



ATAL BHUJAL YOJANA (Atal Jal)

State: Maharashtra

Department: Groundwater Surveys and Development Agency.

HYDROGEOLOGICAL REPORT

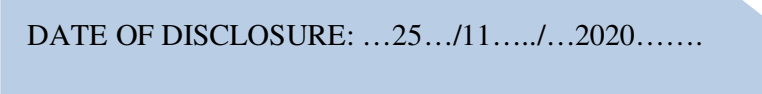
BLOCK : Chakur

DISTRICT : Latur

YEAR :2020

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

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



HYDROGEOLOGICAL REPORT

(YEAR: 2019-20)

STATE	:	Maharashtra
DISTRICT	:	Latur
BLOCK/TALUK	:	Chakur
BLOCK/TALUK HQs	:	Chakur

A GENERAL INFORMATION							
1.	Geographical area (Ha) : 68714.05						
2.	No. of Gram Panchayats : 71						
3.	No. of towns : 02						
4.	No. of villages : 81						
5.	Population (2011) : <table border="1" style="margin-left: 20px;"> <tr> <th>Male</th> <th>Female</th> <th>Total</th> </tr> <tr> <td>92262</td> <td>85694</td> <td>177956</td> </tr> </table>	Male	Female	Total	92262	85694	177956
Male	Female	Total					
92262	85694	177956					
6.	Rainfall (mm) 2020 : <table border="1" style="margin-left: 20px;"> <tr> <th>Monsoon</th> <th>Non-monsoon</th> <th>Annual</th> </tr> <tr> <td>639.20</td> <td>15</td> <td>654.20</td> </tr> </table>	Monsoon	Non-monsoon	Annual	639.20	15	654.20
Monsoon	Non-monsoon	Annual					
639.20	15	654.20					
7.	River basin : Godavari						
8.	Major soil types : Black Cotton Soil,						

B LAND USE	
1.	Forest area (Ha) : 1030.71
2.	Cultivable area (Ha) : 61292.93
3.	Net sown area (Ha) : 61292.93
4.	Gross cropped area (Ha) : 72292.93

C CROPPING PATTERN (As in 2019-20)																									
1.	Major crops grown : <table border="1" style="margin-left: 20px;"> <tr> <th>Kharif</th> <th>Rabi</th> <th>Summer</th> <th>Perennial</th> </tr> <tr> <td>Jawar</td> <td>Jawar</td> <td>-</td> <td>Sugarcane</td> </tr> <tr> <td>Pulses</td> <td>Wheat</td> <td>-</td> <td></td> </tr> <tr> <td>Vegetables</td> <td>Gram</td> <td>-</td> <td></td> </tr> <tr> <td>Soyabean</td> <td>Maize</td> <td>-</td> <td></td> </tr> <tr> <td>Safflower</td> <td></td> <td>-</td> <td></td> </tr> </table>	Kharif	Rabi	Summer	Perennial	Jawar	Jawar	-	Sugarcane	Pulses	Wheat	-		Vegetables	Gram	-		Soyabean	Maize	-		Safflower		-	
	Kharif	Rabi	Summer	Perennial																					
	Jawar	Jawar	-	Sugarcane																					
	Pulses	Wheat	-																						
	Vegetables	Gram	-																						
	Soyabean	Maize	-																						
Safflower		-																							

D IRRIGATION FACILITIES (As in 2019-20)											
1.	Net irrigated area (Ha) : 6556										
2.	Gross irrigated area (Ha) : 8581.01										
3.	Area under irrigation (Ha) : <table border="1" style="margin-left: 20px;"> <tr> <th>DW</th> <th>BW/TW</th> <th>Tanks/Ponds</th> <th>Canals</th> <th>Others</th> </tr> <tr> <td>8581.01</td> <td></td> <td>0</td> <td>0</td> <td>0</td> </tr> </table>	DW	BW/TW	Tanks/Ponds	Canals	Others	8581.01		0	0	0
DW	BW/TW	Tanks/Ponds	Canals	Others							
8581.01		0	0	0							

E GEOLOGY & HYDROGEOLOGY	
1.	Predominant rock type : Hard rock
2.	Major geological formations : Basalt
3.	Important water-bearing formations : Jointed Basalt
4.	Status of coverage under NAQUIM : Not Covered.

F GROUND WATER CONDITIONS								
1.	No. of wells used for Water Level (WL) monitoring.	:	Open wells			BW/TW/ PZ		
			CGWB	SGWD	Total	CGWB	SGW D	Total
			4	08	12	0	00	00
2.	Monitoring mechanism (Nos.)	:	Manual	DWLR		Telemetry		
			CGWB	SGWD	CGWB	SGWD	CGWB	SGWD
			4	08	00	01	00	00
3.	Monitoring frequency	:	Agency	No. of times monitored/year				
			CGWB	4				
			SGWD	04				
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)		6.3/ Latur Road		13.5/ Mahalangra			
	Post-monsoon (November 2019)		3.4/ Latur Road		5.2/ Gharani			
6.	Seasonal WL fluctuation range (m)	:	Minimum/ Village		Maximum/ Village			
			1.2/Gharni		8.3/Mahalangra			

G GROUND WATER QUALITY								
1.	No. of wells used for Water Quality (WQ) monitoring.		Open Wells			BW/TW/ PZ		
			CGWB	SGW D	Total	CGW B	SGW D	Total
			0	6	6	0	1	1
2.	Monitoring frequency		Agency	No. of times monitored/year				
			CGWB					
			SGWD	2 Times (Pre & Post Monsoon)				
3.	Period of water quality data availability		Agency	Period of WQ data availability (Years)				
			CGWB	2015-19				
			SGWD	2015-19				
4.	Parameters analysed		Agency	Parameters Analysed				
			CGWB	Ph, EC, Calcium, magnesium, potassium, HCO ₃ , Chloride, Nitrate, Sulphate, Fluoride.				
			SGWD	Temperature, pH, EC, TDS, Total Hardness, Alkalinity, Calcium, Chloride, Nitrate, Sulphate, Fluoride, Iron.				
5.	Known ground water quality issues, if any		Groundwater having Excess Nitrate					

H. GROUND WATER RESOURCES					
1.	Latest assessment year		2017		
2.	Assessment Unit		Taluka//Watershed		
3.	Annual extractable GW resource (Ham)		4464.20		
4.	Current annual GW extraction (Ham)		3001.57		
5.	Net GW availability for future use (Ham)		1341.98		
6.	Stage of GW extraction (%)		68.27		
7.	Category of block/taluka/(2017)		safe		
8.	Category of block/taluka/ in previous assessments		2013	2016	2017
			safe	safe	safe
I WATER-RELATED SCHEMES					
1.	Schemes with a bearing on ground water, being implemented in the block /Taluka.				
	Centrally Sponsored /Central Sector Schemes	i)	PMKSY		
		ii)	Atal Solar Schemes		
		iii)	MGNREGA		
	State Schemes	i)	PoCRA		
		ii)	CM-Solar scheme		
		iii)	Dr. Babasaheb Ambedkar Krushi Yojana		
		vi)	Farm pond on demand		
J GROUND WATER RELATED ISSUES					
1.	Ground water related issues of the block/				
	i) Issues related to GW availability	:	Watershed MR33 and Mini Watershed ¼ & 2/4 comes under over exploited category.		
	ii) Issues related to GW quality	:	Groundwater having Excess Nitrate		
	iii) Other issues if any.	:	Groundwater extraction is more through borewell for irrigation purpose.		

TABLE-01													
BASIC DATA OF WATER LEVEL (WL)/WATER QUALITY (WQ) WELLS LOCATIONS													
STATE-MAHARASHTRA, DISTRICT- LATUR, TALUKA- CHAKUR													
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	W182708076452201	Ashta	76.7561111	18.4522222	DW						WL	Manual	SGWD
2	W182830076433001	Ganjnur	76.7200000	18.4700000	DW		JB	0.75	17.25	1.5	WL	Manual	SGWD
3	W182900076484501	Gharni	76.8089000	18.4830000	DW		JB	0.59	9.6	2.8	WL	Manual	SGWD
4	W182530076540001	Kabansangvi	76.9164000	18.4153000	DW		JB	0.6	11.2	2	WL	Manual	SGWD
5	W183015076504001	Latur Road	76.8440920	18.5104052	DW		JB	0.3	13	1.9	WL	Manual	SGWD
6	W182630076434501	Mahalangra	76.7281000	18.4473800	DW		JB	0.6	15.5	2	WL	Manual	SGWD
7	W182945076452501	Nandgaon	76.7567060	18.4956110	DW		JB	0.5	9.9	1.5	WL	Manual	SGWD
8	W182310076482101	Shivpur	76.8058333	18.3861111	DW						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	W182524076485901	Nalegaon-1	76.816389	18.423333	Dug Well	602			11				CGWB
2	W182650076435001	Mahalangra	76.730556	18.447222	Dug Well	611			15				CGWB
3	W182733076452501	Ashta	76.756944	18.459167	Dug Well	620			22.5				CGWB
4	W183430076545001	Chapoli	76.913889	18.575	Dug Well	580			22.8				CGWB

TABLE-02**WATER LEVEL (WL) DATA OF MONITORING WELLS-SGWD****STATE-MAHARASHTRA, DISTRICT-LATUR, TALUKA- CHAKUR**

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	W182708076452201	DW	Ashta	9.7	8.4	10.5	0.9	8.9	1	7.75	2.9	7.9	
2	W182830076433001	DW	Ganjnur	14.2	6.05	15.25	1.65	5.6	1.85	4.2	6.65	7.8	4
3	W182900076484501	DW	Gharni	9.5	4.5	9.6	0.8	6.9	1.65	5.4	4	6.4	5.2
4	W182530076540001	DW	Kabansangvi	10.6	5.6	11.2	1.5	6.8	2.75	6.2	4.65	6.8	3.8
5	W183015076504001	DW	Latur Road	13.0	3.5	13	0.35	13	3.15	6.5	4.15	6.3	3.4
6	W182630076434501	DW	Mahalangra	14.5	9.475	15.5	0.4	15.5	1.2	15.5	4.05	13.5	5.1
7	W182945076452501	DW	Nandgaon	9.9	5.6	12	2.45	9.4	6.85	7.1	5.8	9.9	5.1
8	W182310076482101	DW	Shivpur	9.5	7.2	9.5	0.2	7.2	2.1	9	6.4	9.1	4.4

TABLE-02-Continued**WATER LEVEL (WL) DATA OF MONITORING WELLS-CGWB****STATE-MAHARASHTRA, DISTRICT- LATUR, TALUKA- CHAKUR**

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	W182524076485901	Dug Well	Nalegaon-1	8.8	10.2	10.3	2.9	9.8	2.8	9.4	7.1	10.2	5.15
2	W182650076435001	Dug Well	Mahalangra	12.74	15	9	0.85	15	0.6	12.65	13.1	14.99	0.9
3	W182733076452501	Dug Well	Ashta	19.08	21.9	21.3	3.9	21.5	2.3	12.9	13.1	21.5	2.35
4	W183430076545001	Dug Well	Chapoli	13.62	13.8	15	5.7	14.1	5.9	14.6	10.17	18	4.8

WATER QUALITY (WQ) DATA OF MONITORING STATIONS-SGWD

STATE-MAHARASHTRA, DISTRICT-LATUR, TALUKA- CHAKUR

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	ASHTA	Hand Pump	2017-18	30.10.2017	25.2	8.2	1256.92	817	110	100	0.873	18.721	41.924	210	0.081	190	NA	FIT
2	ASHTA	Dug Well	2017-18	20.03.2018	26.3	7.4	1981.54	1288	220	225	0.983	31.683	6.406	540	0.412	110	NA	FIT
3	ASHTA	Bore Well	2018-19	43258	24.8	7.3	1850.77	1203	200	225	0.93	44.716	9.937	510	0.557	80	NA	FIT
4	ASHTA	Dug Well	2018-19	43258	24.9	7.3	878.462	571	100	95	0.791	42.594	29.253	140	0.129	40	NA	FIT
5	ASHTA	Bore Well	2019-20	43609	25.9	7.5	2086.15	1356	440	220	0.72	53.29	70.18	440	0.41	80	0	UNFIT
6	ASHTA	Dug Well	2019-20	43809	25	7.3	1556.92	1012	200	110	1.1	38	59	420	0.44	100	0	FIT
7	GANJUR	Hand Pump	2015-16	29.10.2015	24.5	8.2	1116.92	726	130	200	0.31	44.34	NA	290	BDL	NA	NA	FIT
8	GANJUR	Dug Well	2015-16	29.10.2015	24.5	8	949.231	617	160	200	0.32	10.79	NA	370	0.05	NA	NA	FIT
9	GANJUR	Hand Pump	2016-17	05.11.2016	27	7.2	947.692	616	130	140	0.951	19.891	NA	220	0.067	NA	NA	FIT
10	GANJUR	Dug Well	2016-17	05.12.2016	27	7.1	730.769	475	70	110	0.074	12.772	NA	150	BDL	NA	NA	FIT
11	GANJUR	Hand Pump	2017-18	14.03.2018	25.1	7.7	1167.69	759	170	185	1.278	34.429	6.821	100	0.331	110	NA	FIT
12	GANJUR	Dug Well	2017-18	25.09.2017	27	7.7	843.077	548	90	60	0.214	70.415	25.222	120	0.055	50	NA	UNFIT
13	GANJUR	Hand Pump	2018-19	43249	25.1	7.8	1080	702	90	75	0.713	25.809	4.121	270	0.027	90	NA	FIT
14	GANJUR	Dug Well	2018-19	43249	25.3	8.1	1043.08	678	100	95	1.261	19.851	24.684	240	0.414	60	NA	FIT
15	GANJUR	Hand Pump	2019-20	43606	24.7	7.1	1070.77	696	190	65	0.83	38.13	7.14	180	0.18	80	0	FIT
16	GANJUR	Dug Well	2019-20	43606	25	7.1	1181.54	768	210	65	0.46	35.61	24.23	240	0.31	80	0	FIT
17	GHARNI	Bore Well	2015-16	23.10.2015	24.5	7	995.385	647	130	170	BDL	43.48	NA	280	BDL	NA	NA	FIT
18	GHARNI	Bore Well	2016-17	22.06.2016	27	8.2	1332.31	866	170	300	0.342	28.494	NA	190	0.056	NA	NA	FIT
19	GHARNI	Bore Well	2017-18	03.08.2017	26.8	7.2	995.385	647	120	70	0.832	27.231	5.16	150	0.033	100	NA	FIT
20	GHARNI	Dug Well	2018-19	43237	24.9	7.5	1300	845	180	175	0.987	24.718	12.121	200	0.119	140	NA	FIT
21	GHARNI	Bore Well	2018-19	43241	24.6	7.9	1187.69	772	190	170	0.893	43.299	34.862	250	0.317	50	NA	FIT
22	GHARNI	Dug Well	2019-20	43588	24.3	7.3	1178.46	766	180	155	1.41	36.64	22.49	200	0.18	50	0	FIT
23	GHARNI	Bore Well	2019-20	43588	24.8	7.5	1166.15	758	150	155	0.93	43.5	42.73	210	0.11	70	0	FIT
24	KABANSANGVI	Hand Pump	2015-16	02.11.2015	24.5	7.3	1040	676	130	200	0.53	33.7	NA	270	BDL	NA	NA	FIT
25	KABANSANGVI	Dug Well	2015-16	02.11.2015	24.5	7.8	1163.08	756	130	210	0.23	7.22	NA	300	BDL	NA	NA	FIT
26	KABANSANGVI	Dug Well	2016-17	03.09.2017	29	7.8	1095.38	712	80	55	0.155	15.762	NA	250	BDL	NA	NA	FIT
27	KABANSANGVI	Hand Pump	2016-17	07.03.2017	29	7.2	1356.92	882	110	60	0.614	48.752	NA	410	BDL	NA	NA	UNFIT
28	KABANSANGVI	Hand Pump	2017-18	13.10.2017	27	8.1	1524.62	991	100	75	1.016	34.616	19.284	430	0.133	140	NA	FIT
29	KABANSANGVI	Dug Well	2017-18	13.10.2017	26.8	7.5	983.077	639	100	95	1.355	8.47	9.314	110	0.223	130	NA	FIT
30	KABANSANGVI	Bore Well	2018-19	43440	25.7	7.8	1273.85	828	250	70	1.04	39.79	11.88	260	0.31	60	NA	FIT

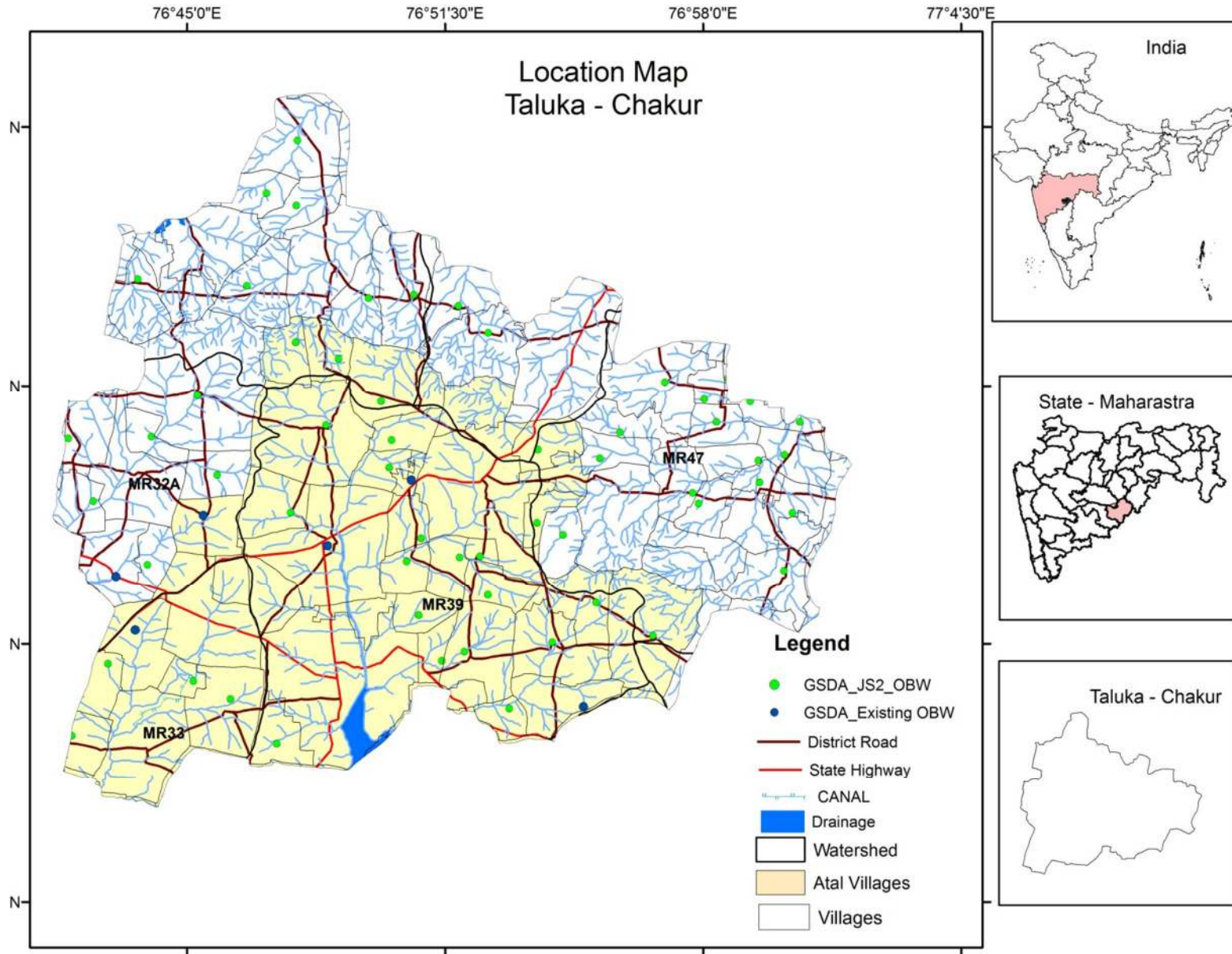
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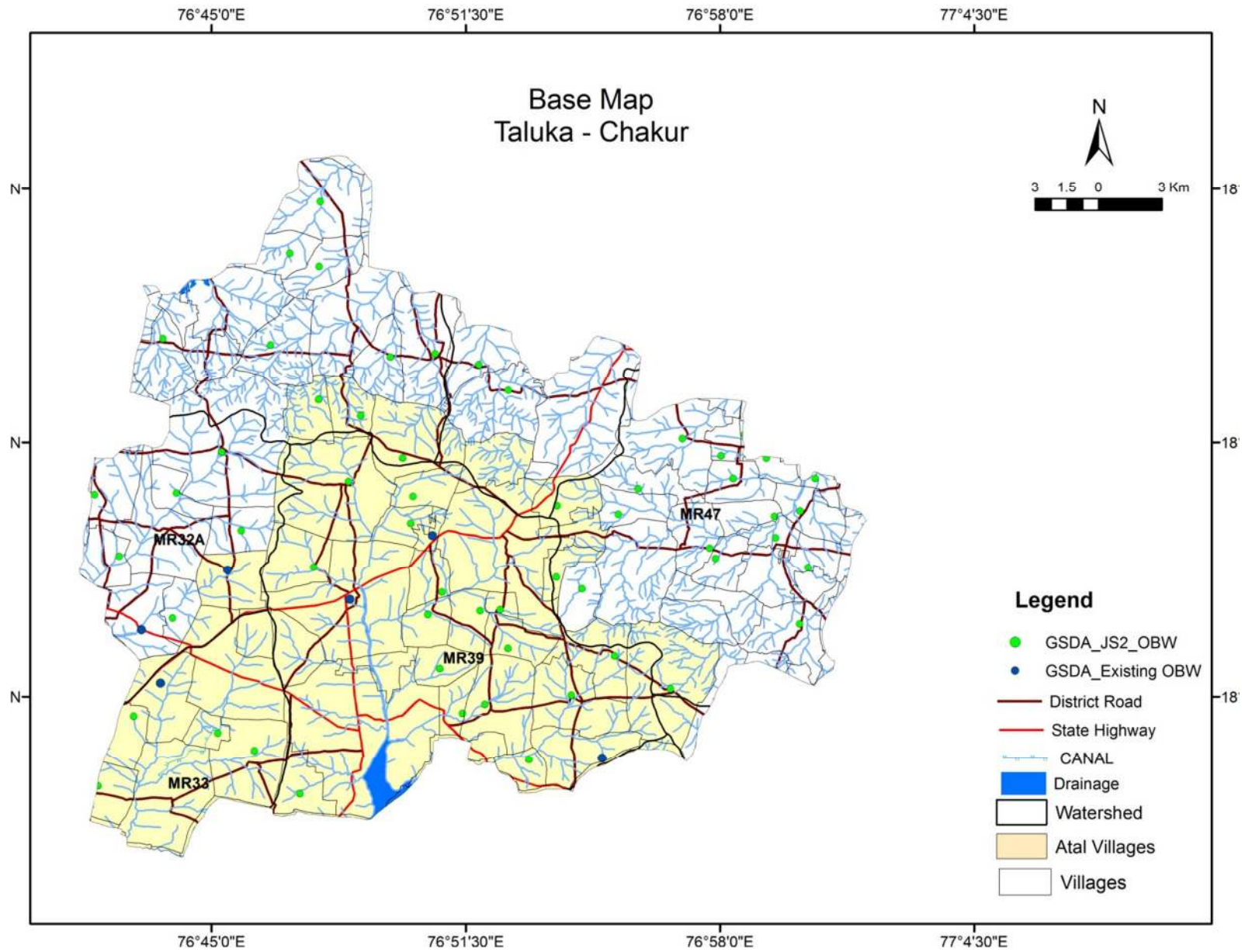
31	KABANSANGVI	Dug Well	2018-19	43440	24.3	8	1626.15	1057	270	100	0.83	43.65	44.2	470	0.27	60	NA	FIT
32	KABANSANGVI	Hand Pump	2019-20	43600	26.1	7.6	1104.62	718	180	85	0.03	57.6	19.12	280	0.44	90	0	UNFIT
33	KABANSANGVI	Dug Well	2019-20	43600	26.3	7.3	1833.85	1192	190	200	0.72	58.51	31.56	520	0.28	110	0	UNFIT
34	LATUR ROAD	Dug Well	2016-17	05.06.2016	29	8	2104.62	1368	270	340	0.059	38.647	NA	550	0.074	NA	NA	FIT
35	LATUR ROAD	Bore Well	2016-17	05.06.2016	29	7.9	2129.23	1384	180	310	BDL	38.736	NA	580	0.087	NA	NA	FIT
36	LATUR ROAD	Dug Well	2017-18	25.10.2017	25.4	7.3	2007.69	1305	200	210	0.192	7.549	33.612	490	0.081	200	NA	FIT
37	LATUR ROAD	Bore Well	2017-18	20.03.2018	26.1	7.3	1150.77	748	110	100	1.278	41.071	6.198	230	0.119	120	NA	FIT
38	LATUR ROAD	Dug Well	2018-19	43242	24.8	7.5	1852.31	1204	160	185	1.053	44.681	7.86	600	0.41	160	NA	FIT
39	LATUR ROAD	Bore Well	2018-19	43242	24.9	7.3	1755.38	1141	250	240	1.229	42.913	31.331	350	0.19	120	NA	FIT
40	LATUR ROAD	Dug Well	2019-20	43788	24	7.7	2813.85	1829	660	210	0.2	38.89	100.7	650	0.31	140	0	UNFIT
41	LATUR ROAD	Bore Well	2019-20	43788	26	7.4	1878.46	1221	410	130	0.08	27.49	65.81	420	0.42	80	0	FIT
42	MAHALANGRA	Hand Pump	2016-17	07.03.2017	29	8.2	1315.38	855	90	75	0.618	52.521	NA	350	0.056	NA	NA	UNFIT
43	MAHALANGRA	Dug Well	2016-17	07.03.2017	29	8.1	1193.85	776	70	50	0.63	52.735	NA	310	BDL	NA	NA	UNFIT
44	MAHALANGRA	Dug Well	2017-18	27.09.2017	24.4	7.4	1552.31	1009	120	140	0.922	27.754	51.551	480	0.047	60	NA	FIT
45	MAHALANGRA	Hand Pump	2017-18	07.03.2018	25.1	8.1	1750.77	1138	200	205	0.787	46.838	27.592	500	0.043	60	NA	UNFIT
46	MAHALANGRA	Hand Pump	2018-19	43256	26.1	7.9	1380	897	120	110	0.418	44.929	3.082	370	0.211	100	NA	FIT
47	MAHALANGRA	Dug Well	2018-19	43426	24.6	7.7	1680	1092	270	130	0.84	44.52	88.66	390	0.37	110	NA	FIT
48	MAHALANGRA	Hand Pump	2019-20	43593	24.3	7.6	1503.08	977	210	130	0.8	10.32	26.46	390	0.38	70	0	FIT
49	MAHALANGRA	Dug Well	2019-20	43593	25	7.3	1489.23	968	280	135	1.09	29.41	27.18	310	0.42	60	0	FIT

TABLE-03- Continued

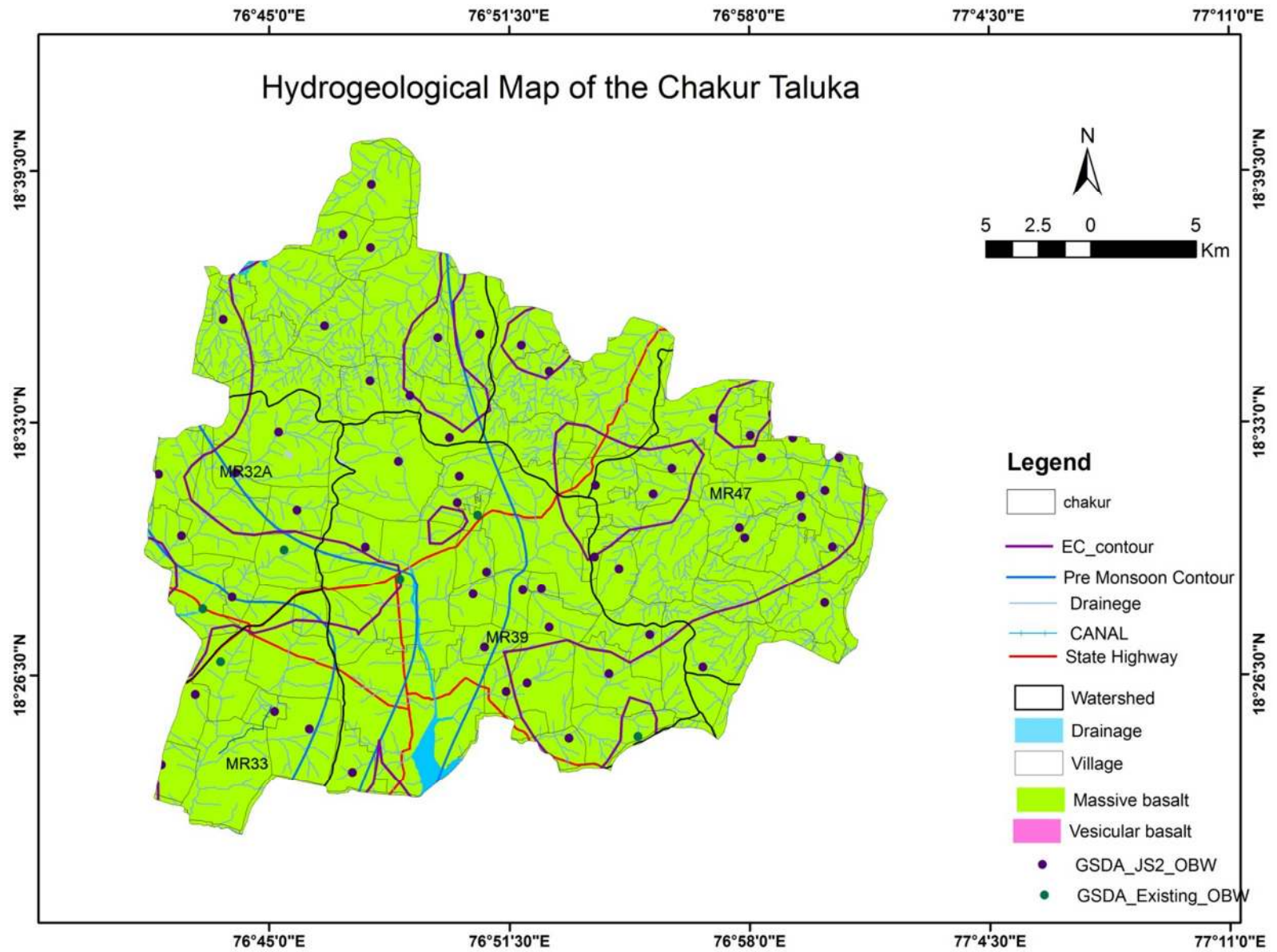
WATER QUALITY (WQ) DATA OF MONITORING STATIONS-CGWB																
STATE-MAHARASHTRA, DISTRICT-LATUR, TALUKA-CHAKUR																
Sr.No.	Well No./Locaton	Well Type	Village	Date of Testing	Temp	EC ($\mu\text{S/cm}$)	pH	Ca	Mg	Na	K	HCO ₃	CL	SO ₄	NO ₃	F
1	W182524076485901		Nalegaon-1	21/05/2017		1625	7.6	184	33.53	60	5.1	321	222	2	270	0.08
2	W182733076452501		Ashta	21/05/2015												
3	W182733076452501		Ashta	21/05/2015		1477	8.1	146	59.74	67	2.27	214	294	160	31	0.1
4	W182733076452501		Ashta	21/05/2017		729	7.9	100	31	48	3.8	250	83	33	220	0.23
5	W183430076545001		Chapoli	21/05/2015												
6	W183430076545001		Chapoli	21/05/2015		1192	8.1	134	46.36	40	1.68	250	167	86	43	0.12
7	W183430076545001		Chapoli	21/05/2017		1253	7.8	155	49.91	37	3.9	351	105	22	330	0.11

(Map-01 – Location Map)

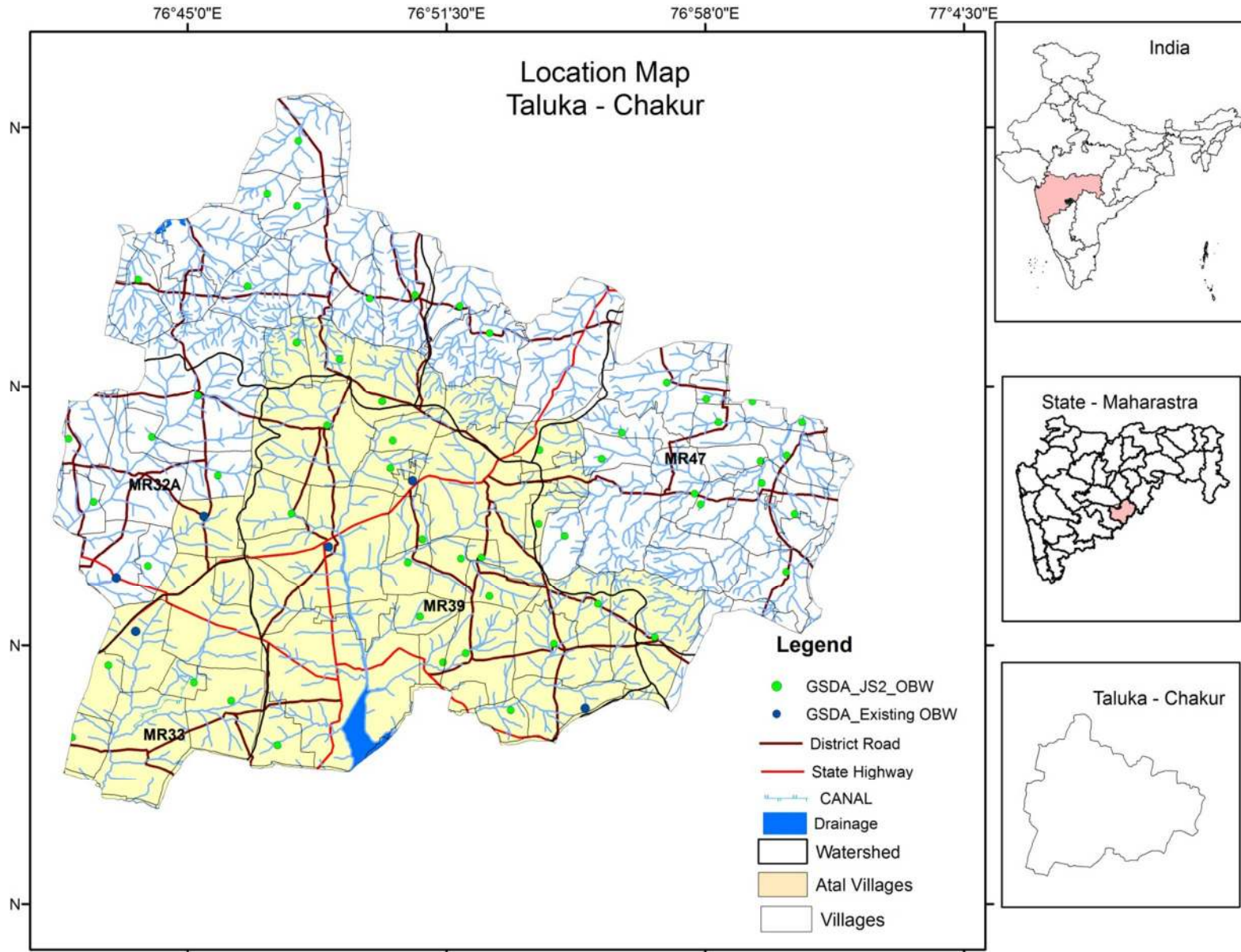




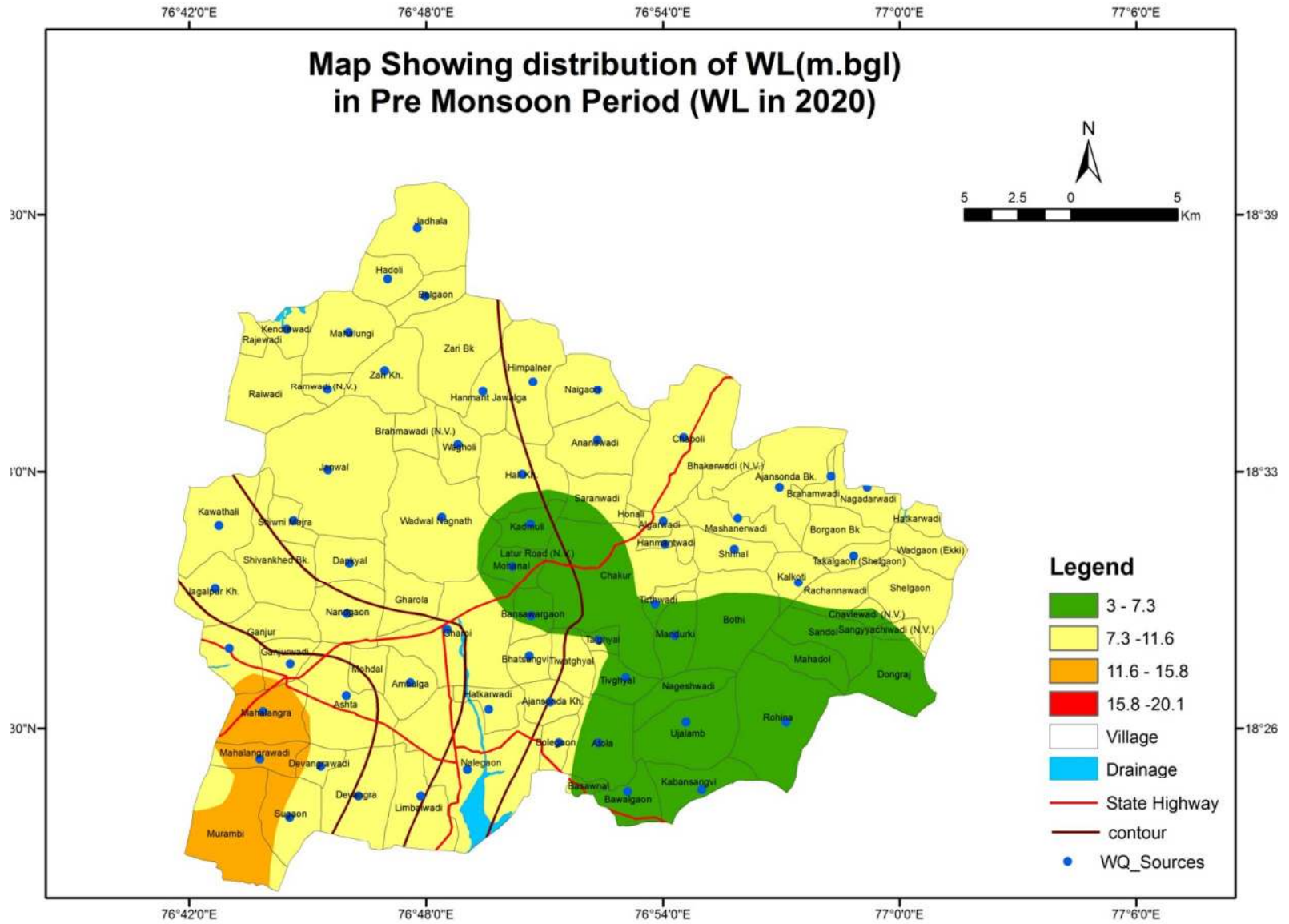
(Map-03-Hydrogeological Map)



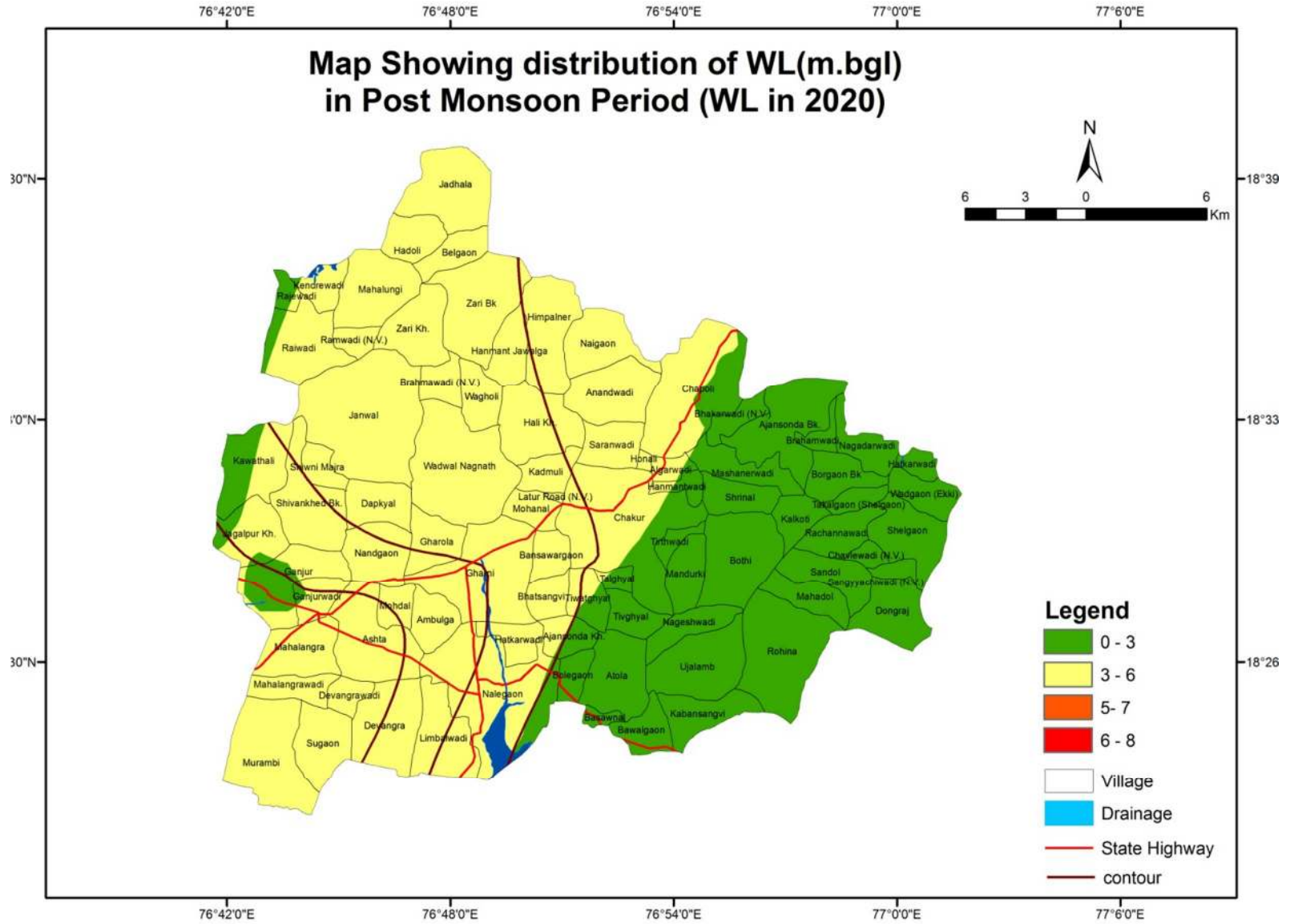
(Map-04-Locations of OBW Map)



(Map-05-Pre-Monsoon GWL Map)



(Map-06-Post-Monsoon GWL Map)



(Map-07-Pre-Monsoon Electrical Conductivity (EC) Map)

