagar	Sarla	22.733	71.367	13.15	-	24.11	24.11
975	Surendranagar	Sayala	22.533	71.483	9.1	5.7	6.2	19.6
976	Surendranagar	Shiyani	22.667	71.829	4.6	-	2.47	2.85
977	Surendranagar	Soldi	22.994	71.416	-	-	8.2	8.62
978	Surendranagar	Sudamda	22.454	71.485	5.1	4	4.44	4.33
979	Surendranagar	Sukhpar1	23.008	71.283	12.97	-	4	4.35
980	Surendranagar	Surel	23.479	71.619	14.27	-	2.76	3.3
981	Surendranagar	Surendranagar	22.724	71.671	-	2.3	2.7	2.75
982	Surendranagar	Surendranagar2	22.717	71.608	8.65	8.55	8.97	9.45
983	Surendranagar	Tarnetar	22.642	71.217	-	14.55	15.65	20.55
984	Surendranagar	Tavi 1	22.72	71.852	0.2	-	3.43	4.11

985	Surendranagar	Than	22.579	71.2	-	18.48	18.98	19.38
986	Surendranagar	Vanala	22.433	71.921	5.78	2.58	2.35	2.54
987	Surendranagar	Visawadi	23.342	71.733	4.5	3.15	3.87	4.1
988	Surendranagar	Vitthalgarh	22.988	71.975	13.8	3.1	3.43	3.26
989	Surendranagar	Warod	22.558	71.654	5.92	-	-	5.34
990	The dangs	Aherdi	20.692	73.617	4.79	1.47	1.35	2.72
991	The dangs	Ahwa_Pz	20.759	73.686	3.22	2.1	2.2	2.5
992	The dangs	Ahwa1	20.758	73.683	3.38	1.12	1	2.57
993	The dangs	Bari Pada	20.64	73.691	13.1	0.3	0.3	2.5
994	The dangs	Bhenskatri 1	21.004	73.558	9.05	-	-	-
995	The dangs	Bori Gaotha 1	20.811	73.503	9	3.43	4.93	6.38
996	The dangs	Chikhli	20.658	73.688	10.34	1.12	1	1.05
997	The dangs	Chinchnogaotha	20.808	73.553	7.68	1.4	2.36	2.36
998	The dangs	Chinchpada	20.638	73.775	6.5	0.6	0.7	2.24
999	The dangs	Dhumkal	20.646	73.792	4.37	1.52	0.1	1.15
1000	The dangs	Gadad	20.638	73.775	-	0.47	1.25	3.5
1001	The dangs	Ghubita	20.8	73.738	2.05	0.5	0.4	3.35
1002	The dangs	Jakana	20.633	73.746	9.91	1.65	0.65	1.57
1003	The dangs	Jamalpada	20.732	73.521	7.05	2.93	4.8	5.7
1004	The dangs	Kalibel	20.921	73.581	3.53	0.8	0.8	1.4
1005	The dangs	Mahal	20.917	73.679	6.6	2.9	2.9	3.32
1006	The dangs	Malegaon	20.6	73.746	5.87	0.22	0.3	-
1007	The dangs	Nadak khadi	20.804	73.613	6.28	0.85	0.95	1.98
1008	The dangs	Nana pada	20.7	73.583	8.03	1.38	1.8	9.18
1009	The dangs	Sakarpatal	20.719	73.557	6.01	1.37	0.4	1.6
1010	The dangs	Sodmal	20.867	73.617	11.97	1.3	1.7	4.63
1011	The dangs	Subir	20.922	73.581	7.77	1.02	1.2	2.37
1012	The dangs	Umberpada	20.683	73.725	4.91	2.55	1.35	3.1
1013	The dangs	Vaghai	20.764	73.504	12.93	5.47	8.6	9.7
1014	The dangs	Vazat Amba	20.878	73.518	6.33	2.5	3.35	7.12
1015	Vadodara	Alladpur	22.25	73.717	8.7	6.78	9.23	9.49
1016	Vadodara	Amreshwar	22.228	73.483	4.07	-	3.4	2.67
1017	Vadodara	Asala	22.383	73.933	12.5	5.3	4.53	5.19
1018	Vadodara	Asar	22.204	74.011	17.2	13.1	-	-
1019	Vadodara	Baladgam	22.138	74.008	13	8.55	10.87	12.95
1020	Vadodara	Bhindol	22.2	73.9	-	3.42	-	-
1021	Vadodara	Bodeli	22.271	73.717	6.1	1.62	-	-
1022	Vadodara	Chavaria	22.188	73.988	12.3	-	12.3	-
1023	Vadodara	Chella Karamsiy	22.397	73.432	3.46	2.2	2.04	2.23
1024	Vadodara	Chhaliyar	22.667	73.317	22.7	21.37	-	21.39
1025	Vadodara	Chhota udepur	22.308	74.017	8.02	4.86	3.57	4.29
1026	Vadodara	Chisadia	22.4	74.133	11.88	-	-	11.88
1027	Vadodara	Chitral PZ_II	22.182	72.946	25.9	23.8	25.3	23.4
1028	Vadodara	Chitral Pz-I	22.182	72.946	25.72	24.59	24.32	23.56
1029	Vadodara	Chota udepur	22.308	74.017	-	1.8	-	-
1030	Vadodara	Devat (thadgam)	22.1	73.983	11.7	6.95	7.42	8.24
1031	Vadodara	Ferkuva	22.367	74.208	7.15	2.25	4.89	4.06

1032	Vadodara	Ghamodi	22.367	74.075	9.08	2.95	4.81	5.95
1033	Vadodara	Ghayaj ii	22.233	73.054	18.55	16.4	23.54	23.44
1034	Vadodara	Govindpura	22.211	73.741	8.52	3.95	5.15	5.44
1035	Vadodara	Handod1	22.074	73.046	29.6	24.73	28.98	28.63
1036	Vadodara	Jojh	22.442	73.963	13.42	7.88	9.04	10.06
1037	Vadodara	Juna samalya	22.504	73.283	11.35	11.4	-	12.43
1038	Vadodara	Kaprali	21.979	73.942	7.5	4.06	-	-
1039	Vadodara	Karamasiya	22.421	73.419	13.2	-	3.58	4.94
1040	Vadodara	Kevadi	22.517	73.942	8.02	3.9	4.81	5.62
1041	Vadodara	Kosindra Pz-I	22.147	73.756	2.48	-	3.98	3.72
1042	Vadodara	Makni	22.225	73.679	8.22	-	-	11.22
1043	Vadodara	Masor	22.142	72.908	15.83	13.95	14.03	14.41
1044	Vadodara	Moti chikhali	22.011	74.083	6.4	0.56	3.12	3.25
1045	Vadodara	Panwad	22.2	74.042	15.3	0.3	8	9.65
1046	Vadodara	Patiyapura	22.275	73.442	11.75	5.65	5.82	6.44
1047	Vadodara	Pavi	22.342	73.833	4.97	2.05	3.22	3.85
1048	Vadodara	Pitha	22.254	73.642	9.46	3.96	5.19	6.14
1049	Vadodara	Rasulpur	22.6	73.233	4.28	-	-	-
1050	Vadodara	Raypura i	22.282	73.09	30.64	12.7	29.02	28.08
1051	Vadodara	Saidal	22.283	73.503	3.4	0.05	1.94	2.13
1052	Vadodara	Saidivasana	22.058	74.017	6.7	2.3	2.7	3.3
1053	Vadodara	Sankarda	22.439	73.122	19.47	-	24.54	26.64
1054	Vadodara	Sankarda1	22.439	73.122	28.99	-	25.6	26.58
1055	Vadodara	Sankheda	22.539	73.175	22.18	-	22.8	26.86
1056	Vadodara	Segwa chouki ii	22.008	73.383	27.32	37.17	35.8	37.94
1057	Vadodara	Segwa chowki I	22.008	73.383	41.15	35.22	35.5	33.36
1058	Vadodara	Sengpur	22.038	73.888	-	5.1	6.38	8.7
1059	Vadodara	Sinor	21.913	73.342	21.65	21.7	23.64	24.65
1060	Vadodara	Tokri	22.147	74.028	8.34	3.57	6.32	10.06
1061	Vadodara	Tundav	22.483	73.203	14.56	14.35	10.17	10.28
1062	Vadodara	Vadala	22.475	73.317	-	-	6.12	-
1063	Vadodara	Vadodara I	22.305	73.272	22.27	12.05	14.76	15.29
1064	Vadodara	Vadodara Ii	22.305	73.272	5.3	5.3	4.66	5.15
1065	Vadodara	Vadodara_Keva	22.293	73.198	10.6	10.2	9.36	10.63
1066	Vadodara	Vadodara_ONG	22.269	73.213	15.23	17	16.12	16.14
1067	Vadodara	Vadodara_Sama	22.343	73.201	17	-	-	-
1068	Vadodara	Vadshala Pzi	22.163	73.169	-	11.6	-	-
1069	Vadodara	Vadtalav Pz	22.259	73.784	6.8	8.5	7.3	9.12
1070	Vadodara	Vagudan	22.067	74.142	6.93	1.8	5.57	6.49
1071	Vadodara	Vega	22.159	73.413	6.2	3.9	4.75	5.29
1072	Vadodara	Vejpur2	22.747	73.356	2.3	1.3	1.54	1.66
1073	Vadodara	Waghach	22.071	73.851	-	9.85	-	-
1074	Vadodara	Waghodia Pz	22.364	73.377	8.53	6	7.82	8.26
1075	Vadodara	Wankaner2	22.539	73.175	40.3	25.41	-	-
1076	Valsad	Awadha	20.517	73.288	3.66	0.5	8.35	2.07
1077	Valsad	Chavshala	20.328	73.326	5.08	0.47	1.9	1.81
1078	Valsad	Dahli (bhilad)	20.258	72.883	4.37	0.99	2.89	4.09
1079	Valsad	Dharampur 3	20.531	73.163	10.98	9.02	7.7	10.75
1080	Valsad	Dharampur1	20.536	73.171	10.36	3.08	3.3	6.62
1081	Valsad	Dungri	20.689	72.949	10	8	5.4	8.53
1082	Valsad	Fali	20.313	73.376	12.2	0.3	1.02	2.4
1083	Valsad	Huda	20.291	73.409	9.8	4.18	1.8	-
1084	Valsad	Kanadu	20.325	72.842	7.15	1.88	2.53	6.5
1085	Valsad	Kaparda	20.342	73.217	6.01	2.36	2.25	2.66
1086	Valsad	Karwad	20.363	72.975	4.94	1.45	3.5	4.3
1087	Valsad	Lakadmal	20.467	73.158	6.82	2.07	3.5	4.81
1088	Valsad	Mandwa 1	20.366	73.18	9.6	3.49	7.8	4.8
1089	Valsad	Muli1	20.633	73.025	3.13	1	2.3	3.82
1090	Valsad	Nanaponda	20.414	73.121	10.54	3.5	5.4	7.8
1091	Valsad	Tithal	20.6	72.9	8.26	5.2	6.5	7.2
1092	Valsad	Tumb	20.217	72.842	2.9	2.1	2.53	3.6
1093	Valsad	Udwada	20.464	72.918	6.75	0.45	2.15	3.13
1094	Valsad	Umargaon	20.192	72.75	3.84	-	2.4	3.68
1095	Valsad	Valsad1	20.606	72.928	-	-	-	14.73
1096	Valsad	Vapi Balitha	20.38	72.904	9.6	2.16	2.46	9.6
1097	Valsad	Wankal	20.56	73.09	11.18	-	6.5	-

Annexure IV

MEAN DECADAL WATER LEVELS OF THE NATIONAL HYDROGRAPH STATIONS IN GUJARAT AND UT OF DAMAN & DIU OF PHERATIC AQUIFER 2007-16

DISTRICT	LOCATION	LAT_Y	LONG_X	PRE_MONSOON	POST_MONSON
Ahmedabad	Bagodara_Pz_II	22.6242	72.2140	6.57	-
Ahmedabad	Barvala	22.1525	71.8917	8.60	7.67
Ahmedabad	Dalod	23.3728	71.9667	6.75	5.83
Ahmedabad	Devalia	22.3728	71.9861	16.82	-
Ahmedabad	Dhandhuka1	22.3728	71.9861	4.35	3.08
Ahmedabad	Endla	23.2711	72.0583	3.95	2.15
Ahmedabad	Fedra	22.4622	72.1583	2.65	1.58
Ahmedabad	Gamph	22.3558	72.1667	3.37	1.74
Ahmedabad	Ghuma	23.0339	72.4458	5.97	-
Ahmedabad	Ghuma_Pz_II	23.0339	72.4497	7.00	-
Ahmedabad	Hansalpur_Pz-III	23.0847	72.0167	4.05	3.11
Ahmedabad	Jhanjharwa_Pz_II	23.4147	72.0583	-	7.23
Ahmedabad	Kumarkhan	22.9150	72.0167	5.72	4.49
Ahmedabad	Kundal	22.9150	72.2236	-	7.56
Ahmedabad	Kundali	22.2711	71.7000	15.82	7.58
Ahmedabad	Mandal2	23.2711	71.9167	4.78	3.16
Ahmedabad	Pachcham_Pz	22.2203	72.1789	-	1.26
Ahmedabad	Rajpada	22.3050	71.6917	20.05	14.00
Ahmedabad	Sola_Pz_III	23.0806	71.5186	12.23	-
Ahmedabad	Tagadi1	22.2881	71.9472	7.83	3.18
Ahmedabad	Ughraj1	23.3728	72.1000	8.19	-
Ahmedabad	Upardhal1	22.8500	72.1458	10.82	-
Ahmedabad	Vagad(Repl)_Pz	22.3558	71.8681	7.57	5.79
Ahmedabad	Viramgam2	23.1356	72.0333	3.41	1.89
Amreli	Amreli	21.6100	71.2250	12.38	5.61
Amreli	Amreli_Pz	21.6100	71.2250	14.04	-
Amreli	Ankadia mota	21.6439	71.1083	10.04	5.97
Amreli	Badhda	21.2542	71.3389	10.03	6.80
Amreli	Bagasara	21.4744	70.9625	15.23	11.08
Amreli	Bhavardi1	21.1017	71.2583	5.39	0.87
Amreli	Bherai	20.8811	71.3625	3.17	2.35
Amreli	Bhuva	21.4236	71.3639	4.75	3.76
Amreli	Chalala	21.4236	71.1667	28.62	26.68
Amreli	Charkhadia_Pz	21.3897	71.2917	21.95	-
Amreli	Charkhadia1	21.3897	71.2958	19.34	17.51
Amreli	Chavand	21.8303	71.4125	11.12	5.51
Amreli	Devaliya	21.2372	70.9250	13.48	-
Amreli	Dharangani	21.3389	71.2000	30.64	30.13
Amreli	Dhari	21.3389	71.0417	13.11	-
Amreli	Dhari_Pz	21.3219	71.0181	20.92	-
Amreli	Dhrai Balmukand	21.8342	71.2172	21.05	10.06
Amreli	Fifad	21.4406	71.5403	5.65	4.61
Amreli	Gopalpura Vanda Pz	21.3728	71.4917	25.06	-
Amreli	Goradka	21.2203	71.4111	12.48	4.15
Amreli	Govadka	21.5422	71.1583	6.73	-
Amreli	Hinderana	20.9828	71.4128	4.35	-
Amreli	Hipavadli	21.3728	71.6147	9.25	8.28
Amreli	Ingorala	21.2372	71.2000	15.14	-
Amreli	Jafrabad	20.8811	71.3625	2.64	2.13
Amreli	Jesar_Pz	21.3710	71.6700	11.62	-
Amreli	Kadiyali	20.9150	71.3603	6.20	-
Amreli	Kerala	21.3897	71.2167	37.02	32.71
Amreli	Khamba	21.1525	71.2389	9.39	4.45
Amreli	Khamba_Pz	21.1356	71.2542	12.98	-
Amreli	Kotadapitha	21.9580	71.2040	14.54	-
Amreli	Kunkavav	21.6625	70.9833	17.87	17.43
Amreli	Lathi	21.7286	71.3833	7.55	2.30
Amreli	Lotpur	20.9658	71.4333	6.53	-

Amreli	Luvariya	21.6269	71.3958	10.35	-
Amreli	Mandal	21.1017	71.5833	26.18	22.13
Amreli	Morjhar	21.3728	71.1186	35.27	25.01
Amreli	Nageshri	20.9319	71.3542	5.89	2.77
Amreli	Piyava	21.3897	71.4667	26.99	23.05
Amreli	Punjapadar	21.5253	71.3583	11.85	4.68
Amreli	Salena	21.3860	71.5330	12.86	-
Amreli	Sanaria	21.5580	71.4680	5.50	2.54
Amreli	Tajpur	21.7286	71.4667	18.49	8.71
Amreli	Timbi2	20.8981	71.2042	10.02	10.55
Amreli	Trakuda	21.0169	71.2806	10.46	4.94
Amreli	Untvad	21.9167	71.2167	15.52	9.73
Amreli	Vaghania juna	21.5931	70.9667	10.50	4.34
Amreli	Vankiya	21.5253	71.1361	9.87	5.40
Amreli	Vankiya1	21.2372	71.2500	14.71	-
Amreli	Victor	21.0000	71.5417	1.64	-
Amreli	Virpur	21.2542	71.1500	19.08	-
Anand	Adas_DW	22.4786	73.0303	-	18.19
Anand	Anand	22.5761	72.9722	8.83	-
Anand	Anklav2	22.3897	73.0083	22.67	-
Anand	Bandhani	22.5422	72.8167	4.74	3.04
Anand	Bhadran	22.3830	72.8170	15.79	14.33
Anand	Boriyani	22.6320	73.0040	6.75	4.18
Anand	Dali	22.2711	72.7667	4.53	3.46
Anand	Davalpura_Pz	22.4575	72.8028	3.36	1.58
Anand	Dharmaj	22.4236	72.7944	11.66	10.11
Anand	Ghora	22.6947	73.0542	5.52	-
Anand	Kansari1	22.3389	72.6500	12.68	10.08
Anand	Laxmipura	22.4236	72.6083	2.86	1.11
Anand	Navapura	22.3050	72.9625	24.75	23.04
Anand	Parvata	22.7140	73.1270	7.60	-
Anand	Ras	22.5422	73.0639	2.56	1.90
Anand	Tarapur Pz-II	22.4914	72.6611	3.73	2.28
Anand	Tol	22.5110	72.5670	1.06	-
Banaskantha	Ambaji_Pz	24.3389	72.8472	11.53	7.41
Banaskantha	Amirgadh	24.4067	72.6417	11.67	11.31
Banaskantha	Bharol1	24.5253	71.5417	4.16	4.04
Banaskantha	Danta	24.1864	72.7653	10.27	8.00
Banaskantha	Dantiwada	24.2711	72.2614	29.69	34.95
Banaskantha	Dantiwada	24.1864	72.7606	35.93	34.95
Banaskantha	Deesa Pzii	24.2542	72.1875	57.96	57.64
Banaskantha	Ganapipli	24.2972	72.9472	10.84	8.51
Banaskantha	Gangodra	24.4406	72.3653	21.74	14.98
Banaskantha	Iqbalgarh	24.3389	72.5375	28.82	26.61
Banaskantha	Jalotra Pz-II	24.1411	72.5847	-	14.27
Banaskantha	Jhat	24.4914	72.3528	16.01	-
Banaskantha	Khoda	24.6608	71.7667	21.20	19.47
Banaskantha	Kidotar	24.3897	72.6278	18.74	16.89
Banaskantha	Meda	24.3897	72.2847	11.59	9.57
Banaskantha	Mohabbat gadh	24.1694	72.7278	23.06	19.31
Banaskantha	Naroli Pziii	24.6100	71.6386	10.89	9.03
Banaskantha	Palanpur2	24.1694	72.4139	31.22	29.17
Banaskantha	Ratanpur2	24.1864	72.4333	16.51	13.94
Banaskantha	Sodapur	24.4067	72.2958	15.89	12.76
Banaskantha	Tharad Pziii	24.3897	71.6194	15.12	13.61
Bharuch	Arethi	21.6100	73.4353	8.36	5.87
Bharuch	Bharuch	21.7117	73.0042	6.52	3.52
Bharuch	Bhensli	21.7286	72.7500	3.33	2.34
Bharuch	Chhindra	22.1270	72.6700	9.63	9.02
Bharuch	Dahegam	22.1864	72.5972	7.61	7.49
Bharuch	Hansot	21.5931	72.8083	4.68	3.21
Bharuch	Ilav	21.4575	72.8000	6.59	5.87

Bharuch	Jambusar	22.0508	72.8056	6.95	-
Bharuch	Jambusar2	22.0508	72.8000	7.95	-
Bharuch	Jetpur1	21.4914	72.7083	4.11	-
Bharuch	Jokhla	22.1270	72.5970	3.71	-
Bharuch	Juna borbhata	21.6778	72.9750	6.83	5.59
Bharuch	Kaswa	21.6947	72.8167	7.09	-
Bharuch	Kavi	22.1864	72.6394	6.82	5.84
Bharuch	Kondh	21.5761	73.0681	5.11	3.07
Bharuch	Luhara	21.6778	72.5583	4.22	3.12
Bharuch	Mahegam1	21.6947	72.7583	6.03	4.46
Bharuch	Modoliya	21.6330	72.7580	8.87	-
Bharuch	Mokhdi	21.5422	73.2875	9.37	-
Bharuch	Motwan	21.5592	72.8875	2.66	2.16
Bharuch	Mulad	21.6947	73.0194	8.91	5.82
Bharuch	Navetha	21.7117	72.8306	6.93	5.69
Bharuch	Netrang(Rep)_Pz	21.6439	73.3667	9.45	5.98
Bharuch	Netrang1	21.6439	73.3667	6.92	3.06
Bharuch	Nirnavi	21.7964	72.6681	10.14	7.01
Bharuch	Panoli	21.5422	72.9750	2.65	1.72
Bharuch	Raymal	21.5253	72.8208	2.44	1.47
Bharuch	Roja tankaria	21.9319	72.7917	9.45	8.17
Bharuch	Sahol	21.4730	72.8100	3.46	-
Bharuch	Sajod	21.6269	72.9236	3.76	3.29
Bharuch	Sarod	22.1525	72.7583	12.01	10.05
Bharuch	Simodra	21.7456	73.2083	6.86	-
Bharuch	Sindhav	21.4730	72.8100	8.31	-
Bharuch	Tankari	21.9997	72.6750	4.64	2.79
Bharuch	Utraj	21.5931	72.8250	4.72	3.76
Bhavnagar	Ayodhayapuram	21.9658	71.8864	10.33	7.14
Bhavnagar	Bhavnagar1	21.7794	72.1500	6.73	5.21
Bhavnagar	Bhudel	21.6947	72.1583	5.31	-
Bhavnagar	Bhumbhali	21.6778	72.2442	2.84	2.19
Bhavnagar	Bhutia	21.7456	71.7000	18.09	-
Bhavnagar	Bora	21.1864	71.9289	25.41	25.60
Bhavnagar	Chowk Pz	21.4292	71.7639	24.79	-
Bhavnagar	Datha	21.2203	71.9500	4.27	3.47
Bhavnagar	Dhasa	21.8133	71.5083	5.72	-
Bhavnagar	Dudhala	21.1356	71.6583	13.17	7.20
Bhavnagar	Gadhada2	21.9828	71.5792	4.79	4.13
Bhavnagar	Gariyadhar	21.5422	71.5653	18.71	10.76
Bhavnagar	Ghogha1	21.6947	72.2792	4.26	-
Bhavnagar	Jalia	21.8133	71.6167	-	12.57
Bhavnagar	Khijadiya	21.6439	71.7000	10.74	9.00
Bhavnagar	Kundheli	21.6380	71.9810	18.96	-
Bhavnagar	Longadi	21.2033	71.8833	5.49	-
Bhavnagar	Lonjdhara	22.0847	71.8972	24.49	18.77
Bhavnagar	Mahuva1	21.0847	71.7667	18.47	-
Bhavnagar	Motivadal	21.1864	71.5500	7.93	-
Bhavnagar	Ningala	22.0169	71.7000	14.56	7.81
Bhavnagar	Palitana1	21.5253	71.8236	11.19	6.39
Bhavnagar	Palitana2	21.5253	71.8389	11.79	5.65
Bhavnagar	Paliyad2	22.2542	71.5639	16.86	-
Bhavnagar	Panchpipla	21.5592	71.7208	6.56	-
Bhavnagar	Panvi1	22.0678	71.8917	8.92	3.84
Bhavnagar	Pasvi	21.2881	71.9667	15.87	-
Bhavnagar	Porbada	21.8133	71.7000	11.91	9.12
Bhavnagar	Sajnasar	21.4236	71.9125	9.37	3.92
Bhavnagar	Sandhida	21.6947	71.7583	4.21	2.27
Bhavnagar	Satanes	21.4406	71.8375	15.63	4.08
Bhavnagar	Shantinagar	21.2372	71.6500	11.81	5.08
Bhavnagar	Talaja2	21.3728	72.0167	9.77	6.71
Bhavnagar	Tansa	21.5083	72.1250	13.61	8.16

Bhavnagar	Tardhera	22.2203	71.6042	19.84	16.48
Bhavnagar	Tatam	22.0508	71.6333	27.50	16.95
Bhavnagar	Timbi2	21.8303	71.7661	13.72	10.55
Bhavnagar	Trapaj	21.4236	72.0958	15.28	10.40
Bhavnagar	Umrala	21.8472	71.8083	12.33	-
Bhavnagar	Vadal	21.4744	71.8061	11.86	3.52
Bhavnagar	Vallbhipur	21.8981	71.8750	5.96	4.30
Bhavnagar	Vavdi	21.5761	72.1981	12.44	3.31
Dahod	Ambakatch	22.6670	74.2200	3.65	1.99
Dahod	Bapda	22.6700	73.8420	7.90	1.03
Dahod	Dabhava	22.5931	73.9042	5.27	-
Dahod	Dadhela	22.8472	74.0667	8.70	4.53
Dahod	Dahod	22.8472	74.2625	4.45	-
Dahod	Dahod2	22.8303	74.2333	8.71	5.71
Dahod	Devgadh Baria	22.7117	73.9139	11.18	7.52
Dahod	Devgadh bariya	22.7117	73.9167	13.31	7.57
Dahod	Dhanpur	22.6439	74.1042	12.56	8.14
Dahod	Dohad_Urban1	22.8580	74.1040	3.45	2.49
Dahod	Dohad_Urban2	22.8450	74.2670	9.55	6.13
Dahod	Dohad_Urban3	22.8400	74.2340	8.77	3.81
Dahod	Fatepura(Karodia)	23.2542	74.0292	12.96	8.46
Dahod	Garada	22.6778	74.3125	-	2.75
Dahod	Garbara	22.6778	74.3125	8.41	3.77
Dahod	Jhalod	23.0847	74.1472	9.85	7.29
Dahod	Jhalod1	23.0847	74.1333	9.05	5.91
Dahod	Kanjetha	22.5761	74.1139	9.94	6.18
Dahod	Khandania	22.7117	73.8375	12.86	10.08
Dahod	Limkheda	22.8303	73.9861	8.39	5.39
Dahod	Mirakhedi	22.9489	74.2000	6.44	-
Dahod	Panchwada	22.7286	74.3083	5.91	4.15
Dahod	Pipero	22.6439	74.0903	12.62	6.23
Dahod	Salaya1	22.8133	73.8917	11.28	5.54
Dahod	Sarsava	23.2280	73.9770	14.80	5.75
Dahod	Thada	22.9490	74.0380	10.30	7.86
Dahod	Tokarba	22.6100	74.0375	6.15	3.45
Dahod	Varamkheda	22.8133	74.2750	1.93	1.06
Dahod	Wadia	22.9150	74.0500	7.69	4.44
Daman	Ambawadi	20.4067	72.8444	5.94	4.01
Daman	Bhimpor k.falia	20.4575	72.8708	-	4.36
Daman	Dabhel	20.4067	72.8861	4.07	2.46
Daman	Dalwada	20.4406	72.8519	7.92	2.44
Daman	Jempore	20.3728	72.8269	3.58	1.82
Daman	Khariwad daman	20.4236	72.8458	3.83	2.71
Daman	Morwad	20.4406	72.8311	7.17	4.72
Daman	Warkund	20.4067	72.8597	6.23	2.52
Diu	Chakarteeth_Pz	20.7117	70.9689	6.29	6.13
Diu	Diu	20.7117	70.9486	3.64	-
Diu	Gomtimata	20.7080	70.9690	5.99	3.76
Diu	Jalawadi	20.7220	70.9330	6.42	4.31
Diu	Pothia Bapa	20.7017	70.9119	-	6.63
Gandhinagar	Adalaj_Pz_III	23.1750	72.5583	24.07	23.84
Gandhinagar	Amrapur Pziii	23.3736	72.7050	58.92	58.58
Gandhinagar	Dahegam II	23.1694	72.8417	-	7.70
Gandhinagar	Kasturinagar(IFFCO)	23.1864	72.5528	11.69	11.27
Gandhinagar	Lodra	23.4640	72.7200	54.57	-
Gandhinagar	Paliya	23.1694	72.8417	12.71	10.76
Gandhinagar	Serthapara1	23.1944	72.5667	13.31	11.99
Jamnagar	Amaliya Chokri	22.2400	69.1250	3.19	3.27
Jamnagar	Ambardi	21.9164	69.8581	11.70	5.33
Jamnagar	Amran_Pz	22.8303	70.5458	4.07	2.12
Jamnagar	Amran1	22.8303	70.5625	4.95	1.99
Jamnagar	Aramda	22.4406	69.0417	5.17	4.41

Jamnagar	Balwa	21.9042	69.9583	20.84	12.57
Jamnagar	Bed1	22.4406	69.9000	8.50	5.28
Jamnagar	Bedanpur	22.6947	70.3167	6.05	3.79
Jamnagar	Bhadthar	22.0792	69.5792	15.10	-
Jamnagar	Bhanvad	21.9278	69.7958	13.26	7.03
Jamnagar	Bhatia	22.0847	69.3014	11.48	-
Jamnagar	Bhatiya	22.0847	69.2667	3.57	-
Jamnagar	Bhogat1	21.9917	69.2458	8.35	4.16
Jamnagar	Changa	22.3558	70.0417	14.15	-
Jamnagar	Dhrol2	22.5761	70.4167	4.93	2.70
Jamnagar	Dudhai2	22.7964	70.5042	3.55	1.64
Jamnagar	Dwarka	22.2372	68.9583	7.78	7.80
Jamnagar	Gordhanpur	22.4575	70.0014	11.16	7.20
Jamnagar	Haripur2	22.2711	70.3333	17.63	-
Jamnagar	Haryana	22.6100	70.2625	8.01	-
Jamnagar	Jambuda	22.5253	70.2042	7.27	-
Jamnagar	Jamjodhpur	21.9056	70.0306	7.41	4.89
Jamnagar	Jamnagar1	22.4744	70.0500	10.96	3.82
Jamnagar	Jamnagar2	22.4575	70.0792	6.50	3.63
Jamnagar	Juvanpur	22.1694	69.3667	24.46	-
Jamnagar	Kajuda	22.3389	69.7083	7.28	4.35
Jamnagar	Kalawad	22.2203	70.3833	4.15	3.14
Jamnagar	Kalyanpur2	22.0167	69.3917	23.20	4.16
Jamnagar	Khambhaliya	22.2033	69.6458	8.29	4.54
Jamnagar	Khirsara	21.9792	69.6000	13.84	4.88
Jamnagar	Kuvadia	22.2033	69.5833	15.67	8.58
Jamnagar	Lalpur1	22.1864	69.9611	12.52	6.23
Jamnagar	Lambha 1	21.8990	69.3240	10.90	8.10
Jamnagar	Modpar	21.8583	69.8083	17.40	-
Jamnagar	Mojap	22.3728	68.9833	8.22	6.76
Jamnagar	Mota kalawad	21.9083	69.8292	22.89	13.84
Jamnagar	Motagop	22.0375	69.8750	9.52	6.42
Jamnagar	Moti khavdi	22.3897	69.8667	9.81	-
Jamnagar	Moti matli	22.3219	70.2639	19.11	6.77
Jamnagar	Nikava	22.1864	70.5333	4.21	2.65
Jamnagar	Pindara1	22.2372	69.2583	7.58	3.96
Jamnagar	Raval	21.9297	69.4919	7.57	3.21
Jamnagar	Salaya	22.3050	69.6042	-	2.41
Jamnagar	Samrasar1	22.3728	69.1042	4.55	3.18
Jamnagar	Seth vadala	22.0333	70.1250	10.90	4.48
Jamnagar	Sumana	22.1083	70.1667	12.45	-
Jamnagar	Toda	22.0625	70.3833	13.69	-
Jamnagar	Vad panchasara	22.2372	70.1167	16.36	7.18
Jamnagar	Vadtara	22.2033	69.5000	12.63	7.76
Jamnagar	Varwada	22.2881	68.9667	15.08	-
Jamnagar	Vijarkha	22.4236	70.1833	9.51	5.88
Jamnagar	Vinjhalpur	22.1525	69.6000	9.49	5.42
Junagadh	Ajotha	20.9019	70.5181	18.00	6.42
Junagadh	Alwani	21.2306	70.6375	3.08	-
Junagadh	Amervel Nes	21.0090	70.7260	3.62	1.90
Junagadh	Anandpur	21.4100	70.5180	18.25	7.46
Junagadh	Arena	21.0806	70.1764	10.90	6.20
Junagadh	Bamanwara	21.2208	70.0556	9.58	4.73
Junagadh	Bantva	21.3208	70.0833	19.21	12.27
Junagadh	Bhatsimroli	21.2236	70.1833	22.30	9.65
Junagadh	Bhim Deval	20.9780	70.6090	12.77	5.04
Junagadh	Bilkha	21.4389	70.6000	13.36	8.59
Junagadh	Budhecha	21.0958	70.2167	7.33	3.89
Junagadh	Chokli	21.6020	70.5420	26.30	9.05
Junagadh	Chorwad	21.0417	70.2167	6.81	3.89
Junagadh	Dhokadva	20.9658	71.0708	13.05	10.18
Junagadh	Gadu	21.0542	70.2792	35.58	21.57

Junagadh	Galodar	21.1472	70.2750	21.68	8.30
Junagadh	Gangda_Pz	20.8583	71.1667	8.46	4.71
Junagadh	Girgadhada	20.9319	70.9167	7.66	6.86
Junagadh	Goraj1	21.1833	70.1542	33.17	10.11
Junagadh	Govindpura2	20.9458	70.3958	24.41	8.73
Junagadh	Jambur[madhapar	21.0292	70.6083	8.17	3.54
Junagadh	Jamvala1	20.9833	70.7625	7.47	5.93
Junagadh	Jargla Jargali	20.8810	70.9840	14.79	2.74
Junagadh	Junagadh	21.5094	70.4622	12.65	9.83
Junagadh	Junagadh1	21.5167	70.4583	11.01	6.40
Junagadh	Juthal	21.1833	70.2667	8.92	8.14
Junagadh	Kalej	21.2486	70.0583	14.07	9.16
Junagadh	Kanek	21.0306	70.2417	13.56	-
Junagadh	Kansari	20.8700	71.0510	15.64	10.92
Junagadh	Kasia Naka Check Post	21.2703	70.6806	-	2.64
Junagadh	Kesariya1	20.7964	70.9419	13.94	-
Junagadh	Kewarda	21.2667	70.2083	14.56	9.10
Junagadh	Khambalia1	21.0444	70.1917	8.50	-
Junagadh	Khokharda	21.4208	70.3167	24.01	12.53
Junagadh	Khorada1	21.0640	70.1740	8.84	7.86
Junagadh	Khoras ahir	21.3708	70.3389	13.49	8.69
Junagadh	Kodinar	20.8000	70.6917	11.74	-
Junagadh	Kodinar1	20.8000	70.6917	13.60	9.07
Junagadh	Kukaswada	21.0542	70.2083	10.02	6.12
Junagadh	Lohej	21.1667	70.0667	7.99	8.35
Junagadh	Mandawad	21.3583	70.7458	14.32	8.83
Junagadh	Mangrol	21.1250	70.1083	17.21	16.35
Junagadh	Mangrol1	21.1306	70.1194	-	12.12
Junagadh	Manketara	21.1500	70.1292	32.93	18.01
Junagadh	Mendarda	21.3250	70.4403	-	8.48
Junagadh	Mendarda1	21.3250	70.4333	16.07	8.51
Junagadh	Moraj	20.9833	70.9833	9.66	4.69
Junagadh	Patla	21.6042	70.5692	8.41	2.66
Junagadh	Prachi_Pz	20.9219	70.6133	18.20	-
Junagadh	Prasli	20.8510	70.6130	16.27	4.77
Junagadh	Prempara	21.3000	70.7000	19.51	9.63
Junagadh	Sametar	20.8540	71.1210	15.77	8.92
Junagadh	Saradiya	21.5890	70.0380	12.44	2.24
Junagadh	Sepa	21.1167	70.2167	-	18.86
Junagadh	Seriakhan	21.1333	70.2486	18.11	12.14
Junagadh	Shardagram	21.1042	70.1528	11.23	-
Junagadh	Sil	21.1856	70.0464	7.21	5.83
Junagadh	Talala_Pz	21.0639	70.5383	11.02	6.25
Junagadh	Talala1	21.0514	70.5250	11.42	7.11
Junagadh	Una2	20.8303	71.0444	5.60	3.27
Junagadh	Vadal	21.6090	70.5020	15.64	3.52
Junagadh	Vanthali ii	21.4708	70.3278	10.01	5.47
Junagadh	Visavadar	21.3389	70.7486	15.95	-
Kachchh	Asambia mota_Pz	22.9828	69.4514	6.97	-
Kachchh	Asambia mota1	22.9828	69.4375	10.82	9.10
Kachchh	Bambhdai	22.9489	69.0828	5.39	-
Kachchh	Bhadia mota	22.9833	69.3333	-	4.16
Kachchh	Bhadreshwar	22.9150	69.9000	7.74	23.46
Kachchh	Bhuj (Circuit House)	23.2542	69.6667	14.60	13.31
Kachchh	Chandranagar	23.4575	69.4000	7.15	5.79
Kachchh	Dayapar	23.6269	68.9000	16.90	16.62
Kachchh	Deshalpur rapar	23.7456	70.6792	13.20	10.71
Kachchh	Devisar	23.4067	69.3292	13.48	12.47
Kachchh	Dholavira	23.8981	70.2167	9.83	-
Kachchh	Dunai	23.0508	69.5000	9.97	8.61
Kachchh	Gagodar	23.4236	70.8000	28.86	-
Kachchh	Gandhidham1	23.0847	70.1417	-	6.56

Kachchh	Gandhidham2	23.0678	70.1514	6.20	-
Kachchh	Haboi	23.3558	69.8667	2.67	1.33
Kachchh	Kakarwa	23.4744	70.4042	15.97	-
Kachchh	Karagoga	22.9489	69.6625	3.06	-
Kachchh	Kharai_1	23.4630	68.6860	3.10	-
Kachchh	Kharoi	23.4575	70.3500	5.03	4.07
Kachchh	Khavada	23.8472	69.7306	5.46	5.16
Kachchh	Kotada	23.3770	69.9120	38.23	37.57
Kachchh	Kotadi	23.0339	69.1917	9.37	9.62
Kachchh	Kotaya	23.0339	69.0750	8.89	8.54
Kachchh	Kothara	23.1525	68.9119	5.02	4.07
Kachchh	Kuda	23.5422	70.4403	25.75	23.72
Kachchh	Kumbhariya	23.3389	70.7236	7.65	7.14
Kachchh	Lakhpat	23.8303	68.7750	8.68	5.59
Kachchh	Lilpur	23.5083	70.6500	1.00	0.76
Kachchh	Lodai	23.4067	69.8917	13.27	13.91
Kachchh	Luni	22.8811	69.8117	8.79	6.43
Kachchh	Mandvi (Shitla Mata)	22.8472	69.3333	7.16	3.57
Kachchh	Mata no madh	23.5422	68.9500	9.57	9.54
Kachchh	Mathak1	22.9997	70.0250	-	8.96
Kachchh	Mau Moti_1	23.0760	69.2990	4.70	3.25
Kachchh	Mothala	23.2033	69.1250	3.74	-
Kachchh	Moti cher	23.7625	68.6750	3.90	3.74
Kachchh	Mundra	22.8303	69.7208	5.52	4.60
Kachchh	Naliya	23.2542	68.8400	9.28	8.53
Kachchh	Naliya (Bus S)	23.2711	68.8333	9.79	8.34
Kachchh	Rapar2	23.5761	70.6375	27.47	25.49
Kachchh	Ratanpur Khadir1	23.8642	70.3631	17.74	15.34
Kachchh	Rawapar	23.5253	69.0750	13.82	14.01
Kachchh	Rudramata	23.3897	69.7083	8.17	4.48
Kachchh	Samkhiari	23.3050	70.5083	9.32	3.67
Kachchh	Sedat	23.1694	69.6375	13.34	12.61
Kachchh	Shinaya	23.0339	70.0542	3.76	3.49
Kachchh	Sukhpar	23.2033	69.6167	14.04	14.49
Kachchh	Suthri	23.0340	68.9150	10.80	10.60
Kachchh	Tera	23.2881	68.9472	11.13	-
Kachchh	Tunga	23.8180	69.8550	6.10	-
Kachchh	Ugardi	23.4630	69.1380	27.65	25.91
Kachchh	Vadala	22.9160	69.8560	10.19	9.19
Kachchh	Vinjhan1	23.1017	69.0250	8.32	6.21
Kheda	Alina	22.8133	73.0583	10.03	7.62
Kheda	Alindra	22.7010	72.9770	10.75	7.05
Kheda	Balasinor	22.9658	73.3361	4.06	2.94
Kheda	Balasinor1	22.9658	73.3250	7.30	4.17
Kheda	Bar	23.1694	73.4111	6.26	-
Kheda	Boriyavi	22.6360	72.9090	7.35	-
Kheda	Dakor	22.7625	73.1694	6.79	5.28
Kheda	Juna vasadra	23.0847	73.3625	4.87	-
Kheda	Kalesar	22.7286	73.1917	4.14	1.66
Kheda	Kapadvanj	23.0000	73.0917	12.93	8.69
Kheda	Kheda	22.7456	72.7042	5.92	-
Kheda	Ladvel	22.9150	73.1208	-	0.87
Kheda	Ladvel_1	22.9130	73.1150	3.20	-
Kheda	Mahudha	22.7964	72.9417	4.29	2.75
Kheda	Muliyad	22.7830	73.1770	2.65	1.08
Kheda	Nadiad2	22.6947	72.8833	7.63	-
Kheda	Nes_Pz	22.7117	73.2028	8.83	6.48
Kheda	Sarkhej _ Pz-III	22.9997	72.8806	42.09	36.75
Kheda	Shekhupura	22.5750	72.6250	1.13	-
Kheda	Thasra	22.7964	73.2111	4.55	2.25
Kheda	Vaso	22.6608	72.7542	6.27	-
Kheda	Virpur_Pz	23.1864	73.4853	9.41	-

Kheda	Vyas vasna	23.1017	73.1042	24.03	17.19
Mahesana	Asjol	23.5083	72.1833	8.40	4.98
Mahesana	Bhandupara	23.7286	72.3833	8.98	8.55
Mahesana	Budasan	23.2881	72.3750	5.89	2.64
Mahesana	Daran_Pz-III	23.2033	72.2797	3.21	2.10
Mahesana	Dharpura	23.5422	72.1125	9.54	8.23
Mahesana	Dosaj	23.8472	72.4500	9.35	9.23
Mahesana	Jaska(Sy_4")Pz_II	23.8303	72.5347	13.92	13.61
Mahesana	Kalyanpur	23.1186	72.1931	5.93	5.27
Mahesana	Karalli (iii)	23.8133	72.4861	10.87	10.94
Mahesana	Kheralu(shallow	23.8981	72.6106	7.88	6.08
Mahesana	Kheralu1	23.8981	72.6125	14.24	10.01
Mahesana	Maguna	23.5761	72.2889	8.54	5.58
Mahesana	Mau	23.5100	72.5190	8.84	-
Mahesana	Mehsana v	23.5980	72.3990	29.76	29.77
Mahesana	Modhera iii	23.7286	72.4667	10.49	9.29
Mahesana	Padhadya	23.5230	72.5330	10.68	11.46
Mahesana	Panchot	23.6269	72.3417	7.33	4.80
Mahesana	Rampura1	23.8981	72.5167	9.61	9.67
Mahesana	Sihi	23.8133	72.3500	13.53	11.43
Mahesana	Tarabh	23.7625	72.4583	7.77	6.13
Mahesana	Thol Pz-IV	23.1186	72.3761	19.12	-
Mahesana	Timba_1	23.9870	72.7590	16.03	-
Mahesana	Unad1	23.8472	72.7167	11.52	12.28
Mahesana	Unawa	23.7794	72.3625	4.92	3.77
Mahesana	Unjha	23.7980	72.3940	5.67	4.41
Mahesana	Vidaj	23.2372	72.3000	5.79	3.38
Mahesana	Visnagar iv	23.7117	72.5333	3.14	2.09
Narmada	Agar(Rep)_Pz	22.0169	73.6567	10.66	7.62
Narmada	Almadi	21.6090	73.5110	7.35	1.61
Narmada	Amayar	21.5422	73.7667	7.46	-
Narmada	Baman Phalia_Pz	21.7964	73.3792	18.39	15.90
Narmada	Chikada	21.5253	73.6458	5.33	3.11
Narmada	Chuli	21.5550	73.4760	12.23	5.89
Narmada	Dediapada	21.6333	73.5833	-	6.47
Narmada	Garudeshwar	21.8981	73.6500	11.48	9.06
Narmada	Hirapura	21.8811	73.6000	5.84	3.95
Narmada	Jankh	21.4920	73.5970	4.40	-
Narmada	Kanbi pitha	21.5253	73.6458	3.62	-
Narmada	Kewadia_Pz	21.8811	73.7006	5.59	3.00
Narmada	Khaidipada	21.5140	73.5190	5.29	0.32
Narmada	Khota amba	21.7456	73.4750	1.91	1.27
Narmada	Namaria	22.0339	73.6222	5.02	3.98
Narmada	Nani singlot	21.6778	73.6667	9.79	6.91
Narmada	Rajpipla	21.8750	73.5000	27.77	26.27
Narmada	Ralda	21.6100	73.6530	4.49	2.15
Narmada	Rasela	21.9319	73.4917	13.14	-
Narmada	Rasulpura_Pz	21.9670	73.6250	24.14	21.99
Narmada	Ringani	21.8472	73.4667	2.04	1.84
Narmada	Selemba 1	21.6100	73.7630	8.00	-
Narmada	Sunderpura	21.8472	73.5361	-	28.96
Narmada	Umran	21.4880	73.8830	8.50	-
Navsari	Abrama	20.8642	72.9000	4.90	1.84
Navsari	Anklas	20.6269	73.2667	9.90	8.29
Navsari	Chadav	20.8311	73.3344	10.44	6.41
Navsari	Chinam	20.9997	72.8861	3.14	-
Navsari	Dandi	20.8981	72.8083	3.96	2.53
Navsari	Doldha	20.8067	73.2275	-	2.00
Navsari	Duvada	20.8286	73.0575	4.74	5.30
Navsari	Eru	20.9364	72.9264	-	2.10
Navsari	Hond	20.7456	73.0458	8.84	5.04
Navsari	Kaliyari	20.7286	73.1500	11.39	3.32

Navsari	Kantasvel	20.7964	73.2917	8.20	4.62
Navsari	Khergam	20.6439	73.0958	8.36	3.51
Navsari	Khudvel	20.7719	73.1861	-	4.30
Navsari	Manav Khadak	20.6742	73.2333	4.07	3.56
Navsari	Navsari	20.9658	72.9333	25.31	-
Navsari	Navsari 1	20.9489	72.9417	5.10	3.19
Navsari	Onjal	20.8472	72.8417	6.18	4.04
Navsari	Panikhadak	20.6492	73.1669	12.17	6.71
Navsari	Parjan	21.0111	72.8392	-	2.68
Navsari	Pipalkhed	20.6778	73.2833	16.62	6.39
Navsari	Rankuva	20.8133	73.1583	7.48	2.27
Navsari	Rumla	20.6892	73.1589	-	5.80
Navsari	Sari_khurd	20.7964	72.9542	3.99	2.58
Navsari	Ubhrat	21.0000	72.7458	4.75	2.53
Navsari	Unai	20.8642	73.3417	8.59	-
Navsari	Vansda	20.7625	73.3631	11.28	9.20
Panchmahal	Bavaliya	23.3219	73.5694	8.75	4.79
Panchmahal	Bavaliya_Pz	23.3050	73.5550	22.35	4.83
Panchmahal	Chhabanpur	22.8280	73.6130	10.95	8.40
Panchmahal	Dhanol	22.7590	73.5070	7.90	-
Panchmahal	Gadhar	23.1525	73.7750	-	4.51
Panchmahal	Godhra	22.7964	73.6097	-	2.38
Panchmahal	Godhra_UR1	22.7930	73.0607	7.78	4.63
Panchmahal	Godhra_UR2	22.7690	73.5910	10.60	8.53
Panchmahal	Godhra_UR3	22.7800	73.5910	9.45	2.63
Panchmahal	Godhra2	22.7794	73.6333	6.59	5.94
Panchmahal	Jambughoda	22.3728	73.7250	6.95	5.68
Panchmahal	Jambughoda1	22.3730	73.7230	3.70	-
Panchmahal	Javan	22.4010	73.6850	10.15	-
Panchmahal	Jokha	23.0620	73.6200	8.48	5.25
Panchmahal	Kalol_UR1	22.6000	73.4430	15.15	12.48
Panchmahal	Kalol_UR2	22.5897	73.4514	-	11.93
Panchmahal	Kantha	23.1780	73.6520	6.20	3.18
Panchmahal	Khadki_Vadiya	22.6620	73.5000	13.90	8.84
Panchmahal	Khanpur	23.3700	73.6770	10.40	-
Panchmahal	Kothamba	23.0169	73.5194	4.67	-
Panchmahal	Limbadia peti	23.2033	73.6000	5.58	2.66
Panchmahal	Lunawada	23.1186	73.6083	9.87	7.23
Panchmahal	Malekpur1	23.2203	73.7361	2.94	-
Panchmahal	Morwa (Hadaf) Pz-I	22.9319	73.8444	13.46	-
Panchmahal	Natapur	22.8642	73.8206	8.74	6.43
Panchmahal	Palla Rajgarh Pz	22.5253	73.7008	23.76	-
Panchmahal	Pandarvada	23.3728	73.6333	15.41	6.53
Panchmahal	Pavagadh	22.4914	73.5556	10.08	5.69
Panchmahal	Ranipura	22.7286	73.7583	8.63	5.27
Panchmahal	Santrampur	23.1694	73.9083	9.59	5.37
Panchmahal	Santrampur1	23.1864	73.9083	9.58	5.42
Panchmahal	Santroad1	22.8030	73.7930	14.60	8.45
Panchmahal	Shehra	22.9658	73.6250	3.63	1.44
Panchmahal	Shivrajpur	22.4236	73.5917	11.80	6.16
Panchmahal	Suliyat	23.0508	73.8508	19.32	17.00
Panchmahal	Tarkanda	22.5422	73.5292	12.12	4.24
Panchmahal	Tarvada	22.6100	73.5222	12.96	-
Panchmahal	Tuwa	22.8133	73.4708	-	3.10
Panchmahal	Ucharpi Pz	23.1186	73.4717	16.43	-
Panchmahal	Vejalpur	22.6947	73.5583	6.08	4.08
Patan	Dharmoda	23.6947	72.0694	7.24	5.96
Patan	Dhinoj1	23.6608	72.2792	13.12	10.46
Patan	Moti chander	23.5931	71.7806	2.63	1.49
Patan	Patan2	23.8472	72.1236	17.47	15.81
Patan	Piprala_1	23.6550	71.0860	9.75	9.43
Patan	Radhanpur2	23.8303	71.6139	1.85	0.77

Patan	Sander	23.7794	72.2542	16.08	-
Patan	Sankheshwar	23.5253	71.7908	2.86	1.41
Patan	Santhalpur	23.7583	71.1750	-	2.22
Patan	Shankhari	23.7794	72.1625	17.86	17.44
Porbandar	Adityana	21.7086	69.7108	21.58	11.89
Porbandar	Adwana2	21.9167	69.6000	12.53	-
Porbandar	Babda	21.7700	69.5881	15.28	5.77
Porbandar	Bakharla	21.7647	69.6611	21.51	12.13
Porbandar	Balej	21.3708	69.8750	-	5.69
Porbandar	Balej_1	21.3710	69.8750	6.03	-
Porbandar	Bhod	21.6589	69.8211	20.77	15.32
Porbandar	Degam	21.7103	69.6056	17.88	-
Porbandar	Hanumangadh1	21.7931	69.8028	23.11	-
Porbandar	Kadegi	21.4506	69.9833	2.28	0.56
Porbandar	Kandorna	21.6450	69.8833	18.34	10.79
Porbandar	Khambodar	21.8083	69.6014	12.07	4.30
Porbandar	Kolikhada	21.6997	69.6142	28.31	17.38
Porbandar	Kuchhadi	21.6833	69.5500	2.89	2.27
Porbandar	Kutiyana_Pz	21.6222	69.9972	13.44	4.50
Porbandar	Kutiyana1	21.6306	70.0167	-	4.91
Porbandar	Miyani	21.8333	69.3889	7.60	7.00
Porbandar	Mocha	21.3480	69.8890	6.43	6.01
Porbandar	Mojiwana	21.8858	69.6003	14.54	6.43
Porbandar	Navibandar	21.4458	69.7917	4.75	4.25
Porbandar	Oddar	21.5667	69.6806	6.34	5.82
Porbandar	Palkhada1	21.7583	69.4875	12.48	6.92
Porbandar	Pata	21.2972	69.9417	5.59	4.17
Porbandar	Porbandar	21.6450	69.6422	5.40	2.36
Porbandar	Porbandar1	21.6417	69.6250	-	3.49
Porbandar	Ranavav2	21.6833	69.7458	12.24	5.17
Porbandar	Ratadi	21.7203	69.5119	7.11	5.08
Porbandar	Ratia	21.4380	69.8060	7.08	5.81
Porbandar	Simar	21.9469	69.6858	16.94	7.79
Porbandar	Tukda	21.5161	69.7286	3.61	2.44
Porbandar	Visavada Mul Dwarka	21.7856	69.4464	8.96	8.05
Rajkot	Amar nagar	22.9489	70.8083	-	3.08
Rajkot	Bhada jodiya	21.6625	70.3417	-	7.52
Rajkot	Bhadla	22.1864	71.0917	17.51	12.10
Rajkot	Bhalgam	22.4406	71.0833	15.27	7.57
Rajkot	Chhatar	22.5083	70.7542	5.87	3.69
Rajkot	Chordi	21.9167	70.7431	9.93	7.12
Rajkot	Dadia	22.0917	70.7333	11.88	7.82
Rajkot	Dhoraji	21.7458	70.2858	16.49	-
Rajkot	Ganod	21.6750	70.1792	4.43	3.33
Rajkot	Gogavadar	21.9167	70.8750	11.05	5.45
Rajkot	Hadmatia	22.6947	70.8083	7.52	5.28
Rajkot	Halenda	22.0917	71.0500	9.03	2.66
Rajkot	Jamwali	21.9333	70.7667	6.18	-
Rajkot	Jasapur	21.8917	70.4833	12.82	8.67
Rajkot	Jasdan	22.0444	71.2139	8.86	5.73
Rajkot	Jasdan2	22.0583	71.2208	11.33	7.13
Rajkot	Jetpur	21.7556	70.6194	20.07	5.35
Rajkot	Jetpur pithad.	21.7750	70.6333	15.67	-
Rajkot	Kalithad1	22.0194	70.6603	6.44	-
Rajkot	Kalyanpur2	22.6608	70.7333	-	4.16
Rajkot	Kamlapur1	21.1520	71.2000	12.79	8.94
Rajkot	Khamta	22.4744	70.5500	12.72	-
Rajkot	Khirsara1	22.2420	70.6460	18.57	-
Rajkot	Lajai	22.7286	70.7792	6.21	4.05
Rajkot	Lalavadar	22.1356	71.3042	12.64	6.28
Rajkot	Lodhika1	22.1356	70.6417	9.34	5.22
Rajkot	Malia	23.0920	70.8960	2.20	2.26

Rajkot	Modpar1	22.9150	70.6667	3.22	2.07
Rajkot	Morvi	22.8303	70.8417	3.11	1.90
Rajkot	Mota Dadwa	21.9983	70.9939	11.26	5.55
Rajkot	Mota dhansura	22.9658	70.6167	8.01	5.23
Rajkot	Motagundala	21.7347	70.5014	-	5.05
Rajkot	Movaiya	22.4575	70.6083	11.09	7.37
Rajkot	Neknam	22.5040	70.6960	15.45	-
Rajkot	Nichi mandal	22.8642	70.9500	-	4.23
Rajkot	Padadhari1	22.4406	70.6083	7.00	-
Rajkot	Patanvav	21.6444	70.2611	-	7.26
Rajkot	Pedhla	21.7514	70.5917	-	13.18
Rajkot	Rajkot	22.3050	70.8083	5.71	3.44
Rajkot	Rajkot1	22.3050	70.8000	9.87	5.46
Rajkot	Ranpur1	22.3728	70.9292	14.86	11.20
Rajkot	Ribda	22.1250	70.7667	12.22	6.40
Rajkot	Sardhar1	22.1460	70.9890	5.05	-
Rajkot	Sindhavadar	22.5592	70.8917	-	9.31
Rajkot	Targhari	22.3897	70.6667	8.38	5.24
Rajkot	Umrali	21.9361	70.6042	9.24	4.83
Rajkot	Upleta1	21.7486	70.2750	7.42	-
Rajkot	Upleta3	21.6703	70.1828	-	11.53
Rajkot	Vinchhia	22.2033	71.3792	4.76	2.98
Rajkot	Viranagar	22.0250	71.1250	9.02	6.80
Rajkot	Virpur1	21.8500	71.6958	10.00	5.49
Sabarkantha	Alwakampa	23.2711	73.2083	14.50	8.17
Sabarkantha	Anwarpura Pz	23.4067	72.8456	37.86	37.59
Sabarkantha	Atarsumba	23.9861	73.2083	10.67	-
Sabarkantha	Atarsumba_2	23.9861	73.2083	-	3.15
Sabarkantha	Bayad_Pz	23.2203	73.2292	9.83	8.69
Sabarkantha	Bhadreshwar	23.7456	72.9792	-	23.46
Sabarkantha	Bhiloda_Pz	23.7794	73.2500	5.85	3.33
Sabarkantha	Boral	23.1186	73.2083	18.05	12.29
Sabarkantha	Boriya	23.2372	72.9408	7.23	6.11
Sabarkantha	Chandap_DW	23.9320	72.8530	16.20	13.96
Sabarkantha	Chandap_Pz	23.9319	72.8569	13.10	10.07
Sabarkantha	Choriwad	23.9150	73.1194	25.99	22.15
Sabarkantha	Derol Pz-II	23.5931	72.9025	43.86	40.48
Sabarkantha	Dhansura1	23.3558	73.2000	9.82	6.21
Sabarkantha	Gadada	23.7080	73.2530	15.10	6.46
Sabarkantha	Gadha	23.7117	72.9417	19.59	16.92
Sabarkantha	Hamirpur	23.4067	73.4583	16.27	11.13
Sabarkantha	Harsol1	23.3728	73.0167	14.61	-
Sabarkantha	Himmatnagar_Pz	23.6100	72.9708	8.89	7.61
Sabarkantha	Idar	23.8472	73.0375	8.53	4.74
Sabarkantha	Jhaloti	23.9658	73.3375	10.36	5.63
Sabarkantha	Karanpur	23.3389	73.3000	12.92	11.11
Sabarkantha	Kesharpura	23.9150	73.1450	24.00	13.88
Sabarkantha	Kesharpura_Mayal	23.3220	72.0440	4.43	-
Sabarkantha	Khedbrahma_Pz	24.0290	73.0500	5.37	2.24
Sabarkantha	Khedbramha_1	24.0290	73.0440	18.30	9.55
Sabarkantha	Kherwada	23.9690	73.2340	14.50	3.80
Sabarkantha	Malpur_1	23.3450	73.4640	14.35	10.20
Sabarkantha	Malpur_Pz	23.3389	73.4681	16.38	-
Sabarkantha	Mathasuliya	23.6030	73.1540	13.18	6.34
Sabarkantha	Matoda	24.1111	73.0083	16.31	10.65
Sabarkantha	Medasana	23.5120	73.2740	9.90	5.82
Sabarkantha	Meghraj_1	23.4960	73.5080	10.93	3.04
Sabarkantha	Modasa	23.4575	73.3083	7.40	6.32
Sabarkantha	Panvath/porvad	23.8981	73.3319	-	6.76
Sabarkantha	Poshina2	24.3750	73.0333	7.67	4.07
Sabarkantha	Punasan	23.6778	73.1736	7.06	5.60
Sabarkantha	Ramgarh	23.6050	72.9190	11.59	9.51

Sabarkantha	Ratanpur	24.2083	72.9986	13.67	-
Sabarkantha	Revas	23.8303	73.1167	21.49	14.25
Sabarkantha	Sabalwad	23.8740	72.9630	13.99	10.18
Sabarkantha	Sathamba	23.1694	73.3375	15.56	7.09
Sabarkantha	Seenawad	23.4914	73.3986	11.09	3.78
Sabarkantha	Shamlaji	23.6947	73.3667	13.73	10.18
Sabarkantha	Silwad	24.0083	73.1167	13.41	9.37
Sabarkantha	Takatuka_1	23.8510	73.3050	33.70	14.15
Sabarkantha	Umadpura	23.3040	72.9640	12.45	9.29
Sabarkantha	Varvada	23.4406	73.0567	-	13.25
Sabarkantha	Vejpur_Pz	23.7964	73.2208	16.86	5.58
Sabarkantha	Vijaynagar	24.0000	73.3542	9.38	-
Sabarkantha	Virpur_1(Himmat)	23.6608	72.9583	16.25	12.40
Sabarkantha	Waliampura Pz	23.3558	72.9708	36.81	36.30
Surat	Aarda Boratha	21.4875	74.1150	-	5.68
Surat	Allu	21.0508	73.1917	3.75	2.94
Surat	Anita	21.3994	72.8558	-	3.20
Surat	Bardoli	21.1017	73.1003	6.55	4.32
Surat	Bedchit	20.9658	73.3514	10.19	5.67
Surat	Bhatkol	21.3803	73.0042	4.10	3.16
Surat	Bhurvel (ukai)	21.2203	73.5792	4.47	2.68
Surat	Chapawadi	21.1514	73.3936	6.37	3.71
Surat	Chavada	21.4744	73.5950	3.54	-
Surat	Digas	21.2483	73.0256	10.71	5.79
Surat	Dungri	21.4067	73.1333	11.13	5.61
Surat	Gandhinagar	21.1525	73.6956	5.74	-
Surat	Gangadhra	21.1186	73.0753	9.48	8.03
Surat	Gangtha	21.5253	74.0000	19.81	9.62
Surat	Jesingpura[sg]	21.1694	73.5542	7.77	6.39
Surat	Jhankhavav	21.4575	73.3292	7.40	4.67
Surat	Jhankhvav	21.4744	72.9528	9.38	4.70
Surat	Juna umarpada	21.4575	73.4917	5.03	2.51
Surat	Juna Umarpada2	21.4490	73.4870	8.38	3.00
Surat	Kadod 1	21.2214	73.2189	5.48	-
Surat	Karanjvel	21.0000	73.4581	8.48	5.47
Surat	Kasal	21.3219	73.1269	6.76	4.01
Surat	Kathor	21.2881	72.9292	12.76	9.18
Surat	Katradevi	21.4147	73.4278	-	1.91
Surat	Kelkui	21.0419	73.3233	2.05	2.16
Surat	Khedwada (Ashram Falia)	21.2811	73.4653	7.41	5.98
Surat	Kherwa	21.4236	73.9597	-	1.31
Surat	Madhi 1	21.1336	73.2486	-	4.77
Surat	Mahuva2	21.0169	73.1458	17.75	16.18
Surat	Malda	21.3728	73.3500	8.18	3.41
Surat	Mandvi2	21.2542	73.2958	13.75	11.38
Surat	Mota	21.1703	73.0686	3.01	2.85
Surat	Moti Sarkui	21.2792	73.3497	9.07	4.92
Surat	Motichher	21.2125	73.3622	4.30	3.51
Surat	Navi pardi	21.3219	72.9708	3.20	3.27
Surat	Nizar	21.4744	74.2000	14.45	12.02
Surat	Nizar1	21.4744	74.1906	10.38	-
Surat	Nogama	21.2881	73.2144	2.90	1.94
Surat	Olpad2	21.3389	72.7583	2.11	2.18
Surat	Palsana	21.0678	72.9917	2.59	1.59
Surat	Paneshwar	21.4542	73.1983	14.46	9.94
Surat	Paniwara	21.5394	74.0694	-	3.45
Surat	Puna	20.9319	73.2333	12.35	8.45
Surat	Puna1	20.9319	73.2292	9.74	6.31
Surat	Sachin town	21.0847	72.8750	4.16	2.39
Surat	Sarbhon	21.0508	73.0917	4.21	2.81
Surat	Sayan	21.3056	72.9108	6.99	-
Surat	Sultanabad	21.0847	72.7250	5.98	4.55

Surat	Surat_DW	21.2456	72.7856	-	2.83
Surat	Tadkeshwar	21.8808	73.0764	8.80	6.94
Surat	Tawali	21.3728	73.9017	7.66	4.92
Surat	Ten-bardoli	21.1186	73.1000	6.97	3.69
Surat	Tokarwa 1	21.3100	73.8511	8.10	5.01
Surat	Uchchhal	21.1694	73.7692	11.57	-
Surat	Ushker	21.3389	73.0978	5.47	4.86
Surat	Vadade-Khurd	21.2542	73.8169	3.15	1.06
Surat	Vaheval	20.8372	73.2878	11.77	5.53
Surat	Valod	21.0508	73.2667	5.05	2.90
Surat	Vyara1	21.1017	73.3958	4.30	3.88
Surat	Wadoli	21.4236	72.8292	1.93	1.11
Surendranagar	Adriyana	23.4236	71.7083	2.92	-
Surendranagar	Anindra	22.8133	71.7058	9.66	2.31
Surendranagar	Bajana	23.1186	71.7833	-	2.23
Surendranagar	Bamanbor	22.4236	71.0417	10.12	6.76
Surendranagar	Chotila1	22.4236	71.1817	9.02	5.41
Surendranagar	Dasada	23.3219	71.8242	-	3.70
Surendranagar	Dasada1	23.3219	71.8292	2.37	-
Surendranagar	Dedadra	22.7750	71.7333	4.26	3.02
Surendranagar	Dhama	23.3853	71.6794	7.26	5.71
Surendranagar	Dhandhalpur 1	22.3814	71.3508	9.43	3.64
Surendranagar	Dheduki 1	22.5006	71.3217	16.60	-
Surendranagar	Ghansyam Gadh	23.1067	71.4842	-	2.93
Surendranagar	Halvad2	23.0169	71.1875	16.94	13.60
Surendranagar	Jhinjhuwada	23.3558	71.6583	6.90	5.48
Surendranagar	Juna Devaliya 1	22.9794	71.0089	3.34	1.63
Surendranagar	Kherwa	23.0000	71.7458	4.69	1.31
Surendranagar	Kukavati	23.1228	71.4797	-	3.32
Surendranagar	Lakhtar	22.8642	71.7833	5.92	3.30
Surendranagar	Limbdi1	22.5667	71.8125	2.55	1.82
Surendranagar	Limbdi-Pz	22.5722	71.8083	2.69	1.89
Surendranagar	Modhvana	22.8811	71.7356	-	2.19
Surendranagar	Moti Moladi	22.4236	71.1103	10.13	8.38
Surendranagar	Muli	22.6500	71.4667	8.83	7.60
Surendranagar	Nava Raisngpur	22.7419	71.2617	-	9.60
Surendranagar	Olak	22.9319	71.8633	-	3.70
Surendranagar	Pipli	23.0508	71.7342	0.75	0.08
Surendranagar	Rajsitapur	22.8472	71.5917	6.84	3.52
Surendranagar	Ratanpur1	22.8583	71.2708	-	5.53
Surendranagar	Sara	22.8642	71.2708	3.30	-
Surendranagar	Sarla	22.8133	71.1972	15.08	10.10
Surendranagar	Sayala	22.7456	71.3667	10.04	5.63
Surendranagar	Shiyani	22.6667	71.8292	4.53	3.34
Surendranagar	Sudamda	22.4542	71.4850	4.05	2.81
Surendranagar	Sukhpar1	23.0000	71.2833	-	4.57
Surendranagar	Surendranagar	22.7236	71.6708	3.48	1.95
Surendranagar	Tarnetar	22.6439	71.2167	-	15.44
Surendranagar	Vanala	22.4333	71.9208	-	2.94
Surendranagar	Visawadi	23.3389	71.7333	5.91	3.35
Surendranagar	Vitthalgarh	22.9997	71.9750	9.38	-
The Dang	Aherdi	20.6947	73.6167	4.65	1.58
The Dang	Ahwa_Pz	20.7625	73.6861	3.73	2.56
The Dang	Ahwa1	20.7625	73.6833	4.40	1.37
The Dang	Bari pada	20.6400	73.6914	-	0.97
The Dang	Bari Pada	20.6439	73.6917	10.85	0.97
The Dang	Bhenskatri	20.7681	73.5417	-	7.44
The Dang	Bori Gaotha 1	20.8133	73.5042	9.14	5.22
The Dang	Chikhli	20.6608	73.6875	9.19	1.22
The Dang	Chinchnogaotha	20.8133	73.5528	7.49	2.51
The Dang	Chinchpada	20.6439	73.7750	-	1.28
The Dang	Dhumkal	20.6439	73.7917	4.56	1.19

The Dang	Gadad	20.6439	73.7750	4.92	2.14
The Dang	Ghubita	20.8133	73.7375	2.96	0.84
The Dang	Jakana	20.6439	73.7458	3.25	1.02
The Dang	Jamalpada	20.7317	71.5206	6.94	4.99
The Dang	Kalibel	20.9319	73.5806	3.14	1.07
The Dang	Mahal	20.9319	73.6792	5.69	3.17
The Dang	Malegaon	20.6100	73.7458	2.63	0.61
The Dang	Nadak khadi	20.8133	73.6125	5.91	2.12
The Dang	Nana pada	20.7117	73.5833	8.26	2.67
The Dang	Sakarpatal	20.7528	73.5569	-	1.57
The Dang	Sodmal	20.8811	73.6167	11.11	2.60
The Dang	Subir	20.9319	73.5806	6.51	1.45
The Dang	Umberpada	20.6947	73.7250	5.94	1.76
The Dang	Vaghai	20.7639	73.5044	12.50	-
The Dang	Vazat Amba	20.8783	73.5183	6.34	3.69
Vadodara	Alladpur	22.2542	73.7167	7.92	-
Vadodara	Amreshwar	22.2203	73.4833	5.73	3.82
Vadodara	Asala	22.3897	73.9333	10.80	6.20
Vadodara	Baladgam	22.1356	74.0083	13.00	9.62
Vadodara	Bhindol	22.2033	73.9000	-	4.85
Vadodara	Bodeli	22.2711	73.7167	2.31	1.13
Vadodara	Chavaria	22.1864	73.9875	12.30	-
Vadodara	Chella Karamsiya Pz	22.3897	73.4322	3.92	-
Vadodara	Chhaliyar	22.6778	73.3167	20.50	20.42
Vadodara	Chhota udepur	22.3050	74.0167	6.85	3.68
Vadodara	Chisadia	22.4067	74.1333	11.88	-
Vadodara	Chitral PZ_II	22.1694	72.9458	25.30	25.04
Vadodara	Chota udepur	23.3080	74.0170	8.24	-
Vadodara	Devat (thadgam)	22.1017	73.9833	9.78	6.65
Vadodara	Ferkuva	22.3728	74.2083	7.53	4.61
Vadodara	Ghamodi	22.3728	74.0750	8.36	5.29
Vadodara	Ghayaj ii	22.2372	73.0542	26.68	26.00
Vadodara	Govindpura	22.2033	73.7414	5.99	3.68
Vadodara	Jojh	22.4406	73.9625	12.46	8.33
Vadodara	Juna samalya	22.5083	73.2833	12.12	11.48
Vadodara	Karamasiya	22.4236	73.4194	11.20	-
Vadodara	Kevadi	22.5253	73.9417	6.97	4.44
Vadodara	Kosindra Pz-I	22.1356	73.7556	2.66	2.99
Vadodara	Makni	22.2203	73.6792	9.27	-
Vadodara	Masor	22.1356	72.9083	13.18	11.65
Vadodara	Moti chikhali	22.0000	74.0833	3.78	3.01
Vadodara	Panwad	22.2033	74.0417	14.30	5.07
Vadodara	Patiyapura	22.2711	73.4417	8.59	5.41
Vadodara	Pavi	22.3389	73.8333	4.59	-
Vadodara	Pitha	22.2542	73.6417	8.33	5.53
Vadodara	Saidal	22.2881	73.5028	3.23	1.91
Vadodara	Saidivasana	22.0580	74.0170	6.00	3.00
Vadodara	Sankarda1	22.4406	73.1222	33.10	-
Vadodara	Sankheda	22.5422	73.1750	22.14	-
Vadodara	Sengpur	22.0339	73.8875	9.78	5.77
Vadodara	Sinor	21.9150	73.3417	23.43	21.86
Vadodara	Tokri	22.1356	74.0278	11.01	6.08
Vadodara	Tundav	22.4914	73.2028	14.58	9.77
Vadodara	Vadodara Ii	22.3050	73.2717	6.47	4.85
Vadodara	Vadodara_Kevada Bag	22.2930	73.1980	10.09	-
Vadodara	Vadodara_ONGC	22.2690	73.2130	12.14	9.54
Vadodara	Vadodara_Sama	22.3430	73.2010	17.00	-
Vadodara	Vadtalav Pz	22.2542	73.7839	11.08	9.19
Vadodara	Vagudan	22.0678	74.1417	6.88	5.91
Vadodara	Vega	22.1525	73.4125	5.91	3.73
Vadodara	Vejpur2	22.7456	73.3556	2.59	1.83
Vadodara	Waghach	22.0678	73.8500	-	5.85

Vadodara	Waghodia Pz	22.3558	73.3769	6.53	4.65
Valsad	Awadha	20.5253	73.2875	6.37	4.01
Valsad	Chavshala	20.3283	73.3203	3.60	1.21
Valsad	Dahli (bhilad)	20.2542	72.8833	4.56	2.70
Valsad	Dharampur 3	20.5308	73.1625	13.16	8.97
Valsad	Dharampur1	20.5422	73.1706	10.45	5.28
Valsad	Dungri	20.6886	72.9494	10.00	5.61
Valsad	Fali	20.3131	73.3761	11.69	1.05
Valsad	Huda	20.2908	73.4089	-	1.80
Valsad	Kanadu	20.3219	72.8417	6.15	3.58
Valsad	Kaparda	20.3389	73.2167	6.36	2.61
Valsad	Karwad	20.3558	72.9750	4.58	3.58
Valsad	Lakadmal	20.4744	73.1583	7.92	3.92
Valsad	Mandwa 1	20.3660	73.1800	9.60	-
Valsad	Motaponda	20.3583	73.0333	-	6.36
Valsad	Muli1	20.6439	73.0250	3.29	2.25
Valsad	Nanaponda	20.4067	73.1208	10.20	5.67
Valsad	Tithal	20.6100	72.9000	7.93	6.19
Valsad	Tumb	20.2203	72.8417	5.27	3.26
Valsad	Udwada	20.4575	72.9181	6.97	2.36
Valsad	Umargaon	20.1864	72.7500	3.94	3.77
Valsad	Valsad1	20.6100	72.9278	19.88	-
Valsad	Vapi Balitha	20.3803	72.9044	10.01	4.10
Valsad	Wankal	20.5597	73.0903	-	6.50

Annexure V

WATER QUALITY DATA OF NATIONAL HYDROGRAPH NETWORK STATIONS OF GUJARAT AND UT OF DAMAN & DIU MAY 2016

District	Location	pH	EC	TDS	CO3	HCO3	Cl	NO3	SO4	F	Alk	Ca	Mg	TH	Na	K
			uS/cm	mg/L												
District	Location	pH	EC	TDS	CO3	HCO3	Cl	NO3	SO4	F	Alk	Ca	Mg	TH	Na	K
Ahmedabad	Barvala	7.84	5440	3645	0	1281	815	32	407	4.50	1050	80	144	800	863	2.0
Ahmedabad	Dalod	8.51	2833	1898	24	171	682	8	244	0.90	180	88	24	320	505	5.1
Ahmedabad	Devaliya	8.42	1135	760	48	342	135	13	103	1.44	360	40	34	240	200	1.9
Ahmedabad	Dhandhuka1	8.27	10980	7357	0	1403	2340	38	1319	6.00	1150	240	336	2000	1800	24.0
Ahmedabad	Endla	8.28	2939	1969	0	256	682	9	264	0.80	210	120	14	360	510	5.1
Ahmedabad	Gamph	8.28	3102	2078	0	1013	496	15	28	0.47	830	160	72	700	380	40.0
Ahmedabad	Khabhada	8.06	1668	1118		390	333	44	94	0.75		80	96	600	152	1.8
Ahmedabad	Kundali	8.28	1022	685	0	354	142	95	24	0.28	290	52	65	400	90	0.6
Ahmedabad	Mandal2	8.20	920	616	0	366	107	3	5	0.22	300	60	14	210	110	12.8
Ahmedabad	Rajpada	8.23	1490	998	0	622	142	41	15	0.89	510	120	53	520	112	11.4
Amreli	Amreli	7.94	1667	1117	0	683	163	41	12	0.20	560	180	36	600	110	5.9
Amreli	Badhda	8.17	1500	1005	0	434	213	60	67	0.50	356	80	86	560	101	5.7
Amreli	Bagasara	7.87	3197	2142	0	378	744	210	62	0.75	310	240	108	1050	257	0.7
Amreli	Bhavardi1	8.07	1052	705	0	378	92	94	52	0.31	310	72	41	350	102	0.5
Amreli	Bhuva	8.04	11530	7725	0	817	3190	240	424	1.15	670	100	252	1300	2100	66.8
Amreli	Charkhadia1	8.29	2300	1541	0	1098	135	28	44	1.24	900	56	22	230	430	3.5
Amreli	Chavand	8.28	800	536	0	342	28	8	96	0.30	280	48	46	310	54	0.1
Amreli	Devliya	6.81	1180	791	0	317	206	49	25	0	260	84	53	430	87	2.0
Amreli	Dhari	8.23	2100	1407	0	268	418	240	73	0.48	220	156	115	870	100	2.2
Amreli	Fifad	8.42	4290	2874	132	769	886	60	28	1.45	850	80	156	850	620	0.8
Amreli	Goradka	7.84	1423	953	0	244	213	210	78	0.35	200	104	84	610	67	0.5
Amreli	Govadka	7.61	3176	2128	0	403	674	225	32	0.46	330	120	156	850	303	2.1
Amreli	Jafrabad	8.01	3454	2314	0	464	886	56	53	0.70	380	240	72	900	390	47.0
Amreli	Kerala	8.20	2050	1374	0	781	248	32	28	0.50	640	88	48	420	290	4.7
Amreli	Khamba	8.06	970	650	0	403	71	62	19	0.31	330	52	53	350	70	0.3
Amreli	Kunkavav	7.87	1936	1297	0	256	425	95	121	0.46	210	184	53	680	157	0.8
Amreli	Lathi	8.19	1490	998	0	451	241	41	44	0.50	370	48	77	440	163	0.4
Amreli	Lotpur	8.04	7450	4992	0	1281	1773	68	220	1.30	1050	340	300	2100	700	176.0
Amreli	Luvariya	8.85	1200	804	96	366	71	17	38	1.45	460	28	22	160	211	0.7
Amreli	Mandal	7.83	2630	1762	0	281	603	170	130	0.32	230	240	55	800	260	6.0
Amreli	Morjhar	8.13	900	603	0	317	99	22	38	0.20	260	72	41	350	50	0.7
Amreli	Nageshri	8.29	1050	704	0	329	163	18	20	0.60	270	68	12	220	147	1.8
Amreli	Piyava	8.29	1500	1005	0	732	85	44	45	0.60	600	32	38	240	260	0.5
Amreli	Punjapadar	8.29	600	402	0	281	42	14	10	1.01	230	40	7	130	85	7.0
Amreli	Tajpur	8.29	500	335	0	220	28	9	33	0.54	180	44	26	220	20	2.2
Amreli	Trakuda	7.98	1200	804	0	378	142	60	62	0.30	310	64	62	470	72	4.8
Amreli	Untvad	8.26	1300	871	0	598	85	13	48	0.30	490	100	74	560	52	9.5
Amreli	Vaghania juna	8.29	1567	1050	0	268	298	76	87	0.75	220	80	26	310	225	2.2
Amreli	Vanada	8.48	2460	1648	84	769	248	100	74	1.05	770	24	70	350	430	0.8
Amreli	Vankiya(Khamba)	7.99	1170	784	0	415	121	150	56	0	340	88	72	520	82	0.6
Amreli	Vankiya1	8.20	3400	2278	0	915	638	45	49	1.30	750	60	108	600	530	0.2
Amreli	Victor	8.64	1334	894	60	390	177	11	18	2.90	420	32	24	180	243	12.0
Anand	Anklav2	7.72	1283	860	0	561	142	44	11	0.50	460	60	73	450	120	4.5
Anand	Bandhani	8.04	743	498	0	342	92	14	5	0.85	280	64	17	230	92	13.8
Anand	Bhadran	7.84	679	455	0	464	43	1	32	0.10	380	80	32	330	67	2.0
Anand	Boriyavi	7.82	1916	1284	0	390	362	46	111	0.15	320	124	109	760	106	12.8
Anand	Dali	8.22	3694	2475	0	1232	746	32	41	1.40	1010	160	97	800	620	17.9
Anand	Dharmaj	8.45	2864	1919	96	891	390	47	74	1.05	890	40	109	550	467	2.2
Anand	Laxmipura	8.48	4159	2787	84	817	923	6	117	2.40	810	20	109	500	810	4.6
Anand	Parvata	8.45	1049	703	48	512	78	20	30	1.10	500	36	63	350	143	1.4
Anand	Ras	8.49	1535	1028	72	647	156	15	29	3.75	650	16	17	110	375	3.5
Banaskantha	Amirgadh	8.27	2841	1903	0	488	645	80	94	0.70	400	64	144	760	334	1.1
Banaskantha	Bharol	8.4	526	352	48	110	43	39	13	0.10	170	56	12	190	40	37.0
Banaskantha	Dantiwada 1	7.91	710	476	0	220	106	15	25	0.37	180	56	24	240	60	13.5
Banaskantha	Ganapipli	7.58	1000	670	0	342	149	12	8	2.20	280	52	41	300	100	18.4
Banaskantha	Gangodra	8.29	1958	1312	0	427	362	90	67	1.05	350	96	58	480	245	3.0
Banaskantha	Iqbalgarh	8.26	814	545	0	317	64	45	21	0.26	260	52	48	330	37	1.0
Banaskantha	Khoda	8.23	1518	1017	0	537	206	11	80	1.50	440	52	31	260	224	73.0
Banaskantha	Kidotar	8.44	1700	1139	84	451	170	39	117	2.20	510	36	72	390	240	1.7
Banaskantha	Meda	8.27	1600	1072	0	598	191	22	15	0.24	490	128	38	480	146	0.8
Banaskantha	Mohabbat gadh	8.28	1210	811	0	195	284	29	50	1.25	160	116	36	440	94	3.1
Banaskantha	Palanpur2	8.11	3600	2412	0	415	957	86	75	0.75	340	160	180	1150	325	3.6
Banaskantha	Ratanpur2	8.29	900	603	0	146	184	39	113	0.20	120	100	31	380	70	6.2
Banaskantha	Sodapur	7.78	1531	1026	0	439	142	50	200	1.38	360	80	72	500	145	5.4
Bharuch	Bharuch	8.01	2734	1832	0	561	710	3	80	0.25	460	100	183	1000	258	1.5
Bharuch	Bhensli	8.62	1277	856	132	610	35	3	33	4.05	720	12	17	100	330	0.6
Bharuch	Chidra	8.35	1041	697	36	390	106	38	20	0.15	380	60	36	300	130	54.9
Bharuch	Chiklota	7.98	745	499	0	427	57	39	46	0.70	350	68	32	300	98	0.4
Bharuch	Dahegam	7.89	1050	704	0	573	106	7	19	0.00	470	92	51	440	95	35.7
Bharuch	Jokhala	8.29	920	616	0	525	71	10	36	0.95	430	40	51	310	124	1.0
Bharuch	Kalak	8.13	1049	703	0	586	99	34	20	0.50	480	80	27	310	166	18.7
Bharuch	Kaswa	8.32	953	639	0	500	99	4	40	0.25	410	40	34	240	164	12.0
Bharuch	Kavi	8.48	2343	1570	84	238	177	46	-39	0.30	335	40	36	250	154	376.0
Bharuch	Kondh	8.10	1363	913	0	549	170	39	6	1.30	450	56	43	330	186	402.0
Bharuch	Mahegam1	8.21	551	369	0	293	64	9	9	0.15	240	56	19	220	59	7.1
Bharuch	Motwan	8.31	2464	1651	0	464	540	3	38	0.75	380	60	61	400	366	8.3

Bharuch	Mungaj	8.20	461	309	0	293	28	5	14	0.10	240	40	22	190	50	0.1
Bharuch	Nirnavi	8.24	465	312	0	305	28	6	25	0.35	250	44	17	180	65	10.0
Bharuch	Panoli	7.81	6044	4049	0	573	1775	44	96	1.10	470	18	28	1600	710	3.2
Bharuch	Raymal	8.37	804	539	36	195	149	8	20	0.40	220	40	24	200	120	7.9
Bharuch	Roja tankaria	8.30	965	647	0	427	128	5	53	0.00	350	76	29	310	130	30.6
Bharuch	Sajod	8.06	726	486	0	415	78	5	31	0.20	340	76	29	310	82	21.2
Bharuch	Sajod	8.15	1576	1056	0	903	114	5	9	1.55	740	44	92	490	198	4.3
Bharuch	Sindhav	8.17	1370	918	0	500	185	3	24	0.40	410	52	41	300	185	30.5
Bharuch	Tankari	8.07	2746	1840	0	866	390	6	146	0.85	710	44	88	470	440	53.5
Bharuch	Timbroli	8.04	483	324	0	305	35	7	42	0.45	250	72	15	240	51	2.0
Bharuch	Utraj	8.13	892	598	0	464	106	4	17	0.80	380	24	32	190	168	2.3
Bharuch	Valia	7.97	3574	2395	0	305	887	9	67	1.40	250	160	85	750	390	1.8
Bhavnagar	Ayodhyapuram	8.29	5724	3835	0	1037	1312	11	224	3.00	850	120	120	800	1000	1
Bhavnagar	Bhavnagar City 1	8.24	1064	713	0	488	106	2	27	0.64	400	40	36	250	153	0.7
Bhavnagar	Bhudel	8.4	2320	1554	108	500	354	76	54	0.87	590	120	84	650	260	8.2
Bhavnagar	Bhumbhali	8.12	5451	3652	0	659	1312	6	351	0.87	540	140	204	1200	730	20.0
Bhavnagar	Bhutia	7.88	1892	1268	0	244	475	13	63	0.67	200	152	53	600	164	1.5
Bhavnagar	Bora	8.45	1696	1136	60	695	92	70	28	1.5	670	28	22	160	336	2.3
Bhavnagar	Dhasa	8.29	800	536	0	342	78	12	19	0.20	280	72	36	330	42	9.5
Bhavnagar	Dudhala	8.03	1865	1250	0	281	425	68	73	0.64	230	124	50	520	207	3.2
Bhavnagar	Gadhada2	8.18	1000	670	0	378	99	6	95	0.34	310	72	55	410	67	0.9
Bhavnagar	Ghogha	8.11	6504	4358	0	683	1524	220	301	0.90	560	140	180	1100	980	65.1
Bhavnagar	Khijadiya	8.26	2070	1387	0	1086	85	28	19	0.67	890	112	38	440	283	2.4
Bhavnagar	Kundeli	7.89	760	509	0	281	92	26	55	0.3	230	72	41	350	42	1.3
Bhavnagar	Longadi	8.21	715	479	0	415	57	3	20	0.67	340	56	29	260	86	21.0
Bhavnagar	Motivadal	8.11	1234	827	0	451	156	43	32	0.23	370	132	34	470	88	5.9
Bhavnagar	Ningala	8.48	1252	839	48	354	156	19	54	0.74	370	44	36	260	187	1.6
Bhavnagar	Panchpipla	8.24	1218	816	0	500	135	28	21	0.83	410	40	43	280	170	0.5
Bhavnagar	Panvi1	8.69	2770	1856	96	988	284	24	15	2.60	970	120	108	750	300	10.2
Bhavnagar	Piperla	7.99	1050	704	0	427	99	48	25	0.1	350	88	62	480	35	0.9
Bhavnagar	Porbara	7.98	1598	1071	0	244	241	225	99	0.6	200	96	58	480	161	1.1
Bhavnagar	Sajnasar	8.07	1142	765	0	500	85	27	81	0.45	410	124	53	530	50	8.4
Bhavnagar	Sandhida	8.20	704	472	0	329	35	6	88	0.44	270	68	43	350	31	2.1
Bhavnagar	Shantinagar	7.91	1452	973	0	305	191	225	76	0.27	250	96	89	610	80	1.4
Bhavnagar	Talaja2	6.80	1788	1198	0	342	369	72	53	0.97	280	88	106	660	121	0.3
Bhavnagar	Tansa	8.23	1343	900	0	525	156	64	21	0.46	430	128	70	610	54	4.1
Bhavnagar	Tardhera	8.05	3476	2329		464	815	80	170	0.50	380	240	216	1500	130	4.8
Bhavnagar	Timbi2	8.29	500	335	0	244	21	3	53	0.60	200	52	29	250	18	1.9
Bhavnagar	Trapaj	8.2	1432	959	0	573	156	35	47	0.2	470	152	62	640	60	11.6
Daman	Ambawadi	7.99	1318	883	0	586	156	16	14	0.18	480	136	32	470	120	68.5
Daman	Dabhel	7.84	860	576	0	366	85	5	9	0.32	300	60	39	310	58	1.9
Daman	Dalwada	7.94	711	476	0	317	71	2	9	0.63	260	56	32	270	48	1.6
Daman	Jempore	7.88	994	666	0	512	71	22	11	0.22	420	88	41	390	74	28.7
Daman	Khariwad Daman	8.09	1213	813	0	488	128	3	6	1.25	400	32	27	190	186	16.9
Daman	Manwad	8.09	786	527	0	403	71	8	8	0.22	330	20	39	210	109	24.1
Daman	Warkhund	7.85	1631	1093	0	451	291	15	27	0.77	370	68	83	510	146	1.7
Diu	Diu	8.20	4486	3006	0	598	1205	3	50	0.35	490	80	168	900	629	40.3
Diu	Gomtimata	7.82	10640	7129	0	549	3226	66	270	0.20	450	180	456	2350	1400	34
Diu	Jolawadi	7.29	13030	8730	0	207	4467	16	72	0.01	170	560	600	3900	1260	42
Dohad	Ambakatch	8.14	1422	953	0	695	99	15	13	1.35	570	32	79	410	152	9.5
Dohad	Badpa	7.94	1398	937	0	512	135	5	102	5.48	420	68	31	300	201	1.9
Dohad	Dadhela	8.21	680	456	0	244	78	25	10	1.25	200	28	50	280	30	5.7
Dohad	Dahod Garege	8.03	1792	1201	0	342	305	135	72	0.70	280	60	67	430	217	4.1
Dohad	Dahod GEB	8.04	1715	1149		537	234	70	71	1.28	440	32	77	400	234	2.8
Dohad	Dahod1 (Forest)	8.27	2079	1393	0	537	305	195	8	2.70	440	72	62	440	280	6.8
Dohad	Dahod2 (Jilla Sew	8.11	926	620	0	244	106	100	64	1.28	200	68	43	350	70	1.3
Dohad	Devgadh Baria	7.86	1300	871	0	293	241	40	33	1.00	240	64	36	310	158	5.0
Dohad	Garadu	8.23	716	480		342	43	9	40	0.90	280	36	29	210	84	4.1
Dohad	Garbara	7.99	4650	3116	0	695	886	440	199	2.70	570	160	168	1100	600	0.8
Dohad	Kanjetha	8.11	840	563	0	427	43	14	7	1.00	350	36	31	220	98	4.2
Dohad	Limbdi2	7.72	1956	1311	0	305	518	23	15	0.77	250	168	67	700	140	11.0
Dohad	Panchwada	8.14	1093	732	0	500	57	20	33	3.20	410	32	65	350	92	5.2
Dohad	Sarswa	8.12	927	621	0	427	57	22	8	0.96	350	112	14	340	50	9.1
Dohad	Sukhsar	8.52	980	657	36	378	57	45	12	0.90	370	52	22	220	130	1.7
Dohad	Tokarba	7.90	956	641	0	366	113	37	28	1.29	300	52	58	370	71	3.7
Dohad	Varamkheda	8.13	715	479	0	293	71	9	72	1.20	240	44	55	340	40	2.3
Gandhinagar	Paliya	8.27	1509	1011	0	220	411	27	93	0.45	180	32	53	300	270	10.0
Gandhinagar	Serthapara	7.96	3694	2475	0	1476	355	140	40	1.04	1210	200	132	1050	356	40.0
Jamnagar	Ambaliya	8.49	4443	2977	108	695	909	4	160	5.52	750	48	117	600	751	16.7
Jamnagar	Ambardi	8.06	1422	953	0	445	192	50	66	0.76	365	60	61	400	161	1.7
Jamnagar	Amran1	8.26	826	553	0	390	78	2	34	0.80	320	52	10	170	138	3.3
Jamnagar	Aramda	8.42	2787	1867	132	525	497	46	21	1.10	650	80	49	400	470	38.0
Jamnagar	Balwa	8.15	1199	803	0	439	185	18	23	0.45	360	128	41	490	80	4.0
Jamnagar	Bed	8.28	2223	1489	0	512	327	165	85	0.26	420	176	15	500	280	7.2
Jamnagar	Bedanpur	7.80	4655	3119	0	183	1321	190	141	0.45	150	416	197	1860	220	1.2
Jamnagar	Bhanvad	8.13	988	662	0	317	128	60	69	0.39	260	56	49	340	103	0.7
Jamnagar	Bhogat	8.25	2423	1623	0	183	582	39	183	2.54	150	104	78	580	290	6.7
Jamnagar	Changa	8.09	1544	1034	0	232	334	30	88	0.45	190	108	46	460	149	0.9
Jamnagar	Dhrol2	8.05	1845	1236	0	586	320	6	20	0.43	480	64	80	490	218	4.9
Jamnagar	Dudhai2	8.27	719	482	0	366	71	2	26	0.45	300	36	19	170	120	2.2
Jamnagar	Dwarka	8.02	2753	1845	0	366	625	125	40	0.29	300	80	58	440	412	28.2

Jamnagar	Haripur2	8.05	1172	785	0	244	163	165	51	0.70	200	96	24	380	111	0.5
Jamnagar	Jambuda	8.26	1074	720	0	329	163	36	33	0.77	270	24	44	240	151	0.3
Jamnagar	Jamnagar2	8.06	1137	762	0	317	178	21	55	0.39	260	48	32	250	156	0.5
Jamnagar	Juvanpur	8.07	2476	1659	0	366	525	190	30	0.30	300	88	92	600	292	4.1
Jamnagar	Kalawad	8.28	968	649	0	366	114	25	76	0.44	300	40	59	320	112	2.4
Jamnagar	Kalyanpur1	7.92	1296	868	0	268	277	26	24	0.50	220	48	27	230	199	1.8
Jamnagar	Kalyanpur2	8.20	3979	2666	0	610	923	80	105	4.32	500	104	146	860	526	2.2
Jamnagar	Khirsara	7.89	3248	2176	0	207	852	230	41	0.20	170	240	126	1120	228	2.3
Jamnagar	Kuvadia	8.28	823	551	0	305	92	50	48	0.40	250	76	29	310	75	1.2
Jamnagar	Lalpur1	8.05	1385	928	0	342	234	43	74	0.25	280	52	58	370	164	0.6
Jamnagar	Lamba	7.92	4255	2851	0	268	1108	95	233	0.62	220	192	117	960	535	2.0
Jamnagar	Manpur	7.71	2972	1991	0	159	809	30	202	0.20	130	320	112	1260	120	0.5
Jamnagar	Mojap	8.28	5226	3501	0	610	1456	12	16	1.60	500	160	109	850	810	58.1
Jamnagar	Mota kalawad	7.79	3039	2036	0	195	809	13	242	0.40	160	272	136	1240	156	2.0
Jamnagar	Moti matli	8.07	929	622	0	305	135	43	22	0.51	250	52	24	230	125	1.4
Jamnagar	Nikava	8.28	1079	723	0	488	142	7	10	0.39	400	68	34	310	138	12.6
Jamnagar	Pindara	7.94	3526	2362	0	120	1008	5	192	0.50	98	224	112	1020	333	10.4
Jamnagar	Raval	7.92	1249	837	0	305	234	28	17	0.29	250	56	41	310	145	0.4
Jamnagar	Salaya	8.94	1659	1112	132	306	135	155	70	1.40	471	12	12	80	361	13.4
Jamnagar	Samrasar	7.75	10650	7136	0	451	3799	4	87	4.32	370	320	413	2500	1565	18.9
Jamnagar	Seth vadala	8.08	1284	860	0	281	185	105	138	0.35	230	72	354	470	117	0.4
Jamnagar	Toda	8.21	1206	808	0	220	135	230	65	0.31	180	108	46	460	77	0.8
Jamnagar	Vadtara	8.27	1113	746	0	488	114	40	52	0.45	400	88	49	420	106	7.1
Jamnagar	Varwada	7.52	8026	5377	0	268	2698	50	185	0.80	220	360	231	1850	1131	14.2
Jamnagar	Vedpanchasara	8.27	1052	705	0	512	99	21	39	0.50	420	76	36	340	129	0.4
Jamnagar	Vijarkha	8.15	964	646	0	293	156	35	22	0.60	240	52	22	220	136	0.8
Junagadh	Ajotha	7.97	1389	931	0	268	269	34	106	0.64	220	89	77	530	98	1.8
Junagadh	Antroli	7.51	10410	6975	0	146	3728	52	425	0.02	120	500	44	3050	1325	21.1
Junagadh	Arena	7.49	10250	6868	0	146	2876	50	806	0.20	120	760	158	2550	1177	33.5
Junagadh	Bamanwara	7.30	8244	5523	0	110	3018	76	244	0.25	90	880	401	3850	399	4.2
Junagadh	Bantva	8.00	5505	3688	0	598	1448	37	134	0.67	490	168	112	880	851	12.3
Junagadh	Bhimdeval	7.94	1039	696	0	317	113	49	115	0.75	260	64	65	430	70	2.2
Junagadh	Bilkha	7.84	1854	1242	0	512	312	140	15	0.68	420	80	126	720	127	0.6
Junagadh	Budhecha	8.23	1820	1219	0	500	369	49	3	0.80	410	152	44	560	194	4.3
Junagadh	Dhokadva	8.29	680	456	0	354	35	6	4	0.86	290	44	41	280	33	2.0
Junagadh	Galodar	8.01	1734	1162	0	183	383	4	161	0.30	150	48	34	260	280	2.9
Junagadh	Girgadhada	7.99	709	475	0	305	50	43	79	0.35	250	72	46	370	32	0.9
Junagadh	Goraj1	7.93	925	620	0	329	114	46	41	1.26	270	64	27	270	113	2.0
Junagadh	Jargali	8.18	615	412	0	305	28	12	61	0.36	250	24	60	310	25	0.8
Junagadh	Junagadh1	7.99	980	657	0	268	149	60	16	0.30	220	72	34	320	82	2.2
Junagadh	Juthal	8.04	678	454	0	244	92	18	6	0.35	200	76	26	290	29	3.9
Junagadh	Kalej	7.37	7280	4878	0	146	2556	120	113	0.45	120	960	268	3250	339	3.7
Junagadh	Kanek	7.39	9891	6627	0	220	3124	24	409	0.30	180	112	170	3500	731	17.9
Junagadh	Kansari	8.19	1442	966	0	622	121	35	33	0.2	510	100	60	500	113	12.3
Junagadh	Kewarda	7.88	996	667	0	183	206	130	5	0.28	150	56	36	290	120	22.8
Junagadh	Khambalia1	7.76	3926	2630	0	342	966	34	258	0.30	280	272	34	820	523	17.2
Junagadh	Khokharda	8.10	2553	1711	0	634	440	46	103	0.88	520	120	88	660	292	6.0
Junagadh	Khorada1	8.07	2688	1801	0	293	596	14	200	0.28	240	144	49	560	346	29.6
Junagadh	Khoras ahir	7.8	1372	919	0	244	249	70	120	0.28	200	96	66	510	105	1.0
Junagadh	Kodinar1	7.93	2000	1340	0	415	432	33	78	0.75	340	76	142	780	132	1.4
Junagadh	Kukaswada	7.47	8320	5574	0	122	2450	28	566	0.20	100	700	49	1950	1041	2.9
Junagadh	Lohej	7.31	8453	5664	0	317	2840	37	628	0.44	260	320	377	2350	1220	24.6
Junagadh	Maktupur1	7.37	10680	7156	0	146	3799	26	594	0.02	120	460	413	2850	1535	12.1
Junagadh	Manketara	7.96	1366	915	0	256	320	41	13	0.62	210	92	41	400	145	2.9
Junagadh	Mendarda1	8.21	758	508	0	305	57	36	17	0.53	250	60	19	230	69	0.6
Junagadh	Moraj	7.98	674	452	0	232	57	14	63	0.57	190	56	34	280	32	0.4
Junagadh	Patla	8.12	615	412	0	195	107	11	0	0.47	160	44	27	220	47	0.2
Junagadh	Prasli	8.11	951	637	0	366	106	26	67	1.32	300	52	53	350	90	3.5
Junagadh	Prempara	7.95	1160	777	0	415	106	70	92	0.30	340	104	67	540	48	1.3
Junagadh	Sametar	8.17	1441	965	0	464	206	49	61	0.11	380	60	79	480	137	1.1
Junagadh	Sepa	8.07	3973	2662	0	512	753	1	478	1.48	420	64	83	500	689	10.0
Junagadh	Seriakhan	7.88	2007	1345	0	220	383	165	137	0.48	180	144	58	600	186	0.9
Junagadh	Shardagram	7.54	12250	8208	0	195	3444	22	926	0.34	160	480	231	2150	1800	10.7
Junagadh	Sil	8.18	1584	1061	0	146	376	115	39	0.01	120	144	32	490	138	9.9
Junagadh	Sil bandar	7.93	4275	2864	0	232	1193	35	198	0.50	190	176	83	780	621	21.9
Junagadh	Una2	8.19	1945	1303	0	573	276	130	72	1.50	470	56	134	700	160	0.6
Junagarh	Anandpur	8.04	1726	1156	0	366	369	90	26	0.82	300	160	726	720	96	1.4
Junagarh	Chokhli	8.25	1518	1017	0	366	192	100	109	0.6	300	52	63	390	175	1.7
Junagarh	Govindpara	7.87	705	472	0	293	50	16	49	0.88	240	60	38	310	31	1.5
Junagarh	Kasiya naka	7.89	792	531	0	329	43	9	71	0.05	270	68	46	360	24	0.1
Junagarh	Kenedipur	8.10	601	403	0	268	50	12	8	0.28	220	32	44	260	23	0.3
Junagarh	Saradiya	7.97	1906	1277	0	244	518	4	15	0.23	200	920	58	470	225	2.7
Kacchh	Bambhedai	7.83	8320	5574	0	195	2765	10	32	1.10	160	280	156	1350	1290	6.2
Kacchh	Ughedi	7.77	7514	5034	0	293	1985	43	687	0.77	240	280	276	1850	910	5.7
Kacchh	vadala	7.83	3905	2616	0	415	1134	15	38	1.20	340	240	24	700	605	3.3
Kachchh	Bhadia mota	8.08	2000	1340	0	488	447	12	347	0.70	400	92	10	270	341	360.0
Kachchh	Bhadreshwar	8.09	1762	1181	0	329	425	6	10	1.80	270	132	26	440	210	9.2
Kachchh	Bhuj1	8.2	743	498	0	281	106	6	5	0.48	230	88	7	250	66	9.0
Kachchh	Chandranagar	8.06	3904	2616	0	366	1170	2	96	1.35	300	180	144	1050	472	13.0
Kachchh	Deshalpur rapar	8.20	1480	992	0	146	291	8	217	0.05	120	52	62	390	174	16.7
Kachchh	Devisar	8.26	2002	1341	0	329	390	44	140	1.80	270	112	77	600	190	36.0

Kachchh	Dunai	8.07	1239	830	0	439	177	8	23	1.00	360	72	17	250	182	1.8
Kachchh	Gandhidham1	9.16	792	531	60	134	78	29	60	0.47	210	72	5	200	58	11.9
Kachchh	Haboi	8.13	1301	872	0	305	262	8	69	1.20	250	64	53	380	150	9.1
Kachchh	Kanmer	8.04	661	443	0	268	71	11	221	0.58	220	76	24	290	24	6.1
Kachchh	Karagoga	8.45	1160	777	60	403	78	14	54	1.40	430	20	7	80	245	2.4
Kachchh	Kotadi	8.42	1422	953	192	73	184	15	77	2.80	380	28	5	90	300	4.3
Kachchh	Kotaya	8.28	1371	919	0	512	213	22	25	1.80	420	52	14	190	268	1.3
Kachchh	Kotda jadvapur	8.12	3012	2018	0	317	886	2	30	0.80	260	140	108	800	350	6.6
Kachchh	Kothara	8.09	3750	2513	0	500	957	15	28	0.35	410	120	12	350	676	24.5
Kachchh	Kuda	8.12	1380	925	0	537	156	26	10	0.88	440	104	43	440	118	16.5
Kachchh	LAKHPAT	7.26	2678	1794	0	281	745	4	291	0.34	230	220	72	850	276	5.5
Kachchh	Lilpur	7.78	6861	4597	0	256	1666	72	741	0.90	210	56	120	1900	700	13.6
Kachchh	Lodai	8.05	2340	1568	0	293	603	29	146	1.35	240	220	24	650	290	15.6
Kachchh	Mota Asambia	8.20	1630	1092	0	476	291	14	404	0.28	390	80	10	240	280	6.3
Kachchh	Moti cher	7.91	4000	2680	0	366	1099	24	70	0.13	300	240	48	800	496	59.0
Kachchh	Mou-moti	8.08	1534	1028	0	451	241	56	374	1.20	370	60	26	260	240	5.4
Kachchh	Naliya1	8.47	2665	1786	96	500	425	30	213	1.10	570	100	24	350	495	4.0
Kachchh	Rapar2	7.94	4207	2819	0	305	957	74	663	0.97	250	300	120	1250	400	38.0
Kachchh	Rathanpurkhadir	8.44	1443	967	0	464	213	10	87	0.20	380	100	55	480	140	12.4
Kachchh	Samkhiari	7.96	4385	2938	0	488	1170	84	49	1.90	400	160	108	850	619	11.2
Kachchh	Sedat	8.19	742	497	0	244	113	0	52	0.08	200	56	43	320	44	3.0
Kachchh	Shinaya	8.09	3092	2072	0	268	957	2	9	0.70	220	160	24	500	494	8.4
Kachchh	Sirani Vandh	7.98	6640	4449		244	1773	8	818	0.90	200	100	384	1850	710	22.4
Kachchh	Tera	8.29	5000	3350	0	964	1099	56	127	2.10	790	140	36	500	940	8.6
Kachchh	Vinjhan1	8.08	2565	1719	0	415	674	3	12	1.30	340	140	24	450	390	9.9
Kheda	Alina	7.92	2611	1749	0	464	503	140	163	0.97	380	132	91	710	310	11.0
Kheda	Balasinor1	8.13	793	531	0	232	121	20	30	0.60	190	64	31	290	56	2.1
Kheda	Bar	8.20	580	389	0	268	43	4	10	0.84	220	56	17	210	40	4.0
Kheda	Bariyavi	8.28	1260	844	0	512	106	30	113	0.60	420	44	72	410	140	17.0
Kheda	Dakor	8.29	2080	1394	0	939	170	21	28	1.04	770	88	55	450	281	19.2
Kheda	Juna vasadra	8.27	4370	2928	0	1025	815	30	217	0.77	840	300	132	1300	440	33.0
Kheda	Kalesar	8.55	1167	782	96	403	57	11	105	1.28	490	44	53	330	167	0.7
Kheda	Ladvel	8.24	2287	1532	0	573	461	43	15	3.20	470	80	96	600	270	15.0
Kheda	Mahudha	8.29	2486	1666	0	659	425	75	5	0.96	540	220	24	650	260	52.0
Kheda	Muliyad	7.68	9879	6619	0	342	2836	2	551	0.70	280	400	312	2300	1200	17.4
Kheda	Nadiad2	8.29	1300	871	0	622	92	1	78	0.80	510	52	127	660	30	0.5
Kheda	Shekhupura	8.27	4253	2850	0	756	993	10	172	0.18	620	100	120	750	500	300.0
Mahesana	Asjol	7.87	642	430	0	268	28	60	3	0.07	220	64	14	220	42	40.0
Mahesana	Bhandupara	7.03	1940	1300	0	415	418	45	7	0.70	340	36	43	270	328	2.0
Mahesana	Budasan	8.25	1816	1217	0	598	291	20	27	0.80	490	160	36	550	185	0.7
Mahesana	Dharpura	8.06	1630	1092	0	671	163	8	19	1.08	550	52	50	340	217	3.9
Mahesana	Dosaj	8.28	1760	1179	0	317	773	9	21	0.15	260	46	109	570	379	10.0
Mahesana	Kheralu1	8.29	1435	961	0	537	149	35	25	1.50	440	36	48	290	194	40.0
Mahesana	Maguna	8.00	4260	2854	0	915	681	2	363	0.00	750	120	276	1450	300	9.4
Mahesana	Panchot	7.96	3012	2018	0	476	744	50	116	0.20	390	140	120	850	352	20.0
Mahesana	Rampura1	7.91	1200	804	0	586	64	14	30	0.50	480	48	31	250	146	44.0
Mahesana	Sihi	8.42	860	576	48	220	92	8	16	0.70	260	48	26	230	86	27.0
Mahesana	Tarabh	8.02	700	469	0	244	71	12	20	0.02	200	48	26	230	38	20.0
Mahesana	Timba	8.09	1200	804	0	573	106	50	6	1.08	470	144	31	490	83	5.1
Mahesana	Unad	8.29	9000	6030	0	1403	2021	34	178	0.88	1150	140	300	1600	1220	160.0
Mahesana	Unawa	7.98	4090	2740	0	952	780	175	25	0.64	780	160	120	900	535	75.0
Mahesana	Unjha	8.11	3160	2117	0	549	638	14	213	1.27	450	100	120	750	390	77.0
Mahesana	Vidaj	8.06	2902	1944	0	647	532	42	133	0.01	530	140	156	1000	213	12.9
Narmada	Amiyar	7.99	515	345	0	354	21	6	24	0.50	290	72	15	240	51	0.5
Narmada	Besana	8.09	395	265	0	281	21	6	34	0.35	230	72	7	210	42	0.6
Narmada	Devji Faliya	8.02	534	358	0	293	35	25	38	0.40	240	88	10	260	42	0.7
Narmada	Jankh	8.07	544	364	0	305	64	11	12	0.60	250	68	15	230	62	0.2
Narmada	Kanbi pitha	7.86	808	541	0	464	78	12	112	0.30	380	104	24	360	119	5.9
Narmada	Khadiapada	7.73	591	396	0	192	78	11	17	0.35	157	68	24	270	12	2.8
Narmada	Khota amba	7.69	621	416	0	488	71	4	0	0.65	400	64	29	280	104	0.6
Narmada	Moti Singlot	8.10	357	239	0	268	21	9	34	0.35	220	48	19	200	43	0.1
Narmada	Ralda	7.95	408	273	0	232	57	3	2	0.60	190	36	22	180	45	0.2
Narmada	Rasela	7.77	1943	1302	0	476	319	10	20	0.35	390	120	44	480	182	4.4
Narmada	Ringani	7.76	483	324	0	293	78	4	18	0.55	240	52	27	240	62	0.4
Narmada	Selemba	7.85	741	496	0	354	57	140	25	0.65	290	72	32	310	93	0.3
Narmada	Sunderpura	7.84	540	362	0	281	64	3	16	0.35	230	60	24	250	42	0.8
Narmada	Umaran	7.94	496	332	0	256	92	10	22	0.35	210	56	17	210	75	0.3
Navsari	Abrama	7.91	3091	2071	0	464	781	2	47	0.23	380	88	112	680	399	18.0
Navsari	Chandav	7.84	886	594	0	317	85	9	42	0.60	260	72	32	310	57	2.0
Navsari	Chinam	8.28	3020	2023	0	854	554	2	210	0.22	700	48	63	380	289	556.0
Navsari	Dandi	7.89	1337	896	0	488	163	44	10	0.00	400	40	44	280	145	66.1
Navsari	Doldha(New)	7.84	474	318	0	183	36	0	44	0.35	150	52	17	200	22	0.6
Navsari	Duvada	7.93	939	629	0	427	78	5	40	1.18	350	56	41	310	92	0.8
Navsari	Eru	8.20	988	662	0	366	135	44	6	0.77	300	48	32	250	132	6.9
Navsari	Hond	7.39	1262	846	0	488	121	46	0	0.22	400	156	22	480	60	13.2
Navsari	Kaliyari	7.72	853	572	0	305	71	9	60	0.30	250	96	32	370	24	2.7
Navsari	Khergam	7.79	735	492	0	293	64	9	15	0.22	240	68	24	270	39	0.3
Navsari	Manavkhadak	7.86	602	403	0	281	35	2	20	0.77	230	56	19	220	39	0.3
Navsari	Moti Valzar	7.52	716	480	0	366	43	4	23	0.72	300	52	36	280	51	1.3
Navsari	Navsari1	7.70	6349	4254	0	317	2059	23	47	0.35	260	260	219	1550	791	9.9
Navsari	Onjal	7.98	1157	775	0	354	199	2	3	0.36	290	84	29	330	115	5.8

Navsari	Panikhadak	7.74	851	570	0	305	107	10	26	0.23	250	84	41	380	27	2.4
Navsari	Parajan	8.28	1055	707	0	549	57	8	5	2.40	450	12	29	150	180	5.5
Navsari	Ramla	7.92	443	297	0	195	35	2	7	0.53	160	40	17	170	23	0.2
Navsari	Sari_khurd	7.86	2635	1765	0	378	653	0	27	0.07	310	108	124	780	226	33.5
Navsari	Ubhrat	7.65	1088	729	0	427	121	18	20	1.19	350	64	22	250	130	26.2
Panchmahals	Chhabanpur	7.73	831	557	0	305	71	38	63	0.94	250	92	22	320	60	1.5
Panchmahals	Dhanol nani	8.42	2512	1683	132	73	567	45	173	5.20	280	120	36	450	400	2.3
Panchmahals	Gadhar	7.72	873	585	0	281	113	23	31	0.98	230	92	24	330	53	4.2
Panchmahals	Godhara (College	8.28	710	476	0	317	64	32	13	3.20	260	84	19	290	50	5.4
Panchmahals	Godhara Jilla Sev	7.96	843	565	0	378	71	27	23	0.93	310	44	43	290	78	2.5
Panchmahals	Godhra(Mandir)	8.07	1028	689	0	329	142	28	48	1.18	270	44	50	320	105	1.7
Panchmahals	Godhra(School)	8.71	392	263	36	134	21	3	15	0.40	170	48	14	180	18	2.1
Panchmahals	Jambughora	8.26	800	536	0	281	50	43	79	1.12	230	36	43	270	70	1.0
Panchmahals	Jokha	8.14	1338	896	0	537	156	5	8	1.23	440	96	38	400	128	7.7
Panchmahals	Kalol urban 1	8.16	1957	1311	0	64	163	80	484	1.00	52	32	77	400	210	0.8
Panchmahals	Khadki	8.21	1352	906	0	683	78	5	26	2.20	560	44	60	360	160	1.9
Panchmahals	Khanpur	7.80	782	524	0	281	71	31	44	0.65	230	72	29	300	48	0.9
Panchmahals	Kotha	7.80	806	540	0	317	92	10	39	0.99	260	80	7	230	98	1.9
Panchmahals	Kothamba	7.71	1800	1206	0	305	340	64	85	0.65	250	124	58	530	160	4.8
Panchmahals	Limbadia peti	7.90	974	653	0	390	71	7	59	1.05	320	68	43	350	65	1.9
Panchmahals	Lunawada	8.03	1790	1199	0	513	319	45	4	0.20	420	208	31	650	123	20.3
Panchmahals	Malekpur1	8.00	668	448	0	256	50	7	71	0.98	210	76	19	270	43	2.0
Panchmahals	Natapur	7.93	686	460	0	207	113	28	22	1.40	170	92	5	250	60	2.3
Panchmahals	Ranipura	7.79	2650	1776	0	464	461	100	220	1.50	380	320	36	950	185	6.3
Panchmahals	Santrampur1	7.70	970	650	0	305	135	11	74	0.34	250	92	24	330	92	1.3
Panchmahals	Shehra	8.10	1846	1237	0	793	170	26	4	0.81	650	52	38	290	290	79.0
Panchmahals	Silwad	8.03	4900	3283	0	171	1347	110	379	0.94	140	300	312	2050	230	10.1
Panchmahals	Suliyat	7.97	1056	708	0	390	99	40	44	0.98	320	108	31	400	65	14.0
Panchmahals	Tuwa	8.14	740	496	0	366	43	5	18	0.70	300	44	19	190	90	14.1
Panchmahals	Vejalpur	7.72	2090	1400	0	586	362	21	27	1.20	480	44	86	470	265	12.5
Patan	Dharmoda	8.27	985	660	0	464	71	5	10	0.47	380	80	22	290	79	30.0
Patan	Dhinoj	7.52	1392	933	0	451	220	2	30	0.20	370	52	38	290	176	37.0
Patan	Moti chander	7.94	11450	7672	0	293	3474	17	880	0.48	240	360	552	3200	1350	26.6
Patan	Patan2	8.00	3260	2184	0	1159	461	34	21	2.80	950	48	139	700	423	86.5
Patan	Piprala	8.43	6040	4047	36	634	1276	190	531	5.60	580	220	96	950	1000	0.9
Patan	Radhanpur2	8.22	3548	2377	0	744	780	11	128	1.40	610	120	48	500	630	36.0
Patan	Sander	8.05	675	452	0	256	85	4	20	0.43	210	56	26	250	40	7.5
Patan	Santhalpur	8.57	10895	7300	120	610	3368	20	381	4.00	700	200	240	1500	2040	10.6
Patan	Shankhari	8.18	886	427	0	427	71	5	5	1.35	350	44	27	210	117	8.5
Porbandar	Adwana1	8.15	1879	1259	0	720	156	150	35	1.28	590	128	92	700	126	11.2
Porbandar	Balej	7.57	4520	3028	0	207	1349	78	69	0.15	170	248	112	1080	530	35.9
Porbandar	Bhavpura	7.55	5145	3447	0	232	1590	76	82	0.31	190	368	141	1500	510	7.4
Porbandar	Kadegi	7.94	4075	2730	0	281	1136	3	146	0.12	230	144	126	880	519	4.9
Porbandar	Khambodar	8.28	326	218	0	146	28	3	6	0.35	120	28	19	150	9	1.9
Porbandar	Kuchhadi	7.95	5194	3480	0	342	1491	27	87	0.58	280	104	95	700	839	64.1
Porbandar	Kutiyana1	7.78	5027	3368	0	390	1335	120	155	1.20	320	240	136	1160	611	45.3
Porbandar	Miyani	7.54	3097	2075	0	390	809	75	20	0.20	320	224	39	720	385	42.3
Porbandar	Navibandar	8.05	770	516	0	183	163	24	10	0.01	150	72	22	270	58	20.6
Porbandar	Oddar	7.92	7584	5081	0	415	2485	19	329	1.35	340	200	207	1350	1335	35.7
Porbandar	Palkhada	7.82	3182	2132	0	232	838	185	31	0.30	190	224	63	820	345	20.1
Porbandar	Pata	8.03	3201	2145	0	476	781	60	55	0.00	390	120	58	540	493	18.4
Porbandar	Porbandar1	8.28	1768	1185	0	293	440	10	25	0.57	240	48	39	280	271	31.2
Porbandar	Ranavav	7.78	867	581	0	207	163	37	28	0.66	170	68	32	250	98	2.0
Porbander	Adityana	7.94	681	456	0	281	85	26	29	0.95	230	36	24	190	99	1.9
Porbander	Bakharla	8.12	1889	1266	0	366	405	74	39	0.60	300	100	56	480	230	9.3
Porbander	Kandorna	7.50	4360	2921	0	232	1306	74	87	1.00	190	240	226	1120	501	3.9
Porbander	Kolikheda	8.29	1458	977	60	464	206	27	16	2.14	480	32	12	130	317	1.6
Porbander	Mochchha	7.62	3017	2021	0	171	966	11	56	0.01	140	232	83	920	307	23.4
Porbander	Mojieana	7.72	6729	4508	0	256	2237	72	209	0.46	210	460	292	2350	613	1.6
Porbander	Ratadi	7.97	4310	2888	0	439	1065	49	226	1.10	360	80	83	540	745	7.2
Porbander	Ratanpur	7.76	10790	7229	0	366	3905	1	271	0.70	300	220	292	1750	2030	41.2
Porbander	Ratia	7.71	2649	1775	0	293	682	78	40	0.76	240	128	68	600	246	148.2
Porbander	Simar	8.61	296	198	24	73	14	2	34	0.35	100	32	15	140	8	1.9
Porbander	Tukra gosa	8.39	694	465	24	159	135	22	8	0.17	170	36	24	190	68	41.3
Porbander	Visavada	7.81	5223	3499	0	195	1562	41	143	1.28	160	240	107	1040	707	47.5
Rajkot	Amar nagar	7.87	14250	9548	0	476	4864	25	25	4.20	390	360	681	3700	1700	3.5
Rajkot	Chhatar	8.04	3869	2592	0	281	895	150	286	0.75	230	176	102	860	492	2.3
Rajkot	Chordi	7.67	3360	2251	0	49	937	66	220	0.35	40	296	111	1195	215	3.2
Rajkot	Dadia	8.07	1057	708	0	293	192	10	20	0.33	240	92	2	240	140	2.8
Rajkot	Ganod	7.62	5326	3568	0	195	1477	280	169	0.35	160	448	29	2140	245	0.8
Rajkot	Gavridad	8.42	299	200	24	134	43	2	30	0.28	150	36	34	230	7	2.1
Rajkot	Hadmatia	8.05	1904	1276	0	378	241	180	156	0.37	310	140	44	530	199	4.0
Rajkot	Halenda	8.24	1675	1122	0	488	213	95	184	0.60	400	68	141	750	103	3.0
Rajkot	Jamwali	8.16	437	293	0	207	43	2	15	0.30	170	52	15	190	27	3.2
Rajkot	Jasapur	7.80	1995	1337	0	122	497	250	7	0.28	100	208	32	650	170	5.0
Rajkot	Jasdan2	7.86	2320	1554	0	146	596	27	161	0.32	120	224	19	640	240	1.0
Rajkot	Jetpur pithad.	7.50	7791	5220	0	73	2592	9	158	0.29	60	1160	12	2950	453	2.5
Rajkot	Kamlapur	7.68	4779	3202	0	122	1377	135	248	0.40	100	376	122	1490	435	2.7
Rajkot	khamta	8.09	881	590	0	268	64	61	77	0.40	220	40	24	100	157	0.8
Rajkot	Khirsara-1	7.92	1645	1102	0	207	391	13	89	0.25	170	144	5	380	208	3.1
Rajkot	Kolithad 1	8.09	1522	1020	0	37	412	68	81	0.10	30	140	0	350	188	3.4

Rajkot	Lalavadar	8.25	696	466	0	329	36	13	17	0.50	270	76	0	190	74	1.2
Rajkot	Macchukunda	8.22	1360	911	0	232	305	11	42	0.42	190	108	15	330	161	7.2
Rajkot	Malia	8.14	846	567	0	293	128	7	5	0.47	240	64	15	230	87	17.3
Rajkot	Modpar-1	7.66	5564	3728	0	220	1392	42	592	0.55	180	272	146	1280	709	12.7
Rajkot	Morvi	8.03	2251	1508	0	500	369	25	157	1.70	410	104	44	440	315	3.3
Rajkot	Mota dadwa	8.02	826	553	0	103	121	75	80	0.49	84	76	15	250	70	1.6
Rajkot	Mota dhansura	8.09	4106	2751	0	500	937	6	254	1.48	410	88	39	380	755	3.4
Rajkot	Motagundala	8.28	628	421	0	305	50	8	8	0.95	250	40	12	160	82	1.9
Rajkot	Movaiya	8.10	3423	2293	0	183	881	110	216	0.35	150	264	102	1080	296	207.0
Rajkot	Neknam	8.21	371	249	0	146	51	7	14	0.28	120	48	5	140	34	1.9
Rajkot	Nichi mandal	8.04	1730	1159	0	427	334	35	15	1.40	350	40	29	220	301	1.6
Rajkot	Padadhari	8.01	5319	3564	0	329	1235	66	581	0.65	270	188	73	1020	770	1.9
Rajkot	Patanvav	7.58	4987	3341	0	134	1434	180	197	0.32	110	432	210	1940	262	0.6
Rajkot	Rajkot1	8.44	1181	791	0	305	170	19	80	0.26	250	128	17	390	93	7.7
Rajkot	Ribda	8.22	1990	1333	0	134	483	36	160	0.20	110	208	7	550	205	1.2
Rajkot	Sardhar2	8.48	1733	1161	108	506	213	7	10	0.35	595	64	19	240	273	65.3
Rajkot	Sarvad	8.28	315	211	0	122	64	3	6	0.26	100	48	5	140	28	2.0
Rajkot	Sayapar	7.90	2323	1556	0	281	540	135	46	0.60	230	208	63	780	175	1.9
Rajkot	Sindhavadar	8.28	2374	1591	0	415	497	72	97	0.46	340	64	24	260	437	0.5
Rajkot	Targhari	8.21	1763	1181	0	342	327	70	76	0.20	280	140	63	610	126	0.4
Rajkot	Umarali	7.75	1509	1011	0	134	369	120	14	0.17	110	164	24	510	110	1.2
Rajkot	Upleta1	7.68	5215	3494	0	61	1505	130	286	0.25	50	672	0	1680	425	3.9
Rajkot	Vinchhia	8.07	3077	2062	0	451	710	40	108	1.25	370	88	39	380	530	2.0
Rajkot	Viranagar	8.17	2923	1958	0	610	625	65	23	0.94	500	80	0	200	585	1.6
Rajkot	Virpur-1	8.01	2209	1480	0	317	440	136	50	0.40	260	128	54	540	235	18.1
Rajkot	Wankaner	8.40	1296	868	84	305	185	25	24	0.42	390	80	46	390	143	9.2
Sabarkantha	Alwakampa	7.90	1093	732	0	476	92	30	35	0.68	390	84	41	380	94	2.5
Sabarkantha	Atarsumba	8.21	827	554	0	195	120	30	46	0.26	160	84	22	300	48	4.5
Sabarkantha	Bhadreshwar1	8.81	2038	1365	84	171	425	64	6	1.70	280	44	58	350	276	5.1
Sabarkantha	Boral	7.88	2822	1891	0	512	567	90	1	0.60	420	340	12	900	270	1.4
Sabarkantha	Boriya	7.18	2773	1858	0	122	674	95	283	0.34	100	340	36	1000	200	0.9
Sabarkantha	Chandav	8.28	1774	1189	0	122	432	86	18	0.87	100	84	60	460	160	4.7
Sabarkantha	Choriwad	8.07	1800	1206	0	110	383	210	83	0.80	90	212	53	750	67	2.1
Sabarkantha	Dhansura1	8.01	1376	922	0	573	149	29	16	0.65	470	128	60	570	71	1.8
Sabarkantha	Gadada	8.28	1410	945	0	159	248	175	107	0.90	130	72	74	490	115	1.7
Sabarkantha	Gadha1	8.53	2703	1811	48	122	603	120	247	1.70	180	160	60	650	345	1.7
Sabarkantha	Harsol1	8.85	1192	799	132	195	92	74	54	1.65	380	92	2	240	180	1.7
Sabarkantha	Idar	8.26	1870	1253	0	659	277	13	34	3.00	540	96	36	390	276	6.6
Sabarkantha	Karanpur	7.82	625	419	0	256	64	22	28	0.86	210	76	7	220	60	0.8
Sabarkantha	Kesharpur	8.15	1179	790	0	110	220	140	61	0.55	90	116	38	450	61	4.6
Sabarkantha	Kesharpur Idar	8.94	1183	793	132	170	99	48	63	3.00	359	76	2	200	190	0.6
Sabarkantha	Khedbramha	7.87	3253	2180	0	85	886	140	243	0.94	70	400	96	1400	140	2.1
Sabarkantha	Malpur	7.79	1024	686	0	281	142	85	24	0.86	230	100	22	340	87	0.6
Sabarkantha	Mathasliya	8.29	1073	719	0	159	199	105	6	0.30	130	60	12	200	141	32.0
Sabarkantha	Matoda	8.19	2100	1407	0	97	503	140	69	0.22	80	128	94	710	126	23.0
Sabarkantha	Medasana	8.14	856	574	0	256	113	41	71	0.80	210	68	24	270	97	1.9
Sabarkantha	Modasa2	7.96	1048	702	0	146	149	90	137	0.46	120	116	17	360	87	0.8
Sabarkantha	Poshina2	8.56	1440	965	96	207	234	22	32	0.93	330	80	53	420	137	7.0
Sabarkantha	Punasan	8.49	585	392	48	24	78	44	48	0.40	100	56	10	180	54	0.3
Sabarkantha	Ramgarh	8.60	3183	2133	84	159	886	18	16	0.90	270	200	48	700	400	21.0
Sabarkantha	Ratanpur2	8.56	2000	1340	60	12	510	26	97	0.71	110	40	50	310	300	11.1
Sabarkantha	Revas	7.56	1600	1072	0	268	241	170	92	0.99	220	160	43	580	101	2.6
Sabarkantha	Sabalwad	8.68	880	590	72	134	85	38	60	2.96	230	104	14	320	61	3.4
Sabarkantha	Sathamba	8.1	606	406	0	232	64	5	25	0.58	190	64	14	220	43	1.7
Sabarkantha	Seenawad	7.79	1641	1099	0	171	326	100	142	0.61	140	136	46	530	141	3.6
Sabarkantha	Shamlaji	8.48	515	345	36	171	42	16	10	0.34	200	72	12	230	25	4.3
Sabarkantha	Takatuka	8.57	1700	1139	36	134	432	66	23	0.60	170	44	62	370	228	1.7
Sabarkantha	Umedpur	8.64	1303	873	60	232	206	48	29	1.60	290	14	38	260	183	0.9
Sabarkantha	Vijaynagar1	8.28	460	308	0	171	50	3	40	0.18	140	76	2	200	26	4.8
Sabarkantha	Virpur2	8.28	395	265	0	159	35	35	11	0.67	130	52	2	170	24	0.4
Sabarkantha	Wadali	8.23	1196	801	0	207	191	145	18	1.20	170	88	24	320	120	4.3
Surat	0	8.25	1155	774	0	488	107	24	-17	0.20	400	44	54	340	99	23.4
Surat	Anita	8.12	6003	4022	0	586	1775	40	324	0.30	480	240	61	850	1167	6.2
Surat	Arda-boratha	7.57	960	643	0	366	99	37	10	0.62	300	88	22	310	48	63.1
Surat	Bagumda	8.00	583	391	0	256	28	24	12	0.77	210	24	36	210	34	0.7
Surat	Bedchiet	7.83	1436	962	0	464	206	18	33	0.66	380	72	80	510	99	0.2
Surat	Bhatkol	8.17	850	570	0	366	78	0	15	1.33	300	44	34	250	83	1.5
Surat	Bhurvel (ukai)	7.88	1082	725	0	451	114	7	12	0.38	370	64	29	280	125	7.1
Surat	Chavada	7.85	450	302	0	220	28	4	4	0.47	180	40	22	190	18	1.0
Surat	Digas	8.22	1024	686	0	512	36	29	17	0.9	420	12	44	210	140	0.8
Surat	Dungri	8.22	1670	1119	0	634	199	13	45	1.31	520	108	68	550	145	4.0
Surat	Jesingpura[sg]	7.88	723	484	0	390	21	2	14	0.32	320	36	34	230	63	0.8
Surat	Juna umarpada	7.68	1195	801	0	159	270	4	46	0.32	130	120	10	340	105	1.4
Surat	Kadod-1	7.91	976	654	0	415	71	20	33	0.20	340	104	24	360	61	1.8
Surat	Kalkui	8.21	413	277	0	195	11	0	34	0.37	160	52	15	190	10	0.5
Surat	Karanjvel	8.14	393	263	0	207	28	0	16	0.20	170	56	12	190	17	1.9
Surat	Kathor	7.78	1379	924	0	549	135	14	36	0.55	450	16	83	380	144	0.8
Surat	Katra deeh	7.91	654	438	0	244	78	3	10	0.47	200	68	22	260	30	0.7
Surat	Kherwa(Vadali)	7.92	620	415	0	305	28	9	26	0.50	250	56	15	210	53	0.5
Surat	Madhi (New)	8.16	1132	758	0	586	71	7	22	1.15	480	84	58	450	75	2.8
Surat	Madhi-1	7.79	1357	909	0	329	178	2	130	0.23	270	116	56	520	65	0.5

Surat	Malda	7.76	1484	994	0	622	142	23	5	0.53	510	72	92	560	76	18.4
Surat	Mandvi2	7.82	1096	734	0	366	121	55	32	0.50	300	80	49	400	70	0.5
Surat	Mota	8.01	2812	1884	0	671	540	16	70	1.25	550	48	68	400	465	1.9
Surat	Moti Sarkui	7.79	720	482	0	305	57	26	18	0.33	250	24	39	220	70	0.4
Surat	Motichher	7.91	512	343	0	244	28	25	13	0.35	200	48	27	236	18	0.2
Surat	Navi Pardi	7.96	2521	1689	0	659	483	11	28	1.15	540	48	63	380	410	13.0
Surat	Nesharpur	8.11	445	298	0	317	21	17	129	0.45	260	68	7	280	73	0.2
Surat	Nizar1	7.57	1454	974	0	647	121	36	8	0.7	530	96	61	490	106	18.7
Surat	Nogama	7.86	1044	699	0	378	99	23	53	0.23	310	84	41	380	67	3.6
Surat	Olpad2	8.28	1584	1061	0	549	185	60	25	0.3	450	28	27	180	242	72.1
Surat	Palsana	8.08	1114	746	0	488	107	2	5	0.44	400	32	22	170	180	11.7
Surat	Paneshwar	7.85	1922	1288	0	232	433	15	131	0.38	190	176	71	730	105	0.6
Surat	Paniwara	7.79	809	542	0	378	43	27	14	0.32	310	40	32	230	82	1.6
Surat	Puna-1	7.91	1273	853	0	537	128	36	18	0.75	440	60	71	440	107	0.9
Surat	Sachin towan	7.62	3660	2452	0	293	966	0	172	0.10	240	192	97	880	423	5.8
Surat	Sarbhon	8.04	1141	764	0	500	99	13	17	2.70	410	20	36	200	178	1.7
Surat	Surat city	8.26	818	548	0	293	107	1	9	0.35	240	76	27	300	48	6.1
Surat	Syan	8.15	1870	1253	0	439	376	33	16	0.23	360	92	90	600	157	0.8
Surat	Ten- Bardoli	7.97	650	436	0	305	28	10	26	0.65	250	28	41	240	40	0.3
Surat	Tokarwa 1	7.79	747	500	0	305	57	36	14	0.31	250	56	27	250	58	0.0
Surat	Uchchhal1	7.64	881	590	0	366	64	39	22	0.32	300	44	44	290	72	0.4
Surat	Ushker	7.9	667	447	0	293	43	19	18	0.45	240	60	19	230	49	1.8
Surat	Vaheval	8.00	571	383	0	268	50	12	19	0.27	220	68	27	230	42	0.3
Surat	Valod	8.29	841	563	0	415	50	0	45	2.2	340	44	44	290	80	0.3
Surat	Velachha	7.71	6201	4155	0	427	1953	50	87	0.32	350	560	49	1600	769	63.7
Surat	Vyara1	7.94	654	438	0	305	36	10	19	0.45	250	24	15	120	97	0.3
Surat	Warod	8.05	2237	1499	0	366	540	18	27	1.05	300	84	78	530	270	1.8
Surendranagar	Adriyana	8.71	1360	911	0	48	281	241	22	0.60	39	64	19	240	193	16.0
Surendranagar	Bajana	8.07	598	401	0	195	57	4	48	0.82	160	60	2	160	63	4.8
Surendranagar	Bamanbor	7.93	971	651	0	342	92	70	18	0.77	280	96	2	250	110	1.7
Surendranagar	Dasada-1	8.76	2937	1968	0	317	710	3	175	0.10	260	40	0	100	625	5.2
Surendranagar	Halvad2	8.22	3194	2140	0	415	767	50	98	1.49	340	128	68	600	452	15.7
Surendranagar	Jhinjhuwada	8.66	1116	748	0	294	178	22	95	0.60	241	60	12	200	190	12.6
Surendranagar	Kharaghoda	8.28	3904	2616	0	405	951	4	260	0.22	332	56	14	200	812	7.1
Surendranagar	Kherwa	8.19	949	636	0	305	128	16	50	0.35	250	72	14	240	119	7.0
Surendranagar	Lakhtar	7.85	1606	1076	0	390	263	6	73	2.2	320	92	32	260	240	17.1
Surendranagar	Latuda	8.14	1676	1123	0	281	348	17	76	1.35	230	64	29	280	250	2.4
Surendranagar	Mathak	8.16	5578	3737	0	378	1377	105	402	1.30	310	208	107	960	839	4.9
Surendranagar	Miani	8.10	3891	2607	0	293	866	180	295	1.49	240	136	78	660	586	4.6
Surendranagar	Moti Moladi	7.53	5452	3653	0	220	1562	180	164	0.60	180	344	360	2340	179	0.7
Surendranagar	Muli	8.48	2537	1700	0	500	426	46	258	2.90	410	64	5	180	530	1.1
Surendranagar	Pipli	8.26	285	191	0	183	14	1	8	0.25	150	40	7	130	23	2.4
Surendranagar	Rajsitapur	8.27	2652	1777	0	476	497	125	103	1.42	390	96	29	360	438	5.7
Surendranagar	Ranipet	8.10	319	214	0	183	14	3	7	0.45	150	24	22	150	14	2.7
Surendranagar	Sara	8.13	1834	1229	0	403	369	11	48	1.45	330	64	27	270	299	2.5
Surendranagar	Sarla	8.07	2696	1806	0	317	596	20	214	1.04	260	80	58	440	420	2.8
Surendranagar	Shiyani	8.02	597	400	0	244	78	2	8	0.33	200	48	0	120	93	5.6
Surendranagar	Sudamda	7.52	4295	2878	0	268	1051	320	160	0.45	220	408	63	1280	399	2.9
Surendranagar	Sukhpar1	8.28	2963	1985	0	574	525	170	98	1.5	470	96	49	440	471	2.0
Surendranagar	Surendranagar2	8.10	1488	997	0	171	320	65	85	1.4	140	80	34	340	185	2.5
Surendranagar	Tavi1	7.65	1184	793	0	195	263	36	20	1.25	160	36	2	100	225	7.6
Surendranagar	Visawadi	8.17	2949	1976	0	427	639	70	105	0.9	350	96	44	420	465	19.5
Surendranagar	Warod	8.03	1189	797	0	488	149	21	12	0.75	400	76	19	270	147	34.2
The Dangs	Aherdi	8.16	302	202	0	171	36	19	3	0.05	140	44	5	130	37	0.3
The dangs	Ahwa1	8.08	1045	700	0	317	128	18	31	0.1	260	80	29	320	78	12.0
The Dangs	Amba Pada	8.13	304	204	0	195	21	19	13	0.24	160	44	10	150	32	0.2
The Dangs	Bandi pada	7.79	667	447	0	342	28	5	8	0.44	280	44	41	280	25	0.2
The Dangs	Bhansh kathari	8.22	729	488	0	183	71	125	15	0.20	150	84	15	270	30	32.8
The dangs	Bori gaotha	8.21	449	301	0	207	28	28	12	0.15	170	64	5	180	30	0.9
The dangs	Bori pada	8.17	385	258	0	146	28	27	15	0.20	120	52	5	150	22	0.4
The dangs	Chikhli	8.17	386	259	0	183	14	19	13	0.05	150	52	2	140	27	0.2
The Dangs	Chinch pada	8.01	596	399	0	98	64	170	6	0.20	80	68	19	250	30	0.8
The dangs	Chinchnogaotha	8.19	606	406	0	220	50	62	11	0.20	180	80	5	220	43	1.2
The dangs	Dhumkal	8.18	342	229	0	195	14	20	24	0.20	160	40	19	180	19	0.1
The Dangs	Gadad (New)	8.24	371	249	0	183	21	6	6	0.10	150	56	2	150	19	0.8
The dangs	Ghubita	8.18	418	280	0	207	21	21	18	0.15	170	56	12	190	21	0.8
The dangs	Jakana	8.07	534	358	0	183	36	76	16	0.28	150	76	15	250	14	0.7
The Dangs	Jamal pada	7.99	579	388	0	122	57	125	6	0.60	100	72	19	210	37	0.2
The Dangs	Kalam khan	8.24	519	348		183	36	31	29	0.46	150	64	5	180	36	0.6
The dangs	Malegaon	8.11	356	239	0	171	43	27	0	0.28	140	44	15	170	25	1.0
The dangs	Nadak khadi	8.23	483	324	0	256	21	5	5	0.25	210	56	2	150	46	0.8
The dangs	Nana pada	8.17	352	236	0	220	14	19	9	0.07	180	52	12	160	30	0.3
The Dangs	Pipri	8.09	269	180	0	159	21	22	19	0.20	130	36	12	140	27	0.8
The Dangs	Sakar patar	8.18	335	224	0	171	28	22	33	0.06	140	48	15	180	24	0.5
The Dangs	Sarvan	8.18	232	155	0	162	14	22	21	0.25	133	14	2	110	38	0.6
The dangs	Sodmal	8.25	376	252	0	159	21	20	20	0.30	130	52	5	150	22	0.4
The dangs	Subir	8.02	411	275	0	195	28	28	10	0.14	160	52	15	190	20	0.8
The dangs	Umberpada	8.12	406	272	0	207	28	29	19	0.12	170	52	19	210	20	0.3
The Dangs	Vazat Amba	8.21	415	278	0	171	36	27	25	0.25	140	56	12	190	23	0.3
The Dangs	Waghach	8.14	394	264	0	183	36	20	30	0.15	150	52	15	190	27	1.0
Vadodara	Alladpur	7.84	1104	740	0	451	135	29	44	1.25	370	48	49	320	145	3.4

Vadodara	Amreshwar	7.93	3629	2431	0	488	994	15	45	0.65	400	160	85	750	520	12.7
Vadodara	Baladgam	8.11	1165	781	0	476	177	31	53	1.20	390	104	46	450	127	2.0
Vadodara	Bhindol	8.27	1662	1114	0	1000	128	11	62	2.70	820	36	51	300	360	1.6
Vadodara	Bodeli	7.67	1609	1078	0	207	305	48	60	1.15	170	144	24	460	115	2.6
Vadodara	Chhaliyar	8.19	810	543	0	439	35	24	18	0.95	360	60	34	290	74	0.7
Vadodara	Chhota udepur	7.65	2042	1368	0	281	447	4	38	0.30	230	92	36	380	245	0.6
Vadodara	Dewat	8.00	668	448	0	329	21	130	50	0.70	270	80	24	300	73	0.4
Vadodara	Ferkuva	8.06	1087	728	0	317	99	41	65	0.35	260	128	29	440	29	7.6
Vadodara	Ghamodi	7.97	390	261	0	207	28	14	10	1.30	170	40	7	130	48	2.6
Vadodara	Govindpura	7.63	5417	3629	0	476	1313	12	149	2.55	390	200	195	1300	523	5.8
Vadodara	Juna samalya	8.23	1579	1058	0	415	284	17	17	0.70	340	40	46	290	225	0.6
Vadodara	Kevadi	7.75	513	344	0	293	50	22	3	1.45	240	72	0	180	72	12.7
Vadodara	Kevdabagh	8.13	1361	912	0	610	163	6	76	1.35	500	20	10	140	313	9.7
Vadodara	Makni	8.08	1486	996	0	537	163	140	30	0.65	440	140	44	530	133	5.3
Vadodara	Odd	8.13	368	247	0	232	35	12	3	1.05	190	56	0	140	53	1.4
Vadodara	ONGC Campus	8.38	2703	1811	96	708	476	8	48	1.40	740	24	34	200	589	3.7
Vadodara	Pavi	8.13	2517	1686	0	573	504	12	51	1.30	470	120	56	530	334	6.9
Vadodara	Pitha	7.98	1148	769	0	122	149	60	219	1.20	100	44	68	390	93	2.5
Vadodara	Renda	7.83	736	493	0	354	57	80	10	0.50	290	68	39	330	54	0.4
Vadodara	Sadli	7.82	910	610	0	293	142	34	37	0.60	240	108	39	430	37	3.7
Vadodara	Saidal	7.89	4211	2821	0	988	994	10	62	0.90	810	220	207	1400	416	58.1
Vadodara	Sengpur	8.05	871	584	0	464	71	8	29	0.70	380	148	0	370	69	2.2
Vadodara	Tejgadh	7.86	541	362	0	256	21	20	13	1.75	210	68	7	200	34	0.7
Vadodara	Tundav	7.88	2029	1359	0	586	284	230	101	0.50	480	68	100	580	275	15.3
Vadodara	Vejpur2	8.60	3095	2074	156	366	603	11	153	1.40	560	180	12	500	503	8.2
Vadodara	Waghach	8.15	1009	676	0	317	227	30	43	1.20	260	60	12	200	210	1.6
Valsad	Amba Talat	7.84	549	368	0	268	28	2	17	0.46	220	44	29	230	23	0.3
Valsad	Awadha	7.92	542	363	0	268	36	2	7	0.33	220	44	27	220	28	0.2
Valsad	Chavshala	7.94	508	340	0	195	36	3	32	0.20	160	16	7	180	31	3.3
Valsad	Dahli (bhilad)	8.10	552	370	0	244	50	6	7	0.35	200	48	15	180	48	1.4
Valsad	Dharampur3	7.83	603	404	0	220	50	2	39	0.47	180	56	27	230	30	0.2
Valsad	Huda	7.60	465	20	0	207	28	18	10	0.35	170	56	0	140	42	13.3
Valsad	Kanadu	8.17	465	312	0	220	28	1	9	0.44	180	52	12	180	24	0.4
Valsad	Kaparda	7.99	365	245	0	134	36	2	15	0.12	110	40	5	120	27	2.7
Valsad	Karwad	8.05	890	596	0	390	71	0	25	0.12	320	60	36	300	68	10.5
Valsad	Lakadmal	7.95	475	318	0	195	50	2	2	0.25	160	52	10	170	30	0.8
Valsad	Mandva	7.97	497	333	0	220	36	8	11	0.15	180	80	5	220	14	1.2
Valsad	Muli1	8.00	2737	1834	0	366	554	4	260	0.15	300	80	54	420	435	2.7
Valsad	Nana ponda	8.04	1302	872	0	378	185	3	71	0.50	310	112	41	450	93	1.3
Valsad	Tithal	7.82	2131	1428	0	708	327	8	25	0.26	580	96	61	490	253	28.2
Valsad	Tumb	8.00	765	513	0	366	57	2	6	0.62	300	32	41	250	65	0.9
Valsad	Udwada	7.79	931	624	0	317	92	21	52	0.40	260	68	36	320	66	0.7
Valsad	umargaon	7.98	1100	737	0	354	149	15	30	0.20	290	56	49	340	95	6.7
Valsad	Vapi (Balitha)	8.03	617	413	0	207	78	8	18	0.25	170	60	17	220	40	0.9
Valsad	Wankal	8.23	670	449	0	317	28	0	32	0.50	260	44	22	200	62	0.9