

**ORIGINAL RESEARCH ARTICLE**

## Water quality assessment and health risk evaluation in Kushtia Municipality, Bangladesh: A comparative analysis of untreated water, treated water, and public water points

**Supplementary Files**

**Table S1. Public water points in Kushtia Municipality, Bangladesh (translated from original document)**

Serial no.	Reference no.	Ward no.	Latitude	Longitude	Relative location	Status
1	23	19	23.89241389	89.11125556	Jhenaidah Road	Operational
2	19	5	23.8899	89.13191389	Mujibur Rahman Road	Operational
3	20	5	23.89408333	89.12395278	Mujibur Rahman Road	Operational
4	17	7	23.89799167	89.13157778	Dr. Ainuddin Ahmed Road	Operational
5	25	6	23.89172222	89.13156111	Housing C Block	Operational
6	18	6	23.88988333	89.13318056	Housing C Expansion	Operational
7	37	12	23.88847778	89.14708056	Dhaka Road, Lahini Battola	Operational
8	21	12	23.88836667	89.14647778	Nur Uddin Ahmed Road	Operational
9	22	11	23.89791667	89.14444722	Mohini Mahan Chakraborty Road	Operational
10	16	10	23.88456944	89.14238889	Rajab Ali Khan Road	Operational
11	14	10	23.90301111	89.14349444	Kabi Azizur Rahman Road	Operational
12	46	10	23.90213333	89.14551389	Kabi Azizur Rahman Road	Operational
13	47	10	23.90149444	89.14687222	Kabi Azizur Rahman Road	Operational
14	40	12	23.89911944	89.14616389	Mohini Mahan Chakraborty Road	Operational
15	45	10	23.89643889	89.14917222	Mil Line Quarter	Non-operational
16	36	10	23.89749444	89.15039167	Lalon Shah Road	Operational
17	52	10	23.90185	89.14795556	Char Milpara, Balur Ghat	Operational
18	39	10	23.90222222	89.14205833	Bihari Colony	Operational
19	53	10	23.90243611	89.14217778	Bihari Colony	Operational
20	43	9	23.90342222	89.1422	Abdul Aziz Road	Operational
21	29	10	23.90460833	89.14161389	Boro Bazar Baroyari Tola Road	Operational
22	27	8	23.90390556	89.14221944	Sifatullah Biswas Road	Operational
23	31	3	23.90686111	89.13744444	Bonku Bihari Road	Operational
24	54	1	23.90688611	89.13649167	In front of Paurashava	Operational

*(Cont'd...)*

**Table S1. (Continued)**

Serial no.	Reference no.	Ward no.	Latitude	Longitude	Relative location	Status
25	33	3	23.90622222	89.13568333	NS Road	Operational
26	32	3	23.90536389	89.13476667	NS Road	Operational
27	9	3	23.90641944	89.13521944	NS Road	Operational
28	4	1	23.91010278	89.12253056	Chaudhari Kaushar Uddin Road	Operational
29	11	3	23.91113333	89.12273333	Bonku Bihari Road	Operational
30	6	1	23.91191944	89.12248611	Chad Mohammad Road	Operational
31	55	1	23.91240833	89.12231667	Dr. Aminul Islam's Chamber	Operational
32	5	1	23.90989444	89.12366111	NS Road	Operational
33	10	3	23.90888889	89.12717778	NS Road	Operational
34	24	16	23.905225	89.106725	A.K Mukherjee Road	Operational
35	2	1	23.91180833	89.11431389	Dadapur Road	Operational
36	1	1	23.91054167	89.11617778	Dadapur Road	Operational
37	56	10	23.90745	89.12141389	Hanif Counter, Mozompur	Operational
38	13	10	23.90863611	89.12184167	Mozompur Railgate	Operational
39	7	2	23.901	89.125	Hospital Mor	Operational
40	3	1	-	-	Chaudhari Kaushar Uddin Road	Non-operational
41	8	3	-	-	Lutfar Munshi Road	Non-operational
42	12	10	-	-	Dr. Qudrat-i-Khuda Road	Non-operational
43	15	9	-	-	Bardakhanta Shah Road	Non-operational
44	26	9	-	-	Bardakhanta Shah Road	Non-operational
45	28	8	-	-	Ananda Mohan Bagci Road	Non-operational
46	30	10	-	-	Shirish Chandra Banerjee Road	Non-operational
47	34	3	-	-	Lutfar Munshi Road	Non-operational
48	35	10	-	-	Dr. Qudrat-i-Khuda Road	Non-operational
49	38	12	-	-	Lokai Mistri Road	Non-operational
50	41	10	-	-	Mahashoshan Road	Non-operational
51	42	10	-	-	Dr. Qudrat-i-Khuda Road	Non-operational
52	44	10	-	-	Rabindra Sarani Road	Non-operational
53	48	9	-	-	Debi Pharashad Chakravarti Road	Non-operational
54	49	9	-	-	Rajab Ali Khan Road	Non-operational
55	50	9	-	-	Chandramouli Syannal Street	Non-operational
56	51	9	-	-	Chandra Charan Road	Non-operational

**Table S2. Selected water quality parameters, standard, and ideal values**

Parameters	Standard value (Sn)	1/Sn	$k=1/(\sum 1/Sn)$	Wi=k/Sn	Ideal value (Vid)
Alkalinity	200	0.0050	0.037608123	0.000188	0
Hardness	100	0.0100	0.037608123	0.000376	0
Chloride	600	0.0017	0.037608123	0.000063	0
DO	6	0.1667	0.037608123	0.006268	14.6
BOD <sub>5</sub>	0.2	5.0000	0.037608123	0.188041	0
COD	4	0.2500	0.037608123	0.009402	0
Fe	1	1.0000	0.037608123	0.037608	0
As	0.05	20.0000	0.037608123	0.752162	0
TDS	1000	0.0010	0.037608123	0.000038	0
EC	700	0.0014	0.037608123	0.000054	0
pH	8.5	0.1176	0.037608123	0.004424	7
Temperature	30	0.0333	0.037608123	0.001254	0
ORP	700	0.0014	0.037608123	0.000054	0

Abbreviations: As: Arsenic; BOD<sub>5</sub>: Biochemical oxygen demand; COD: Chemical oxygen demand; DO: Dissolved oxygen; EC: Electrical conductivity; Fe: Iron; ORP: Oxidation-reduction potential; TDS: Total dissolved solids.