

### APPENDIX – 7a

#### Ground Water Quality In The Study Area During March 2006

No.	Parameter	Maska	Desalpar	Nana Bhadiya	Mota-Bhojpur	Navinal	Kandagra	Jalpara
1	pH Value	7.6	7.3	7.45	7.14	7.33	7.41	7.84
2	Temperature OC	25	24	23	24	24	22	23
3	Turbidity, NTU	<5	<5	<5	<5	<5	<5	<5
4	Dissolved Oxygen, mg/l	3.2	3.1	3	3.6	3.7	3.1	3.2
5	Suspended Solids,mg/l	<5	<5	<5	<5	<5	<5	<5
6	Conductivity mho	4760	1410	566	852	969	796	2106
7	Dissolved Solids, mg/l	3036	870	335	535	598	480	1273
8	Total Hardness (as CaCO <sub>3</sub> ), mg/l	1079.1	130.6	32.6	235.6	141.5	35.6	1256.8
9	Alkalinity , mg/l	52.9	65.5	102.3	55.2	58.6	72.4	37.9
10	BOD 5Day @20 °C	13.6	4.4	3.5	5.4	4.1	3.3	8.0
11	COD mg/l	48.3	14.3	12.4	18.4	14.3	11.6	25.6
12	Nitrate (as NO <sub>3</sub> ), mg/l	0.813	0.421	0.311	0.311	0.289	0.306	519
13	Total Phosphorous, mg/l	0.3	0.4	0.6	1.5	0.5	0.8	1
14	Chloride (as Cl), mg/	2340.7	533.5	71.9	293.9	333.2	264.7	518.5
15	Sulphate (as SO <sub>4</sub> ), mg/l	64	43.5	32	28	31	27	63
16	Sodium,mg/l	255	208	143	82.2	148.8	120.8	260
17	Potassium, mg/l	5.178	4.048	3.195	4.67	3.463	3.767	5.21
18	Calcium(as Ca), mg/l	166.5	20.6	5.9	47.9	27.3	5.9	229.9
19	Magnesium (as Mg), mg/l	161.1	19.2	4.3	28.1	17.7	5.1	165.8
20	Silica , mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21	Oil &Greasemg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL

No.	Parameter	Maska	Desalpar	Nana Bhadiya	Mota-Bhojpur	Navinal	Kandagra	Jalpara
22	Phenol(as C6H6OH), mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Fluoride (as F), mg/l	0.645	0.514	0.887	1.087	0.135	0.87	ND
24	Salinity, mg/l	14	BDL	BDL	BDL	BDL	BDL	BDL
25	Total Nitrogen, mg/l	1.21	0.483	0.369	0.392	0.299	0.348	0.569
26	Iron (as Fe) mg/l	0.556	0.102	0.273	0.393	0.383	0.265	0.475
27	Cooper (as Cu) mg/l	0.034	0.027	0.018	0.012	0.009	BDL	0.002
28	Zinc (as Zn) mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
29	Lead (as Pb), mg/l	0.02	0.026	0.023	0.01	0.053	0.033	0.041
30	Cadmium (as Cd), mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
31	Total Cr , mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
32	Chromium (as Cr+6) mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
33	Arsenic (as As), mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
34	Mercury (as Hg) mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
35	Selenium (as Se) mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
36	Total Coliforms, Nos. / 100 ml	14	0	0	0	0	0	0
37	Faecal Coliforms, Nos. / 100 ml	0	0	0	0	0	0	0
BDL : Below Detection Limit.								

**APPENDIX – 7b****Ground Water Quality In The Study Area During April 2006**

No.	Parameter	Maska	Desalpar	Nana Bhadiya	Mota-Bhojpur	Navinal	Kandagra	Jalpara
1	pH Value	7.4	7.2	7.3	7	7.4	7.5	7.6
2	Temperature OC	26	25	25	25	26	25	25
3	Turbidity, NTU	<5	<5	<5	<5	<5	<5	<5
4	Dissolved Oxygen, mg/l	3	2.9	2.9	3.5	3.5	3	3.1
5	Suspended Solids,mg/l	<5	<5	<5	<5	<5	<5	<5
6	Conductivity mho	4857	1460	582	883	977	861	2189
7	Dissolved Solids, mg/l	3917	1067	365	549	706	554	1317
8	Total Hardness (as CaCO <sub>3</sub> ), mg/l	1132	136.6	35.1	246.8	147.2	36.9	1304
9	Alkalinity , mg/l	63.8	72.3	98.6	59.3	62.4	77.5	42.6
10	BOD 5Day @20 °C	13.8	4.2	3.8	5.6	4.3	3.4	12.3
11	COD mg/l	49.2	14.5	12.6	18.8	14.8	11.9	26.9
12	Nitrate (as NO <sub>3</sub> ), mg/l	0.829	0.410	0.326	0.320	0.296	0.289	0.818
13	Total Phosphorous, mg/l	0.312	0.418	0.623	1.9	0.61	0.76	1.7
14	Chloride (as Cl), mg/	2391	561	75.6	281.3	341.3	278	526.3
15	Sulphate (as SO <sub>4</sub> ), mg/l	69	46.8	36	35	26	35	57.4
16	Sodium,mg/l	273	213	151	87.4	136.3	131.2	271.6
17	Potassium, mg/l	6.112	5.112	3.203	5.1	3.213	3.891	5.43
18	Calcium(as Ca), mg/l	176	22.4	6.5	50.3	28.6	6.3	236.3
19	Magnesium (as Mg), mg/l	168	19.6	4.6	29.4	18.4	5.8	173.4
20	Silica , mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21	Oil & Greasemg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL

No.	Parameter	Maska	Desalpar	Nana Bhadiya	Mota-Bhojpur	Navinal	Kandagra	Jalpara
22	Phenol(as C6H6OH), mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Fluoride (as F), mg/l	0.612	0.561	0.761	0.913	0.189	0.983	0.126
24	Salinity, mg/l	17	BDL	BDL	BDL	BDL	BDL	BDL
25	Total Nitrogen, mg/l	1.09	0.471	0.381	0.379	0.301	0.358	0.580
26	Iron (as Fe) mg/l	0.313	0.116	0.216	0.318	0.261	0.281	0.022
27	Cooper (as Cu) mg/l	0.039	0.032	0.022	0.029	0.013	BDL	0.011
28	Zinc (as Zn) mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
29	Lead (as Pb), mg/l	0.03	0.038	0.029	BDL	BDL	0.021	0.062
30	Cadmium (as Cd), mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
31	Total Cr , mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
32	Chromium (as Cr+6) mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
33	Arsenic (as As), mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
34	Mercury (as Hg) mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
35	Selenium (as Se) mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
36	Total Coliforms, Nos. / 100 ml	0	0	0	0	0	0	0
37	Faecal Coliforms, Nos. / 100 ml	0	0	0	0	0	0	0

BDL : Below Detection Limit.

### APPENDIX – 7c

#### Ground Water Quality In The Study Area During May 2006

No.	Parameter	Maska	Desalpar	Nana Bhadiya	Mota-Bhojpur	Navinal	Kandagra	Jalpara
1	pH Value	7.5	7.4	7.2	7.2	7.5	7.3	7.7
2	Temperature OC	27	26	24	26	24	25	26
3	Turbidity, NTU	<5	<5	<5	<5	<5	<5	<5
4	Dissolved Oxygen, mg/l	2.9	3	3.2	3.3	3.6	3.2	3
5	Suspended Solids,mg/l	<5	<5	<5	<5	<5	<5	<5
6	Conductivity mho	4901	1435	594	826	976	812	2009
7	Dissolved Solids, mg/l	3091	894	349	561	642	527	1298
8	Total Hardness (as CaCO <sub>3</sub> ), mg/l	859	150	30.8	269.3	163.5	42.75	1289.6
9	Alkalinity , mg/l	58.6	78.4	116.8	66.3	66.9	83.4	48.4
10	BOD 5Day @20 °C	13.4	4.5	3.7	5.8	4.2	3.6	12.9
11	COD mg/l	48.8	14.4	12.7	18.7	14.6	12	27.4
12	Nitrate (as NO <sub>3</sub> ), mg/l	0.838	0.429	0.339	0.331	0.273	0.296	0.714
13	Total Phosphorous, mg/l	0.341	0.426	0.609	2.1	0.58	0.84	1.4
14	Chloride (as Cl), mg/	2378	549	69.3	286.4	350.6	284	542.4
15	Sulphate (as SO <sub>4</sub> ), mg/l	76	55.4	43	42	35	25	69
16	Sodium,mg/l	266	236	141	81.6	152.6	142	284
17	Potassium, mg/l	5.813	4.569	3.216	4.8	3.316	3.798	6.9
18	Calcium(as Ca), mg/l	138	25.6	5.6	57.4	30.2	6.9	215.6
19	Magnesium (as Mg), mg/l	125	20.8	4.1	30.6	21.4	6.2	150
20	Silica , mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21	Oil & Grease mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL

No.	Parameter	Maska	Desalpar	Nana Bhadiya	Mota-Bhojpur	Navinal	Kandagra	Jalpara
22	Phenol(as C <sub>6</sub> H <sub>6</sub> OH), mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Fluoride (as F), mg/l	0.638	0.543	0.396	0.987	0.163	1.054	0.086
24	Salinity, mg/l	15	BDL	BDL	BDL	BDL	BDL	BDL
25	Total Nitrogen, mg/l	1.17	0.498	0.806	0.386	0.286	0.371	0.591
26	Iron (as Fe) mg/l	0.349	0.130	0.031	0.362	0.376	0.772	0.671
27	Cooper (as Cu) mg/l	0.045	0.036	0.013	0.021	0.019	0.028	0.017
28	Zinc (as Zn) mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
29	Lead (as Pb), mg/l	BDL	0.061	0.022	BDL	BDL	BDL	0.051
30	Cadmium (as Cd), mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
31	Total Cr , mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
32	Chromium (as Cr+6) mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
33	Arsenic (as As), mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
34	Mercury (as Hg) mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
35	Selenium (as Se) mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
36	Total Coliforms, Nos. / 100 ml	0	0	0	0	0	0	0
37	Faecal Coliforms, Nos. / 100 ml	0	0	0	0	0	0	0
BDL : Below Detection Limit.								

**APPENDIX – 7d****Ground Water Quality In The Study Area During June 2006**

Sl. No.	Parameters	Units	Location						
			Maska	Desalpar	Nana Bhadiya	Mota-Bhojpur	Navinal	Kandagra	Jalpara
1	pH Value		7.3	7.6	7.4	7.4	7.2	7.4	7.5
2	Temperature	<sup>o</sup> C	25	24	24	24	23	24	25
3	Turbidity	NTU	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4	Dissolved Oxygen	mg/l	2.6	2.5	2.8	3.1	3.4	3.0	2.9
5	Suspended Solids	mg/l	< 5	< 5	< 5	< 5	< 5	< 5	< 5
6	Conductivity	mho	4867.0	1489	644.0	990.0	1040.0	935.0	2098
7	Dissolved Solids	mg/l	3018	908	356	586	670	556	1295.0
8	Total Hardness (as CaCO <sub>3</sub> )	mg/l	713.0	161.7	36.9	279.0	186.9	47.4	1031
9	Alkalinity	mg/l	51.6	71.3	123.8	75.6	60.8	89.6	53.6
10	BOD <sub>5</sub> @20 <sup>o</sup> C	mg/l	12.8	4.8	2.8	6.0	4.4	3.7	13.0
11	COD	mg/l	45.3	15.6	13.4	19.6	15.1	12.8	28.9
12	Nitrate (as NO <sub>3</sub> )	mg/l	0.545	0.235	0.245	0.203	0.149	0.195	0.212
13	Total Phosphorous	mg/l	0.365	0.411	0.563	1.96	0.65	0.76	1.21
14	Chloride (as Cl)	mg/l	1148	516	75.6	298.2	361.3	295	553
15	Sulphate ( as SO <sub>4</sub> )	mg/l	68	58.3	38	53	39	32	75
16	Sodium (Na)	mg/l	278	189	152	89.9	165.3	151	295
17	Potassium (K)	mg/l	5.906	4.611	3.332	5.6	3.523	3.916	7.4
18	Calcium(as Ca)	mg/l	116	27.5	6.9	65.1	35.6	8.1	189
19	Magnesium (as mg)	mg/l	103	22.6	4.8	28.3	23.8	6.6	136
20	Silica	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Sl. No.	Parameters	Units	Location						
			Maska	Desalpar	Nana Bhadiya	Mota-Bhojpur	Navinal	Kandagra	Jalpara
21	Oil & Grease	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22	Phenol(as C <sub>6</sub> H <sub>6</sub> OH)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Fluoride (as F)	mg/l	0.576	0.516	0.369	0.816	0.181	0.966	0.102
24	Total Nitrogen	mg/l	1.09	0.465	0.486	0.394	0.292	0.382	0.416
25	Iron (as Fe)	mg/l	0.316	0.141	0.042	0.183	0.385	0.168	0.684
26	Copper (as Cu)	mg/l	0.052	0.042	0.021	0.031	0.026	0.011	0.028
27	Zinc (as Zn)	mg/l	0.018	0.021	0.016	0.018	0.021	0.024	0.011
28	Lead (as Pb)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
29	Cadmium (as Cd)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Total Cr	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
31	Arsenic (as As)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
32	Mercury (as Hg)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
33	Selenium (as Se)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
34	Total Coliforms	Nos. / 100 ml	0	0	0	0	0	0	0

Note: BDL : Below Detectable Limit



### APPENDIX – 7e

#### Ground Water Quality In The Study Area During July 2006

Sl. No.	Parameters	Units	Location						
			Maska	Desalpar	Nana Bhadiya	Mota-Bhojpur	Navinal	Kandagra	Jalpara
1	pH Value		7.4	7.5	7.2	7.3	7.5	7.2	7.4
2	Temperature	<sup>o</sup> C	24	22	23	23	22	23	24
3	Turbidity	NTU	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4	Dissolved Oxygen	mg/l	2.4	2.2	2.9	2.9	3.1	2.9	2.7
5	Suspended Solids	mg/l	< 5	< 5	< 5	< 5	< 5	< 5	< 5
6	Conductivity	mho	4645	1312	685	830	1070	900	1930
7	Dissolved Solids	mg/l	2893	892	382	550	650	530	1190
8	Total Hardness (as CaCO <sub>3</sub> )	mg/l	778.2	157.9	47.5	246.0	164.2	52.1	929.5
9	Alkalinity	mg/l	56.3	65.1	109.8	68.6	71.3	85.3	49.3
10	BOD <sub>5</sub> @20 <sup>o</sup> C	mg/l	12.4	4.2	2.6	5.8	4.6	3.5	12.7
11	COD	mg/l	42.3	14.3	13	18.2	15.5	12.7	26.5
12	Nitrate (as NO <sub>3</sub> )	mg/l	0.462	0.228	0.228	0.189	0.161	0.187	0.218
13	Total Phosphorous	mg/l	0.352	0.396	0.516	1.79	0.49	0.616	1.09
14	Chloride (as Cl)	mg/l	1062	578	86.3	281.3	348.6	279	519
15	Sulphate ( as SO <sub>4</sub> )	mg/l	59	51.6	45	49	46	39	64
16	Sodium (Na)	mg/l	259	165	163	74.3	150.6	136	268
17	Potassium (K)	mg/l	5.116	4.589	3.362	5.1	3.486	3.811	7.1
18	Calcium(as Ca)	mg/l	122	29.6	10.1	58.3	31.8	10.5	176
19	Magnesium (as mg)	mg/l	115	20.4	5.4	24.4	20.6	6.3	119
20	Silica	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Sl. No.	Parameters	Units	Location						
			Maska	Desalpar	Nana Bhadiya	Mota-Bhojpur	Navinal	Kandagra	Jalpara
21	Oil &Grease	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22	Phenol(as C <sub>6</sub> H <sub>6</sub> OH)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Fluoride (as F)	mg/l	0.589	0.498	0.351	0.785	0.196	0.881	0.135
24	Total Nitrogen	mg/l	0.916	0.45	0.451	0.376	0.316	0.369	0.433
25	Iron (as Fe)	mg/l	0.308	0.156	0.049	0.169	0.391	0.216	0.661
26	Copper (as Cu)	mg/l	0.059	0.05	0.028	0.025	0.032	0.019	0.035
27	Zinc (as Zn)	mg/l	0.024	0.019	0.021	0.011	0.016	0.01	0.019
28	Lead (as Pb)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
29	Cadmium (as Cd)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Total Cr	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
31	Arsenic (as As)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
32	Mercury (as Hg)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
33	Selenium (as Se)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
34	Total Coliforms	Nos. / 100 ml	9	0	0	0	0	0	0

Note: BDL : Below Detectable Limit

### APPENDIX – 7f

#### Ground Water Quality In The Study Area During August 2006

Sl. No.	Parameters	Units	Location						
			Maska	Desalpar	Nana Bhadiya	Mota-Bhojpur	Navinal	Kandagra	Jalpara
1	pH Value		7.3	7.4	7.2	7.4	7.4	7.3	7.2
2	Temperature	°C	24	23	24	23	23	23	23
3	Turbidity	NTU	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4	Dissolved Oxygen	mg/l	2.9	2.8	2.9	3	3.2	3.2	3.1
5	Suspended Solids	mg/l	< 5	< 5	< 5	< 5	< 5	< 5	< 5
6	Conductivity	mho	3239	2418	1132	1225	1234	1253	2045
7	Dissolved Solids	mg/l	1963	1499	723	701	715.2	731.2	1232
8	Total Hardness (as CaCO <sub>3</sub> )	mg/l	1284	152	59.5	263.4	148.6	89.4	751.3
9	Alkalinity	mg/l	192	89	215.3	160.3	136.7	131.4	126
10	BOD <sub>5</sub> @20 °C	mg/l	12.1	3.8	2.8	5.4	4.4	3.4	10.1
11	COD	mg/l	41.6	13.4	12.6	17.8	15.1	13.1	25.6
12	Nitrate (as NO <sub>3</sub> )	mg/l	0.168	0.187	0.126	0.118	0.181	0.226	0.283
13	Total Phosphorous	mg/l	2.71	0.938	0.879	1.94	0.781	0.862	1.42
14	Chloride (as Cl)	mg/l	1085	543	130.2	296.5	301	316	489
15	Sulphate ( as SO <sub>4</sub> )	mg/l	128	62	46	45	37	40.2	73
16	Sodium (Na)	mg/l	218	760	288	165.7	236	256	334
17	Potassium (K)	mg/l	5.387	4.824	3.465	4.39	3.492	3.512	5.085
18	Calcium(as Ca)	mg/l	214	28.1	10.3	55.8	29	17.6	151.8
19	Magnesium (as mg)	mg/l	179	18.9	7.8	29.9	18.1	10.4	94.6
20	Silica	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Sl. No.	Parameters	Units	Location						
			Maska	Desalpar	Nana Bhadiya	Mota-Bhojpur	Navinal	Kandagra	Jalpara
21	Oil & Grease	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22	Phenol(as C <sub>6</sub> H <sub>6</sub> OH)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Fluoride (as F)	mg/l	0.72	0.878	0.829	0.982	0.865	1.128	0.462
24	Total Nitrogen	mg/l	0.931	0.416	0.351	0.361	0.313	0.337	0.428
25	Iron (as Fe)	mg/l	0.786	0.811	0.481	0.418	0.721	0.578	0.758
26	Copper (as Cu)	mg/l	0.039	0.012	0.026	0.023	0.027	BDL	0.027
27	Zinc (as Zn)	mg/l	0.045	0.067	0.028	0.0113	0.012	0.065	0.038
28	Lead (as Pb)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
29	Cadmium (as Cd)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Total Cr	mg/l	0.062	0.073	0.038	0.031	0.019	0.032	0.021
31	Arsenic (as As)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
32	Mercury (as Hg)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
33	Selenium (as Se)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
34	Total Coliforms	Nos. / 100 ml	3	2	2	2	3	2	1

Note: BDL : Below Detectable Limit

### APPENDIX – 7g

#### Ground Water Quality In The Study Area During September 2006

Sl. No.	Parameters	Units	Location						
			Maska	Desalpar	Nana Bhadiya	Mota-Bhojpur	Navinal	Kandagra	Jalpara
1	pH Value		7.3	7.4	7.3	7.5	7.5	7.5	7.3
2	Temperature	°C	24	23	25	24	25	24	25
3	Turbidity	NTU	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4	Dissolved Oxygen	mg/l	2.7	2.4	3	2.9	2.8	3	3.0
5	Suspended Solids	mg/l	< 5	< 5	< 5	< 5	< 5	< 5	< 5
6	Conductivity	mho	5012	2898.1	1463.5	1562	1382.3	2012	2216.4
7	Dissolved Solids	mg/l	2981	1905.5	822.3	822.5	793.1	1104.8	1267.6
8	Total Hardness (as CaCO <sub>3</sub> )	mg/l	1291.8	142	67.6	248.8	131.4	123.8	432.1
9	Alkalinity	mg/l	276	86	234.2	283.1	184.3	348.7	213.4
10	BOD <sub>5</sub> @20 °C	mg/l	11.7	3.8	2.8	4.9	4.3	3.2	8.7
11	COD	mg/l	40.2	15.2	12.2	17.1	14.8	13.4	24.1
12	Nitrate (as NO <sub>3</sub> )	mg/l	0.646	0.158	0.108	0.196	0.165	0.241	0.264
13	Total Phosphorous	mg/l	1.32	1.806	2.14	2.54	2.06	2.01	2.216
14	Chloride (as Cl)	mg/l	1124	527	183.3	342.1	288	411.8	437
15	Sulphate ( as SO <sub>4</sub> )	mg/l	159	74	48	39	31	43.7	82
16	Sodium (Na)	mg/l	1109	1081	419	213.4	307.2	391.6	451
17	Potassium (K)	mg/l	5.671	5.109	3.731	3.208	3.503	3.094	3.784
18	Calcium(as Ca)	mg/l	221	26.43	10.4	48.2	25.1	23.1	84.6
19	Magnesium (as mg)	mg/l	193	16.2	9.2	31.3	15.4	13.3	50.1
20	Silica	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Sl. No.	Parameters	Units	Location						
			Maska	Desalpar	Nana Bhadiya	Mota-Bhojpur	Navinal	Kandagra	Jalpara
21	Oil & Grease	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22	Phenol (as C <sub>6</sub> H <sub>6</sub> OH)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Fluoride (as F)	mg/l	1.181	1.067	1.094	1.087	1.139	1.248	0.873
24	Total Nitrogen	mg/l	0.943	0.393	0.339	0.338	0.311	0.305	0.421
25	Iron (as Fe)	mg/l	1.548	1.183	0.921	0.631	1.163	0.928	0.839
26	Copper (as Cu)	mg/l	0.039	0.01	0.026	0.024	BDL	BDL	BDL
27	Zinc (as Zn)	mg/l	0.045	0.087	0.098	0.0114	BDL	BDL	BDL
28	Lead (as Pb)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
29	Cadmium (as Cd)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Total Cr	mg/l	0.06	0.093	0.036	0.032	0.017	0.023	BDL
31	Arsenic (as As)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
32	Mercury (as Hg)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
33	Selenium (as Se)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
34	Total Coliforms	Nos. / 100 ml	2	2	2	1	3	1	0

Note: BDL : Below Detectable Limit

### APPENDIX – 7h

#### Ground Water Quality In The Study Area During November 2006

Sl. No.	Parameters	Units	Location						
			Maska	Desalpar	Nana Bhadiya	Mota-Bhojpur	Navinal	Kandagra	Jalpara
1	pH Value		7.3	7.5	7.4	7.3	7.5	7.5	7.4
2	Temperature	<sup>o</sup> C	24	23	24	24	23	23	24
3	Turbidity	NTU	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4	Dissolved Oxygen	mg/l	3.1	3.0	3.1	3.0	2.9	3.3	2.9
5	Suspended Solids	mg/l	< 5	< 5	< 5	< 5	< 5	< 5	< 5
6	Conductivity	mho	5498	3751.3	2268	1352.7	1871	2902	1742
7	Dissolved Solids	mg/l	3342	2190.1	1253	836.5	1055	1560	1001.2
8	Total Hardness (as CaCO <sub>3</sub> )	mg/l	1465	118	62.2	272.3	138	142.8	249.1
9	Alkalinity	mg/l	388.9	503	415.8	434	298	695	241
10	BOD <sub>5</sub> @20 <sup>o</sup> C	mg/l	12.0	3.4	3.2	4.8	4.1	3.3	7.0
11	COD	mg/l	42.8	15.9	12.5	17.2	14.4	12.8	25.1
12	Nitrate (as NO <sub>3</sub> )	mg/l	0.554	0.205	0.168	0.177	0.148	0.161	0.227
13	Total Phosphorous	mg/l	3.5	2.0	2.9	2.9	0.32	2.8	2.9
14	Chloride (as Cl)	mg/l	2230	535	281	384	279	468	381
15	Sulphate ( as SO <sub>4</sub> )	mg/l	206	79	55	48	36	65	75
16	Sodium (Na)	mg/l	202	1230	636	281	507	548	296
17	Potassium (K)	mg/l	6.6	3.26	3.5	2.388	3.316	3.083	3.026
18	Calcium(as Ca)	mg/l	245.6	24.8	9.4	48.2	28.4	29.3	63.9
19	Magnesium (as mg)	mg/l	209.5	13.6	9.4	36.9	16.3	16.9	21.7
20	Silica	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Sl. No.	Parameters	Units	Location						
			Maska	Desalpar	Nana Bhadiya	Mota-Bhojpur	Navinal	Kandagra	Jalpara
21	Oil & Grease	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22	Phenol(as C <sub>6</sub> H <sub>6</sub> OH)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Fluoride (as F)	mg/l	0.614	0.532	1.438	1.263	1.436	1.487	1.089
24	Total Nitrogen	mg/l	1.106	0.409	0.338	0.348	0.295	0.32	0.453
25	Iron (as Fe)	mg/l	2.450	1.390	1.410	0.916	1.35	1.38	0.861
26	Copper (as Cu)	mg/l	0.025	0.015	0.021	0.036	BDL	BDL	0.019
27	Zinc (as Zn)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
28	Lead (as Pb)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
29	Cadmium (as Cd)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Total Cr	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
31	Arsenic (as As)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
32	Mercury (as Hg)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
33	Selenium (as Se)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
34	Total Coliforms	Nos. / 100 ml	3	2	3	3	3	2	2

Note: BDL : Below Detectable Limit



### APPENDIX – 7i

#### Ground Water Quality In The Study Area During December 2006

Sl. No.	Parameters	Units	Location						
			Maska	Desalpar	Nana Bhadiya	Mota-Bhojpur	Navinal	Kandagra	Jalpara
1	pH Value		7.4	7.4	7.3	7.2	7.4	7.3	7.5
2	Temperature	°C	25	24	25	25	24	25	25
3	Turbidity	NTU	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4	Dissolved Oxygen	mg/l	2.9	2.8	2.9	2.8	2.8	3.2	3.0
5	Suspended Solids	mg/l	< 5	< 5	< 5	< 5	< 5	< 5	< 5
6	Conductivity	mho	4715	2538	1208	1860	1830	2840	1900
7	Dissolved Solids	mg/l	3012	1680	744	1045	1038	1520	1100
8	Total Hardness (as CaCO <sub>3</sub> )	mg/l	1489	135	70.3	286.4	142	153	243.4
9	Alkalinity	mg/l	396	492	408.6	449	286	682	256
10	BOD <sub>5</sub> @20 °C	mg/l	12.3	3.5	3.1	4.7	4.3	3.2	6.9
11	COD	mg/l	43.1	16.2	12.3	17.4	14.8	13.4	24.6
12	Nitrate (as NO <sub>3</sub> )	mg/l	0.523	0.375	0.174	0.183	0.156	0.21	0.303
13	Total Phosphorous	mg/l	3.3	1.9	3.3	3.2	3.4	3.0	3.4
14	Chloride (as Cl)	mg/l	1869	542	276.8	379.8	286	456	390
15	Sulphate ( as SO <sub>4</sub> )	mg/l	193	88	61	39	33	53	81
16	Sodium (Na)	mg/l	1022	1242	650	260	492	536	380
17	Potassium (K)	mg/l	322	4.35	3.6	2.354	3.46	2.993	3.162
18	Calcium(as Ca)	mg/l	261	25.4	13.8	49.8	29.3	28.6	62.4
19	Magnesium (as mg)	mg/l	203.3	17.3	8.7	39.3	16.7	19.8	21.2
20	Silica	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Sl. No.	Parameters	Units	Location						
			Maska	Desalpar	Nana Bhadiya	Mota-Bhojpur	Navinal	Kandagra	Jalpara
21	Oil &Grease	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22	Phenol(as C <sub>6</sub> H <sub>6</sub> OH)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Fluoride (as F)	mg/l	0.816	0.816	0.426	1.236	1.243	1.216	1.023
24	Total Nitrogen	mg/l	0.998	0.446	0.361	0.321	0.286	0.301	0.433
25	Iron (as Fe)	mg/l	0.624	0.168	1.315	0.863	0.328	0.452	0.448
26	Copper (as Cu)	mg/l	0.032	0.015	0.018	0.029	BDL	BDL	0.022
27	Zinc (as Zn)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
28	Lead (as Pb)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
29	Cadmium (as Cd)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Total Cr	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
31	Arsenic (as As)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
32	Mercury (as Hg)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
33	Selenium (as Se)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
34	Total Coliforms	Nos. / 100 ml	2	3	2	3	2	3	2

Note: BDL : Below Detectable Limit

### APPENDIX – 7j

#### Ground Water Quality In The Study Area During January 2007

Sl. No.	Parameters	Units	Location						
			Maska	Desalpar	Nana Bhadiya	Mota-Bhojpur	Navinal	Kandagra	Jalpara
1	pH Value		7.3	7.5	7.4	7.5	7.5	7.4	7.4
2	Temperature	°C	24	25	25	25	25	26	26
3	Turbidity	NTU	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4	Dissolved Oxygen	mg/l	3.0	2.9	3.1	2.9	2.8	3.0	2.9
5	Suspended Solids	mg/l	< 5	< 5	< 5	< 5	< 5	< 5	< 5
6	Conductivity	mho	5238	2438	1109	1990	1857	2890	1960
7	Dissolved Solids	mg/l	2896	1498	634	1080	1050	1560	1130
8	Total Hardness (as CaCO <sub>3</sub> )	mg/l	1503	129	74.9	264.6	156	139	236.8
9	Alkalinity	mg/l	410	485	419	455	299	698	269
10	BOD <sub>5</sub> @20 °C	mg/l	12.5	3.6	3.0	4.5	4.4	3.3	6.9
11	COD	mg/l	43.9	16.7	12.6	17.3	14.9	13.3	24.4
12	Nitrate (as NO <sub>3</sub> )	mg/l	0.499	0.389	0.183	0.174	0.168	0.236	0.321
13	Total Phosphorous	mg/l	3.1	2.3	3.4	3.5	3.7	3.2	3.5
14	Chloride (as Cl)	mg/l	1108	538	284.6	393	269	469	410
15	Sulphate ( as SO <sub>4</sub> )	mg/l	388	95	56	42	30	54	86
16	Sodium (Na)	mg/l	1953	1219	673	275	510	553	375
17	Potassium (K)	mg/l	6.0	4.62	3.75	2.361	3.49	2.893	3.011
18	Calcium(as Ca)	mg/l	268	25.8	14.3	47.4	30.3	28.9	66.8
19	Magnesium (as mg)	mg/l	202.5	15.6	9.5	35.8	19.5	16.2	17.0
20	Silica	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Sl. No.	Parameters	Units	Location						
			Maska	Desalpar	Nana Bhadiya	Mota-Bhojpur	Navinal	Kandagra	Jalpara
21	Oil & Grease	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22	Phenol(as C <sub>6</sub> H <sub>6</sub> OH)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Fluoride (as F)	mg/l	1.069	0.968	1.413	1.246	1.193	1.285	1.039
24	Total Nitrogen	mg/l	1.101	0.430	0.339	0.341	0.299	0.33	0.456
25	Iron (as Fe)	mg/l	0.724	0.162	0.348	0.426	0.373	0.421	0.326
26	Copper (as Cu)	mg/l	0.031	0.025	0.024	0.024	BDL	BDL	BDL
27	Zinc (as Zn)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
28	Lead (as Pb)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
29	Cadmium (as Cd)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Total Cr	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
31	Arsenic (as As)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
32	Mercury (as Hg)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
33	Selenium (as Se)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
34	Total Coliforms	Nos. / 100 ml	2	2	3	3	2	3	2

Note: BDL : Below Detectable Limit

### APPENDIX – 7k

#### Ground Water Quality In The Study Area During February 2007

Sl. No.	Parameters	Units	Location						
			Maska	Desalpar	Nana Bhadiya	Mota-Bhojpur	Navinal	Kandagra	Jalpara
1	pH Value		7.5	7.4	7.5	7.4	7.6	7.5	7.5
2	Temperature	°C	26	26	25	25	25	25	26
3	Turbidity	NTU	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4	Dissolved Oxygen	mg/l	2.7	2.3	2.8	2.4	2.6	2.8	2.6
5	Suspended Solids	mg/l	< 5	< 5	< 5	< 5	< 5	< 5	< 5
6	Conductivity	mho	4574	2234	1032	1730	2065	2610	2110
7	Dissolved Solids	mg/l	3016	1348	651	990	1160	1430	1220
8	Total Hardness (as CaCO <sub>3</sub> )	mg/l	1566	99.9	61.4	254.9	149.8	146.8	249
9	Alkalinity	mg/l	440.2	494.5	480	437	343.3	533.2	296
10	BOD <sub>5</sub> @20 °C	mg/l	12.8	3.8	3.8	4.8	4.8	4.1	7.0
11	COD	mg/l	44.4	16.9	13.7	17.6	16.3	15.6	24.8
12	Nitrate (as NO <sub>3</sub> )	mg/l	0.398	0.22	0.23	0.28	0.213	0.3	0.278
13	Total Phosphorous	mg/l	2.6	2.2	3.2	3.2	3.1	3.1	3.3
14	Chloride (as Cl)	mg/l	1139	23.5	242.6	355.4	281.5	430	440
15	Sulphate ( as SO <sub>4</sub> )	mg/l	193	70	50	40	35	45	99
16	Sodium (Na)	mg/l	258	350	650	340	580	580	390
17	Potassium (K)	mg/l	10.5	5.9	3.377	5.9	3.296	3.5	4.5
18	Calcium(as Ca)	mg/l	274	21.4	10.8	42.8	28.4	29.5	65.3
19	Magnesium (as mg)	mg/l	214.1	11.3	8.3	35.9	19.1	17.2	20.8
20	Silica	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Sl. No.	Parameters	Units	Location						
			Maska	Desalpar	Nana Bhadiya	Mota-Bhojpur	Navinal	Kandagra	Jalpara
21	Oil & Grease	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22	Phenol (as C <sub>6</sub> H <sub>6</sub> OH)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
23	Fluoride (as F)	mg/l	0.97	0.88	1.5	1.183	1.33	1.266	0.886
24	Total Nitrogen	mg/l	1.121	0.392	0.29	0.37	0.27	0.39	0.369
25	Iron (as Fe)	mg/l	2.366	1.325	0.523	0.578	0.416	0.324	0.526
26	Copper (as Cu)	mg/l	0.025	0.032	0.032	0.023	0.030	BDL	0.025
27	Zinc (as Zn)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
28	Lead (as Pb)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
29	Cadmium (as Cd)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
30	Total Cr	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
31	Arsenic (as As)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
32	Mercury (as Hg)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
33	Selenium (as Se)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL
34	Total Coliforms	Nos. / 100 ml	3	3	2	2	2	2	3

Note: BDL : Below Detectable Limit