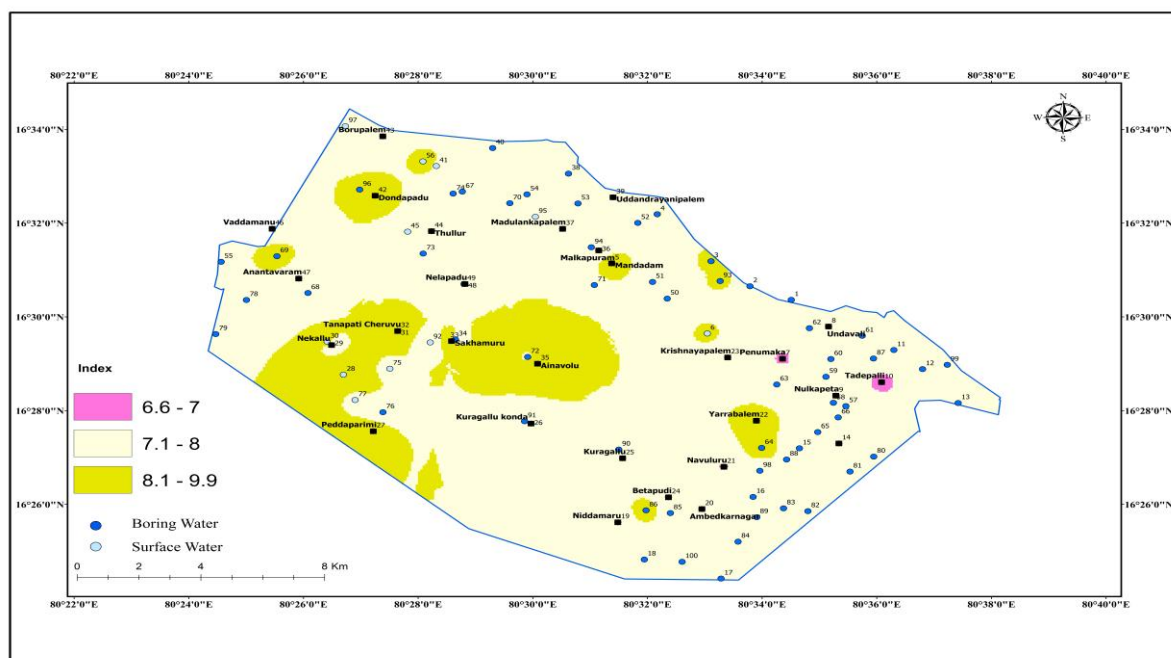
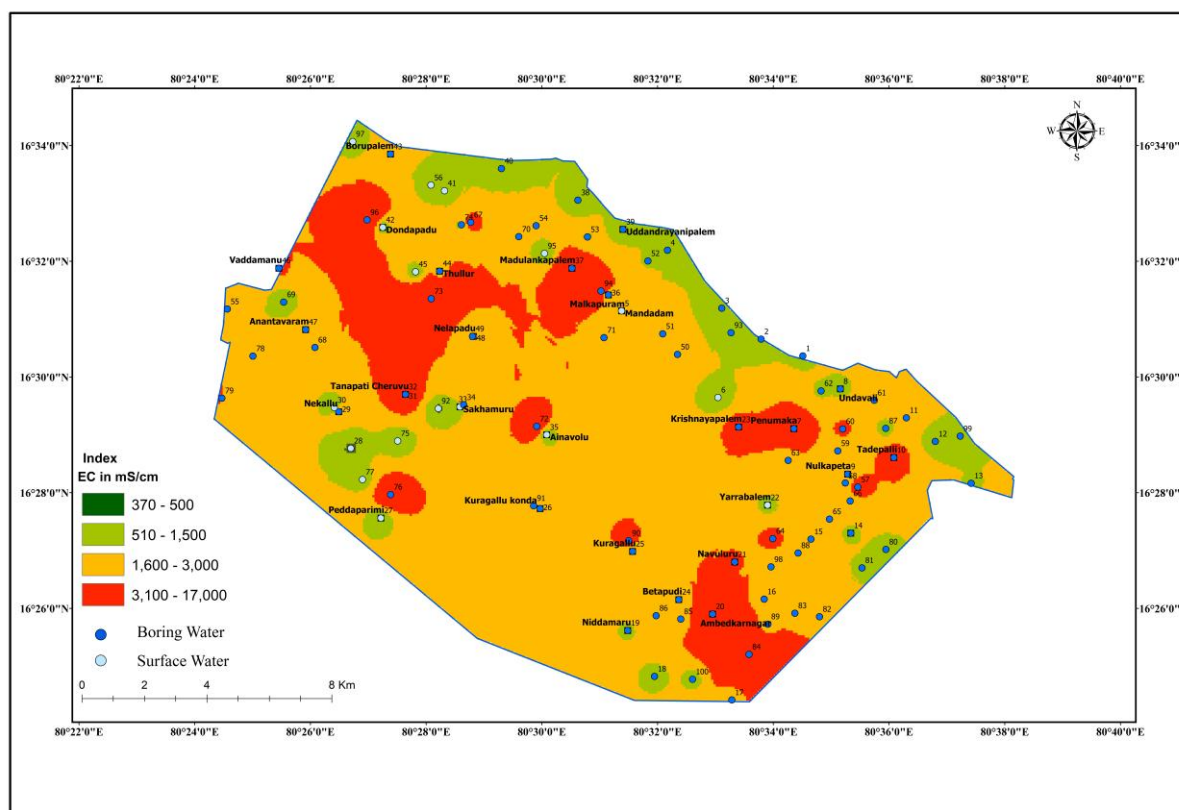


Supplementary data : S1 Spatial Distribution Maps

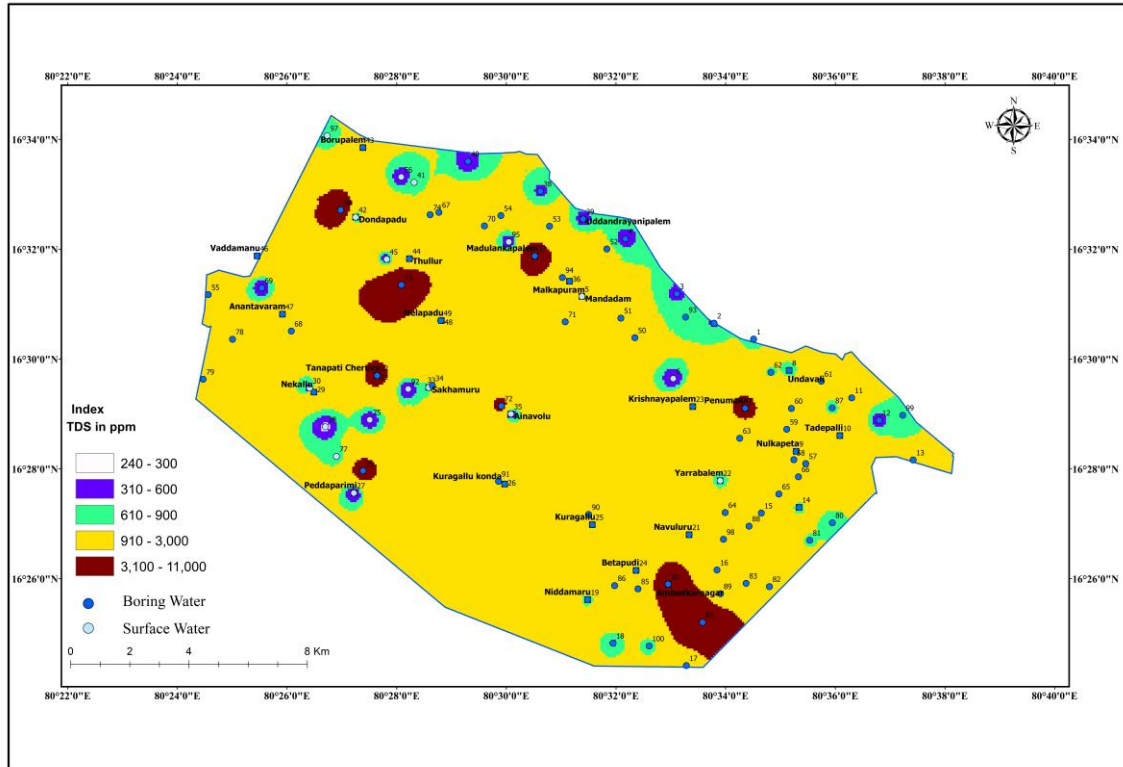
- Fig. S1 Spatial distribution of pH



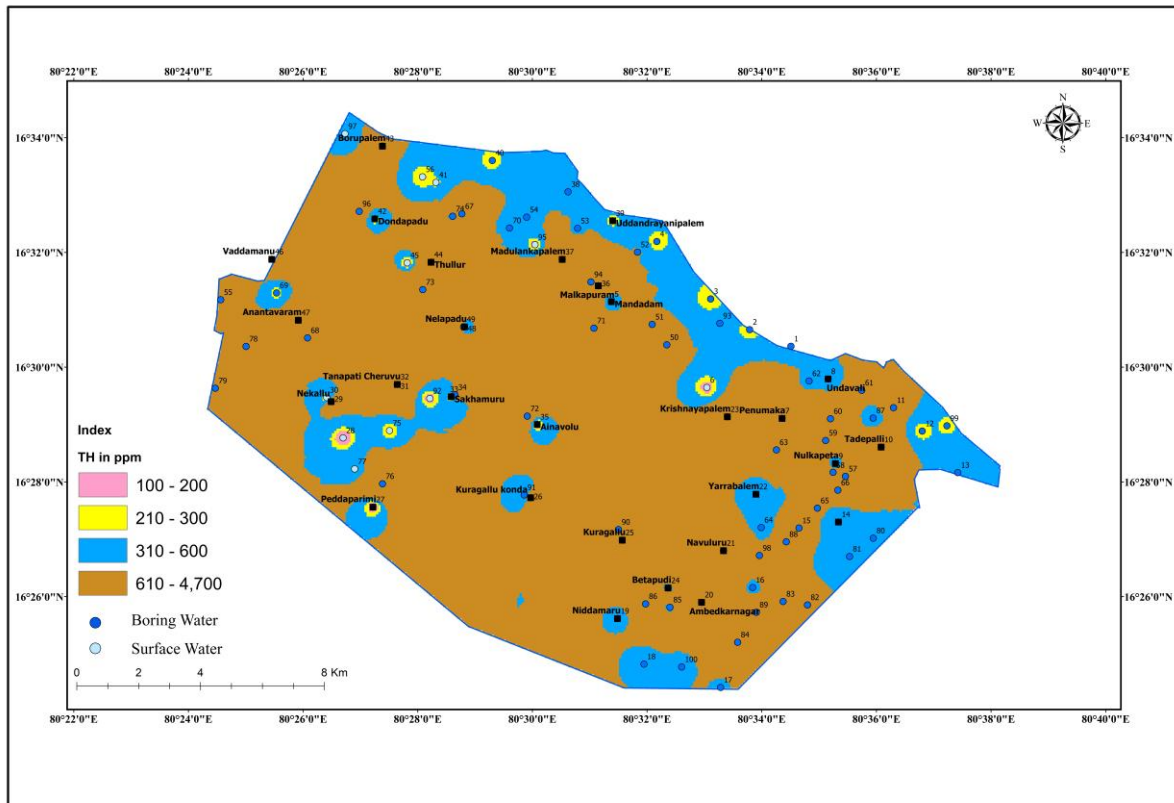
- Fig. S2 Spatial distribution of Electrical Conductivity (EC)



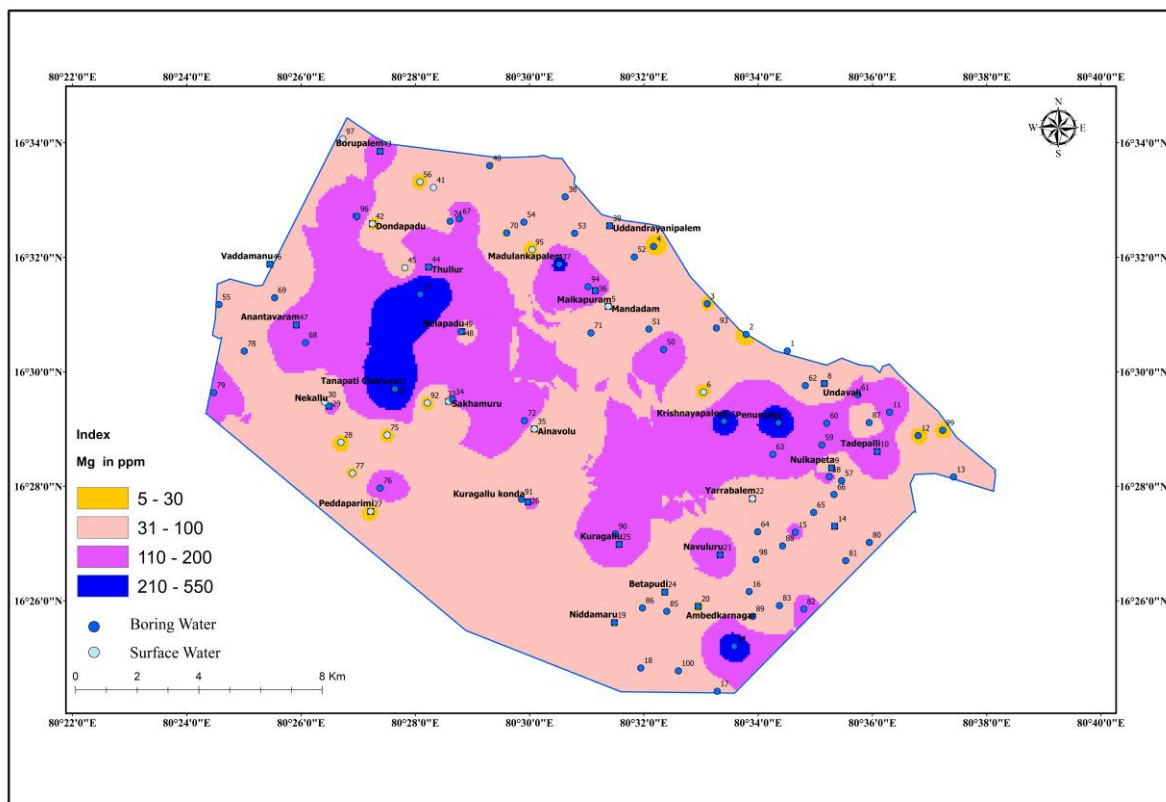
- Fig. S3 Spatial distribution of Total Dissolved Solids (TDS)



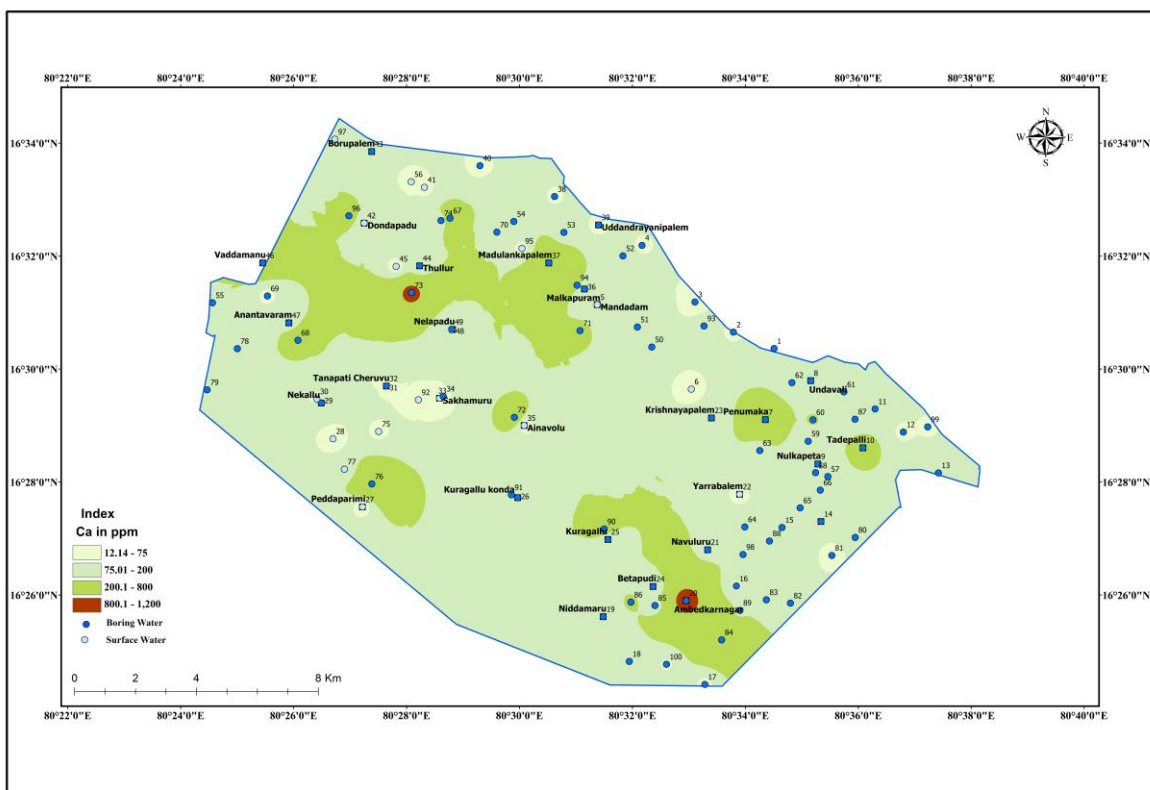
- Fig. S4 Spatial distribution of Total Hardness (TH)



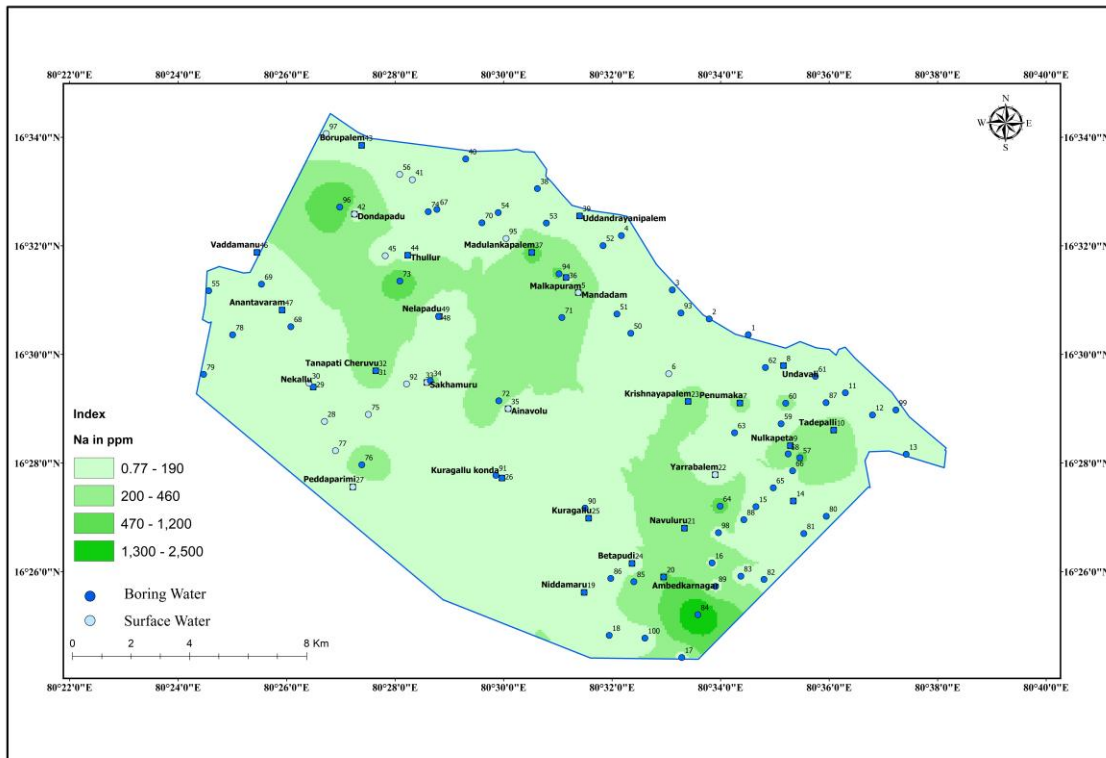
• Fig. S5 Spatial distribution of Magnesium (Mg^{2+})



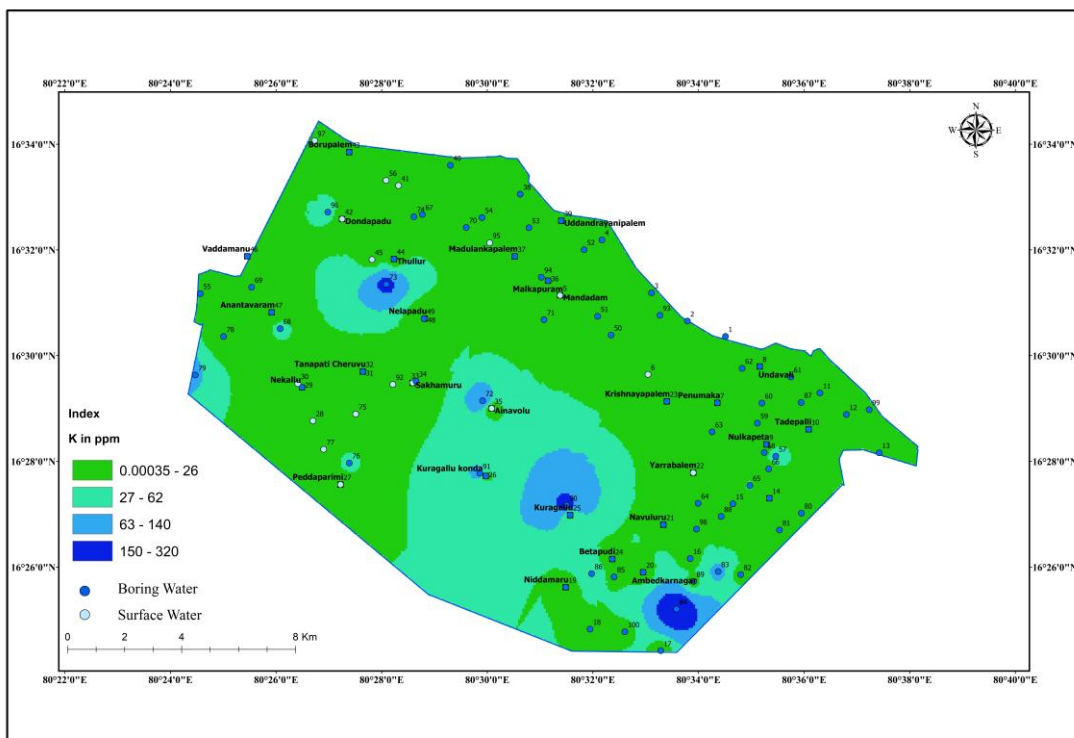
• Fig. S6 Spatial distribution of Calcium (Ca^{2+})



- Fig. S7 Spatial distribution of Sodium (Na^+)



- Fig. S8 Spatial distribution of Potassium (K^+)



- Fig. S9 Spatial distribution of Chloride (Cl^-)

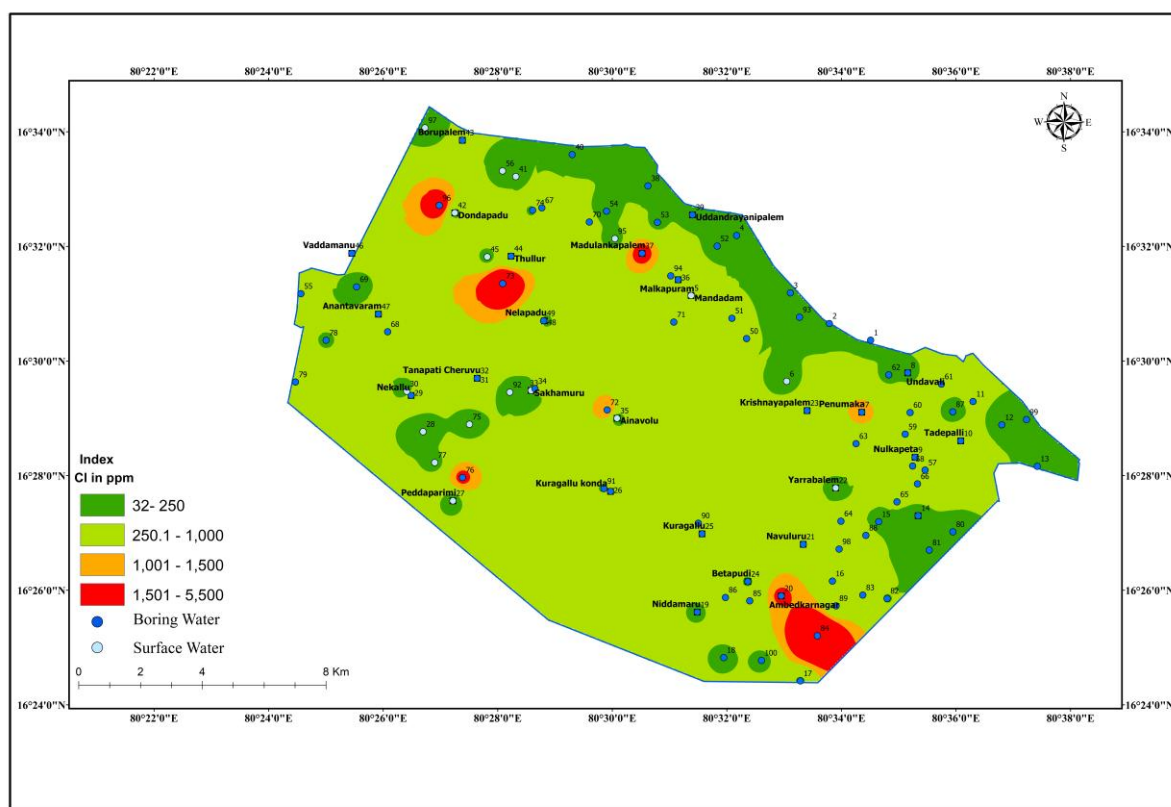
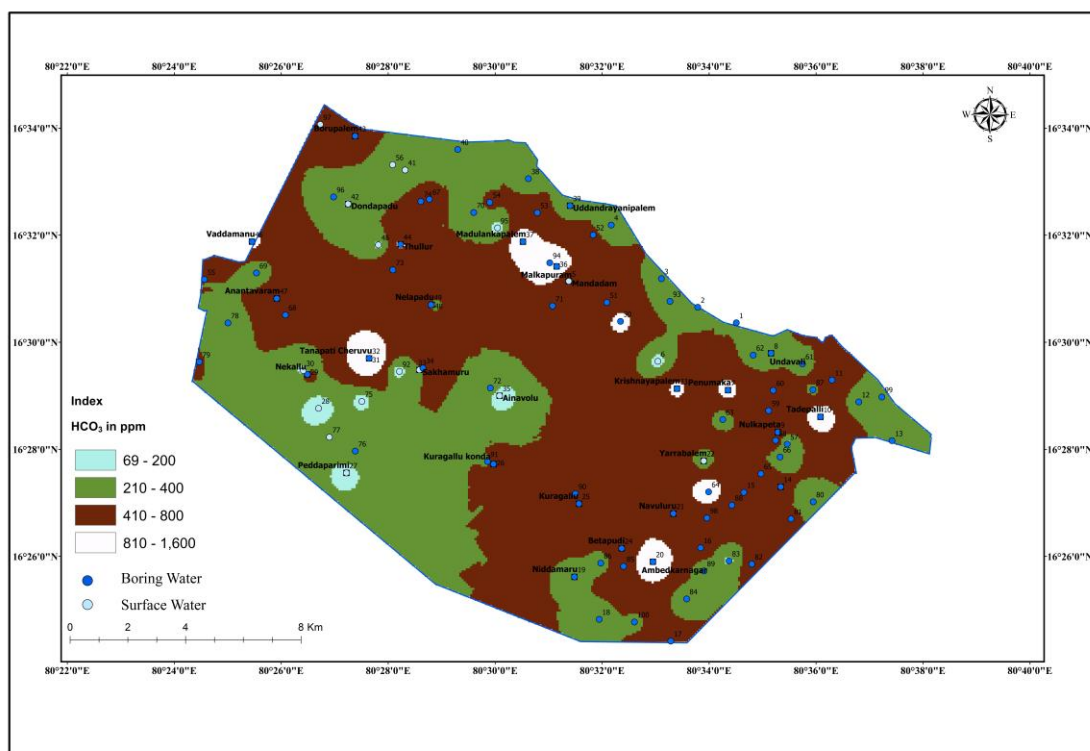
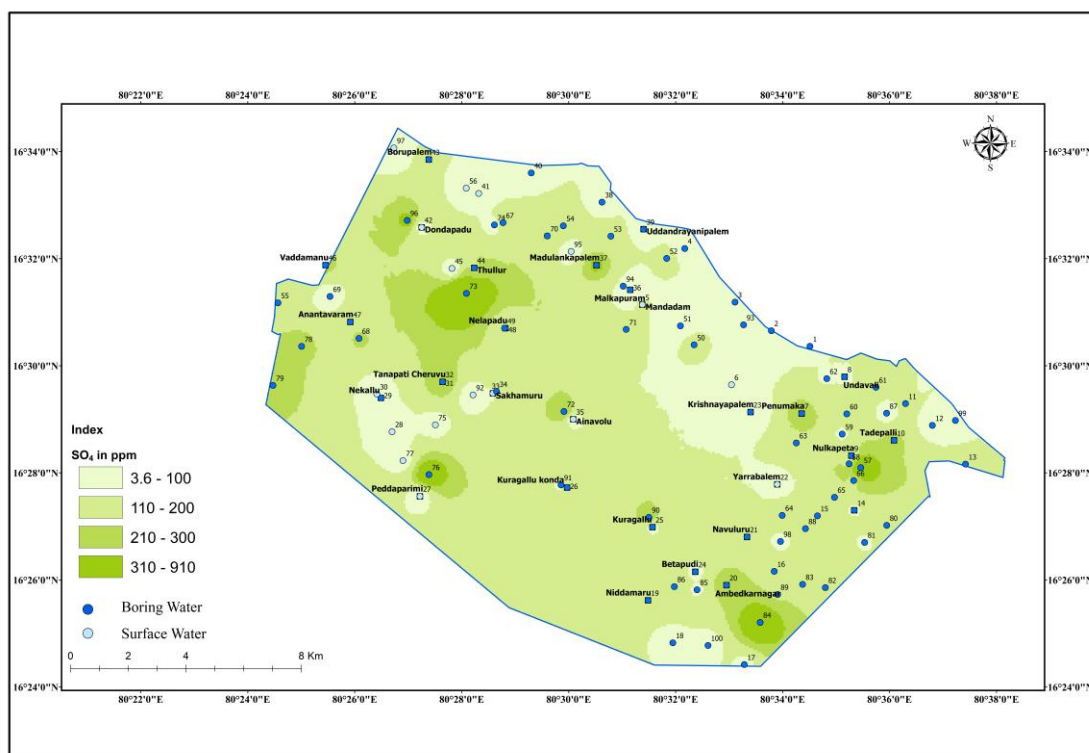


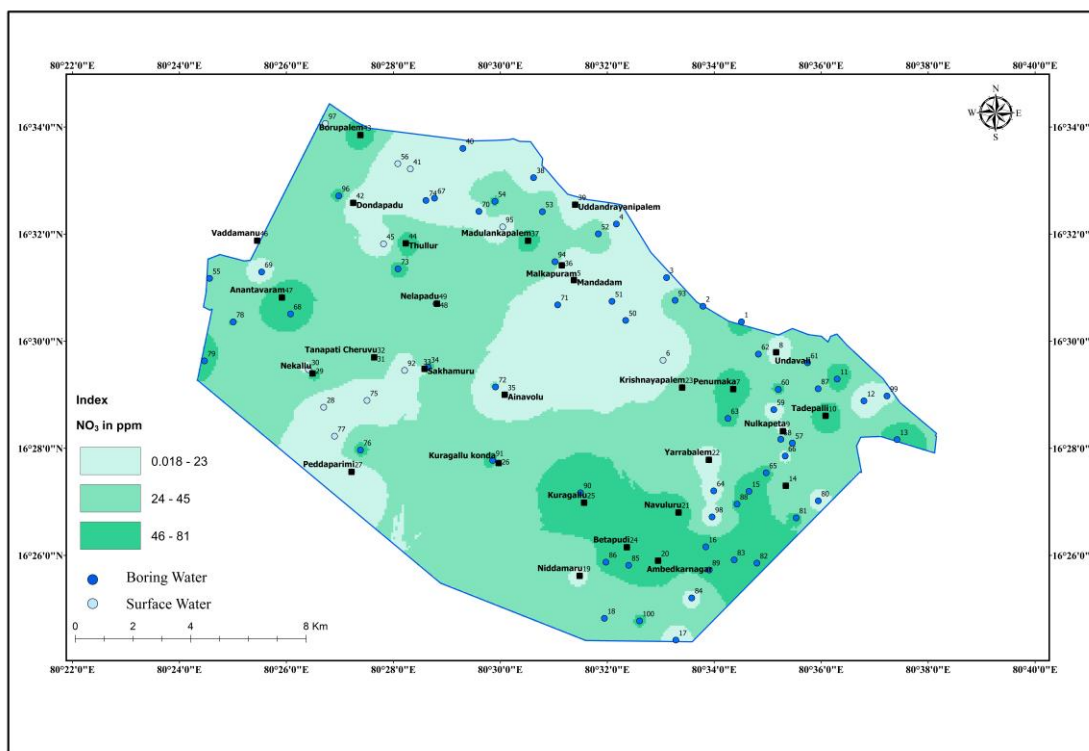
Fig. S10 Spatial distribution of Bicarbonate (HCO_3^-)



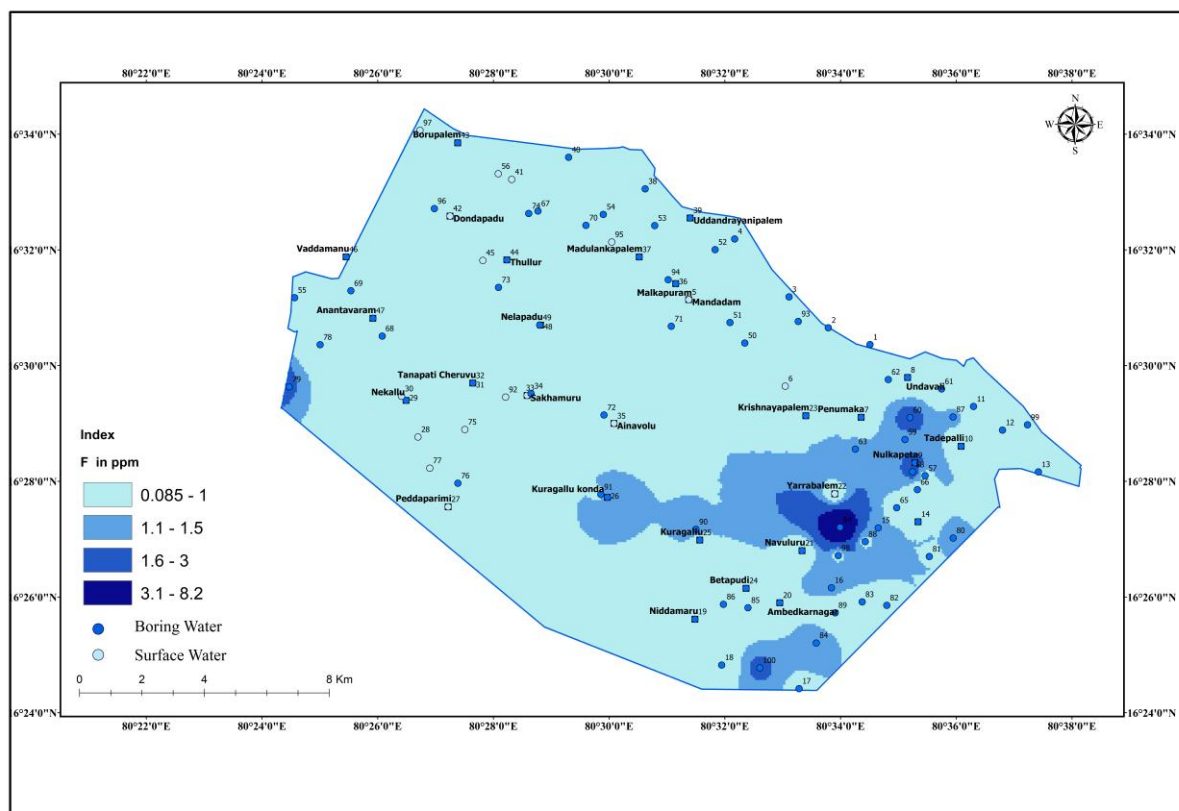
- Fig. S11 Spatial distribution of Sulphate (SO_4^{2-})



- Fig. S12 Spatial distribution of Nitrate (NO_3^-)



- Fig. S13 Spatial distribution of Fluoride (F^-)



S2 Complete Hydrochemical Dataset

Sample. No.	pH	EC	TDS	TH	Ca	Mg	Na	K	CO ₃	HCO ₃	Cl	SO ₄	NO ₃	F
		μS/cm	ppm	ppm	Concentrations in ppm (ppm)									
65D10/1	7.6	1210	787	410	92	44	87	5	ND	391	106	86	54	0.34
65D10/2	7.7	883	570	225	64	16	98	<5	ND	330	82	37	23	0.23
65D10/3	8.1	809	526	205	40	26	90	<5	ND	281	82	50	8	0.29
65D10/4	8.0	647	420	195	56	13	57	<5	ND	214	71	47	<5	0.35
65D10/5	8.7	1756	1142	460	64	73	188	9	18	445	255	109	9	0.14
65D11/6	8.2	548	353	140	28	17	57	8	ND	159	89	12	<5	0.34
65D11/7	6.9	6120	3980	2600	525	314	207	8	ND	946	1375	278	65	0.21
65D11/8	7.6	1176	764	405	88	45	80	9	ND	299	177	89	<5	0.25
65D11/9	7.2	1724	1121	440	76	61	190	8	ND	488	248	98	9	1.7
65D11/10	6.6	4650	3020	1645	349	188	307	8	ND	1245	716	230	66	0.59
65D11/11	7.1	2370	1544	940	100	168	109	8	ND	744	284	113	63	0.46
65D11/12	7.7	676	439	200	56	15	61	<5	ND	207	82	48	<5	0.47
65D11/13	7.2	1457	947	490	144	32	109	<5	ND	348	170	144	61	0.15
65D11/14	7.9	1256	818	410	68	58	98	5	ND	403	128	82	35	0.72
65D11/15	7.3	1829	1188	735	96	120	78	7	ND	567	174	140	69	1
65D11/16	7.5	1747	1136	510	52	92	165	7	ND	488	216	115	56	1.1
65D11/17	7.5	1604	1043	475	52	84	147	6	ND	525	199	74	12	0.84
65D11/18	7.3	883	574	385	88	40	22	6	ND	256	106	58	24	0.42
65D11/19	7.4	1263	820	485	80	69	63	9	ND	317	174	105	17	0.55
65D11/20	7.6	8110	5270	3010	1166	24	476	8	ND	1513	1737	293	63	0.8

65D11/21	7.0	3160	2060	1080	160	165	225	8	ND	561	688	100	0.15
65D11/22	8.6	1082	704	320	48	49	96	8	15	293	156	36	0.38
65D11/23	7.2	3850	2500	1340	144	238	265	8	ND	860	844	6	0.42
65D11/24	7.4	1517	986	560	60	100	88	5	ND	439	199	77	0.66
65D11/25	7.6	1661	1080	625	56	118	90	8	ND	488	220	69	0.72
65D7/26	7.5	2080	1353	750	104	119	128	9	ND	500	312	144	1.6
65D7/27	8.4	440	286	115	20	16	44.1	8	6	134	50	27	0.28
65D7/28	9.6	356	231	100	12	17	33	6	24	67	32	31	0.42
65D7/29	7.4	2770	1799	1050	196	136	152	8	ND	549	553	103	0.14
65D7/30	8.5	441	287	115	24	13	44	8	15	98	43	43	0.33
65D7/31	9.1	479	311	110	12	19	58	<5	21	110	43	47	0.52
65D7/32	8.6	6100	3970	2275	68	512	354	6	15	1587	971	306	0.38
65D7/33	8.6	458	297	140	32	15	37	<5	12	104	53	40	0.26
65D7/34	7.7	2940	1912	895	84	167	259	8	ND	824	369	213	0.64
65D11/35	10.0	450	293	120	16	19	46	<5	24	79	46	49	0.55
65D10/36	7.1	2340	1520	940	168	126	105	<5	ND	1129	167	7	0.08
65D10/37	7.3	8580	5580	2970	802	236	603	8	ND	1208	2056	339	0.29
65D10/38	7.4	809	526	350	58	50	23	<5	ND	317	57	51	0.15
65D10/39	7.6	710	462	260	40	39	41	5	ND	220	85	56	0.21
65D6/40	7.6	687	447	240	48	29	46	<5	ND	232	78	37	0.32
65D6/41	8.0	978	636	280	52	36	92	7	ND	293	149	35	0.5
65D6/42	8.6	778	506	200	72	5	85	<5	18	183	99	55	0.6
65D6/43	7.2	2170	1408	880	136	131	91	8	ND	622	269	137	0.11

65D6/44	7.5	2590	1683	810	64	158	125	8	ND	830	255	192	0.16
65D6/45	7.8	493	320	110	18	16	58	8	ND	171	50	23	0.45
65D6/46	7.4	3210	2090	1190	393	51	185	5	ND	866	447	218	0.49
65D6/47	7.2	2630	1709	1120	172	168	85	8	ND	732	362	149	0.27
65D6/48	8.1	510	331	120	16	19	60	5	ND	134	71	34	0.46
65D6/49	7.5	2910	1890	1050	156	161	181	8	ND	696	404	251	0.34
65D10/50	7.3	2600	1692	970	108	170	151	<5	ND	915	269	158	0.22
65D10/51	7.6	1816	1180	605	130	68	134	7	ND	476	351	3	0.4
65D10/52	7.7	1421	924	610	132	68	48	9	ND	415	129	138	0.2
65D10/53	7.6	1415	920	510	112	56	88	9	ND	409	136	135	0.2
65D10/54	7.6	1497	973	475	116	45	109	8	ND	439	104	161	0.3
65D10/55	7.9	1422	924	490	104	56	87	13	ND	488	113	99	0.4
65D10/56	8.2	641	417	180	42	18	60	10	ND	244	44	43	0.5
65D10/57	7.7	4610	2997	830	216	71	653	48	ND	159	964	720	0.8
65D10/58	7.7	2400	1560	820	116	129	169	21	ND	561	390	175	2.0
65D10/59	7.7	1859	1208	780	124	114	64	12	ND	488	312	70	1.4
65D10/60	7.7	3330	2165	1175	210	158	221	23	ND	421	737	185	2.1
65D10/61	7.8	1783	1159	650	80	109	109	6	ND	305	316	125	0.3
65D10/62	7.4	1303	847	500	140	36	70	18	ND	330	170	93	0.6
65D10/63	7.4	2290	1489	870	152	119	119	16	ND	305	425	190	1.2
65D10/64	8.6	3820	2483	550	128	56	604	17	108	1269	369	181	8.3
65D10/65	7.9	1824	1186	650	168	56	115	28	ND	476	248	102	0.4
65D10/66	7.8	1900	1235	655	164	60	131	13	ND	317	376	164	0.5

65D10/67	7.3	4100	2665	1870	447	184	83	15	ND	488	1014	216	0.3
65D10/68	7.6	2950	1918	1170	287	111	115	32	ND	464	581	214	0.3
65D10/69	8.5	550	358	229	44	29	20	4	18	207	39	26	0.4
65D10/70	8	1721	1119	460	140	27	178	8	ND	207	312	206	0.3
65D10/71	7.9	2641	1717	900	228	80	196	3	ND	658	447	146	0.9
65D10/72	7.8	5642	3667	1730	385	187	407	111	ND	342	1510	305	0.5
65D10/73	7.6	13640	8866	4760	1000	551	815	176	ND	683	3616	912	0.8
65D10/74	7.7	1117	726	455	76	64	51	9	ND	452	110	31	0.5
65D10/75	7.8	574	373	205	56	16	34	10	ND	146	57	59	0.5
65D10/76	7.5	6752	4389	2430	701	165	404	33	ND	360	1751	518	0.6
65D10/77	7.8	898	584	360	104	24	37	11	ND	232	128	46	0.5
65D10/78	7.7	1656	1076	650	144	71	87	7	ND	232	234	224	0.5
65D10/79	7.5	3300	2145	1090	208	139	205	95	ND	415	702	285	2.2
65D10/80	7.9	987	642	390	108	29	43	13	ND	281	92	100	1.2
65D10/81	7.7	1342	872	500	44	95	70	12	ND	439	113	89	1.0
65D10/82	7.7	2080	1352	700	84	119	133	13	ND	537	227	179	0.5
65D10/83	7.7	2070	1346	600	120	73	136	78	ND	171	447	140	0.8
65D10/84	7.7	17300	11245	2760	609	302	2519	319	ND	232	5530	594	1.5
65D10/85	7.7	2095	1362	560	152	44	209	21	ND	683	234	85	0.8
65D10/86	8.5	2530	1645	900	208	92	133	49	3	293	510	185	0.4
65D10/87	8	986	641	340	84	32	47	23	ND	354	78	46	1.2

65D10/88	7.9	2066	1343	670	168	61	15 3	12	ND	452	319	139	0.8
65D10/89	7.6	1883	1224	650	184	46	11 8	13	ND	281	291	195	0.4
65D10/90	7.7	3815	2480	1290	333	112	171	194	ND	610	759	265	1.4
65D10/91	7.4	1544	1004	410	84	49	110	85	ND	366	230	83	0.8
65D10/92	7.5	373	242	120	40	5	23	10	ND	134	32	25	0.5
65D10/93	8.1	1156	751	430	106	40	56	11	ND	317	142	74	0.4
65D10/94	7.9	4568	2969	940	212	100	598	24	ND	1025	893	107	0.3
65D10/95	7.2	424	276	140	32	15	25	15	ND	122	57	19	0.6
65D10/96	8	8130	5285	1590	293	209	110 9	41	ND	354	2382	355	0.7
65D10/97	7.6	975	634	440	116	36	15	14	ND	439	46	20	0.5
65D10/98	7.6	1950	1268	600	164	46	162	14	ND	415	369	72	0.8
65D10/99	7.2	1014	659	255	62	24	109	7	ND	207	206	17	0.6
65D10/100	7.7	967	629	300	60	36	73	15	ND	378	57	29	1.8

S3 Correlation Analysis

<i>parameters</i>	<i>pH</i>	<i>EC</i>	<i>TDS</i>	<i>TH</i>	<i>Ca</i>	<i>Mg</i>	<i>Na</i>	<i>K</i>	<i>CO3</i>	<i>HCO3</i>	<i>Cl</i>	<i>SO4</i>	<i>NO3</i>	<i>PO4</i>	<i>F</i>	<i>SiO2</i>
pH	1.0000															
EC	-0.1963	1.0000														
TDS	-0.1963	1.0000	1.0000													
TH	-0.2967	0.9068	0.9068	1.0000												
Ca	-0.2615	0.8181	0.8181	0.9041	1.0000											
Mg	-0.2570	0.7616	0.7618	0.8375	0.5237	1.0000										
Na	-0.0457	0.8827	0.8827	0.6045	0.5449	0.5084	1.0000									
K	-0.0462	0.7023	0.7022	0.5026	0.4513	0.4250	0.7314	1.0000								
CO3	0.5165	-0.0257	-0.0257	-0.1119	-0.1135	-0.0780	0.0820	-0.0643	1.0000							
HCO3	-0.3285	0.4458	0.4459	0.5817	0.4680	0.5610	0.2158	-0.0364	0.1530	1.0000						
Cl	-0.1400	0.9759	0.9758	0.8333	0.7660	0.6820	0.9157	0.7630	-0.0704	0.2576	1.0000					
SO4	-0.1562	0.8332	0.8332	0.8070	0.7291	0.6769	0.6708	0.6087	-0.0487	0.2699	0.7879	1.0000				
NO3	-0.4257	0.3401	0.3402	0.4452	0.3600	0.4272	0.1456	0.1492	-0.2254	0.4181	0.2355	0.4214	1.0000			
PO4	-0.0159	0.1405	0.1404	0.1169	0.1495	0.0424	0.1287	0.2376	-0.0420	-0.0414	0.1515	0.1645	0.0820	1.0000		
F	0.1048	0.1400	0.1400	0.0268	0.0317	0.0129	0.2350	0.1757	0.7311	0.2215	0.0890	0.1200	0.0023	0.1092	1.0000	
SiO2	-0.3312	0.3790	0.3790	0.3693	0.3294	0.3150	0.3048	0.2769	-0.1501	0.2837	0.3304	0.3697	0.4342	0.4614	0.1858	1.0000

S4 Irrigation Water Quality Indices

S. No.	Na%	MR	RSC	SAR	KI
65D10/1	31.20	44.10	-1.80	1.50	0.46
65D10/2	48.58	29.20	0.90	2.17	0.94
65D10/3	48.62	51.74	0.47	2.23	0.95
65D10/4	39.07	27.69	-0.36	1.36	0.64
65D10/5	46.43	65.29	-1.61	3.28	0.89
65D11/6	45.23	50.04	-0.19	1.71	0.89
65D11/7	14.69	49.66	-36.53	1.44	0.17
65D11/8	29.47	45.75	-3.19	1.39	0.43
65D11/9	47.81	56.97	-0.81	3.29	0.94
65D11/10	28.74	47.05	-12.48	2.66	0.41
65D11/11	19.94	73.48	-6.62	1.37	0.25
65D11/12	39.70	30.64	-0.64	1.44	0.66
65D11/13	32.55	26.82	-4.11	1.63	0.48
65D11/14	33.94	58.45	-1.56	1.77	0.52
65D11/15	18.59	67.34	-5.37	1.09	0.23
65D11/16	40.95	74.48	-2.17	2.84	0.71
65D11/17	39.81	72.71	-0.90	2.60	0.67
65D11/18	10.88	42.85	-3.49	0.39	0.12
65D11/19	21.67	58.72	-4.47	1.05	0.28
65D11/20	25.53	3.28	-35.36	2.69	0.34
65D11/21	31.00	62.98	-12.37	2.55	0.45
65D11/22	38.62	62.74	-1.37	1.99	0.65
65D11/23	29.93	73.16	-12.68	2.80	0.43
65D11/24	25.21	73.33	-4.03	1.43	0.34
65D11/25	23.54	77.66	-4.51	1.41	0.31
65D7/26	26.78	65.37	-6.79	1.75	0.37
65D7/27	0.00	56.89	-0.02	0.00	0.00
65D7/28	40.00	70.03	-0.50	1.26	0.72
65D7/29	23.78	53.37	-11.97	1.69	0.32
65D7/30	43.62	47.19	-0.41	1.45	0.84
65D7/31	53.83	72.31	-0.01	2.15	1.17

65D7/32	25.20	92.55	-19.27	3.11	0.34
65D7/33	36.23	43.60	-0.93	1.08	0.57
65D7/34	38.30	76.63	-4.43	3.39	0.63
65D11/35	45.85	66.20	-0.67	1.59	0.85
65D10/36	19.58	55.30	-0.25	1.24	0.24
65D10/37	30.53	32.68	-39.64	3.72	0.44
65D10/38	12.49	58.71	-1.81	0.45	0.14
65D10/39	25.05	61.66	-1.60	0.94	0.34
65D6/40	29.49	49.91	-0.98	1.06	0.42
65D6/41	41.08	53.31	-0.75	1.98	0.72
65D6/42	48.00	10.28	-0.70	1.90	0.92
65D6/43	18.21	61.37	-7.37	1.13	0.23
65D6/44	24.89	80.28	-2.59	1.75	0.34
65D6/45	51.03	59.45	0.59	2.02	1.14
65D6/46	25.15	17.63	-9.61	1.73	0.34
65D6/47	14.05	61.70	-10.41	0.94	0.16
65D6/48	51.16	66.20	-0.17	2.08	1.10
65D6/49	27.03	62.99	-9.63	2.07	0.37
65D10/50	25.30	72.19	-4.38	1.87	0.34
65D10/51	32.09	46.30	-4.30	1.90	0.48
65D10/52	14.40	45.92	-5.40	0.68	0.17
65D10/53	26.72	45.12	-3.50	1.35	0.37
65D06/54	32.68	38.97	-2.30	1.71	0.50
65D06/55	27.09	46.96	-1.80	1.38	0.38
65D06/56	40.40	41.69	0.40	1.55	0.72
65D11/57	61.44	34.96	-14.00	7.67	1.71
65D11/58	30.23	64.65	-7.21	2.21	0.45
65D11/59	14.92	60.28	-7.61	0.85	0.18
65D11/60	28.55	55.34	-16.61	2.33	0.41
65D11/61	26.45	69.25	-8.01	1.62	0.36
65D11/62	22.57	30.02	-4.60	1.05	0.31
65D11/63	22.42	56.34	-12.41	1.46	0.30
65D11/64	69.63	41.84	11.60	8.89	2.38

65D11/65	26.73	35.40	-5.20	1.53	0.38
65D11/66	29.82	37.42	-7.90	1.75	0.44
65D06/67	8.67	40.39	-29.41	0.66	0.10
65D06/68	17.10	38.91	-15.81	1.15	0.21
65D06/69	15.46	51.77	-0.88	0.46	0.19
65D06/70	45.15	23.93	-5.80	2.72	0.84
65D10/71	32.06	36.69	-7.22	2.23	0.47
65D07/72	32.08	44.53	-29.01	3.41	0.51
65D06/73	26.21	47.60	-84.03	4.16	0.37
65D06/74	19.22	58.26	-1.70	0.87	0.24
65D07/75	25.54	31.73	-1.70	0.81	0.36
65D07/76	26.21	28.00	-42.71	2.72	0.36
65D07/77	17.60	27.79	-3.40	0.64	0.22
65D06/78	22.30	44.64	-9.20	1.19	0.29
65D07/79	26.89	52.31	-15.01	2.22	0.41
65D11/80	18.55	30.79	-3.20	0.72	0.24
65D11/81	22.79	78.01	-2.80	1.23	0.30
65D11/82	28.69	70.02	-5.21	1.91	0.41
65D11/83	29.74	50.02	-9.20	1.98	0.49
65D11/84	63.34	44.95	-51.42	16.74	1.98
65D11/85	43.65	32.16	0.00	2.96	0.81
65D11/86	23.09	42.24	-13.15	1.53	0.32
65D11/87	21.63	38.25	-1.00	0.87	0.30
65D11/88	32.67	37.33	-6.00	2.01	0.50
65D11/89	27.77	29.25	-8.40	1.54	0.39
65D11/90	19.45	35.68	-15.80	1.61	0.29
65D07/91	31.54	48.80	-2.20	1.92	0.58
65D07/92	27.66	16.68	-0.20	0.69	0.42
65D10/93	21.50	38.39	-3.40	0.92	0.28
65D10/94	57.25	43.64	-2.00	6.78	1.38
65D10/95	25.47	42.88	-0.80	0.73	0.39
65D06/96	59.46	54.11	-26.01	10.01	1.52
65D06/97	6.64	34.11	-1.60	0.24	0.07

65D11/98	36.29	31.68	-5.20	2.22	0.59
65D11/99	47.26	39.24	-1.70	2.34	0.93
65D11/100	33.19	50.02	0.20	1.50	0.53

S5 Drinking Water Quality Index

Sample No.	Longitude	Latitude	WQI
65D10/1	80.58	16.51	107.30
65D7/28	80.45	16.48	50.84
65D7/31	80.46	16.50	52.09
65D11/35	80.50	16.48	48.99
65D6/48	80.48	16.51	66.31
65D6/45	80.46	16.53	45.45
65D7/27	80.45	16.46	91.43
65D7/30	80.44	16.49	53.49
65D11/6	80.55	16.49	68.31
65D7/33	80.48	16.49	111.83
65D10/3	80.55	16.52	95.23
65D10/39	80.52	16.54	60.29
65D11/22	80.57	16.46	87.33
65D6/40	80.49	16.56	71.10
65D11/16	80.56	16.44	155.39
65D11/17	80.56	16.41	128.20
65D6/41	80.47	16.55	92.69
65D10/4	80.54	16.54	57.67
65D11/12	80.61	16.48	64.82

65D11/25	80.53	16.45	215.66
65D10/38	80.51	16.55	92.61
65D11/24	80.54	16.44	129.64
65D10/2	80.56	16.51	105.50
65D10/5	80.52	16.52	123.29
65D6/44	80.47	16.53	188.63
65D11/14	80.59	16.46	118.17
65D7/32	80.46	16.50	399.08
65D6/42	80.45	16.54	52.07
65D11/9	80.59	16.47	137.97
65D11/19	80.53	16.43	94.31
65D7/34	80.48	16.49	186.80
65D11/8	80.59	16.50	168.67
65D11/18	80.53	16.41	70.33
65D11/15	80.58	16.45	189.01
65D11/11	80.61	16.49	166.12
65D7/26	80.50	16.46	213.19
65D10/50	80.54	16.51	228.33
65D6/43	80.46	16.56	164.26
65D11/13	80.62	16.47	107.96
65D11/23	80.56	16.49	244.34
65D6/49	80.48	16.51	205.61
65D11/21	80.56	16.45	206.47
65D10/36	80.52	16.52	166.94
65D6/47	80.43	16.51	230.67

65D7/29	80.44	16.49	189.72
65D11/10	80.60	16.48	319.39
65D6/46	80.42	16.53	218.12
65D11/7	80.57	16.49	392.12
65D10/37	80.51	16.53	509.45
65D11/20	80.55	16.43	463.06
65D10/51	80.54	16.51	132.06
65D10/52	80.53	16.53	125.79
65D10/53	80.51	16.54	119.89
65D06/54	80.50	16.54	121.64
65D06/55	80.35	16.55	117.40
65D06/56	80.47	16.56	58.32
65D11/57	80.59	16.47	263.31
65D11/58	80.59	16.47	208.56
65D11/59	80.59	16.48	162.51
65D11/60	80.59	16.49	255.12
65D11/61	80.60	16.49	140.49
65D11/62	80.58	16.50	116.01
65D11/63	80.57	16.48	183.66
65D11/64	80.57	16.45	296.21
65D11/65	80.58	16.46	152.35
65D11/66	80.59	16.46	137.95
65D06/67	80.48	16.55	294.29
65D06/68	80.44	16.51	224.12

65D06/69	80.43	16.52	56.17
65D06/70	80.49	16.54	109.57
65D10/71	80.52	16.51	187.30
65D07/72	80.50	16.49	375.89
65D06/73	80.47	16.52	894.70
65D06/74	80.48	16.54	103.04
65D07/75	80.46	16.48	53.19
65D07/76	80.46	16.47	420.09
65D07/77	80.45	16.47	78.23
65D06/78	80.42	16.51	131.39
65D07/79	80.40	16.50	278.22
65D11/80	80.60	16.45	91.69
65D11/81	80.59	16.45	132.37
65D11/82	80.58	16.43	178.19
65D11/83	80.57	16.43	179.83
65D11/84	80.56	16.42	937.25
65D11/85	80.54	16.43	163.32
65D11/86	80.53	16.43	194.56
65D11/87	80.60	16.49	99.12
65D11/88	80.57	16.45	157.59
65D11/89	80.57	16.43	137.90
65D11/90	80.53	16.45	339.25
65D07/91	80.50	16.46	151.89
65D07/92	80.47	16.49	39.98

65D10/93	80.55	16.51	100.12
65D10/94	80.52	16.53	287.02
65D10/95	80.50	16.54	46.64
65D06/96	80.45	16.55	445.98
65D06/97	80.45	16.57	96.95
65D11/98	80.57	16.45	136.47
65D11/99	80.62	16.48	77.77
65D11/100	80.54	16.41	105.44