



# ATAL BHUJAL YOJANA (Atal Jal)

State:Maharashtra

Department: Groundwater Surveys and Development Agency

## HYDROGEOLOGICAL REPORT

BLOCK :Yawal

DISTRICT : Jalgaon

YEAR : 2020

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*Towards partial fulfillment of requirements for Disbursement of  
Incentive under DLI -1*

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DATE OF DISCLOSURE: ...25/11/2020

# HYDROGEOLOGICAL REPORT

(YEAR : 2019-20)

<b>STATE</b>	:	<u>Maharashtra</u>
<b>DISTRICT</b>	:	<u>Jalgaon</u>
<b>BLOCK/TALUK</b>	:	<u>Yawal</u>
<b>BLOCK/TALUK HQs</b>	:	<u>Yawal</u>

<b>A GENERAL INFORMATION</b>					
1.	Geographical area (Ha)	:	<u>62827.64</u>		
2.	No. of Gram Panchayats	:	<u>67</u>		
3.	No. of towns	:	<u>3</u>		
4.	No. of villages	:	<u>91</u>		
5.	Population (2011)	:	Male	Female	Total
			<u>107343</u>	<u>101591</u>	<u>208934</u>
6.	Rainfall (mm)	:	Monsoon	Non-monsoon	Annual
			<u>907.40</u>	<u>98.10</u>	<u>1005.50</u>
7.	River basin	:	<u>Tapi</u>		
8.	Major soil types	:	<u>Alluvium</u>		

<b>B LAND USE</b>	
1.	Forest area (Ha) : <u>33293</u>
2.	Cultivable area (Ha) : <u>50569.97</u>
3.	Net sown area (Ha) : <u>50569.97</u>
4.	Gross cropped area (Ha) :

<b>C CROPPING PATTERN (As in 2019-20)</b>						
1.	Major crops grown	:	Kharif	Rabi	Summer	Perennial
			<u>Cotton</u>	<u>Wheat</u>		<u>Banana</u>
			<u>Maze</u>	<u>Gram</u>		
			<u>Jawar</u>			

<b>D IRRIGATION FACILITIES (As in 2019-20)</b>							
1.	Net irrigated area (Ha)	:	<u>13648.83</u>				
2.	Gross irrigated area (Ha)	:					
3.	Area under irrigation (Ha) (Source- wise)	:	DW	BW/TW	Tanks/Ponds	Canals	Others
			<u>10646.09</u>			<u>3300.74</u>	

<b>E GEOLOGY &amp; HYDROGEOLOGY</b>			
1.	Predominant rocktype	:	Hard Rock / <del>Soft Rock</del> /Both
2.	Major geological formations	:	<u>Alluvium</u>

3.	Important water-bearing formations	: <u>ALLUVIUM</u>
4.	Status of coverage under NAQUIM	<u>Covered</u> / Not Covered.

<b>F</b>		<b>GROUND WATER CONDITIONS</b>						
1.	No. of wells used for WaterLevel (WL) monitoring.	:	<b>Open wells</b>			<b>BW/TW/ PZ</b>		
			CGWB	SGWD	Total	CGWB	SGWD	Total
			9	7	16		1	1
2.	Monitoring mechanism (Nos.)	:	<b>Manual</b>		<b>DWLR</b>		<b>Telemetry</b>	
			CGWB	SGWD	CGWB	SGWD	CGWB	SGWD
			9	7				
3.	Monitoring frequency	:	Agency	No. of times monitored/year				
			CGWB	4				
			SGWD	4				
4.	Period of water level data availability.	:	Agency	Period of WL data availability (From - To)				
				From (year)		To (year)		
			CGWB	2015		2019		
			SGWD	2015		2019		
5.	Water level range (m.bgl)	:	Minimum/Village			Maximum/Village		
	Pre-monsoon (April-May 2019)		9.10/Viroda			36.10/Chincholi		
	Post-monsoon (November 2019)		7.60/Yawal			22.00/Chincholi		
6.	Seasonal WL fluctuation range (m)	:	Minimum/ Village			Maximum/ Village		
			6/Viroda			22/Giradgaon		

<b>G</b>		<b>GROUND WATER QUALITY</b>						
1.	No. of wells used for Water Quality (WQ) monitoring.	:	<b>Open Wells</b>			<b>BW/TW/ PZ</b>		
			CGWB	SGWD	Total	CGWB	SGWD	Total
			7	1	8	0	1	1
2.	Monitoring frequency	:	Agency	No. of times monitored/year				
			CGWB	1				
			SGWD	2 time (pre & post monsoon)				
3.	Period of water quality data availability	:	Agency	Period of WQ data availability (Years)				
			CGWB	2015-2019				
			SGWD	2015-2019				
4.	Parameters analysed	:	Agency	Parameters Analysed				
			CGWB	Temperature ,pH, EC, TDS , Total Hardness , Alkalinity , Calcium , Chloride , Nitrate , Sulphate , Fluoride , Iron				
			SGWD	Temperature ,pH, EC, TDS , Total Hardness , Alkalinity , Calcium , Chloride , Nitrate , Sulphate , Fluoride , Iron				
5.	Known ground water quality issues, if any	:	No					

<b>H.</b>		<b>GROUND WATER RESOURCES</b>	
1.	Latest assessment year	:	2016-17
2.	Assessment Unit	:	Taluk/ Block/Watershed
3.	Annual extractable GW resource (ha.m)	:	<u>8143.77</u>

4.	Current annual GW extraction (ha.m)	<u>8932.54</u>			
5.	Net GW availability for future use (ha.m)	<u>0.0</u>			
6.	Stage of GW extraction (%)	<u>109.69</u>			
7.	Category of block/taluk/(2017)	<u>Over Exploited</u>			
8.	Category of block/taluk/ in previous assessments	2013	2011	2009	2004
		<u>OE</u>	<u>OE</u>	<u>OE</u>	<u>OE</u>

<b>I WATER-RELATED SCHEMES</b>	
1.	Schemes with a bearing on ground water, being implemented in the block / taluk.
Centrally Sponsored /Central Sector Schemes	i) <u>NRDWP Sastanibility</u>
	ii) Jalshakti Abhiyan
	iii) PMKSY
	iv) MGNAREGA
State Schemes	i) <u>Shivkalin</u>
	ii) Jalyukta Shivar
	iii)
	iv)

<b>J GROUND WATER RELATED ISSUES</b>	
1.	Ground water related issues of the block/
i) Issues related to GW availability	: <u>Taluka is in Over Exploited category</u>
ii) Issues related to GW quality	: <u>No</u>
iii) Other issues if any.	: <u>No</u>

TABLE-01

## BASIC DATA OF WATER LEVEL (WL)/WATER QUALITY (WQ) WELLS LOCATIONS

## STATE-MAHARASHTRA, DISTRICT-JALGAON, TALUKA-YAWAL

Sl. No	Well No.	Village Name	Long.	Lat.	Type of well (DW/BW/TW/PZ)	Reduced Level (m.amsl)	Aquifer tapped	Height of measuring point (m.agl)	Depth (m.bgl)	Diameter (m)	Purpose of monitoring (WL/ WQ / WL & WQ)	Monitoring mechanism (Manual/ DWLR/ Telemetry)	Agency
1	W211300075330501	Chincholi	75.5514000	21.2158780	DW		Alluvium	0.5	42.6	4.5	WL	Manual	SGWD
2	W211037075330401	Dambhurni	75.5686080	21.1922380	DW		Alluvium	0.4	42.3	3	WL	Manual	SGWD
3	W211152075352001	Giradgaon	75.5957160	21.1961540	DW		Alluvium	1.1	38.3	3	WL	Manual	SGWD
4	W211407075403701	Mohrale	75.6759896	21.2385855	DW		Alluvium	0	55	2.3	WL	Manual	SGWD
5	W210637075441001	Nimgaon	75.7361111	21.1102778	DW								
6	W210755075504301	Viroda	75.8452778	21.1319444	DW		Alluvium	0	25	3.7	WL	Manual	SGWD
7	W211012075415501	Yawal	75.6986111	21.1700000	DW		Alluvium	0.6	45	5	WL	Manual	SGWD

TABLE-01-Continued

Sl. No	Well No.	Village Name	Long.	Lat.	Type of well (DW/BW/TW/PZ)	Reduced Level (m.amsl)	Aquifer tapped	Height of measuring point (m.agl)	Depth (m.bgl)	Diameter (m)	Purpose of monitoring (WL, WQ / WL & WQ)	Monitoring mechanism (Manual/ DWLR/Telemetry)	Agency
1	W210935075415501	Yawal-1	75.698611	21.159722	Dug Well	209			65				CGWB
2	W211000075512201	Faizpur2	75.856111	21.166667	Dug Well	221			76				CGWB
3	W211000075513501	Faizpur	75.859722	21.166667	Dug Well	222			70				CGWB
4	W211008075375201	Sakli	75.631111	21.168889	Dug Well	203			76.21				CGWB
5	W211017075374501	Sakli-1	75.629167	21.171389	Dug Well	217			50				CGWB
6	W211048075445301	Sangvi Bk	75.748056	21.18	Dug Well	227			60				CGWB
7	W211221075345501	Kingaon	75.581944	21.205833	Dug Well	217			50				CGWB
8	W211515075443001	Dangarda	75.741667	21.254167	Dug Well	300			8.75				CGWB
9	W211641075350701	Waghijhira	75.585278	21.278056	Dug Well	302			30				CGWB

<b>TABLE-02</b>													
<b>WATER LEVEL (WL) DATA OF MONITORING WELLS-SGWD</b>													
<b>STATE-MAHARASHTRA, DISTRICT-JALGAON, TALUKA- YAWAL</b>													
Sr.No.	Well ID	Well Type	Village	May-15	Oct-15	May-16	Oct-16	May-17	Oct-17	May-18	Oct-18	May-19	Oct-19
1	W211300075330501	DW	Chincholi	33.3	22.57	30.2	14.2	35.5	20.8	30	24.2	38.2	26.7
2	W211037075330401	DW	Dambhurni					36.7	16.2	33.8	21.2	35.1	22
3	W211152075352001	DW	Giradgaon	29.5	17	32.3	18.3	35.9	21	31.4	28.2	36.3	14
4	W211407075403701	DW	Mohrale	27.9	25.24	33.7	25.6	36.6	28.1	34.1	32.5	39.2	24.6
5	W210637075441001	DW	Nimgaon	50.55	42.3	50.55	42.55	50.55	42.55				
6	W210755075504301	DW	Viroda	24.75	12		11.2	24	12.8	23.5	11.5	16.3	9.7
7	W211012075415501	DW	Yawal	12	7.44	20	9.7	22	12.4	16.5	17.2	24.5	6.7

<b>TABLE-02-Continued</b>													
<b>WATER LEVEL (WL) DATA OF MONITORING WELLS-CGWB</b>													
<b>STATE-MAHARASHTRA, DISTRICT-JALGAON, TALUKA- YAWAL</b>													
Sr.No.	Well ID	Well Type	Village	May-15	Nov-15	May-16	Nov-16	May-17	Nov-17	May-18	Nov-18	May-19	Nov-19
1	W210935075415501	Dug Well	Yawal-1		32.6	33.9	25.4	28.6		32.9	32	37.66	31.5
2	W211000075513501	Dug Well	Faizpur		51.2	51.7	49.3	55.1	48.66	55.1	50.8	51	53.2
3	W211017075374501	Dug Well	Sakli-1		15.5	50	29.82	39.95	32.31	41	35.2	49.9	28.35
4	W211048075445301	Dug Well	Sangvi Bk	31	29.9	32.3	29.97	32.3	32.36	37.6	38.6	47.21	30.8
5	W211221075345501	Dug Well	Kingaon	13.5	13	15.8	15.37	20.17	23.26	36.4	40	49.9	29.7
6	W211515075443001	Dug Well	Dangarda	6.8	2.8					8.4	6.9	8.02	0.2
7	W211641075350701	Dug Well	Waghijhira		18.5	19.9	18.1	29	17.15	21.9	19	22.45	13.3

TABLE-03

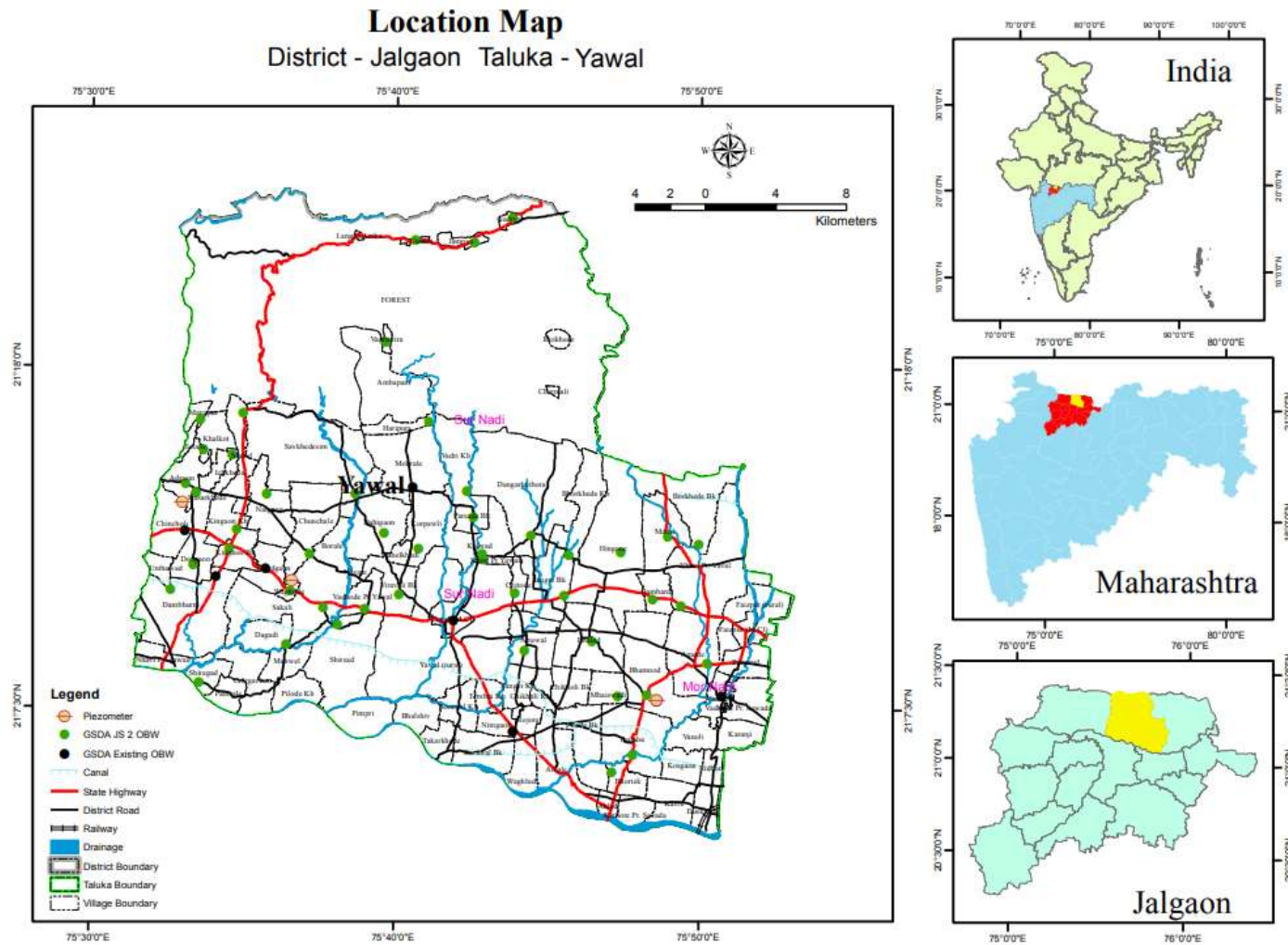
WATER QUALITY (WQ) DATA OF MONITORING STATIONS-SGWD																		
STATE-MAHARASHTRA, DISTRICT-JALGAON, TALUKA- YAWAL																		
Sr. No.	Name of Village	Type of Source	Year	Sample Testing Date	Temp	pH	EC	TDS (mg/L)	Alkalinity (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (mg/L)	Sulphate (mg/L)	Total Hardness (mg/L)	Iron (mg/L)	Ca (mg/L)	Mg (mg/L)	Remark
1	VIRODE	TUBEWELL	16-17	26.10.2016	370C	8.2	1426.15	927	440	203.94	0.3	15	NA	336	0.005	NA	NA	FIT
2	VIRODE	TUBEWELL	18-19	04.05.2018	370C	7	1838.46	1195	176	231	0.069	33.18	45.61	560	0.15	NA	NA	FIT
3	VIRODE	OPEN WELL	18-19	05.12.2018	370C	7.9	2512.31	1633	422	245.13	1	32.4	102.45	550	0.17	NA	NA	FIT
4	VIRODE	TUBEWELL	19-20	27.11.2019	37° C	7.1	1827.69	1188	140	244	0.17	36.1	54.53	542	0.1	NA	NA	FIT
5	VIRODE	TUBEWELL	19-20	27.11.2019	37° C	7.2	2000	1300	236	256	0.19	34.95	57.64	578	0.16	NA	NA	FIT



TABLE-03- Continued

WATER QUALITY (WQ) DATA OF MONITORING STATIONS-CGWB																
STATE-MAHARASHTRA, DISTRICT-JALGAON, TALUKA- YAWAL																
Sr.No.	Well No./Locaton	Well Type	Village	Date of Testing	Temp	EC ( $\mu\text{S}/\text{cm}$ )	pH									
								Ca	Mg	Na	K	HCO <sub>3</sub>	CL	SO <sub>4</sub>	NO <sub>3</sub>	F
1	W210935075415501		Yawal-1	5/21/2017		1993	7.9	123	92.9	131	0.8	172	190	31	771	0.07
2	W210935075415501		Yawal-1	5/21/2016		1534	7.9	108	76.23	57	1.4	239	213	170	37	0.1
3	W211000075513501		Faizpur	5/21/2015		782	8	28	45.01	103	0.73	409	82	12	56	0.2
4	W211000075513501		Faizpur	5/21/2015												
5	W211000075513501		Faizpur	5/21/2016		728	7.9	38	44.78	38	0.5	303	46	16	25	0.15
6	W211017075374501		Sakli-1	5/21/2016		1502	7.7	90	90.8	57	0.2	488	167	148	34	0.13
7	W211017075374501		Sakli-1	5/21/2017		1525	7.7	88	94.2	63	0.7	375	105	40	340	0.13
8	W211048075445301		Sangvi Bk	5/21/2015		771	7.8	40	63.26	60	0.67	342	99	12	33	0.26
9	W211048075445301		Sangvi Bk	5/21/2015												
10	W211048075445301		Sangvi Bk	5/21/2017		841	8.5	27	64.34	63	1	190	56	31	140	0.11
11	W211048075445301		Sangvi Bk	5/21/2016		1114	7.9	66	62.81	78	0.2	312	67	174	85	0.12
12	W211221075345501		Kingaon	5/21/2016		1150	7.6	88	65.27	33	0.8	254	116	209	39	0.08
13	W211221075345501		Kingaon	5/21/2017		1268	7.7	90	63.32	54	0.4	309	83	29	280	0.1
14	W211221075345501		Kingaon	5/21/2015		1110	7.7	102	57.26	54	0.31	238	199	44	43	0.11
15	W211221075345501		Kingaon	5/21/2015												
16	W211515075443001		Dangarda	5/21/2015		575	7.9	78	24.41	41	3.2	397	46	25	11	0.26
17	W211515075443001		Dangarda	5/21/2017		882	7.9	51	51	51	1	345	48	20	86	0.11
18	W211515075443001		Dangarda	5/21/2015												
19	W211641075350701		Waghijhira	5/21/2017		611	8.4	41	29.59	28	0.9	238	36	25	46	0.26
20	W211641075350701		Waghijhira	5/21/2016		832	8	108	33.68	20	0.7	322	36	153	28	0.31

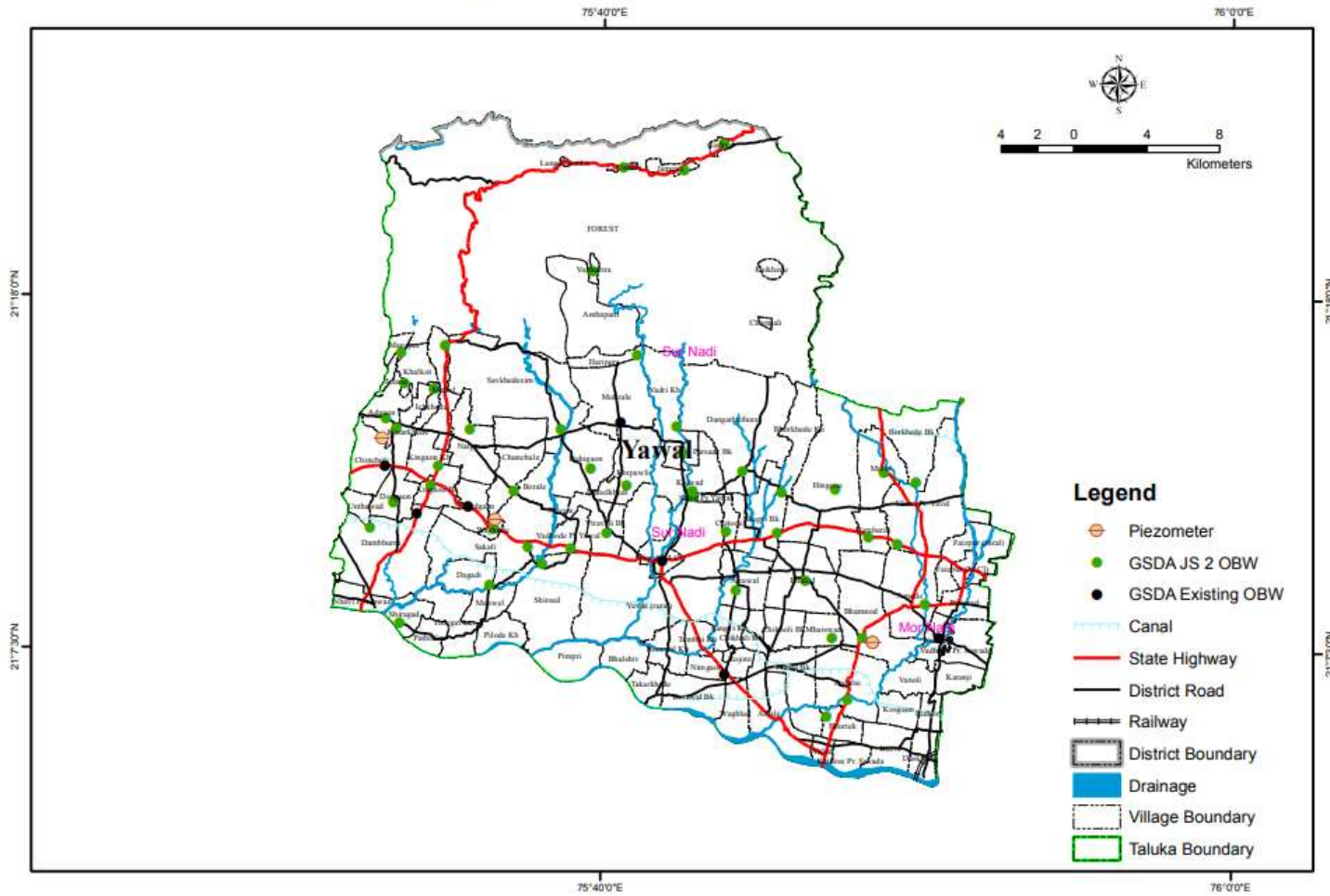
MAP-01-LOCATION MAP



MAP-02-BASE MAP

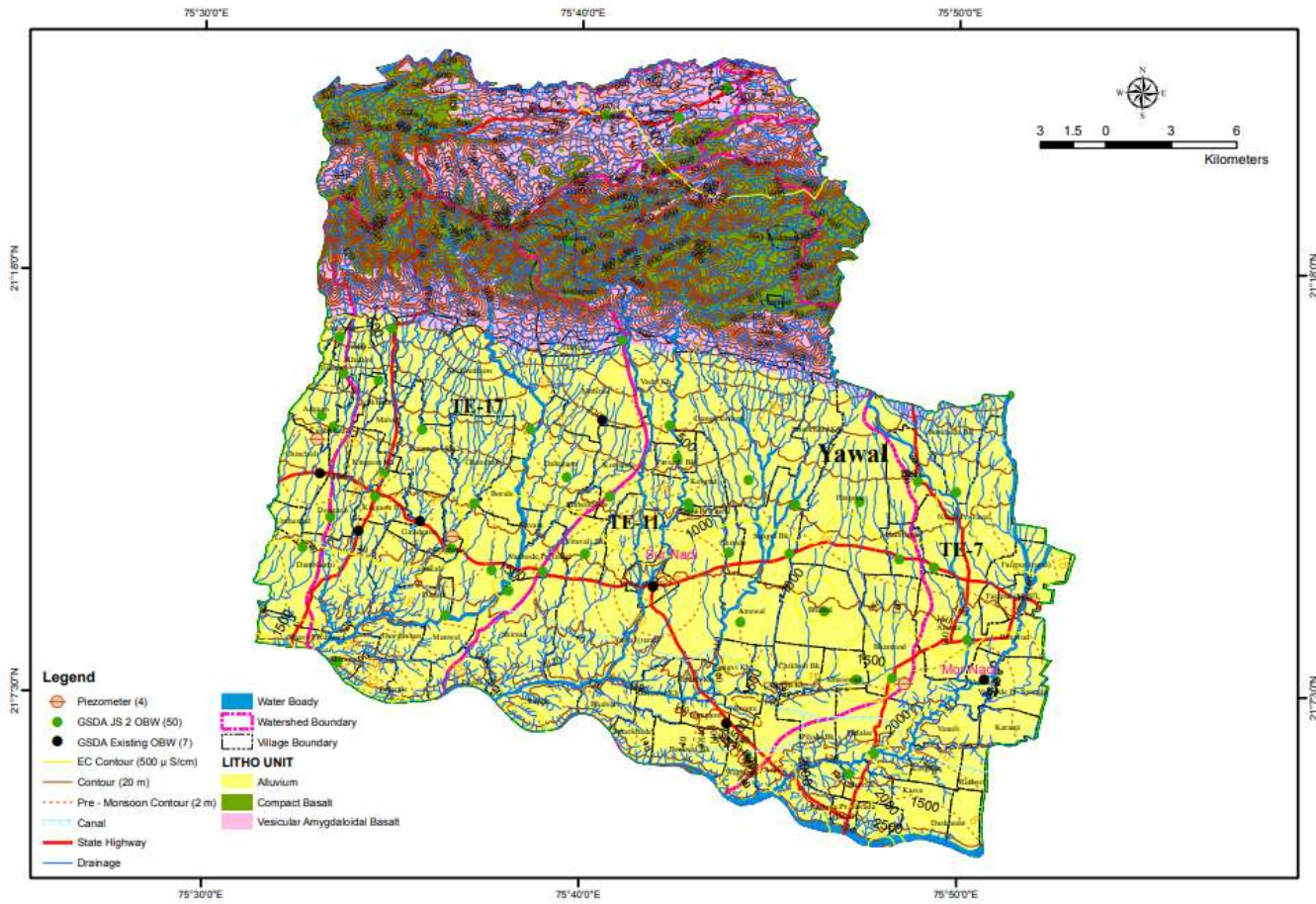
Base Map

District - Jalgaon Taluka - Yawal

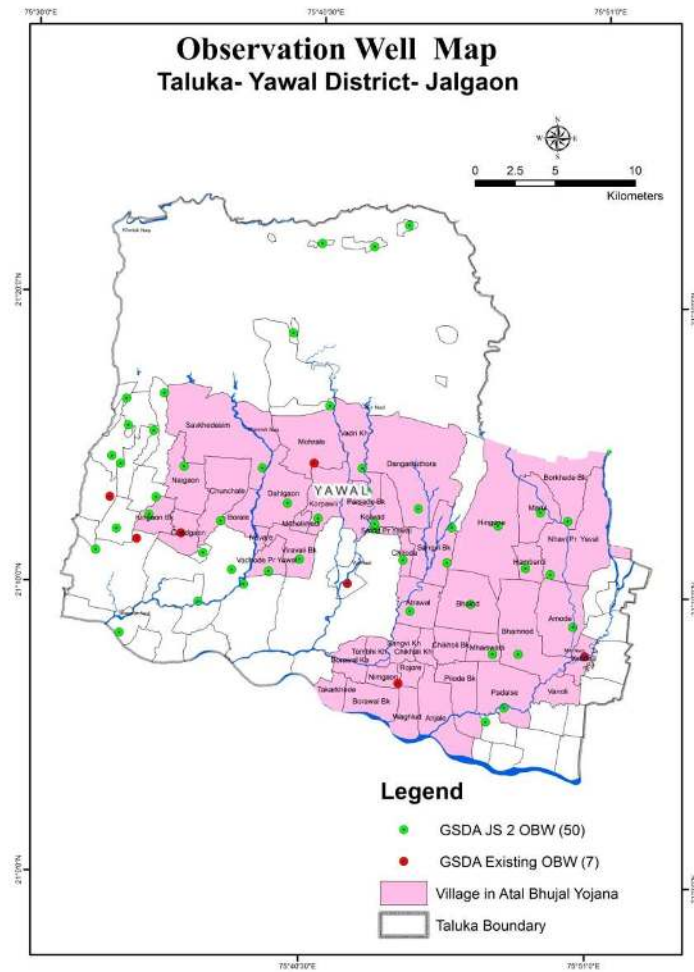


### MAP-03-HYDROGEOLOGICAL MAP

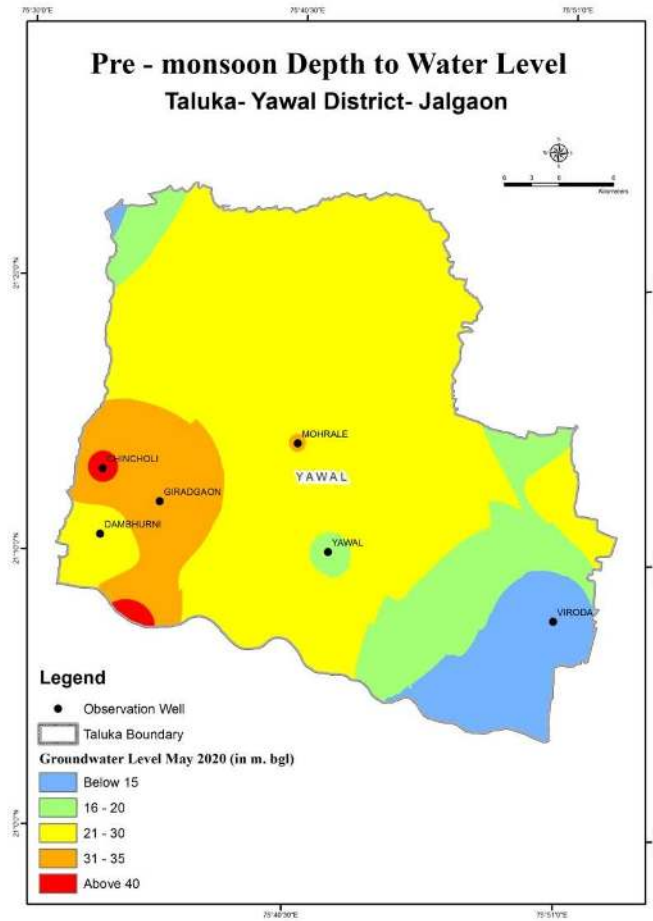
## Hydrogeological Map District - Jalgaon Taluka - Yawal



### MAP-04-LOCATION OF OBW MAP

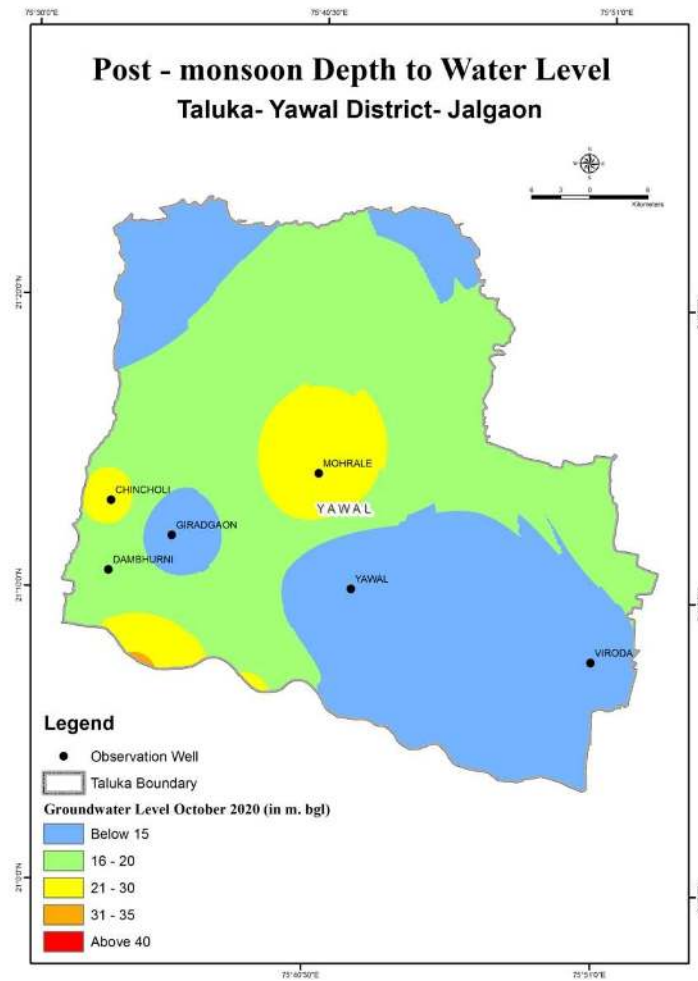


### MAP-05-PRE-MONSOON GWL MAP





MAP -06- POST-MONSOON GWL MAP



MAP NO-07-GW ELECTRIC CONDUCTIVITY MAP

Distribution of Electrical Conductivity Map  
District - Jalgaon Taluka - Yawal

