Appendix A Concentrations and major physicochemical properties of specific water samples

sample			EC(μs/cm)	pH	DO(mg/L)	Temp.(℃)	HCO_3^-	Cl^-	NO_3^-	SO_4^{2-}	K^+	Na^+	Ca^{2+}	Mg^{2+}	TDS(mg/L)	NICB
										meq/L						
ponds	rainy season (n=3)	p-1	721	7.13	3.62	18.4	4.76	0.99	0.25	0.35	0.35	0.43	4.55	0.25	461	0.07
		p-2	598	7.20	3.84	18.9	5.84	0.07	0.04	0.40	0.03	0.25	3.21	1.62	470	**0.11**
		p-3	12.1	5.46	7.44	14.6	0.10	0.01	0.00	0.01	0.00	0.00	0.07	0.05	9.28	0.04
	dry season (n=3)	p-1	527	6.94	3.22	25	4.00	0.92	1.04	0.38	0.35	0.76	4.74	0.21	437	0.05
		p-2	303	8.23	1.84	31	3.10	0.10	0.02	0.44	0.04	0.48	1.98	1.17	262	0.00
		p-3	12	7.36	5.76	23.8	0.50	0.03	0.01	0.22	0.01	0.02	0.05	0.01	34.2	**8.61**
rivers	rainy season (n=9)	r-1	—	—	—	—	—	0.16	0.05	0.74	0.03	0.16	6.35	1.18	—	—
		r-2	—	—	—	—	0.70	0.07	0.12	0.69	0.03	0.08	4.67	0.70	183	**0.71**
		r-3	—	—	—	—	—	0.08	0.05	0.10	0.04	0.20	0.98	0.21	—	—
		r-4	258	7.81	5.47	26.8	3.00	0.15	0.12	0.17	0.09	0.17	2.57	0.53	262	0.02
		r-5	—	—	—	—	—	0.05	0.13	0.18	0.02	0.03	4.55	0.37	—	—

		r-6	229	8.12	6.47	32.1	2.10	0.16	0.15	0.37	0.07	0.09	2.61	0.37	213	**0.11**
		r-7	203	6.70	2.50	28.1	1.20	0.27	0.54	0.39	0.10	0.33	1.30	0.17	141	**0.27**
		r-8	35.7	8.3	7.13	29.1	0.35	0.04	0.04	0.48	0.04	0.05	2.14	1.03	104	**0.72**
		r-9	339	7.80	6.70	31.5	3.00	0.11	0.08	1.21	0.01	0.08	4.54	0.52	344	**0.15**
		h-1	492	7.37	5.71	13.5	4.17	0.27	0.07	0.37	0.06	0.18	4.24	0.58	381	0.02
		h-2	527	7.43	5.32	20.4	3.14	0.56	0.22	0.42	0.03	0.19	3.36	1.21	320	0.05
		h-3	520	6.32	3.54	21.4	2.80	0.93	0.09	0.78	0.27	0.44	3.36	0.51	336	**0.26**
		h-4	363	6.69	4.58	22.2	3.39	0.12	0.05	0.51	0.07	0.08	2.89	0.59	305	0.06
hand pump wells	dry season (n=13)	h-5	618	7.19	3.24	15.8	5.20	0.43	0.02	0.82	0.26	0.13	5.30	0.89	503	0.01
		h-6	408	7.26	4.85	21.8	3.44	0.13	0.09	0.14	0.01	0.02	3.35	0.28	293	0.02
		h-7	502	6.61	5.49	20.5	2.70	0.64	0.09	1.16	0.15	0.29	4.07	0.28	341	0.02
		h-8	675	6.86	4.81	19	3.49	1.05	0.20	1.21	0.37	0.49	4.40	0.24	425	0.04
		h-9	422	7.18	3.83	21.6	2.95	0.19	0.13	0.59	0.09	0.07	3.58	0.30	296	0.02

		h-10	421	6.74	4.63	21.3	3.09	0.22	0.05	0.61	0.12	0.10	3.65	0.34	311	0.03
		h-11	167	6.63	6.16	19.7	0.88	0.19	0.07	0.18	0.48	0.10	0.71	0.10	106	0.02
		h-12	202	5.81	3.73	22.3	0.59	0.62	0.05	0.40	0.06	0.39	0.67	0.24	105	0.10
		h-13	507	6.61	4.05	22	2.55	0.54	0.00	0.87	0.24	0.49	3.62	0.22	313	0.07
		d-1	942	6.97	3.11	16.2	5.35	1.82	0.30	1.21	0.37	0.91	6.05	1.02	620	0.02
		d-2	376	7.49	7.48	18.6	3.49	0.06	0.04	0.17	0.03	0.00	3.50	0.30	298	0.01
		d-3	381	7.56	—	—	3.63	0.16	0.01	0.32	0.00	0.10	3.21	0.40	315	0.05
		d-4	128	5.70	4.78	20.5	0.44	0.23	0.07	0.16	0.04	0.14	0.73	0.16	64	0.08
dug wells	dry season (n=11)	d-5	168	6.22	5.62	22.8	1.03	0.35	0.01	0.17	0.03	0.14	1.22	0.09	114	0.03
		d-6	596	7.30	6.93	22.5	4.57	0.35	0.12	0.68	0.04	0.16	3.35	1.37	413	0.07
		d-7	444	6.48	6.55	19.6	1.67	1.13	0.20	0.42	0.34	0.63	2.38	0.32	242	0.03
		d-8	72.9	6.15	6.96	21.2	0.44	0.05	0.02	0.08	0.09	0.06	0.39	0.07	46	0.01
		d-9	108	6.56	6.61	19.2	0.64	0.07	0.00	0.15	0.13	0.07	0.62	0.09	68	0.03

		d-10	338	6.49	3.06	20.9	1.72	0.73	0.11	0.72	0.22	0.45	2.50	0.26	238	0.02
		d-11	432	6.21	3.71	19.8	0.79	1.07	0.22	1.00	0.87	0.63	1.48	0.32	217	0.03
		b-1	237	7.26	2.8	26.2	3.20	0.06	0.02	0.01	0.37	0.32	0.92	1.27	253	**0.14**
		b-2	1735	7.25	2.14	25.8	2.95	0.23	n.a.	41.96	0.10	1.72	16.95	5.68	2653	**0.85**
		b-3	126	6.08	1.71	22.6	1.60	0.03	0.03	0.04	0.03	0.12	1.09	0.41	131	0.03
		b-4	473	6.89	1.87	27.1	7.20	0.07	0.04	0.29	0.05	0.14	1.75	0.24	499	**2.50**
		b-5	391	7.52	2.02	25.4	4.90	0.04	0.04	0.09	0.03	0.09	0.65	0.15	323	**4.50**
boreholes	rainy season (n=19)	b-6	206	8.41	1.17	24.7	1.50	0.48	n.a.	0.42	0.05	0.41	1.24	0.84	175	0.07
		b-7	32	7.36	1.61	24.1	4.00	0.11	n.a.	0.14	0.05	0.20	3.37	0.34	333	0.05
		b-8	287	7.77	1.13	30	4.10	0.11	0.12	0.08	0.02	0.12	3.25	1.29	342	0.06
		b-9	310	7.91	1.38	24.2	3.10	0.47	n.a.	0.02	0.12	0.39	1.39	1.43	265	0.08
		b-10	201	6.77	2.1	25.6	1.50	0.35	0.22	0.26	0.04	0.37	1.74	0.12	162	0.03
		b-11	449	7.52	6.51	25.1	5.60	0.10	0.02	0.37	0.06	3.51	1.39	0.77	482	0.06

b-12	523	7.14	1.71	24	6.40	0.06	0.03	0.49	0.04	0.56	2.04	2.18	497	**0.45**
b-13	420	7.50	2.18	23.4	4.00	0.07	0.02	0.54	0.02	0.05	4.32	1.39	377	**0.20**
b-14	377	7.33	1.32	29.7	4.40	0.24	0.05	0.76	0.60	0.19	2.44	0.42	395	**0.50**
b-15	167	6.55	2.92	26.8	1.10	0.26	0.28	0.76	0.14	0.34	1.81	0.23	165	0.05
b-16	228	8.07	2.14	23.6	2.40	0.04	0.08	0.16	0.02	0.03	0.30	0.08	164	**5.22**
b-17	286	7.52	4.26	25.20	3.20	0.12	0.17	0.16	0.05	0.07	3.63	0.29	287	0.10
b-18	297	7.71	1.81	25.80	3.15	0.10	0.07	0.47	0.03	0.05	3.92	0.38	304	0.13
b-19	409	6.76	1.46	25.6	4.30	0.24	n.a.	0.6	0.13	0.30	4.4	0.73	409	0.07
b-1	274	7.62	1.71	14.2	2.85	0.04	0.01	0.01	0.26	0.15	1.16	1.30	229	0.01
b-2	1494	7.60	2.35	22.4	4.12	0.62	0.00	15.78	0.08	0.70	8.80	6.03	1301	**0.14**
b-3	220	6.40	2.57	18.6	1.57	0.02	0.00	0.56	0.05	0.18	1.07	0.55	158	0.08
b-4	599	7.13	3.55	17.8	10.61	0.11	0.00	0.56	0.02	0.01	2.00	1.07	733	**0.57**
b-5	306	7.44	2.26	18.9	3.61	0.05	0.00	0.07	0.06	0.01	2.33	0.64	283	0.10

dry season (n=13)

b-6	232	8.22	3.04	20.9	1.08	0.41	0.00	0.52	0.08	0.21	0.86	0.91	142	0.01
b-7	272	7.51	2.28	21	2.70	0.06	0.00	0.01	0.04	0.06	2.14	0.26	217	0.05
b-8	392	7.71	3.80	19.6	3.93	0.09	0.00	0.11	0.01	0.02	1.41	1.21	292	**0.22**
b-9	312	7.66	2.19	21.1	2.21	0.40	0.00	0.41	0.12	0.16	1.29	1.30	219	0.03
b-10	577	7.12	2.75	20.2	4.96	0.42	0.00	0.52	0.08	0.09	4.20	0.68	441	0.08
b-11	973	6.75	3.37	21.6	2.06	0.65	0.21	7.05	0.20	0.18	5.20	1.93	628	**0.14**
b-12	201	6.61	3.67	20.1	1.28	0.29	0.04	0.20	0.03	0.11	1.53	0.11	134	0.01
b-13	294	8.49	2.98	21.6	1.18	1.69	0.00	0.01	0.07	0.90	0.75	0.24	174	0.09

"—" missing data; "n.a.": below the limit detection; "bold ": ion balance error higher than 10%.

Appendix B Description of wells in the study area

Sample ID		Well depth (m)	Lithology	Groundwater type
Hand-pump well	H-1	<8	Unconsolidated sediments	pore water
	H-2	<8	Unconsolidated sediments	pore water

	H-3	<8	Unconsolidated sediments	pore water
	H-4	<8	Unconsolidated sediments	pore water
	H-5	<8	Unconsolidated sediments	pore water
	H-6	<8	Unconsolidated sediments	pore water
	H-7	<8	Unconsolidated sediments	pore water
	H-8	<8	Unconsolidated sediments	pore water
	H-9	<8	Unconsolidated sediments	pore water
	H-10	<8	Unconsolidated sediments	pore water
	H-11	4	Unconsolidated sediments	pore water
	H-12	<8	Unconsolidated sediments	pore water
	H-13	4	Unconsolidated sediments	pore water
	D-1	4.9	Unconsolidated sediments	pore water
	D-2	<8	Unconsolidated sediments	pore water
	D-3	<8	Unconsolidated sediments	pore water
	D-4	<8	Unconsolidated sediments	pore water
	D-5	<8	Unconsolidated sediments	pore water
Dug well	D-6	6.18	Unconsolidated sediments	pore water
	D-7	5	Unconsolidated sediments	pore water
	D-8	<8	Unconsolidated sediments	pore water
	D-9	3.5	Unconsolidated sediments	pore water
	D-10	<8	Unconsolidated sediments	pore water
	D-11	4.6	Unconsolidated sediments	pore water
	B-1	99.3	Sandstone+dolomitic limestone	fissure water
Borehole	B-2	99.8	Silty mudstone	fissure water
	B-3	110.8	Silty mudstone	fissure water
	B-4	73.8	Limestone +argillaceous limestone	karst water

B-5	81.4	Limestone +argillaceous limestone	karst water
B-6	100.9	Argillaceous siltstoue	fissure water
B-7	50.2	Limestone	karst water
B-8	63.97	Limestone	karst water
B-9	81.09	Dolomite	fissure water
B-10	81	Sandstone	fissure water
B-11	76.2	Dolomitic limestone	karst water
B-12	88.8	Limestone	karst water
B-13	72.4	Limestone	karst water