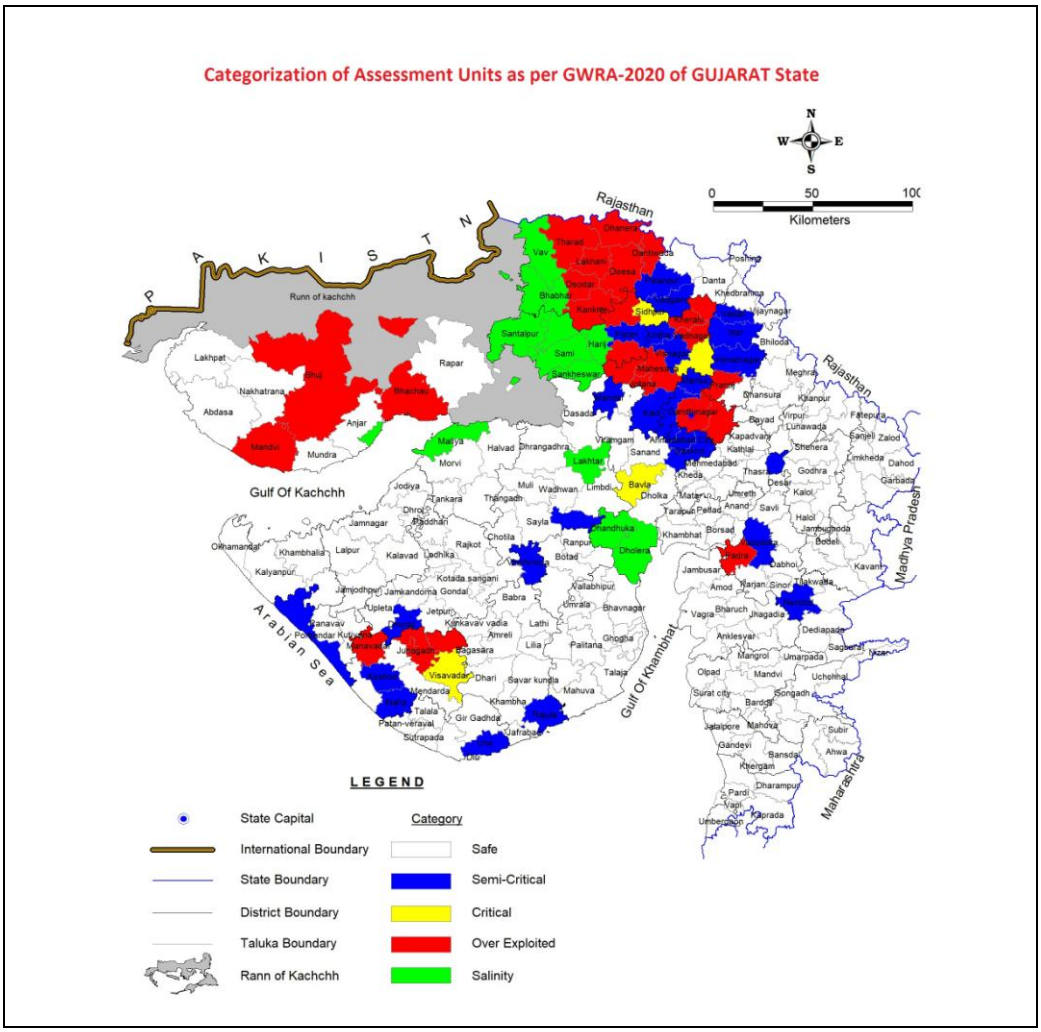
REPORT ON
DYNAMIC GROUND WATER RESOURCES
OF GUJARAT STATE

(As on March 2020)



CENTRAL GROUND WATER BOARD
WEST CENTRAL REGION
DEPARTMENT OF WATER RESOURCES, RD & GR
MINISTRY OF JAL SHAKTI
GOVERNMENT OF INDIA
AHMEDABAD

GUJARAT WATER RESOURCES
DEVELOPMENT CORPORATION LTD
NARMADA, WATER RESOURCES,
WATER SUPPLY & KALPASAR DEPARTMENT
GOVERNMENT OF GUJARAT
GANDHINAGAR

NOVEMBER-2021

Report on
Dynamic Ground Water Resources of Gujarat State as on March 2020

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NOVEMBER, 2021

MESSAGE

Groundwater is an integral part of the hydrological cycle and a valuable natural resource. It is the primary source of water for drinking and domestic use in the country. It is also an important source of fresh water for agriculture and industrial use. Withdrawal of groundwater in excess of its natural replenishment for meeting the increased demands of various sectors has resulted in its depletion in certain parts of the Gujarat State. The result is declining groundwater levels, de-saturation of aquifers, deterioration of water quality etc.

Groundwater needs to be used and managed in a sustainable way to ensure its long-term sustainability. Availability of information on status of groundwater resources in the country is required to facilitate effective management decisions by the policy planners.

Assessment of dynamic groundwater resources of Gujarat State, following the methodology recommended by the Groundwater Estimation Committee – 2015 is being undertaken currently once every three years. These assessments are being under taken jointly by Central Ground Water Board, West Central Region and Gujarat Water Resources Development Corporation Ltd. of Government of Gujarat. The report titled "Dynamic Ground Water Resources of Gujarat State as on March 2020" summarizes the results of the assessment, primarily in terms of resource availability, utilization, present status of utilization as a percent of available resources and categorization of the assessment units of Gujarat State.

I appreciate the combined efforts of dedicated team of scientist of CGWB, WCR and officers of GWRDC Ltd in bringing out this publication. I have no doubt that this compilation will be of significant use to all administrators, planners and other stakeholders involved in formulation of strategies and interventions towards long term sustainability of groundwater.

(K.A. Patel)
Secretary, (Water Resources),
Narmada, Water Resources,
Water Supply & Kalpsar Department,
Government of Gujarat.

FOREWORD

The State of Gujarat is moving on a fast track in the field of infrastructure development, industrialization, and expansion in agriculture sector. This has in turn put forth a lot of demand on the natural resources and particularly in the water sector. The availability of Groundwater being easy and being widely distributed in space and time makes it preferred commodity over the surface water resources. This warrants us to estimate precisely the ground water resources available for better management of the resources to sustainably meet the ever increase in its demand with the growth of population, increase in agriculture and modernization and enlargement of industrial sectors.

The Dynamic Ground Water Resources of Gujarat State have been computed as per the methodology recommended by "Ground Water Resources Estimation Committee" (GEC-2015) set up by Ministry of Water Resources, River Development and Ganga Rejuvenation, Government of India. These computations shall form important component for water resource management of this semi arid State having wide variation in availability of water resources, geology, physiology, landform etc. The present computation clearly brings out regional imbalances in the availability and the extent of development in different parts of the Gujarat State.

The present report is the outcome of joint exercise carried out by Gujarat Water Resources Development Corporation Ltd. of Government of Gujarat and Central Ground Water Board, West Central Region, Ahmedabad with assistance from other Central and State Government departments like Gujarat Electricity Board, State Water Resources Department and Revenue Department etc. The efforts made by all is praise worthy.

The State Government while according approval for these estimates has emphasized that utilization of Groundwater Resources should be reduced by aggressive adoption of water efficient technologies like micro Irrigation Practices viz. Drip/Sprinkler irrigation. It is also essential that State Ground Water Authority for management, regulation and conservation for sustainable development of ground water resources is established urgently. This will require suitable institutional strengthening and capacity building for scientifically informed management of the groundwater resources on equitable and economical basis. Looking to the progressive increase in the ground water draft, measures are required to be taken to suitably augment the recharge in such areas with focus on deeper aquifers. For this purpose feasibility of diverting non committed canal water to overexploited aquifers deserves attention. With the progressively increasing availability of surface water from the SSNNL Canals, conjunctive utilization with available ground water resources may be considered for holistic development of the water resources.

I would like to place on record my sincere thanks to the dedicated team of officers of GWRDC Ltd. and scientist of CGWB, WCR for bringing out this report in a presentable manner.

(Sanjeev Mehrotra)
Scientist "D" & H.O.O
West Central Region
Central Ground Water Board
Dept. Of Water Resources, RD & GR
Ministry of Jal Shakti
Government of India

Report on
Dynamic Ground Water Resources of Gujarat State as on March 2020

CONTRIBUTORS' PAGE

Name	Designation
Principal Author	
Shri Lakshmi Narayana Damodara	Scientist-B (Hydogeologist)
Principal Contributor	
Shri B. Mohapatra	Scientist-C (Hydrogeologist)
Shri Lakshmi Narayana Damodara	Scientist-B (Hydogeologist)
Shri Avinash Chandra	Senior Technical Assistant (Hydrogeologist)
Report Scrutiny	
Dr A K Jain	Scientist-D (Retired) & Consultant, CGWB, WCR, Ahmedabad.
Supervision & Guidance	
Dr. R C Jain	Advisor (GW), GWRDC Ltd. Govt. of Gujarat
Shri. Sanjeev Mehrotra	Scientist-D & H.O.O, CGWB, WCR, Ahmedabad. & Member Secretary, State Level Committee.

ACKNOWLEDGEMENT

The Author would like to place on record the valuable guidance given by Shri K. A. Patel, presently Secretary (Water Resources), Narmada, Water Resources, Water Supply & Kalpsar Department, Government of Gujarat & Chairman of the State Level Committee, Shri V.S.Patel , Managing Director, GWRDC Ltd, Government of Gujarat & Member of the State Level Committee for finalisation of the Report on "Dynamic Ground Water Resources of Gujarat State (As on March 2020)" need a special mention.

The task of assessment of the dynamic resources of Gujarat would have not been possible without the constant support and continued guidance by Dr. R C Jain, Advisor (GW), GWRDC Ltd., Govt. of Gujarat. The contribution of the team of officers of GWRDC Ltd. comprising, Shri V. M. Mehta, Superintending Engineer, Shri H. B. Shelat, Geologist and Shri K. J. Patel, Geologist, GWRDC Ltd., Gandhinagar in the entire process of assessment is commendable. The dedicated and untiring effort of Shri B. Mohapatra, Scientist-C. (Hydrogeologist) and Shri Avinash Chandra, Senior Technical Assistant (Hydrogeologist) under the able guidance of Shri Sanjeev Mehrotra, Scientist "D" & H.O.O, Central Ground Water Board, West Central Region, Ahmedabad in assessment and compilation of this report is highly appreciable.

We are thankful to the team led by Dr.K.B.V.N. Phanindra, Asst. Professor, IIT Hyderabad and special thanks are also due to Shri Yogesh Bandari, Manager and Shri Saneesh Kumar, GIS Engineer, Software professionals of M/s Vassar Labs IT Solutions, Hyderabad who deserve praise for developing & customising the IN-GRES web portal for the assessment as per requirements of Central Ground Water Board.

We are thankful for the support extended by the State ground water organizations by providing necessary inputs and approvals in time. Sincere acknowledgement is extended to the departments like, Gujarat Water Supply & Sewerage Board, Govt. of Gujarat, Directorate of Agriculture and Statistics, Irrigation Department, Water Resources, Panchayat Irrigation Circles, GUVNL, GIDC and BISAG for making the data available for completion of this report.

(Lakshmi Narayana Damodara)
Scientist-B & Nodal Officer, GWRA-2020
Central Ground Water Board
West Central Region, Ahmedabad
Dept. Of Water Resources, RD & GR
Ministry of Jal Shakti
Government of India

REPORT ON DYNAMIC GROUND WATER RESOURCES OF GUJARAT STATE

(As on March 2020)

Contents

Constitution of Committee for GWRA-2020 for Gujarat State

Constitution of Committee for Ground Water Resources Assessment for Gujarat State

Government of Gujarat

Narmada, Water Resources, Water Supply and Kalpasar Department,

Circular No: GWR-2020-740-J1

Sachivalaya, Gandhinagar.

Dated:-20/07/2020

Read: Govt. of India, Ministry of Jal Shakti, Dept. of Water Resources, RD & GR, CGWB(WCR) Letter No.TS/4(9)/WCR/CGWB/GWRE/2020-387 Dated 15/07/2020

Introduction:

As per Government of India's Letter at reference above, The central level expert group has been constituted for the reassessment of ground water resources in the country as on 31st march 2020. Constitution of State level Committee(SLC) for assessment of Ground Water resources as on 31st March 2020 was needed to be formed.

Circular:

After careful consideration, Government is pleased to constitute the Committee consisting of following members for estimation of ground water resources and irrigation potential of Gujarat.

No.	Member	Desigation
1	Special Secretary(Water Resources) Narmada, Water Resources,Water Supply and Kalpsar Department.	Chairman
2	Chief Engineer(Panchayat) & Additional Secretary Narmada, W.R.W.S.& Kalpasar Dept.	Member

3	Member Secretary, G.W.S.S.B., Gandhinagar	Member
4	Managing Director, G.W.R.D.C., Gandhinagar	Member
5	Regional Director ,C.G.W.B., Ahmedabad	Member Secretary
6	Director, Agriculture, Krishibhavan, Gandhinagar	Member
7	Representative of Industries & Mines Dept. Gandhinagar (Not below rank of Joint Secretary)	Member
8	General Manager, N.A.B.A.R.D., Ahemedabad	Member

Term of Reference:

(i) To estimate annual replenishable ground water resources of the State in accordance with the ground water resources estimation methodology.

(ii) To estimate the status of utilization of the annual replenishable ground water resources.

By order and in the name of Governor of Gujarat.

(D.P.Barot)

Under Secretary,

Narmada, Water Resources, Water Supply and Kalpasar Department

Copy to:

1. Special Secretary(W.R), Narmada, Water Resources,Water Supply and Kalpsar Department,Block No.9,5th Floor, Sachivalaya, Gandhinagar
2. Chief Engineer(Panchayat) & Additional Secretary Narmada, W.R.W.S.& Kalpasar Dept, Block No.9,2nd Floor, Sachivalaya, Gandhinagar
3. Member Secretary, G.W.S.S.B.,Jal Bhavan, Gandhinagar

X

4. Managing Director, G.W.R.D.C., Gandhinagar
5. Regional Director ,C.G.W.B.,West Central Region,Swaminarayan Coleege Building,Shah alam tollnaka, Ahmedabad
6. Director, Agriculture, Krishibhavan, Gandhinagar
7. Joint Secretary, Industries & Mines Dept.,Sachivalay, Gandhinagar
8. General Manager, N.A.B.A.R.D.,NABARD Tower,Ashram Road, Ahemedabad
9. Select File,2020,J1 Branch

Email **Regional Director, WCR**

Re: Minutes of the State level committee meeting held on 30th March 2021_GWRA-2020-Gujarat

From : splsec-nwrws@gujarat.gov.in Thu, Apr 08, 2021 12:02 PM
Subject : Re: Minutes of the State level committee meeting held on 30th March 2021_GWRA-2020-Gujarat 5 attachments
To : Regional Director, WCR <rdwcr-cgwb@nic.in>

Narmada, Water Resources, Water Supply and Kalpsar Department
(Water Resources)

Dear Sir,

Draft minutes forwarded by your email shall be consider as approved.

Thank you.

K A Patel
Special Secretary,
NWRWS&K Dept.

From: Regional Director, WCR <rdwcr-cgwb@nic.in>
Sent: Wednesday, March 31, 2021 2:44:42 PM
To: K A Patel
Subject: Minutes of the State level committee meeting held on 30th March 2021_GWRA-2020-Gujarat

***** This mail is from external domain, i.e. not from gujarat.gov.in domain. Kindly open attachment and link with caution. *****
Sir,

With reference to the subject cited above and in continuation to the meeting of the State level committee held on 30.03.2021 at 16.00 hrs in the Committee room of N, WR, WS & K department, Block no 9/4, secretariat Gandhinagar in respect of the Dynamic Ground water Resources of Gujarat as on March 2020, please find attached herewith the Minutes for kind perusal and approval.

An early action in this regard is highly solicited.

Sincere Regards,

Regional Director (I/C)
West Central Region
Ahmedabad

Minutes of the third meeting of the State Level Committee on Ground Water Resource Assessment as on March 2020 held on March 30th, 2021 at 16 .00 Hrs. in the Committee Room of N, WR, WS & K Department, Block No-9/4, Secretariat, Gandhinagar

The meeting of the State Level Committee for approval of the Dynamic Ground Water Resource Assessment of Gujarat as on March 2020 carried out through Indian Ground Water Resources Estimation System (INGRES) by using GEC 2015 methodology was held under the Chairmanship of the Special Secretary (WR), Narmada Water Resources, Water Supply and Kalpsar Department on March 30th, 2021 at 16.00 Hrs. in the Committee Room of N, WR, WS & K Department, New Sachivalaya, Block – 9/4, Gandhinagar.

The list of members/Representatives, Invitees who attended the meeting is attached as Annexure-I.

The minutes of the meeting are as follows.

1. Shri Sanjeev Mehrotra, Regional Director (I/C), CGWB, WCR, Ahmedabad welcomed all the members present in the meeting and briefed about the assessment of dynamic ground water resources of Gujarat as on March 2020 carried out through Indian Ground Water Resources Estimation System (INGRES) by using GEC 2015 methodology jointly by officers of CGWB and GWRDC Ltd under the able guidance of Dr. R C Jain, Advisor (GW), GWRDC Ltd.

2. With the permission of the Chair, Shri B. Mohapatra, Scientist-C, made the presentation on assessment of Ground Water Resources of Gujarat State using GEC-2015 Methodology through India Ground Water Resource Estimation System (INGRES).

3. It was observed that the stage of ground water extraction has deteriorated in few assessment units resulting change in categorization owing to drastic increase in the number of ground water abstraction structures for irrigation purpose as provided by Gujarat Urja Vikash Nigam Ltd (GUVNL). Shri K A Patel, Special Secretary (Water Resources), Government of Gujarat expressed his view that ground verification in respect of these structures required to be carried out by the concerned agency for ensuring its correctness.

4. Dr. R C Jain, Advisor (GW), GWRDC Ltd. was of the opinion that the unit draft from the different structures needs to be updated due to change in the hydraulic conditions of the aquifer mainly, saturated column, Specific yield and season wise hours of pumping. For this purpose sample survey may be carried out by the State Department i.e. GWRDC Ltd., for updating the vital inputs in the draft component of computation. He further suggested that strengthening of data base pertaining to domestic water supply both from surface and ground water sources is required to arrive at more realistic assessment.

5. The Dynamic ground water resources of Gujarat as on March 2020 were approved by the State Level committee. The Special Secretary (Water Resources), Govt. of Gujarat and the Chairman of the State Level Committee submitted the approved resources online through INGRES.

6. The meeting ended with the Vote of Thanks by the Regional Director (I/C), CGWB, WCR, Ahmedabad.

Annexure-I

List of Officers present during the third meeting of the State Level Committee on Ground Water Resource Assessment held on March 30th, 2021 at 16.00 Hrs in the Committee Room of Narmada, Water Resources, Water Supply and Kalpsar Department, Block No 9/4, Sachivalaya, Gandhinagar.

1	Shri K A Patel – Special Secretary(WR)	Narmada , Water Resources, Water Supply & Kalpsar Department, Gandhinagar, Chairman
2	Shri V S Patel, Managing Director	Gujarat Water Resources Development Corporation Limited, Gandhinagar, Member
3	Shri Sanjeev Mehrotra, Regional Director (I/C)	Central Ground Water Board, WCR, Ahmedabad, Member Secretary
4	Dr. R C Jain, Advisor (GW)	Gujarat Water Resources Development Corporation Ltd. Special Invitee.
5	Shri A k Pathan	Representative for Directorate of Agriculture, Gandhinagar, Member
6	Shri G N Baria, Suptd. Geohydrologist	Representative for the Member Secretary, Gujarat Water Supply & Sewerage Board, Gandhinagar, Member
7	Shri U M Kunsagra, Deputy Director, LR	Representative for Settlement Commissioner and Land Records Office, Gandhinagar, Special Invitee.
8	Shri H S Vankani, project Coordinator	Representative, Gujarat State Watershed Management Agency, Gandhinagar
9	Dr. S N Agrayat, Head Central lab	Representative for the Member Secretary, Gujarat Pollution Control Board, Gandhinagar, Special Invitee.
10	Shri Vijay M Mehta, SE (Geo)	Gujarat Water Resources Development Corporation Ltd.
11	Shri Balkrishna Pandit, Geo-Hydrologist	Gujarat Water Supply & Sewerage Board, Gandhinagar.
12	Mrs. Shruti Sharma, Exe. Engineer	Gujarat Industrial Development Corporation
13	B. Mohapatra, Sr. Hydrogeologist (Sc-C)	Central Ground Water Board, WCR, Ahmedabad
14	Shri L N Damodara, Sc-B	Central Ground Water Board, WCR, Ahmedabad
15	Shri Avinash Chandra, STA (Hg)	Central Ground Water Board, WCR, Ahmedabad

Finalization of Dynamic Ground Water Resources for Gujarat State as on March-2020 (17/06/2021)

Date: 17/06/2021

NOTE

Subject: Finalization of Dynamic Ground Water Resource for Gujarat state as on March-2020.

Ground Water Resources assessment (GWRA-2020) of Gujarat state was approved by SLC held on 30th march 2021 under the Chairmanship of Shri K A Patel, IAS & Special Secretary, Water Resource, Government of Gujarat. During the meeting Chairman had desired that GUVNL should carry out the ground truthing of Irrigation abstraction structures wherever drastic change was there. GUVNL was requested for the same and they provided the verified/revised data of abstraction structures in respect of only 11 blocks on 19th April 2021. The same was intimated to GWRDC and our CHQ CGWB, Faridabad. On the directions of CHQ, CGWB the exercise of updation of Ground Water resources of the aforesaid 11 blocks was carried out immediately in INGRES software by updating the revised abstraction structures intimated by GUVNL.

The updated ground water resources (GWRA-2020) were intimated to GWRDC with a copy endorsed to Special Secretary, Shri K A Patel, IAS vide mail dated 24th May 2021. In the meanwhile a mail was received from MD, GWRDC on 9th June 2021 requesting for obtaining approval from Special Secretary, Shri K A Patel, IAS. Consequently on telephonic communication by GWRDC, CGWB, WCR Ahmedabad visited GWRDC Data centre on 14th June 2021 and apprised Sh V S PATEL, MD, GWRDC, Sh R C Jain Adviser, GWRDC, Sh Vijay Mehta, SE, GWRDC and other officers from GWRDC about the updated resources of 11 blocks and overall Ground water resources of Gujarat State after updation by way of power point presentation and by opening of INGRES software data sheets, Hydrographs etc.

In the end GWRDC the nodal State department was satisfied with the updation carried out by CGWB on the basis of revised abstraction structures data provided by GUVNL.The summarised Ground Water Resources of 11 updated blocks and updated Ground Water Resources of State are presented in Table-I & Table-II respectively.

Table-I Summary of the updated Ground water resources of 11 blocks.

Updated HP-wise Abstraction structures for GWRA- 2020									
Sr. No	District	Taluka	2020						
			Up to 7.5 HP	7.5 to 15 HP	15 to 30 HP	>30 HP	Total	Categorization 2020	Remarks
1	Ahmedabad	Ahmedabad City-Dascroi	746	921	2363	1388	5418	Critical	SLC Approved
		Ahmedabad City-Dascroi	**415**	**972**	**2538**	**839**	**4764**	**Semi critical**	**Updated**
2	Ahmedabad	Bavla	1871	2303	1177	380	5731	Critical	SLC Approved
		Bavla	**1866**	**2298**	**1173**	**380**	**5717**	**Critical**	**Updated**
3	Banaskantha	Palanpur	6405	7429	4162	4462	22458	Overexploited	SLC Approved
		Palanpur	**5340**	**5962**	**2024**	**2707**	**16033**	**Semi critical**	**Updated**
4	Kheda	Galteswar	528	22	0	1056	1606	Overexploited	SLC Approved
		Galteswar	**595**	**821**	**30**	**1**	**1447**	**Semi critical**	**Updated**
5	Kheda	Kapadvanj	3563	280	6	12078	15927	Over_Exploited	SLC Approved
		Kapadvanj	**9408**	**2745**	**111**	**1**	**12265**	**Safe**	**Updated**
6	Kheda	Kathlal	2745	469	3	4223	7440	Semi critical	SLC Approved
		Kathlal	**993**	**2585**	**411**	**1**	**3990**	**Safe**	**Updated**
7	Kheda	Mahemdavad	3511	724	270	4490	8995	Critical	SLC Approved
		Mahemdavad	**566**	**3536**	**533**	**11**	**4646**	**Safe**	**Updated**
8	Kheda	Nadiad	2199	346	13	3927	6485	Semi critical	SLC Approved
			1589	**1910**	**136**	**1**	**3636**	**Safe**	**Updated**

9	Narmada	Nandod	1832	4574	1189	102	7697	Over_Exploited	SLC Approved
		Nandod	**1395**	**4424**	**1186**	**94**	**7099**	**Semi critical**	**Updated**
10	Rajkot	Vinchchiya	12667	1747	260	19	14693	Semi critical	SLC Approved
		Vinchchiya	**10999**	**1252**	**137**	**2**	**12390**	**Semi critical**	**Updated**
11	Vadodara	Padra	18	1352	1851	80	3301	Semi critical	SLC Approved
		Padra	**23**	**693**	**2318**	**184**	**3218**	**Over_Exploited**	**Updated**

Table-II Summary of the Dynamic Ground water resources of Gujrat State.

Sl No		GWRE 2017 (values in MCM)	SLC Approved GWRA 2020 (values in MCM)	Revised GWRA 2020 (values in MCM)
1.	Annual Replenishable Ground Water Resources	22368.58	26886.63	26808.841
2.	Natural Discharge During non-monsoon Season	1118.44	1920.29	1903.582
3.	Annual Extractable Ground Water Recharge	21250.14	24966.33	24905.25
4.	Current Annual Ground Water Extraction	13577.24	14134.08	13296.29
5.	Stage of Ground Water Extraction (%)	63.89	56.61	53.39
Total no of Assessment Units		248	248	248
Categorization		OE- 25 Critical-05 Semi Critical-11 Safe-194 Saline-13	OE- 28 Critical-06 Semi Critical-23 Safe-178 Saline-13	OE- 25 Critical-04 Semi Critical-24 Safe-182 Saline-13

The updated Ground Water Resources are herewith put up for approval of Shri K A Patel ,IAS & Special Secretary, Water Resource, Government of Gujarat.

17/6/2021

Sh V. S . Patel
MD, GWRDC &
Member, SLC
Gandhinagar
Gujarat

17/6/2021

Sanjeev Mehrotra
Scientist-D & HOO
CGWB, WCR &
Member Secretary, SLC
Ahmedabad

Chairman of the committee & Sp. Secretary (WR)

Special Secretary (W.R.)
Narmada Water Resources, Water Supply & Kalpsar Department,
Sachivalaya, Gandhinagar.

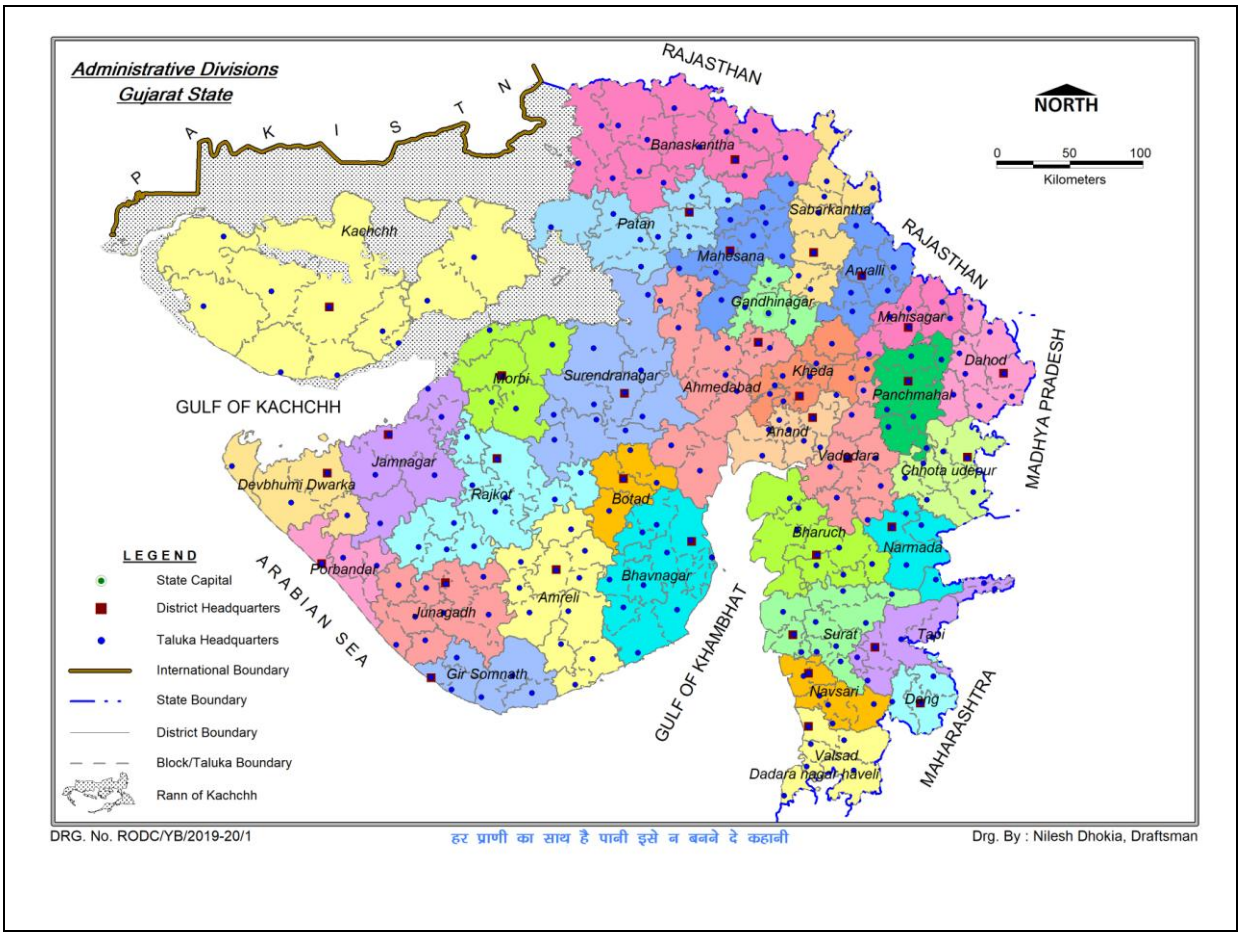
Report on
Dynamic Ground Water Resources of Gujarat State
(As on March 2020)

DYNAMIC GROUND WATER RESOURCES OF GUJARAT STATE

1. GENERAL FEATURES

1.1 Location

Gujarat State covers a total geographical area of 1, 96, 024 Sq. Kms. and is situated between 20° 06’ to 24° 42’ North Latitude and 68° 10’ to 74° 28’ East Longitude in the Western part of India. The State has the longest coastline in the country measuring about 1,600 kms along the western part of India, extending from Lakhpat in the North to Valsad in the South. Gujarat State has common borders with Rajasthan, Madhya Pradesh and Maharashtra States in North, East and South and with Pakistan in the North-West **(Fig-1).** For administrative purpose State has 33 Districts & 251 Talukas. However for ground water resources assessment 248 talukas have been considered as assessment unit.



(Fig:1: Administrative Map of Gujarat)

1.2 Physiography

Gujarat State can be divided into five major physiographical zones **(Fig-2)**.

1.2.1 Alluvial plains

Extend from northern border of Banaskantha district upto Valsad district in Southern Gujarat. It covers central parts of North & Central Gujarat & western parts of South Gujarat region. The alluvial plains of Rann of Kachchh are low-lying & saline.

1.2.2 The Eastern Hilly tract

The eastern hilly tract all along the eastern boundary of Gujarat extends from Northeast part of Banaskantha district to Southeast part of Dangs district. The altitude varies from 300 to 1400 m. Above MSL. Except major inter-State rivers like the Narmada and the Tapi, majority of rivers in Gujarat originate from these hilly tracts & flow toward south and south-westward.

1.2.3 Uplands of Saurashtra & Kachchh

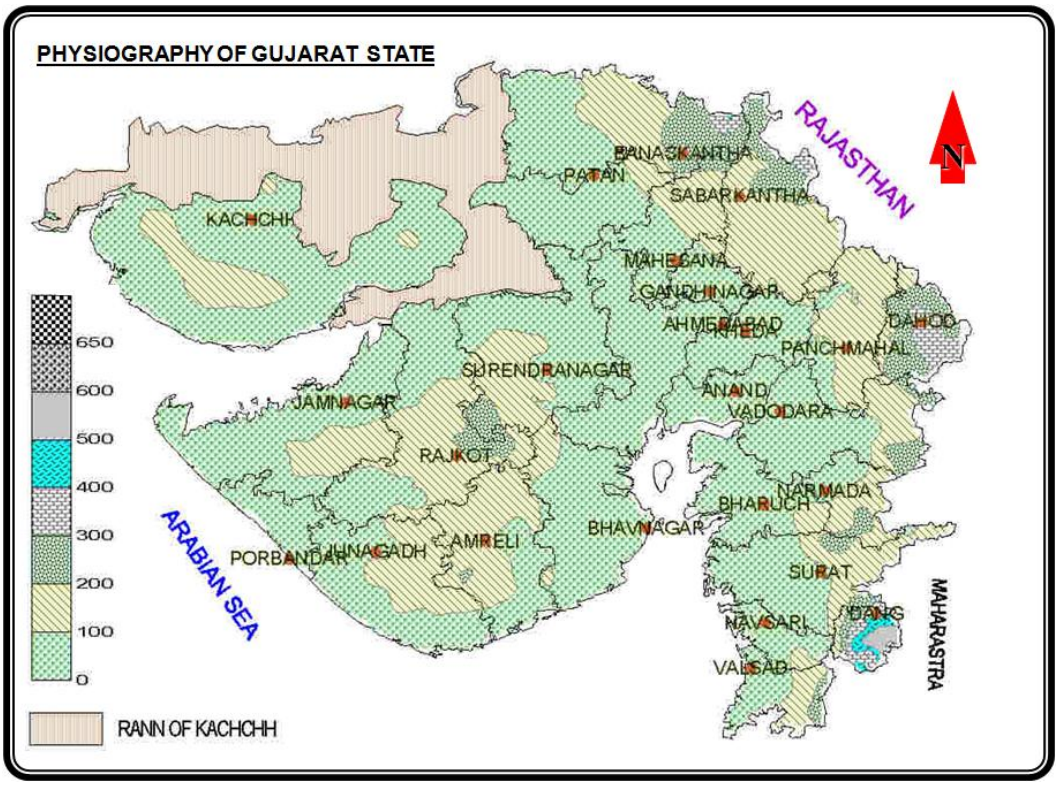
The Saurashtra plateau region is separated from Gujarat main land by Gulf of Cambay & upland of Kachchh is separated from Saurashtra & Gujarat main land by gulf of Kachchh & little Rann of Kachchh. The Mount Girnar in Saurashtra is 1117 m. Above MSL. Both regions being dome shaped, slopping out ward in all direction from the central part.

1.2.4 Coastal alluvial plains

The low-lying coastal alluvial plain about 1600 km long is a narrow strip extending from Lakhpat in NW of Kachchh district to Valsad in Southern Gujarat which ranges in elevation from few meter to about 25 m. Above MSL.

1.2.5 Rann of Kachchh

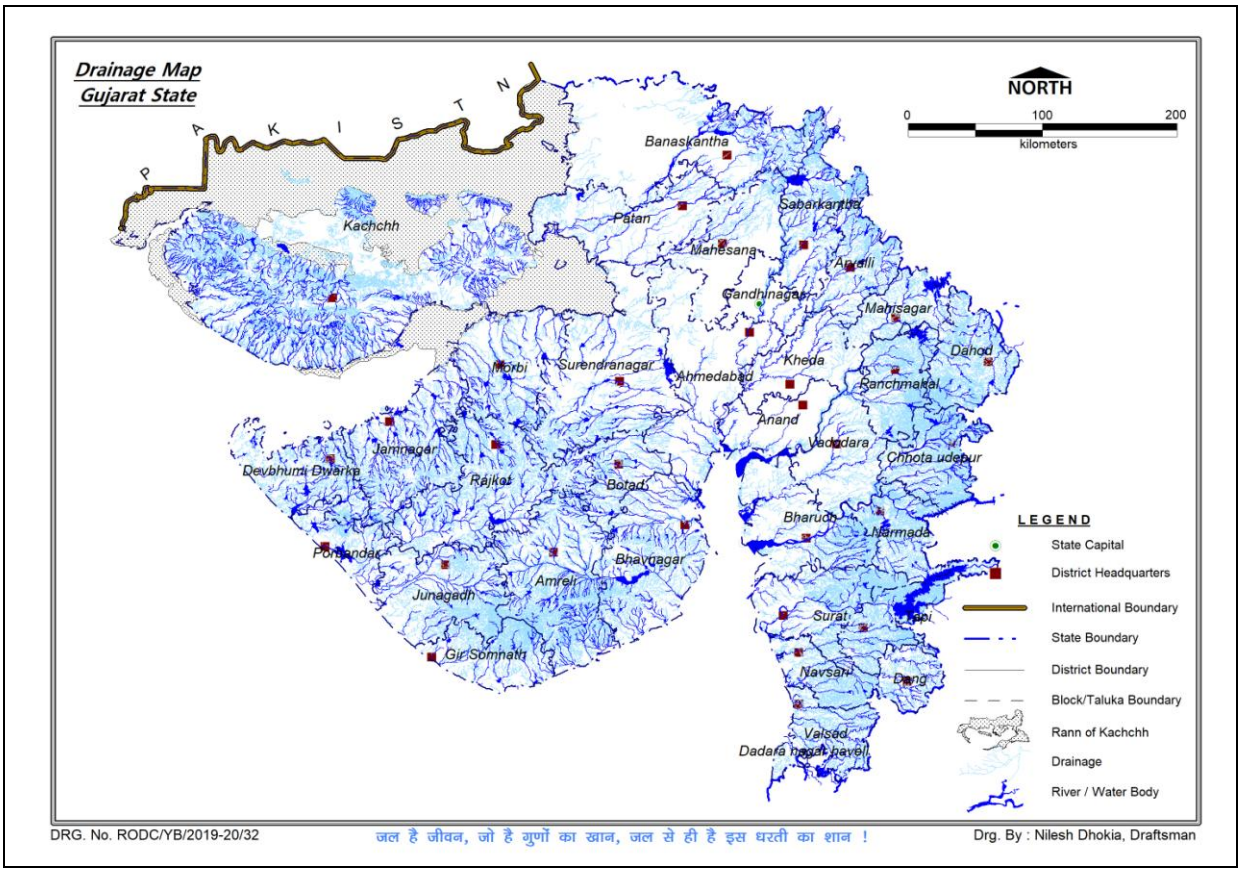
Marshy to saline desert known as Greater & little Rann of Kachchh is situated in northern & south-eastern part of Kachchh district respectively. This vast expanse of salts mixed with clay is devoid of any vegetation or habitation. The general elevation of this tract varies between 1 to 4 m. Above MSL. During high tide period seawater enters in Greater & little Rann through Kori creek and Gulf of Cambay. There are a few local depressions with elevations even below MSL, which give rise to a few small inland saline lakes.



(Fig 2: Physiography of Gujarat)

1.3 Drainage

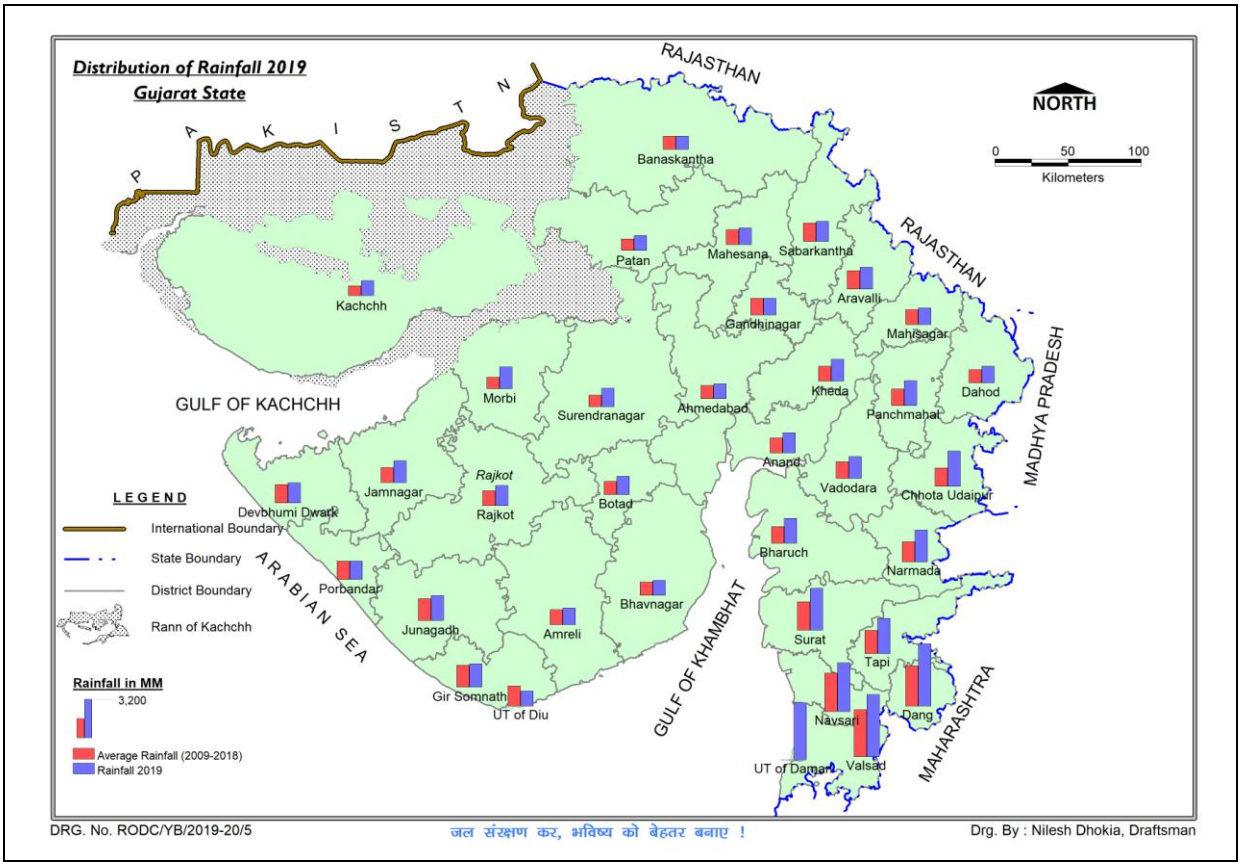
Drainage in all the five physiographical regions of the State has distinct characteristics with the prevailing topographical and physical characteristics of the rock formations. The flow direction of some of the major rivers like Narmada is controlled by a major tectonic fault. Except rivers Tapi, Narmada and Mahi, all other rivers of the State originate from eastern hilly region & flow in west or south-westward. The rivers flow with highly meandering courses in west direction and cut across the alluvial plains. The rivers Narmada and Tapi are long structural trough. The rivers of South Gujarat region are generally perennial. While majority of rivers of North, Saurashtra & Kachchh regions are seasonal. The rivers in upland of Saurashtra & Kachchh are mostly small & represent a radial drainage pattern. **(Fig:3)**



(Fig 3: Drainage Map of Gujarat)

1.4 Climate

The Gujarat State has humid, sub-humid and semi-arid to arid type of climatic conditions with highest rainfall of about 3200 mm in Dang district to lowest about 311 mm in Kachchh district. The intensity of rainfall gradually decreases from SE to NW. (**figure -4**). The summer temperature in many parts of the State rises up to 46° C, while the minimum winter temperature up to 4° C is also recorded at few locations in the State.

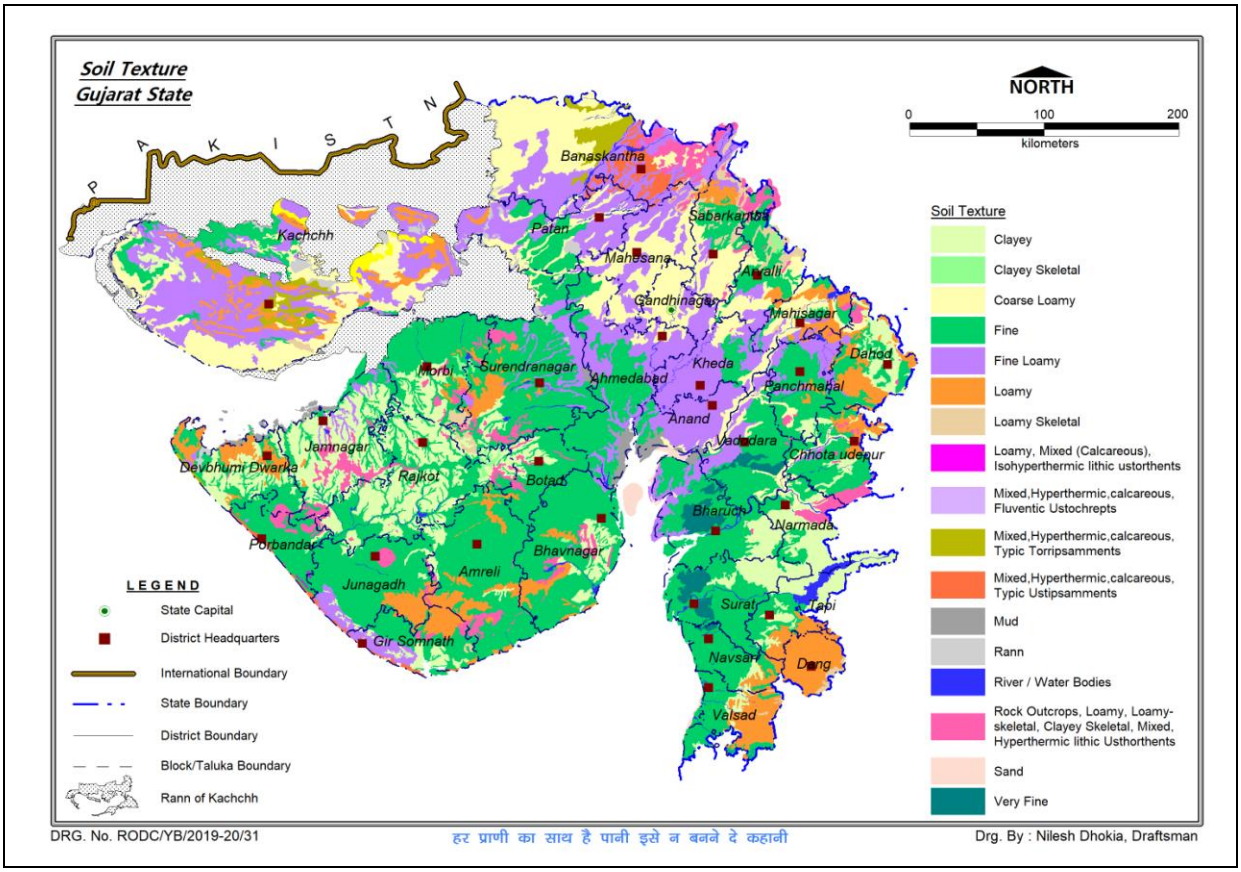


(Figure: 4 – Distribution of Annual Rainfall (Isohyetal Map) Year – 2019)

1.5 Soils

All India Soil & Land Use Survey Organization has classified the soils in Gujarat State **(Fig 5).** Accordingly main soil groups are as under.

a) Goradu Sandy Loam
b) Medium Black Soil
c) Deep Black Soil
d) Coastal alluvium (Saline) soils
e) Desert soils
f) Mud



(Fig 5: Different Soil Zones in Gujarat)

2. HYDROGEOLOGY

Hydrogeologically the State of Gujarat exhibits wide variation. The aquifers are formed by Geological formations of various age varying from Archaean/Precambrians to Recent (Fig. 6).

The high relief areas in the eastern and north-eastern parts of the state occupied by the Deccan Traps and the Archaeans 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. 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. The hydrogeological map of Gujarat State is shown in **Fig: 7.**

2.1 Archaean 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 intrusive 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.

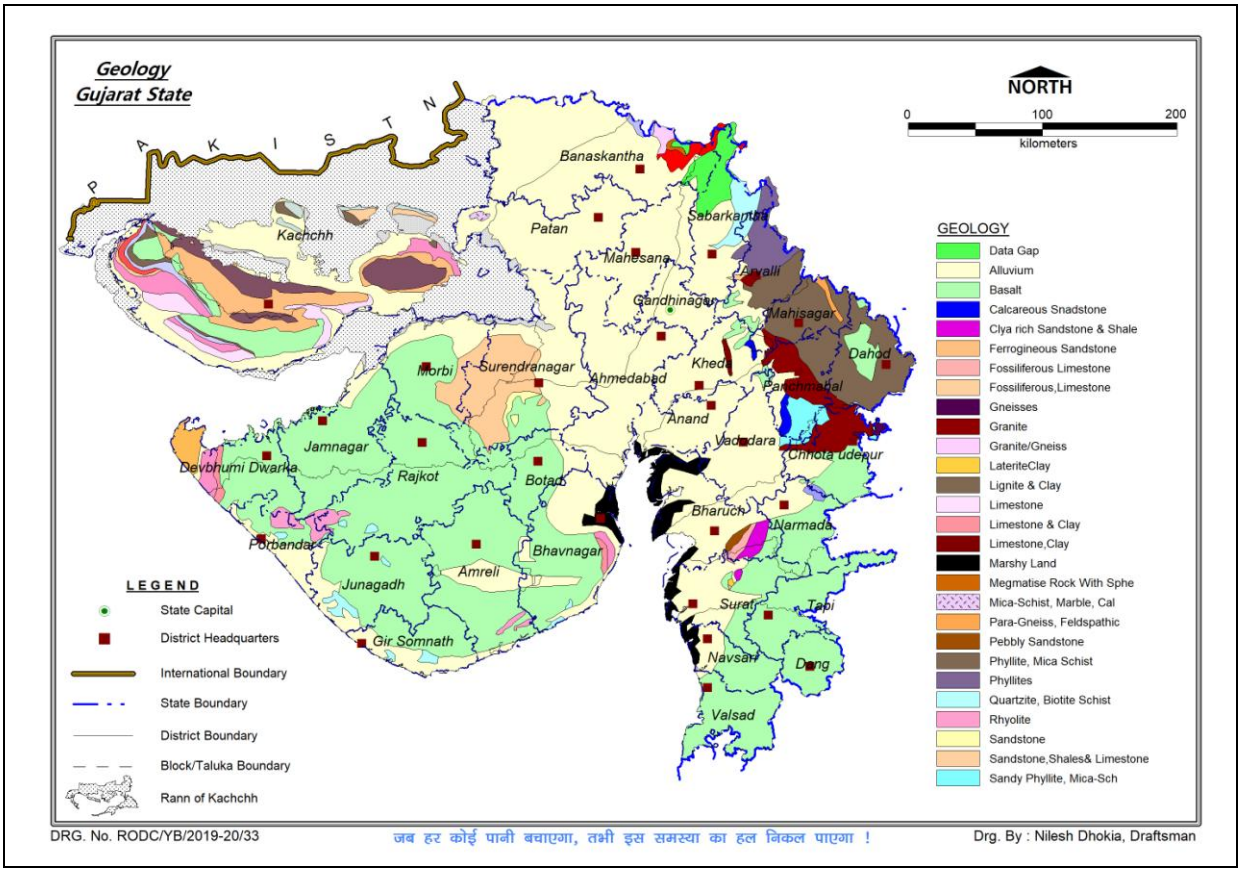
The Dhrangadhra sandstones comprise of about 400 m thick, fine to coarse grained sandstones inter-bedded occasionally with carbonaceous shale. Tube wells tapping about 100 m of aquifer thickness in this formation within a depth of 212 mbgl yield limited to moderate discharge of the order of 14 to 80 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. Tube wells tapping these aquifers yield up to 50 m^3/hour.

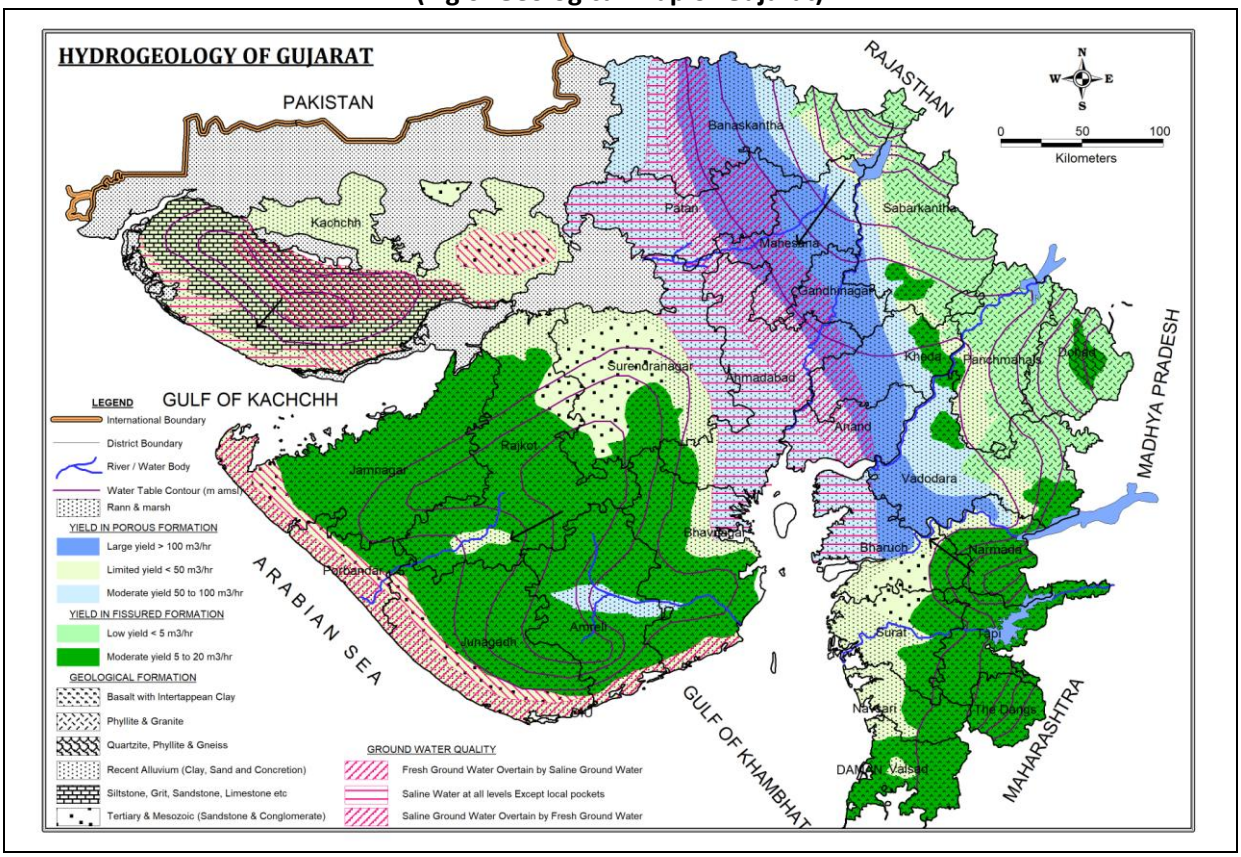
2.3 Deccan Trap

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.



(Fig 6: Geological Map of Gujarat)



(Fig 7: Hydrogeological Map of Gujarat)

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.

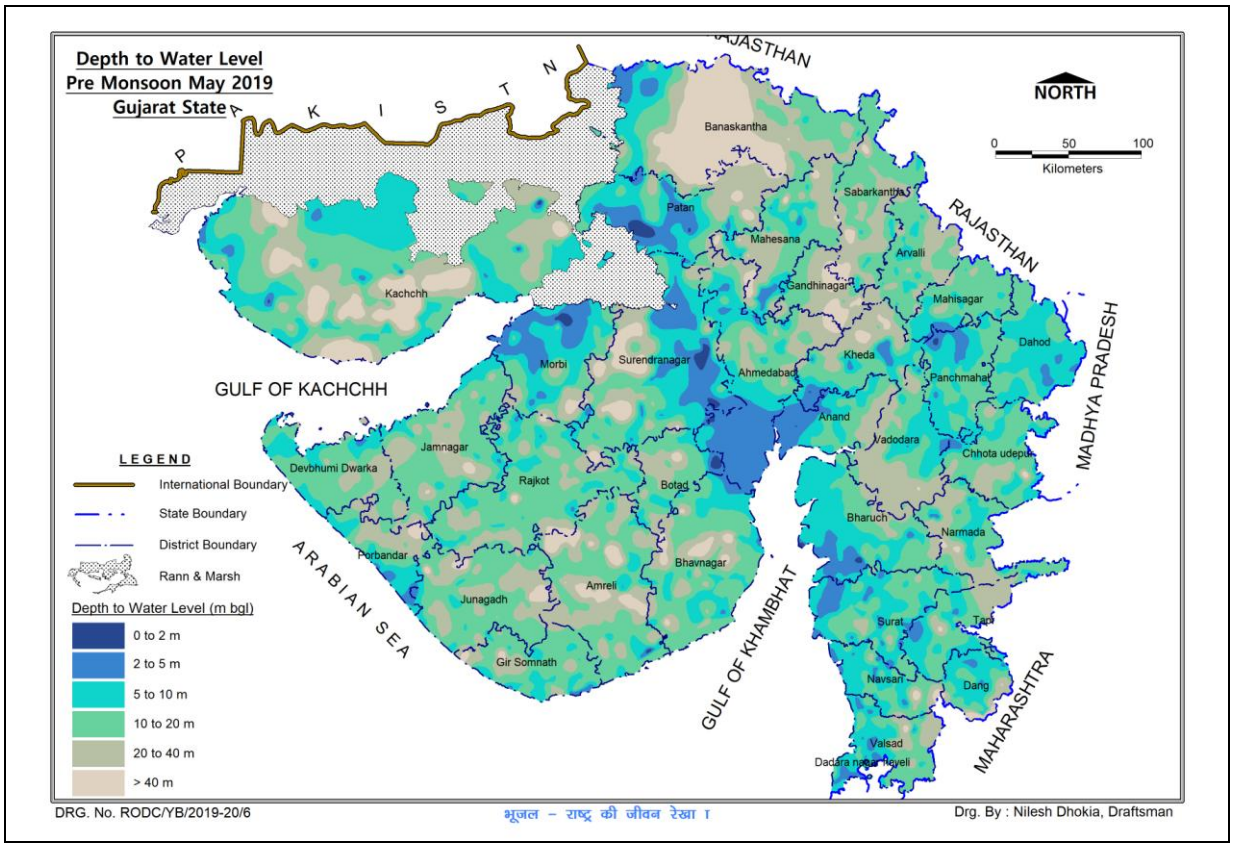
A number of abandoned river channels and valley fills occur in the rocky areas. These are of great significance for the development of ground water in an otherwise less promising terrain.

Groundwater in the alluvium occurs under unconfined conditions at shallow depths. In deeper horizons, it occurs under semi-confined to confined and sub-artesian conditions.

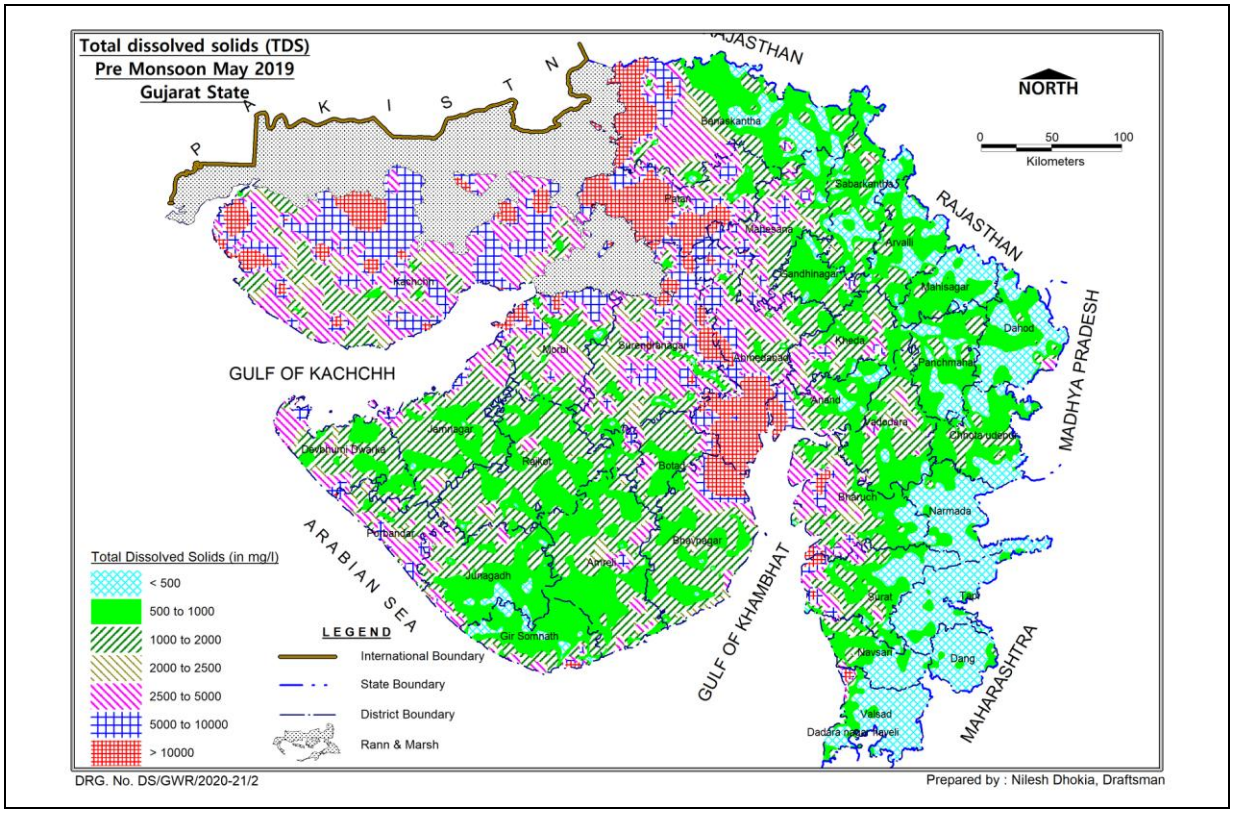
Detailed study in Mahesana, Banaskantha, Rajkot, Surendranagar, Kheda, Sabarkantha, Kachchh and Ahmedabad districts has revealed that multiple aquifers exist in major part of the alluvial plains of Gujarat up to a depth of 500 m.

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. In perusal of map (Fig. 8) the depth to water level for the pre-monsoon period is ranges between 5 and 40 m bgl in most part of the area. Shallow water level less than 2 m to 5 m bgl is shown in isolated patches scattered mostly in coast, Rann, Gulf of Khambhat and in the commands of perennial rivers in South Gujarat. Deep water level > 40 m bgl in the phreatic aquifer is located mostly in the Banaskantha, Patan, Mahesana, Gandhinagar in North Gujarat, Vadodara and adjoining districts, some parts of Amreli, Junagadh, Porbandar in Saurashtra Region. Groundwater quality in phreatic aquifer is shown in Fig. 9 in the form of Total dissolved solids (TDS) in mg/l.



(Fig 8: Map showing Depth to water level-Gujarat (May 2019)



(Fig 9: Map showing Total Dissolved Solids (TDS) Gujarat May 2019)

Total dissolved solids (TDS) is in general is ranges less than 500 to 2500 ppm in maximum part of the State except most part of Kachchh, Patan, and some part of Banaskantha, Surendranagar, Ahmedabad, Kheda,Bharuch and Bhavnagar and coastal part of Saurashtra region where the Total dissolved solids (TDS)is more than 2500 ppm.

3. GEC 2015 METHODOLOGY:

Present Groundwater Resource Estimation 2020 (GWRE 2020) has been carried as per revised methodology, known as Groundwater Estimation Committee 2015 (GEC 2015)[10]. The foremost recommendations of revised GEC 2015 methodology are summarized as follows. Detailed report on GEC 2015 is available on CGWB web site (http://cgwb.gov.in/).

3.1 Concept of Aquifer Wise Assessment

GEC 2015 recommends aquifer wise groundwater resource assessment for *Replenishable* ground water resources or *Dynamic* groundwater resources and also for *In-storage* groundwater resources or *Static* groundwater resources for both Unconfined and Confined aquifer. Wherever the aquifer geometry has not been firmly established for the unconfined aquifer, the in-storage groundwater resources have to be assessed in the alluvial areas up to the depth of bed rock or 300m whichever is less. In case of hard rock aquifers, the depth of assessment would be limited to 100m. In case of confined aquifers, if it is known that groundwater extraction is being taken place from this aquifer, the dynamic as well as in-storage resources are to be estimated. If it is firmly established that there is no groundwater extraction from this confined aquifer, then only in-storage resources of that aquifer has to be estimated

3.1.1 Periodicity of Assessment

GEC 2015 methodology recommends that the groundwater resources should be assessed once in every three years as per the present practice such that time lag between assessment and publication of the results be minimized. Hence it recommends to make all out efforts to reduce the time lag and so that groundwater assessment report be issued in the successive water year without delay.

3.1.2 Groundwater Assessment Unit & Sub Units

GEC 2015 methodology recommends aquifer wise groundwater resource assessment. However, until aquifer geometry is established on appropriate scale, it recommends that the existing practice of using watershed in hard rock areas and blocks/ mandals/ firkas in soft rock areas may be continued. It is recommended that wherever spring discharge data is available, the same may be assessed as a proxy for 'groundwater resources' in hilly areas. The assessment of spring discharge would constitute the 'replenishable potential groundwater resource' but it will not be accounted for in the categorisation of groundwater assessment, at least not in the near future.

Like earlier GEC methodology, out of the total geographical area of the assessment unit, hilly areas wherever slope is greater than 20%, are to be identified and subtracted as these areas have more runoff than infiltration.

The groundwater resource beyond the permissible quality limits in terms of the salinity has to be computed separately. The remaining area after excluding the area with poor ground water quality is to be delineated as follows:

Non-command areas which do not come under major/medium surface water irrigation schemes. (Command area <100 Ha should be ignored).Command areas under major/medium surface water irrigation schemes which are actually supplying water (>100 Ha of command area.)

GEC 2015 methodology recommends that after the assessment is done, a quality flag may be added to the assessment unit for parameters salinity, fluoride and arsenic. It is proposed to have all these areas of an assessment unit in integer hectares to make it national database with uniform precision.

3.1.3 Groundwater Resources of Assessment of Unit

The groundwater resources of any assessment unit is the sum of the total groundwater availability in the principal aquifer (mostly unconfined aquifer) and the total ground water availability of semi-confined and confined aquifers existing in that assessment unit. The total groundwater availability of any aquifer is the sum of Dynamic groundwater resources and the In-storage or Static resources of the aquifer.

GEC 2015 advocate that the development planning should be on dynamic resource only as it gets replenished every year. Changes in static or in-storage resources reflect impacts of groundwater mining. Such resources may not be replenishable annually and may be allowed to be extracted only during exigencies with proper recharge planning in the succeeding excess rainfall years.

3.2 Assessment of Annually Replenishable or Dynamic Groundwater Resources

The elementary concept of GEC 2015 methodology for groundwater resources estimation is based on basic principle of water balance as given below –

Inflow – Outflow = Change in Storage (of an aquifer) **(1)**

Equation 1 can be further elaborated as -

ΔS= Rrf+RSTR+RC+RSWI+RGWI+RTP+RWCS±VF ± LF -GE-T-E-B **(2)**

Where,

ΔS –	Change is storage
Rrf –	Rainfall recharge
RSTR-	Recharge from stream channels
Rc –	Recharge from canals
RSWI –	Recharge from surface water irrigation
RGWI-	Recharge from groundwater irrigation
RTP-	Recharge from Tanks & Ponds
RWCS –	Recharge from water conservation structures
VF –	Vertical flow across the aquifer system
LF-	Lateral flow along the aquifer system (through flow)
GE-	Groundwater Extraction
T-	Transpiration
E-	Evaporation
B-	Base flow

GEC 2015 has observed that although above mentioned components of water balance equation are imperative, the present status of database available with Government and nongovernment agencies is not adequate in most of the assessment units. Therefore, it is proposed that at present the water budget may be restricted to the major components only taking into consideration certain reasonable assumptions. The estimation is to be carried out using lumped parameter estimation approach keeping in mind that data from many more sources if available may be used for refining the assessment.

3.2.1 Rainfall Recharge

GEC 2015 recommended that monsoon rainfall recharge should be estimated on groundwater level fluctuation and specific yield approach. This, however, requires adequately spaced representative water level measurement for a sufficiently long period. It is proposed that there should be at least three spatially well distributed observation wells in the assessment unit, or one observation well per 100 sqkm. Water level data should also be available for a minimum period of 5 years (preferably 10years), along with corresponding rainfall data. Regarding frequency of water level data, three water level readings during pre and post monsoon seasons and in the month of January/ May preferably in successive years, are the minimum requirements. It would be ideal to have monthly water level measurements to record the peak rise and maximum fall in the ground water levels. In units or subareas where adequate data on ground water level fluctuations are not available as specified above, groundwater recharge

may be estimated using rainfall infiltration factor method only. The rainfall recharge during non-monsoon season may be estimated using rainfall infiltration factor method only. These two basic approaches recommended by the GEC - 1984, namely groundwater level fluctuation method and rainfall infiltration factor method, still form the basis for groundwater assessment in GEC 2015 methodology.

Water Level Fluctuation (WLF) Method

Under this method the change in storage is computed by multiplying water level fluctuation between pre and post monsoon seasons with the area of assessment and specific yield.

Change in Storage = **ΔS = h*Sy*A ..... (i)**

Where

h = rise in water level due to monsoon (fluctuation between pre-monsoon and post-monsoon water level),

A = area for computation of recharge, and

Sy = specific yield of aquifer formation

The Specific yield of a soil or rock is the ratio of the volume of water that, after saturation, can be drained by gravity to its own volume (Todd & Mays, 2005). The Specific yield data have either been arrived through field studies, including long-duration pumping tests and dry season groundwater balance (in hard-rock areas) or adopted from the norms recommended by GEC-1997, which were derived from the various water-balance studies carried out by CGWB, SGWDs and academic/research institutions.

Substituting the expression in equation 1 for storage increase ΔS in terms of water level fluctuation and specific yield, rainfall recharge in non-command will be as follow:

RRF = h x Sy x A - RSTR - RSWI - RGWI - RTP - RWCS ± VF ± LF + GE + T + E + B **3**

and considering another term **Rc** as Recharge due to canals, rainfall recharge equation in command will be as follows:

RRF = h x Sy x A - RC - RSTR - RSWI - RGWI -RTP -RWCS ±VF ±LF +GE +T +E + B **4**

The recharge calculated from equation 3 in case of non-command sub units and equation 4 in case of command sub units and poor groundwater quality sub units gives the rainfall recharge for the particular monsoon season. However, it may be noted that in case base flow/ recharge from stream and through flow have not been estimated, the same may be assumed to be zero.

The rainfall recharge obtained by using equation 3 & equation 4 provides the recharge in any particular monsoon season for the associated monsoon season rainfall. This estimate is to be normalised for the normal monsoon season rainfall as per the procedure indicated below.

Normalization of Rainfall Recharge

The recharge from rainfall estimated as per the above is for the particular monsoon season. It should be normalized for estimating recharge corresponding to the normal monsoon rainfall.

GEC 2015 methodology follows the same procedures of earlier GEC 1997 methodology for normalizing monsoon recharge, which is summarized below.

The computational procedure to be followed is as given below:

$$Rrf\,(normal) = \frac{\sum_{i=1}^{N}\left[R_i \times \frac{r(normal)}{r_i}\right]}{N}$$

Where

Rrf (normal) = Normalized Rainfall Recharge in the monsoon season.

$\mathbf{R_i}$= Rainfall Recharge in the monsoon season for the i^{th} year.

r (normal) = Normal monsoon Season rainfall.

$\mathbf{r_i}$ = Rain fall in the monsoon season for the i^{th} year.

N = Number of years for which data is available.

Rainfall Infiltration Factor (RIF) Method

Like earlier GEC methodology, GEC 2015 recommended to compare the rainfall recharge obtained from Water Level Fluctuation method with that of the estimated recharge using Rainfall Infiltration Factor Method.

Recharge from rainfall is estimated by using the following relationship –

Rrf = RFIF * A* (R – a)/1000

Where,

Rrf = Rainfall recharge in ham

A = Area in Hectares

RFIF = Rainfall Infiltration Factor

R = Rainfall in mm

a = Minimum threshold value above which rainfall induces groundwater recharge in mm

GEC 2015 suggests that 10% of Normal annual rainfall be taken as Minimum Rainfall Threshold and 3000 mm as Maximum Rainfall limit. While computing the rainfall recharge, 10% of the normal annual rainfall is to be deducted from the monsoon rainfall and balance rainfall would be considered for computation of rainfall recharge. The same recharge factor may be used for both monsoon and non-monsoon rainfall, with the condition that the recharge due to non-monsoon rainfall may be taken as zero, if the normal rainfall during the non-monsoon season is less than 10% of normal annual rainfall. In using the method based on the specified norms, recharge due to both monsoon and non-monsoon rainfall may be estimated for normal rainfall, based on recent 30 to 50 years of data.

Percent Deviation

After computing the rainfall recharge for normal monsoon season rainfall using the Water level Fluctuation method and Rainfall Infiltration Factor method these two estimates have to

be compared with each other. A term, Percent Deviation (PD) which is the difference between the two expressed as a percentage of the former is computed as

$$PD = \frac{Rrf(normal,wlfm) - Rrf(normal,rifm)}{Rrf(normal,wlfm)} \times 100$$

Where,

Rrf (normal, wtfm) = Rainfall recharge for normal monsoon season rainfall estimated by the water level fluctuation method

Rrf (normal, rifm) = Rainfall recharge for normal monsoon season rainfall estimated by the rainfall infiltration factor method

The rainfall recharge for normal monsoon season rainfall is finally adopted as per the criteria given below:

If PD is greater than or equal to -20%, and less than or equal to +20%,Rrf (normal) is taken as the value estimated by the water level fluctuation method.

If PD is less than -20%, Rrf (normal) is taken as equal to 0.8 times the value estimated by the rainfall infiltration factor method.

If PD is greater than +20%, Rrf (normal) is taken as equal to 1.2 times the value estimated by the rainfall infiltration factor method.

3.2.2 Recharge from other Sources

Recharge from other sources constitute recharges from canals, surface water irrigation, groundwater irrigation, tanks & ponds and water conservation structures in command areas where as in non-command areas the recharge due to surface water irrigation, groundwater irrigation, tanks & ponds and water conservation structures are possible.

- **Recharge from Canals**

Recharge due to canals is to be estimated based on the following formula:

RC = WA * SF * Days

Where:

RC = Recharge from Canals

WA = Wetted Area

SF = Seepage Factor

Days = Number of Canal Running Days.

- **Recharge from Surface Water Irrigation**

Recharge due to applied surface water irrigation, either by means of canal outlets or by- lift irrigation schemes is to be estimated based on the following formula:

RSWI = AD*Days*RFF

Where:

RSWI = Recharge due to applied surface water irrigation

AD = Average Discharge

Days = Number of days water is discharged to the Fields

RFF = Return Flow Factor

- **Recharge from Groundwater Irrigation**

Recharge due to applied groundwater irrigation is to be estimated based on the following formula:

RGWI = GEIRR*RFF

Where:

RGWI	=	Recharge due to applied groundwater irrigation
GEIRR	=	Groundwater Extraction for Irrigation
RFF	=	Return Flow Factor

- **Recharge due to Surface Water Bodies**

Recharge due to surface water bodies, like tanks & ponds etc is to be estimated based on the following formula:

RTP =AWSA*RF

Where:

RTP	=	Recharge due to Tanks & Ponds
AWSA	=	Average Water Spread Area
RF	=	Recharge Factor

- **Recharge due to Water Conservation Structures**

Recharge due to Water Conservation Structures is to be estimated based on the following formula:

RWCS =GS*RF

Where:

RWCS	=	Recharge due to Water Conservation Structures
GS	=	Gross Storage (Storage Capacity multiplied by number of Fillings).
RF	=	Recharge Factor

3.2.3 Additional Components Effecting Recharge

GEC 2015 methodology has introduced prescribed procedure to estimate additional recharge on account of some natural hydraulic and climatic parameters, which effect overall groundwater recharge of assessment unit. These components are as follow.

- **Lateral flow along the aquifer system (Through flow)**

GEC 2015 prescribes that if the assessment unit area under consideration is a watershed, the lateral flow across boundaries can be considered as zero in case such estimates are not available. If there is inflow and outflow across the boundary, theoretically, the net inflow may be calculated using Darcy law, by delineating the inflow and outflow sections of the boundary. Besides such delineation, the calculation also requires estimate of transmissivity and hydraulic gradient across the inflow and outflow sections. These calculations are most conveniently done in a computer model. It is recommended to initiate regional scale modelling with well-defined flow boundaries. Once the modelling is complete, the lateral through flows (LF) across boundaries for any assessment unit can be obtained from the model and the same should be included in the water balance equation.

- **Base flow and Stream Recharge**

GEC 2015 recommends that if stream gauge stations are located in the assessment unit, the base flow and recharge from streams can be computed using Stream Hydrograph Separation Method, Numerical Modelling and Analytical solutions. If the assessment unit is a watershed,a single stream monitoring station at the mouth of the watershed can provide the required data for the calculation of base flow. It is further suggested that Base flow assessment and Stream recharge should be carried out in consultation with Central Water Commission in order to avoid any duplicity in the estimation of total water availability in a river basin.

- **Vertical Flow from Hydraulically Connected Aquifers**

This component can be estimated using the Darcy's law if the hydraulic heads in both aquifers and the hydraulic conductivity and thickness of the aquitard separating both the aquifers are known. GEC 2015 suggests that the regional scale groundwater flow modelling is an important tool to estimate such flows.

- **Evaporation and Transpiration**

GEC 2015 recommends that the evaporation component can be estimated for the aquifer in the assessment unit, through field studies or from adjoin areas data, for areas with water level within 1.0 m bgl. If depth to water level is more than 1.0 m bgl, the evaporation losses from the aquifer should be taken as zero. Similarly the transpiration through vegetation can be estimated for the aquifer in the assessment unit, through field studies if water levels in the aquifer are within the maximum root zone of the local vegetation. If water levels are within 3.5m bgl, transpiration can be estimated using the transpiration rates available for other areas. If it is greater than 3.5m bgl, the transpiration should be taken as zero. Further, for estimating evapo-transpiration, field tools like Lysimeters can be used to estimate actual evapo-transpiration. In case where such data is not available, evapo-transpiration losses can be empirically estimated from PET data provided by IMD.

3.2.4 Additional Potential Resources under Specific Conditions

GEC 2015 methodology recommends additional potential recharge estimation under specific conditions, if any, in the assessment unit, as described follows.

- **Potential Resource Due to Spring Discharge**

Spring discharge constitutes an additional source of groundwater in hilly areas which merges at the places where groundwater level cuts the surface topography. The spring discharge is equal to the groundwater recharge minus the outflow through evaporation and evapo-transpiration and vertical and lateral sub-surface flow. Thus Spring Discharge is a form of 'Annual Extractable Groundwater Recharge'. It is a renewable resource, though not to be used for Categorisation. Spring discharge measurement is to be carried out by volumetric measurement of discharge of the springs. Spring discharges multiplied with time in days of each season will give the quantum of spring resources available during that season. The committee recommends that in hilly areas with substantial potential of spring discharges, the discharge measurement should be made at least 4 times a year in parity with the existing water level monitoring schedule.

Potential ground water resource due to springs = Q x No of days

Where,

Q	=	Spring Discharge
No of days	=	No of days spring yields.

- **Potential Resource in Waterlogged and Shallow Water Table Areas**

In the area where the groundwater level is less than 5m below ground level or in waterlogged areas, the resources up to 5m below ground level are potential and would be available for development in addition to the annual recharge in the area. It is therefore, like earlier GEC 1997, GEC 2015 also recommends that in such areas, ground water resources may be estimated up to 5m bgl only assuming that where water level is less than 5m bgl, the same could be depressed by pumping to create space to receive recharge from natural resources. The computation of potential resource to groundwater reservoir, form such shallow water table areas, can be done by adopting the following equation:

Potential ground water resource in shallow water table areas = (5-D) x A x SY

Where

D = Depth to water table below ground surface in pre-monsoon period in shallow aquifers.

A = Area of shallow water table zone.

SY = Specific Yield

The planning of future minor irrigation works in the waterlogged and shallow water table areas as indicated above should be done in such a way that there should be no long term adverse effects of lowering of water table up to 5m and the water level does not decline much below 5m in such areas. The behaviour of water table in the adjoining area which is not water logged should be taken as a bench mark for development purposes.

This potential recharge to groundwater is available only after depression of water level up to 5m bgl. This is not an annual resource and should be recommended for development on a very cautious approach so that it does not adversely affect the ground water potentials in the overall area.

- **Potential Resource in Flood Prone Areas**

Ground water recharge from a flood plain is mainly the function of the following parameters-

- Areal extent of flood plain
- Retention period of flood
- Type of sub-soil strata and silt charge in the river water which gets deposited and controls seepage

GEC 2015 recommends that potential recharge from flood plain may be estimated on the same norms as for ponds, tanks and lakes. This has to be calculated over the water spread area and only for the retention period using the following formula.

Potential ground water resource in Flood Prone Areas = 1.4 x N x A/1000

Where

N = No of Days Water is Retained in the Area

A = Flood Prone Area

3.2.5 Recharge during Monsoon Season

The sum of normalized monsoon rainfall recharge and the recharge from other sources and lateral and vertical flows into the sub unit and stream inflows during monsoon season is the total recharge during monsoon season for the sub unit. Similarly this is to be computed for all the sub units available in the assessment unit.

3.2.6 Recharge during Non-Monsoon Season

The rainfall recharge during non-monsoon season is estimated using Rainfall Infiltration Factor method only when the non-monsoon season rainfall is more than 10% of normal annual rainfall. The sum of non-monsoon rainfall recharge and the recharge from other sources and lateral and vertical flows into the sub unit and stream inflows during non-monsoon season is the total recharge during non-monsoon season for the sub unit. Similarly this is to be computed for all the sub units available in the assessment unit.

3.2.7 Total Annual Groundwater Recharge

The sum of the recharge during monsoon and non-monsoon seasons is the total annual groundwater recharge for the sub unit. Similarly this is to be computed for all the sub units available in the assessment unit.

3.2.8 Annual Extractable Groundwater Recharge (EGR)

The National Water Policy, 2012 stresses that the ecological flow of rivers should be maintained. Accordingly GEC 2015 recommends that groundwater base flow contribution limited to the ecological flow of the river should be determined which will be deducted from Annual Groundwater Recharge to determine Annual Extractable Groundwater Resources (EGR). The ecological flows of the rivers are to be determined in consultation with Central Water Commission and other concerned river basin agencies. In the assessment units, where river stage data are not available and neither the detailed data for quantitative assessment of the natural discharge are available, present practice (GEC 1997) of allocation of unaccountable natural discharges to 5% or 10% of annual recharge may be retained. If the rainfall recharge is assessed using Water Level Fluctuation method this will be 5% of the annual recharge and if it is assessed using Rainfall Infiltration Factor method, it will be 10%

of the annual recharge. The balance will account for Annual Extractable Groundwater Resources (EGR).

3.3 Estimation of Groundwater Extraction

Like earlier methodology, GEC 2015 recommends various available methods for estimation of groundwater extraction in each assessment sub unit, as described below. Moreover, GEC 2015 also recommends that the groundwater extraction obtained figures from different methods need to be compared and based on field checks, the seemingly best value may be adopted. At times, groundwater extraction obtained by different methods may vary widely. Moreover unit draft adopted needs to be normalized as per annual rainfall of period for which assessment is being carried out. In general, the value matching the field situation should be considered. It is also suggested that the storage depletion during a season where other recharges are negligible can be taken as groundwater extraction during that particular period.

3.3.1 Components of Groundwater Extractions

Groundwater draft or extraction is to be assessed as follows.

$GE_{ALL} = GE_{IRR} + GE_{DOM} + GE_{IND}$

Where,

GE_{ALL} = Groundwater extraction for all uses

GE_{IRR} = Groundwater extraction for irrigation

GE_{DOM} = Groundwater extraction for domestic uses

GE_{IND} = Groundwater extraction for industrial uses

- **Groundwater Extraction for Irrigation(GEIRR)**

Unit Draft Method: – In this method, season-wise unit draft of each type of well in an assessment unit is estimated. The unit draft of different types (eg. Dug well, Dug cum bore well, shallow tube well, deep tube well, bore well etc.) is multiplied with the number of wells of that particular type to obtain season-wise groundwater extraction by that particular structure. It is recommended that a single source of well census should be maintained for resources computation at all India level. Minor Irrigation Census of MoWR, RD & GR would be the preferred option.

Crop Water Requirement Method: – For each crop, the season-wise net irrigation water requirement is determined. This is then multiplied with the area irrigated by groundwater abstraction structures. The database on crop area is obtained from Revenue records in Tahsil office, Agriculture Census and also by using Remote Sensing techniques.

Power Consumption Method: – Groundwater extraction for unit power consumption (electric) is determined. Extraction per unit power consumption is then multiplied with number of units of power consumed for agricultural pump sets to obtain total groundwater extraction for irrigation.

- **Groundwater Extraction for Domestic Use (GEDOM)**

Unit Draft Method: – In this method, unit draft of each type of well is multiplied by the number of wells used for domestic purpose to obtain the domestic groundwater draft.

Consumptive Use Method: – In this method, population is multiplied with per capita consumption usually expressed in litre per capita per day (lpcd). It can be expressed using following equation.

GEDOM= Population X Consumptive Requirement X Lg

Where,

Lg = Fractional Load on Groundwater for Domestic Water Supply

The data about load factors on groundwater sources can be obtained from the concerned water supply agencies / departments.

- **Groundwater Extraction for Industrial use (GEIND)**

Unit Draft Method: - In this method, unit draft of each type of well is multiplied by the number of wells used for industrial purpose to obtain the industrial groundwater extraction.

Consumptive Use Pattern Method: – In this method, water consumption of different industrial units are determined. Numbers of Industrial units which are dependent on ground water are multiplied with unit water consumption to obtain groundwater draft for industrial use, as suggested below.

GEIND= Number of industrial units X Unit Water Consumption X Lg

Where,

Lg = Fractional load on groundwater for industrial water supply

The load on Groundwater for Industrial water supply can be obtained from water supply agencies in the Industrial belt.

Data Base of Industry: -Other important sources of data on groundwater extraction for industrial uses are - Central Ground Water Authority, State Ground Water Authority, National Green Tribunal and other Environmental Regulatory Authorities.

3.4 Stage of Groundwater Extraction

The stage of groundwater extraction is defined by,

$$Stage\ of\ Ground\ Water\ Extraction\ (\%) = \frac{\text{Existing gross ground water extraction for all uses}}{\text{Annual Extractable Ground water Resources}} \times 100$$

The existing gross groundwater extraction for all uses refers to the total of existing gross groundwater extraction for irrigation and all other purposes. The stage of groundwater extraction should be obtained separately for command areas, non-command areas and poor groundwater quality areas.

3.4.1 Validation of Stage of Groundwater Extraction

Taking into consideration of inherent uncertainties associated with various components of both extracted and extractable groundwater resources, GEC 1997 has recommended validating the "Stage of Groundwater Extraction (SGE)" with long term trend of groundwater levels for a minimum period of 10 years for both pre-monsoon and post-monsoon period. GEC 2015 refine these concept further and suggest that if the pre and post monsoon water levels show a fairly stable trend, it does not necessarily mean that there is no scope for further groundwater development. Such a trend indicates that there is a balance between recharge,

extraction and natural discharge in the unit. However, further groundwater development may be possible, which may result in a new stable trend at a lower groundwater level with associated reduced natural discharge. If the groundwater resource assessment and the trend of long term water levels contradict each other, this anomalous situation requires a review of the groundwater resource computation, as well as the reliability of water level data. The mismatch conditions are enumerated below table 7.

Validation Criteria for Stage of GW Extraction (SGWE)

Stage of GW Extraction	Groundwater Level Trend	Remarks
≤ 70 %	Significant decline in trend in both pre-monsoon and post- monsoon	Not acceptable and needs reassessment
>100 %	No significant decline in both pre-monsoon and post-monsoon long term trend	Not acceptable and needs reassessment

In case, the category does not match with the water level trend given above, a reassessment should be attempted. If the mismatch persists even after reassessment, the sub unit may be categorized based on Stage of Groundwater Extraction of the reassessment. However, the sub unit should be flagged for strengthening of observation well network and parameter estimation.

3.4.2 Categorisation of Assessment Units

Present categorisation of assessment units, as per GEC 1997 methodology takes into account long term groundwater level trends and stage of groundwater extraction of period under consideration. The National Water Policy, 2012 emphasis a convergence of quantity and quality of groundwater resources while assessing the groundwater extraction status in an assessment unit so as to aid appropriate management decisions. Therefore, GEC 2015 recommends separate estimation of resources where water quality is beyond permissible limits for the parameter salinity. Moreover, if any of the three quality hazards in terms of Arsenic, Fluoride and Salinity are encountered in the assessment sub unit in mappable units, the assessment sub unit may be tagged with the particular Quality hazard. Accordingly, GEC 2015 recommends that each assessment unit, in addition to the quantity based categorisation (safe, semi-critical, critical and over-exploited) should bear a quality hazard identifier (table 8). Such quality hazards are to be based on available groundwater monitoring data of State Ground Water Departments and /or Central Ground Water Board.

Criteria for Categorisation

Stage of Groundwater Extraction	Category	Quality Tag
≤ 70 %	Safe	Tag for sub unit / unit in terms of Salinity, Arsenic, Fluoride, if any
>70 % *and* ≤ 90 %	Semi Critical	
>90 % *and* ≤ 100 %	Critical	
>100 %	Over Exploited	

3.4.3 Allocation of Groundwater Resource for Utilisation

The Annual Extractable Groundwater Resources are to be apportioned between domestic, industrial and irrigation uses. Among these, as per the National Water Policy, requirement for domestic water supply is to be accorded priority. This requirement has to be based on population as projected to the year 2025, per capita requirement of water for domestic use, and relative load on groundwater for urban and rural water supply. The estimate of allocation for domestic water requirement may vary for one sub unit to the other in different states. In situations where adequate data is not available to make this estimate, the following empirical relation is recommended.

Alloc = 22 X N X Lg
mm per year Where

Alloc	=	Allocation for domestic water requirement
N	=	population density in the unit in thousands per sq. km.
Lg	=	fractional load on groundwater for domestic and industrial water supply (≤ 1.0)

In deriving equation above, it is assumed that the requirement of water for domestic use is 60 lpd per head. The equation can be suitably modified in case per capita requirement is different. If by chance, the estimation of projected allocation for future domestic needs is less than the current domestic extraction due to any reason, the allocation must be equal to the present day extraction. It can never be less than the present day extraction as it is unrealistic.

3.4.4 Net Annual Groundwater Availability for Future Use

The water available for future use is obtained by deducting the allocation for Domestic use and current extraction for Irrigation and Industrial uses from the annual extractable groundwater recharge. The resulting groundwater potential is termed as the Net Annual Groundwater Availability for future use.

The net annual groundwater availability for future use should be calculated separately for non-command areas and command areas. As per the recommendations of the R&D Advisory committee, the groundwater available for future use can never be negative. If it becomes negative, the future allocation of domestic needs can be reduced to current extraction for domestic use. Even then if it is still negative, then the groundwater available for future uses will be zero.

3.5 Assessment of In-Storage or Static Groundwater Resources

Presently there is no fine demarcation to distinguish the dynamic resources from the static resources. While water table hydrograph could be an indicator to distinguish dynamic resources, at times it is difficult when water tables are deep. Therefore, the GEC 2015 recommends the computation of the static or in-storage groundwater resources be done after delineating the aquifer thickness and specific yield of the aquifer material as follows:-

SGWR	**=**	**A *(Z2 - Z1) * SY**
Where,		
SGWR	=	Static or in-storage Groundwater Resources
A	=	Area of the Assessment Unit
Z2	=	Bottom of Unconfined Aquifer
Z1	=	Pre-monsoon water level
SY	=	Specific Yield in the In storage Zone

3.6 Assessment of Total Groundwater Availability in Unconfined Aquifer

The sum of Annual Exploitable Groundwater Recharge and the In-Storage Groundwater Resources of an unconfined aquifer is the Total Groundwater Availability of that aquifer.

3.7 Assessment of Groundwater of Confined Aquifer System

GEC 2015 recommends using groundwater storage approach to assess the groundwater resources of the confined aquifers. The co-efficient of storage or storativity of an aquifer is defined as the volume of water it releases or takes into storage per unit surface area of the aquifer per unit change in head. Hence the quantity of water added to or released from the aquifer (Δ V) can be calculated as follows:

$$\Delta V = S \Delta h$$

If the areal extent of the confined aquifer is A then the total quantity of water added to or released from the entire aquifer is

$$Q = A \Delta V = SA \Delta h$$

Where

Q = Quantity of water confined aquifer can release (m^3)

S = Storativity

A = Areal extent of the confined aquifer (m^2)

Δ**h** = Change in Piezometric head (m)

GEC 2015 points out that most of the storage in confined aquifer is associated with compressibility of the aquifer matrix and compressibility of water. Once the piezometric head reaches below the top confining bed, it behaves like an unconfined aquifer. Hence the resources available under pressure are only considered as the confined groundwater potential. The quantity of water released in confined aquifer due to change in pressure can be computed between piezometric head (ht) at any given time 't' and the bottom of the top confining layer (ho) by using the following equation.

$$Qp = SA\Delta h = SA (ht – h0)$$

If any development activity is started in the confined aquifer, then there is a need to assess the dynamic as well as in storage resources of the confined aquifer. To assess the groundwater resources of the confined aquifer, there is a need to have sufficient number of observation wells tapping exclusively that particular aquifer and proper monitoring of the piezometric heads is also needed.

3.8 Assessment of Groundwater of Semi-Confined Aquifer System

GEC 2015 observes that the Assessment of Groundwater Resources of a semi-confined aquifer has some more complications, apparently uncertainty about its relation with respect to underlying / overlying other aquifers. To avoid the duplication of estimating the same resource by direct computation in one aquifer and as leakage in the other aquifer, GEC 2015 advices not to assess such aquifer resources separately as long as precise data is available. Till then, if any such aquifer system identified as not assessed, its groundwater resources are to be assessed following the methodology similar to that used in assessing the resources of confined aquifers.

3.9 Total Groundwater Availability of an Area

The Total Groundwater availability in any area is the Sum of Dynamic Groundwater Resources, the total Static/ In-storage groundwater resources in the unconfined aquifer and

the Dynamic and In-storage resources of the Confined aquifers and semi confined aquifers in the area.

3.10 Groundwater Assessment in Urban Areas

GEC 2015 propose to have a separate ground water assessment for urban areas with population more than 10 lakhs. Taking note of difficulties to have groundwater draft data in most of the urban areas and constraints to natural recharge, by rainfall infiltration and recharge due to other sources on account of urbanization, GEC 2015 has suggested the following few points are to be considered for Urban Areas Groundwater Resources Estimation.

- The difference of the actual demand and the supply by surface water sources as the withdrawal from the ground water resources.
- Consider 30% of the rainfall infiltration factor for urban areas as an adhoc arrangement till field studies are done and documented.
- The 50 % percent losses reported by piped water supply may be taken as recharge to the groundwater system.
- The seepages from the sewerages, which normally contaminate the ground water resources with nitrate, also contribute to the quantity of resources and hence same percent as in the case of water supply pipes may be taken as norm for the recharge on the quantity of sewerage when there is sub surface drainage system.
- Recharge on account of seepage from open drainage system / open channels, (like lined / unlined canal) may be considered, till further documented field studies are done.
- If estimated flash flood data is available, the same percent can be used on the quantum of flash floods to estimate the recharge from the flash floods.

3.11 INDIA -GROUNDWATER RESOURCE ESTIMATION SYSTEM (IN-GRES)

INDIA-GROUNDWATER RESOURCE ESTIMATION SYSTEM (IN-GRES) is a Software/Web-based Application developed by CGWB in collaboration with IIT-Hyderabad. It will provide common and standardized platform for Ground Water Resource Estimation for the entire country and its pan-India operationalization (Central and State Governments). The system will take 'Data Input' through Excel as well as Forms, compute various ground water components (recharge, extraction etc.) and classify assessment units into appropriate categories (safe, semi-critical, critical and over-exploited). The Software based on GEC 2015 Methodology for estimation and calculation of Groundwater resources. It allows for unique and homogeneous representation of groundwater fluxes as well as categories for all the assessment units (AU) of the country.

URL of IN-GRES - http://ingres.iith.ac.in

4. PROCEDURE FOLLOWED IN THE PRESENT ASSESSMENT

The Dynamic Ground Water Resource Assessment (GWRA-2020) of Gujarat State has been computed as per GEC-2015 Methodology. The administrative block has been taken as assessment unit and for computing the block wise ground water resources. The Resource Estimation has been done by IN-GRES Software. In absence of requisites data or inadequacy

if any, the constraints and the procedure followed in the present assessment are described below.

4.1 Data Sources and Constraint for Various Data Elements

All-out efforts were made to collect the data from the respective State Government Departments. However, it is felt necessary to mention that due to non availability/constraint of some data, certain assumptions have been made while making the computations. The data sources for the various data elements used in the present exercise are presented in the following table.

Data Sources Used in the Ground Water Resource Estimation 2020

S.No	Data Element	Used in the Computation of	Data Source
1	Areas of Various sub units List and maps of new administrative Units of 33 Districts and 248 assessment units,	Assessment unit wise recharge & draft component	Revenue Dept, Govt. of Gujarat, Gandhinagar.
2	Irrigation Well Census	Groundwater extraction for irrigation	GUVNL (GUJARAT URJA VIKAS NIGAM LTD) Vadodara.
3	Ground Water Abstraction Details	Groundwater extraction for Industrial	GIDC, Gandhinagar.
4	Ground Water Abstraction Details	Groundwater extraction for Domestic.	Gujarat Water Supply and Sewerage Board, Govt. of Gujarat
5	Population Census	Groundwater extraction for domestic purpose, Future allocation for domestic requirement.	Census of India Data (2011)
6	Load Factor (Lg)	As above	Gujarat Water Supply and Sewerage Board, Govt. of Gujarat
7	Details of Pump sets (HP) used in irrigation wells	Ground water extraction for irrigation purpose	GUVNL (GUJARAT URJA VIKAS NIGAM LTD) Vadodara.
8	Canal details	Return Seepage Recharge due to Canals / Drains	Narmada, Water Resources, Water Supply and Kalpsar Department
9	Details of Tanks & Ponds, Check dams and other water conservation structures	Recharge due to Tanks & Ponds and water conservation measures ad-hoc basis	GPIC,RPIC,VPIC & KPIC of Panchayat Irrigation Circle Gandhinagar, Govt. of Gujarat
10	Rainfall	Recharge due to Rainfall / Normalization of Rainfall Recharge	IMD/State Water Data Centre
11	Evaporation and Transpiration Data	Evaporation and transpiration loss from the aquifer	Agricultural Universities
12	Ground Water Monitoring : Pre-monsoon and Post-monsoon groundwater levels & trends and GW quality monitoring data of last decade (2010-19).	Water Level Fluctuation method and validation of Stage of ground water extraction, GW Quality data for identification of poor quality area.	Central Ground Water Board, WCR, Ahmedabad and Gujarat Water Resources Development Corporation Ltd, Govt. of Gujarat
13	Data for Demarcation of Hilly Areas.	Hilly Area with slope less than 20% for Recharge.	BISAG, Gandhinagar

Long term10 years (2010-19), pre-monsoon (May) and post-monsoon (November) water level data of observation wells monitored by CGWB, WCR, Ahmedabad and GWRDC Ltd are considered for calculating estimating zone of dynamic fluctuation and Water Level Trend. Water level fluctuations between pre-monsoon and post-monsoon have been calculated for

hard rock and alluvial terrains separately. The average Pre-monsoon and Post Monsoon water Level and fluctuation is given in **Annexure IV**.

Due to insufficient/non availability of data the following components were not considered while estimating the dynamic resources

- Lateral inflow/outflow across boundaries: insufficient data points / Piezometers for determination of the parameters.
- Subsurface inflow/outflow from hydraulically connected streams: sufficient nos. of stream gauge stations is required for determination of the parameters which were not available.
- Evaporation and Transpiration: water level is more than 3.5 mbgl in most of the areas for which data was available. Hence the same was not taken into account.

Domestic draft and future allocation for domestic use and Industrial Draft

Ground water draft for domestic use has been estimated and projected based on taluka wise population. Population data of Census 2011 has been considered and has been projected till 2019 based on the annual growth rate of population as per Census 2011 data. The average consumption of 70 lpcd and load factor (Lg) as collected from Gujarat Water Supply and Sewerage Board and has been considered while estimating the domestic draft. Similarly future allocation for domestic use has been estimated up to 2025 based on projected population in 2025 using Census 2011 data.

Ground water draft for industrial use of 43 talukas ground water abstraction details provided by Gujarat Industrial Development Corporation has been considered for estimating the Industrial Draft. Remaining 205 assessment unit industrial draft considered as nil.

Irrigation Draft:

Taluka wise ground water extraction for irrigation was estimated based on the number of structures and the unit draft of different structures. As in the state of Gujarat, major irrigation draft is through energized wells, data of HP wise number of irrigation connections in each taluka, average ground water draft based on HP of pump used in alluvial and hard rock formation and duration of pumping were used for estimation the irrigation draft. As per data provided by GWRDC reduced Unit Draft Considered in 2020-GWRA for Patan, Mahesana, Gandhinagar and Banaskantha districts. The details of various structures and details of unit drafts considered for each taluka is given in **Table 1.**

4.2 Assessment Unit Area

The groundwater resource assessment of the state of Gujarat has been carried out taking taluka (administrative boundary) as assessment unit. In total there are thirty three (33) districts with 251 talukas. However for the ground water resources assessment purpose 248 assessment units have been considered. Ahmedabad city and Daskroi taluka, Surat city and Choryasi Taluka and Junagarh city and Junagarh Taluka were considered as single taluka each thus reducing the total no. of assessment talukas to 248 from 251. As per data provided by GWRDC for fresh area for Bhuj taluka decreased from 3233.6 Km^2 in 2017 to 1312.63 Km^2 in 2020. 13 talukas fall under Saline Talukas and hence resources are computed separately as "Poor Quality (Saline GW Resources) for these talukas. The details of ground water assessment units district wise is given as **Annexure-VI**.

4.3 Norms Followed in the Assessment GWRA 2020

The GEC 2015 recommends that the state agencies should be encouraged to conduct field studies for various norms and use such computed norms in the assessment. In absence of such computed norms by the field study, GEC 2015 suggests to use recommended norm values for assessment, unless

sufficient data based on field study are available to justify the minimum, maximum or other intermediate values.
Whereas specific yield values based on the field tests conducted by Gujarat Water Resources Development Corporation has been used in assessment, norms as suggested in GEC 2015 methodology like rainfall infiltration factor, canal seepage factor, factors for return flow from surface and ground water irrigation, recharge from water conservation structures, tanks and ponds etc, have been used.

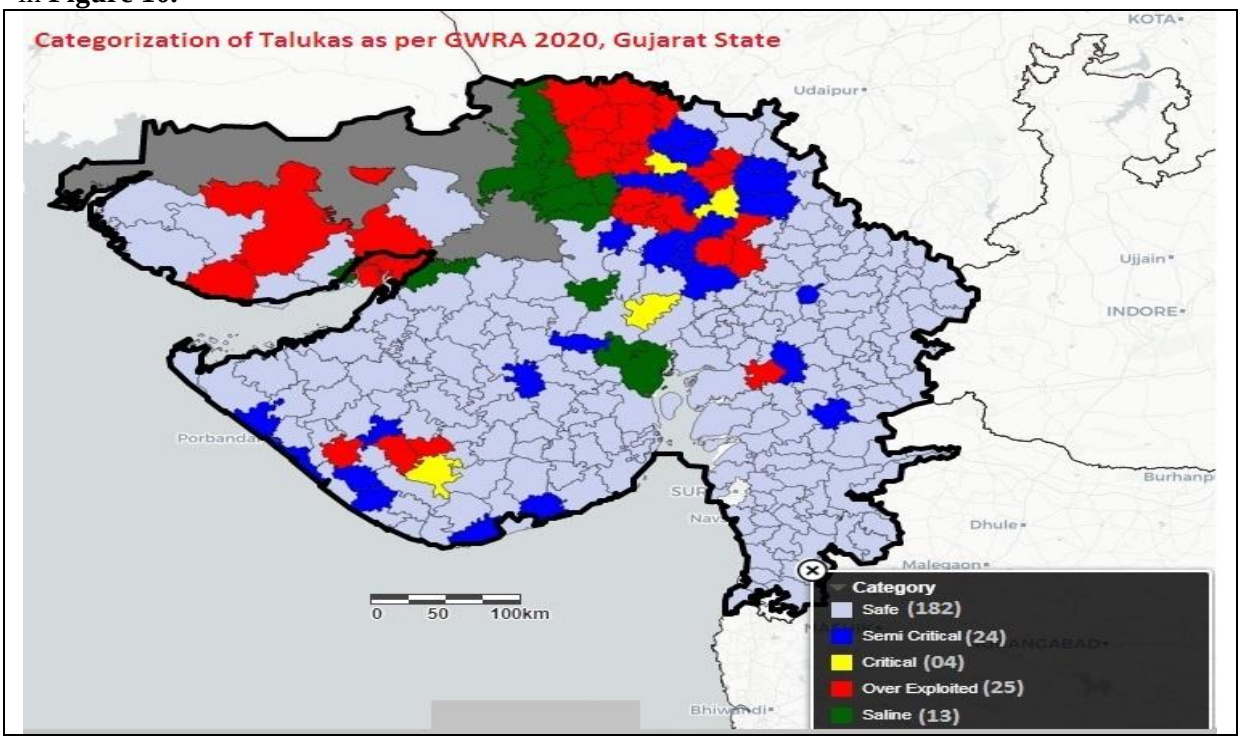
5. Dynamic Ground Water Resources

5.1 Ground water Potential

The district wise details of Ground Water Potential are given in **Annexure–I** & taluka-wise details of Ground Water Resources are given in **Annexure - II.** The Total Annual Ground Water Recharge (TAGWR) for Gujarat State is estimated to be 2680884.11 Ham/year and the Annual Extractable Ground Water Recharge (AEGWR) after deducting natural discharge is estimated to be 2490525.91 Ham/year. Ground water extraction for irrigation is estimated at 1265201.55 Ham/year whereas ground water extraction for Industrial and domestic Draft is estimated at 2628.93 Ham/year and 61799.16 Ham/year respectively. Thus the net ground water availability for future use is estimated to be 1252021.38 Ham/year. The Stage of Ground water Extraction in the State worked out to be 53.39 % as on March 2020.

5.2 Categorization of Talukas

For groundwater resources assessment units 248 (mostly talukas) in 33 district of the Gujarat State were considered. The General description of groundwater of 248 assessment units are given as **Annexure-III.** As per the Dynamic Ground Water Resources Assessment as on March 2020, **25 assessment units (talukas)** are categorized as **OVER-EXPLOITED**, **04** as **CRITICAL**, **24** as **SEMI-CRITICAL, 182 units** are categorized as **Safe.** There are **13 talukas** in **SALINE** category. The list of taluka falling under Over-Exploited, Critical, Semi-Critical, Safe and Saline categories are given as **Annexure-V & VI** and the same has been shown in **Figure 10.**



(Fig 10: Map showing Categorization of Talukas as per GWRA 2020, Gujarat)

6. Summary of findings of Report on Dynamic Ground Water Resources of Gujarat State as on 31st March 2020.

The Ground Water Resource Assessment of Gujarat State has been computed as per GEC-2015 Methodology. The administrative block has been taken as assessment unit and for computing the block wise ground water resources. The Resource Estimation has been done by IN-GRES Software.

The assessment of groundwater resources has been carried out Taluka-wise. Out of 248 assessment units (taluks), 25 units (10.08 %) have been categorized as 'Over- exploited', 4 units (1.61 %) as 'Critical', 24 units (9.68 %) as 'Semi-critical', 182 units (73.39 %) as 'Safe' and there are 13 units (5.24 %) as 'Saline' categories of assessment units.

S. No.	Total No. of Assessed Units	Safe		Semi-Critical		Critical		Over-Exploited		Saline	
		Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	248	182	73.39	24	9.68	4	1.61	25	10.08	13	5.24

Total Annual Ground Water Recharge of the Gujarat State has been assessed as 26.8 bcm and Annual Extractable Ground Water Resources as 24.91 bcm. The Annual Ground Water Extraction has been assessed as 13.30 bcm and Stage of Ground Water Extraction as 53.39 %.

State	Total Annual Ground Water Recharge	Total Natural Discharges	Annual Extractable Ground Water Resource	Total Annual Ground Water Extraction	Stage of Ground Water Extraction (%)
Gujarat	26.81 bcm	1.90 bcm	24.91 bcm	13.30 bcm	53.39

Total recharge worthy area for the Gujarat State is 158589.64 sq km. Out of which 20603.36 sq km (12.99 %) area are under 'Over-Exploited', 2603.39 sq km (1.64 %) under 'Critical', 14848.27 sq km (9.36 %) under 'Semi-critical', 111108.94 sq km (70.06 %) under 'Safe' and 9425.69 sq km (5.94 %) area under 'Saline' categories of assessment units. Similarly out of total 24905.26 mcm annual extractable ground water resources of the State, 2051.83 mcm (8.24 %) are under 'Over-exploited', 493.4 mcm (1.98 %) under 'Critical', 2564.8 mcm (10.3 %) under 'Semi-critical' and 19795.23 mcm (79.48 %) are under 'Safe' categories of assessment units. It has been observed that 22 blocks have shown change to higher category owing to increased ground water draft for irrigation and other uses. 16 blocks have shown change to lower category due to increase replenishble recharge, reduction in draft.

As compared to 2017 assessment, Total Annual Ground Water Recharge has increased from 22.37 bcm to 26.81 bcm and Annual Extractable Ground Water Resource has increased from 21.25 to 24.91 bcm. The increase in recharge can be attributed to recharge from surface water irrigation through Narmada canal. The Annual Ground Water Extraction has decreased from 13.58 to 13.30 bcm. As compared to 2017 assessment, the Total Annual Ground Water Recharge and Annual Extractable Ground Water Resources have increased significantly and the Annual Ground Water Extraction marginally decreased. Hence, the Stage of Ground Water Extraction has decreased from 63.89 % to 53.39 %.

Annual Ground Water Extraction Comparison				
Year of Assessment	Ground Water Extraction for Irrigation Use (Bcm)	Ground Water Extraction for Industrial Use (Bcm)	Ground Water Extraction for Domestic Use (Bcm)	Total (Bcm)
GWRA-2017	12.84	0.11	0.63	13.58
GWRA-2020	12.65	0.03	0.62	13.30

Annual Ground Water Recharge Comparison					Total (Bcm)
Year of Assessment	Monsoon Season		Non-monsoon season		
	Recharge from Rainfall (Bcm)	Recharge from Other Sources (Bcm)	Recharge from Rainfall (Bcm)	Recharge from Other Sources (Bcm)	
GWRA-2017	15.95	3.4	0	3.02	22.37
GWRA-2020	19.59	2.89	0	4.32	26.8

Dynamic Ground Water Resources of Gujarat a comparison 2017 vs. 2020			
Sl No		GWRE 2017 (values in BCM)	GWRA 2020 (values in BCM)
1	Annual Replenishable Ground Water Resources	22.37	26.81
2	Natural Discharge During non-monsoon Season	1.12	1.90
3	Annual Extractable Ground Water Recharge	21.25	24.91
4	Current Annual Ground Water Extraction	13.58	13.30
5	Stage of Ground Water Extraction (%)	63.89	53.39
6	Total no of Assessment Units	248	248
7	Categorization	OE- 25 Critical-05 Semi-Critical-11 Safe-194 Saline-13	OE- 25 Critical-04 Semi- Critical-24 Safe-182 Saline-13

7. RECOMMENDATIONS

1. It has been felt that the unit draft from different structures needs to be updated due to change in the hydraulic conditions of the aquifer mainly, saturated column, Specific yield and season wise hours of pumping. For this purpose sample survey may be carried out by the State Department i.e. GWRDC Ltd., for updating the vital inputs in the draft component of computation.

2. There is a need to carry out separate assessment for the Unconfined and the Confined aquifers for proper booking of the draft in the areas where water level is very deep and no such bifurcation based on the depth of tube wells is not available.

3. Utilization of Groundwater Resources should be reduced by aggressive adoption of water efficient technologies like micro Irrigation Practices viz. Drip/Sprinkler irrigation and precision irrigation through soil moisture detection probes.

4. In view of the progressively increasing ground water draft it is essential that the wells/tube wells are fitted with measuring devices for precise estimation of the draft.

5. Further strengthening of the observation network is required in for precise assessment of Ground water Resources.

6. It is also essential that State Ground Water Authority for management, regulation and conservation for sustainable development of ground water resources is established urgently. This will require suitable institutional strengthening and capacity building for scientifically informed management of the groundwater resources on equitable and economical basis.

7. For sustainable development water security plans and water budgeting for each constituent unit needs to be carried out through micro level hydrogeological surveys.

8. Looking to the progressive increase in the ground water draft, measures are required to be taken to suitably augment the recharge in such areas with focus on deeper aquifers. For this purpose feasibility of diverting some of the canal water to overexploited aquifers deserves attention.

9. With the progressively increasing availability of surface water from the SSNNL Canals, conjunctive utilization with available ground water resources may be considered for holistic development of the water resources.

Table 1: Details of Ground Water Extraction structures used for irrigation along with Block wise Unit Draft (2020)

S.No	District	Assessment Unit	Type of Structure	No. of wells in assessment year	Estimated draft per well (ha.m)	
					Monsoon	Non-Monsoon
1	AHMEDABAD	AHMEDABAD CITY & DAS	Wells with Ele.Motors 15 to 30 HP	2538	0.8	3.2
		AHMEDABAD CITY & DAS	Wells with Ele.Motors upto 7.5 HP	415	0.2	0.8
		AHMEDABAD CITY & DAS	Wells with Ele.Motors more than 30 HP	839	1.6	6.4
		AHMEDABAD CITY & DAS	Wells with Ele.Motors 7.5 to 15 HP	972	0.4	1.6
		BAVLA	Wells with Ele.Motors 15 to 30 HP	886	1	4
		BAVLA	Wells with Ele.Motors upto 7.5 HP	1121	0.16	0.64
		BAVLA	Wells with Ele.Motors more than 30 HP	318	1.4	5.6
		BAVLA	Wells with Ele.Motors 7.5 to 15 HP	856	0.4	1.6
		DETROJ-RAMPURA	Wells with Ele.Motors 15 to 30 HP	48	0.6	2.4
		DETROJ-RAMPURA	Wells with Ele.Motors upto 7.5 HP	28	0.16	0.64
		DETROJ-RAMPURA	Wells with Ele.Motors more than 30 HP	366	1	4
		DETROJ-RAMPURA	Wells with Ele.Motors 7.5 to 15 HP	55	0.3	1.2
		DHOLERA	Wells with Ele.Motors 15 to 30 HP	0	0	0
		DHOLERA	Wells with Ele.Motors upto 7.5 HP	0	0.2	0.8
		DHOLERA	Wells with Ele.Motors more than 30 HP	0	0.9	3.6
		DHOLERA	Wells with Ele.Motors 7.5 to 15 HP	0	0	0
		DHOLKA	Wells with Ele.Motors 15 to 30 HP	728	0.6	2.4
		DHOLKA	Wells with Ele.Motors upto 7.5 HP	703	0.16	0.64
		DHOLKA	Wells with Ele.Motors more than 30 HP	146	1	4
		DHOLKA	Wells with Ele.Motors 7.5 to 15 HP	985	0.4	1.6
		MANDAL	Wells with Ele.Motors 15 to 30 HP	80	1.6	6.4
		MANDAL	Wells with Ele.Motors upto 7.5 HP	78	0.2	0.8
		MANDAL	Wells with Ele.Motors more than 30 HP	267	1.7	6.8
		MANDAL	Wells with Ele.Motors 7.5 to 15 HP	55	0.4	1.6
		SANAND	Wells with Ele.Motors 15 to 30 HP	415	1	4
		SANAND	Wells with Ele.Motors upto 7.5 HP	591	0.2	0.8
		SANAND	Wells with Ele.Motors more than 30 HP	325	1.2	4.8
		SANAND	Wells with Ele.Motors 7.5 to 15 HP	678	0.5	2
		VIRAMGAM	Wells with Ele.Motors 15 to 30 HP	40	0.8	3.2
		VIRAMGAM	Wells with Ele.Motors upto 7.5 HP	192	0.2	0.8
		VIRAMGAM	Wells with Ele.Motors more than 30 HP	82	1.2	4.8
		VIRAMGAM	Wells with Ele.Motors 7.5 to 15 HP	86	0.4	1.6
2	AMRELI	AMRELI	Wells with Ele.Motors 15 to 30 HP	1018	0.3	1.2
		AMRELI	Wells with Ele.Motors upto 7.5 HP	9854	0.12	0.48
		AMRELI	Wells with Ele.Motors more than 30 HP	46	0.4	1.6
		AMRELI	Wells with Ele.Motors 7.5 to 15 HP	4825	0.18	0.72
		BABRA	Wells with Ele.Motors 15 to 30 HP	816	0.3	1.2
		BABRA	Wells with Ele.Motors upto 7.5 HP	14162	0.12	0.48

		BABRA	Wells with Ele.Motors more than 30 HP	13	0.4	1.6
		BABRA	Wells with Ele.Motors 7.5 to 15 HP	4189	0.16	0.64
		BAGASARA	Wells with Ele.Motors 15 to 30 HP	1130	0.2	0.8
		BAGASARA	Wells with Ele.Motors upto 7.5 HP	4655	0.1	0.4
		BAGASARA	Wells with Ele.Motors more than 30 HP	100	0.4	1.6
		BAGASARA	Wells with Ele.Motors 7.5 to 15 HP	2197	0.14	0.56
		DHARI	Wells with Ele.Motors 15 to 30 HP	2761	0.24	0.96
		DHARI	Wells with Ele.Motors upto 7.5 HP	5562	0.12	0.48
		DHARI	Wells with Ele.Motors more than 30 HP	233	0.4	1.6
		DHARI	Wells with Ele.Motors 7.5 to 15 HP	5842	0.16	0.64
		JAFRABAD	Wells with Ele.Motors 15 to 30 HP	2	0	0
		JAFRABAD	Wells with Ele.Motors upto 7.5 HP	3700	0.12	0.48
		JAFRABAD	Wells with Ele.Motors more than 30 HP	0	0	0
		JAFRABAD	Wells with Ele.Motors 7.5 to 15 HP	101	0.2	0.8
		KHAMBHA	Wells with Ele.Motors 15 to 30 HP	105	0.3	1.2
		KHAMBHA	Wells with Ele.Motors upto 7.5 HP	7779	0.12	0.48
		KHAMBHA	Wells with Ele.Motors more than 30 HP	4	0.4	1.6
		KHAMBHA	Wells with Ele.Motors 7.5 to 15 HP	963	0.2	0.8
		KUNKAVAV VADIA	Wells with Ele.Motors 15 to 30 HP	1590	0.3	1.2
		KUNKAVAV VADIA	Wells with Ele.Motors upto 7.5 HP	9739	0.12	0.48
		KUNKAVAV VADIA	Wells with Ele.Motors more than 30 HP	111	0.4	1.6
		KUNKAVAV VADIA	Wells with Ele.Motors 7.5 to 15 HP	3873	0.2	0.8
		LATHI	Wells with Ele.Motors 15 to 30 HP	339	0.2	0.8
		LATHI	Wells with Ele.Motors upto 7.5 HP	10278	0.1	0.4
		LATHI	Wells with Ele.Motors more than 30 HP	7	0.4	1.6
		LATHI	Wells with Ele.Motors 7.5 to 15 HP	3425	0.16	0.64
		LILIA	Wells with Ele.Motors 15 to 30 HP	84	0.3	1.2
		LILIA	Wells with Ele.Motors upto 7.5 HP	3584	0.14	0.56
		LILIA	Wells with Ele.Motors more than 30 HP	2	0.4	1.6
		LILIA	Wells with Ele.Motors 7.5 to 15 HP	1062	0.2	0.8
		RAJULA	Wells with Ele.Motors 15 to 30 HP	448	0.3	1.2
		RAJULA	Wells with Ele.Motors upto 7.5 HP	5705	0.1	0.4
		RAJULA	Wells with Ele.Motors more than 30 HP	19	0.4	1.6
		RAJULA	Wells with Ele.Motors 7.5 to 15 HP	1620	0.16	0.64
		SAVAR KUNDLA	Wells with Ele.Motors 15 to 30 HP	1590	0.3	1.2
		SAVAR KUNDLA	Wells with Ele.Motors upto 7.5 HP	9739	0.14	0.56
		SAVAR KUNDLA	Wells with Ele.Motors more than 30 HP	111	0.4	1.6
		SAVAR KUNDLA	Wells with Ele.Motors 7.5 to 15 HP	3873	0.24	0.96
3	ANAND	ANAND	Wells with Ele.Motors 15 to 30 HP	861	0.4	1.6
		ANAND	Wells with Ele.Motors upto 7.5 HP	754	0.16	0.64
		ANAND	Wells with Ele.Motors more than 30 HP	47	0.6	2.4
		ANAND	Wells with Ele.Motors 7.5 to 15 HP	3046	0.2	0.8
		ANKLAV	Wells with Ele.Motors 15 to 30 HP	1281	0.3	1.2
		ANKLAV	Wells with Ele.Motors upto 7.5 HP	105	0.16	0.64

		ANKLAV	Wells with Ele.Motors more than 30 HP	50	0.6	2.4
		ANKLAV	Wells with Ele.Motors 7.5 to 15 HP	981	0.2	0.8
		BORSAD	Wells with Ele.Motors 15 to 30 HP	1332	0.4	1.6
		BORSAD	Wells with Ele.Motors upto 7.5 HP	100	0.16	0.64
		BORSAD	Wells with Ele.Motors more than 30 HP	60	0.6	2.4
		BORSAD	Wells with Ele.Motors 7.5 to 15 HP	1752	0.2	0.8
		KHAMBHAT	Wells with Ele.Motors 15 to 30 HP	840	0.6	2.4
		KHAMBHAT	Wells with Ele.Motors upto 7.5 HP	14	0.16	0.64
		KHAMBHAT	Wells with Ele.Motors more than 30 HP	21	1	4
		KHAMBHAT	Wells with Ele.Motors 7.5 to 15 HP	448	0.2	0.8
		PETLAD	Wells with Ele.Motors 15 to 30 HP	790	0.4	1.6
		PETLAD	Wells with Ele.Motors upto 7.5 HP	378	0.16	0.64
		PETLAD	Wells with Ele.Motors more than 30 HP	433	0.6	2.4
		PETLAD	Wells with Ele.Motors 7.5 to 15 HP	1146	0.2	0.8
		SOJITRA	Wells with Ele.Motors 15 to 30 HP	142	0.4	1.6
		SOJITRA	Wells with Ele.Motors upto 7.5 HP	527	0.16	0.64
		SOJITRA	Wells with Ele.Motors more than 30 HP	667	0.6	2.4
		SOJITRA	Wells with Ele.Motors 7.5 to 15 HP	834	0.2	0.8
		TARAPUR	Wells with Ele.Motors 15 to 30 HP	11	0.4	1.6
		TARAPUR	Wells with Ele.Motors upto 7.5 HP	93	0.16	0.64
		TARAPUR	Wells with Ele.Motors more than 30 HP	0	0	0
		TARAPUR	Wells with Ele.Motors 7.5 to 15 HP	144	0.2	0.8
		UMRETH	Wells with Ele.Motors 15 to 30 HP	268	0.4	1.6
		UMRETH	Wells with Ele.Motors upto 7.5 HP	1224	0.16	0.64
		UMRETH	Wells with Ele.Motors more than 30 HP	3	0.6	2.4
		UMRETH	Wells with Ele.Motors 7.5 to 15 HP	1752	0.2	0.8
4	ARVALLI	BAYAD	Wells with Ele.Motors 15 to 30 HP	454	0.24	0.96
		BAYAD	Wells with Ele.Motors upto 7.5 HP	9630	0.1	0.4
		BAYAD	Wells with Ele.Motors more than 30 HP	50	0.4	1.6
		BAYAD	Wells with Ele.Motors 7.5 to 15 HP	2758	0.2	0.8
		BHILODA	Wells with Ele.Motors 15 to 30 HP	51	0.24	0.96
		BHILODA	Wells with Ele.Motors upto 7.5 HP	20590	0.1	0.4
		BHILODA	Wells with Ele.Motors more than 30 HP	4	0.4	1.6
		BHILODA	Wells with Ele.Motors 7.5 to 15 HP	1236	0.16	0.64
		DHANSURA	Wells with Ele.Motors 15 to 30 HP	192	0.24	0.96
		DHANSURA	Wells with Ele.Motors upto 7.5 HP	5881	0.1	0.4
		DHANSURA	Wells with Ele.Motors more than 30 HP	12	0.4	1.6
		DHANSURA	Wells with Ele.Motors 7.5 to 15 HP	1244	0.16	0.64
		MALPUR	Wells with Ele.Motors 15 to 30 HP	23	0.24	0.96
		MALPUR	Wells with Ele.Motors upto 7.5 HP	7088	0.1	0.4
		MALPUR	Wells with Ele.Motors more than 30 HP	2	0.4	1.6
		MALPUR	Wells with Ele.Motors 7.5 to 15 HP	477	0.16	0.64
		MEGHRAJ	Wells with Ele.Motors 15 to 30 HP	64	0.24	0.96
		MEGHRAJ	Wells with Ele.Motors upto 7.5 HP	11562	0.1	0.4

		MEGHRAJ	Wells with Ele.Motors more than 30 HP	3	0.4	1.6
		MEGHRAJ	Wells with Ele.Motors 7.5 to 15 HP	525	0.16	0.64
		MODASA	Wells with Ele.Motors 15 to 30 HP	40	0.24	0.96
		MODASA	Wells with Ele.Motors upto 7.5 HP	10955	0.1	0.4
		MODASA	Wells with Ele.Motors more than 30 HP	3	0.4	1.6
		MODASA	Wells with Ele.Motors 7.5 to 15 HP	863	0.16	0.64
5	BANASKANTHA	AMIRGADH	Wells with Ele.Motors 15 to 30 HP	257	0.3	1.2
		AMIRGADH	Wells with Ele.Motors upto 7.5 HP	3468	0.12	0.48
		AMIRGADH	Wells with Ele.Motors more than 30 HP	19	0.32	1.28
		AMIRGADH	Wells with Ele.Motors 7.5 to 15 HP	1534	0.2	0.8
		BHABHAR	Wells with Ele.Motors 15 to 30 HP	1133	0.3	1.2
		BHABHAR	Wells with Ele.Motors upto 7.5 HP	39	0.16	0.64
		BHABHAR	Wells with Ele.Motors more than 30 HP	1514	0.28	1.12
		BHABHAR	Wells with Ele.Motors 7.5 to 15 HP	433	0.2	0.8
		DANTA	Wells with Ele.Motors 15 to 30 HP	29	0.4	1.6
		DANTA	Wells with Ele.Motors upto 7.5 HP	7000	0.12	0.48
		DANTA	Wells with Ele.Motors more than 30 HP	0	0.48	1.92
		DANTA	Wells with Ele.Motors 7.5 to 15 HP	1221	0.2	0.8
		DANTIWADA	Wells with Ele.Motors 15 to 30 HP	1911	0.3	1.2
		DANTIWADA	Wells with Ele.Motors upto 7.5 HP	1890	0.1	0.4
		DANTIWADA	Wells with Ele.Motors more than 30 HP	135	0.32	1.28
		DANTIWADA	Wells with Ele.Motors 7.5 to 15 HP	6315	0.2	0.8
		DEESA	Wells with Ele.Motors 15 to 30 HP	6063	0.4	1.6
		DEESA	Wells with Ele.Motors upto 7.5 HP	286	0.12	0.48
		DEESA	Wells with Ele.Motors more than 30 HP	11363	0.49	1.96
		DEESA	Wells with Ele.Motors 7.5 to 15 HP	1248	0.2	0.8
		DEODAR	Wells with Ele.Motors 15 to 30 HP	26	0.3	1.2
		DEODAR	Wells with Ele.Motors upto 7.5 HP	8	0.14	0.56
		DEODAR	Wells with Ele.Motors more than 30 HP	5749	0.35	1.4
		DEODAR	Wells with Ele.Motors 7.5 to 15 HP	0	0.2	0.8
		DHANERA	Wells with Ele.Motors 15 to 30 HP	11045	0.4	1.6
		DHANERA	Wells with Ele.Motors upto 7.5 HP	334	0.1	0.4
		DHANERA	Wells with Ele.Motors more than 30 HP	3749	0.35	1.4
		DHANERA	Wells with Ele.Motors 7.5 to 15 HP	2749	0.2	0.8
		KANKREJ	Wells with Ele.Motors 15 to 30 HP	161	0.3	1.2
		KANKREJ	Wells with Ele.Motors upto 7.5 HP	175	0.1	0.4
		KANKREJ	Wells with Ele.Motors more than 30 HP	3260	0.49	1.96
		KANKREJ	Wells with Ele.Motors 7.5 to 15 HP	271	0.16	0.64
		LAKHANI	Wells with Ele.Motors 15 to 30 HP	3987	0.3	1.2
		LAKHANI	Wells with Ele.Motors upto 7.5 HP	49	0.12	0.48
		LAKHANI	Wells with Ele.Motors more than 30 HP	6545	0.35	1.4
		LAKHANI	Wells with Ele.Motors 7.5 to 15 HP	113	0.16	0.64
		PALANPUR	Wells with Ele.Motors 15 to 30 HP	2024	0.3	1.2
		PALANPUR	Wells with Ele.Motors upto 7.5 HP	5340	0.12	0.48

		PALANPUR	Wells with Ele.Motors more than 30 HP	2707	0.42	1.68
		PALANPUR	Wells with Ele.Motors 7.5 to 15 HP	5962	0.2	0.8
		SUIGAM	Wells with Ele.Motors 15 to 30 HP	85	0.6	2.4
		SUIGAM	Wells with Ele.Motors upto 7.5 HP	524	0.16	0.64
		SUIGAM	Wells with Ele.Motors more than 30 HP	77	0.8	3.2
		SUIGAM	Wells with Ele.Motors 7.5 to 15 HP	138	0.2	0.8
		THARAD	Wells with Ele.Motors 15 to 30 HP	1125	0.5	2
		THARAD	Wells with Ele.Motors upto 7.5 HP	11	0.14	0.56
		THARAD	Wells with Ele.Motors more than 30 HP	796	0.56	2.24
		THARAD	Wells with Ele.Motors 7.5 to 15 HP	50	0.24	0.96
		VADGAM	Wells with Ele.Motors 15 to 30 HP	1847	0.3	1.2
		VADGAM	Wells with Ele.Motors upto 7.5 HP	4402	0.1	0.4
		VADGAM	Wells with Ele.Motors more than 30 HP	567	0.35	1.4
		VADGAM	Wells with Ele.Motors 7.5 to 15 HP	4880	0.16	0.64
		VAV	Wells with Ele.Motors 15 to 30 HP	438	0.6	2.4
		VAV	Wells with Ele.Motors upto 7.5 HP	1239	0.16	0.64
		VAV	Wells with Ele.Motors more than 30 HP	364	0.8	3.2
		VAV	Wells with Ele.Motors 7.5 to 15 HP	383	0.2	0.8
6	BHARUCH	AMOD	Wells with Ele.Motors 15 to 30 HP	224	0.6	2.4
		AMOD	Wells with Ele.Motors upto 7.5 HP	146	0.12	0.48
		AMOD	Wells with Ele.Motors more than 30 HP	11	0.8	3.2
		AMOD	Wells with Ele.Motors 7.5 to 15 HP	1186	0.3	1.2
		ANKLESVAR	Wells with Ele.Motors 15 to 30 HP	29	0.6	2.4
		ANKLESVAR	Wells with Ele.Motors upto 7.5 HP	1952	0.12	0.48
		ANKLESVAR	Wells with Ele.Motors more than 30 HP	3	0.8	3.2
		ANKLESVAR	Wells with Ele.Motors 7.5 to 15 HP	315	0.3	1.2
		BHARUCH	Wells with Ele.Motors 15 to 30 HP	403	0.5	2
		BHARUCH	Wells with Ele.Motors upto 7.5 HP	982	0.12	0.48
		BHARUCH	Wells with Ele.Motors more than 30 HP	63	0.8	3.2
		BHARUCH	Wells with Ele.Motors 7.5 to 15 HP	1433	0.2	0.8
		HANSOT	Wells with Ele.Motors 15 to 30 HP	0	0.4	1.6
		HANSOT	Wells with Ele.Motors upto 7.5 HP	217	0.16	0.64
		HANSOT	Wells with Ele.Motors more than 30 HP	0	0	0
		HANSOT	Wells with Ele.Motors 7.5 to 15 HP	6	0.3	1.2
		JAMBUSAR	Wells with Ele.Motors 15 to 30 HP	23	0.3	1.2
		JAMBUSAR	Wells with Ele.Motors upto 7.5 HP	13	0.12	0.48
		JAMBUSAR	Wells with Ele.Motors more than 30 HP	1	0.4	1.6
		JAMBUSAR	Wells with Ele.Motors 7.5 to 15 HP	111	0.2	0.8
		JHAGADIA	Wells with Ele.Motors 15 to 30 HP	628	0.3	1.2
		JHAGADIA	Wells with Ele.Motors upto 7.5 HP	2638	0.12	0.48
		JHAGADIA	Wells with Ele.Motors more than 30 HP	46	0.4	1.6
		JHAGADIA	Wells with Ele.Motors 7.5 to 15 HP	3713	0.16	0.64
		NETRANG	Wells with Ele.Motors 15 to 30 HP	89	0.2	0.8
		NETRANG	Wells with Ele.Motors upto 7.5 HP	1032	0.1	0.4

		NETRANG	Wells with Ele.Motors more than 30 HP	4	0	0
		NETRANG	Wells with Ele.Motors 7.5 to 15 HP	555	0.16	0.64
		VAGRA	Wells with Ele.Motors 15 to 30 HP	0	0.4	1.6
		VAGRA	Wells with Ele.Motors upto 7.5 HP	224	0.12	0.48
		VAGRA	Wells with Ele.Motors more than 30 HP	0	0	0
		VAGRA	Wells with Ele.Motors 7.5 to 15 HP	0	0.3	1.2
		VALIA	Wells with Ele.Motors 15 to 30 HP	215	0.4	1.6
		VALIA	Wells with Ele.Motors upto 7.5 HP	3458	0.12	0.48
		VALIA	Wells with Ele.Motors more than 30 HP	15	0.5	2
		VALIA	Wells with Ele.Motors 7.5 to 15 HP	1288	0.3	1.2
7	BHAVNAGAR	BHAVNAGAR	Wells with Ele.Motors 15 to 30 HP	190	0.2	0.8
		BHAVNAGAR	Wells with Ele.Motors upto 7.5 HP	2749	0.08	0.32
		BHAVNAGAR	Wells with Ele.Motors more than 30 HP	14	0.3	1.2
		BHAVNAGAR	Wells with Ele.Motors 7.5 to 15 HP	1249	0.14	0.56
		GARIADHAR	Wells with Ele.Motors 15 to 30 HP	36	0.2	0.8
		GARIADHAR	Wells with Ele.Motors upto 7.5 HP	8491	0.08	0.32
		GARIADHAR	Wells with Ele.Motors more than 30 HP	0	0.3	1.2
		GARIADHAR	Wells with Ele.Motors 7.5 to 15 HP	1391	0.12	0.48
		GHOGHA	Wells with Ele.Motors 15 to 30 HP	55	0.2	0.8
		GHOGHA	Wells with Ele.Motors upto 7.5 HP	6958	0.08	0.32
		GHOGHA	Wells with Ele.Motors more than 30 HP	1	0	0
		GHOGHA	Wells with Ele.Motors 7.5 to 15 HP	687	0.14	0.56
		JESAR	Wells with Ele.Motors 15 to 30 HP	311	0.2	0.8
		JESAR	Wells with Ele.Motors upto 7.5 HP	3761	0.08	0.32
		JESAR	Wells with Ele.Motors more than 30 HP	9	0.3	1.2
		JESAR	Wells with Ele.Motors 7.5 to 15 HP	1727	0.14	0.56
		MAHUVA	Wells with Ele.Motors 15 to 30 HP	607	0.16	0.64
		MAHUVA	Wells with Ele.Motors upto 7.5 HP	17650	0.08	0.32
		MAHUVA	Wells with Ele.Motors more than 30 HP	10	0	0
		MAHUVA	Wells with Ele.Motors 7.5 to 15 HP	2738	0.12	0.48
		PALITANA	Wells with Ele.Motors 15 to 30 HP	83	0.2	0.8
		PALITANA	Wells with Ele.Motors upto 7.5 HP	9799	0.12	0.48
		PALITANA	Wells with Ele.Motors more than 30 HP	5	0.4	1.6
		PALITANA	Wells with Ele.Motors 7.5 to 15 HP	1376	0.16	0.64
		SIHOR	Wells with Ele.Motors 15 to 30 HP	786	0.2	0.8
		SIHOR	Wells with Ele.Motors upto 7.5 HP	9276	0.1	0.4
		SIHOR	Wells with Ele.Motors more than 30 HP	33	0.3	1.2
		SIHOR	Wells with Ele.Motors 7.5 to 15 HP	3016	0.14	0.56
		TALAJA	Wells with Ele.Motors 15 to 30 HP	80	0.16	0.64
		TALAJA	Wells with Ele.Motors upto 7.5 HP	23289	0.08	0.32
		TALAJA	Wells with Ele.Motors more than 30 HP	0	0	0
		TALAJA	Wells with Ele.Motors 7.5 to 15 HP	842	0.12	0.48
		UMRALA	Wells with Ele.Motors 15 to 30 HP	82	0.2	0.8
		UMRALA	Wells with Ele.Motors upto 7.5 HP	6274	0.12	0.48

		UMRALA	Wells with Ele.Motors more than 30 HP	2	0.3	1.2
		UMRALA	Wells with Ele.Motors 7.5 to 15 HP	849	0.14	0.56
		VALLABHIPUR	Wells with Ele.Motors 15 to 30 HP	46	0.2	0.8
		VALLABHIPUR	Wells with Ele.Motors upto 7.5 HP	3578	0.08	0.32
		VALLABHIPUR	Wells with Ele.Motors more than 30 HP	0	0.3	1.2
		VALLABHIPUR	Wells with Ele.Motors 7.5 to 15 HP	380	0.14	0.56
8	BOTAD	BARWALA	Wells with Ele.Motors 15 to 30 HP	42	0.3	1.2
		BARWALA	Wells with Ele.Motors upto 7.5 HP	1158	0.12	0.48
		BARWALA	Wells with Ele.Motors more than 30 HP	7	0.4	1.6
		BARWALA	Wells with Ele.Motors 7.5 to 15 HP	272	0.16	0.64
		BOTAD	Wells with Ele.Motors 15 to 30 HP	278	0.2	0.8
		BOTAD	Wells with Ele.Motors upto 7.5 HP	15621	0.1	0.4
		BOTAD	Wells with Ele.Motors more than 30 HP	5	0.3	1.2
		BOTAD	Wells with Ele.Motors 7.5 to 15 HP	3423	0.14	0.56
		GADHADA	Wells with Ele.Motors 15 to 30 HP	249	0.2	0.8
		GADHADA	Wells with Ele.Motors upto 7.5 HP	17782	0.1	0.4
		GADHADA	Wells with Ele.Motors more than 30 HP	5	0.3	1.2
		GADHADA	Wells with Ele.Motors 7.5 to 15 HP	3311	0.16	0.64
		RANPUR	Wells with Ele.Motors 15 to 30 HP	96	0.3	1.2
		RANPUR	Wells with Ele.Motors upto 7.5 HP	7381	0.12	0.48
		RANPUR	Wells with Ele.Motors more than 30 HP	3	0	0
		RANPUR	Wells with Ele.Motors 7.5 to 15 HP	1189	0.16	0.64
9	CHHOTA UDEPUR	BODELI	Wells with Ele.Motors 15 to 30 HP	21	0.2	0.8
		BODELI	Wells with Ele.Motors upto 7.5 HP	2923	0.1	0.4
		BODELI	Wells with Ele.Motors more than 30 HP	2	0.4	1.6
		BODELI	Wells with Ele.Motors 7.5 to 15 HP	502	0.16	0.64
		CHHOTA UDAIPUR	Wells with Ele.Motors 15 to 30 HP	2	0.3	1.2
		CHHOTA UDAIPUR	Wells with Ele.Motors upto 7.5 HP	7026	0.12	0.48
		CHHOTA UDAIPUR	Wells with Ele.Motors more than 30 HP	1	0	0
		CHHOTA UDAIPUR	Wells with Ele.Motors 7.5 to 15 HP	120	0.2	0.8
		JETPUR PAVI	Wells with Ele.Motors 15 to 30 HP	20	0.3	1.2
		JETPUR PAVI	Wells with Ele.Motors upto 7.5 HP	9254	0.14	0.56
		JETPUR PAVI	Wells with Ele.Motors more than 30 HP	0	0.4	1.6
		JETPUR PAVI	Wells with Ele.Motors 7.5 to 15 HP	480	0.2	0.8
		KAVANT	Wells with Ele.Motors 15 to 30 HP	58	0.3	1.2
		KAVANT	Wells with Ele.Motors upto 7.5 HP	4837	0.12	0.48
		KAVANT	Wells with Ele.Motors more than 30 HP	0	0	0
		KAVANT	Wells with Ele.Motors 7.5 to 15 HP	1481	0.2	0.8
		NASVADI	Wells with Ele.Motors 15 to 30 HP	33	0.2	0.8
		NASVADI	Wells with Ele.Motors upto 7.5 HP	2831	0.1	0.4
		NASVADI	Wells with Ele.Motors more than 30 HP	0	0.3	1.2
		NASVADI	Wells with Ele.Motors 7.5 to 15 HP	1040	0.16	0.64
		SANKHEDA	Wells with Ele.Motors 15 to 30 HP	154	0.3	1.2
		SANKHEDA	Wells with Ele.Motors upto 7.5 HP	1794	0.14	0.56

		SANKHEDA	Wells with Ele.Motors more than 30 HP	6	0.4	1.6
		SANKHEDA	Wells with Ele.Motors 7.5 to 15 HP	1814	0.2	0.8
10	DAHOD	DAHOD	Wells with Ele.Motors 15 to 30 HP	14	0	0
		DAHOD	Wells with Ele.Motors upto 7.5 HP	1815	0.1	0.4
		DAHOD	Wells with Ele.Motors more than 30 HP	28	0	0
		DAHOD	Wells with Ele.Motors 7.5 to 15 HP	277	0.16	0.64
		DEVGADH BARIA	Wells with Ele.Motors 15 to 30 HP	9	0	0
		DEVGADH BARIA	Wells with Ele.Motors upto 7.5 HP	4686	0.1	0.4
		DEVGADH BARIA	Wells with Ele.Motors more than 30 HP	12	0	0
		DEVGADH BARIA	Wells with Ele.Motors 7.5 to 15 HP	10	0.16	0.64
		DHANPUR	Wells with Ele.Motors 15 to 30 HP	4	0	0
		DHANPUR	Wells with Ele.Motors upto 7.5 HP	1621	0.1	0.4
		DHANPUR	Wells with Ele.Motors more than 30 HP	13	0	0
		DHANPUR	Wells with Ele.Motors 7.5 to 15 HP	7	0.16	0.64
		FATEPURA	Wells with Ele.Motors 15 to 30 HP	3	0	0
		FATEPURA	Wells with Ele.Motors upto 7.5 HP	3504	0.1	0.4
		FATEPURA	Wells with Ele.Motors more than 30 HP	4	0	0
		FATEPURA	Wells with Ele.Motors 7.5 to 15 HP	6	0.16	0.64
		GARBADA	Wells with Ele.Motors 15 to 30 HP	0	0	0
		GARBADA	Wells with Ele.Motors upto 7.5 HP	1042	0.1	0.4
		GARBADA	Wells with Ele.Motors more than 30 HP	4	0	0
		GARBADA	Wells with Ele.Motors 7.5 to 15 HP	14	0.16	0.64
		LIMKHEDA	Wells with Ele.Motors 15 to 30 HP	4	0	0
		LIMKHEDA	Wells with Ele.Motors upto 7.5 HP	2906	0.1	0.4
		LIMKHEDA	Wells with Ele.Motors more than 30 HP	4	0	0
		LIMKHEDA	Wells with Ele.Motors 7.5 to 15 HP	8	0.16	0.64
		SANJELI	Wells with Ele.Motors 15 to 30 HP	0	0	0
		SANJELI	Wells with Ele.Motors upto 7.5 HP	1740	0.1	0.4
		SANJELI	Wells with Ele.Motors more than 30 HP	0	0	0
		SANJELI	Wells with Ele.Motors 7.5 to 15 HP	1	0.16	0.64
		SINGVAD	Wells with Ele.Motors 15 to 30 HP	2	0	0
		SINGVAD	Wells with Ele.Motors upto 7.5 HP	1630	0.1	0.4
		SINGVAD	Wells with Ele.Motors more than 30 HP	4	0	0
		SINGVAD	Wells with Ele.Motors 7.5 to 15 HP	4	0.16	0.64
		ZALOD	Wells with Ele.Motors 15 to 30 HP	21	0	0
		ZALOD	Wells with Ele.Motors upto 7.5 HP	1075	0.1	0.4
		ZALOD	Wells with Ele.Motors more than 30 HP	34	0	0
		ZALOD	Wells with Ele.Motors 7.5 to 15 HP	68	0.16	0.64
11	DANG	AHWA	Wells with Ele.Motors 15 to 30 HP	0	0.14	0.56
		AHWA	Wells with Ele.Motors upto 7.5 HP	1083	0.14	0.56
		AHWA	Wells with Ele.Motors more than 30 HP	0	0.14	0.56
		AHWA	Wells with Ele.Motors 7.5 to 15 HP	36	0.14	0.56
		SUBIR	Wells with Ele.Motors 15 to 30 HP	0	0.14	0.56
		SUBIR	Wells with Ele.Motors upto 7.5 HP	369	0.14	0.56

		SUBIR	Wells with Ele.Motors more than 30 HP	0	0.14	0.56
		SUBIR	Wells with Ele.Motors 7.5 to 15 HP	12	0.14	0.56
		WAGHAI	Wells with Ele.Motors 15 to 30 HP	1	0.14	0.56
		WAGHAI	Wells with Ele.Motors upto 7.5 HP	1447	0.14	0.56
		WAGHAI	Wells with Ele.Motors more than 30 HP	0	0.14	0.56
		WAGHAI	Wells with Ele.Motors 7.5 to 15 HP	112	0.14	0.56
12	DEVBHUMI DWARKA	BHANVAD	Wells with Ele.Motors 15 to 30 HP	289	0.3	1.2
		BHANVAD	Wells with Ele.Motors upto 7.5 HP	13485	0.1	0.4
		BHANVAD	Wells with Ele.Motors more than 30 HP	25	0	0
		BHANVAD	Wells with Ele.Motors 7.5 to 15 HP	2015	0.14	0.56
		KALYANPUR	Wells with Ele.Motors 15 to 30 HP	44	0.3	1.2
		KALYANPUR	Wells with Ele.Motors upto 7.5 HP	16928	0.12	0.48
		KALYANPUR	Wells with Ele.Motors more than 30 HP	0	0	0
		KALYANPUR	Wells with Ele.Motors 7.5 to 15 HP	540	0.16	0.64
		KHAMBHALIA	Wells with Ele.Motors 15 to 30 HP	73	0.2	0.8
		KHAMBHALIA	Wells with Ele.Motors upto 7.5 HP	19637	0.1	0.4
		KHAMBHALIA	Wells with Ele.Motors more than 30 HP	0	0	0
		KHAMBHALIA	Wells with Ele.Motors 7.5 to 15 HP	1653	0.16	0.64
		OKHAMANDAL	Wells with Ele.Motors 15 to 30 HP	0	0	0
		OKHAMANDAL	Wells with Ele.Motors upto 7.5 HP	177	0.16	0.64
		OKHAMANDAL	Wells with Ele.Motors more than 30 HP	0	0	0
		OKHAMANDAL	Wells with Ele.Motors 7.5 to 15 HP	0	0.3	1.2
13	GANDHINAGAR	DEHGAM	Wells with Ele.Motors 15 to 30 HP	2386	1	4
		DEHGAM	Wells with Ele.Motors upto 7.5 HP	1066	0.3	1.2
		DEHGAM	Wells with Ele.Motors more than 30 HP	1280	1.28	5.12
		DEHGAM	Wells with Ele.Motors 7.5 to 15 HP	3624	0.5	2
		GANDHINAGAR	Wells with Ele.Motors 15 to 30 HP	889	0.8	3.2
		GANDHINAGAR	Wells with Ele.Motors upto 7.5 HP	54	0.2	0.8
		GANDHINAGAR	Wells with Ele.Motors more than 30 HP	3917	0.88	3.52
		GANDHINAGAR	Wells with Ele.Motors 7.5 to 15 HP	183	0.4	1.6
		KALOL	Wells with Ele.Motors 15 to 30 HP	107	1	4
		KALOL	Wells with Ele.Motors upto 7.5 HP	52	0.2	0.8
		KALOL	Wells with Ele.Motors more than 30 HP	1848	0.96	3.84
		KALOL	Wells with Ele.Motors 7.5 to 15 HP	53	0.4	1.6
		MANSA	Wells with Ele.Motors 15 to 30 HP	70	0.6	2.4
		MANSA	Wells with Ele.Motors upto 7.5 HP	68	0.2	0.8
		MANSA	Wells with Ele.Motors more than 30 HP	2369	0.8	3.2
		MANSA	Wells with Ele.Motors 7.5 to 15 HP	19	0.4	1.6
14	GIR SOMNATH	GIR GADHDA	Wells with Ele.Motors 15 to 30 HP	16	0.3	1.2
		GIR GADHDA	Wells with Ele.Motors upto 7.5 HP	7607	0.08	0.32
		GIR GADHDA	Wells with Ele.Motors more than 30 HP	0	0.4	1.6
		GIR GADHDA	Wells with Ele.Motors 7.5 to 15 HP	452	0.16	0.64
		KODINAR	Wells with Ele.Motors 15 to 30 HP	29	0.3	1.2
		KODINAR	Wells with Ele.Motors upto 7.5 HP	11300	0.12	0.48

		KODINAR	Wells with Ele.Motors more than 30 HP	0	0	0
		KODINAR	Wells with Ele.Motors 7.5 to 15 HP	624	0.16	0.64
		PATAN-VERAVAL	Wells with Ele.Motors 15 to 30 HP	78	0.3	1.2
		PATAN-VERAVAL	Wells with Ele.Motors upto 7.5 HP	9223	0.08	0.32
		PATAN-VERAVAL	Wells with Ele.Motors more than 30 HP	2	0.4	1.6
		PATAN-VERAVAL	Wells with Ele.Motors 7.5 to 15 HP	903	0.16	0.64
		SUTRAPADA	Wells with Ele.Motors 15 to 30 HP	9	0.3	1.2
		SUTRAPADA	Wells with Ele.Motors upto 7.5 HP	6648	0.14	0.56
		SUTRAPADA	Wells with Ele.Motors more than 30 HP	0	0.4	1.6
		SUTRAPADA	Wells with Ele.Motors 7.5 to 15 HP	247	0.2	0.8
		TALALA	Wells with Ele.Motors 15 to 30 HP	58	0.3	1.2
		TALALA	Wells with Ele.Motors upto 7.5 HP	12143	0.1	0.4
		TALALA	Wells with Ele.Motors more than 30 HP	2	0	0
		TALALA	Wells with Ele.Motors 7.5 to 15 HP	832	0.16	0.64
		UNA	Wells with Ele.Motors 15 to 30 HP	9	0.3	1.2
		UNA	Wells with Ele.Motors upto 7.5 HP	11102	0.1	0.4
		UNA	Wells with Ele.Motors more than 30 HP	0	0.4	1.6
		UNA	Wells with Ele.Motors 7.5 to 15 HP	314	0.16	0.64
15	JAMNAGAR	DHROL	Wells with Ele.Motors 15 to 30 HP	120	0.2	0.8
		DHROL	Wells with Ele.Motors upto 7.5 HP	11621	0.1	0.4
		DHROL	Wells with Ele.Motors more than 30 HP	12	0.3	1.2
		DHROL	Wells with Ele.Motors 7.5 to 15 HP	995	0.16	0.64
		JAMJODHPUR	Wells with Ele.Motors 15 to 30 HP	1016	0.26	1.04
		JAMJODHPUR	Wells with Ele.Motors upto 7.5 HP	11482	0.1	0.4
		JAMJODHPUR	Wells with Ele.Motors more than 30 HP	55	0.3	1.2
		JAMJODHPUR	Wells with Ele.Motors 7.5 to 15 HP	5487	0.16	0.64
		JAMNAGAR	Wells with Ele.Motors 15 to 30 HP	583	0.24	0.96
		JAMNAGAR	Wells with Ele.Motors upto 7.5 HP	19642	0.1	0.4
		JAMNAGAR	Wells with Ele.Motors more than 30 HP	18	0.3	1.2
		JAMNAGAR	Wells with Ele.Motors 7.5 to 15 HP	3394	0.14	0.56
		JODIYA	Wells with Ele.Motors 15 to 30 HP	101	0.26	1.04
		JODIYA	Wells with Ele.Motors upto 7.5 HP	7289	0.14	0.56
		JODIYA	Wells with Ele.Motors more than 30 HP	6	0	0
		JODIYA	Wells with Ele.Motors 7.5 to 15 HP	1245	0.18	0.72
		KALAVAD	Wells with Ele.Motors 15 to 30 HP	1482	0.24	0.96
		KALAVAD	Wells with Ele.Motors upto 7.5 HP	18514	0.12	0.48
		KALAVAD	Wells with Ele.Motors more than 30 HP	100	0.3	1.2
		KALAVAD	Wells with Ele.Motors 7.5 to 15 HP	5049	0.16	0.64
		LALPUR	Wells with Ele.Motors 15 to 30 HP	734	0.24	0.96
		LALPUR	Wells with Ele.Motors upto 7.5 HP	11913	0.1	0.4
		LALPUR	Wells with Ele.Motors more than 30 HP	56	0.3	1.2
		LALPUR	Wells with Ele.Motors 7.5 to 15 HP	3501	0.16	0.64
16	JUNAGADH	BHESAN	Wells with Ele.Motors 15 to 30 HP	1465	0.24	0.96
		BHESAN	Wells with Ele.Motors upto 7.5 HP	5013	0.1	0.4

		BHESAN	Wells with Ele.Motors more than 30 HP	158	0.3	1.2
		BHESAN	Wells with Ele.Motors 7.5 to 15 HP	4265	0.16	0.64
		JUNAGADH CITY & JUNA	Wells with Ele.Motors 15 to 30 HP	1275	0.24	0.96
		JUNAGADH CITY & JUNA	Wells with Ele.Motors upto 7.5 HP	6629	0.1	0.4
		JUNAGADH CITY & JUNA	Wells with Ele.Motors more than 30 HP	28	0.3	1.2
		JUNAGADH CITY & JUNA	Wells with Ele.Motors 7.5 to 15 HP	5266	0.16	0.64
		KESHOD	Wells with Ele.Motors 15 to 30 HP	1191	0.24	0.96
		KESHOD	Wells with Ele.Motors upto 7.5 HP	12290	0.1	0.4
		KESHOD	Wells with Ele.Motors more than 30 HP	21	0	0
		KESHOD	Wells with Ele.Motors 7.5 to 15 HP	3982	0.16	0.64
		MALIA	Wells with Ele.Motors 15 to 30 HP	95	0.24	0.96
		MALIA	Wells with Ele.Motors upto 7.5 HP	14352	0.1	0.4
		MALIA	Wells with Ele.Motors more than 30 HP	2	0.3	1.2
		MALIA	Wells with Ele.Motors 7.5 to 15 HP	1446	0.16	0.64
		MANAVADAR	Wells with Ele.Motors 15 to 30 HP	271	0.24	0.96
		MANAVADAR	Wells with Ele.Motors upto 7.5 HP	8239	0.12	0.48
		MANAVADAR	Wells with Ele.Motors more than 30 HP	4	0.3	1.2
		MANAVADAR	Wells with Ele.Motors 7.5 to 15 HP	2589	0.2	0.8
		MANGROL	Wells with Ele.Motors 15 to 30 HP	31	0.24	0.96
		MANGROL	Wells with Ele.Motors upto 7.5 HP	7850	0.1	0.4
		MANGROL	Wells with Ele.Motors more than 30 HP	0	0	0
		MANGROL	Wells with Ele.Motors 7.5 to 15 HP	825	0.18	0.72
		MENDARDA	Wells with Ele.Motors 15 to 30 HP	1370	0.24	0.96
		MENDARDA	Wells with Ele.Motors upto 7.5 HP	4308	0.1	0.4
		MENDARDA	Wells with Ele.Motors more than 30 HP	37	0.3	1.2
		MENDARDA	Wells with Ele.Motors 7.5 to 15 HP	3051	0.16	0.64
		VANTHALI	Wells with Ele.Motors 15 to 30 HP	326	0.24	0.96
		VANTHALI	Wells with Ele.Motors upto 7.5 HP	8632	0.09	0.36
		VANTHALI	Wells with Ele.Motors more than 30 HP	3	0	0
		VANTHALI	Wells with Ele.Motors 7.5 to 15 HP	3035	0.14	0.56
		VISAVADAR	Wells with Ele.Motors 15 to 30 HP	3999	0.24	0.96
		VISAVADAR	Wells with Ele.Motors upto 7.5 HP	4645	0.1	0.4
		VISAVADAR	Wells with Ele.Motors more than 30 HP	220	0.3	1.2
		VISAVADAR	Wells with Ele.Motors 7.5 to 15 HP	7878	0.16	0.64
17	KACHCHH	ABDASA	Wells with Ele.Motors 15 to 30 HP	367	0.32	1.28
		ABDASA	Wells with Ele.Motors upto 7.5 HP	57	0.12	0.48
		ABDASA	Wells with Ele.Motors more than 30 HP	778	0.4	1.6
		ABDASA	Wells with Ele.Motors 7.5 to 15 HP	82	0.2	0.8
		ANJAR	Wells with Ele.Motors 15 to 30 HP	543	0.3	1.2
		ANJAR	Wells with Ele.Motors upto 7.5 HP	169	0.12	0.48
		ANJAR	Wells with Ele.Motors more than 30 HP	2124	0.5	2
		ANJAR	Wells with Ele.Motors 7.5 to 15 HP	110	0.2	0.8
		BHACHAU	Wells with Ele.Motors 15 to 30 HP	589	0.4	1.6
		BHACHAU	Wells with Ele.Motors upto 7.5 HP	154	0.12	0.48

		BHACHAU	Wells with Ele.Motors more than 30 HP	1285	0.7	2.8
		BHACHAU	Wells with Ele.Motors 7.5 to 15 HP	328	0.2	0.8
		BHUJ	Wells with Ele.Motors 15 to 30 HP	3340	0.5	2
		BHUJ	Wells with Ele.Motors upto 7.5 HP	191	0.16	0.64
		BHUJ	Wells with Ele.Motors more than 30 HP	4756	0.8	3.2
		BHUJ	Wells with Ele.Motors 7.5 to 15 HP	761	0.24	0.96
		GANDHIDHAM	Wells with Ele.Motors 15 to 30 HP	46	0.2	0.8
		GANDHIDHAM	Wells with Ele.Motors upto 7.5 HP	166	0.1	0.4
		GANDHIDHAM	Wells with Ele.Motors more than 30 HP	5	0.4	1.6
		GANDHIDHAM	Wells with Ele.Motors 7.5 to 15 HP	82	0.14	0.56
		LAKHPAT	Wells with Ele.Motors 15 to 30 HP	23	0.4	1.6
		LAKHPAT	Wells with Ele.Motors upto 7.5 HP	0	0.16	0.64
		LAKHPAT	Wells with Ele.Motors more than 30 HP	4	0.8	3.2
		LAKHPAT	Wells with Ele.Motors 7.5 to 15 HP	4	0.2	0.8
		MANDVI	Wells with Ele.Motors 15 to 30 HP	2479	0.4	1.6
		MANDVI	Wells with Ele.Motors upto 7.5 HP	440	0.16	0.64
		MANDVI	Wells with Ele.Motors more than 30 HP	1223	0.8	3.2
		MANDVI	Wells with Ele.Motors 7.5 to 15 HP	932	0.2	0.8
		MUNDRA	Wells with Ele.Motors 15 to 30 HP	1308	0.5	2
		MUNDRA	Wells with Ele.Motors upto 7.5 HP	1388	0.16	0.64
		MUNDRA	Wells with Ele.Motors more than 30 HP	345	0.6	2.4
		MUNDRA	Wells with Ele.Motors 7.5 to 15 HP	1282	0.3	1.2
		NAKHATRANA	Wells with Ele.Motors 15 to 30 HP	2258	0.3	1.2
		NAKHATRANA	Wells with Ele.Motors upto 7.5 HP	133	0.14	0.56
		NAKHATRANA	Wells with Ele.Motors more than 30 HP	1361	0.5	2
		NAKHATRANA	Wells with Ele.Motors 7.5 to 15 HP	529	0.2	0.8
		RAPAR	Wells with Ele.Motors 15 to 30 HP	264	0.5	2
		RAPAR	Wells with Ele.Motors upto 7.5 HP	357	0.16	0.64
		RAPAR	Wells with Ele.Motors more than 30 HP	155	0.7	2.8
		RAPAR	Wells with Ele.Motors 7.5 to 15 HP	363	0.3	1.2
18	KHEDA	GALTESHWAR	Wells with Ele.Motors 15 to 30 HP	30	0.3	1.2
		GALTESHWAR	Wells with Ele.Motors upto 7.5 HP	596	0.1	0.4
		GALTESHWAR	Wells with Ele.Motors more than 30 HP	1	0.8	3.2
		GALTESHWAR	Wells with Ele.Motors 7.5 to 15 HP	821	0.14	0.56
		KAPADVANJ	Wells with Ele.Motors 15 to 30 HP	111	0.3	1.2
		KAPADVANJ	Wells with Ele.Motors upto 7.5 HP	9408	0.1	0.4
		KAPADVANJ	Wells with Ele.Motors more than 30 HP	1	0.8	3.2
		KAPADVANJ	Wells with Ele.Motors 7.5 to 15 HP	2745	0.16	0.64
		KATHLAL	Wells with Ele.Motors 15 to 30 HP	411	0.3	1.2
		KATHLAL	Wells with Ele.Motors upto 7.5 HP	993	0.1	0.4
		KATHLAL	Wells with Ele.Motors more than 30 HP	1	0.8	3.2
		KATHLAL	Wells with Ele.Motors 7.5 to 15 HP	2585	0.16	0.64
		KHEDA	Wells with Ele.Motors 15 to 30 HP	674	0.6	2.4
		KHEDA	Wells with Ele.Motors upto 7.5 HP	595	0.2	0.8

		KHEDA	Wells with Ele.Motors more than 30 HP	751	0.8	3.2
		KHEDA	Wells with Ele.Motors 7.5 to 15 HP	821	0.3	1.2
		MAHUDHA	Wells with Ele.Motors 15 to 30 HP	7	0.6	2.4
		MAHUDHA	Wells with Ele.Motors upto 7.5 HP	944	0.14	0.56
		MAHUDHA	Wells with Ele.Motors more than 30 HP	1618	0.8	3.2
		MAHUDHA	Wells with Ele.Motors 7.5 to 15 HP	217	0.3	1.2
		MATAR	Wells with Ele.Motors 15 to 30 HP	4	0.8	3.2
		MATAR	Wells with Ele.Motors upto 7.5 HP	1043	0.2	0.8
		MATAR	Wells with Ele.Motors more than 30 HP	1796	0.8	3.2
		MATAR	Wells with Ele.Motors 7.5 to 15 HP	132	0.4	1.6
		MEHMEDABAD	Wells with Ele.Motors 15 to 30 HP	533	0.6	2.4
		MEHMEDABAD	Wells with Ele.Motors upto 7.5 HP	566	0.14	0.56
		MEHMEDABAD	Wells with Ele.Motors more than 30 HP	11	0.8	3.2
		MEHMEDABAD	Wells with Ele.Motors 7.5 to 15 HP	3536	0.24	0.96
		NADIAD	Wells with Ele.Motors 15 to 30 HP	136	0.7	2.8
		NADIAD	Wells with Ele.Motors upto 7.5 HP	1589	0.16	0.64
		NADIAD	Wells with Ele.Motors more than 30 HP	1	0.8	3.2
		NADIAD	Wells with Ele.Motors 7.5 to 15 HP	1910	0.3	1.2
		THASRA	Wells with Ele.Motors 15 to 30 HP	7	0.4	1.6
		THASRA	Wells with Ele.Motors upto 7.5 HP	2097	0.16	0.64
		THASRA	Wells with Ele.Motors more than 30 HP	3603	0.8	3.2
		THASRA	Wells with Ele.Motors 7.5 to 15 HP	136	0.24	0.96
		VASO	Wells with Ele.Motors 15 to 30 HP	1	0.6	2.4
		VASO	Wells with Ele.Motors upto 7.5 HP	745	0.16	0.64
		VASO	Wells with Ele.Motors more than 30 HP	968	0.8	3.2
		VASO	Wells with Ele.Motors 7.5 to 15 HP	37	0.24	0.96
19	MAHESANA	BECHARAJI	Wells with Ele.Motors 15 to 30 HP	58	1.4	5.6
		BECHARAJI	Wells with Ele.Motors upto 7.5 HP	110	0.3	1.2
		BECHARAJI	Wells with Ele.Motors more than 30 HP	547	1.44	5.76
		BECHARAJI	Wells with Ele.Motors 7.5 to 15 HP	144	0.5	2
		JOTANA	Wells with Ele.Motors 15 to 30 HP	126	1.3	5.2
		JOTANA	Wells with Ele.Motors upto 7.5 HP	10	0.3	1.2
		JOTANA	Wells with Ele.Motors more than 30 HP	830	1.12	4.48
		JOTANA	Wells with Ele.Motors 7.5 to 15 HP	46	0.4	1.6
		KADI	Wells with Ele.Motors 15 to 30 HP	202	1.4	5.6
		KADI	Wells with Ele.Motors upto 7.5 HP	216	0.3	1.2
		KADI	Wells with Ele.Motors more than 30 HP	2502	1.2	4.8
		KADI	Wells with Ele.Motors 7.5 to 15 HP	185	0.4	1.6
		KHERALU	Wells with Ele.Motors 15 to 30 HP	848	0.8	3.2
		KHERALU	Wells with Ele.Motors upto 7.5 HP	4250	0.24	0.96
		KHERALU	Wells with Ele.Motors more than 30 HP	424	1.04	4.16
		KHERALU	Wells with Ele.Motors 7.5 to 15 HP	2716	0.36	1.44
		MAHESANA	Wells with Ele.Motors 15 to 30 HP	124	1	4
		MAHESANA	Wells with Ele.Motors upto 7.5 HP	194	0.3	1.2
		MAHESANA	Wells with Ele.Motors more than 30 HP	3072	1.44	5.76

		MAHESANA	Wells with Ele.Motors 7.5 to 15 HP	171	0.5	2
		SATLASANA	Wells with Ele.Motors 15 to 30 HP	395	0.6	2.4
		SATLASANA	Wells with Ele.Motors upto 7.5 HP	2775	0.16	0.64
		SATLASANA	Wells with Ele.Motors more than 30 HP	7	1.04	4.16
		SATLASANA	Wells with Ele.Motors 7.5 to 15 HP	3987	0.4	1.6
		UNJHA	Wells with Ele.Motors 15 to 30 HP	301	0.8	3.2
		UNJHA	Wells with Ele.Motors upto 7.5 HP	405	0.3	1.2
		UNJHA	Wells with Ele.Motors more than 30 HP	788	1.12	4.48
		UNJHA	Wells with Ele.Motors 7.5 to 15 HP	444	0.4	1.6
		VADNAGAR	Wells with Ele.Motors 15 to 30 HP	941	0.8	3.2
		VADNAGAR	Wells with Ele.Motors upto 7.5 HP	2635	0.2	0.8
		VADNAGAR	Wells with Ele.Motors more than 30 HP	511	0.96	3.84
		VADNAGAR	Wells with Ele.Motors 7.5 to 15 HP	1342	0.3	1.2
		VIJAPUR	Wells with Ele.Motors 15 to 30 HP	1387	0.6	2.4
		VIJAPUR	Wells with Ele.Motors upto 7.5 HP	130	0.2	0.8
		VIJAPUR	Wells with Ele.Motors more than 30 HP	3178	0.8	3.2
		VIJAPUR	Wells with Ele.Motors 7.5 to 15 HP	176	0.4	1.6
		VISNAGAR	Wells with Ele.Motors 15 to 30 HP	89	1	4
		VISNAGAR	Wells with Ele.Motors upto 7.5 HP	1590	0.2	0.8
		VISNAGAR	Wells with Ele.Motors more than 30 HP	1774	1.12	4.48
		VISNAGAR	Wells with Ele.Motors 7.5 to 15 HP	357	0.4	1.6
20	MAHISAGAR	BALASINOR	Wells with Ele.Motors 15 to 30 HP	72	0.3	1.2
		BALASINOR	Wells with Ele.Motors upto 7.5 HP	3149	0.1	0.4
		BALASINOR	Wells with Ele.Motors 7.5 to 15 HP	799	0.16	0.64
		BALASINOR	Wells with Ele.Motors more than 30 HP	7	0.4	1.6
		KADANA	Wells with Ele.Motors 15 to 30 HP	32	0.3	1.2
		KADANA	Wells with Ele.Motors upto 7.5 HP	3554	0.08	0.32
		KADANA	Wells with Ele.Motors 7.5 to 15 HP	178	0.16	0.64
		KADANA	Wells with Ele.Motors more than 30 HP	10	0.4	1.6
		KHANPUR	Wells with Ele.Motors 15 to 30 HP	36	0.3	1.2
		KHANPUR	Wells with Ele.Motors upto 7.5 HP	4563	0.1	0.4
		KHANPUR	Wells with Ele.Motors 7.5 to 15 HP	132	0.16	0.64
		KHANPUR	Wells with Ele.Motors more than 30 HP	2	0.4	1.6
		LUNAWADA	Wells with Ele.Motors 15 to 30 HP	10	0.3	1.2
		LUNAWADA	Wells with Ele.Motors upto 7.5 HP	2792	0.1	0.3
		LUNAWADA	Wells with Ele.Motors 7.5 to 15 HP	170	0.16	0.54
		LUNAWADA	Wells with Ele.Motors more than 30 HP	2	0.4	1.6
		SANTRAMPUR	Wells with Ele.Motors 15 to 30 HP	13	0.3	1.2
		SANTRAMPUR	Wells with Ele.Motors upto 7.5 HP	6524	0.08	0.32
		SANTRAMPUR	Wells with Ele.Motors 7.5 to 15 HP	50	0.16	0.64
		SANTRAMPUR	Wells with Ele.Motors more than 30 HP	7	0.4	1.6
		VIRPUR	Wells with Ele.Motors 15 to 30 HP	53	0.3	1.2
		VIRPUR	Wells with Ele.Motors upto 7.5 HP	2742	0.1	0.3
		VIRPUR	Wells with Ele.Motors 7.5 to 15 HP	1587	0.16	0.54

		VIRPUR	Wells with Ele.Motors more than 30 HP	5	0.4	1.6
21	MORBI	HALVAD	Wells with Ele.Motors 15 to 30 HP	6220	0.18	0.72
		HALVAD	Wells with Ele.Motors upto 7.5 HP	149	0.1	0.4
		HALVAD	Wells with Ele.Motors more than 30 HP	1764	0.24	0.96
		HALVAD	Wells with Ele.Motors 7.5 to 15 HP	1650	0.14	0.56
		MALIYA	Wells with Ele.Motors 15 to 30 HP	60	0.3	1.2
		MALIYA	Wells with Ele.Motors upto 7.5 HP	231	0.2	0.8
		MALIYA	Wells with Ele.Motors more than 30 HP	3	0.4	1.6
		MALIYA	Wells with Ele.Motors 7.5 to 15 HP	133	0.24	0.96
		MORBI	Wells with Ele.Motors 15 to 30 HP	254	0.3	1.2
		MORBI	Wells with Ele.Motors upto 7.5 HP	1808	0.12	0.48
		MORBI	Wells with Ele.Motors more than 30 HP	20	0.4	1.6
		MORBI	Wells with Ele.Motors 7.5 to 15 HP	575	0.16	0.64
		TANKARA	Wells with Ele.Motors 15 to 30 HP	724	0.3	1.2
		TANKARA	Wells with Ele.Motors upto 7.5 HP	11816	0.12	0.48
		TANKARA	Wells with Ele.Motors more than 30 HP	34	0.4	1.6
		TANKARA	Wells with Ele.Motors 7.5 to 15 HP	2154	0.16	0.64
		WANKANER	Wells with Ele.Motors 15 to 30 HP	1992	0.18	0.72
		WANKANER	Wells with Ele.Motors upto 7.5 HP	7487	0.12	0.48
		WANKANER	Wells with Ele.Motors more than 30 HP	112	0.3	1.2
		WANKANER	Wells with Ele.Motors 7.5 to 15 HP	7816	0.14	0.56
22	NARMADA	DEDIAPADA	Wells with Ele.Motors 15 to 30 HP	13	0.6	2.4
		DEDIAPADA	Wells with Ele.Motors upto 7.5 HP	2257	0.16	0.64
		DEDIAPADA	Wells with Ele.Motors more than 30 HP	2	0	0
		DEDIAPADA	Wells with Ele.Motors 7.5 to 15 HP	458	0.3	1.2
		GARUDESHWAR	Wells with Ele.Motors 15 to 30 HP	2	0.6	2.4
		GARUDESHWAR	Wells with Ele.Motors upto 7.5 HP	327	0.2	0.8
		GARUDESHWAR	Wells with Ele.Motors more than 30 HP	0	0	0
		GARUDESHWAR	Wells with Ele.Motors 7.5 to 15 HP	67	0.3	1.2
		NANDOD	Wells with Ele.Motors 15 to 30 HP	1186	0.8	3.2
		NANDOD	Wells with Ele.Motors upto 7.5 HP	1395	0.2	0.8
		NANDOD	Wells with Ele.Motors more than 30 HP	94	0.9	3.6
		NANDOD	Wells with Ele.Motors 7.5 to 15 HP	4424	0.4	1.6
		SAGBARA	Wells with Ele.Motors 15 to 30 HP	5	0.4	1.6
		SAGBARA	Wells with Ele.Motors upto 7.5 HP	1739	0.16	0.64
		SAGBARA	Wells with Ele.Motors more than 30 HP	0	0	0
		SAGBARA	Wells with Ele.Motors 7.5 to 15 HP	179	0.3	1.2
		TILAKWADA	Wells with Ele.Motors 15 to 30 HP	116	0.6	2.4
		TILAKWADA	Wells with Ele.Motors upto 7.5 HP	204	0.2	0.8
		TILAKWADA	Wells with Ele.Motors more than 30 HP	27	0	0
		TILAKWADA	Wells with Ele.Motors 7.5 to 15 HP	1285	0.3	1.2
23	NAVSARI	BANSDA	Wells with Ele.Motors 15 to 30 HP	11	0.2	0.8
		BANSDA	Wells with Ele.Motors upto 7.5 HP	10347	0.08	0.32
		BANSDA	Wells with Ele.Motors more than 30 HP	6	0	0

		BANSDA	Wells with Ele.Motors 7.5 to 15 HP	218	0.14	0.56
		CHIKHLI	Wells with Ele.Motors 15 to 30 HP	16	0.2	0.8
		CHIKHLI	Wells with Ele.Motors upto 7.5 HP	11947	0.1	0.4
		CHIKHLI	Wells with Ele.Motors more than 30 HP	1	0	0
		CHIKHLI	Wells with Ele.Motors 7.5 to 15 HP	356	0.16	0.64
		GANDEVI	Wells with Ele.Motors 15 to 30 HP	4	0.3	1.2
		GANDEVI	Wells with Ele.Motors upto 7.5 HP	5412	0.1	0.4
		GANDEVI	Wells with Ele.Motors more than 30 HP	1	0	0
		GANDEVI	Wells with Ele.Motors 7.5 to 15 HP	96	0.14	0.56
		JALALPORE	Wells with Ele.Motors 15 to 30 HP	0	0.3	1.2
		JALALPORE	Wells with Ele.Motors upto 7.5 HP	3461	0.14	0.56
		JALALPORE	Wells with Ele.Motors more than 30 HP	1	0	0
		JALALPORE	Wells with Ele.Motors 7.5 to 15 HP	141	0.24	0.96
		KHERGAM	Wells with Ele.Motors 15 to 30 HP	1	0.2	0.8
		KHERGAM	Wells with Ele.Motors upto 7.5 HP	3093	0.08	0.32
		KHERGAM	Wells with Ele.Motors more than 30 HP	0	0	0
		KHERGAM	Wells with Ele.Motors 7.5 to 15 HP	31	0.14	0.56
		NAVSARI	Wells with Ele.Motors 15 to 30 HP	17	0.3	1.2
		NAVSARI	Wells with Ele.Motors upto 7.5 HP	4138	0.08	0.32
		NAVSARI	Wells with Ele.Motors more than 30 HP	0	0	0
		NAVSARI	Wells with Ele.Motors 7.5 to 15 HP	334	0.16	0.64
24	PANCHMAHAL	GHOGHAMBA	Wells with Ele.Motors 15 to 30 HP	5	0	0
		GHOGHAMBA	Wells with Ele.Motors upto 7.5 HP	6063	0.08	0.32
		GHOGHAMBA	Wells with Ele.Motors more than 30 HP	0	0	0
		GHOGHAMBA	Wells with Ele.Motors 7.5 to 15 HP	76	0.2	0.8
		GODHRA	Wells with Ele.Motors 15 to 30 HP	65	0	0
		GODHRA	Wells with Ele.Motors upto 7.5 HP	4141	0.08	0.32
		GODHRA	Wells with Ele.Motors more than 30 HP	5	0	0
		GODHRA	Wells with Ele.Motors 7.5 to 15 HP	134	0.2	0.8
		HALOL	Wells with Ele.Motors 15 to 30 HP	10	0	0
		HALOL	Wells with Ele.Motors upto 7.5 HP	4019	0.12	0.48
		HALOL	Wells with Ele.Motors more than 30 HP	57	0	0
		HALOL	Wells with Ele.Motors 7.5 to 15 HP	177	0.2	0.8
		JAMBUGHODA	Wells with Ele.Motors 15 to 30 HP	0	0	0
		JAMBUGHODA	Wells with Ele.Motors upto 7.5 HP	1644	0.08	0.32
		JAMBUGHODA	Wells with Ele.Motors more than 30 HP	30	0	0
		JAMBUGHODA	Wells with Ele.Motors 7.5 to 15 HP	30	0.2	0.8
		KALOL	Wells with Ele.Motors 15 to 30 HP	3	0	0
		KALOL	Wells with Ele.Motors upto 7.5 HP	3211	0.1	0.4
		KALOL	Wells with Ele.Motors more than 30 HP	2	0	0
		KALOL	Wells with Ele.Motors 7.5 to 15 HP	148	0.2	0.8
		MORWA HADAF	Wells with Ele.Motors 15 to 30 HP	20	0	0
		MORWA HADAF	Wells with Ele.Motors upto 7.5 HP	1578	0.1	0.4
		MORWA HADAF	Wells with Ele.Motors more than 30 HP	4	0	0

		MORWA HADAF	Wells with Ele.Motors 7.5 to 15 HP	9	0.2	0.8
		SHEHRA	Wells with Ele.Motors 15 to 30 HP	34	0	0
		SHEHRA	Wells with Ele.Motors upto 7.5 HP	3134	0.1	0.4
		SHEHRA	Wells with Ele.Motors more than 30 HP	5	0	0
		SHEHRA	Wells with Ele.Motors 7.5 to 15 HP	62	0.2	0.8
25	PATAN	CHANASMA	Wells with Ele.Motors 15 to 30 HP	12	1	4
		CHANASMA	Wells with Ele.Motors upto 7.5 HP	40	0.3	1.2
		CHANASMA	Wells with Ele.Motors more than 30 HP	65	1.36	5.44
		CHANASMA	Wells with Ele.Motors 7.5 to 15 HP	120	0.6	2.4
		PATAN	Wells with Ele.Motors 15 to 30 HP	167	1	4
		PATAN	Wells with Ele.Motors upto 7.5 HP	54	0.3	1.2
		PATAN	Wells with Ele.Motors more than 30 HP	1247	1.275	5.1
		PATAN	Wells with Ele.Motors 7.5 to 15 HP	238	0.6	2.4
		SARSVATI(PATAN)	Wells with Ele.Motors 15 to 30 HP	603	1.1	4.4
		SARSVATI(PATAN)	Wells with Ele.Motors upto 7.5 HP	69	0.3	1.2
		SARSVATI(PATAN)	Wells with Ele.Motors more than 30 HP	2555	1.53	6.12
		SARSVATI(PATAN)	Wells with Ele.Motors 7.5 to 15 HP	110	0.5	2
		SIDHPUR	Wells with Ele.Motors 15 to 30 HP	793	1	4
		SIDHPUR	Wells with Ele.Motors upto 7.5 HP	252	0.3	1.2
		SIDHPUR	Wells with Ele.Motors more than 30 HP	1494	1.275	5.1
		SIDHPUR	Wells with Ele.Motors 7.5 to 15 HP	672	0.6	2.4
26	PORBANDAR	KUTIYANA	Wells with Ele.Motors 15 to 30 HP	106	0.3	1.2
		KUTIYANA	Wells with Ele.Motors upto 7.5 HP	6307	0.12	0.48
		KUTIYANA	Wells with Ele.Motors more than 30 HP	1	0	0
		KUTIYANA	Wells with Ele.Motors 7.5 to 15 HP	1252	0.2	0.8
		PORBANDAR	Wells with Ele.Motors 15 to 30 HP	60	0.3	1.2
		PORBANDAR	Wells with Ele.Motors upto 7.5 HP	10174	0.12	0.48
		PORBANDAR	Wells with Ele.Motors more than 30 HP	0	0	0
		PORBANDAR	Wells with Ele.Motors 7.5 to 15 HP	781	0.2	0.8
		RANAVAV	Wells with Ele.Motors 15 to 30 HP	90	0.3	1.2
		RANAVAV	Wells with Ele.Motors upto 7.5 HP	6261	0.14	0.56
		RANAVAV	Wells with Ele.Motors more than 30 HP	4	0	0
		RANAVAV	Wells with Ele.Motors 7.5 to 15 HP	972	0.2	0.8
27	RAJKOT	DHORAJI	Wells with Ele.Motors 15 to 30 HP	917	0.3	1.2
		DHORAJI	Wells with Ele.Motors upto 7.5 HP	8381	0.12	0.48
		DHORAJI	Wells with Ele.Motors more than 30 HP	18	0.4	1.6
		DHORAJI	Wells with Ele.Motors 7.5 to 15 HP	4461	0.2	0.8
		GONDAL	Wells with Ele.Motors 15 to 30 HP	1103	0.4	1.6
		GONDAL	Wells with Ele.Motors upto 7.5 HP	24401	0.12	0.48
		GONDAL	Wells with Ele.Motors more than 30 HP	49	0.4	1.6
		GONDAL	Wells with Ele.Motors 7.5 to 15 HP	5412	0.2	0.8
		JAMKANDORNA	Wells with Ele.Motors 15 to 30 HP	345	0.4	1.6
		JAMKANDORNA	Wells with Ele.Motors upto 7.5 HP	12308	0.12	0.48
		JAMKANDORNA	Wells with Ele.Motors more than 30 HP	7	0.4	1.6

		JAMKANDORNA	Wells with Ele.Motors 7.5 to 15 HP	1789	0.3	1.2
		JASDAN	Wells with Ele.Motors 15 to 30 HP	394	0.3	1.2
		JASDAN	Wells with Ele.Motors upto 7.5 HP	18412	0.1	0.4
		JASDAN	Wells with Ele.Motors more than 30 HP	15	0.4	1.6
		JASDAN	Wells with Ele.Motors 7.5 to 15 HP	2799	0.14	0.56
		JETPUR	Wells with Ele.Motors 15 to 30 HP	1392	0.3	1.2
		JETPUR	Wells with Ele.Motors upto 7.5 HP	13405	0.1	0.4
		JETPUR	Wells with Ele.Motors more than 30 HP	57	0.4	1.6
		JETPUR	Wells with Ele.Motors 7.5 to 15 HP	3540	0.16	0.64
		KOTADA SANGANI	Wells with Ele.Motors 15 to 30 HP	118	0.3	1.2
		KOTADA SANGANI	Wells with Ele.Motors upto 7.5 HP	9468	0.12	0.48
		KOTADA SANGANI	Wells with Ele.Motors more than 30 HP	1	0.4	1.6
		KOTADA SANGANI	Wells with Ele.Motors 7.5 to 15 HP	1331	0.16	0.64
		LODHIKA	Wells with Ele.Motors 15 to 30 HP	94	0.3	1.2
		LODHIKA	Wells with Ele.Motors upto 7.5 HP	8108	0.12	0.48
		LODHIKA	Wells with Ele.Motors more than 30 HP	1	0.4	1.6
		LODHIKA	Wells with Ele.Motors 7.5 to 15 HP	793	0.16	0.64
		PADDHARI	Wells with Ele.Motors 15 to 30 HP	214	0.3	1.2
		PADDHARI	Wells with Ele.Motors upto 7.5 HP	12847	0.12	0.48
		PADDHARI	Wells with Ele.Motors more than 30 HP	13	0.4	1.6
		PADDHARI	Wells with Ele.Motors 7.5 to 15 HP	1742	0.2	0.8
		RAJKOT	Wells with Ele.Motors 15 to 30 HP	1210	0.36	1.44
		RAJKOT	Wells with Ele.Motors upto 7.5 HP	15383	0.12	0.48
		RAJKOT	Wells with Ele.Motors more than 30 HP	78	0.4	1.6
		RAJKOT	Wells with Ele.Motors 7.5 to 15 HP	4306	0.2	0.8
		UPLETA	Wells with Ele.Motors 15 to 30 HP	938	0.3	1.2
		UPLETA	Wells with Ele.Motors upto 7.5 HP	11911	0.1	0.4
		UPLETA	Wells with Ele.Motors more than 30 HP	26	0.4	1.6
		UPLETA	Wells with Ele.Motors 7.5 to 15 HP	4693	0.16	0.64
		VINCHCHIYA	Wells with Ele.Motors 15 to 30 HP	137	0.3	1.2
		VINCHCHIYA	Wells with Ele.Motors upto 7.5 HP	10999	0.12	0.48
		VINCHCHIYA	Wells with Ele.Motors more than 30 HP	2	0.4	1.6
		VINCHCHIYA	Wells with Ele.Motors 7.5 to 15 HP	1252	0.16	0.64
28	SABARKANTHA	HIMATNAGAR	Wells with Ele.Motors 15 to 30 HP	1304	0.4	1.6
		HIMATNAGAR	Wells with Ele.Motors upto 7.5 HP	12481	0.1	0.4
		HIMATNAGAR	Wells with Ele.Motors more than 30 HP	158	1	4
		HIMATNAGAR	Wells with Ele.Motors 7.5 to 15 HP	3990	0.16	0.64
		IDAR	Wells with Ele.Motors 15 to 30 HP	750	0.3	1.2
		IDAR	Wells with Ele.Motors upto 7.5 HP	13273	0.12	0.48
		IDAR	Wells with Ele.Motors more than 30 HP	38	0.4	1.6
		IDAR	Wells with Ele.Motors 7.5 to 15 HP	4163	0.18	0.72
		KHEDBRAHMA	Wells with Ele.Motors 15 to 30 HP	58	0.16	0.64
		KHEDBRAHMA	Wells with Ele.Motors upto 7.5 HP	7196	0.1	0.4
		KHEDBRAHMA	Wells with Ele.Motors more than 30 HP	1	0.2	0.8

		KHEDBRAHMA	Wells with Ele.Motors 7.5 to 15 HP	803	0.12	0.48
		POSHINA	Wells with Ele.Motors 15 to 30 HP	4	0.24	0.96
		POSHINA	Wells with Ele.Motors upto 7.5 HP	2987	0.12	0.48
		POSHINA	Wells with Ele.Motors more than 30 HP	1	0	0
		POSHINA	Wells with Ele.Motors 7.5 to 15 HP	84	0.2	0.8
		PRANTIJ	Wells with Ele.Motors 15 to 30 HP	1740	0.3	1.2
		PRANTIJ	Wells with Ele.Motors upto 7.5 HP	2911	0.12	0.48
		PRANTIJ	Wells with Ele.Motors more than 30 HP	630	0.576	2.304
		PRANTIJ	Wells with Ele.Motors 7.5 to 15 HP	4690	0.2	0.8
		TALOD	Wells with Ele.Motors 15 to 30 HP	535	0.3	1.2
		TALOD	Wells with Ele.Motors upto 7.5 HP	7217	0.1	0.4
		TALOD	Wells with Ele.Motors more than 30 HP	29	0.5	2
		TALOD	Wells with Ele.Motors 7.5 to 15 HP	3097	0.16	0.64
		VADALI	Wells with Ele.Motors 15 to 30 HP	6021	0.14	0.56
		VADALI	Wells with Ele.Motors upto 7.5 HP	216	0.5	2
		VADALI	Wells with Ele.Motors more than 30 HP	21	0.6	2.4
		VADALI	Wells with Ele.Motors 7.5 to 15 HP	1367	0.24	0.96
		VIJAYNAGAR	Wells with Ele.Motors 15 to 30 HP	11	0.4	1.6
		VIJAYNAGAR	Wells with Ele.Motors upto 7.5 HP	7236	0.14	0.56
		VIJAYNAGAR	Wells with Ele.Motors more than 30 HP	1	0.6	2.4
		VIJAYNAGAR	Wells with Ele.Motors 7.5 to 15 HP	199	0.2	0.8
29	SURAT	BARDOLI	Wells with Ele.Motors 15 to 30 HP	25	0.3	1.2
		BARDOLI	Wells with Ele.Motors upto 7.5 HP	8133	0.14	0.56
		BARDOLI	Wells with Ele.Motors more than 30 HP	2	0.3	1.2
		BARDOLI	Wells with Ele.Motors 7.5 to 15 HP	697	0.2	0.8
		KAMREJ	Wells with Ele.Motors 15 to 30 HP	29	0.3	1.2
		KAMREJ	Wells with Ele.Motors upto 7.5 HP	8111	0.14	0.56
		KAMREJ	Wells with Ele.Motors more than 30 HP	5	0.3	1.2
		KAMREJ	Wells with Ele.Motors 7.5 to 15 HP	590	0.2	0.8
		MAHUVA	Wells with Ele.Motors 15 to 30 HP	20	0.3	1.2
		MAHUVA	Wells with Ele.Motors upto 7.5 HP	8277	0.1	0.4
		MAHUVA	Wells with Ele.Motors more than 30 HP	1	0.3	1.2
		MAHUVA	Wells with Ele.Motors 7.5 to 15 HP	546	0.16	0.64
		MANDVI	Wells with Ele.Motors 15 to 30 HP	14	0.3	1.2
		MANDVI	Wells with Ele.Motors upto 7.5 HP	9327	0.1	0.4
		MANDVI	Wells with Ele.Motors more than 30 HP	4	0.3	1.2
		MANDVI	Wells with Ele.Motors 7.5 to 15 HP	567	0.2	0.8
		MANGROL	Wells with Ele.Motors 15 to 30 HP	58	0.4	1.6
		MANGROL	Wells with Ele.Motors upto 7.5 HP	3761	0.1	0.4
		MANGROL	Wells with Ele.Motors more than 30 HP	5	0.3	1.2
		MANGROL	Wells with Ele.Motors 7.5 to 15 HP	872	0.16	0.64
		OLPAD	Wells with Ele.Motors 15 to 30 HP	5	0.6	2.4
		OLPAD	Wells with Ele.Motors upto 7.5 HP	2540	0.16	0.64
		OLPAD	Wells with Ele.Motors more than 30 HP	0	0	0

		OLPAD	Wells with Ele.Motors 7.5 to 15 HP	87	0.4	1.6
		PALSANA	Wells with Ele.Motors 15 to 30 HP	7	0.4	1.6
		PALSANA	Wells with Ele.Motors upto 7.5 HP	4377	0.14	0.56
		PALSANA	Wells with Ele.Motors more than 30 HP	1	0.4	1.6
		PALSANA	Wells with Ele.Motors 7.5 to 15 HP	283	0.2	0.8
		SURAT CITY & CHORASI	Wells with Ele.Motors 15 to 30 HP	5	0.3	1.2
		SURAT CITY & CHORASI	Wells with Ele.Motors upto 7.5 HP	3238	0.24	0.96
		SURAT CITY & CHORASI	Wells with Ele.Motors more than 30 HP	1	0.3	1.2
		SURAT CITY & CHORASI	Wells with Ele.Motors 7.5 to 15 HP	239	0.5	2
		UMARPADA	Wells with Ele.Motors 15 to 30 HP	12	0.3	1.2
		UMARPADA	Wells with Ele.Motors upto 7.5 HP	1100	0.12	0.48
		UMARPADA	Wells with Ele.Motors more than 30 HP	0	0	0
		UMARPADA	Wells with Ele.Motors 7.5 to 15 HP	211	0.16	0.64
30	SURENDRANAGAR	CHOTILA	Wells with Ele.Motors 15 to 30 HP	623	0.36	1.44
		CHOTILA	Wells with Ele.Motors upto 7.5 HP	3517	0.14	0.56
		CHOTILA	Wells with Ele.Motors more than 30 HP	19	0.4	1.6
		CHOTILA	Wells with Ele.Motors 7.5 to 15 HP	2009	0.2	0.8
		CHUDA	Wells with Ele.Motors 15 to 30 HP	60	0.24	0.96
		CHUDA	Wells with Ele.Motors upto 7.5 HP	6777	0.12	0.48
		CHUDA	Wells with Ele.Motors more than 30 HP	3	0.3	1.2
		CHUDA	Wells with Ele.Motors 7.5 to 15 HP	611	0.2	0.8
		DASADA	Wells with Ele.Motors 15 to 30 HP	28	0.3	1.2
		DASADA	Wells with Ele.Motors upto 7.5 HP	899	0.16	0.64
		DASADA	Wells with Ele.Motors more than 30 HP	336	0.4	1.6
		DASADA	Wells with Ele.Motors 7.5 to 15 HP	117	0.24	0.96
		DHRANGADHRA	Wells with Ele.Motors 15 to 30 HP	4486	0.2	0.8
		DHRANGADHRA	Wells with Ele.Motors upto 7.5 HP	217	0.1	0.4
		DHRANGADHRA	Wells with Ele.Motors more than 30 HP	836	0.3	1.2
		DHRANGADHRA	Wells with Ele.Motors 7.5 to 15 HP	2351	0.16	0.64
		LAKHTAR	Wells with Ele.Motors 15 to 30 HP	7	0.6	2.4
		LAKHTAR	Wells with Ele.Motors upto 7.5 HP	36	0.2	0.8
		LAKHTAR	Wells with Ele.Motors more than 30 HP	6	0	0
		LAKHTAR	Wells with Ele.Motors 7.5 to 15 HP	44	0.3	1.2
		LIMBDI	Wells with Ele.Motors 15 to 30 HP	0	0.4	1.6
		LIMBDI	Wells with Ele.Motors upto 7.5 HP	183	0.2	0.8
		LIMBDI	Wells with Ele.Motors more than 30 HP	0	0	0
		LIMBDI	Wells with Ele.Motors 7.5 to 15 HP	24	0.3	1.2
		MULI	Wells with Ele.Motors 15 to 30 HP	2546	0.2	0.8
		MULI	Wells with Ele.Motors upto 7.5 HP	122	0.1	0.4
		MULI	Wells with Ele.Motors more than 30 HP	280	0.3	1.2
		MULI	Wells with Ele.Motors 7.5 to 15 HP	1614	0.16	0.64
		SAYLA	Wells with Ele.Motors 15 to 30 HP	1192	0.3	1.2
		SAYLA	Wells with Ele.Motors upto 7.5 HP	5236	0.1	0.4
		SAYLA	Wells with Ele.Motors more than 30 HP	195	0.4	1.6

		SAYLA	Wells with Ele.Motors 7.5 to 15 HP	3599	0.16	0.64
		THANGADH	Wells with Ele.Motors 15 to 30 HP	682	0.24	0.96
		THANGADH	Wells with Ele.Motors upto 7.5 HP	280	0.12	0.48
		THANGADH	Wells with Ele.Motors more than 30 HP	45	0.4	1.6
		THANGADH	Wells with Ele.Motors 7.5 to 15 HP	1912	0.16	0.64
		WADHWAN	Wells with Ele.Motors 15 to 30 HP	632	0.2	0.8
		WADHWAN	Wells with Ele.Motors upto 7.5 HP	1121	0.1	0.4
		WADHWAN	Wells with Ele.Motors more than 30 HP	184	0.3	1.2
		WADHWAN	Wells with Ele.Motors 7.5 to 15 HP	157	0.16	0.64
31	TAPI	DOLVAN	Wells with Ele.Motors 15 to 30 HP	1	0.4	1.6
		DOLVAN	Wells with Ele.Motors upto 7.5 HP	2655	0.16	0.64
		DOLVAN	Wells with Ele.Motors more than 30 HP	2	0	0
		DOLVAN	Wells with Ele.Motors 7.5 to 15 HP	49	0.24	0.96
		KUKARMUNDA	Wells with Ele.Motors 15 to 30 HP	2	0.4	1.6
		KUKARMUNDA	Wells with Ele.Motors upto 7.5 HP	1183	0.16	0.64
		KUKARMUNDA	Wells with Ele.Motors more than 30 HP	1	0	0
		KUKARMUNDA	Wells with Ele.Motors 7.5 to 15 HP	151	0.24	0.96
		NIZAR	Wells with Ele.Motors 15 to 30 HP	50	0.4	1.6
		NIZAR	Wells with Ele.Motors upto 7.5 HP	1532	0.14	0.56
		NIZAR	Wells with Ele.Motors more than 30 HP	3	0	0
		NIZAR	Wells with Ele.Motors 7.5 to 15 HP	533	0.2	0.8
		SONGADH	Wells with Ele.Motors 15 to 30 HP	3	0.3	1.2
		SONGADH	Wells with Ele.Motors upto 7.5 HP	10018	0.12	0.48
		SONGADH	Wells with Ele.Motors more than 30 HP	13	0.4	1.6
		SONGADH	Wells with Ele.Motors 7.5 to 15 HP	136	0.16	0.64
		UCHCHHAL	Wells with Ele.Motors 15 to 30 HP	0	0.4	1.6
		UCHCHHAL	Wells with Ele.Motors upto 7.5 HP	2289	0.14	0.56
		UCHCHHAL	Wells with Ele.Motors more than 30 HP	1	0	0
		UCHCHHAL	Wells with Ele.Motors 7.5 to 15 HP	50	0.24	0.96
		VALOD	Wells with Ele.Motors 15 to 30 HP	21	0.3	1.2
		VALOD	Wells with Ele.Motors upto 7.5 HP	5481	0.12	0.48
		VALOD	Wells with Ele.Motors more than 30 HP	3	0.4	1.6
		VALOD	Wells with Ele.Motors 7.5 to 15 HP	513	0.16	0.64
		VYARA	Wells with Ele.Motors 15 to 30 HP	13	0.4	1.6
		VYARA	Wells with Ele.Motors upto 7.5 HP	9480	0.12	0.48
		VYARA	Wells with Ele.Motors more than 30 HP	12	0.6	2.4
		VYARA	Wells with Ele.Motors 7.5 to 15 HP	276	0.24	0.96
32	VADODARA	DABHOI	Wells with Ele.Motors 15 to 30 HP	1246	1	4
		DABHOI	Wells with Ele.Motors upto 7.5 HP	77	0.24	0.96
		DABHOI	Wells with Ele.Motors more than 30 HP	381	1.2	4.8
		DABHOI	Wells with Ele.Motors 7.5 to 15 HP	1625	0.5	2
		DESAR	Wells with Ele.Motors 15 to 30 HP	24	0.6	2.4
		DESAR	Wells with Ele.Motors upto 7.5 HP	1569	0.2	0.8
		DESAR	Wells with Ele.Motors more than 30 HP	4	0	0

		DESAR	Wells with Ele.Motors 7.5 to 15 HP	377	0.3	1.2
		KARJAN	Wells with Ele.Motors 15 to 30 HP	1653	0.5	2
		KARJAN	Wells with Ele.Motors upto 7.5 HP	239	0.2	0.8
		KARJAN	Wells with Ele.Motors more than 30 HP	61	0.6	2.4
		KARJAN	Wells with Ele.Motors 7.5 to 15 HP	3195	0.3	1.2
		PADRA	Wells with Ele.Motors 15 to 30 HP	2318	1	4
		PADRA	Wells with Ele.Motors upto 7.5 HP	23	0.2	0.8
		PADRA	Wells with Ele.Motors more than 30 HP	184	1.5	6
		PADRA	Wells with Ele.Motors 7.5 to 15 HP	693	0.3	1.2
		SAVLI	Wells with Ele.Motors 15 to 30 HP	739	0.6	2.4
		SAVLI	Wells with Ele.Motors upto 7.5 HP	1872	0.2	0.8
		SAVLI	Wells with Ele.Motors more than 30 HP	107	1	4
		SAVLI	Wells with Ele.Motors 7.5 to 15 HP	976	0.3	1.2
		SINOR	Wells with Ele.Motors 15 to 30 HP	478	0.6	2.4
		SINOR	Wells with Ele.Motors upto 7.5 HP	132	0.2	0.8
		SINOR	Wells with Ele.Motors more than 30 HP	17	1	4
		SINOR	Wells with Ele.Motors 7.5 to 15 HP	1932	0.3	1.2
		VADODARA	Wells with Ele.Motors 15 to 30 HP	1145	1.4	5.6
		VADODARA	Wells with Ele.Motors upto 7.5 HP	136	0.2	0.8
		VADODARA	Wells with Ele.Motors more than 30 HP	353	1.6	6.4
		VADODARA	Wells with Ele.Motors 7.5 to 15 HP	1498	0.6	2.4
		VAGHODIA	Wells with Ele.Motors 15 to 30 HP	73	0.6	2.4
		VAGHODIA	Wells with Ele.Motors upto 7.5 HP	1344	0.2	0.8
		VAGHODIA	Wells with Ele.Motors more than 30 HP	290	1.5	6
		VAGHODIA	Wells with Ele.Motors 7.5 to 15 HP	311	0.3	1.2
33	VALSAD	DHARAMPUR	Wells with Ele.Motors 15 to 30 HP	2	0.3	1.2
		DHARAMPUR	Wells with Ele.Motors upto 7.5 HP	5543	0.14	0.56
		DHARAMPUR	Wells with Ele.Motors more than 30 HP	1	0	0
		DHARAMPUR	Wells with Ele.Motors 7.5 to 15 HP	49	0.2	0.8
		KAPRADA	Wells with Ele.Motors 15 to 30 HP	1	0.3	1.2
		KAPRADA	Wells with Ele.Motors upto 7.5 HP	2941	0.14	0.56
		KAPRADA	Wells with Ele.Motors more than 30 HP	0	0	0
		KAPRADA	Wells with Ele.Motors 7.5 to 15 HP	27	0.2	0.8
		PARDI	Wells with Ele.Motors 15 to 30 HP	6	0.4	1.6
		PARDI	Wells with Ele.Motors upto 7.5 HP	3050	0.12	0.48
		PARDI	Wells with Ele.Motors more than 30 HP	1	0	0
		PARDI	Wells with Ele.Motors 7.5 to 15 HP	58	0.2	0.8
		UMERGAM	Wells with Ele.Motors 15 to 30 HP	2	0.3	1.2
		UMERGAM	Wells with Ele.Motors upto 7.5 HP	2164	0.14	0.56
		UMERGAM	Wells with Ele.Motors more than 30 HP	0	0	0
		UMERGAM	Wells with Ele.Motors 7.5 to 15 HP	45	0.2	0.8
		VALSAD	Wells with Ele.Motors 15 to 30 HP	6	0.4	1.6
		VALSAD	Wells with Ele.Motors upto 7.5 HP	11038	0.12	0.48
		VALSAD	Wells with Ele.Motors more than 30 HP	2	0	0

		VALSAD	Wells with Ele.Motors 7.5 to 15 HP	105	0.2	0.8
		VAPI	Wells with Ele.Motors 15 to 30 HP	1	0.3	1.2
		VAPI	Wells with Ele.Motors upto 7.5 HP	609	0.14	0.56
		VAPI	Wells with Ele.Motors more than 30 HP	0	0	0
		VAPI	Wells with Ele.Motors 7.5 to 15 HP	19	0.2	0.8

Annexure-I

Dynamic Ground Water Resource Assessment 2020, Gujarat State

DYNAMIC GROUND WATER RESOURCES OF Gujarat State, 2020 (in Ham)

GUJARAT State

S. No.	Name of District	Ground Water Recharge					Total Natural Discharges	Annual Extractable Ground Water Resource	Current Annual Ground Water Extraction				Annual GW Allocation for for Domestic Use as on 2025	Net Ground Water Availability for future use	Stage of Ground Water Extraction (%)
		Monsoon Season		Non-monsoon Season		Total Annual Ground Water Recharge			Irrigation	Industrial	Domestic	Total			
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources										
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Ahmedabad	44377.69	9688.35	0.00	10358.61	64424.65	3815.88	60608.76	37210.40	1268.60	676.51	39155.51	2668.36	21359.00	64.60
2	Amreli	137968.04	8043.98	0.00	9991.73	156003.75	7800.19	148203.56	74640.40	5.26	202.83	74848.48	213.21	73344.69	50.50
3	Anand	28882.50	39882.83	0.00	35445.63	104210.96	7150.32	97060.64	22265.10	110.18	3969.68	26344.97	4688.66	70417.45	27.14
4	Arvalli	70906.20	3014.54	0.00	6520.91	80441.65	7690.86	72750.79	32196.30	5.48	1829.47	34031.25	2013.43	38535.58	46.78
5	Banaskantha	82583.48	16242.0	0.00	18448.92	117274.49	10347.7	106926.7	129523.0	62.60	3762.13	133347.78	5092.00	19192.79	124.71
6	Bharuch	63366.21	8169.95	0.00	14870.59	86406.75	8640.66	77766.09	15379.40	36.88	1083.63	16499.90	2032.73	61181.43	21.22
7	Bhavnagar	84934.69	7021.85	0.00	10546.54	102503.08	5125.15	97377.93	42198.40	0.00	64.85	42263.25	71.32	55108.21	43.40
8	Botad	43266.32	2441.28	0.00	3820.15	49527.75	2476.37	47051.37	23049.70	0.00	0.00	23049.70	0.00	24001.67	48.99
9	Chhota Udepur	39945.22	4761.27	0.00	9485.09	54191.58	4894.98	49296.60	18634.60	0.00	1727.58	20362.17	1874.63	28787.38	41.31
10	Dahod	34200.85	6586.17	0.00	10931.19	51718.21	4484.34	47233.87	8267.30	0.00	4576.15	12843.44	5471.59	33494.97	27.19
11	Dang	30173.22	848.43	0.00	925.07	31946.72	3194.67	28752.05	1715.70	61.48	452.40	2229.59	512.56	26462.30	7.75
12	Devbhumi Dw	37488.18	2727.09	0.00	4543.48	44758.75	2237.93	42520.82	24483.80	0.00	1355.95	25839.76	1548.74	16572.46	60.77
13	Gandhinagar	40044.07	5073.64	0.00	7761.33	52879.04	5287.91	47591.13	57109.30	244.37	1384.10	58737.77	1482.08	5393.03	123.42
14	Gir Somnath	52503.68	3210.16	0.00	5115.06	60828.90	3041.45	57787.45	26281.30	0.00	2213.88	28495.19	2767.34	29134.13	49.31
15	Jamnagar	152729.1	6577.36	0.00	11397.39	170703.93	8535.20	162168.7	51496.90	0.00	2122.61	53619.50	2444.32	108379.2	33.06
16	Junagadh	76055.68	5195.42	0.00	8117.83	89368.93	8254.30	81114.63	60211.30	0.00	1904.93	62116.22	2123.43	21912.68	76.58
17	Kachchh	49048.75	18503.5	0.00	17598.75	85151.07	6378.25	78772.82	56933.10	0.90	867.20	57801.20	1554.58	31816.30	73.38
18	Kheda	77455.15	38260.8	0.00	37932.57	153648.53	7682.42	145966.1	52593.70	29.25	3091.16	55714.15	3359.45	90015.92	38.17
19	Mahesana	78565.77	11554.3	0.00	22091.97	112212.10	11221.2	100990.8	100905.6	199.66	2980.50	104085.78	3240.03	7824.57	103.06
20	Mahisagar	17449.93	4907.18	0.00	9088.11	31445.22	3144.51	28300.71	10135.20	0.00	672.87	10808.07	743.97	17421.54	38.19
21	Morbi	48713.01	4137.44	0.00	8088.60	60939.05	3049.69	57889.36	26253.10	0.00	1383.99	27637.10	1830.66	30086.03	47.74
22	Narmada	26666.89	4834.60	0.00	8077.01	39578.50	3008.21	36570.29	18038.40	0.25	463.52	18502.16	504.74	18026.91	50.59
23	Navsari	52834.87	4380.70	0.00	10687.48	67903.05	5501.69	62401.36	19155.60	67.53	2293.87	21517.00	2504.91	40772.34	34.48
24	Panchmahal	22217.36	10692.8	0.00	14646.81	47556.98	4201.20	43355.78	9404.60	27.30	1775.60	11207.50	1969.38	31954.49	25.85
25	Patan	20983.87	5857.67	0.00	9733.79	36575.33	2403.15	34172.18	39745.90	17.89	500.63	40264.41	1359.82	2716.81	117.83
26	Porbandar	21954.45	1698.08	0.00	2792.89	26445.42	1322.26	25123.16	14133.40	0.15	345.88	14479.44	397.17	10624.81	57.63
27	Rajkot	152287.4	14900.5	0.00	23454.28	190642.24	9532.10	181110.14	99844.20	15.50	6381.45	106241.16	7163.96	74086.45	58.66
28	Sabarkantha	50308.31	7772.96	0.00	16687.96	74769.23	7476.93	67292.30	49081.10	7.30	1824.53	50912.92	2007.99	17512.26	75.66
29	Surat	82120.97	10669.35	0.00	27662.98	120453.30	9415.95	111037.35	29018.00	15.00	3362.62	32395.62	6773.66	77637.64	29.18
30	Surendra Nagar	69501.38	4620.63	0.00	6376.66	80498.67	4024.96	76473.70	28902.20	0.00	629.67	29531.87	1150.20	46881.38	38.62
31	Tapi	49529.02	3679.08	0.00	10132.92	63341.02	5127.84	58213.18	18137.80	0.00	500.65	18638.45	536.42	39538.96	32.02
32	Vadodara	64018.71	10055.28	0.00	31613.19	105687.18	7843.33	97843.85	54911.90	397.50	2179.84	57489.24	2365.37	40314.12	58.76
33	Valsad	56234.07	3148.99	0.00	7465.02	66848.08	6046.51	60801.57	13344.80	55.85	5218.47	18619.10	5914.90	41513.84	30.62
	Total (Ham)	**1959315.18**	**289158.4**	**0.00**	**432410.51**	**2680884.11**	**190358.1**	**2490525.91**	**1265201.55**	**2628.93**	**61799.16**	**1329629.65**	**78381.61**	**1252021.38**	**53.39**
	Total (bcm)	**19.5931518**	**2.891584**	**0**	**4.3241051**	**26.8088411**	**1.903581**	**24.9052591**	**12.6520155**	**0.02628932**	**0.6179916**	**13.2962965**	**0.7838161**	**12.5202138**	**53.39**

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : Ahmedabad

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (mcm) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	AHMEDABAD CITY & DAS	16429.11	2369.29	0.00	2350.05	21148.45	1057.42	20091.03	15389.00	1202.90	0.00	16591.90	0.00	3499.13	82.58	semi_critical
2	BAVLA	3252.49	2485.79	0.00	2947.95	8686.23	434.31	8251.92	7417.60	36.50	22.87	7476.97	443.04	771.76	90.61	critical
3	DETROJ-RAMPURA	3436.24	111.72	0.00	111.72	3659.68	182.99	3476.69	1667.90	0.00	63.64	1731.54	172.43	1736.29	49.80	safe
4	DHANDHUKA	Saline														salinity
5	DHOLERA	Saline														
6	DHOLKA	6794.22	1139.9	0.00	1187.53	9121.65	912.16	8209.49	4362.40	18.25	130.43	4511.08	544.17	3680.24	54.95	safe
7	MANDAL	2579.68	300.24	0.00	370.27	3250.19	162.51	3087.68	2492.00	0.00	8.24	2500.24	204.21	586.29	80.97	semi_critical
8	SANAND	9709.82	3022.44	0.00	3054.49	15786.75	789.33	14997.42	5061.50	0.00	433.44	5494.94	576.21	9442.10	36.64	safe
9	VIRAMGAM	2176.13	258.97	0.00	336.6	2771.7	277.16	2494.53	820.00	10.95	17.89	848.84	582.09	1643.19	34.03	safe
District : Total		**44377.69**	**9688.35**	**0.00**	**10358.61**	**64424.65**	**3815.88**	**60608.76**	**37210.40**	**1268.60**	**676.51**	**39155.51**	**2522.15**	**21359.00**	**64.60**	safe

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : Amreli

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	AMRELI	13787.09	1418.86	0.00	1635.2	16841.15	842.06	15999.09	9501.80	5.26	0.00	9507.06	0.00	6492.03	59.42	safe
2	BABRA	16595.46	942.2	0.00	1175.02	18712.68	935.63	17777.05	10481.10	0.00	0.00	10481.10	0.00	7295.95	58.96	safe
3	BAGASARA	7357.58	328.09	0.00	454.75	8140.42	407.02	7733.4	4160.10	0.00	0.00	4160.10	0.00	3573.30	53.79	safe
4	DHARI	26727.58	569.06	0.00	585.3	27881.94	1394.1	26487.84	9434.00	0.00	146.24	9580.24	153.73	16900.11	36.17	safe
5	JAFRABAD	2361.09	250.13	0.00	409.67	3020.89	151.04	2869.85	1857.60	0.00	0.00	1857.60	0.00	1012.25	64.73	safe
6	KHAMBHA	7931.1	630.56	0.00	647.22	9208.88	460.44	8748.44	4640.90	0.00	56.58	4697.48	59.48	4048.06	53.70	safe
7	KUNKAVAV VADIA	18594	618.15	0.00	567.57	19779.72	988.99	18790.73	9861.70	0.00	0.00	9861.70	0.00	8929.03	52.48	safe
8	LATHI	14840.64	1167.97	0.00	1538.11	17546.72	877.34	16669.38	6588.30	0.00	0.00	6588.30	0.00	10081.08	39.52	safe
9	LILIA	5458.03	336.86	0.00	523.99	6318.88	315.94	6002.94	2963.60	0.00	0.00	2963.60	0.00	3039.34	49.37	safe
10	RAJULA	3045.85	674.48	0.00	901.53	4621.86	231.1	4390.76	3890.60	0.00	0.00	3890.60	0.00	500.16	88.61	semi critical
11	SAVAR KUNDLA	21269.62	1107.62	0.00	1553.37	23930.61	1196.53	22734.08	11260.70	0.00	0.00	11260.70	0.00	11473.38	49.53	safe
District : Total		**137968.04**	**8043.98**	**0.00**	**9991.73**	**156003.75**	**7800.19**	**148203.56**	**74640.40**	**5.26**	**202.83**	**74848.48**	**213.21**	**73344.69**	**50.50**	safe

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : Anand

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	**ANAND**	7951.23	4691.27		4142.92	16785.42	839.28	15946.14	4412.20	81.29	1144.82	5638.31	1230.82	10221.83	35.36	safe
2	**ANKLAV**	3787.03	4782.28		4273.2	12842.51	642.13	12200.38	2513.50	0.00	276.40	2789.90	297.16	9389.72	22.87	safe
3	**BORSAD**	0	5817.31		5100.07	10917.38	1091.74	9825.64	3745.80	5.40	1169.94	4921.14	1257.83	4816.61	50.08	safe
4	**KHAMBHAT**	4686.58	2824.5		2006.23	9517.31	475.86	9041.45	2472.60	16.20	130.03	2618.83	486.05	6412.84	28.96	safe
5	**PETLAD**	2733.49	6459.91		5168.78	14362.18	718.11	13644.07	3466.40	0.00	540.98	4007.38	581.62	9596.05	29.37	safe
6	**SOJITRA**	4859.3	6040.73		4853.9	15753.93	1575.39	14178.54	2835.60	4.05	291.27	3130.92	313.16	11025.73	22.08	safe
7	**TARAPUR**	0	6106		6017.88	12123.88	1212.39	10911.49	194.00	0.00	62.96	256.96	142.19	10649.81	2.35	safe
8	**UMRETH**	4864.87	3160.83		3882.65	11908.35	595.42	11312.93	2625.00	3.24	353.29	2981.53	379.83	8304.86	26.36	safe
District : Total		**28882.50**	**39882.83**	**0.00**	**35445.63**	**104210.96**	**7150.32**	**97060.64**	**22265.10**	**110.18**	**3969.68**	**26344.97**	**4688.66**	**70417.45**	**27.14**	safe

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : Arvalli

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	**BAYAD**	18110.15	744.85	0.00	1451.04	20306.04	2030.6	18275.44	6578.30	0.00	272.75	6851.05	300.18	11396.96	37.49	safe
2	**BHILODA**	14464.16	732.63	0.00	1789.02	16985.81	1698.58	15287.23	9084.90	0.00	602.56	9687.45	663.14	5539.20	63.37	safe
3	**DHANSURA**	8381.01	451.11	0.00	863.04	9695.16	969.51	8725.65	3354.10	0.00	172.39	3526.50	189.73	5181.81	40.42	safe
4	**MALPUR**	6225.64	274.15	0.00	566.14	7065.93	353.3	6712.63	3167.90	0.00	80.45	3248.35	88.54	3456.19	48.39	safe
5	**MEGHRAJ**	11232.3	341.64	0.00	853.87	12427.81	1242.78	11185.03	5030.20	0.00	152.14	5182.34	167.44	5987.39	46.33	safe
6	**MODASA**	12492.94	470.16	0.00	997.8	13960.9	1396.09	12564.81	4980.90	5.48	549.18	5535.56	604.40	6974.03	44.06	safe
District : Total		**70906.20**	**3014.54**	**0.00**	**6520.91**	**80441.65**	**7690.86**	**72750.79**	**32196.30**	**5.48**	**1829.47**	**34031.25**	**2013.43**	**38535.58**	**46.78**	safe

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : Banaskantha

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	AMIRGADH	4734.65	1855.2	0.00	2297.86	8887.71	888.78	7998.93	3227.60	0.00	247.46	3475.06	285.65	4485.68	43.44	safe
2	BHABHAR	Saline														salinity
3	DANTA	7068.74	2372.05	0.00	2822.29	12263.08	1226.31	11036.77	4385.60	0.00	298.57	4684.17	344.66	6306.51	42.44	safe
4	DANTIWADA	3152.17	1564.42	0.00	1886.22	6602.81	330.14	6272.67	8277.40	0.00	21.54	8298.94	24.87	0.00	132.30	overexploited
5	DEESA	16708.29	1907.7	0.00	2344.11	20960.1	2096.01	18864.09	33111.35	7.30	1279.25	34397.91	1476.70	0.00	182.35	over_exploited
6	DEODAR	619.82	815.45	0.00	861.41	2296.68	229.67	2067.01	8086.40	7.30	4.87	8098.57	550.19	0.00	391.80	over_exploited
7	DHANERA	11916.25	1371.04	0.00	1371.04	14658.33	1465.83	13192.5	25258.00	0.00	266.03	25524.03	307.09	0.00	193.47	over_exploited
8	KANKREJ	3450.94	1595.5	0.00	1436.58	6483.02	648.3	5834.72	6829.65	0.00	160.31	6989.96	330.20	0.00	119.80	over_exploited
9	LAKHANI	6798.76	640.84	0.00	1021.99	8461.59	846.16	7615.43	14046.55	0.00	396.26	14442.81	457.42	0.00	189.65	over_exploited
10	PALANPUR	17718.24	1566.29	0.00	1707.1	20991.63	1049.59	19942.04	14312.40	48.00	0.00	14360.40	0.00	5581.64	72.01	semi_critical
11	SUIGAM	Saline														salinity
12	THARAD	1708.86	738.33	0.00	864.84	3312.03	331.2	2980.83	4091.60	0.00	735.86	4827.46	868.31	0.00	161.95	over_exploited
13	VADGAM	8706.76	1730.27	0.00	1750.48	12187.51	1218.75	10968.76	7896.50	0.00	351.97	8248.47	406.30	2665.96	75.20	semi_critical
14	VAV	Saline														salinity
District : Total		**82583.48**	**16157.09**	**0.00**	**18363.92**	**117104.49**	**10330.74**	**106773.75**	**129523.05**	**62.60**	**3762.13**	**133347.78**	**5051.39**	**19039.79**	**124.89**	**over_exploited**

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : Bharuch

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	**AMOD**	7439.91	216.98	0.00	648.09	8304.98	830.5	7474.48	2069.70	0.00	50.42	2120.12	54.36	5350.42	28.36	safe
2	**ANKLESVAR**	6107.09	1456.84	0.00	2267.57	9831.5	983.15	8848.35	1400.70	0.18	315.80	1716.67	437.14	7106.98	19.40	safe
3	**BHARUCH**	14338.91	401.93	0.00	1181.29	15922.13	1592.21	14329.92	2630.10	36.70	385.78	3052.58	512.19	11247.16	21.30	safe
4	**HANSOT**	5838.74	2223.3	0.00	3339.31	11401.35	1140.13	10261.22	146.70	0.00	15.66	162.36	68.99	10097.64	1.58	safe
5	**JAMBUSAR**	1368.94	85.49	0.00	1201.72	2656.15	265.61	2390.54	126.10	0.00	0.00	126.10	452.57	2264.44	5.27	safe
6	**JHAGADIA**	8063.99	2259.08	0.00	3506.35	13829.42	1382.94	12446.48	4471.90	0.00	0.00	4471.90	0.00	7974.58	35.93	safe
7	**NETRANG**	8198.14	223.19	0.00	430.53	8851.86	885.18	7966.68	841.00	0.00	163.41	1004.41	176.20	6949.48	12.61	safe
8	**VAGRA**	5825.64	166.99	0.00	608.75	6601.38	660.14	5941.24	108.00	0.00	1.03	109.03	167.90	5832.13	1.84	safe
9	**VALIA**	6184.85	1136.15	0.00	1686.98	9007.98	900.8	8107.18	3585.20	0.00	151.53	3736.73	163.38	4358.60	46.09	safe
District : Total		**63366.21**	**8169.95**	**0.00**	**14870.59**	**86406.75**	**8640.66**	**77766.09**	**15379.40**	**36.88**	**1083.63**	**16499.90**	**2032.73**	**61181.43**	**21.22**	Safe

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : Bhavnagar

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	**BHAVNAGAR**	4936.99	1182.12	0.00	1344.27	7463.38	373.17	7090.21	1751.00	0.00	0.00	1751.00	0.00	5339.21	24.70	safe
2	**GARIADHAR**	6013.94	403.07	0.00	532.5	6949.51	347.48	6602.03	3414.00	0.00	0.00	3414.00	0.00	3188.03	51.71	safe
3	**GHOGHA**	4070.06	613.58	0.00	673.07	5356.71	267.83	5088.88	2656.80	0.00	0.00	2656.80	0.00	2432.08	52.21	safe
4	**JESAR**	6544.58	661.26	0.00	743.08	7948.92	397.44	7551.48	2432.00	0.00	0.00	2432.00	0.00	5119.48	32.21	safe
5	**MAHUVA**	13651.22	1035.42	0.00	1626.51	16313.15	815.66	15497.49	7351.80	0.00	0.00	7351.80	0.00	8145.69	47.44	safe
6	**PALITANA**	13411.65	723.78	0.00	1256.85	15392.28	769.61	14622.67	5661.80	0.00	0.00	5661.80	0.00	8960.87	38.72	safe
7	**SIHOR**	17078.46	626.66	0.00	765.2	18470.32	923.52	17546.8	6069.10	0.00	0.00	6069.10	0.00	11477.70	34.59	safe
8	**TALAJA**	10342.91	975.9	0.00	2214.14	13532.95	676.65	12856.3	7909.20	0.00	64.85	7974.05	71.32	4875.78	62.02	safe
9	**UMRALA**	4754.87	470.58	0.00	927.95	6153.4	307.67	5845.73	3557.00	0.00	0.00	3557.00	0.00	2288.73	60.85	safe
10	**VALLABHIPUR**	4130.01	329.48	0.00	462.97	4922.46	246.12	4676.34	1395.70	0.00	0.00	1395.70	0.00	3280.64	29.85	safe
District : Total		**84934.69**	**7021.85**	**0.00**	**10546.54**	**102503.08**	**5125.15**	**97377.93**	**42198.40**	**0.00**	**64.85**	**42263.25**	**71.32**	**55108.21**	**43.40**	safe

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : Botad

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	**BARWALA**	1287.39	66.5	0.00	167.22	1521.11	76.04	1445.06	793.60	0.00	0.00	793.60	0.00	651.46	54.92	safe
2	**BOTAD**	13622.1	883.23	0.00	1213.71	15719.04	785.96	14933.08	8396.30	0.00	0.00	8396.30	0.00	6536.78	56.23	safe
3	**GADHADA**	11085.11	1221.78	0.00	2025.18	14332.07	716.6	13615.47	9439.70	0.00	0.00	9439.70	0.00	4175.77	69.33	safe
4	**RANPUR**	17271.72	269.77	0.00	414.04	17955.53	897.77	17057.76	4420.10	0.00	0.00	4420.10	0.00	12637.66	25.91	safe
District : Total		**43266.32**	**2441.28**	**0.00**	**3820.15**	**49527.75**	**2476.37**	**47051.37**	**23049.70**	**0.00**	**0.00**	**23049.70**	**0.00**	**24001.67**	**48.99**	safe

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : CHHOTA UDAIPUR

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	**BODELI**	6334.41	815.54	0.00	1091.95	8241.9	824.2	7417.7	1512.10	0.00	291.19	1803.29	315.98	5589.62	24.31	safe
2	**CHHOTA UDAIPUR**	6629	606.43	0.00	1267.05	8502.48	850.24	7652.24	3472.60	0.00	222.57	3695.17	241.52	3938.12	48.29	safe
3	**JETPUR PAVI**	6981.87	764.79	0.00	2736.67	10483.33	524.16	9959.17	5593.30	0.00	306.42	5899.72	332.50	4033.37	59.24	safe
4	**KAVANT**	7632.36	1125.87	0.00	1441.63	10199.86	1019.98	9179.88	3577.50	0.00	535.24	4112.74	580.80	5021.58	44.80	safe
5	**NASVADI**	6236.03	313.78	0.00	637.29	7187.1	718.71	6468.39	1825.90	0.00	223.96	2049.86	243.02	4399.47	31.69	safe
6	**SANKHEDA**	6131.55	1134.86	0.00	2310.5	9576.91	957.69	8619.22	2653.20	0.00	148.20	2801.39	160.81	5805.22	32.50	safe
District : Total		**39945.22**	**4761.27**	**0.00**	**9485.09**	**54191.58**	**4894.98**	**49296.60**	**18634.60**	**0.00**	**1727.58**	**20362.17**	**1874.63**	**28787.38**	**41.31**	safe

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : DAHOD

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	DAHOD	5197.97	299.76	0.00	1275.97	6773.7	338.69	6435.01	904.10	0.00	681.60	1585.70	814.97	4715.94	24.64	safe
2	DEVGADH BARIA	6584.59	1125.29	0.00	1643.13	9353.01	935.3	8417.71	1881.70	0.00	644.05	2525.75	770.08	5765.93	30.01	safe
3	DHANPUR	4631.38	501.74	0.00	769.33	5902.45	590.24	5312.21	653.30	0.00	350.91	1004.21	419.58	4239.33	18.90	safe
4	FATEPURA	3724.26	460.87	0.00	612.31	4797.44	479.74	4317.7	1406.00	0.00	293.40	1699.40	350.81	2560.89	39.36	safe
5	GARBADA	1749.58	854.81	0.00	1102.46	3706.85	370.69	3336.16	426.60	0.00	386.92	813.53	462.64	2446.91	24.39	safe
6	LIMKHEDA	3110.09	1586.03	0.00	2279.86	6975.98	348.8	6627.18	1168.10	0.00	607.00	1775.10	725.78	4733.30	26.79	safe
7	SANJELI	1957.63	246.48	0.00	402.33	2606.44	260.64	2345.8	697.30	0.00	253.79	951.09	303.45	1345.05	40.54	safe
8	SINGVAD	2722.44	1025.29	0.00	1506.45	5254.18	525.42	4728.76	655.70	0.00	340.31	996.01	406.90	3666.16	21.06	safe
9	ZALOD	4522.91	485.9	0.00	1339.35	6348.16	634.82	5713.34	474.50	0.00	1018.15	1492.65	1217.38	4021.46	26.13	safe
District : Total		**34200.85**	**6586.17**	**0.00**	**10931.19**	**51718.21**	**4484.34**	**47233.87**	**8267.30**	**0.00**	**4576.15**	**12843.44**	**5471.59**	**33494.97**	**27.19**	safe

Annexure-II (11/33)

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : DANG

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	AHWA	11341.75	250.24	0.00	256.29	11848.28	1184.83	10663.45	627.20	27.65	212.73	867.58	241.02	9767.58	8.14	safe
2	SUBIR	9577.12	355.81	0.00	346.61	10279.54	1027.95	9251.59	214.20	14.73	110.00	338.94	124.63	8898.02	3.66	safe
3	WAGHAI	9254.35	242.38	0.00	322.17	9818.9	981.89	8837.01	874.30	19.10	129.67	1023.07	146.91	7796.70	11.58	safe
District : Total		**30173.22**	**848.43**	**0.00**	**925.07**	**31946.72**	**3194.67**	**28752.05**	**1715.70**	**61.48**	**452.40**	**2229.59**	**512.56**	**26462.30**	**7.75**	safe

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : DEVBHUMI DWARKA

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	**BHANVAD**	10192.4	892.47	0.00	1599.43	12684.3	634.21	12050.09	6871.60	0.00	82.68	6954.28	89.31	5089.18	57.71	safe
2	**KALYANPUR**	14021.21	823.63	0.00	1258	16102.84	805.14	15297.7	8526.20	0.00	454.63	8980.83	497.75	6280.46	58.71	safe
3	**KHAMBHALIA**	11888.5	927.56	0.00	1614.76	14430.82	721.54	13709.28	8972.40	0.00	621.67	9594.08	680.64	4065.41	69.98	safe
4	**OKHAMANDAL**	1386.07	83.43	0.00	71.29	1540.79	77.04	1463.75	113.60	0.00	196.97	310.57	281.04	1137.41	21.22	safe
District : Total		**37488.18**	**2727.09**	**0.00**	**4543.48**	**44758.75**	**2237.93**	**42520.82**	**24483.80**	**0.00**	**1355.95**	**25839.76**	**1548.74**	**16572.46**	**60.77**	safe

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : GANDHINAGAR

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	**DEHGAM**	12182.88	1260.07	0.00	1326.93	14769.88	1476.99	13292.89	24634.50	5.48	114.23	24754.19	122.53	0.00	186.22	over_exploited
2	**GANDHINAGAR**	11565.68	1448.51	0.00	1632.93	14647.12	1464.71	13182.41	16975.60	79.21	1207.88	18262.69	1295.64	0.00	138.54	over_exploited
3	**KALOL**	9052.03	879.89	0.00	1564.05	11495.97	1149.6	10346.37	7657.20	154.21	31.00	7842.41	32.50	2502.46	75.80	semi_critical
4	**MANSA**	7243.48	1485.17	0.00	3237.42	11966.07	1196.61	10769.46	7842.00	5.48	31.00	7878.48	31.41	2890.57	73.16	semi_critical
District : Total		**40044.07**	**5073.64**	**0.00**	**7761.33**	**52879.04**	**5287.91**	**47591.13**	**57109.30**	**244.37**	**1384.10**	**58737.77**	**1482.08**	**5393.03**	**123.42**	over_exploited

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : GIR SOMNATH

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	GIR GADHDA	3557.33	480.63	0.00	830.66	4868.62	243.43	4625.19	2743.50	0.00	195.19	2938.69	209.13	1672.56	63.54	safe
2	KODINAR	11647.14	833.5	0.00	1197.23	13677.87	683.89	12993.98	5860.60	0.00	317.39	6178.00	408.53	6793.31	47.55	safe
3	PATAN-VERAVAL	8269.15	319.03	0.00	429.91	9018.09	450.91	8567.18	3628.50	0.00	339.71	3968.22	527.04	4574.69	46.32	safe
4	SUTRAPADA	9374.7	373.51	0.00	616.74	10364.95	518.25	9846.7	3933.30	0.00	74.31	4007.61	232.96	5833.79	40.70	safe
5	TALALA	13158.12	578.54	0.00	1009.39	14746.05	737.3	14008.75	5460.80	0.00	376.56	5837.36	403.46	8144.49	41.67	safe
6	UNA	6497.24	624.95	0.00	1031.13	8153.32	407.67	7745.65	4654.60	0.00	910.71	5565.31	986.22	2115.29	71.85	semi_critical
District : Total		**52503.68**	**3210.16**	**0.00**	**5115.06**	**60828.90**	**3041.45**	**57787.45**	**26281.30**	**0.00**	**2213.88**	**28495.19**	**2767.34**	**29134.13**	**49.31**	safe

Annexure-II (15/33)

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : JAMNAGAR

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	DHROL	10464.45	701.61	0.00	1447.13	12613.19	630.66	11982.53	5398.10	0.00	131.71	5529.81	142.26	6442.17	46.15	safe
2	JAMJODHPUR	24034.88	1280.33	0.00	2199.84	27515.05	1375.75	26139.3	9229.40	0.00	37.94	9267.33	40.97	16868.94	35.45	safe
3	JAMNAGAR	37801.63	936.36	0.00	1960.51	40698.5	2034.93	38663.57	10341.10	0.00	1522.33	11863.43	1772.90	26678.21	30.68	safe
4	JODIYA	12431.14	1154.52	0.00	1879.7	15465.36	773.27	14692.09	5085.00	0.00	127.58	5212.59	160.87	9469.29	35.48	safe
5	KALAVAD	33501.19	1598.89	0.00	2678	37778.08	1888.9	35889.18	13663.90	0.00	100.02	13763.91	108.03	22117.26	38.35	safe
6	LALPUR	34495.89	905.65	0.00	1232.21	36633.75	1831.69	34802.06	7779.40	0.00	203.03	7982.43	219.29	26803.37	22.94	safe
District : Total		**152729.18**	**6577.36**	**0.00**	**11397.39**	**170703.93**	**8535.20**	**162168.73**	**51496.90**	**0.00**	**2122.61**	**53619.50**	**2444.32**	**108379.24**	**33.06**	safe

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : JUNAGADH

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	BHESAN	3916.45	658.24	0.00	920.55	5495.24	549.53	4945.71	6334.00	0.00	0.00	6334.00	0.00	0.00	128.07	over_exploited
2	JUNAGADH CITY & JUNA	7251.76	536.59	0.00	1090.19	8878.54	887.86	7990.68	7282.10	0.00	957.86	8239.96	1026.28	0.00	103.12	over_exploited
3	KESHOD	9368.46	734.04	0.00	1391.98	11494.48	1149.45	10345.03	8608.90	0.00	198.47	8807.37	212.65	1523.48	85.14	semi_critical
4	MALIA	8183.95	730.93	0.00	1160.5	10075.38	1007.54	9067.84	6762.00	0.00	45.35	6807.35	48.59	2257.25	75.07	semi_critical
5	MANAVADAR	4043.7	577.33	0.00	1067.26	5688.29	568.83	5119.46	6293.60	0.00	158.88	6452.47	224.32	0.00	126.04	over_exploited
6	MANGROL	12609.72	437.8	0.00	604.83	13652.35	682.62	12969.73	3765.40	0.00	385.86	4151.26	441.75	8790.91	32.01	safe
7	MENDARDA	10764.52	542.37	0.00	736.37	12043.26	1204.33	10838.93	5037.70	0.00	77.60	5115.30	83.15	5718.08	47.19	safe
8	VANTHALI	7588.36	381.87	0.00	601.19	8571.42	857.14	7714.28	5121.20	0.00	41.27	5162.47	44.22	2548.86	66.92	safe
9	VISAVADAR	12328.76	596.25	0.00	544.96	13469.97	1347	12122.97	11006.40	0.00	39.64	11046.04	42.47	1074.10	91.12	critical
District : Total		**76055.68**	**5195.42**	**0.00**	**8117.83**	**89368.93**	**8254.30**	**81114.63**	**60211.30**	**0.00**	**1904.93**	**62116.22**	**2123.43**	**21912.68**	**76.58**	semi_critical

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : KACHCHH

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	**ABDASA**	6546.49	1311.38	0.00	681.77	8539.64	853.97	7685.67	1810.00	0.00	96.70	1906.70	264.45	5758.45	24.81	safe
2	**ANJAR**	4606.31	2333.07	0.00	2165.17	9104.55	455.23	8649.32	5073.10	0.00	0.00	5073.10	0.00	3576.22	58.65	safe
3	**BHACHAU**	2319.88	933.1	0.00	1596.79	4849.77	484.98	4364.79	4882.90	0.00	0.00	4882.90	0.00	0.00	111.87	over_exploited
4	**BHUJ**	4866.6	3863.34	0.00	4607.09	13337.03	666.85	12670.18	22755.70	0.90	0.00	22756.60	0.00	0.00	179.61	over_exploited
5	**GANDHIDHAM**	Saline														salinity
6	**LAKHPAT**	2798.54	3015.59	0.00	2920.98	8735.11	873.51	7861.6	58.00	0.00	0.00	58.00	0.00	7803.60	0.74	safe
7	**MANDVI**	7334.28	1256.17	0.00	558.01	9148.46	457.42	8691.04	8912.40	0.00	167.32	9079.72	457.57	0.00	104.47	over_exploited
8	**MUNDRA**	3131.12	3539.17	0.00	3221.08	9891.37	989.14	8902.23	5876.30	0.00	213.03	6089.33	352.28	2767.69	68.40	safe
9	**NAKHATRANA**	9057.48	1085.69	0.00	1004.18	11147.35	557.37	10589.98	5931.90	0.00	390.15	6322.05	480.28	4185.13	59.70	safe
10	**RAPAR**	8388.05	1166.06	0.00	843.68	10397.79	1039.78	9358.01	1632.80	0.00	0.00	1632.80	0.00	7725.21	17.45	safe
District : Total		**49048.75**	**18503.57**	**0.00**	**17598.75**	**85151.07**	**6378.25**	**78772.82**	**56933.10**	**0.90**	**867.20**	**57801.20**	**1554.58**	**31816.30**	**73.38**	Semi Critical

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : KHEDA

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	GALTESHWAR	698.41	259.46	0.00	229.16	1187.03	59.35	1127.68	739.90	0.00	195.83	935.73	210.78	177.00	82.98	semi_critical
2	KAPADVANJ	29875.48	821.56	0.00	888.38	31585.42	1579.27	30006.15	5658.60	0.00	0.00	5658.60	0.00	24347.55	18.86	safe
3	KATHLAL	8449.08	3955.5	0.00	3682.54	16087.12	804.36	15282.76	2550.20	0.00	499.33	3049.53	537.46	12195.10	19.95	safe
4	KHEDA	8310.28	1489.81	0.00	1982.29	11782.38	589.11	11193.27	5486.50	0.00	282.79	5769.29	310.62	5402.39	51.54	safe
5	MAHUDHA	4301.83	4511.66	0.00	4640.59	13454.08	672.7	12781.38	5988.20	0.00	226.62	6214.83	243.93	6549.24	48.62	safe
6	MATAR	3782.61	5839.36	0.00	7725.68	17347.65	867.38	16480.27	6811.00	3.24	89.35	6903.60	122.18	9569.85	41.89	safe
7	MEHMEDABAD	8827.22	3996.5	0.00	3790.35	16614.07	830.71	15783.36	5028.90	0.00	437.62	5466.53	471.04	10283.41	34.63	safe
8	NADIAD	2778.53	7762.71	0.00	5266.58	15807.82	790.39	15017.43	3696.60	23.76	850.47	4570.83	915.41	10381.66	30.44	safe
9	THASRA	7314.04	6672.79	0.00	7098.35	21085.18	1054.26	20030.92	13017.20	2.25	389.11	13408.56	418.82	6592.65	66.94	safe
10	VASO	3117.67	2951.46	0.00	2628.65	8697.78	434.89	8262.89	3616.60	0.00	120.04	3736.65	129.21	4517.07	45.22	safe
District : Total		**77455.15**	**38260.81**	**0.00**	**37932.57**	**153648.53**	**7682.42**	**145966.11**	**52593.70**	**29.25**	**3091.16**	**55714.15**	**3359.45**	**90015.92**	**38.17**	safe

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : MAHESANA

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	BECHARAJI	2319.09	544.8	0.00	1043.65	3907.54	390.76	3516.78	3906.10	0.00	61.21	3967.31	108.91	0.00	112.81	over_exploited
2	JOTANA	3124.88	404.49	0.00	347.6	3876.97	387.7	3489.27	4468.00	0.00	102.70	4570.71	135.33	0.00	130.99	over_exploited
3	KADI	14840.11	1585.68	0.00	2668.52	19094.31	1909.43	17184.88	13703.50	44.53	426.98	14175.02	454.12	2982.72	82.49	semi_critical
4	KHERALU	6155.5	1175.72	0.00	1868.15	9199.37	919.94	8279.43	12476.60	7.30	63.70	12547.60	67.75	0.00	151.55	over_exploited
5	MAHESANA	15292.9	2282	0.00	4719.72	22294.62	2229.46	20065.16	18774.10	128.30	1322.07	20224.47	1406.29	0.00	100.79	over_exploited
6	SATLASANA	4751.07	674.49	0.00	1249.88	6675.44	667.55	6007.89	9139.00	0.00	52.67	9191.68	56.02	0.00	152.99	over_exploited
7	UNJHA	6165.49	700.01	0.00	1386.17	8251.67	825.17	7426.5	5697.10	0.00	0.00	5697.10	0.00	1729.40	76.71	semi_critical
8	VADNAGAR	5335.88	797.94	0.00	1533.63	7667.45	766.74	6900.71	8695.20	0.00	65.18	8760.38	69.33	0.00	126.95	over_exploited
9	VIJAPUR	11892.31	1688.94	0.00	3359.44	16940.69	1694.07	15246.62	13889.00	12.23	577.46	14478.69	614.16	731.23	94.96	critical
10	VISNAGAR	8688.54	1700.29	0.00	3915.21	14304.04	1430.4	12873.64	10157.00	7.30	308.52	10472.82	328.12	2381.22	81.35	semi_critical
District : Total		**78565.77**	**11554.36**	**0.00**	**22091.97**	**112212.10**	**11221.22**	**100990.88**	**100905.60**	**199.66**	**2980.50**	**104085.78**	**3240.03**	**7824.57**	**103.06**	over_exploited

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : MAHISAGAR

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	**BALASINOR**	3406.42	280.19	0.00	569.22	4255.83	425.58	3830.25	1871.00	0.00	54.01	1925.02	58.14	1901.10	50.26	safe
2	**KADANA**	2633.59	968.45	0.00	1601.1	5203.14	520.31	4682.83	1309.00	0.00	172.94	1481.94	191.81	3182.02	31.65	safe
3	**KHANPUR**	1468.31	1199.1	0.00	2427.38	5094.79	509.48	4585.31	1957.80	0.00	74.08	2031.87	82.16	2545.36	44.31	safe
4	**LUNAWADA**	3331.67	1580.93	0.00	3139.74	8052.34	805.23	7247.11	1007.00	0.00	0.00	1007.00	0.00	6240.11	13.90	safe
5	**SANTRAMPUR**	4470.37	591.17	0.00	798.3	5859.84	585.98	5273.86	2149.30	0.00	354.69	2503.99	393.40	2731.16	47.48	safe
6	**VIRPUR**	2139.57	287.34	0.00	552.37	2979.28	297.93	2681.35	1841.10	0.00	17.15	1858.25	18.46	821.79	69.30	safe
District : Total		**17449.93**	**4907.18**	**0.00**	**9088.11**	**31445.22**	**3144.51**	**28300.71**	**10135.20**	**0.00**	**672.87**	**10808.07**	**743.97**	**17421.54**	**38.19**	safe

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District: MORBI

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	**HALVAD**	11756.32	731.73	0.00	2510.56	14998.61	749.93	14248.68	7158.40	0.00	130.52	7288.92	294.63	6947.23	51.16	safe
2	**MALIYA**	Saline														salinity
3	**MORBI**	7331.16	621.96	0.00	658.54	8611.66	430.59	8181.07	1577.00	0.00	684.61	2261.61	867.54	5835.51	27.64	safe
4	**TANKARA**	14059.67	1579.97	0.00	2713.14	18352.78	917.64	17435.14	7977.00	0.00	34.30	8011.30	38.50	9419.64	45.95	safe
5	**WANKANER**	15565.86	1186.59	0.00	2168.82	18921.27	946.06	17975.21	9540.70	0.00	534.56	10075.27	608.70	7834.39	56.05	safe
District : Total		**48713.01**	**4120.25**	**0.00**	**8051.06**	**60884.32**	**3044.22**	**57840.10**	**26253.10**	**0.00**	**1383.99**	**27637.10**	**1809.37**	**30036.77**	**47.78**	safe

Annexure-II (22/33)

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : NARMADA

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	**DEDIAPADA**	6701.34	467.39	0.00	646.77	7815.5	781.55	7033.95	2028.30	0.00	0.00	2028.30	0.00	5005.65	28.84	safe
2	**GARUDESHWAR**	1004.02	911.84	0.00	1649.32	3565.18	356.52	3208.66	349.00	0.25	89.38	438.63	97.33	2762.08	13.67	safe
3	**NANDOD**	13057.12	2444.27	0.00	3491.43	18992.82	949.64	18043.18	12335.00	0.00	374.14	12709.13	407.41	5300.78	70.44	semi_critical
4	**SAGBARA**	2562.54	615.1	0.00	1296.1	4473.74	447.37	4026.37	1339.60	0.00	0.00	1339.60	0.00	2686.77	33.27	safe
5	**TILAKWADA**	3341.87	396	0.00	993.39	4731.26	473.13	4258.13	1986.50	0.00	0.00	1986.50	0.00	2271.63	46.65	safe
District : Total		**26666.89**	**4834.60**	**0.00**	**8077.01**	**39578.50**	**3008.21**	**36570.29**	**18038.40**	**0.25**	**463.52**	**18502.16**	**504.74**	**18026.91**	**50.59**	safe

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : NAVSARI

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	**BANSDA**	14819.33	423.51	0.00	1242.03	16484.87	1648.48	14836.39	4302.40	0.00	570.95	4873.35	598.83	9935.16	32.85	safe
2	**CHIKHLI**	10621.31	1411.82	0.00	3408.73	15441.86	772.1	14669.76	6274.30	0.00	489.36	6763.66	513.26	7882.20	46.11	safe
3	**GANDEVI**	5233.18	501.53	0.00	1592.9	7327.61	366.39	6961.22	2779.20	0.00	404.88	3184.08	465.28	3757.37	45.74	safe
4	**JALALPORE**	13321.77	767.69	0.00	1663.96	15753.42	1575.35	14178.07	2591.90	0.00	316.34	2908.24	390.18	11254.38	20.51	safe
5	**KHERGAM**	2408.01	204.83	0.00	390.4	3003.24	150.16	2853.08	1259.90	0.00	0.00	1259.90	0.00	1593.18	44.16	safe
6	**NAVSARI**	6431.27	1071.32	0.00	2389.46	9892.05	989.21	8902.84	1947.90	67.53	512.34	2527.77	537.36	6350.05	28.39	safe
District : Total		**52834.87**	**4380.70**	**0.00**	**10687.48**	**67903.05**	**5501.69**	**62401.36**	**19155.60**	**67.53**	**2293.87**	**21517.00**	**2504.91**	**40772.34**	**34.48**	safe

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District: PANCHMAHAL

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	GHOGHAMBA	3248.51	534.15	0.00	869.69	4652.35	465.24	4187.11	2001.40	0.00	362.94	2364.34	402.55	1783.16	56.47	safe
2	GODHRA	5026.72	3249.29	0.00	3905.99	12182	1218.2	10963.8	1433.20	0.60	535.12	1968.92	593.52	8936.48	17.96	safe
3	HALOL	4441.1	1366.75	0.00	1921.2	7729.05	772.91	6956.14	2071.60	0.00	268.25	2339.85	297.53	4587.01	33.64	safe
4	JAMBUGHODA	610.76	646.03	0.00	1196.58	2453.37	245.34	2208.03	551.40	0.00	27.72	579.12	30.75	1625.88	26.23	safe
5	KALOL	3180.21	1362.12	0.00	1924.93	6467.26	646.72	5820.54	1403.50	26.70	320.94	1751.15	355.97	4034.36	30.09	safe
6	MORWA HADAF	2293.43	198.55	0.00	490.95	2982.93	298.29	2684.64	639.50	0.00	260.62	900.12	289.06	1756.08	33.53	safe
7	SHEHRA	3416.63	3335.92	0.00	4337.47	11090.02	554.5	10535.52	1304.00	0.00	0.00	1304.00	0.00	9231.52	12.38	safe
District : Total		**22217.36**	**10692.81**	**0.00**	**14646.81**	**47556.98**	**4201.20**	**43355.78**	**9404.60**	**27.30**	**1775.60**	**11207.50**	**1969.38**	**31954.49**	**25.85**	safe

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : PATAN

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	CHANASMA	441.57	171.77	0.00	199.29	812.63	81.26	731.37	750.90	6.57	0.00	757.47	421.12	0.00	103.57	over_exploited
2	HARIJ	Saline														salinity
3	PATAN	4829.43	2020.93	0.00	3822.73	10673.09	1067.31	9605.78	7671.25	0.00	194.38	7865.63	439.51	1724.46	81.88	semi_critical
4	RADHANPUR	Saline														salinity
5	SAMI	Saline														salinity
6	SANKHESWAR	Saline														salinity
7	SANTALPUR	Saline														salinity
8	SARSVATI(PATAN)	4083.42	2279.6	0.00	4284.2	10647.22	532.36	10114.86	18607.25	0.00	306.25	18913.49	490.75	0.00	186.99	over_exploited
9	SIDHPUR	11629.45	1385.37	0.00	1425.59	14440.41	722.02	13718.39	12716.50	11.32	0.00	12727.82	0.00	990.57	92.78	critical
District : Total		**20983.87**	**5857.67**	**0.00**	**9731.81**	**36573.35**	**2402.95**	**34170.40**	**39745.90**	**17.89**	**500.63**	**40264.41**	**1351.38**	**2715.03**	**117.83**	over_exploited

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : PORBANDAR

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	KUTIYANA	7305.28	450.39	0.00	846.19	8601.86	430.09	8171.77	4157.10	0.00	116.88	4273.99	147.58	3891.39	52.30	safe
2	PORBANDAR	5984.64	876.4	0.00	1331.82	8192.86	409.64	7783.22	5582.50	0.15	0.00	5582.65	0.00	2200.57	71.73	semi_critical
3	RANAVAV	8664.53	371.29	0.00	614.88	9650.7	482.53	9168.17	4393.80	0.00	229.00	4622.80	249.59	4532.85	50.42	safe
District : Total		**21954.45**	**1698.08**	**0.00**	**2792.89**	**26445.42**	**1322.26**	**25123.16**	**14133.40**	**0.15**	**345.88**	**14479.44**	**397.17**	**10624.81**	**57.63**	safe

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : RAJKOT

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	DHORAJI	9859.65	1350.92	0.00	1956.66	13167.23	658.36	12508.87	8723.00	0.00	331.31	9054.32	371.94	3413.92	72.38	semi_critical
2	GONDAL	38522.71	2194.63	0.00	3281.57	43998.91	2199.95	41798.96	17888.60	0.00	395.71	18284.32	444.24	23466.11	43.74	safe
3	JAMKANDORNA	12967.19	1178.73	0.00	1885.12	16031.04	801.56	15229.48	8622.20	0.00	14.12	8636.32	15.85	6591.43	56.71	safe
4	JASDAN	12623.88	1465.21	0.00	2658.77	16747.86	837.39	15910.47	9433.00	0.00	558.34	9991.33	626.80	5850.68	62.80	safe
5	JETPUR	13495.81	1135.26	0.00	1835.49	16466.56	823.32	15643.24	9391.90	0.00	409.49	9801.40	459.71	5791.62	62.66	safe
6	KOTADA SANGANI	8991.78	771.44	0.00	1436.91	11200.13	560.01	10640.12	5541.50	0.00	128.08	5669.58	143.79	4954.83	53.28	safe
7	LODHIKA	7217.8	840.29	0.00	1160.87	9218.96	460.94	8758.02	4516.20	0.00	32.86	4549.06	36.89	4204.93	51.94	safe
8	PADDHARI	9615.9	1534.81	0.00	2408.24	13558.95	677.95	12881	7840.80	0.00	54.07	7894.87	60.70	4979.50	61.29	safe
9	RAJKOT	22573.12	1763.76	0.00	2733.41	27070.29	1353.51	25716.78	12699.40	15.50	4112.50	16827.41	4616.79	8385.08	65.43	safe
10	UPLETA	11361.52	1300.48	0.00	2069.03	14731.03	736.55	13994.48	8937.00	0.00	344.95	9281.95	387.25	4670.23	66.33	safe
11	VINCHCHIYA	5058.1	1364.97	0.00	2028.21	8451.28	422.56	8028.72	6250.60	0.00	0.00	6250.60	0.00	1778.12	77.85	semi_critical
District : Total		**152287.46**	**14900.50**	**0.00**	**23454.28**	**190642.24**	**9532.10**	**181110.14**	**99844.20**	**15.50**	**6381.45**	**106241.16**	**7163.96**	**74086.45**	**58.66**	safe

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : SABARKANTHA

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	**HIMATNAGAR**	11725.74	1684.72	0.00	2136.12	15546.58	1554.66	13991.92	10269.90	7.30	499.67	10776.86	549.91	3164.82	77.02	semi_critical
2	**IDAR**	9879.32	1561.13	0.00	3253.75	14694.2	1469.43	13224.77	10332.80	0.00	527.59	10860.39	580.64	2311.33	82.12	semi_critical
3	**KHEDBRAHMA**	4146.12	766.41	0.00	1362.75	6275.28	627.53	5647.75	3302.90	0.00	287.73	3590.62	316.65	2028.21	63.58	safe
4	**POSHINA**	3489.92	208.11	0.00	380.57	4078.6	407.86	3670.74	1506.80	0.00	231.90	1738.70	255.22	1908.72	47.37	safe
5	**PRANTIJ**	6942.16	631.67	0.00	623.91	8197.74	819.77	7377.97	8694.30	0.00	0.00	8694.30	0.00	0.00	117.84	over_exploited
6	**TALOD**	6446.83	761.49	0.00	3454.42	10662.74	1066.27	9596.47	5572.90	0.00	0.00	5572.90	0.00	4023.57	58.07	safe
7	**VADALI**	3842.67	1049.24	0.00	1566.08	6457.99	645.8	5812.19	5168.20	0.00	0.00	5168.20	0.00	643.99	88.92	semi_critical
8	**VIJAYNAGAR**	3835.55	1110.19	0.00	3910.36	8856.1	885.61	7970.49	4233.30	0.00	277.65	4510.95	305.57	3431.62	56.60	safe
District : Total		**50308.31**	**7772.96**	**0.00**	**16687.96**	**74769.23**	**7476.93**	**67292.30**	**49081.10**	**7.30**	**1824.53**	**50912.92**	**2007.99**	**17512.26**	**75.66**	**semi_critical**

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : SURAT

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	BARDOLI	5805.03	1855.43	0.00	4403.25	12063.71	1206.38	10857.33	5147.40	3.30	474.16	5624.86	615.75	5090.88	51.81	safe
2	KAMREJ	10196.55	1000.99	0.00	2724.39	13921.93	696.1	13225.83	5058.80	10.80	494.48	5564.08	642.13	7514.10	42.07	safe
3	MAHUVA	5073.86	1406.08	0.00	3396.97	9876.91	987.69	8889.22	3687.60	0.00	173.69	3861.29	225.55	4976.07	43.44	safe
4	MANDVI	15905.67	1411.7	0.00	5463.83	22781.2	2278.12	20503.08	4209.00	0.00	552.64	4761.64	717.66	15576.42	23.22	safe
5	MANGROL	15540.84	1204.27	0.00	2831.7	19576.81	978.85	18597.96	2164.40	0.00	619.08	2783.48	803.94	15629.62	14.97	safe
6	OLPAD	6902.55	2111.03	0.00	4420.15	13433.73	671.69	12762.04	1781.40	0.90	0.00	1782.30	0.00	10979.74	13.97	safe
7	PALSANA	6859.39	767.61	0.00	2018.94	9645.94	964.59	8681.35	2692.40	0.00	306.82	2999.22	398.44	5590.51	34.55	safe
8	SURAT CITY & CHORASI	10441.4	823.69	0.00	2232.35	13497.44	1349.75	12147.69	3598.20	0.00	484.97	4083.17	3036.73	7919.70	33.61	safe
9	UMARPADA	5395.68	88.55	0.00	171.4	5655.63	282.78	5372.85	678.80	0.00	256.79	935.58	333.46	4360.60	17.41	safe
District : Total		**82120.97**	**10669.35**	**0.00**	**27662.98**	**120453.30**	**9415.95**	**111037.35**	**29018.00**	**15.00**	**3362.62**	**32395.62**	**6773.66**	**77637.64**	**29.18**	safe

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : SURENDRANAGAR

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	CHOTILA	10669.67	679.81	0.00	865.85	12215.33	610.76	11604.57	4508.00	0.00	0.00	4508.00	0.00	7096.57	38.85	safe
2	CHUDA	4093.04	383.09	0.00	823.89	5300.02	265	5035.02	3805.50	0.00	0.00	3805.50	0.00	1229.52	75.58	semi_critical
3	DASADA	2176.91	204.05	0.00	339.31	2720.27	136.02	2584.25	1261.30	0.00	0.00	1261.30	0.00	1322.95	48.81	safe
4	DHRANGADHRA	19071.96	910.04	0.00	931.43	20913.43	1045.67	19867.76	6184.30	0.00	0.00	6184.30	0.00	13683.46	31.13	safe
5	LAKHTAR	Saline														salinity
6	LIMBDI	858.93	366.89	0.00	353.36	1579.18	78.96	1500.22	177.00	0.00	0.00	177.00	0.00	1323.22	11.80	safe
7	MULI	13433.76	438.4	0.00	740.46	14612.62	730.63	13881.99	3457.10	0.00	0.00	3457.10	0.00	10424.89	24.90	safe
8	SAYLA	11526.54	870.45	0.00	1270.98	13667.97	683.4	12984.57	6143.50	0.00	0.00	6143.50	0.00	6841.07	47.31	safe
9	THANGADH	3074.81	488.31	0.00	570.15	4133.27	206.66	3926.6	2088.20	0.00	0.00	2088.20	0.00	1838.40	53.18	safe
10	WADHWAN	4595.76	279.59	0.00	480.63	5355.98	267.8	5088.18	1277.30	0.00	629.67	1906.97	1150.20	3120.76	37.48	safe
District : Total		**69501.38**	**4620.63**	**0.00**	**6376.06**	**80498.07**	**4024.90**	**76473.16**	**28902.20**	**0.00**	**629.67**	**29531.87**	**1150.20**	**46880.84**	**38.62**	safe

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : TAPI

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	**DOLVAN**	5462.02	355.72	0.00	1084.82	6902.56	690.25	6212.31	1750.00	0.00	0.00	1750.00	0.00	4462.31	28.17	safe
2	**KUKARMUNDA**	2347.25	107.74	0.00	187.94	2642.93	264.29	2378.64	906.80	0.00	101.30	1008.10	108.54	1363.30	42.38	safe
3	**NIZAR**	1964.1	196.93	0.00	346.91	2507.94	250.79	2257.15	1367.20	0.00	0.00	1367.20	0.00	889.95	60.57	safe
4	**SONGADH**	21227.87	822.31	0.00	2074.94	24125.12	1206.26	22918.86	4922.70	0.00	299.23	5221.93	320.61	17675.55	22.78	safe
5	**UCHCHHAL**	9156.83	216.44	0.00	333.91	9707.18	970.72	8736.46	1331.60	0.00	100.12	1431.72	107.27	7297.59	16.39	safe
6	**VALOD**	2781.59	1046.58	0.00	3099.27	6927.44	692.75	6234.69	2991.30	0.00	0.00	2991.30	0.00	3243.39	47.98	safe
7	**VYARA**	6589.36	933.36	0.00	3005.13	10527.85	1052.78	9475.07	4868.20	0.00	0.00	4868.20	0.00	4606.87	51.38	safe
District : Total		**49529.02**	**3679.08**	**0.00**	**10132.92**	**63341.02**	**5127.84**	**58213.18**	**18137.80**	**0.00**	**500.65**	**18638.45**	**536.42**	**39538.96**	**32.02**	safe

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : VADODARA

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	**DABHOI**	10232.08	1833.12	0.00	7320.96	19386.16	969.31	18416.85	10141.90	0.00	254.88	10396.79	276.58	7998.36	56.45	safe
2	**DESAR**	844.89	1356.17	0.00	3283.46	5484.52	548.46	4936.06	1769.00	0.00	172.47	1941.47	187.15	2979.91	39.33	safe
3	**KARJAN**	12698.23	951.88	0.00	3494.15	17144.26	857.22	16287.04	7482.00	0.00	289.73	7771.73	314.39	8490.65	47.72	safe
4	**PADRA**	9247.13	792.92	0.00	2865.77	12905.82	1290.58	11615.24	11236.50	0.00	482.71	11719.21	523.79	0.00	100.90	over_exploited
5	**SAVLI**	5480.57	2118.88	0.00	5296	12895.45	1289.55	11605.9	4875.50	0.00	543.76	5419.26	590.05	6140.35	46.69	safe
6	**SINOR**	5101.15	885.85	0.00	1862.24	7849.24	784.92	7064.32	3644.00	0.00	113.14	3757.14	122.77	3297.55	53.18	safe
7	**VADODARA**	12363.89	1655.02	0.00	3958.79	17977.7	898.89	17078.81	12389.00	375.90	323.14	13088.04	350.64	3963.27	76.63	semi_critical
8	**VAGHODIA**	8050.77	461.44	0.00	3531.82	12044.03	1204.4	10839.63	3374.00	21.60	0.00	3395.60	0.00	7444.03	31.33	safe
District : Total		**64018.71**	**10055.28**	**0.00**	**31613.19**	**105687.18**	**7843.33**	**97843.85**	**54911.90**	**397.50**	**2179.84**	**57489.24**	**2365.37**	**40314.12**	**58.76**	safe

Taluka Wise Ground Water Resources, Availability, Utilization and Stage of Ground Water Development (2020)

District : VALSAD

Sr. No.	Taluka	ANNUAL REPLENISHABLE GROUND WATER RESOURCE (Ham)					Natural Discharge during non-monsoon season (mcm) (5 % of 7 WTF & 10 % RIF)	Net Annual Ground Water Availability (Ham) (7- 8)	ANNUAL GROUND WATER DRAFT (Ham)				Annual GW Allocation for for Domestic Use as on 2025 (Ham)	Net Ground Water Availability for future use (Ham)	Stage of Ground Water Development (%) (13/9) * 100	Category
		Monsoon		Non Monsoon		Total Annual Ground Water Recharge (3+4+5+6)			Irrigation	Industrial uses	Domestic uses	Total (10 + 11+12)				
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	DHARAMPUR	11668.64	904.96	0.00	1134.35	13707.95	1370.8	12337.15	3147.50	0.00	615.05	3762.55	693.85	8495.80	30.50	safe
2	KAPRADA	13609.57	637.45	0.00	1133.64	15380.66	1538.06	13842.6	1670.60	0.00	745.45	2416.05	840.97	11331.03	17.45	safe
3	PARDI	12178.94	348.18	0.00	1333.62	13860.74	1386.07	12474.67	1521.60	15.70	1525.35	3062.64	1720.79	9216.59	24.55	safe
4	UMERGAM	6457.78	209.29	0.00	1124.01	7791.08	779.11	7011.97	1252.40	0.00	738.08	1990.48	832.65	4926.92	28.39	safe
5	VALSAD	9623.57	936.75	0.00	2205.46	12765.78	638.29	12127.49	5393.60	40.15	953.22	6386.97	1103.15	5618.39	52.67	safe
6	VAPI	2695.57	112.36	0.00	533.94	3341.87	334.18	3007.69	359.10	0.00	641.32	1000.41	723.49	1925.11	33.26	safe
District : Total		**56234.07**	**3148.99**	**0.00**	**7465.02**	**66848.08**	**6046.51**	**60801.57**	**13344.80**	**55.85**	**5218.47**	**18619.10**	**5914.90**	**41513.84**	**30.62**	safe

Annexure-III (A1)

General description of groundwater assesment unit of District Ahmedabad, Gujarat State						
Type of groundwater assesment unit : Taluka						
S. No	Name of GroundWater Assessment Unit	Type of Formation	Areal Extent (Area in Hactare)			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground Water Quality (Ha)
1	Ahmedabad City & Daskroi	Alluvium	95,627	0	95,627	0
2	Bavla	Alluvium	77,455	0	15,708	61,747
3	Detroj-rampura	Alluvium	35,000	0	16,072	18,928
4	Dhandhuka	Alluvium	72,235	0	0	72,235
5	Dholera	Alluvium	1,04,688	0	0	1,04,688
6	Dholka	Alluvium	1,01,993	0	38,538	63,455
7	Mandal	Alluvium	47,385	0	8,193	39,192
8	Sanand	Alluvium	78,452	0	55,356	23,096
9	Viramgam	Alluvium	89,030	0	13,856	75,174
Total			7,01,865	0.00	2,43,350	4,58,515

Annexure-III (A2)

General description of groundwater assesment unit of District Amreli, Gujarat State						
Type of groundwater assesment unit : Taluka						
S. No	Name of GroundWater Assessment Unit	Type of Formation	Areal Extent (Area in Hactare)			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground Water Quality (Ha)
1	Amreli	Basalt	83,850	0	83,850	0
2	Babra	Basalt	79,320	0	79,320	0
3	Bagasara	Basalt	31,990	0	31,990	0
4	Dhari	Basalt	1,06,000	0	1,06,000	0
5	Jafrabad	Alluvium	35,570	0	26,600	8,970
6	Khambha	Basalt	40,740	0	40,740	0
7	Kunkavav vadia	Basalt	54,590	0	54,590	0
8	Lathi	Basalt	63,275	0	63,275	0
9	Lilia	Basalt	39,500	0	39,500	0
10	Rajula	Basalt	84,760	0	75,191	9,569
11	Savar kundla	Basalt	1,17,950	0	1,17,950	0
Total			7,37,545	0	7,19,006	18,539

Annexure-III (A3)

General description of groundwater assesment unit of District Anand, Gujarat State						
Type of groundwater assesment unit : Taluka						
S. No	Name of GroundWater Assessment Unit	Type of Formation	Areal Extent (Area in Hactare)			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground Water Quality (Ha)
1	Anand	Alluvium	35,036	0	35,036	0
2	Anklav	Alluvium	16,759	0	16,759	0
3	Borsad	Alluvium	41,705	0	41,705	0
4	Khambhat	Alluvium	85,371	0	36,196	49,175
5	Petlad	Alluvium	29,859	0	29,859	0
6	Sojitra	Alluvium	16,560	0	16,560	0
7	Tarapur	Alluvium	33,746	0	17,692	16,054
8	Umreth	Alluvium	23,612	0	23,612	0
Total			2,82,648	0	2,17,419	65,229

Annexure-III (A4)

General description of groundwater assesment unit of District Arvalli,Gujarat State						
Type of groundwater assesment unit : Taluka						
S.No	Name of Ground Water Assesment Unit	Type of Formation	Areal Extent (Area in Hectare)			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground water Quality (Ha)
1	BAYAD	Basalt / Alluvium	59293	0	59293	0
2	BHILODA	Basalt	72045	6375	65670	0
3	DHANSURA	Basalt	39106	0	39106	0
4	MALPUR	Basalt	36536	0	36536	0
5	MEGHRAJ	Basalt	54481	143.06	54337.94	0
6	MODASA	Basalt	60506	0	60506	0
	Total		321967	6518.06	315448.9	0

Annexure-III (A5)

General description of groundwater assesment unit of District BANASKANTHA,Gujarat State						
Type of groundwater assesment unit : Taluka						
S.No	Name of Ground Water Assessment Unit	Type of Formation	Areal Extent (Area in Hectare			
			Total Geograhic Area (Ha)	Hilly Arae (Ha)	Recharge Worthy Area (Ha)	Poor Ground water Quality (Ha)
1	AMIRGADH	Basalt	60970	11400.37	49569.63	0
2	BHABHAR	Alluvium	42371	0	0	42371
3	DANTA	Basalt	86074	15575	70499	0
4	DANTIWADA	Basalt	41470	605.35	40864.65	0
5	DEESA	Alluvium	104489	0	104489	0
6	DEODAR	Alluvium	50701	0	4922	45779
7	DHANERA	Alluvium	84290	0	84290	0
8	KANKREJ	Alluvium	79550	0	28423	51127
9	LAKHANI	Alluvium	55472	0	55472	0
10	PALANPUR	Alluvium	79150	2228.44	76921.56	0
11	SUIGAM	Alluvium	65828	0	0	65828
12	THARAD	Alluvium	129386	0	16054	113332
13	VADGAM	Alluvium	56587	0	56587	0
14	VAV	Alluvium	104194	0	0	104194
	Total		**1040532**	**29809.16**	**588091.8**	**334481**

Annexure-III (A6)

General description of groundwater assesment unit of District Bharuch,Gujarat State						
Type of groundwater assesment unit : Taluka						
S.No	Name of Ground Water Assesment Unit	Type of Formation	Areal Extent (Area in Hectare			
			Total Geograhic Area (Ha)	Hilly Arae (Ha)	Recharge Worthy Area (Ha)	Poor Ground water Quality (Ha)
1	AMOD	Alluvium	46782	0	46782	0
2	ANKLESVAR	Alluvium	43604	0	27228	16376
3	BHARUCH	Alluvium	64435	0	48826	15609
4	HANSOT	Alluvium	39861	0	21160	18701
5	JAMBUSAR	Alluvium	109734	0	7502	102232
6	JHAGADIA	Basalt	61000	393	60607	0
7	NETRANG	Basalt	38700	997	37703	0
8	VAGRA	Alluvium	88343	0	25900	62443
9	VALIA	Basalt	31600	3000	28600	0
	Total		**524059**	**4390**	**304308**	**62443**

Annexure-III (A7)

General description of groundwater assesment unit of District Bhavnagar, Gujarat State						
Type of groundwater assesment unit : Taluka						
S. No	Name of GroundWater Assessment Unit	Type of Formation	Areal Extent (Area in Hactare)			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground Water Quality (Ha)
1	Bhavnagar	Basalt	1,13,970	0	43,200	70,770
2	Gariadhar	Basalt	45,580	0	45,580	0
3	Ghogha	Basalt	43,780	0	33,995	9,785
4	Jesar	Basalt & Alluvium	42,658	0	42,658	0
5	Mahuva	Basalt	1,02,059	0	1,02,059	0
6	Palitana	Basalt	62,213	0	62,213	0
7	Sihor	Basalt	72,090	0	72,090	0
8	Talaja	Basalt	86,970	0	86,970	0
9	Umrala	Basalt	40,730	0	40,730	0
10	Vallabhipur	Basalt & Alluvium	59,340	0	51,610	7,730
Total			6,69,390	0	5,81,105	88,285

Annexure-III (A8)

General description of groundwater assesment unit of District Botad, Gujarat State						
Type of groundwater assesment unit : Taluka						
S. No	Name of GroundWater Assessment Unit	Type of Formation	Areal Extent (Area in Hactare)			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground Water Quality (Ha)
1	Barwala	Basalt	48,472	0	12,480	35,992
2	Botad	Basalt	74,940	0	74,940	0
3	Gadhada	Basalt	89,790	0	89,790	0
4	Ranpur	Basalt	42,910	0	42,910	0
Total			2,56,112	0	2,20,120	35,992

Annexure-III (A9)

General description of groundwater Assessment unit of District CHHOTA UDEPUR,Gujarat State						
Type of groundwater Assessment unit : Taluka						
S.No	Name of Ground Water Assessment Unit	Type of Formation	Areal Extent (Area in Hectare)			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground water Quality (Ha)
1	BODELI	Basalt	56000	1335	54665	0
2	CHHOTA UDAIPUR	Basalt	77435	2411	75024	0
3	JETPUR PAVI	Basalt	56400	3135	53265	0
4	KAVANT	Basalt	60475	4605	55870	0
5	NASVADI	Basalt	53520	5812	47708	0
6	SANKHEDA	Basalt / Alluvium	42200	0	42200	0
	Total		**346030**	**17298**	**328732**	**0**

Annexure-III (A10)

General description of groundwater assessment unit of District DAHOD,Gujarat State						
Type of groundwater assessment unit : Taluka						
S.No	Name of Ground Water Assessment Unit	Type of Formation	Areal Extent (Area in Hectare)			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground water Quality (Ha)
1	DAHOD	Basalt	62760	0	62760	0
2	DEVGADH BARIA	Basalt	58510	1953	56557	0
3	DHANPUR	Basalt	46640	4680	41960	0
4	FATEPURA	Basalt	32380	140	32240	0
5	GARBADA	Basalt	26140	0	26140	0
6	LIMKHEDA	Basalt	34252	2442	31810	0
7	SANJELI	Basalt	17278	152	17126	0
8	SINGVAD	Basalt	25467	2704	22763	0
9	ZALOD	Basalt	61553	87	61466	0
	Total		**364980**	**12158**	**352822**	**0**

Annexure-III (A11)

General description of groundwater assessment unit of District DANG,Gujarat State						
Type of groundwater assessment unit : Taluka						
S.No	Name of Ground Water Assessment Unit	Type of Formation	Areal Extent (Area in Hectare			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground water Quality (Ha)
1	AHWA	Basalt	68412	16518	51894	0
2	SUBIR	Basalt	50942	7122	43820	0
3	WAGHAI	Basalt	51471	11875	39596	0
	Total		**170825**	**35515**	**135310**	**0**

Annexure-III (A12)

General description of groundwater assessment unit of District DEVBHUMI DWARKA ,Gujarat State						
S.No	Name of Ground Water Assessment Unit	Type of Formation	Areal Extent (Area in Hectare			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground water Quality (Ha)
1	BHANVAD	Basalt	73195	2173	71022	0
2	KALYANPUR	Basalt	141222	0	125289	15933
3	KHAMBHALIA	Basalt	121425	10072	99653	11700
4	OKHAMANDAL	Soft Rock	71685	0	32822	38863
	Total		**407527**	**12245**	**328786**	**66496**

Annexure-III (A13)

General description of groundwater assesment unit of District Gandhinagar, Gujarat State						
Type of groundwater assesment unit : Taluka						
S. No	Name of GroundWater Assessment Unit	Type of Formation	Areal Extent (Area in Hactare)			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground Water Quality (Ha)
1	Dehgam	Alluvium	61,926	0	61,926	0
2	Gandhinagar	Alluvium	68,656	0	68,656	0
3	Kalol	Alluvium	48,225	0	48,225	0
4	Mansa	Alluvium	37,777	0	37,777	0
Total			2,16,584	0	2,16,584	0

Annexure-III (A14)

General description of groundwater assesment unit of District Gir Somnath, Gujarat State						
Type of groundwater assesment unit : Taluka						
S. No	Name of GroundWater Assessment Unit	Type of Formation	Areal Extent (Area in Hactare)			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground Water Quality (Ha)
1	Gir Gadhda	Basalt	44,329	0	44,329	0
2	Kodinar	Alluvium	49,826	0	43,633	6,193
3	Patan-veraval	Alluvium	35,860	0	21,990	13,870
4	Sutrapada	Alluvium	33,760	0	14,410	19,350
5	Talala	Basalt	95,150	0	95,150	0
6	Una	Basalt	1,17,370	0	1,03,702	13,668
Total			3,76,295	0	3,23,214	53,081

Annexure-III (A15)

General description of groundwater assessment unit of District JAMNAGAR ,Gujarat State						
S.No	Name of Ground Water Assessment Unit	Type of Formation	Areal Extent (Area in Hectare)			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground water Quality (Ha)
1	DHROL	Basalt	56988	0	56988	0
2	JAMJODHPUR	Basalt	109131	0	109131	0
3	JAMNAGAR	Basalt	116700	0	92930	23770
4	JODIYA	Basalt	86868	0	63098	23770
5	KALAVAD	Basalt	124436	0	124436	0
6	LALPUR	Basalt	107828	99	107729	0
	Total		**601951**	**99**	**554312**	**47540**

Annexure-III (A16)

General description of groundwater assessment unit of District JUNAGADH ,Gujarat State						
Type of groundwater assessment unit : Taluka						
S.No	Name of Ground Water Assessment Unit	Type of Formation	Areal Extent (Area in Hectare			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground water Quality (Ha)
1	BHESAN	Basalt	43860	0	43860	0
2	JUNAGADH CITY & JUNA	Basalt	66980	8142	58838	0
3	KESHOD	Basalt	55660	0	55660	0
4	MALIA	Basalt	53970	0	53970	0
5	MANAVADAR	Basalt	59170	0	38953	20217
6	MANGROL	Alluvium	57250	0	40991	16259
7	MENDARDA	Basalt	36380	0	36380	0
8	VANTHALI	Basalt	39320	0	39320	0
9	VISAVADAR	Basalt	90170	0	90170	0
	Total		**502760**	**8142**	**458142**	**36476**

Annexure-III (A17)

General description of groundwater assessment unit of District KACHCHH ,Gujarat State						
Type of groundwater assessment unit : Taluka						
S.No	Name of Ground Water Assessment Unit	Type of Formation	Areal Extent (Area in Hectare			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground water Quality (Ha)
1	ABDASA	Soft Rock	240010	0	116289	123721
2	ANJAR	Basalt / Alluvium	115825	0	31538	84287
3	BHACHAU	Soft Rock	199960	0	31538	168422
4	BHUJ	Soft Rock	452840	0	131263	321577
5	GANDHIDHAM	Soft Rock	15335	0	0	15335
6	LAKHPAT	Soft Rock	197200	0	41959	155241
7	MANDVI	Basalt	142540	0	70166	72374
8	MUNDRA	Basalt	88820	0	59618	29202
9	NAKHATRANA	Soft Rock	198360	0	177031	21329
10	RAPAR	Soft Rock	299760	0	99760	200000
	Total		**1950650**	**0**	**759162**	**1191488**

Annexure-III (A18)

General description of groundwater assesment unit of District Kheda, Gujarat State						
Type of groundwater assesment unit : Taluka						
S. No	Name of GroundWater Assessment Unit	Type of Formation	Areal Extent (Area in Hactare)			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground Water Quality (Ha)
1	Galteshwar	Basalt	22,542	0	22,542	0
2	Kapadvanj	Basalt	62,296	0	62,296	0
3	Kathlal	Alluvium	34,511	0	34,511	0
4	Kheda	Alluvium	30,063	0	26,563	3,500
5	Mahudha	Alluvium	24,726	0	24,726	0
6	Matar	Alluvium	35,117	0	26,117	9,000
7	Mehmedabad	Alluvium	39,301	0	39,301	0
8	Nadiad	Alluvium	33,282	0	33,282	0
9	Thasra	Basalt & Alluvium	43,808	0	43,808	0
10	Vaso	Alluvium	10,980	0	10,980	0
Total			3,36,626	0	3,24,126	12,500

Annexure-III (A19)

General description of groundwater assessment unit of District MAHESANA ,Gujarat State						
Type of groundwater assessment unit : Taluka						
S.No	Name of Ground Water Assessment Unit	Type of Formation	Areal Extent (Area in Hectare)			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground water Quality (Ha)
1	BECHARAJI	Alluvium	43390	0	13397	29993
2	JOTANA	Alluvium	20174	0	15775	4399
3	KADI	Alluvium	69287	0	69287	0
4	KHERALU	Alluvium	33757	0	33757	0
5	MAHESANA	Alluvium	77081	0	75308	1773
6	SATLASANA	Alluvium	30771	2428	28343	0
7	UNJHA	Alluvium	31770	0	31770	0
8	VADNAGAR	Alluvium	30721	0	30721	0
9	VIJAPUR	Alluvium	55236	0	55236	0
10	VISNAGAR	Alluvium	48470	0	48470	0
	Total		**440657**	**2428**	**402064**	**36165**

Annexure-III (A20)

General description of groundwater assessment unit of District MAHISAGAR ,Gujarat State						
Type of groundwater assessment unit : Taluka						
S.No	Name of Ground Water Assessment Unit	Type of Formation	Areal Extent (Area in Hectare)			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground water Quality (Ha)
1	BALASINOR	Basalt	30039	0	30039	0
2	KADANA	Basalt	42530	1108	41422	0
3	KHANPUR	Basalt	32270	61	32209	0
4	LUNAWADA	Basalt	62070	0	62070	0
5	SANTRAMPUR	Basalt	57970	2927	55043	0
6	VIRPUR	Basalt	24567	0	24567	0
	Total		**249446**	**4096**	**245350**	**0**

Annexure-III (A21)

General description of groundwater assesment unit of District Morbi, Gujarat State						
Type of groundwater assesment unit : Taluka						
S. No	Name of GroundWater Assessment Unit	Type of Formation	Areal Extent (Area in Hactare)			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground Water Quality (Ha)
1	Halvad	Soft Rock	1,21,818	0	65,136	56,682
2	Maliya	Alluvium	76,998	0	0	76,998
3	Morvi	Basalt & Alluvium	1,02,927	0	74,907	28,020
4	Tankara	Basalt	66,871	0	66,871	0
5	Wankaner	Basalt & Soft Rock	1,11,757	0	1,00,618	11,139
Total			4,80,371	0	3,07,532	1,72,839

Annexure-III (A22)

General description of groundwater assessment unit of District NARMADA ,Gujarat State						
Type of groundwater assessment unit : Taluka						
S.No	Name of Ground Water Assessment Unit	Type of Formation	Areal Extent (Area in Hectare)			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground water Quality (Ha)
1	DEDIAPADA	Basalt	102387	11352	91035	0
2	GARUDESHWAR	Basalt	34603	10643	23960	0
3	NANDOD	Basalt & Alluvium	77897	5467	72430	0
4	SAGBARA	Basalt	36740	1775	34965	0
5	TILAKWADA	Basalt	24441	0	24441	0
	Total		**276068**	**29237**	**246831**	**0**

Annexure-III (23)

General description of groundwater assessment unit of District NAVSARI ,Gujarat State						
Type of groundwater assessment unit : Taluka						
S.No	Name of Ground Water Assessment Unit	Type of Formation	Areal Extent (Area in Hectare)			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground water Quality (Ha)
1	BANSDA	Basalt	60040	5828	54212	0
2	CHIKHLI	Basalt	45592	0	45592	0
3	GANDEVI	Basalt & Alluvium	28430	0	21540	6890
4	JALALPORE	Alluvium	48024	0	33354	14670
5	KHERGAM	H.R	11839	0	11839	0
6	NAVSARI	Alluvium	26027	0	26027	0
	Total		**219952**	**5828**	**192564**	**21560**

Annexure-III (A24)

General description of groundwater assessment unit of District PANCHMAHAL, Gujarat State						
Type of groundwater assessment unit: Taluka						
S.No	Name of Ground Water Assessment Unit	Type of Formation	Areal Extent (Area in Hectare)			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground water Quality (Ha)
1	GHOGHAMBA	Basalt	49990	314	49676	0
2	GODHRA	Basalt	75730	0	75730	0
3	HALOL	Basalt	51700	1972	49728	0
4	JAMBUGHODA	Basalt	12130	1281	10849	0
5	KALOL	Basalt	39800	0	39800	0
6	MORWA HADAF	Basalt	32170	0	32170	0
7	SHEHRA	Basalt	61050	0	61050	0
	Total		**322570**	**3567**	**319003**	**0**

Annexure-III (A25)

General description of groundwater assesment unit of District Patan, Gujarat State						
Type of groundwater assesment unit : Taluka						
S. No	Name of GroundWater Assessment Unit	Type of Formation	Areal Extent (Area in Hactare)			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground Water Quality (Ha)
1	Chanasma	Alluvium	45725	0	3644	42081
2	Harij	Alluvium	40712	0	0	40712
3	Patan	Alluvium	47971	0	29891	18080
4	Radhanpur	Alluvium	59562	0	0	59562
5	Sami	Alluvium	90585	0	0	90585
6	Sankheswar	Alluvium	60859	0	0	60859
7	Santalpur	Alluvium	135026	0	0	135026
8	Sarsvati(Patan)	Alluvium	55186	0	24775	30411
9	Sidhpur	Alluvium	37478	0	37478	0
Total			573104	0	95788	477316

Annexure-III (A26)

General description of groundwater assesment unit of District Porbansar, Gujarat State						
Type of groundwater assesment unit : Taluka						
S. No	Name of GroundWater Assessment Unit	Type of Formation	Areal Extent (Area in Hactare)			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground Water Quality (Ha)
1	Kutiyana	Basalt	55635	0	40741	14894
2	Porbandar	Basalt & Alluvium	111760	0	53000	58760
3	Ranavav	Basalt & Alluvium	58800	0	51029	7771
Total			226195	0	144770	81425

Annexure-III (A27)

General description of groundwater assesment unit of District Rajkot, Gujarat State						
Type of groundwater assesment unit : Taluka						
S. No	Name of GroundWater Assessment Unit	Type of Formation	Areal Extent (Area in Hactare)			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground Water Quality (Ha)
1	Dhoraji	Basalt	48494	0	48494	0
2	Gondal	Basalt	119362	0	119362	0
3	Jamkandorna	Basalt	56029	0	56029	0
4	Jasdan	Basalt	83342	0	83342	0
5	Jetpur	Basalt	62758	0	62758	0
6	Kotada sangani	Basalt	44700	0	44700	0
7	Lodhika	Basalt	37323	0	37323	0
8	Paddhari	Basalt	59933	0	59933	0
9	Rajkot	Basalt	100488	0	100488	0
10	Upleta	Basalt	83924	0	83924	0
11	Vinchchiya	Basalt	51030	0	51030	0
Total			747383	0	747383	0

Annexure-III (A28)

General description of groundwater assessment unit of District SABARKANTHA, Gujarat State						
Type of groundwater assessment unit : Taluka						
S.No	Name of Ground Water Assessment Unit	Type of Formation	Areal Extent (Area in Hectare)			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground water Quality (Ha)
1	HIMATNAGAR	Basalt / Alluvium	77322	0	77322	0
2	IDAR	Basalt	80732	2226	78506	0
3	KHEDBRAHMA	Basalt	38930	890	38040	0
4	POSHINA	Basalt	36056	3845	32211	0
5	PRANTIJ	Alluvium	39956	0	39956	0
6	TALOD	Basalt / Alluvium	42852	0	42852	0
7	VADALI	Basalt	33886	0	33886	0
8	VIJAYNAGAR	Basalt	45605	10581	35024	0
	Total		**395339**	**17542**	**377797**	**0**

Annexure-III (A29)

General description of groundwater assessment unit of District SURAT, Gujarat State						
Type of groundwater assessment unit: Taluka						
S.No	Name of Ground Water Assessment Unit	Type of Formation	Areal Extent (Area in Hectare)			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground water Quality (Ha)
1	BARDOLI	Basalt	37910	0	37910	0
2	KAMREJ	Alluvium	37930	0	37930	0
3	MAHUVA	Basalt	35430	0	35430	0
4	MANDVI	Basalt / Alluvium	67373	0	67373	0
5	MANGROL	Basalt / Alluvium	58448	0	58448	0
6	OLPAD	Alluvium	68710	0	42970	25740
7	PALSANA	Alluvium	20996	0	20996	0
8	SURAT CITY & CHORASI	Alluvium	58270	0	49900	8370
9	UMARPADA	Basalt	26047	342	25705	0
	Total		**411114**	**342**	**376662**	**34110**

Annexure-III (A30)

General description of groundwater assesment unit of District Surendranagar, Gujarat State						
Type of groundwater assesment unit : Taluka						
S. No	Name of GroundWater Assessment Unit	Type of Formation	Areal Extent (Area in Hactare)			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground Water Quality (Ha)
1	Chotila	Basalt	80345	0	80345	0
2	Chuda	Basalt	50076	0	17265	32811
3	Dasada	Alluvium	163011	0	17135	145876
4	Dhrangadhra	Soft Rock	136978	0	117626	19352
5	Lakhtar	Alluvium	74176	0	0	74176
6	Limbdi	Basalt	121299	0	22032	99267
7	Muli	Soft Rock	90198	0	63208	26990
8	Sayla	Basalt & Soft Rock	97291	0	97291	0
9	Thangadh	Soft Rock	28860	0	20454	8406
10	Wadhwan	Basalt	79578	0	47686	31892
Total			921812	0	483042	438770

Annexure-III (A31)

General description of groundwater assessment unit of District TAPI, Gujarat State						
Type of groundwater assessment unit : Taluka						
S. No	Name of Ground Water Assessment Unit	Type of Formation	Areal Extent (Area in Hectare)			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground water Quality (Ha)
1	DOLVAN	Basalt	36981	1377	35604	0
2	KUKARMUNDA	Basalt	16561	4	16557	0
3	NIZAR	Basalt / Alluvium	23479	7	23472	0
4	SONGADH	Basalt	109375	7763	101612	0
5	UCHCHHAL	Basalt	62150	564	61586	0
6	VALOD	Basalt	20230	0	20230	0
7	VYARA	Basalt	44279	307	43972	0
	Total		**313055**	**10022**	**303033**	**0**

Annexure-III (A32)

General description of groundwater assesment unit of District Vadodara, Gujarat State						
Type of groundwater assesment unit : Taluka						
S. No	Name of GroundWater Assessment Unit	Type of Formation	Areal Extent (Area in Hactare)			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground Water Quality (Ha)
1	Dabhoi	Alluvium	63260	0	63260	0
2	Desar	Basalt	23200	0	23200	0
3	Karjan	Alluvium	60190	0	60190	0
4	Padra	Alluvium	53460	0	53460	0
5	Savli	Basalt & Alluvium	56700	0	56700	0
6	Sinor	Alluvium	29250	0	29250	0
7	Vadodara	Alluvium	67000	0	67000	0
8	Vaghodia	Basalt & Alluvium	56550	0	56550	0
Total			409610	0	409610	0

Annexure-III (A33)

General description of groundwater assessment unit of District VALSAD, Gujarat State						
Type of groundwater assessment unit: Taluka						
S.No	Name of Ground Water Assessment Unit	Type of Formation	Areal Extent (Area in Hectare)			
			Total Geographic Area (Ha)	Hilly Area (Ha)	Recharge Worthy Area (Ha)	Poor Ground water Quality (Ha)
1	DHARAMPUR	Basalt	71329	21000	50329	0
2	KAPRADA	Basalt	93134	41500	51634	0
3	PARDI	Basalt	60026	9	60017	0
4	UMERGAM	Basalt	36198	0	36198	0
5	VALSAD	Basalt	52010	0	44695	7315
6	VAPI	Basalt	12990	0	12990	0
	Total		**325687**	**62509**	**255863**	**7315**

Annexure-IV

Average Water Level & Fluctuation Data

District	Assessment Unit	Year	Water Level (m)		WL Fluctuation (m)
			Pre-monsoon	Post-Monsoon	
AHMEDABAD	AHMEDABAD CITY & DAS	2010	18.1	14.03	4.07
	AHMEDABAD CITY & DAS	2011	16.79	15.06	1.73
	AHMEDABAD CITY & DAS	2012	28.77	26.25	2.52
	AHMEDABAD CITY & DAS	2013	26.34	24.13	2.21
	AHMEDABAD CITY & DAS	2014	24.98	22.29	2.69
	AHMEDABAD CITY & DAS	2015	24.07	22.37	1.7
	AHMEDABAD CITY & DAS	2016	25.14	21.45	3.69
	AHMEDABAD CITY & DAS	2017	22.9	23.66	-0.76
	AHMEDABAD CITY & DAS	2018	23.93	24.38	-0.45
	AHMEDABAD CITY & DAS	2019	27.26	24.16	3.1
	BAVLA	2010	5.83	4.4	1.43
	BAVLA	2011	6.98	4.72	2.26
	BAVLA	2012	8.78	7.86	0.92
	BAVLA	2013	9.69	7.62	2.07
	BAVLA	2014	9.24	7.26	1.98
	BAVLA	2015	9.72	7.03	2.69
	BAVLA	2016	8.89	7.16	1.73
	BAVLA	2017	8.34	6.14	2.2
	BAVLA	2018	9.31	8.45	0.86
	BAVLA	2019	11.19	6.95	4.24
	DETROJ-RAMPURA	2012	38.71	36.51	2.2
	DETROJ-RAMPURA	2013	36.51	34.23	2.28
	DETROJ-RAMPURA	2014	32.82	30.67	2.15
	DETROJ-RAMPURA	2016	26.69	24.73	1.96
	DETROJ-RAMPURA	2017	27.02	24.94	2.08
	DETROJ-RAMPURA	2018	26.38	25.73	0.65
	DETROJ-RAMPURA	2019	26.7	25.19	1.51
	DHANDHUKA	2010	6.02	4.28	1.74
	DHANDHUKA	2011	4.73	4.77	-0.04
	DHANDHUKA	2012	6.08	4.62	1.46
	DHANDHUKA	2013	5.78	4.06	1.72
	DHANDHUKA	2014	6.11	3.96	2.15
	DHANDHUKA	2015	6.11	3.03	3.08
	DHANDHUKA	2016	5.5	4.19	1.31
	DHANDHUKA	2017	5.52	2.52	3
	DHANDHUKA	2018	3.79	4.06	-0.27
	DHANDHUKA	2019	3.95	3.31	0.64
	DHOLERA	2010	3.23	0.8	2.43
	DHOLERA	2011	2.23	1.02	1.21
	DHOLERA	2012	2.42	1.26	1.16
	DHOLERA	2013	2.8	1.38	1.42
	DHOLERA	2014	3.33	1.24	2.09
	DHOLERA	2015	3.52	0.95	2.57
	DHOLERA	2016	3.06	1.92	1.14
	DHOLERA	2017	3.19	1.29	1.9
	DHOLERA	2018	2.76	1.34	1.42
	DHOLERA	2019	2.8	0.66	2.14
	DHOLKA	2010	26.45	23.5	2.95

	DHOLKA	2011	25.05	21.68	3.37
	DHOLKA	2012	16.21	15.12	1.09
	DHOLKA	2013	18.21	13.0	5.21
	DHOLKA	2014	15.04	12.68	2.36
	DHOLKA	2015	16.26	13.66	2.6
	DHOLKA	2016	15.31	13.65	1.66
	DHOLKA	2017	15.49	12.81	2.68
	DHOLKA	2018	14.42	13.19	1.23
	DHOLKA	2019	15.97	11.46	4.51
	MANDAL	2011	27.84	22.86	4.98
	MANDAL	2012	24.3	21.81	2.49
	MANDAL	2013	22.36	18.31	4.05
	MANDAL	2014	18.53	15.87	2.66
	MANDAL	2015	17.79	15.72	2.07
	MANDAL	2016	18.27	15.06	3.21
	MANDAL	2017	16.33	14.75	1.58
	MANDAL	2019	18.94	14.98	3.96
	SANAND	2010	10.15	6.84	3.31
	SANAND	2011	8.96	5.94	3.02
	SANAND	2012	13.57	12.08	1.49
	SANAND	2013	14.27	11.25	3.02
	SANAND	2014	14.26	10.69	3.57
	SANAND	2015	13.66	11.47	2.19
	SANAND	2016	13.76	11.37	2.39
	SANAND	2017	14.33	10.03	4.3
	SANAND	2019	18.62	13.9	4.72
	VIRAMGAM	2010	7.65	5.85	1.8
	VIRAMGAM	2011	6.91	5.12	1.79
	VIRAMGAM	2012	14.58	13.95	0.63
	VIRAMGAM	2013	16.42	12.69	3.73
	VIRAMGAM	2014	14.95	11.53	3.42
	VIRAMGAM	2015	14.81	12.2	2.61
	VIRAMGAM	2016	21.33	7.35	13.98
	VIRAMGAM	2017	8.25	5.68	2.57
	VIRAMGAM	2018	7.73	9.12	-1.39
	VIRAMGAM	2019	11.72	6.27	5.45
AMRELI	AMRELI	2010	15.17	6.54	8.63
	AMRELI	2011	12.14	5.4	6.74
	AMRELI	2012	13.86	10.38	3.48
	AMRELI	2013	15.31	5.52	9.79
	AMRELI	2014	16.17	12.09	4.08
	AMRELI	2015	19.54	9.16	10.38
	AMRELI	2016	18.24	6.73	11.51
	AMRELI	2017	16.55	8.46	8.09
	AMRELI	2018	18.42	11.56	6.86
	AMRELI	2019	19.61	12.56	7.05
	BABRA	2010	17.82	4.21	13.61
	BABRA	2011	21.6	4.13	17.47
	BABRA	2012	14.25	12.94	1.31
	BABRA	2013	21.87	3.65	18.22
	BABRA	2014	17.35	13.76	3.59
	BABRA	2015	22.36	12.95	9.41

	BABRA	2016	25.94	13.66	12.28
	BABRA	2017	18.91	6.03	12.88
	BABRA	2018	20.1	17.3	2.8
	BABRA	2019	21.88	6.44	15.44
	BAGASARA	2010	16.09	6.99	9.1
	BAGASARA	2011	13.21	6.63	6.58
	BAGASARA	2012	16.26	13.12	3.14
	BAGASARA	2013	24.24	12.45	11.79
	BAGASARA	2014	21.89	17.52	4.37
	BAGASARA	2015	22.86	14.58	8.28
	BAGASARA	2016	24.41	13.06	11.35
	BAGASARA	2017	23.67	15.54	8.13
	BAGASARA	2018	22.87	19.2	3.67
	BAGASARA	2019	20.09	9.46	10.63
	DHARI	2010	23.05	13.28	9.77
	DHARI	2011	22.82	13.24	9.58
	DHARI	2012	25.57	22.63	2.94
	DHARI	2013	29.06	18.43	10.63
	DHARI	2014	25.84	19.93	5.91
	DHARI	2015	29.38	14.66	14.72
	DHARI	2016	32.85	15.7	17.15
	DHARI	2017	30.8	17.56	13.24
	DHARI	2018	30.6	19.84	10.76
	DHARI	2019	30.22	15.74	14.48
	JAFRABAD	2010	8.69	3.88	4.81
	JAFRABAD	2011	7.28	4.29	2.99
	JAFRABAD	2012	8.78	6.65	2.13
	JAFRABAD	2013	12.7	6.89	5.81
	JAFRABAD	2014	11.69	8.66	3.03
	JAFRABAD	2015	11.49	7.67	3.82
	JAFRABAD	2016	12.63	5.88	6.75
	JAFRABAD	2017	10.3	9.08	1.22
	JAFRABAD	2018	10.97	7.02	3.95
	JAFRABAD	2019	12.47	6.89	5.58
	KHAMBHA	2010	15.54	5.51	10.03
	KHAMBHA	2011	11.93	6.0	5.93
	KHAMBHA	2012	16.71	12.87	3.84
	KHAMBHA	2013	18.72	5.86	12.86
	KHAMBHA	2014	12.85	8.04	4.81
	KHAMBHA	2015	16.37	7.4	8.97
	KHAMBHA	2016	19.37	6.81	12.56
	KHAMBHA	2017	18.89	6.29	12.6
	KHAMBHA	2018	17.44	8.39	9.05
	KHAMBHA	2019	19.84	5.76	14.08
	KUNKAVAV VADIA	2010	15.62	4.34	11.28
	KUNKAVAV VADIA	2011	13.49	4.56	8.93
	KUNKAVAV VADIA	2012	20.51	14.2	6.31
	KUNKAVAV VADIA	2013	32.43	8.41	24.02
	KUNKAVAV VADIA	2014	29.38	18.86	10.52
	KUNKAVAV VADIA	2015	30.11	11.64	18.47
	KUNKAVAV VADIA	2016	30.81	5.56	25.25
	KUNKAVAV VADIA	2017	31.02	11.66	19.36

	KUNKAVAV VADIA	2018	31.18	16.56	14.62
	KUNKAVAV VADIA	2019	37.04	5.1	31.94
	LATHI	2010	15.14	3.75	11.39
	LATHI	2011	14.75	3.89	10.86
	LATHI	2012	15.39	7.38	8.01
	LATHI	2013	10.29	2.86	7.43
	LATHI	2014	8.59	6.63	1.96
	LATHI	2015	11.59	5.3	6.29
	LATHI	2016	14.55	4.34	10.21
	LATHI	2017	16.11	4.25	11.86
	LATHI	2018	13.38	8.87	4.51
	LATHI	2019	15.63	3.57	12.06
	LILIA	2010	16.22	4.09	12.13
	LILIA	2011	11.51	3.44	8.07
	LILIA	2012	11.81	10.35	1.46
	LILIA	2013	19.33	3.38	15.95
	LILIA	2014	8.7	7.07	1.63
	LILIA	2015	14.95	9.43	5.52
	LILIA	2016	15.72	9.41	6.31
	LILIA	2017	12.78	7.71	5.07
	LILIA	2018	13.98	10.33	3.65
	LILIA	2019	15.37	7.43	7.94
	RAJULA	2010	9.29	4.56	4.73
	RAJULA	2011	8.95	5.23	3.72
	RAJULA	2012	13.36	11.92	1.44
	RAJULA	2013	14.16	5.1	9.06
	RAJULA	2014	9.97	8.79	1.18
	RAJULA	2015	13.59	7.06	6.53
	RAJULA	2016	11.93	3.9	8.03
	RAJULA	2017	10.55	6.42	4.13
	RAJULA	2018	10.38	6.93	3.45
	RAJULA	2019	12.06	6.03	6.03
	SAVAR KUNDLA	2010	17.55	8.97	8.58
	SAVAR KUNDLA	2011	17.07	9.8	7.27
	SAVAR KUNDLA	2012	15.59	11.83	3.76
	SAVAR KUNDLA	2013	16.22	8.56	7.66
	SAVAR KUNDLA	2014	15.89	12.76	3.13
	SAVAR KUNDLA	2015	20.33	10.62	9.71
	SAVAR KUNDLA	2016	17.79	11.95	5.84
	SAVAR KUNDLA	2017	21.72	15.21	6.51
	SAVAR KUNDLA	2018	22.01	18.77	3.24
	SAVAR KUNDLA	2019	24.48	12.3	12.18
ANAND	ANAND	2010	8.77	6.5	2.27
	ANAND	2011	8.87	7.3	1.57
	ANAND	2012	9.53	8.04	1.49
	ANAND	2013	10.1	6.64	3.46
	ANAND	2014	9.46	6.23	3.23
	ANAND	2015	8.93	7.53	1.4
	ANAND	2016	10.22	8.56	1.66
	ANAND	2017	11.59	8.3	3.29
	ANAND	2018	13.04	9.79	3.25
	ANAND	2019	12.28	8.14	4.14

	ANKLAV	2010	19.93	19.16	0.77
	ANKLAV	2011	20.97	19.74	1.23
	ANKLAV	2012	21.46	20.03	1.43
	ANKLAV	2013	20.25	15.0	5.25
	ANKLAV	2014	18.72	15.99	2.73
	ANKLAV	2015	18.64	17.89	0.75
	ANKLAV	2016	20.31	19.71	0.6
	ANKLAV	2017	21.56	18.13	3.43
	ANKLAV	2018	22.63	20.34	2.29
	ANKLAV	2019	22.5	17.82	4.68
	BORSAD	2010	18.01	16.63	1.38
	BORSAD	2011	18.61	16.82	1.79
	BORSAD	2012	18.71	18.07	0.64
	BORSAD	2013	16.13	12.45	3.68
	BORSAD	2014	14.25	10.33	3.92
	BORSAD	2015	14.49	13.86	0.63
	BORSAD	2016	15.34	14.33	1.01
	BORSAD	2017	16.43	14.47	1.96
	BORSAD	2018	16.66	13.15	3.51
	BORSAD	2019	14.72	14.51	0.21
	KHAMBHAT	2010	8.64	6.41	2.23
	KHAMBHAT	2011	8.22	6.22	2
	KHAMBHAT	2012	7.54	6.37	1.17
	KHAMBHAT	2013	9.66	5.31	4.35
	KHAMBHAT	2014	7.5	5.62	1.88
	KHAMBHAT	2015	7.68	6.97	0.71
	KHAMBHAT	2016	8.88	7.35	1.53
	KHAMBHAT	2017	10.19	8.01	2.18
	KHAMBHAT	2018	9.85	8.09	1.76
	KHAMBHAT	2019	9.33	7.25	2.08
	PETLAD	2010	7.38	4.73	2.65
	PETLAD	2011	7.8	5.48	2.32
	PETLAD	2012	7.42	7.12	0.3
	PETLAD	2013	9.32	5.02	4.3
	PETLAD	2014	7.96	5.83	2.13
	PETLAD	2015	7.88	7.11	0.77
	PETLAD	2016	9.09	8.07	1.02
	PETLAD	2017	10.29	7.76	2.53
	PETLAD	2018	10.88	8.56	2.32
	PETLAD	2019	9.66	6.73	2.93
	SOJITRA	2010	6.0	2.5	3.5
	SOJITRA	2011	5.95	2.7	3.25
	SOJITRA	2012	5.8	3.2	2.6
	SOJITRA	2013	6.02	1.12	4.9
	SOJITRA	2014	4.59	1.96	2.63
	SOJITRA	2015	4.14	2.9	1.24
	SOJITRA	2016	5.53	2.16	3.37
	SOJITRA	2017	5.0	1.64	3.36
	SOJITRA	2018	4.48	2.3	2.18
	SOJITRA	2019	4.64	1.38	3.26
	TARAPUR	2010	4.51	2.51	2
	TARAPUR	2011	4.98	2.8	2.18

	TARAPUR	2012	5.05	2.87	2.18
	TARAPUR	2013	4.38	2.06	2.32
	TARAPUR	2014	4.55	2.33	2.22
	TARAPUR	2015	3.77	2.78	0.99
	TARAPUR	2016	4.04	2.61	1.43
	TARAPUR	2017	4.24	2.04	2.2
	TARAPUR	2018	3.62	2.38	1.24
	TARAPUR	2019	4.16	1.69	2.47
	UMRETH	2010	10.85	8.44	2.41
	UMRETH	2011	11.27	9.58	1.69
	UMRETH	2012	11.93	10.54	1.39
	UMRETH	2013	11.66	7.9	3.76
	UMRETH	2014	10.81	7.86	2.95
	UMRETH	2015	10.36	9.22	1.14
	UMRETH	2016	12.36	9.89	2.47
	UMRETH	2017	12.49	11.27	1.22
	UMRETH	2018	12.78	11.34	1.44
	UMRETH	2019	12.71	9.99	2.72
ARVALLI	BAYAD	2010	14.7	9.61	5.09
	BAYAD	2011	14.78	9.6	5.18
	BAYAD	2012	13.7	7.33	6.37
	BAYAD	2013	13.38	4.04	9.34
	BAYAD	2014	9.9	6.37	3.53
	BAYAD	2015	12.25	9.06	3.19
	BAYAD	2016	13.91	7.25	6.66
	BAYAD	2017	13.45	6.94	6.51
	BAYAD	2018	12.9	8.91	3.99
	BAYAD	2019	16.03	5.65	10.38
	BHILODA	2010	16.84	7.67	9.17
	BHILODA	2011	15.46	5.76	9.7
	BHILODA	2012	14.81	7.11	7.7
	BHILODA	2013	17.98	3.95	14.03
	BHILODA	2014	13.36	6.0	7.36
	BHILODA	2015	14.9	6.21	8.69
	BHILODA	2016	17.92	12.54	5.38
	BHILODA	2017	19.31	7.64	11.67
	BHILODA	2018	22.53	5.56	16.97
	BHILODA	2019	18.78	3.65	15.13
	DHANSURA	2010	13.09	7.49	5.6
	DHANSURA	2011	13.15	6.0	7.15
	DHANSURA	2012	12.91	6.2	6.71
	DHANSURA	2013	11.61	2.37	9.24
	DHANSURA	2014	7.79	4.59	3.2
	DHANSURA	2015	8.87	6.62	2.25
	DHANSURA	2016	12.74	6.81	5.93
	DHANSURA	2017	12.63	5.55	7.08
	DHANSURA	2018	12.24	7.22	5.02
	DHANSURA	2019	14.01	3.36	10.65
	MALPUR	2010	20.13	9.2	10.93
	MALPUR	2011	20.44	5.45	14.99
	MALPUR	2012	16.14	4.77	11.37
	MALPUR	2013	17.54	2.91	14.63

	MALPUR	2014	12.61	4.99	7.62
	MALPUR	2015	16.37	7.18	9.19
	MALPUR	2016	19.05	10.15	8.9
	MALPUR	2017	16.33	5.05	11.28
	MALPUR	2018	17.14	6.86	10.28
	MALPUR	2019	20.63	3.07	17.56
	MEGHRAJ	2010	21.42	9.96	11.46
	MEGHRAJ	2011	20.42	5.85	14.57
	MEGHRAJ	2012	22.87	6.34	16.53
	MEGHRAJ	2013	24.48	3.06	21.42
	MEGHRAJ	2014	20.71	7.1	13.61
	MEGHRAJ	2015	24.14	8.75	15.39
	MEGHRAJ	2016	25.84	4.59	21.25
	MEGHRAJ	2017	25.09	4.81	20.28
	MEGHRAJ	2018	21.46	8.91	12.55
	MEGHRAJ	2019	22.56	4.55	18.01
	MODASA	2010	15.66	7.83	7.83
	MODASA	2011	13.48	5.73	7.75
	MODASA	2012	13.55	7.43	6.12
	MODASA	2013	16.55	4.23	12.32
	MODASA	2014	12.14	6.26	5.88
	MODASA	2015	13.49	6.62	6.87
	MODASA	2016	15.08	4.77	10.31
	MODASA	2017	13.76	4.76	9
	MODASA	2018	12.91	6.0	6.91
	MODASA	2019	15.1	3.12	11.98
BANASKANTHA	AMIRGADH	2010	22.85	18.15	4.7
	AMIRGADH	2011	19.66	15.61	4.05
	AMIRGADH	2012	16.67	11.75	4.92
	AMIRGADH	2013	14.3	11.1	3.2
	AMIRGADH	2014	13.05	11.57	1.48
	AMIRGADH	2015	14.79	11.28	3.51
	AMIRGADH	2016	14.09	11.09	3
	AMIRGADH	2017	15.82	7.03	8.79
	AMIRGADH	2018	12.49	11.43	1.06
	AMIRGADH	2019	17.56	12.57	4.99
	BHABHAR	2010	50.62	47.15	3.47
	BHABHAR	2011	49.9	48.85	1.05
	BHABHAR	2012	50.35	42.17	8.18
	BHABHAR	2013	44.37	42.41	1.96
	BHABHAR	2014	42.67	41.86	0.81
	BHABHAR	2015	45.78	40.81	4.97
	BHABHAR	2016	42.89	40.31	2.58
	BHABHAR	2017	42.24	29.85	12.39
	BHABHAR	2018	34.69	34.48	0.21
	BHABHAR	2019	42.64	39.57	3.07
	DANTA	2010	15.64	9.89	5.75
	DANTA	2011	14.54	8.38	6.16
	DANTA	2012	10.91	8.2	2.71
	DANTA	2013	13.58	8.05	5.53
	DANTA	2014	12.64	8.95	3.69
	DANTA	2015	12.92	8.32	4.6

	DANTA	2016	12.94	10.27	2.67
	DANTA	2017	15.69	7.97	7.72
	DANTA	2018	13.99	12.45	1.54
	DANTA	2019	18.95	9.05	9.9
	DANTIWADA	2010	19.56	16.78	2.78
	DANTIWADA	2011	21.01	16.4	4.61
	DANTIWADA	2012	20.41	17.35	3.06
	DANTIWADA	2013	20.41	16.17	4.24
	DANTIWADA	2014	18.99	16.28	2.71
	DANTIWADA	2015	20.85	16.99	3.86
	DANTIWADA	2016	20.78	17.31	3.47
	DANTIWADA	2017	23.72	12.35	11.37
	DANTIWADA	2018	16.81	17.94	-1.13
	DANTIWADA	2019	25.48	21.61	3.87
	DEESA	2010	29.84	32.04	-2.2
	DEESA	2011	33.14	31.21	1.93
	DEESA	2012	50.24	51.61	-1.37
	DEESA	2013	55.02	52.84	2.18
	DEESA	2014	55.12	53.68	1.44
	DEESA	2015	61.88	56.2	5.68
	DEESA	2016	54.02	58.77	-4.75
	DEESA	2017	58.68	52.42	6.26
	DEESA	2018	54.06	55.71	-1.65
	DEESA	2019	59.94	46.27	13.67
	DEODAR	2010	77.58	77.1	0.48
	DEODAR	2011	81.5	80.5	1
	DEODAR	2012	82.0	66.9	15.1
	DEODAR	2013	69.1	65.7	3.4
	DEODAR	2014	68.7	67.3	1.4
	DEODAR	2015	69.1	65.0	4.1
	DEODAR	2016	65.1	55.6	9.5
	DEODAR	2017	62.7	53.5	9.2
	DEODAR	2018	55.3	54.2	1.1
	DEODAR	2019	58.9	52.0	6.9
	DHANERA	2010	42.05	40.72	1.33
	DHANERA	2011	42.49	41.75	0.74
	DHANERA	2012	41.27	50.89	-9.62
	DHANERA	2013	52.68	53.05	-0.37
	DHANERA	2014	53.93	51.97	1.96
	DHANERA	2015	58.54	56.31	2.23
	DHANERA	2016	51.96	49.58	2.38
	DHANERA	2017	54.9	52.32	2.58
	DHANERA	2018	54.02	54.91	-0.89
	DHANERA	2019	54.04	46.28	7.76
	KANKREJ	2010	20.75	18.74	2.01
	KANKREJ	2011	20.48	19.21	1.27
	KANKREJ	2012	32.62	35.61	-2.99
	KANKREJ	2013	37.63	35.48	2.15
	KANKREJ	2014	36.98	38.31	-1.33
	KANKREJ	2015	42.1	38.16	3.94
	KANKREJ	2016	38.26	36.32	1.94
	KANKREJ	2017	38.9	39.9	-1

	KANKREJ	2018	31.43	32.83	-1.4
	KANKREJ	2019	36.77	34.17	2.6
	LAKHANI	2010	37.66	43.89	-6.23
	LAKHANI	2011	37.71	36.85	0.86
	LAKHANI	2012	37.69	52.88	-15.19
	LAKHANI	2013	54.33	52.94	1.39
	LAKHANI	2014	54.07	52.97	1.1
	LAKHANI	2015	67.27	63.27	4
	LAKHANI	2016	75.9	76.1	-0.2
	LAKHANI	2017	72.9	72.8	0.1
	LAKHANI	2018	76.3	0.0	76.3
	LAKHANI	2019	0.0	0.0	0
	PALANPUR	2010	28.51	25.53	2.98
	PALANPUR	2011	28.82	24.23	4.59
	PALANPUR	2012	29.91	32.15	-2.24
	PALANPUR	2013	35.33	32.42	2.91
	PALANPUR	2014	34.82	33.05	1.77
	PALANPUR	2015	35.32	33.47	1.85
	PALANPUR	2016	34.21	32.45	1.76
	PALANPUR	2017	34.13	26.61	7.52
	PALANPUR	2018	29.63	28.9	0.73
	PALANPUR	2019	29.22	25.44	3.78
	SUIGAM	2010	0.0	0.0	0
	SUIGAM	2011	0.0	0.0	0
	SUIGAM	2012	2.3	4.65	-2.35
	SUIGAM	2013	5.26	3.53	1.73
	SUIGAM	2014	4.28	4.33	-0.05
	SUIGAM	2015	5.52	3.07	2.45
	SUIGAM	2016	3.88	3.65	0.23
	SUIGAM	2017	4.47	1.93	2.54
	SUIGAM	2018	3.43	3.72	-0.29
	SUIGAM	2019	12.47	3.45	9.02
	THARAD	2010	26.68	22.29	4.39
	THARAD	2011	24.09	22.11	1.98
	THARAD	2012	23.17	22.38	0.79
	THARAD	2013	23.09	21.97	1.12
	THARAD	2014	21.74	21.4	0.34
	THARAD	2015	25.69	22.35	3.34
	THARAD	2016	24.02	23.11	0.91
	THARAD	2017	24.18	21.08	3.1
	THARAD	2018	23.2	24.63	-1.43
	THARAD	2019	25.41	25.25	0.16
	VADGAM	2010	31.78	29.23	2.55
	VADGAM	2011	16.09	28.75	-12.66
	VADGAM	2012	14.9	32.77	-17.87
	VADGAM	2013	34.04	32.01	2.03
	VADGAM	2014	33.58	32.26	1.32
	VADGAM	2015	35.46	32.58	2.88
	VADGAM	2016	33.22	31.29	1.93
	VADGAM	2017	38.15	31.64	6.51
	VADGAM	2018	24.0	23.6	0.4
	VADGAM	2019	28.25	25.87	2.38

	VAV	2010	0.0	0.0	0
	VAV	2011	0.0	0.0	0
	VAV	2012	0.0	9.86	-9.86
	VAV	2013	9.8	8.86	0.94
	VAV	2014	8.74	8.44	0.3
	VAV	2015	10.37	6.85	3.52
	VAV	2016	8.25	7.61	0.64
	VAV	2017	9.59	6.35	3.24
	VAV	2018	7.46	6.79	0.67
	VAV	2019	9.26	6.92	2.34
BHARUCH	AMOD	2010	20.4	19.19	1.21
	AMOD	2011	20.63	19.36	1.27
	AMOD	2012	16.16	15.52	0.64
	AMOD	2013	16.41	13.7	2.71
	AMOD	2014	14.8	14.11	0.69
	AMOD	2015	15.42	14.98	0.44
	AMOD	2016	15.77	15.38	0.39
	AMOD	2017	17.83	17.42	0.41
	AMOD	2018	18.15	17.23	0.92
	AMOD	2019	18.48	16.99	1.49
	ANKLESVAR	2010	7.15	4.44	2.71
	ANKLESVAR	2011	6.0	5.19	0.81
	ANKLESVAR	2012	5.74	5.04	0.7
	ANKLESVAR	2013	6.61	4.14	2.47
	ANKLESVAR	2014	5.71	4.5	1.21
	ANKLESVAR	2015	6.31	5.72	0.59
	ANKLESVAR	2016	7.58	6.26	1.32
	ANKLESVAR	2017	6.81	5.24	1.57
	ANKLESVAR	2018	7.83	6.46	1.37
	ANKLESVAR	2019	8.28	5.28	3
	BHARUCH	2010	10.81	6.77	4.04
	BHARUCH	2011	8.79	7.95	0.84
	BHARUCH	2012	8.75	6.9	1.85
	BHARUCH	2013	8.44	6.04	2.4
	BHARUCH	2014	7.46	6.44	1.02
	BHARUCH	2015	8.0	7.62	0.38
	BHARUCH	2016	8.33	7.58	0.75
	BHARUCH	2017	8.88	7.06	1.82
	BHARUCH	2018	10.39	8.54	1.85
	BHARUCH	2019	9.21	5.91	3.3
	HANSOT	2010	4.71	3.8	0.91
	HANSOT	2011	5.03	3.92	1.11
	HANSOT	2012	5.03	3.92	1.11
	HANSOT	2013	5.28	2.18	3.1
	HANSOT	2014	4.1	2.96	1.14
	HANSOT	2015	3.95	3.44	0.51
	HANSOT	2016	4.32	3.62	0.7
	HANSOT	2017	4.19	2.73	1.46
	HANSOT	2018	4.45	3.24	1.21
	HANSOT	2019	4.8	2.44	2.36
	JAMBUSAR	2010	7.83	6.16	1.67
	JAMBUSAR	2011	7.86	6.14	1.72

	JAMBUSAR	2012	7.41	6.29	1.12
	JAMBUSAR	2013	8.03	5.49	2.54
	JAMBUSAR	2014	6.44	5.94	0.5
	JAMBUSAR	2015	7.81	7.54	0.27
	JAMBUSAR	2016	7.76	6.97	0.79
	JAMBUSAR	2017	7.82	7.09	0.73
	JAMBUSAR	2018	8.34	7.39	0.95
	JAMBUSAR	2019	8.83	5.5	3.33
	JHAGADIA	2010	11.9	8.41	3.49
	JHAGADIA	2011	11.11	7.46	3.65
	JHAGADIA	2012	11.39	6.91	4.48
	JHAGADIA	2013	10.04	6.09	3.95
	JHAGADIA	2014	10.92	7.8	3.12
	JHAGADIA	2015	10.78	9.59	1.19
	JHAGADIA	2016	11.47	8.26	3.21
	JHAGADIA	2017	11.07	9.58	1.49
	JHAGADIA	2018	11.55	9.43	2.12
	JHAGADIA	2019	12.85	6.92	5.93
	NETRANG	2010	10.23	5.37	4.86
	NETRANG	2011	9.82	6.4	3.42
	NETRANG	2012	10.19	6.08	4.11
	NETRANG	2013	13.02	6.43	6.59
	NETRANG	2014	12.11	7.22	4.89
	NETRANG	2015	13.81	7.85	5.96
	NETRANG	2016	13.88	7.4	6.48
	NETRANG	2017	15.05	6.25	8.8
	NETRANG	2018	15.52	8.35	7.17
	NETRANG	2019	18.75	5.99	12.76
	VAGRA	2010	7.11	4.47	2.64
	VAGRA	2011	7.25	5.41	1.84
	VAGRA	2012	7.63	5.14	2.49
	VAGRA	2013	7.8	4.75	3.05
	VAGRA	2014	6.66	6.11	0.55
	VAGRA	2015	6.82	6.06	0.76
	VAGRA	2016	7.11	5.91	1.2
	VAGRA	2017	7.26	5.17	2.09
	VAGRA	2018	7.66	4.99	2.67
	VAGRA	2019	7.12	4.46	2.66
	VALIA	2010	8.76	5.39	3.37
	VALIA	2011	7.54	5.05	2.49
	VALIA	2012	8.17	4.94	3.23
	VALIA	2013	8.22	3.6	4.62
	VALIA	2014	7.31	4.87	2.44
	VALIA	2015	7.76	6.13	1.63
	VALIA	2016	8.08	5.99	2.09
	VALIA	2017	7.88	5.74	2.14
	VALIA	2018	8.04	6.14	1.9
	VALIA	2019	7.42	4.1	3.32
BHAVNAGAR	BHAVNAGAR	2010	22.16	11.07	11.09
	BHAVNAGAR	2011	17.93	10.02	7.91
	BHAVNAGAR	2012	14.96	14.57	0.39
	BHAVNAGAR	2013	16.22	5.84	10.38

	BHAVNAGAR	2014	8.57	7.75	0.82
	BHAVNAGAR	2015	14.47	8.83	5.64
	BHAVNAGAR	2016	14.63	10.99	3.64
	BHAVNAGAR	2017	13.84	10.09	3.75
	BHAVNAGAR	2018	14.15	11.29	2.86
	BHAVNAGAR	2019	15.9	5.55	10.35
	GARIADHAR	2010	14.93	5.6	9.33
	GARIADHAR	2011	12.66	4.96	7.7
	GARIADHAR	2012	14.56	10.05	4.51
	GARIADHAR	2013	23.3	3.13	20.17
	GARIADHAR	2014	8.94	5.99	2.95
	GARIADHAR	2015	21.25	10.14	11.11
	GARIADHAR	2016	24.98	6.67	18.31
	GARIADHAR	2017	23.25	4.79	18.46
	GARIADHAR	2018	17.74	11.88	5.86
	GARIADHAR	2019	24.97	4.09	20.88
	GHOGHA	2010	14.18	8.28	5.9
	GHOGHA	2011	12.88	5.8	7.08
	GHOGHA	2012	11.6	8.81	2.79
	GHOGHA	2013	12.41	3.58	8.83
	GHOGHA	2014	8.11	5.33	2.78
	GHOGHA	2015	11.43	7.71	3.72
	GHOGHA	2016	11.68	5.63	6.05
	GHOGHA	2017	11.47	5.7	5.77
	GHOGHA	2018	11.41	4.76	6.65
	GHOGHA	2019	11.48	2.23	9.25
	JESAR	2010	14.6	7.75	6.85
	JESAR	2011	12.96	6.38	6.58
	JESAR	2012	13.3	14.22	-0.92
	JESAR	2013	16.93	6.03	10.9
	JESAR	2014	15.14	9.76	5.38
	JESAR	2015	18.71	14.63	4.08
	JESAR	2016	18.47	9.89	8.58
	JESAR	2017	16.61	11.46	5.15
	JESAR	2018	17.66	10.64	7.02
	JESAR	2019	17.35	11.16	6.19
	MAHUVA	2010	16.27	7.86	8.41
	MAHUVA	2011	11.29	7.13	4.16
	MAHUVA	2012	14.69	12.43	2.26
	MAHUVA	2013	18.33	9.44	8.89
	MAHUVA	2014	12.97	11.22	1.75
	MAHUVA	2015	16.12	10.98	5.14
	MAHUVA	2016	18.12	8.35	9.77
	MAHUVA	2017	17.6	11.33	6.27
	MAHUVA	2018	18.53	11.71	6.82
	MAHUVA	2019	17.88	6.84	11.04
	PALITANA	2010	19.49	7.28	12.21
	PALITANA	2011	15.4	6.03	9.37
	PALITANA	2012	17.28	13.48	3.8
	PALITANA	2013	19.5	3.96	15.54
	PALITANA	2014	10.79	5.78	5.01
	PALITANA	2015	16.02	7.23	8.79

	PALITANA	2016	22.38	7.67	14.71
	PALITANA	2017	21.44	6.23	15.21
	PALITANA	2018	18.2	10.44	7.76
	PALITANA	2019	20.81	3.48	17.33
	SIHOR	2010	23.68	10.41	13.27
	SIHOR	2011	22.31	11.51	10.8
	SIHOR	2012	21.66	18.04	3.62
	SIHOR	2013	22.55	5.08	17.47
	SIHOR	2014	11.68	9.12	2.56
	SIHOR	2015	18.89	12.41	6.48
	SIHOR	2016	16.64	9.56	7.08
	SIHOR	2017	19.25	7.16	12.09
	SIHOR	2018	18.93	13.09	5.84
	SIHOR	2019	23.54	4.05	19.49
	TALAJA	2010	11.2	6.68	4.52
	TALAJA	2011	8.59	4.08	4.51
	TALAJA	2012	11.26	8.99	2.27
	TALAJA	2013	13.85	3.25	10.6
	TALAJA	2014	7.75	5.62	2.13
	TALAJA	2015	11.08	7.13	3.95
	TALAJA	2016	13.53	4.94	8.59
	TALAJA	2017	12.45	4.38	8.07
	TALAJA	2018	11.61	5.51	6.1
	TALAJA	2019	12.19	3.2	8.99
	UMRALA	2010	18.07	10.76	7.31
	UMRALA	2011	14.57	7.88	6.69
	UMRALA	2012	16.23	14.6	1.63
	UMRALA	2013	17.75	5.9	11.85
	UMRALA	2014	11.35	6.91	4.44
	UMRALA	2015	15.92	11.13	4.79
	UMRALA	2016	19.59	13.03	6.56
	UMRALA	2017	19.47	8.05	11.42
	UMRALA	2018	19.18	17.37	1.81
	UMRALA	2019	22.41	4.73	17.68
	VALLABHIPUR	2010	12.75	8.42	4.33
	VALLABHIPUR	2011	11.6	6.95	4.65
	VALLABHIPUR	2012	11.75	9.46	2.29
	VALLABHIPUR	2013	13.36	7.16	6.2
	VALLABHIPUR	2014	9.98	7.39	2.59
	VALLABHIPUR	2015	9.8	7.1	2.7
	VALLABHIPUR	2016	11.9	5.37	6.53
	VALLABHIPUR	2017	11.93	5.78	6.15
	VALLABHIPUR	2018	10.76	7.39	3.37
	VALLABHIPUR	2019	9.5	6.66	2.84
BOTAD	BARWALA	2010	11.71	7.3	4.41
	BARWALA	2011	12.44	10.72	1.72
	BARWALA	2012	13.68	10.99	2.69
	BARWALA	2013	12.57	7.37	5.2
	BARWALA	2014	11.29	8.14	3.15
	BARWALA	2015	12.52	7.84	4.68
	BARWALA	2016	11.3	8.94	2.36
	BARWALA	2017	10.89	8.05	2.84

	BARWALA	2018	8.78	8.9	-0.12
	BARWALA	2019	10.32	4.75	5.57
	BOTAD	2010	21.59	12.87	8.72
	BOTAD	2011	20.63	10.72	9.91
	BOTAD	2012	22.75	16.56	6.19
	BOTAD	2013	20.48	4.59	15.89
	BOTAD	2014	16.43	8.92	7.51
	BOTAD	2015	21.08	16.55	4.53
	BOTAD	2016	24.35	15.86	8.49
	BOTAD	2017	23.44	9.08	14.36
	BOTAD	2018	20.63	17.77	2.86
	BOTAD	2019	22.12	2.53	19.59
	GADHADA	2010	15.19	9.11	6.08
	GADHADA	2011	13.31	6.69	6.62
	GADHADA	2012	14.15	9.04	5.11
	GADHADA	2013	15.66	4.01	11.65
	GADHADA	2014	9.62	4.11	5.51
	GADHADA	2015	14.24	9.02	5.22
	GADHADA	2016	17.11	11.04	6.07
	GADHADA	2017	17.06	6.72	10.34
	GADHADA	2018	14.11	11.51	2.6
	GADHADA	2019	15.44	3.61	11.83
	RANPUR	2010	21.73	6.26	15.47
	RANPUR	2011	20.42	8.67	11.75
	RANPUR	2012	20.42	7.75	12.67
	RANPUR	2013	21.79	7.41	14.38
	RANPUR	2014	14.05	11.45	2.6
	RANPUR	2015	19.02	11.91	7.11
	RANPUR	2016	20.56	10.72	9.84
	RANPUR	2017	19.52	9.18	10.34
	RANPUR	2018	19.74	11.42	8.32
	RANPUR	2019	19.71	14.67	5.04
CHHOTA UDEPUR	BODELI	2010	7.97	4.62	3.35
	BODELI	2011	6.94	5.55	1.39
	BODELI	2012	7.28	5.32	1.96
	BODELI	2013	8.44	3.26	5.18
	BODELI	2014	7.07	5.48	1.59
	BODELI	2015	9.16	7.14	2.02
	BODELI	2016	8.14	5.69	2.45
	BODELI	2017	9.5	5.43	4.07
	BODELI	2018	11.13	7.03	4.1
	BODELI	2019	12.0	3.69	8.31
	CHHOTA UDAIPUR	2010	9.9	5.48	4.42
	CHHOTA UDAIPUR	2011	8.84	6.18	2.66
	CHHOTA UDAIPUR	2012	9.7	5.18	4.52
	CHHOTA UDAIPUR	2013	9.62	4.34	5.28
	CHHOTA UDAIPUR	2014	8.58	5.72	2.86
	CHHOTA UDAIPUR	2015	9.02	7.45	1.57
	CHHOTA UDAIPUR	2016	10.15	5.69	4.46
	CHHOTA UDAIPUR	2017	10.12	5.9	4.22
	CHHOTA UDAIPUR	2018	10.46	6.14	4.32
	CHHOTA UDAIPUR	2019	10.6	4.83	5.77

	JETPUR PAVI	2010	10.05	4.97	5.08
	JETPUR PAVI	2011	9.7	5.54	4.16
	JETPUR PAVI	2012	9.97	4.56	5.41
	JETPUR PAVI	2013	10.55	4.85	5.7
	JETPUR PAVI	2014	9.57	5.8	3.77
	JETPUR PAVI	2015	10.24	8.88	1.36
	JETPUR PAVI	2016	14.12	6.47	7.65
	JETPUR PAVI	2017	13.43	6.13	7.3
	JETPUR PAVI	2018	13.59	8.1	5.49
	JETPUR PAVI	2019	15.28	2.57	12.71
	KAVANT	2010	12.87	6.9	5.97
	KAVANT	2011	14.31	8.58	5.73
	KAVANT	2012	13.35	6.72	6.63
	KAVANT	2013	16.45	5.78	10.67
	KAVANT	2014	12.2	6.99	5.21
	KAVANT	2015	12.82	9.93	2.89
	KAVANT	2016	15.2	7.76	7.44
	KAVANT	2017	15.46	7.31	8.15
	KAVANT	2018	15.51	8.79	6.72
	KAVANT	2019	17.63	6.05	11.58
	NASVADI	2010	11.68	4.82	6.86
	NASVADI	2011	10.87	7.16	3.71
	NASVADI	2012	11.44	5.99	5.45
	NASVADI	2013	12.57	4.6	7.97
	NASVADI	2014	11.21	7.14	4.07
	NASVADI	2015	12.79	8.51	4.28
	NASVADI	2016	15.48	7.7	7.78
	NASVADI	2017	15.48	7.41	8.07
	NASVADI	2018	14.76	9.87	4.89
	NASVADI	2019	17.43	6.6	10.83
	SANKHEDA	2010	13.35	10.57	2.78
	SANKHEDA	2011	13.18	11.17	2.01
	SANKHEDA	2012	13.42	11.15	2.27
	SANKHEDA	2013	12.75	10.25	2.5
	SANKHEDA	2014	14.05	11.8	2.25
	SANKHEDA	2015	13.88	15.85	-1.97
	SANKHEDA	2016	16.1	14.25	1.85
	SANKHEDA	2017	15.25	14.02	1.23
	SANKHEDA	2018	15.15	14.1	1.05
	SANKHEDA	2019	16.35	12.95	3.4
DAHOD	DAHOD	2010	8.47	2.97	5.5
	DAHOD	2011	7.1	2.6	4.5
	DAHOD	2012	5.7	2.29	3.41
	DAHOD	2013	5.24	2.15	3.09
	DAHOD	2014	4.56	3.08	1.48
	DAHOD	2015	5.9	3.99	1.91
	DAHOD	2016	8.2	3.09	5.11
	DAHOD	2017	6.07	3.3	2.77
	DAHOD	2018	6.4	2.67	3.73
	DAHOD	2019	6.73	2.23	4.5
	DEVGADH BARIA	2010	11.09	4.49	6.6
	DEVGADH BARIA	2011	9.72	5.22	4.5

	DEVGADH BARIA	2012	9.14	4.45	4.69
	DEVGADH BARIA	2013	8.84	3.96	4.88
	DEVGADH BARIA	2014	7.31	5.15	2.16
	DEVGADH BARIA	2015	9.96	8.03	1.93
	DEVGADH BARIA	2016	11.58	5.2	6.38
	DEVGADH BARIA	2017	10.34	5.66	4.68
	DEVGADH BARIA	2018	10.34	5.63	4.71
	DEVGADH BARIA	2019	10.28	3.96	6.32
	DHANPUR	2010	11.69	6.11	5.58
	DHANPUR	2011	9.66	4.65	5.01
	DHANPUR	2012	7.88	4.76	3.12
	DHANPUR	2013	9.08	3.53	5.55
	DHANPUR	2014	7.53	4.39	3.14
	DHANPUR	2015	8.25	5.4	2.85
	DHANPUR	2016	9.48	4.43	5.05
	DHANPUR	2017	8.7	4.75	3.95
	DHANPUR	2018	8.97	4.26	4.71
	DHANPUR	2019	9.21	3.17	6.04
	FATEPURA	2010	12.65	6.57	6.08
	FATEPURA	2011	12.36	5.76	6.6
	FATEPURA	2012	12.35	5.05	7.3
	FATEPURA	2013	10.75	4.58	6.17
	FATEPURA	2014	8.53	6.05	2.48
	FATEPURA	2015	12.13	8.53	3.6
	FATEPURA	2016	13.03	4.63	8.4
	FATEPURA	2017	13.5	3.24	10.26
	FATEPURA	2018	11.69	3.72	7.97
	FATEPURA	2019	12.86	3.11	9.75
	GARBADA	2010	8.62	4.07	4.55
	GARBADA	2011	7.57	3.66	3.91
	GARBADA	2012	6.27	3.86	2.41
	GARBADA	2013	5.93	2.3	3.63
	GARBADA	2014	4.72	3.82	0.9
	GARBADA	2015	6.46	3.52	2.94
	GARBADA	2016	6.45	1.99	4.46
	GARBADA	2017	4.42	2.91	1.51
	GARBADA	2018	5.23	2.34	2.89
	GARBADA	2019	6.31	1.73	4.58
	LIMKHEDA	2010	10.69	4.84	5.85
	LIMKHEDA	2011	9.08	3.75	5.33
	LIMKHEDA	2012	8.38	3.37	5.01
	LIMKHEDA	2013	8.47	3.1	5.37
	LIMKHEDA	2014	6.58	5.11	1.47
	LIMKHEDA	2015	9.17	6.97	2.2
	LIMKHEDA	2016	10.87	4.59	6.28
	LIMKHEDA	2017	9.14	4.22	4.92
	LIMKHEDA	2018	8.32	3.22	5.1
	LIMKHEDA	2019	9.06	2.67	6.39
	SANJELI	2010	7.74	2.12	5.62
	SANJELI	2011	4.86	2.18	2.68
	SANJELI	2012	5.81	2.34	3.47
	SANJELI	2013	7.16	1.78	5.38

	SANJELI	2014	3.72	3.37	0.35
	SANJELI	2015	6.98	3.6	3.38
	SANJELI	2016	8.63	3.48	5.15
	SANJELI	2017	5.52	2.23	3.29
	SANJELI	2018	5.22	2.32	2.9
	SANJELI	2019	6.93	2.07	4.86
	SINGVAD	2010	0.0	0.0	0
	SINGVAD	2011	9.0	3.13	5.87
	SINGVAD	2012	8.8	2.76	6.04
	SINGVAD	2013	8.5	0.89	7.61
	SINGVAD	2014	7.05	6.1	0.95
	SINGVAD	2015	9.23	6.33	2.9
	SINGVAD	2016	10.42	2.8	7.62
	SINGVAD	2017	8.8	2.5	6.3
	SINGVAD	2018	8.3	0.0	8.3
	SINGVAD	2019	8.4	0.6	7.8
	ZALOD	2010	10.03	5.53	4.5
	ZALOD	2011	11.3	6.18	5.12
	ZALOD	2012	7.08	4.19	2.89
	ZALOD	2013	6.73	3.25	3.48
	ZALOD	2014	5.9	4.34	1.56
	ZALOD	2015	7.46	5.58	1.88
	ZALOD	2016	9.4	6.42	2.98
	ZALOD	2017	7.83	6.08	1.75
	ZALOD	2018	7.11	3.78	3.33
	ZALOD	2019	6.71	3.23	3.48
DANG	AHWA	2010	9.92	5.51	4.41
	AHWA	2011	9.61	5.43	4.18
	AHWA	2012	10.37	6.67	3.7
	AHWA	2013	15.28	8.48	6.8
	AHWA	2014	13.88	9.44	4.44
	AHWA	2015	13.55	9.22	4.33
	AHWA	2016	15.29	8.45	6.84
	AHWA	2017	15.34	8.7	6.64
	AHWA	2018	15.27	8.73	6.54
	AHWA	2019	16.43	7.71	8.72
	SUBIR	2010	7.41	3.38	4.03
	SUBIR	2011	7.38	4.65	2.73
	SUBIR	2012	7.35	5.23	2.12
	SUBIR	2013	9.53	3.24	6.29
	SUBIR	2014	9.59	4.69	4.9
	SUBIR	2015	10.12	6.08	4.04
	SUBIR	2016	12.16	5.16	7
	SUBIR	2017	10.59	3.67	6.92
	SUBIR	2018	9.06	4.57	4.49
	SUBIR	2019	9.29	3.64	5.65
	WAGHAI	2010	8.28	2.54	5.74
	WAGHAI	2011	7.63	3.04	4.59
	WAGHAI	2012	8.15	4.45	3.7
	WAGHAI	2013	9.38	3.89	5.49
	WAGHAI	2014	8.84	4.11	4.73
	WAGHAI	2015	9.73	4.99	4.74

	WAGHAI	2016	9.67	4.15	5.52
	WAGHAI	2017	9.75	3.25	6.5
	WAGHAI	2018	9.65	2.47	7.18
	WAGHAI	2019	10.23	3.6	6.63
DEVBHUMI DWARKA	BHANVAD	2010	16.75	3.17	13.58
	BHANVAD	2011	16.07	4.0	12.07
	BHANVAD	2012	14.42	12.78	1.64
	BHANVAD	2013	15.81	3.61	12.2
	BHANVAD	2014	13.68	6.29	7.39
	BHANVAD	2015	16.02	12.43	3.59
	BHANVAD	2016	18.05	9.94	8.11
	BHANVAD	2017	16.89	9.16	7.73
	BHANVAD	2018	13.48	11.96	1.52
	BHANVAD	2019	16.85	3.68	13.17
	KALYANPUR	2010	10.39	2.15	8.24
	KALYANPUR	2011	8.63	2.58	6.05
	KALYANPUR	2012	10.77	10.78	-0.01
	KALYANPUR	2013	14.06	3.46	10.6
	KALYANPUR	2014	11.28	6.2	5.08
	KALYANPUR	2015	14.36	11.99	2.37
	KALYANPUR	2016	15.54	7.89	7.65
	KALYANPUR	2017	13.48	7.86	5.62
	KALYANPUR	2018	12.72	8.54	4.18
	KALYANPUR	2019	11.51	2.93	8.58
	KHAMBHALIA	2010	13.15	3.36	9.79
	KHAMBHALIA	2011	12.13	4.41	7.72
	KHAMBHALIA	2012	12.9	12.76	0.14
	KHAMBHALIA	2013	14.92	4.25	10.67
	KHAMBHALIA	2014	14.08	7.66	6.42
	KHAMBHALIA	2015	15.75	13.49	2.26
	KHAMBHALIA	2016	17.98	7.94	10.04
	KHAMBHALIA	2017	14.45	7.18	7.27
	KHAMBHALIA	2018	14.19	9.05	5.14
	KHAMBHALIA	2019	10.92	3.3	7.62
	OKHAMANDAL	2010	6.57	2.36	4.21
	OKHAMANDAL	2011	5.37	3.59	1.78
	OKHAMANDAL	2012	6.04	5.59	0.45
	OKHAMANDAL	2013	7.13	4.59	2.54
	OKHAMANDAL	2014	6.63	5.34	1.29
	OKHAMANDAL	2015	7.52	6.44	1.08
	OKHAMANDAL	2016	9.39	7.35	2.04
	OKHAMANDAL	2017	10.18	8.83	1.35
	OKHAMANDAL	2018	10.63	11.21	-0.58
	OKHAMANDAL	2019	11.25	3.86	7.39
GANDHINAGAR	DEHGAM	2010	27.76	23.77	3.99
	DEHGAM	2011	28.14	26.48	1.66
	DEHGAM	2012	32.92	33.6	-0.68
	DEHGAM	2013	33.06	30.61	2.45
	DEHGAM	2014	31.66	27.4	4.26
	DEHGAM	2015	30.89	30.06	0.83
	DEHGAM	2016	32.96	31.88	1.08
	DEHGAM	2017	33.68	28.87	4.81

	DEHGAM	2018	33.51	32.23	1.28
	DEHGAM	2019	35.54	31.59	3.95
	GANDHINAGAR	2010	16.7	15.7	1
	GANDHINAGAR	2011	16.3	10.05	6.25
	GANDHINAGAR	2012	23.5	22.1	1.4
	GANDHINAGAR	2013	24.6	21.5	3.1
	GANDHINAGAR	2014	24.85	24.8	0.05
	GANDHINAGAR	2015	25.1	24.7	0.4
	GANDHINAGAR	2016	25.6	24.5	1.1
	GANDHINAGAR	2017	25.6	23.6	2
	GANDHINAGAR	2018	28.4	27.3	1.1
	GANDHINAGAR	2019	30.8	26.3	4.5
	KALOL	2010	12.28	10.19	2.09
	KALOL	2011	14.61	11.56	3.05
	KALOL	2012	12.36	13.22	-0.86
	KALOL	2013	12.8	11.38	1.42
	KALOL	2014	12.25	7.25	5
	KALOL	2015	11.99	11.73	0.26
	KALOL	2016	13.43	13.48	-0.05
	KALOL	2017	14.35	9.85	4.5
	KALOL	2018	13.11	13.7	-0.59
	KALOL	2019	15.61	9.52	6.09
	MANSA	2011	41.66	40.13	1.53
	MANSA	2012	42.82	39.94	2.88
	MANSA	2013	43.01	40.49	2.52
	MANSA	2014	41.23	40.12	1.11
	MANSA	2015	42.95	40.82	2.13
	MANSA	2016	42.2	41.47	0.73
	MANSA	2017	44.63	41.29	3.34
	MANSA	2018	42.69	37.44	5.25
	MANSA	2019	42.53	42.11	0.42
GIR SOMNATH	GIR GADHDA	2010	12.9	5.56	7.34
	GIR GADHDA	2011	8.45	6.23	2.22
	GIR GADHDA	2012	11.22	11.82	-0.6
	GIR GADHDA	2013	13.56	8.46	5.1
	GIR GADHDA	2014	9.4	7.95	1.45
	GIR GADHDA	2015	10.22	5.81	4.41
	GIR GADHDA	2016	13.4	6.27	7.13
	GIR GADHDA	2017	9.36	6.31	3.05
	GIR GADHDA	2018	12.19	6.95	5.24
	GIR GADHDA	2019	13.84	7.57	6.27
	KODINAR	2010	13.14	2.82	10.32
	KODINAR	2011	9.85	3.11	6.74
	KODINAR	2012	13.15	9.84	3.31
	KODINAR	2013	13.09	5.58	7.51
	KODINAR	2014	11.26	4.73	6.53
	KODINAR	2015	11.33	6.42	4.91
	KODINAR	2016	12.51	3.42	9.09
	KODINAR	2017	12.17	3.31	8.86
	KODINAR	2018	11.08	4.63	6.45
	KODINAR	2019	12.16	5.43	6.73
	PATAN-VERAVAL	2010	13.87	3.67	10.2

	PATAN-VERAVAL	2011	12.37	5.27	7.1
	PATAN-VERAVAL	2012	19.18	15.68	3.5
	PATAN-VERAVAL	2013	20.33	7.6	12.73
	PATAN-VERAVAL	2014	18.9	5.6	13.3
	PATAN-VERAVAL	2015	19.58	9.62	9.96
	PATAN-VERAVAL	2016	25.95	6.6	19.35
	PATAN-VERAVAL	2017	23.05	3.4	19.65
	PATAN-VERAVAL	2018	22.82	6.0	16.82
	PATAN-VERAVAL	2019	26.5	3.57	22.93
	SUTRAPADA	2010	16.37	2.65	13.72
	SUTRAPADA	2011	11.5	5.2	6.3
	SUTRAPADA	2012	13.07	11.06	2.01
	SUTRAPADA	2013	14.02	5.85	8.17
	SUTRAPADA	2014	13.08	5.0	8.08
	SUTRAPADA	2015	18.85	5.92	12.93
	SUTRAPADA	2016	17.18	4.92	12.26
	SUTRAPADA	2017	14.17	4.51	9.66
	SUTRAPADA	2018	13.45	5.17	8.28
	SUTRAPADA	2019	15.15	3.72	11.43
	TALALA	2010	13.04	4.31	8.73
	TALALA	2011	9.84	5.34	4.5
	TALALA	2012	11.57	9.83	1.74
	TALALA	2013	15.26	6.51	8.75
	TALALA	2014	11.39	5.74	5.65
	TALALA	2015	13.65	8.58	5.07
	TALALA	2016	17.59	5.23	12.36
	TALALA	2017	14.33	4.59	9.74
	TALALA	2018	14.07	6.13	7.94
	TALALA	2019	14.55	5.12	9.43
	UNA	2010	13.22	3.59	9.63
	UNA	2011	10.02	4.49	5.53
	UNA	2012	12.95	10.64	2.31
	UNA	2013	14.44	6.84	7.6
	UNA	2014	12.0	6.38	5.62
	UNA	2015	12.5	7.07	5.43
	UNA	2016	12.46	5.34	7.12
	UNA	2017	11.51	5.66	5.85
	UNA	2018	12.54	5.56	6.98
	UNA	2019	13.17	5.19	7.98
JAMNAGAR	DHROL	2010	12.46	2.44	10.02
	DHROL	2011	7.33	3.09	4.24
	DHROL	2012	11.13	8.82	2.31
	DHROL	2013	13.33	2.86	10.47
	DHROL	2014	12.9	7.16	5.74
	DHROL	2015	14.22	9.34	4.88
	DHROL	2016	14.58	10.68	3.9
	DHROL	2017	15.17	11.07	4.1
	DHROL	2018	13.09	13.71	-0.62
	DHROL	2019	15.32	3.11	12.21
	JAMJODHPUR	2010	16.98	3.57	13.41
	JAMJODHPUR	2011	12.51	3.92	8.59
	JAMJODHPUR	2012	16.0	15.2	0.8

	JAMJODHPUR	2013	15.62	3.22	12.4
	JAMJODHPUR	2014	15.88	6.16	9.72
	JAMJODHPUR	2015	17.96	15.38	2.58
	JAMJODHPUR	2016	19.56	9.58	9.98
	JAMJODHPUR	2017	15.37	12.22	3.15
	JAMJODHPUR	2018	16.42	12.96	3.46
	JAMJODHPUR	2019	15.61	6.07	9.54
	JAMNAGAR	2010	12.62	3.31	9.31
	JAMNAGAR	2011	7.66	3.79	3.87
	JAMNAGAR	2012	11.0	8.78	2.22
	JAMNAGAR	2013	15.9	4.29	11.61
	JAMNAGAR	2014	12.57	9.56	3.01
	JAMNAGAR	2015	18.92	13.96	4.96
	JAMNAGAR	2016	21.48	11.46	10.02
	JAMNAGAR	2017	17.72	10.87	6.85
	JAMNAGAR	2018	16.01	12.51	3.5
	JAMNAGAR	2019	18.11	3.2	14.91
	JODIYA	2010	8.65	1.75	6.9
	JODIYA	2011	5.18	2.14	3.04
	JODIYA	2012	6.4	6.0	0.4
	JODIYA	2013	10.86	2.72	8.14
	JODIYA	2014	8.43	4.38	4.05
	JODIYA	2015	11.38	5.75	5.63
	JODIYA	2016	11.31	6.51	4.8
	JODIYA	2017	10.63	6.01	4.62
	JODIYA	2018	7.78	8.55	-0.77
	JODIYA	2019	12.42	3.11	9.31
	KALAVAD	2010	16.35	2.13	14.22
	KALAVAD	2011	9.49	2.66	6.83
	KALAVAD	2012	15.43	9.33	6.1
	KALAVAD	2013	15.76	3.55	12.21
	KALAVAD	2014	14.89	6.62	8.27
	KALAVAD	2015	16.85	9.92	6.93
	KALAVAD	2016	19.38	7.15	12.23
	KALAVAD	2017	16.67	8.51	8.16
	KALAVAD	2018	15.32	9.76	5.56
	KALAVAD	2019	17.51	3.14	14.37
	LALPUR	2010	20.52	3.0	17.52
	LALPUR	2011	15.21	4.65	10.56
	LALPUR	2012	16.95	13.65	3.3
	LALPUR	2013	21.24	3.74	17.5
	LALPUR	2014	18.84	7.97	10.87
	LALPUR	2015	21.11	13.94	7.17
	LALPUR	2016	21.27	8.4	12.87
	LALPUR	2017	19.69	8.48	11.21
	LALPUR	2018	18.55	17.78	0.77
	LALPUR	2019	19.84	6.02	13.82
JUNAGADH	BHESAN	2010	19.24	3.31	15.93
	BHESAN	2011	14.19	3.79	10.4
	BHESAN	2012	16.73	14.14	2.59
	BHESAN	2013	16.83	5.23	11.6
	BHESAN	2014	14.91	7.65	7.26

	BHESAN	2015	17.83	9.78	8.05
	BHESAN	2016	16.99	7.57	9.42
	BHESAN	2017	15.65	5.75	9.9
	BHESAN	2018	17.08	10.33	6.75
	BHESAN	2019	17.37	6.38	10.99
	JUNAGADH CITY & JUNA	2010	20.49	3.93	16.56
	JUNAGADH CITY & JUNA	2011	10.14	4.49	5.65
	JUNAGADH CITY & JUNA	2012	17.72	12.0	5.72
	JUNAGADH CITY & JUNA	2013	21.83	5.78	16.05
	JUNAGADH CITY & JUNA	2014	13.48	6.42	7.06
	JUNAGADH CITY & JUNA	2015	17.41	9.65	7.76
	JUNAGADH CITY & JUNA	2016	20.77	8.07	12.7
	JUNAGADH CITY & JUNA	2017	18.08	7.08	11
	JUNAGADH CITY & JUNA	2018	18.8	10.65	8.15
	JUNAGADH CITY & JUNA	2019	21.78	6.11	15.67
	KESHOD	2010	18.13	3.51	14.62
	KESHOD	2011	12.03	3.27	8.76
	KESHOD	2012	12.82	10.01	2.81
	KESHOD	2013	14.52	4.7	9.82
	KESHOD	2014	12.27	3.3	8.97
	KESHOD	2015	12.51	7.32	5.19
	KESHOD	2016	15.63	4.13	11.5
	KESHOD	2017	13.77	5.62	8.15
	KESHOD	2018	14.3	6.59	7.71
	KESHOD	2019	15.69	5.36	10.33
	MALIA	2010	12.51	2.85	9.66
	MALIA	2011	11.36	3.11	8.25
	MALIA	2012	12.61	8.04	4.57
	MALIA	2013	16.61	5.06	11.55
	MALIA	2014	14.53	3.84	10.69
	MALIA	2015	13.46	5.93	7.53
	MALIA	2016	15.84	3.33	12.51
	MALIA	2017	13.71	3.53	10.18
	MALIA	2018	13.63	4.7	8.93
	MALIA	2019	13.66	5.16	8.5
	MANAVADAR	2010	14.26	2.73	11.53
	MANAVADAR	2011	8.73	2.76	5.97
	MANAVADAR	2012	12.95	9.5	3.45
	MANAVADAR	2013	15.76	4.35	11.41
	MANAVADAR	2014	13.0	4.09	8.91
	MANAVADAR	2015	11.63	6.96	4.67
	MANAVADAR	2016	15.76	5.2	10.56
	MANAVADAR	2017	13.43	5.87	7.56
	MANAVADAR	2018	16.42	8.9	7.52
	MANAVADAR	2019	19.27	4.4	14.87
	MANGROL	2010	15.56	4.84	10.72
	MANGROL	2011	11.64	5.18	6.46
	MANGROL	2012	13.66	10.46	3.2
	MANGROL	2013	17.86	7.9	9.96
	MANGROL	2014	16.66	6.09	10.57
	MANGROL	2015	14.41	9.57	4.84
	MANGROL	2016	17.8	7.94	9.86

	MANGROL	2017	17.23	8.17	9.06
	MANGROL	2018	17.7	9.91	7.79
	MANGROL	2019	19.32	6.71	12.61
	MENDARDA	2010	16.94	4.29	12.65
	MENDARDA	2011	14.33	5.16	9.17
	MENDARDA	2012	15.39	10.85	4.54
	MENDARDA	2013	17.25	5.87	11.38
	MENDARDA	2014	19.92	5.4	14.52
	MENDARDA	2015	17.53	9.62	7.91
	MENDARDA	2016	21.11	4.68	16.43
	MENDARDA	2017	19.81	6.07	13.74
	MENDARDA	2018	20.5	6.9	13.6
	MENDARDA	2019	20.91	6.67	14.24
	VANTHALI	2010	14.74	2.75	11.99
	VANTHALI	2011	10.54	3.29	7.25
	VANTHALI	2012	18.67	16.88	1.79
	VANTHALI	2013	21.89	4.28	17.61
	VANTHALI	2014	17.33	3.68	13.65
	VANTHALI	2015	16.47	9.48	6.99
	VANTHALI	2016	24.82	3.7	21.12
	VANTHALI	2017	20.01	4.56	15.45
	VANTHALI	2018	20.37	7.88	12.49
	VANTHALI	2019	22.08	3.25	18.83
	VISAVADAR	2010	19.79	6.95	12.84
	VISAVADAR	2011	15.54	6.74	8.8
	VISAVADAR	2012	18.03	12.35	5.68
	VISAVADAR	2013	32.59	7.14	25.45
	VISAVADAR	2014	28.86	8.93	19.93
	VISAVADAR	2015	26.63	14.45	12.18
	VISAVADAR	2016	33.59	7.46	26.13
	VISAVADAR	2017	31.02	9.93	21.09
	VISAVADAR	2018	30.92	10.96	19.96
	VISAVADAR	2019	29.89	5.33	24.56
KACHCHH	ABDASA	2010	14.36	9.57	4.79
	ABDASA	2011	10.82	8.81	2.01
	ABDASA	2012	13.4	11.15	2.25
	ABDASA	2013	11.41	8.12	3.29
	ABDASA	2014	9.29	8.81	0.48
	ABDASA	2015	9.55	8.6	0.95
	ABDASA	2016	9.86	9.01	0.85
	ABDASA	2017	9.88	8.8	1.08
	ABDASA	2018	9.99	9.43	0.56
	ABDASA	2019	11.45	8.78	2.67
	ANJAR	2010	27.43	22.84	4.59
	ANJAR	2011	25.17	22.35	2.82
	ANJAR	2012	23.91	33.65	-9.74
	ANJAR	2013	25.55	26.18	-0.63
	ANJAR	2014	41.03	33.51	7.52
	ANJAR	2015	38.35	35.44	2.91
	ANJAR	2016	38.14	35.15	2.99
	ANJAR	2017	38.02	35.54	2.48
	ANJAR	2018	32.51	35.99	-3.48

	ANJAR	2019	39.97	38.47	1.5
	BHACHAU	2010	11.1	6.33	4.77
	BHACHAU	2011	8.19	5.88	2.31
	BHACHAU	2012	8.21	9.73	-1.52
	BHACHAU	2013	9.81	12.28	-2.47
	BHACHAU	2014	13.85	12.16	1.69
	BHACHAU	2015	16.12	12.15	3.97
	BHACHAU	2016	14.63	13.7	0.93
	BHACHAU	2017	14.64	13.14	1.5
	BHACHAU	2018	15.2	13.68	1.52
	BHACHAU	2019	15.51	11.97	3.54
	BHUJ	2010	19.7	16.83	2.87
	BHUJ	2011	17.17	15.17	2
	BHUJ	2012	16.78	18.4	-1.62
	BHUJ	2013	17.02	17.92	-0.9
	BHUJ	2014	20.92	20.0	0.92
	BHUJ	2015	22.31	21.37	0.94
	BHUJ	2016	23.38	21.91	1.47
	BHUJ	2017	22.71	22.21	0.5
	BHUJ	2018	22.57	22.37	0.2
	BHUJ	2019	24.44	22.78	1.66
	GANDHIDHAM	2010	8.79	3.55	5.24
	GANDHIDHAM	2011	5.02	3.22	1.8
	GANDHIDHAM	2012	3.8	7.02	-3.22
	GANDHIDHAM	2013	5.65	5.02	0.63
	GANDHIDHAM	2014	7.93	6.37	1.56
	GANDHIDHAM	2015	7.62	6.39	1.23
	GANDHIDHAM	2016	7.33	7.62	-0.29
	GANDHIDHAM	2017	8.51	7.66	0.85
	GANDHIDHAM	2018	8.6	8.46	0.14
	GANDHIDHAM	2019	11.96	8.0	3.96
	LAKHPAT	2010	11.45	10.47	0.98
	LAKHPAT	2011	10.81	9.4	1.41
	LAKHPAT	2012	9.92	8.65	1.27
	LAKHPAT	2013	13.58	11.9	1.68
	LAKHPAT	2014	14.64	13.15	1.49
	LAKHPAT	2015	13.69	13.54	0.15
	LAKHPAT	2016	13.43	12.12	1.31
	LAKHPAT	2017	13.19	12.6	0.59
	LAKHPAT	2018	13.27	13.88	-0.61
	LAKHPAT	2019	13.79	11.8	1.99
	MANDVI	2010	25.02	20.83	4.19
	MANDVI	2011	19.92	20.84	-0.92
	MANDVI	2012	22.19	21.65	0.54
	MANDVI	2014	25.22	25.13	0.09
	MANDVI	2015	26.14	25.72	0.42
	MANDVI	2016	25.12	23.84	1.28
	MANDVI	2017	25.19	24.01	1.18
	MANDVI	2018	25.86	25.43	0.43
	MANDVI	2019	29.58	27.57	2.01
	MUNDRA	2010	19.01	15.75	3.26
	MUNDRA	2011	15.78	14.47	1.31

	MUNDRA	2012	15.92	13.48	2.44
	MUNDRA	2013	17.02	12.91	4.11
	MUNDRA	2014	14.55	13.8	0.75
	MUNDRA	2015	13.03	12.03	1
	MUNDRA	2016	14.67	12.64	2.03
	MUNDRA	2017	13.8	14.0	-0.2
	MUNDRA	2018	14.41	13.96	0.45
	MUNDRA	2019	11.14	8.76	2.38
	NAKHATRANA	2010	26.19	24.19	2
	NAKHATRANA	2011	25.45	24.86	0.59
	NAKHATRANA	2012	26.45	23.39	3.06
	NAKHATRANA	2013	27.86	24.38	3.48
	NAKHATRANA	2014	27.74	26.55	1.19
	NAKHATRANA	2015	28.41	27.25	1.16
	NAKHATRANA	2016	28.24	26.93	1.31
	NAKHATRANA	2017	27.35	26.51	0.84
	NAKHATRANA	2018	27.73	27.35	0.38
	NAKHATRANA	2019	32.48	29.0	3.48
	RAPAR	2010	15.23	12.65	2.58
	RAPAR	2011	14.75	11.26	3.49
	RAPAR	2012	14.55	14.89	-0.34
	RAPAR	2013	15.46	15.77	-0.31
	RAPAR	2014	16.69	16.27	0.42
	RAPAR	2015	17.57	15.87	1.7
	RAPAR	2016	17.22	14.45	2.77
	RAPAR	2017	16.6	15.17	1.43
	RAPAR	2018	17.05	16.56	0.49
	RAPAR	2019	17.8	15.54	2.26
KHEDA	GALTESHWAR	2010	18.6	18.0	0.6
	GALTESHWAR	2011	19.25	18.0	1.25
	GALTESHWAR	2012	18.8	18.3	0.5
	GALTESHWAR	2013	19.5	17.4	2.1
	GALTESHWAR	2014	18.1	17.9	0.2
	GALTESHWAR	2015	18.6	17.2	1.4
	GALTESHWAR	2016	22.4	18.9	3.5
	GALTESHWAR	2017	20.0	18.5	1.5
	GALTESHWAR	2018	20.6	19.1	1.5
	GALTESHWAR	2019	20.5	20.13	0.37
	KAPADVANJ	2010	22.63	12.42	10.21
	KAPADVANJ	2011	19.3	15.59	3.71
	KAPADVANJ	2012	26.29	17.75	8.54
	KAPADVANJ	2013	25.16	14.52	10.64
	KAPADVANJ	2014	18.17	15.2	2.97
	KAPADVANJ	2015	20.78	18.35	2.43
	KAPADVANJ	2016	25.75	18.13	7.62
	KAPADVANJ	2017	26.22	14.34	11.88
	KAPADVANJ	2018	24.92	17.73	7.19
	KAPADVANJ	2019	28.81	18.31	10.5
	KATHLAL	2010	16.7	15.04	1.66
	KATHLAL	2011	16.07	14.49	1.58
	KATHLAL	2012	21.6	17.1	4.5
	KATHLAL	2013	20.14	16.09	4.05

	KATHLAL	2014	16.99	14.64	2.35
	KATHLAL	2015	17.17	16.36	0.81
	KATHLAL	2016	19.3	16.15	3.15
	KATHLAL	2017	18.86	13.83	5.03
	KATHLAL	2018	18.06	13.21	4.85
	KATHLAL	2019	19.35	13.32	6.03
	KHEDA	2010	5.13	2.1	3.03
	KHEDA	2011	5.63	2.33	3.3
	KHEDA	2012	3.9	2.5	1.4
	KHEDA	2013	12.56	6.96	5.6
	KHEDA	2014	10.11	7.73	2.38
	KHEDA	2015	9.89	9.4	0.49
	KHEDA	2016	13.27	9.96	3.31
	KHEDA	2017	11.9	9.29	2.61
	KHEDA	2018	11.9	9.49	2.41
	KHEDA	2019	13.0	8.7	4.3
	MAHUDHA	2010	5.12	4.4	0.72
	MAHUDHA	2011	4.49	3.76	0.73
	MAHUDHA	2012	7.9	5.02	2.88
	MAHUDHA	2013	8.57	4.53	4.04
	MAHUDHA	2014	7.32	5.3	2.02
	MAHUDHA	2015	7.72	6.61	1.11
	MAHUDHA	2016	8.17	5.6	2.57
	MAHUDHA	2017	8.04	5.69	2.35
	MAHUDHA	2018	10.44	7.13	3.31
	MAHUDHA	2019	10.37	5.38	4.99
	MATAR	2010	2.67	1.03	1.64
	MATAR	2011	2.63	1.43	1.2
	MATAR	2012	3.28	2.01	1.27
	MATAR	2013	7.49	4.1	3.39
	MATAR	2014	8.45	5.67	2.78
	MATAR	2015	5.55	4.72	0.83
	MATAR	2016	6.76	5.3	1.46
	MATAR	2017	6.53	5.41	1.12
	MATAR	2018	6.36	5.39	0.97
	MATAR	2019	8.8	4.31	4.49
	MEHMEDABAD	2010	18.33	14.58	3.75
	MEHMEDABAD	2011	18.78	15.98	2.8
	MEHMEDABAD	2012	19.22	16.75	2.47
	MEHMEDABAD	2013	19.54	13.64	5.9
	MEHMEDABAD	2014	17.04	14.07	2.97
	MEHMEDABAD	2015	17.77	16.63	1.14
	MEHMEDABAD	2016	18.93	15.99	2.94
	MEHMEDABAD	2017	18.52	14.74	3.78
	MEHMEDABAD	2018	18.42	15.49	2.93
	MEHMEDABAD	2019	20.15	15.04	5.11
	NADIAD	2010	10.73	8.65	2.08
	NADIAD	2011	10.65	10.66	-0.01
	NADIAD	2012	11.63	11.02	0.61
	NADIAD	2013	12.45	7.93	4.52
	NADIAD	2014	11.34	7.66	3.68
	NADIAD	2015	10.46	8.71	1.75

	NADIAD	2016	12.36	9.32	3.04
	NADIAD	2017	12.21	10.17	2.04
	NADIAD	2018	12.02	9.9	2.12
	NADIAD	2019	12.98	9.38	3.6
	THASRA	2010	9.91	6.61	3.3
	THASRA	2011	9.29	6.82	2.47
	THASRA	2012	9.7	6.89	2.81
	THASRA	2013	11.67	8.27	3.4
	THASRA	2014	10.31	7.57	2.74
	THASRA	2015	10.03	7.56	2.47
	THASRA	2016	10.88	8.26	2.62
	THASRA	2017	10.41	7.06	3.35
	THASRA	2018	10.12	7.28	2.84
	THASRA	2019	11.15	7.15	4
	VASO	2010	5.33	4.49	0.84
	VASO	2011	7.78	5.43	2.35
	VASO	2012	6.45	5.93	0.52
	VASO	2013	8.33	0.0	8.33
	VASO	2014	6.85	4.82	2.03
	VASO	2015	5.95	2.78	3.17
	VASO	2016	7.55	1.86	5.69
	VASO	2017	7.1	0.0	7.1
	VASO	2018	6.75	5.05	1.7
	VASO	2019	7.59	4.15	3.44
MAHESANA	BECHARAJI	2013	14.85	13.27	1.58
	BECHARAJI	2014	14.83	13.07	1.76
	BECHARAJI	2015	15.58	14.38	1.2
	BECHARAJI	2016	15.45	12.82	2.63
	BECHARAJI	2017	13.47	11.89	1.58
	BECHARAJI	2018	12.74	13.4	-0.66
	BECHARAJI	2019	14.06	12.4	1.66
	JOTANA	2013	27.17	25.63	1.54
	JOTANA	2014	29.88	27.92	1.96
	JOTANA	2015	28.13	28.15	-0.02
	JOTANA	2016	28.65	30.45	-1.8
	JOTANA	2017	34.6	25.2	9.4
	JOTANA	2018	32.35	37.35	-5
	JOTANA	2019	39.52	39.55	-0.03
	KADI	2013	23.47	21.16	2.31
	KADI	2014	22.74	19.06	3.68
	KADI	2015	15.77	14.55	1.22
	KADI	2016	15.48	14.66	0.82
	KADI	2017	15.56	13.97	1.59
	KADI	2018	14.73	16.22	-1.49
	KADI	2019	17.62	13.43	4.19
	KHERALU	2013	15.97	14.73	1.24
	KHERALU	2014	16.59	15.31	1.28
	KHERALU	2015	17.31	15.44	1.87
	KHERALU	2016	17.46	15.99	1.47
	KHERALU	2017	17.69	15.0	2.69
	KHERALU	2018	16.23	17.67	-1.44
	KHERALU	2019	22.66	19.18	3.48

	MAHESANA	2013	25.2	22.74	2.46
	MAHESANA	2014	25.35	21.87	3.48
	MAHESANA	2015	21.19	19.44	1.75
	MAHESANA	2016	21.56	22.81	-1.25
	MAHESANA	2017	18.16	16.48	1.68
	MAHESANA	2018	17.25	19.68	-2.43
	MAHESANA	2019	18.7	16.5	2.2
	SATLASANA	2010	11.62	9.5	2.12
	SATLASANA	2011	11.41	8.9	2.51
	SATLASANA	2012	16.95	15.6	1.35
	SATLASANA	2013	18.1	16.9	1.2
	SATLASANA	2014	18.89	17	1.89
	SATLASANA	2015	17.47	16.4	1.07
	SATLASANA	2016	17.94	17.3	0.64
	SATLASANA	2017	18.44	15.1	3.34
	SATLASANA	2018	17.2	18.4	-1.2
	SATLASANA	2019	20.73	18	2.73
	UNJHA	2013	19.89	18.26	1.63
	UNJHA	2014	17.44	16.88	0.56
	UNJHA	2015	16.17	16.75	-0.58
	UNJHA	2016	17.52	15.53	1.99
	UNJHA	2017	16.53	14.12	2.41
	UNJHA	2018	15.44	16.1	-0.66
	UNJHA	2019	18.0	16.1	1.9
	VADNAGAR	2013	11.32	15.75	-4.43
	VADNAGAR	2014	17.27	15.25	2.02
	VADNAGAR	2015	18.15	15.96	2.19
	VADNAGAR	2016	18.99	18.24	0.75
	VADNAGAR	2017	20.16	17.3	2.86
	VADNAGAR	2018	19.79	20.07	-0.28
	VADNAGAR	2019	22.56	20.45	2.11
	VIJAPUR	2013	14.82	17.28	-2.46
	VIJAPUR	2014	18.88	17.48	1.4
	VIJAPUR	2015	18.14	18.76	-0.62
	VIJAPUR	2016	19.58	19.4	0.18
	VIJAPUR	2017	20.22	16.93	3.29
	VIJAPUR	2018	19.18	19.98	-0.8
	VIJAPUR	2019	22.66	19.98	2.68
	VISNAGAR	2013	11.59	6.75	4.84
	VISNAGAR	2014	8.85	8.54	0.31
	VISNAGAR	2015	8.16	7.0	1.16
	VISNAGAR	2016	9.22	8.43	0.79
	VISNAGAR	2017	10.63	7.35	3.28
	VISNAGAR	2018	8.74	8.99	-0.25
	VISNAGAR	2019	10.74	8.62	2.12
MAHISAGAR	BALASINOR	2010	6.83	4.15	2.68
	BALASINOR	2011	6.32	5.09	1.23
	BALASINOR	2012	6.98	3.67	3.31
	BALASINOR	2013	10.16	2.59	7.57
	BALASINOR	2014	6.75	3.91	2.84
	BALASINOR	2015	8.83	5.19	3.64
	BALASINOR	2016	9.77	3.35	6.42

	BALASINOR	2017	9.01	3.44	5.57
	BALASINOR	2018	8.13	4.63	3.5
	BALASINOR	2019	9.4	3.43	5.97
	KADANA	2010	11.34	5.26	6.08
	KADANA	2011	11.71	4.97	6.74
	KADANA	2012	11.74	4.4	7.34
	KADANA	2013	12.99	4.38	8.61
	KADANA	2014	10.53	7.05	3.48
	KADANA	2015	13.94	11.92	2.02
	KADANA	2016	16.87	8.22	8.65
	KADANA	2017	15.1	5.17	9.93
	KADANA	2018	16.8	8.58	8.22
	KADANA	2019	17.77	4.63	13.14
	KHANPUR	2010	13.5	5.5	8
	KHANPUR	2011	12.71	4.26	8.45
	KHANPUR	2012	11.85	3.66	8.19
	KHANPUR	2013	12.49	3.89	8.6
	KHANPUR	2014	10.51	4.94	5.57
	KHANPUR	2015	13.04	6.62	6.42
	KHANPUR	2016	15.93	4.89	11.04
	KHANPUR	2017	14.39	5.82	8.57
	KHANPUR	2018	13.21	6.08	7.13
	KHANPUR	2019	16.68	3.41	13.27
	LUNAWADA	2010	9.68	6.96	2.72
	LUNAWADA	2011	9.29	6.02	3.27
	LUNAWADA	2012	9.65	6.43	3.22
	LUNAWADA	2013	10.47	5.64	4.83
	LUNAWADA	2014	8.8	5.71	3.09
	LUNAWADA	2015	9.52	6.95	2.57
	LUNAWADA	2016	10.93	6.62	4.31
	LUNAWADA	2017	9.79	5.96	3.83
	LUNAWADA	2018	9.71	5.85	3.86
	LUNAWADA	2019	10.65	5.14	5.51
	SANTRAMPUR	2010	12.51	4.45	8.06
	SANTRAMPUR	2011	12.51	3.48	9.03
	SANTRAMPUR	2012	11.26	3.85	7.41
	SANTRAMPUR	2013	9.83	3.0	6.83
	SANTRAMPUR	2014	7.65	5.17	2.48
	SANTRAMPUR	2015	11.38	8.81	2.57
	SANTRAMPUR	2016	13.82	4.93	8.89
	SANTRAMPUR	2017	11.18	3.6	7.58
	SANTRAMPUR	2018	11.04	3.51	7.53
	SANTRAMPUR	2019	11.25	2.32	8.93
	VIRPUR	2010	9.67	6.38	3.29
	VIRPUR	2011	10.11	4.55	5.56
	VIRPUR	2012	7.39	4.34	3.05
	VIRPUR	2013	7.69	3.71	3.98
	VIRPUR	2014	7.02	4.61	2.41
	VIRPUR	2015	6.82	5.96	0.86
	VIRPUR	2016	9.77	4.91	4.86
	VIRPUR	2017	8.81	5.33	3.48
	VIRPUR	2018	8.56	5.75	2.81

	VIRPUR	2019	10.04	5.21	4.83
MORBI	HALVAD	2010	12.68	7.57	5.11
	HALVAD	2011	6.8	5.67	1.13
	HALVAD	2012	6.85	7.1	-0.25
	HALVAD	2013	9.23	5.78	3.45
	HALVAD	2014	6.37	7.01	-0.64
	HALVAD	2015	7.51	5.31	2.2
	HALVAD	2016	10.21	6.9	3.31
	HALVAD	2017	4.91	4.7	0.21
	HALVAD	2018	6.63	9.51	-2.88
	HALVAD	2019	4.53	3.23	1.3
	MALIYA	2010	3.35	1.62	1.73
	MALIYA	2011	3.09	1.98	1.11
	MALIYA	2012	4.02	3.42	0.6
	MALIYA	2013	5.3	1.38	3.92
	MALIYA	2014	4.14	4.15	-0.01
	MALIYA	2015	4.94	3.74	1.2
	MALIYA	2016	5.17	3.71	1.46
	MALIYA	2017	4.31	2.72	1.59
	MALIYA	2018	4.2	3.37	0.83
	MALIYA	2019	4.64	2.72	1.92
	MORBI	2010	5.2	2.08	3.12
	MORBI	2011	3.86	1.74	2.12
	MORBI	2012	4.58	4.05	0.53
	MORBI	2013	6.42	3.2	3.22
	MORBI	2014	6.12	4.5	1.62
	MORBI	2015	7.03	4.79	2.24
	MORBI	2016	8.16	5.61	2.55
	MORBI	2017	6.69	4.45	2.24
	MORBI	2018	6.64	5.14	1.5
	MORBI	2019	7.01	3.74	3.27
	TANKARA	2010	9.21	3.8	5.41
	TANKARA	2011	6.53	2.79	3.74
	TANKARA	2012	8.47	5.2	3.27
	TANKARA	2013	9.9	2.49	7.41
	TANKARA	2014	8.03	5.77	2.26
	TANKARA	2015	10.48	6.57	3.91
	TANKARA	2016	12.5	7.16	5.34
	TANKARA	2017	11.28	3.11	8.17
	TANKARA	2018	9.51	5.48	4.03
	TANKARA	2019	10.79	4.24	6.55
	WANKANER	2010	11.02	5.99	5.03
	WANKANER	2011	9.2	5.06	4.14
	WANKANER	2012	15.22	10.06	5.16
	WANKANER	2013	17.55	10.28	7.27
	WANKANER	2014	16.11	12.45	3.66
	WANKANER	2015	17.08	13.38	3.7
	WANKANER	2016	19.5	16.27	3.23
	WANKANER	2017	19.71	11.62	8.09
	WANKANER	2018	13.32	13.31	0.01
	WANKANER	2019	15.49	10.5	4.99
NARMADA	DEDIAPADA	2010	9.02	4.92	4.1

	DEDIAPADA	2011	13.24	5.68	7.56
	DEDIAPADA	2012	10.91	4.7	6.21
	DEDIAPADA	2013	11.88	4.31	7.57
	DEDIAPADA	2014	13.46	6.36	7.1
	DEDIAPADA	2015	11.87	7.33	4.54
	DEDIAPADA	2016	13.06	5.58	7.48
	DEDIAPADA	2017	12.19	6.11	6.08
	DEDIAPADA	2018	12.13	6.29	5.84
	DEDIAPADA	2019	15.07	4.78	10.29
	GARUDESHWAR	2010	7.92	4.5	3.42
	GARUDESHWAR	2011	8.12	4.67	3.45
	GARUDESHWAR	2012	7.78	5.2	2.58
	GARUDESHWAR	2013	7.71	3.78	3.93
	GARUDESHWAR	2014	6.71	4.75	1.96
	GARUDESHWAR	2015	7.36	5.51	1.85
	GARUDESHWAR	2016	8.03	5.01	3.02
	GARUDESHWAR	2017	8.21	4.6	3.61
	GARUDESHWAR	2018	7.98	5.83	2.15
	GARUDESHWAR	2019	9.35	4.4	4.95
	NANDOD	2010	15.19	12.49	2.7
	NANDOD	2011	15.27	13.36	1.91
	NANDOD	2012	15.73	14.17	1.56
	NANDOD	2013	17.26	12.64	4.62
	NANDOD	2014	17.5	13.8	3.7
	NANDOD	2015	17.57	14.69	2.88
	NANDOD	2016	17.8	14.06	3.74
	NANDOD	2017	17.54	14.91	2.63
	NANDOD	2018	19.63	15.12	4.51
	NANDOD	2019	20.48	11.77	8.71
	SAGBARA	2010	16.09	5.49	10.6
	SAGBARA	2011	15.63	5.57	10.06
	SAGBARA	2012	15.23	4.32	10.91
	SAGBARA	2013	14.48	5.85	8.63
	SAGBARA	2014	13.39	8.39	5
	SAGBARA	2015	14.47	10.98	3.49
	SAGBARA	2016	15.76	8.79	6.97
	SAGBARA	2017	16.39	11.06	5.33
	SAGBARA	2018	14.37	9.33	5.04
	SAGBARA	2019	19.06	5.48	13.58
	TILAKWADA	2010	12.63	11.16	1.47
	TILAKWADA	2011	12.24	8.97	3.27
	TILAKWADA	2012	10.13	6.94	3.19
	TILAKWADA	2013	8.65	3.83	4.82
	TILAKWADA	2014	9.31	5.69	3.62
	TILAKWADA	2015	8.14	8.18	-0.04
	TILAKWADA	2016	9.96	8.29	1.67
	TILAKWADA	2017	9.59	8.18	1.41
	TILAKWADA	2018	9.45	8.97	0.48
	TILAKWADA	2019	10.67	7.02	3.65
NAVSARI	BANSDA	2010	10.88	5.13	5.75
	BANSDA	2011	10.29	5.25	5.04
	BANSDA	2012	10.82	6.26	4.56

	BANSDA	2013	15.4	4.66	10.74
	BANSDA	2014	13.89	6.07	7.82
	BANSDA	2015	14.9	7.59	7.31
	BANSDA	2016	15.99	6.44	9.55
	BANSDA	2017	16.2	5.84	10.36
	BANSDA	2018	15.15	4.71	10.44
	BANSDA	2019	19.14	4.65	14.49
	CHIKHLI	2010	9.14	2.51	6.63
	CHIKHLI	2011	8.32	3.04	5.28
	CHIKHLI	2012	9.14	3.86	5.28
	CHIKHLI	2013	8.3	1.99	6.31
	CHIKHLI	2014	7.76	4.12	3.64
	CHIKHLI	2015	7.92	3.8	4.12
	CHIKHLI	2016	8.73	3.18	5.55
	CHIKHLI	2017	9.34	3.36	5.98
	CHIKHLI	2018	9.26	3.59	5.67
	CHIKHLI	2019	9.5	1.78	7.72
	GANDEVI	2010	8.07	4.17	3.9
	GANDEVI	2011	8.02	4.93	3.09
	GANDEVI	2012	8.11	4.06	4.05
	GANDEVI	2013	9.87	4.65	5.22
	GANDEVI	2014	8.66	5.7	2.96
	GANDEVI	2015	9.35	5.56	3.79
	GANDEVI	2016	9.79	5.17	4.62
	GANDEVI	2017	5.57	5.57	0
	GANDEVI	2018	9.78	5.89	3.89
	GANDEVI	2019	10.5	4.33	6.17
	JALALPORE	2010	7.03	2.7	4.33
	JALALPORE	2011	6.25	3.06	3.19
	JALALPORE	2012	6.32	3.42	2.9
	JALALPORE	2013	7.09	2.12	4.97
	JALALPORE	2014	6.02	4.32	1.7
	JALALPORE	2015	6.64	3.62	3.02
	JALALPORE	2016	6.15	3.57	2.58
	JALALPORE	2017	6.3	4.47	1.83
	JALALPORE	2018	6.89	4.26	2.63
	JALALPORE	2019	7.69	2.9	4.79
	KHERGAM	2010	7.46	2.9	4.56
	KHERGAM	2011	6.78	3.16	3.62
	KHERGAM	2012	6.9	3.07	3.83
	KHERGAM	2013	8.22	2.63	5.59
	KHERGAM	2014	7.47	3.57	3.9
	KHERGAM	2015	8.31	3.61	4.7
	KHERGAM	2016	9.34	3.56	5.78
	KHERGAM	2017	8.12	3.68	4.44
	KHERGAM	2018	8.84	3.61	5.23
	KHERGAM	2019	9.21	1.99	7.22
	NAVSARI	2010	9.17	5.27	3.9
	NAVSARI	2011	9.09	6.3	2.79
	NAVSARI	2012	8.68	6.3	2.38
	NAVSARI	2013	7.95	3.59	4.36
	NAVSARI	2014	7.87	5.98	1.89

	NAVSARI	2015	7.79	5.29	2.5
	NAVSARI	2016	8.85	6.18	2.67
	NAVSARI	2017	8.89	4.41	4.48
	NAVSARI	2018	10.34	4.76	5.58
	NAVSARI	2019	8.36	2.67	5.69
PANCHMAHAL	GHOGHAMBA	2010	11.05	4.01	7.04
	GHOGHAMBA	2011	12.77	4.96	7.81
	GHOGHAMBA	2012	11.88	6.75	5.13
	GHOGHAMBA	2013	12.42	3.84	8.58
	GHOGHAMBA	2014	9.16	6.21	2.95
	GHOGHAMBA	2015	11.56	9.7	1.86
	GHOGHAMBA	2016	11.62	7.12	4.5
	GHOGHAMBA	2017	13.84	5.89	7.95
	GHOGHAMBA	2018	12.25	5.73	6.52
	GHOGHAMBA	2019	12.38	3.35	9.03
	GODHRA	2010	8.87	4.26	4.61
	GODHRA	2011	8.14	4.16	3.98
	GODHRA	2012	6.88	3.32	3.56
	GODHRA	2013	6.88	2.73	4.15
	GODHRA	2014	5.76	3.94	1.82
	GODHRA	2015	6.82	5.93	0.89
	GODHRA	2016	9.81	5.43	4.38
	GODHRA	2017	8.65	4.52	4.13
	GODHRA	2018	8.13	4.64	3.49
	GODHRA	2019	8.0	3.16	4.84
	HALOL	2010	10.34	4.11	6.23
	HALOL	2011	8.86	4.03	4.83
	HALOL	2012	8.81	4.89	3.92
	HALOL	2013	9.27	3.48	5.79
	HALOL	2014	7.36	3.71	3.65
	HALOL	2015	8.84	6.76	2.08
	HALOL	2016	11.01	5.66	5.35
	HALOL	2017	10.59	5.44	5.15
	HALOL	2018	10.38	5.26	5.12
	HALOL	2019	9.79	4.82	4.97
	JAMBUGHODA	2010	6.84	3.85	2.99
	JAMBUGHODA	2011	6.26	4.02	2.24
	JAMBUGHODA	2012	5.38	4.03	1.35
	JAMBUGHODA	2013	5.66	3.41	2.25
	JAMBUGHODA	2014	6.12	4.03	2.09
	JAMBUGHODA	2015	6.55	5.38	1.17
	JAMBUGHODA	2016	7.21	4.61	2.6
	JAMBUGHODA	2017	6.32	4.69	1.63
	JAMBUGHODA	2018	6.66	4.54	2.12
	JAMBUGHODA	2019	6.73	3.99	2.74
	KALOL	2010	9.81	5.25	4.56
	KALOL	2011	6.85	4.82	2.03
	KALOL	2012	7.52	5.61	1.91
	KALOL	2013	7.26	3.47	3.79
	KALOL	2014	7.1	4.52	2.58
	KALOL	2015	7.77	7.08	0.69
	KALOL	2016	10.43	5.5	4.93

	KALOL	2017	8.64	6.28	2.36
	KALOL	2018	10.26	6.22	4.04
	KALOL	2019	10.35	3.64	6.71
	MORWA HADAF	2010	13.06	6.43	6.63
	MORWA HADAF	2011	11.82	6.23	5.59
	MORWA HADAF	2012	11.89	6.33	5.56
	MORWA HADAF	2013	12.04	5.13	6.91
	MORWA HADAF	2014	10.37	8.61	1.76
	MORWA HADAF	2015	12.84	11.33	1.51
	MORWA HADAF	2016	15.03	8.63	6.4
	MORWA HADAF	2017	12.46	7.13	5.33
	MORWA HADAF	2018	12.46	7.52	4.94
	MORWA HADAF	2019	12.82	5.4	7.42
	SHEHRA	2010	8.23	3.9	4.33
	SHEHRA	2011	6.83	3.2	3.63
	SHEHRA	2012	6.65	2.33	4.32
	SHEHRA	2013	5.99	3.3	2.69
	SHEHRA	2014	7.3	3.98	3.32
	SHEHRA	2015	6.47	3.31	3.16
	SHEHRA	2016	6.47	3.31	3.16
	SHEHRA	2017	5.76	2.44	3.32
	SHEHRA	2018	6.04	2.44	3.6
	SHEHRA	2019	6.04	2.29	3.75
PATAN	CHANASMA	2010	11.84	9.14	2.7
	CHANASMA	2011	10.65	8.08	2.57
	CHANASMA	2012	9.84	10.38	-0.54
	CHANASMA	2013	27.27	24.62	2.65
	CHANASMA	2014	25.0	26.71	-1.71
	CHANASMA	2015	21.65	19.18	2.47
	CHANASMA	2016	20.66	18.54	2.12
	CHANASMA	2017	19.03	18.24	0.79
	CHANASMA	2018	18.91	22.02	-3.11
	CHANASMA	2019	23.05	21.33	1.72
	HARIJ	2010	6.4	5.12	1.28
	HARIJ	2011	5.75	4.15	1.6
	HARIJ	2012	5.12	4.99	0.13
	HARIJ	2013	15.1	16.15	-1.05
	HARIJ	2014	17.41	14.95	2.46
	HARIJ	2015	15.47	13.72	1.75
	HARIJ	2016	15.07	13.48	1.59
	HARIJ	2017	14.13	12.2	1.93
	HARIJ	2018	15.55	12.48	3.07
	HARIJ	2019	12.88	10.6	2.28
	PATAN	2010	17.93	15.76	2.17
	PATAN	2011	19.69	17.34	2.35
	PATAN	2012	20.72	17.75	2.97
	PATAN	2013	28.15	27.18	0.97
	PATAN	2014	30.04	26.37	3.67
	PATAN	2015	26.14	24.52	1.62
	PATAN	2016	25.94	21.84	4.1
	PATAN	2017	23.22	23.32	-0.1
	PATAN	2018	23.55	23.92	-0.37

	PATAN	2019	26.4	22.64	3.76
	RADHANPUR	2010	4.93	1.61	3.32
	RADHANPUR	2011	3.56	1.76	1.8
	RADHANPUR	2012	2.73	2.3	0.43
	RADHANPUR	2013	8.92	6.72	2.2
	RADHANPUR	2014	7.8	7.01	0.79
	RADHANPUR	2015	8.37	7.65	0.72
	RADHANPUR	2016	8.88	7.49	1.39
	RADHANPUR	2017	8.16	7.39	0.77
	RADHANPUR	2018	8.64	8.9	-0.26
	RADHANPUR	2019	9.34	8.46	0.88
	SAMI	2010	0.0	0.0	0
	SAMI	2011	0.0	0.0	0
	SAMI	2012	0.0	0.0	0
	SAMI	2013	8.13	6.46	1.67
	SAMI	2014	7.47	6.25	1.22
	SAMI	2015	7.26	6.15	1.11
	SAMI	2016	7.38	6.29	1.09
	SAMI	2017	6.35	5.86	0.49
	SAMI	2018	4.61	4.36	0.25
	SAMI	2019	5.07	3.59	1.48
	SANKHESWAR	2010	3.65	0.82	2.83
	SANKHESWAR	2011	2.29	0.99	1.3
	SANKHESWAR	2012	2.59	2.6	-0.01
	SANKHESWAR	2013	5.44	3.11	2.33
	SANKHESWAR	2014	4.07	3.16	0.91
	SANKHESWAR	2015	4.32	2.58	1.74
	SANKHESWAR	2016	4.14	3.14	1
	SANKHESWAR	2017	4.39	2.37	2.02
	SANKHESWAR	2018	3.79	5.06	-1.27
	SANKHESWAR	2019	7.46	4.08	3.38
	SANTALPUR	2010	3.98	1.6	2.38
	SANTALPUR	2011	2.84	1.69	1.15
	SANTALPUR	2012	2.51	2.7	-0.19
	SANTALPUR	2013	8.76	8.1	0.66
	SANTALPUR	2014	7.94	7.85	0.09
	SANTALPUR	2015	9.41	7.11	2.3
	SANTALPUR	2016	7.23	7.38	-0.15
	SANTALPUR	2017	7.58	6.47	1.11
	SANTALPUR	2018	6.38	7.28	-0.9
	SANTALPUR	2019	6.25	5.37	0.88
	SARSVATI(PATAN)	2010	0.0	0.0	0
	SARSVATI(PATAN)	2011	0.0	0.0	0
	SARSVATI(PATAN)	2012	29.5	29.1	0.4
	SARSVATI(PATAN)	2013	51.47	48.83	2.64
	SARSVATI(PATAN)	2014	51.5	49.67	1.83
	SARSVATI(PATAN)	2015	47.8	50.07	-2.27
	SARSVATI(PATAN)	2016	50.43	49.33	1.1
	SARSVATI(PATAN)	2017	33.02	49.1	-16.08
	SARSVATI(PATAN)	2018	49.7	49.47	0.23
	SARSVATI(PATAN)	2019	32.3	31.2	1.1
	SIDHPUR	2010	21.57	19.67	1.9

	SIDHPUR	2011	21.54	14.45	7.09
	SIDHPUR	2012	31.48	33.2	-1.72
	SIDHPUR	2013	35.52	34.15	1.37
	SIDHPUR	2014	31.53	29.2	2.33
	SIDHPUR	2015	25.15	23.28	1.87
	SIDHPUR	2016	23.77	22.68	1.09
	SIDHPUR	2017	21.97	18.37	3.6
	SIDHPUR	2018	21.0	23.5	-2.5
	SIDHPUR	2019	29.2	24.8	4.4
PORBANDAR	KUTIYANA	2010	16.77	2.57	14.2
	KUTIYANA	2011	7.8	2.66	5.14
	KUTIYANA	2012	14.67	8.52	6.15
	KUTIYANA	2013	11.44	4.71	6.73
	KUTIYANA	2014	9.3	4.09	5.21
	KUTIYANA	2015	18.33	14.69	3.64
	KUTIYANA	2016	21.52	11.14	10.38
	KUTIYANA	2017	19.46	10.31	9.15
	KUTIYANA	2018	23.11	16.64	6.47
	KUTIYANA	2019	25.33	2.22	23.11
	PORBANDAR	2010	7.26	3.56	3.7
	PORBANDAR	2011	6.53	3.5	3.03
	PORBANDAR	2012	8.59	4.27	4.32
	PORBANDAR	2013	7.7	4.71	2.99
	PORBANDAR	2014	7.09	5.22	1.87
	PORBANDAR	2015	11.44	9.37	2.07
	PORBANDAR	2016	12.26	7.14	5.12
	PORBANDAR	2017	12.65	6.97	5.68
	PORBANDAR	2018	9.83	9.2	0.63
	PORBANDAR	2019	11.68	4.02	7.66
	RANAVAV	2010	12.74	3.47	9.27
	RANAVAV	2011	9.91	3.06	6.85
	RANAVAV	2012	13.06	6.09	6.97
	RANAVAV	2013	14.24	5.5	8.74
	RANAVAV	2014	13.63	7.2	6.43
	RANAVAV	2015	19.59	14.26	5.33
	RANAVAV	2016	26.04	15.51	10.53
	RANAVAV	2017	20.52	10.9	9.62
	RANAVAV	2018	19.46	17.42	2.04
	RANAVAV	2019	20.43	13.49	6.94
RAJKOT	DHORAJI	2010	18.42	3.64	14.78
	DHORAJI	2011	13.09	2.85	10.24
	DHORAJI	2012	16.84	6.01	10.83
	DHORAJI	2013	15.39	2.82	12.57
	DHORAJI	2014	14.93	6.72	8.21
	DHORAJI	2015	19.27	12.41	6.86
	DHORAJI	2016	19.31	9.75	9.56
	DHORAJI	2017	19.13	10.76	8.37
	DHORAJI	2018	18.31	11.73	6.58
	DHORAJI	2019	22.09	7.5	14.59
	GONDAL	2010	17.46	3.87	13.59
	GONDAL	2011	14.89	2.34	12.55
	GONDAL	2012	15.15	6.38	8.77

	GONDAL	2013	15.15	4.3	10.85
	GONDAL	2014	14.7	7.9	6.8
	GONDAL	2015	14.23	8.47	5.76
	GONDAL	2016	17.91	6.4	11.51
	GONDAL	2017	18.25	6.64	11.61
	GONDAL	2018	16.35	7.17	9.18
	GONDAL	2019	19.35	4.67	14.68
	JAMKANDORNA	2010	13.58	3.77	9.81
	JAMKANDORNA	2011	11.57	4.21	7.36
	JAMKANDORNA	2012	13.42	6.11	7.31
	JAMKANDORNA	2013	13.64	2.48	11.16
	JAMKANDORNA	2014	12.74	8.7	4.04
	JAMKANDORNA	2015	13.45	8.75	4.7
	JAMKANDORNA	2016	17.09	9.03	8.06
	JAMKANDORNA	2017	15.27	7.01	8.26
	JAMKANDORNA	2018	14.77	8.21	6.56
	JAMKANDORNA	2019	16.18	3.38	12.8
	JASDAN	2010	15.88	4.51	11.37
	JASDAN	2011	13.33	5.03	8.3
	JASDAN	2012	13.99	7.68	6.31
	JASDAN	2013	13.66	5.5	8.16
	JASDAN	2014	13.95	10.19	3.76
	JASDAN	2015	14.93	12.31	2.62
	JASDAN	2016	15.94	8.61	7.33
	JASDAN	2017	16.17	6.45	9.72
	JASDAN	2018	13.65	8.56	5.09
	JASDAN	2019	14.78	4.77	10.01
	JETPUR	2010	16.98	3.27	13.71
	JETPUR	2011	11.16	2.4	8.76
	JETPUR	2012	14.11	5.43	8.68
	JETPUR	2013	15.12	2.75	12.37
	JETPUR	2014	14.27	7.45	6.82
	JETPUR	2015	17.6	7.91	9.69
	JETPUR	2016	17.37	6.92	10.45
	JETPUR	2017	20.81	7.87	12.94
	JETPUR	2018	17.17	9.15	8.02
	JETPUR	2019	17.26	6.15	11.11
	KOTADA SANGANI	2010	12.02	3.3	8.72
	KOTADA SANGANI	2011	9.23	2.23	7
	KOTADA SANGANI	2012	11.45	4.06	7.39
	KOTADA SANGANI	2013	14.48	3.48	11
	KOTADA SANGANI	2014	12.33	9.43	2.9
	KOTADA SANGANI	2015	12.83	8.65	4.18
	KOTADA SANGANI	2016	13.83	7.56	6.27
	KOTADA SANGANI	2017	13.03	7.01	6.02
	KOTADA SANGANI	2018	12.51	7.68	4.83
	KOTADA SANGANI	2019	15.45	4.2	11.25
	LODHIKA	2010	14.71	2.52	12.19
	LODHIKA	2011	11.97	2.25	9.72
	LODHIKA	2012	14.58	4.95	9.63
	LODHIKA	2013	15.93	2.98	12.95
	LODHIKA	2014	13.22	7.36	5.86

	LODHIKA	2015	13.18	7.6	5.58
	LODHIKA	2016	18.3	5.27	13.03
	LODHIKA	2017	14.04	3.25	10.79
	LODHIKA	2018	15.46	5.06	10.4
	LODHIKA	2019	13.64	4.38	9.26
	PADDHARI	2010	14.03	3.45	10.58
	PADDHARI	2011	11.9	4.0	7.9
	PADDHARI	2012	12.48	6.38	6.1
	PADDHARI	2013	13.46	2.37	11.09
	PADDHARI	2014	11.52	5.62	5.9
	PADDHARI	2015	12.83	7.3	5.53
	PADDHARI	2016	15.51	6.74	8.77
	PADDHARI	2017	12.54	3.07	9.47
	PADDHARI	2018	13.02	5.52	7.5
	PADDHARI	2019	13.25	4.6	8.65
	RAJKOT	2010	13.17	3.78	9.39
	RAJKOT	2011	10.95	3.44	7.51
	RAJKOT	2012	11.94	5.72	6.22
	RAJKOT	2013	12.82	2.93	9.89
	RAJKOT	2014	12.3	10.2	2.1
	RAJKOT	2015	15.17	9.09	6.08
	RAJKOT	2016	17.21	8.98	8.23
	RAJKOT	2017	15.73	5.76	9.97
	RAJKOT	2018	14.72	6.58	8.14
	RAJKOT	2019	16.04	5.14	10.9
	UPLETA	2010	13.46	3.12	10.34
	UPLETA	2011	8.06	3.35	4.71
	UPLETA	2012	11.75	5.8	5.95
	UPLETA	2013	12.0	3.01	8.99
	UPLETA	2014	9.15	5.45	3.7
	UPLETA	2015	12.3	7.85	4.45
	UPLETA	2016	17.54	8.29	9.25
	UPLETA	2017	15.35	8.89	6.46
	UPLETA	2018	14.68	9.87	4.81
	UPLETA	2019	15.63	6.63	9
	VINCHCHIYA	2010	9.38	5.09	4.29
	VINCHCHIYA	2011	10.77	3.27	7.5
	VINCHCHIYA	2012	10.2	6.5	3.7
	VINCHCHIYA	2013	10.04	4.43	5.61
	VINCHCHIYA	2014	9.19	3.34	5.85
	VINCHCHIYA	2015	6.74	7.15	-0.41
	VINCHCHIYA	2016	8.32	5.8	2.52
	VINCHCHIYA	2017	11.12	2.79	8.33
	VINCHCHIYA	2018	5.43	6.65	-1.22
	VINCHCHIYA	2019	6.39	2.24	4.15
SABARKANTHA	HIMATNAGAR	2010	22.47	18.41	4.06
	HIMATNAGAR	2011	23.29	15.95	7.34
	HIMATNAGAR	2012	21.44	17.72	3.72
	HIMATNAGAR	2013	23.04	14.51	8.53
	HIMATNAGAR	2014	19.54	14.71	4.83
	HIMATNAGAR	2015	20.79	15.19	5.6
	HIMATNAGAR	2016	18.44	19.09	-0.65

	HIMATNAGAR	2017	19.6	14.61	4.99
	HIMATNAGAR	2018	16.71	13.67	3.04
	HIMATNAGAR	2019	19.36	13.72	5.64
	IDAR	2010	18.61	10.26	8.35
	IDAR	2011	18.03	9.02	9.01
	IDAR	2012	16.28	8.62	7.66
	IDAR	2013	20.43	6.21	14.22
	IDAR	2014	12.88	7.83	5.05
	IDAR	2015	15.75	9.05	6.7
	IDAR	2016	16.74	10.53	6.21
	IDAR	2017	18.64	6.7	11.94
	IDAR	2018	15.38	11.22	4.16
	IDAR	2019	20.05	8.32	11.73
	KHEDBRAHMA	2010	16.35	7.94	8.41
	KHEDBRAHMA	2011	17.25	5.43	11.82
	KHEDBRAHMA	2012	15.33	6.42	8.91
	KHEDBRAHMA	2013	20.27	4.22	16.05
	KHEDBRAHMA	2014	13.96	6.55	7.41
	KHEDBRAHMA	2015	15.52	5.75	9.77
	KHEDBRAHMA	2016	16.8	11.34	5.46
	KHEDBRAHMA	2017	16.42	3.01	13.41
	KHEDBRAHMA	2018	15.05	7.97	7.08
	KHEDBRAHMA	2019	18.97	2.93	16.04
	POSHINA	2010	16.04	8.25	7.79
	POSHINA	2011	13.94	6.44	7.5
	POSHINA	2012	10.71	6.44	4.27
	POSHINA	2013	12.93	4.95	7.98
	POSHINA	2014	10.11	7.51	2.6
	POSHINA	2015	12.73	6.81	5.92
	POSHINA	2016	11.54	8.49	3.05
	POSHINA	2017	12.94	4.12	8.82
	POSHINA	2018	13.05	6.23	6.82
	POSHINA	2019	16.04	3.88	12.16
	PRANTIJ	2010	28.19	25.46	2.73
	PRANTIJ	2011	31.35	25.73	5.62
	PRANTIJ	2012	29.27	32.48	-3.21
	PRANTIJ	2013	35.61	30.27	5.34
	PRANTIJ	2014	32.8	29.77	3.03
	PRANTIJ	2015	33.03	30.48	2.55
	PRANTIJ	2016	32.67	32.37	0.3
	PRANTIJ	2017	34.9	30.73	4.17
	PRANTIJ	2018	32.98	32.28	0.7
	PRANTIJ	2019	35.14	30.0	5.14
	TALOD	2010	12.26	9.33	2.93
	TALOD	2011	14.71	9.33	5.38
	TALOD	2012	14.98	12.95	2.03
	TALOD	2013	14.35	11.02	3.33
	TALOD	2014	13.16	10.39	2.77
	TALOD	2015	13.65	10.52	3.13
	TALOD	2016	13.41	10.85	2.56
	TALOD	2017	13.78	11.51	2.27
	TALOD	2018	12.86	11.61	1.25

	TALOD	2019	14.48	10.28	4.2
	VADALI	2010	20.02	12.77	7.25
	VADALI	2011	18.13	11.89	6.24
	VADALI	2012	16.04	9.02	7.02
	VADALI	2013	19.3	7.22	12.08
	VADALI	2014	13.02	7.77	5.25
	VADALI	2015	15.85	8.53	7.32
	VADALI	2016	16.54	11.93	4.61
	VADALI	2017	17.91	5.66	12.25
	VADALI	2018	15.62	11.98	3.64
	VADALI	2019	18.84	8.39	10.45
	VIJAYNAGAR	2010	16.16	7.66	8.5
	VIJAYNAGAR	2011	16.31	6.57	9.74
	VIJAYNAGAR	2012	12.35	6.57	5.78
	VIJAYNAGAR	2013	15.53	6.23	9.3
	VIJAYNAGAR	2014	12.99	7.08	5.91
	VIJAYNAGAR	2015	14.18	6.87	7.31
	VIJAYNAGAR	2016	14.36	11.87	2.49
	VIJAYNAGAR	2017	16.39	5.61	10.78
	VIJAYNAGAR	2018	13.84	5.51	8.33
	VIJAYNAGAR	2019	14.48	4.49	9.99
SURAT	BARDOLI	2010	5.33	3.37	1.96
	BARDOLI	2011	5.06	3.07	1.99
	BARDOLI	2012	5.69	3.47	2.22
	BARDOLI	2013	5.31	3.29	2.02
	BARDOLI	2014	5.22	3.43	1.79
	BARDOLI	2015	5.47	4.03	1.44
	BARDOLI	2016	6.25	3.29	2.96
	BARDOLI	2017	5.48	2.93	2.55
	BARDOLI	2018	6.06	2.6	3.46
	BARDOLI	2019	6.3	2.22	4.08
	KAMREJ	2010	8.51	5.41	3.1
	KAMREJ	2011	8.04	5.56	2.48
	KAMREJ	2012	8.44	6.97	1.47
	KAMREJ	2013	7.77	3.59	4.18
	KAMREJ	2014	7.0	5.23	1.77
	KAMREJ	2015	8.21	6.31	1.9
	KAMREJ	2016	7.97	6.16	1.81
	KAMREJ	2017	8.03	5.88	2.15
	KAMREJ	2018	9.21	5.56	3.65
	KAMREJ	2019	10.09	4.99	5.1
	MAHUVA	2010	9.37	5.61	3.76
	MAHUVA	2011	8.23	6.28	1.95
	MAHUVA	2012	10.02	6.72	3.3
	MAHUVA	2013	10.51	6.25	4.26
	MAHUVA	2014	9.62	7.43	2.19
	MAHUVA	2015	10.62	8.29	2.33
	MAHUVA	2016	10.64	6.71	3.93
	MAHUVA	2017	10.82	7.51	3.31
	MAHUVA	2018	11.71	6.46	5.25
	MAHUVA	2019	12.15	5.71	6.44
	MANDVI	2010	7.65	4.02	3.63

	MANDVI	2011	6.81	4.16	2.65
	MANDVI	2012	7.69	4.43	3.26
	MANDVI	2013	8.12	3.45	4.67
	MANDVI	2014	7.49	4.59	2.9
	MANDVI	2015	8.68	5.34	3.34
	MANDVI	2016	9.85	4.18	5.67
	MANDVI	2017	9.52	4.53	4.99
	MANDVI	2018	8.75	3.88	4.87
	MANDVI	2019	10.4	3.77	6.63
	MANGROL	2010	8.88	4.68	4.2
	MANGROL	2011	8.58	4.72	3.86
	MANGROL	2012	8.05	5.6	2.45
	MANGROL	2013	10.15	3.76	6.39
	MANGROL	2014	8.65	5.24	3.41
	MANGROL	2015	9.55	6.25	3.3
	MANGROL	2016	9.42	4.22	5.2
	MANGROL	2017	8.67	3.9	4.77
	MANGROL	2018	7.7	3.68	4.02
	MANGROL	2019	9.2	2.84	6.36
	OLPAD	2010	3.56	1.52	2.04
	OLPAD	2011	3.4	1.62	1.78
	OLPAD	2012	3.57	2.33	1.24
	OLPAD	2013	5.39	1.6	3.79
	OLPAD	2014	3.38	2.42	0.96
	OLPAD	2015	3.3	2.43	0.87
	OLPAD	2016	3.41	2.39	1.02
	OLPAD	2017	3.6	2.1	1.5
	OLPAD	2018	4.88	2.97	1.91
	OLPAD	2019	5.39	1.96	3.43
	PALSANA	2010	4.35	1.79	2.56
	PALSANA	2011	4.28	2.0	2.28
	PALSANA	2012	3.68	4.12	-0.44
	PALSANA	2013	9.96	6.78	3.18
	PALSANA	2014	9.51	7.34	2.17
	PALSANA	2015	11.25	8.66	2.59
	PALSANA	2016	10.91	8.4	2.51
	PALSANA	2017	10.88	7.54	3.34
	PALSANA	2018	12.14	9.38	2.76
	PALSANA	2019	13.46	5.73	7.73
	SURAT CITY & CHORASI	2010	6.41	3.1	3.31
	SURAT CITY & CHORASI	2011	6.17	3.37	2.8
	SURAT CITY & CHORASI	2012	6.28	5.21	1.07
	SURAT CITY & CHORASI	2013	8.17	3.98	4.19
	SURAT CITY & CHORASI	2014	7.11	6.22	0.89
	SURAT CITY & CHORASI	2015	8.14	6.91	1.23
	SURAT CITY & CHORASI	2016	8.34	6.7	1.64
	SURAT CITY & CHORASI	2017	8.06	6.22	1.84
	SURAT CITY & CHORASI	2018	8.06	6.5	1.56
	SURAT CITY & CHORASI	2019	7.9	4.35	3.55
	UMARPADA	2010	4.54	2.0	2.54
	UMARPADA	2011	4.56	1.72	2.84
	UMARPADA	2012	5.39	2.66	2.73

	UMARPADA	2013	8.51	2.17	6.34
	UMARPADA	2014	7.74	2.88	4.86
	UMARPADA	2015	10.29	3.85	6.44
	UMARPADA	2016	10.02	2.83	7.19
	UMARPADA	2017	9.95	3.22	6.73
	UMARPADA	2018	10.23	3.35	6.88
	UMARPADA	2019	13.54	2.23	11.31
SURENDRANAGAR	CHOTILA	2010	14.86	9.75	5.11
	CHOTILA	2011	10.76	4.91	5.85
	CHOTILA	2012	10.56	7.38	3.18
	CHOTILA	2013	17.75	12.8	4.95
	CHOTILA	2014	17.39	11.97	5.42
	CHOTILA	2015	19.34	15.99	3.35
	CHOTILA	2016	19.69	16.69	3
	CHOTILA	2017	20.99	15.84	5.15
	CHOTILA	2018	18.32	13.74	4.58
	CHOTILA	2019	20.47	17.49	2.98
	CHUDA	2010	11.09	5.16	5.93
	CHUDA	2011	11.25	6.85	4.4
	CHUDA	2012	10.26	7.52	2.74
	CHUDA	2013	7.39	5.12	2.27
	CHUDA	2014	8.04	6.04	2
	CHUDA	2015	10.59	9.07	1.52
	CHUDA	2016	10.76	7.31	3.45
	CHUDA	2017	10.52	4.67	5.85
	CHUDA	2018	10.33	5.22	5.11
	CHUDA	2019	11.68	3.93	7.75
	DASADA	2010	7.19	3.95	3.24
	DASADA	2011	5.3	3.39	1.91
	DASADA	2012	4.6	4.0	0.6
	DASADA	2013	7.68	5.43	2.25
	DASADA	2014	7.78	6.72	1.06
	DASADA	2015	8.4	6.96	1.44
	DASADA	2016	8.22	7.03	1.19
	DASADA	2017	8.68	7.17	1.51
	DASADA	2018	8.58	7.5	1.08
	DASADA	2019	9.77	6.51	3.26
	DHRANGADHRA	2010	26.55	21.24	5.31
	DHRANGADHRA	2011	24.81	20.78	4.03
	DHRANGADHRA	2012	21.63	24.64	-3.01
	DHRANGADHRA	2013	29.97	23.77	6.2
	DHRANGADHRA	2014	25.69	23.7	1.99
	DHRANGADHRA	2015	26.84	24.46	2.38
	DHRANGADHRA	2016	27.04	24.88	2.16
	DHRANGADHRA	2017	27.52	22.45	5.07
	DHRANGADHRA	2018	24.99	24.51	0.48
	DHRANGADHRA	2019	25.31	21.32	3.99
	LAKHTAR	2010	6.36	3.54	2.82
	LAKHTAR	2011	6.31	3.23	3.08
	LAKHTAR	2012	4.9	3.36	1.54
	LAKHTAR	2013	3.63	2.4	1.23
	LAKHTAR	2014	3.81	3.13	0.68

	LAKHTAR	2015	4.58	2.71	1.87
	LAKHTAR	2016	5.5	3.41	2.09
	LAKHTAR	2017	3.8	2.02	1.78
	LAKHTAR	2018	3.7	3.69	0.01
	LAKHTAR	2019	4.62	1.68	2.94
	LIMBDI	2010	6.07	3.37	2.7
	LIMBDI	2011	4.69	2.79	1.9
	LIMBDI	2012	4.32	3.01	1.31
	LIMBDI	2013	3.6	2.38	1.22
	LIMBDI	2014	4.51	3.3	1.21
	LIMBDI	2015	4.56	3.78	0.78
	LIMBDI	2016	5.2	2.99	2.21
	LIMBDI	2017	4.89	2.73	2.16
	LIMBDI	2018	4.6	3.88	0.72
	LIMBDI	2019	4.85	2.0	2.85
	MULI	2010	13.69	6.92	6.77
	MULI	2011	7.56	4.09	3.47
	MULI	2012	6.57	5.86	0.71
	MULI	2013	18.17	12.37	5.8
	MULI	2014	14.31	10.64	3.67
	MULI	2015	13.44	10.75	2.69
	MULI	2016	15.09	14.09	1
	MULI	2017	16.42	12.65	3.77
	MULI	2018	15.77	17.56	-1.79
	MULI	2019	18.9	13.65	5.25
	SAYLA	2010	11.36	5.06	6.3
	SAYLA	2011	9.76	5.4	4.36
	SAYLA	2012	10.46	14.0	-3.54
	SAYLA	2013	18.27	11.59	6.68
	SAYLA	2014	16.64	12.76	3.88
	SAYLA	2015	19.81	17.35	2.46
	SAYLA	2016	20.94	15.77	5.17
	SAYLA	2017	21.14	15.47	5.67
	SAYLA	2018	19.88	15.19	4.69
	SAYLA	2019	19.55	15.77	3.78
	THANGADH	2010	19.44	13.58	5.86
	THANGADH	2011	19.82	14.05	5.77
	THANGADH	2012	16.53	16.07	0.46
	THANGADH	2013	21.38	18.87	2.51
	THANGADH	2014	21.93	17.83	4.1
	THANGADH	2015	22.59	18.89	3.7
	THANGADH	2016	23.77	20.14	3.63
	THANGADH	2017	24.33	18.52	5.81
	THANGADH	2018	23.63	20.26	3.37
	THANGADH	2019	21.55	17.63	3.92
	WADHWAN	2010	19.73	13.21	6.52
	WADHWAN	2011	17.66	11.28	6.38
	WADHWAN	2012	14.21	12.79	1.42
	WADHWAN	2013	14.77	12.03	2.74
	WADHWAN	2014	15.6	11.8	3.8
	WADHWAN	2015	19.02	14.95	4.07
	WADHWAN	2016	17.62	15.26	2.36

	WADHWAN	2017	15.63	10.15	5.48
	WADHWAN	2018	12.45	14.5	-2.05
	WADHWAN	2019	16.49	7.71	8.78
TAPI	DOLVAN	2010	8.24	3.22	5.02
	DOLVAN	2011	8.1	3.37	4.73
	DOLVAN	2012	8.81	4.55	4.26
	DOLVAN	2013	10.56	1.97	8.59
	DOLVAN	2014	9.1	3.91	5.19
	DOLVAN	2015	10.03	4.61	5.42
	DOLVAN	2016	10.32	3.38	6.94
	DOLVAN	2017	9.36	3.52	5.84
	DOLVAN	2018	8.38	3.75	4.63
	DOLVAN	2019	9.14	2.67	6.47
	KUKARMUNDA	2010	8.88	3.67	5.21
	KUKARMUNDA	2011	8.55	3.58	4.97
	KUKARMUNDA	2012	8.8	4.2	4.6
	KUKARMUNDA	2013	9.33	2.83	6.5
	KUKARMUNDA	2014	6.95	4.95	2
	KUKARMUNDA	2015	8.12	5.95	2.17
	KUKARMUNDA	2016	8.77	6.42	2.35
	KUKARMUNDA	2017	8.6	8.45	0.15
	KUKARMUNDA	2018	9.0	8.65	0.35
	KUKARMUNDA	2019	8.4	7.97	0.43
	NIZAR	2010	10.25	8.05	2.2
	NIZAR	2011	10.34	8.15	2.19
	NIZAR	2012	10.77	8.47	2.3
	NIZAR	2013	10.25	4.22	6.03
	NIZAR	2014	8.68	8.15	0.53
	NIZAR	2015	10.7	8.04	2.66
	NIZAR	2016	10.17	7.59	2.58
	NIZAR	2017	10.81	7.43	3.38
	NIZAR	2018	10.28	8.02	2.26
	NIZAR	2019	10.12	8.2	1.92
	SONGADH	2010	8.05	3.38	4.67
	SONGADH	2011	7.92	3.88	4.04
	SONGADH	2012	8.38	4.5	3.88
	SONGADH	2013	11.22	4.26	6.96
	SONGADH	2014	9.74	5.46	4.28
	SONGADH	2015	11.53	6.85	4.68
	SONGADH	2016	12.1	5.06	7.04
	SONGADH	2017	11.91	5.49	6.42
	SONGADH	2018	12.24	5.89	6.35
	SONGADH	2019	14.27	4.71	9.56
	UCHCHHAL	2010	8.99	4.65	4.34
	UCHCHHAL	2011	10.11	4.91	5.2
	UCHCHHAL	2012	9.49	6.08	3.41
	UCHCHHAL	2013	12.0	4.0	8
	UCHCHHAL	2014	9.33	6.21	3.12
	UCHCHHAL	2015	11.62	7.04	4.58
	UCHCHHAL	2016	11.94	5.83	6.11
	UCHCHHAL	2017	13.34	5.93	7.41
	UCHCHHAL	2018	12.15	5.83	6.32

	UCHCHHAL	2019	19.12	3.9	15.22
	VALOD	2010	5.16	2.15	3.01
	VALOD	2011	4.78	2.26	2.52
	VALOD	2012	5.08	3.0	2.08
	VALOD	2013	4.71	1.88	2.83
	VALOD	2014	3.69	2.46	1.23
	VALOD	2015	4.44	3.21	1.23
	VALOD	2016	3.96	2.51	1.45
	VALOD	2017	3.76	2.52	1.24
	VALOD	2018	4.51	2.82	1.69
	VALOD	2019	5.49	2.05	3.44
	VYARA	2010	6.19	3.32	2.87
	VYARA	2011	6.4	2.96	3.44
	VYARA	2012	6.38	4.39	1.99
	VYARA	2013	6.47	2.69	3.78
	VYARA	2014	6.16	3.67	2.49
	VYARA	2015	6.2	4.07	2.13
	VYARA	2016	6.45	3.14	3.31
	VYARA	2017	6.45	2.86	3.59
	VYARA	2018	6.04	2.4	3.64
	VYARA	2019	7.87	2.09	5.78
VADODARA	DABHOI	2010	16.0	11.29	4.71
	DABHOI	2011	14.69	11.0	3.69
	DABHOI	2012	10.93	9.73	1.2
	DABHOI	2013	10.96	5.76	5.2
	DABHOI	2014	8.24	6.73	1.51
	DABHOI	2015	9.53	8.06	1.47
	DABHOI	2016	10.16	8.42	1.74
	DABHOI	2017	10.29	8.14	2.15
	DABHOI	2018	9.99	8.14	1.85
	DABHOI	2019	11.23	6.89	4.34
	DESAR	2010	12.82	10.99	1.83
	DESAR	2011	12.79	11.43	1.36
	DESAR	2012	11.45	9.8	1.65
	DESAR	2013	9.77	10.14	-0.37
	DESAR	2014	12.8	10.41	2.39
	DESAR	2015	11.42	10.72	0.7
	DESAR	2016	13.65	8.75	4.9
	DESAR	2017	13.84	11.81	2.03
	DESAR	2018	13.59	11.38	2.21
	DESAR	2019	15.46	11.74	3.72
	KARJAN	2010	35.31	33.55	1.76
	KARJAN	2011	35.37	33.41	1.96
	KARJAN	2012	32.67	31.92	0.75
	KARJAN	2013	32.92	29.0	3.92
	KARJAN	2014	30.99	30.55	0.44
	KARJAN	2015	31.41	30.89	0.52
	KARJAN	2016	32.29	29.91	2.38
	KARJAN	2017	32.12	31.34	0.78
	KARJAN	2018	33.58	31.62	1.96
	KARJAN	2019	33.8	30.66	3.14
	PADRA	2010	23.59	19.49	4.1

	PADRA	2011	21.65	21.07	0.58
	PADRA	2012	22.26	19.82	2.44
	PADRA	2013	24.21	16.47	7.74
	PADRA	2014	18.84	17.11	1.73
	PADRA	2015	19.3	19.6	-0.3
	PADRA	2016	20.33	19.65	0.68
	PADRA	2017	21.16	17.76	3.4
	PADRA	2018	20.78	18.36	2.42
	PADRA	2019	22.74	16.94	5.8
	SAVLI	2010	16.12	12.56	3.56
	SAVLI	2011	14.95	11.37	3.58
	SAVLI	2012	14.95	11.22	3.73
	SAVLI	2013	16.19	10.46	5.73
	SAVLI	2014	14.71	12.65	2.06
	SAVLI	2015	15.33	15.49	-0.16
	SAVLI	2016	16.26	16.13	0.13
	SAVLI	2017	17.27	13.51	3.76
	SAVLI	2018	16.75	13.53	3.22
	SAVLI	2019	19.65	10.95	8.7
	SINOR	2010	28.33	26.09	2.24
	SINOR	2011	28.06	26.33	1.73
	SINOR	2012	27.16	24.49	2.67
	SINOR	2013	29.0	23.92	5.08
	SINOR	2014	27.08	25.72	1.36
	SINOR	2015	28.44	28.07	0.37
	SINOR	2016	28.44	27.57	0.87
	SINOR	2017	29.32	28.55	0.77
	SINOR	2018	29.78	26.56	3.22
	SINOR	2019	31.66	27.46	4.2
	VADODARA	2010	14.9	12.09	2.81
	VADODARA	2011	14.36	11.77	2.59
	VADODARA	2012	16.47	14.49	1.98
	VADODARA	2013	17.18	12.5	4.68
	VADODARA	2014	13.9	11.46	2.44
	VADODARA	2015	13.96	13.86	0.1
	VADODARA	2016	15.8	14.33	1.47
	VADODARA	2017	16.48	14.92	1.56
	VADODARA	2018	16.8	14.68	2.12
	VADODARA	2019	17.67	13.06	4.61
	VAGHODIA	2010	7.46	4.27	3.19
	VAGHODIA	2011	6.82	4.85	1.97
	VAGHODIA	2012	6.48	4.71	1.77
	VAGHODIA	2013	7.2	3.14	4.06
	VAGHODIA	2014	5.67	3.51	2.16
	VAGHODIA	2015	6.03	4.84	1.19
	VAGHODIA	2016	7.38	4.57	2.81
	VAGHODIA	2017	7.5	5.24	2.26
	VAGHODIA	2018	7.88	5.26	2.62
	VAGHODIA	2019	7.89	4.26	3.63
VALSAD	DHARAMPUR	2010	13.83	7.11	6.72
	DHARAMPUR	2011	13.92	7.04	6.88
	DHARAMPUR	2012	13.36	8.1	5.26

	DHARAMPUR	2013	13.95	6.87	7.08
	DHARAMPUR	2014	15.24	8.25	6.99
	DHARAMPUR	2015	16.67	9.58	7.09
	DHARAMPUR	2016	16.07	6.93	9.14
	DHARAMPUR	2017	16.81	7.78	9.03
	DHARAMPUR	2018	16.28	7.21	9.07
	DHARAMPUR	2019	17.96	8.19	9.77
	KAPRADA	2010	9.77	4.54	5.23
	KAPRADA	2011	9.95	5.75	4.2
	KAPRADA	2012	9.83	5.74	4.09
	KAPRADA	2013	11.89	5.82	6.07
	KAPRADA	2014	11.68	7.08	4.6
	KAPRADA	2015	12.11	7.04	5.07
	KAPRADA	2016	13.56	4.44	9.12
	KAPRADA	2017	13.39	5.92	7.47
	KAPRADA	2018	13.14	6.65	6.49
	KAPRADA	2019	14.74	5.96	8.78
	PARDI	2010	6.48	2.63	3.85
	PARDI	2011	6.33	3.24	3.09
	PARDI	2012	6.58	3.26	3.32
	PARDI	2013	7.42	2.68	4.74
	PARDI	2014	6.72	4.13	2.59
	PARDI	2015	7.36	3.2	4.16
	PARDI	2016	7.37	1.59	5.78
	PARDI	2017	7.37	2.86	4.51
	PARDI	2018	6.53	3.31	3.22
	PARDI	2019	7.06	3.1	3.96
	UMERGAM	2010	6.81	2.95	3.86
	UMERGAM	2011	6.53	3.07	3.46
	UMERGAM	2012	6.96	3.18	3.78
	UMERGAM	2013	7.31	2.53	4.78
	UMERGAM	2014	6.37	4.15	2.22
	UMERGAM	2015	6.48	2.76	3.72
	UMERGAM	2016	7.33	1.73	5.6
	UMERGAM	2017	6.82	2.69	4.13
	UMERGAM	2018	6.17	2.96	3.21
	UMERGAM	2019	6.26	2.81	3.45
	VALSAD	2010	10.22	3.82	6.4
	VALSAD	2011	9.79	3.66	6.13
	VALSAD	2012	8.38	2.29	6.09
	VALSAD	2013	10.19	3.24	6.95
	VALSAD	2014	10.25	4.11	6.14
	VALSAD	2015	8.35	4.35	4
	VALSAD	2016	9.23	4.03	5.2
	VALSAD	2017	9.77	3.96	5.81
	VALSAD	2018	9.1	5.32	3.78
	VALSAD	2019	9.56	3.37	6.19
	VAPI	2010	7.06	2.51	4.55
	VAPI	2011	7.3	2.47	4.83
	VAPI	2012	7.13	1.56	5.57
	VAPI	2013	7.55	2.74	4.81
	VAPI	2014	6.74	2.81	3.93

	VAPI	2015	7.43	2.83	4.6
	VAPI	2016	7.65	2.79	4.86
	VAPI	2017	6.92	3.12	3.8
	VAPI	2018	7.2	4.41	2.79
	VAPI	2019	7.34	2.83	4.51

Annexure-V

CATEGORIZATION of ASSESSMENT UNITS, 2020							
GUJARAT							
S. No	**Name of District**	**Sr. No.**	**Name of Semi-Critical Assessment Unit**	**Sr. No.**	**Name of Critical Assessment Unit**	**Sr. No.**	**Name of Over-Exploited Assessment Unit**
1	AHMEDABAD	1	MANDAL	1	BAVLA		
		2	Ahmedabad City & Dascroi				
2	AMRELI	1	RAJULA				
3	BANASKANTHA	1	VADGAM			1	DANTIWADA
		2	PALANPUR			2	DEESA
						3	DEODAR
						4	DHANERA
						5	KANKREJ
						6	LAKHANI
						7	THARAD
4	GANDHINAGAR	1	KALOL			1	DEHGAM
		2	MANSA			2	GANDHINAGAR
5	GIR SOMNATH	1	UNA				
6	JUNAGADH	1	KESHOD	1	VISAVADAR	1	BHESAN
		2	MALIA			2	JUNAGADH CITY & JUNA
						3	MANAVADAR
7	KACHCHH					1	BHACHAU
						2	BHUJ
						3	MANDVI
8	KHEDA	1	GALTESHWAR				
9	MAHESANA	1	KADI	1	VIJAPUR	1	BECHARAJI
		2	UNJHA			2	JOTANA
		3	VISNAGAR			3	KHERALU
						4	MAHESANA
						5	SATLASANA
						6	VADNAGAR
10	NARMADA	1	NANDOD				
11	PATAN	1	PATAN	1	SIDHPUR	1	CHANASMA
						2	SARSVATI(PATAN)
12	PORBANDAR	1	PORBANDAR				
13	RAJKOT	1	DHORAJI				
		2	VINCHCHIYA				
14	SABARKANTHA	1	HIMATNAGAR			1	PRANTIJ
		2	IDAR				
		3	VADALI				
15	SURENDRANAGAR	1	CHUDA				
16	VADODARA	1	VADODARA			1	PADRA

ABSTRACT					
Total No. of Assessed Units	**Safe**	**Number of Semi critical Assessment Unit**	**Number of Critical Assessment Unit**	**Number of Over Exploited Assessment Unit**	**Saline**
248	**182**	**24**	**4**	**25**	**13**

Annexure-VI

OVER EXPLOITED, CRITICAL, SEMI-CRITICAL, SAFE AND SALINE TALUKAS (GWRA-2020)

District		Critical		Over Exploited		Safe		Salinity		Semi-Critical
AHMEDABAD	1	BAVLA			1	DETROJ-RAMPURA	1	DHANDHUKA	1	AHMEDABAD CITY & DASKROI
					2	DHOLKA	2	DHOLERA	2	MANDAL
					3	SANAND				
					4	VIRAMGAM				
AMRELI					5	AMRELI			3	RAJULA
					6	BABRA				
					7	BAGASARA				
					8	DHARI				
					9	JAFRABAD				
					10	KHAMBHA				
					11	KUNKAVAV VADIA				
					12	LATHI				
					13	LILIA				
					14	SAVAR KUNLA				
ANAND					15	ANAND				
					16	ANKLAV				
					17	BORSAD				
					18	KHAMBHAT				
					19	PETLAD				
					20	SOJITRA				
					21	TARAPUR				
					22	UMRETH				
ARVALLI					23	BAYAD				
					24	BHILODA				
					25	DHANSURA				
					26	MALPUR				
					27	MEGHRAJ				
					28	MODASA				
BANASKANTHA			1	DANTIWADA	29	AMIRGADH	3	BHABHAR	4	PALANPUR
			2	DEESA	30	DANTA	4	SUIGAM	5	VADGAM
			3	DEODAR			5	VAV		
			4	DHANERA						
			5	KANKREJ						
			6	LAKHANI						
			7	THARAD						
BHARUCH					31	AMOD				
					32	ANKLESHVAR				
					33	BHARUCH				
					34	HANSOT				
					35	JAMBUSAR				

					36	JHAGADIA				
					37	NETRANG				
					38	VAGRA				
					39	VALIA				
BHAVNAGAR					40	BHAVNAGAR				
					41	GARIADHAR				
					42	GHOGHA				
					43	JESAR				
					44	MAHUVA				
					45	PALITANA				
					46	SIHOR				
					47	TALALA				
					48	UMRALA				
					49	VALLABHIPUR				
BOTAD					50	BARWALA				
					51	BOTAD				
					52	GADHADA				
					53	RANPUR				
CHHOTA UDEPUR					54	BODELI				
					55	CHHOTA UDAIPUR				
					56	JETPUR PAVI				
					57	KAVANT				
					58	NASVADI				
					59	SANKHEDA				
DAHOD					60	DAHOD				
					61	DEVGADG BARIA				
					62	DHANPUR				
					63	FATEPURA				
					64	GARBADA				
					65	LIMKHEDA				
					66	SANJELI				
					67	SINGVAD				
					68	ZALOD				
DANG					69	AHWA				
					70	SUBIR				
					71	WAGHAI				
DEVBHUMI DWARKA					72	BHANVAD				
					73	KALYANPUR				
					74	KHAMBHALIA				
					75	OKHAMANDAL				
GANDHINAGAR			8	DEHGAM					6	KALOL
			9	GANDHINAGAR					7	MANSA
GIR SOMNATH					76	GIR GADHDA			8	UNA
					77	KODINAR				

					78	PATAN-VERAVAl				
					79	SUTRAPADA				
					80	TALALA				
JAMNAGAR					81	DHROL				
					82	JAMJODHPUR				
					83	JAMNAGAR				
					84	JODIYA				
					85	KALAVAD				
					86	LALPUR				
JUNAGADH	2	VISAVADAR	10	BHESAN	87	MANGROL			9	KESHOD
			11	JUNAGADH CITY &JUNAGADH	88	MENDARDA			10	MALIA
			12	MANAVADAR	89	VANTHALI				
KACHCHH			13	BHACHAU	90	ABDASA	6	GANDHIDHAM		
			14	BHUJ	91	ANJAR				
			15	MANDVI	92	LAKHPAT				
					93	MUNDRA				
					94	NAKHATRANA				
					95	RAPAR				
KHEDA					96	KAPADVANJ			11	GALTESHWAR
					97	KATHLAL				
					98	KHEDA				
					99	MAHUDHA				
					100	MATAR				
					101	MEHMEDABAD				
					102	NADIAD				
					103	THASRA				
					104	VASO				
MAHESANA	3	VIJAPUR	16	BECHARAJI					12	KADI
			17	JOTANA					13	UNJHA
			18	KHERALU					14	VISNAGAR
			19	MAHESANA						
			20	SATLASNA						
			21	VADNAGAR						
MAHISAGAR					105	BALASINOR				
					106	KADANA				
					107	KHANPUR				
					108	LUNAWADA				
					109	SANTRAMPUR				
					110	VIRPUR				
MORBI					111	HALVAD	7	MALIYA		
					112	MORBI				

					113	TANKARA				
					114	WANKANER				
NARMADA					115	DEDIAPADA			15	NANDOD
					116	GARUDESHWAR				
					117	SAGBARA				
					118	TILAKWADA				
NAVSARI					119	BANSDA				
					120	CHIKHLI				
					121	GANDEVI				
					122	JALALPORE				
					123	KHERGAM				
					124	NAVSARI				
PANCHMAHAL					125	GHOGHAMBA				
					126	GODHARA				
					127	HALOL				
					128	JAMBUGHODA				
					129	KALOL				
					130	MORWA HADAF				
					131	SHEHRA				
PATAN	4	SIDHPUR	22	CHANASMA			8	HARIJ	16	PATAN
			23	SARSVATI(PATAN)			9	RADHAPUR		
							10	SAMI		
							11	SANKHESHWAR		
							12	SANTALPUR		
PORBANDAR					132	KUTIYANA			17	PORBANDAR
					133	RANAVAV				
RAJKOT					134	GONDAL			18	DHORAJI
					135	JAMKANDORNA			19	VINCHCHIYA
					136	JASDAN				
					137	JETPUR				
					138	KOTADA SANGANI				
					139	LODHIKA				
					140	PADDHARI				
					141	RAJKOT				
					142	UPLETA				
SABARKANTHA			24	PRANTIJ	143	KHEDBRAHMA			20	HIMATNAGAR
					144	POSHINA			21	IDAR
					145	TALOD			22	VADALI
					146	VIJAYNAGAR				
SURAT					147	BARDOLI				
					148	KAMREJ				

					149	MAHUVA				
					150	MANDVI				
					151	MANGROL				
					152	OLPAD				
					153	PALSANA				
					154	SURAT CITY & CHORASI				
					155	UMARPADA				
SURENDRANAGAR					156	CHOTILA	13	LAKHTAR	23	CHUDA
					157	DASADA				
					158	DHRANGADHRA				
					159	LIMBDI				
					160	MULI				
					161	SAYLA				
					162	THANGADH				
					163	WADHWAN				
TAPI					164	DOLVAN				
					165	KUKARMUNDA				
					166	NIZAR				
					167	SONGADH				
					168	UCHCHHAL				
					169	VALOD				
					170	VYARA				
VADODARA			25	PADRA	171	DABHOI			24	VADODARA
					172	DESAR				
					173	KARJAN				
					174	SAVLI				
					175	SINOR				
					176	VAGHODIA				
VALSAD					177	DHARAMPUR				
					178	KAPRADA				
					179	PARDI				
					180	UMERGAM				
					181	VALSAD				
					182	VAPI				
Total		**Critical**		**Over Exploited**		**Safe**		**Saline**		**Semi-Critical**
248		**4**		**25**		**182**		**13**		**24**