An Overview of Metal(oid) Pollution, Sources, and Probabilistic Health Risk Evaluations Based on a Monte Carlo Simulation of Surface River Water in a Developing Country

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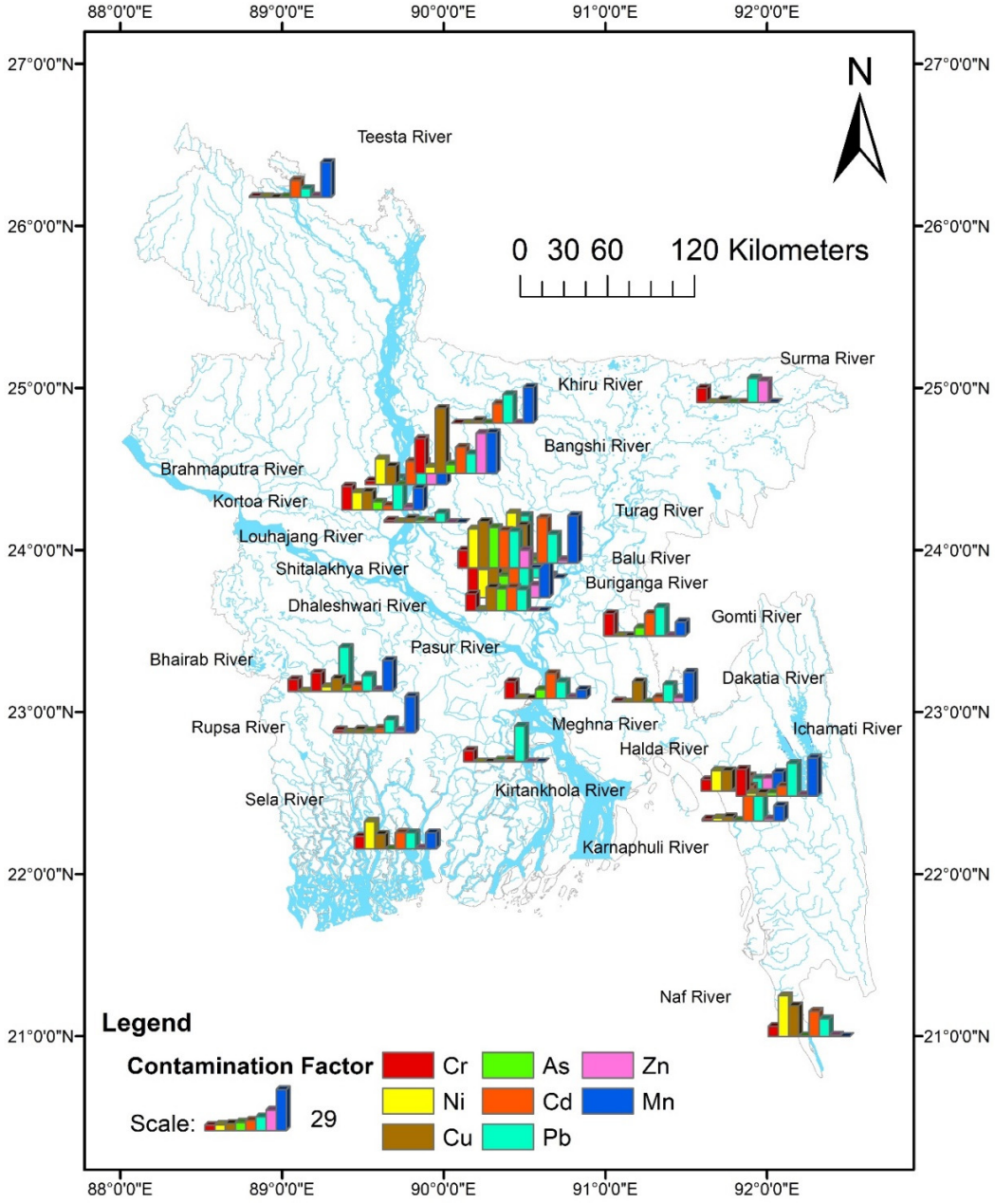
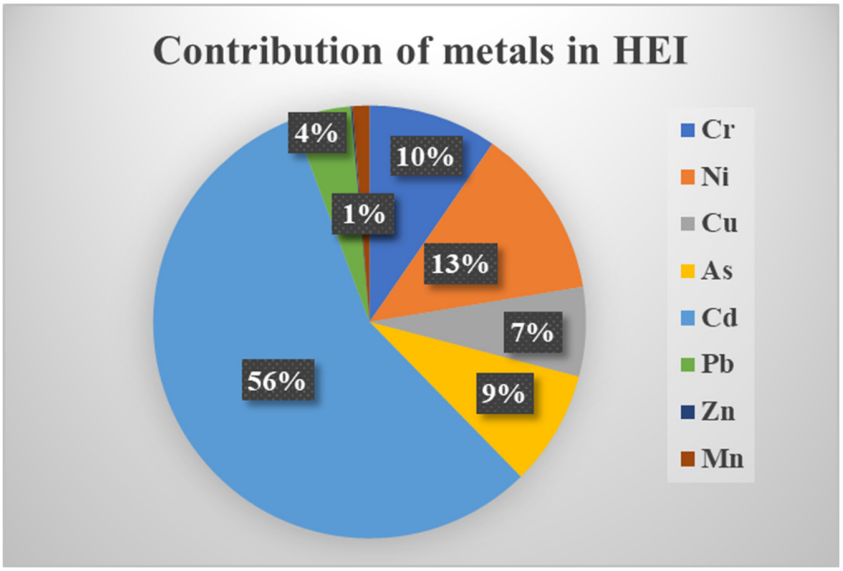


Fig. S1. Contamination factor of metal(loid)s in surface water in the major rivers in Bangladesh.



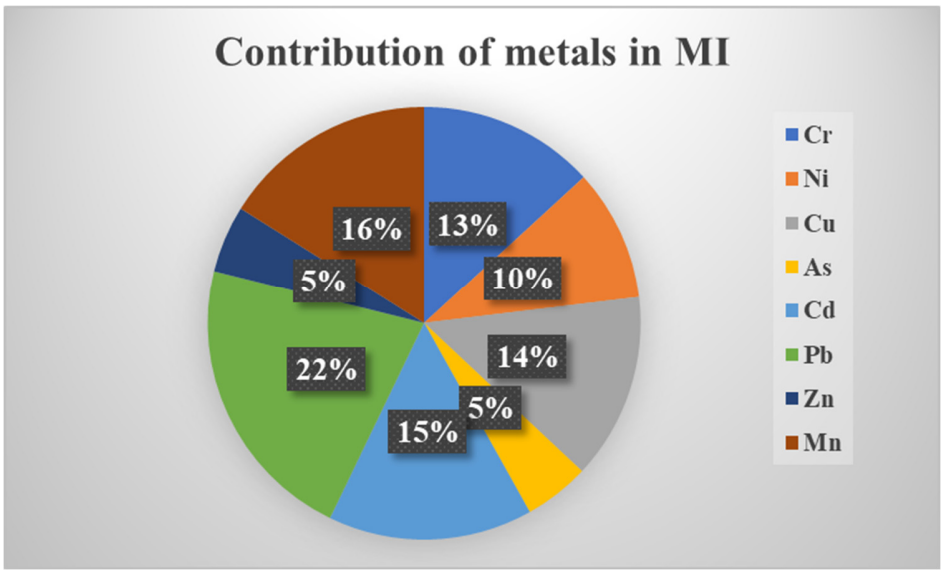


Fig. S2. Contribution of metal(oid)s in HEI and MI in water contamination.

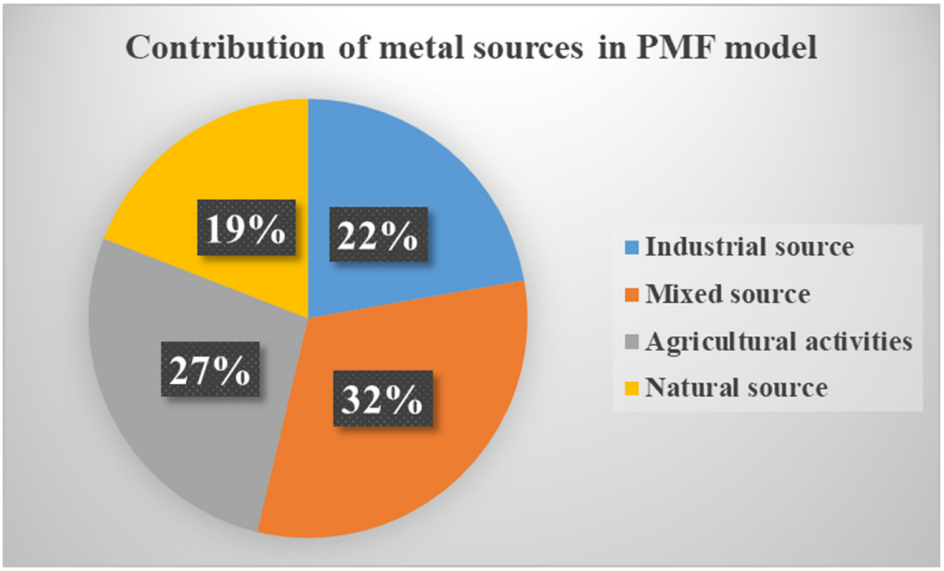


Fig. S3. Contribution of metal(oid)s source identified by PMF model in surface water in Bangladeshi rivers.

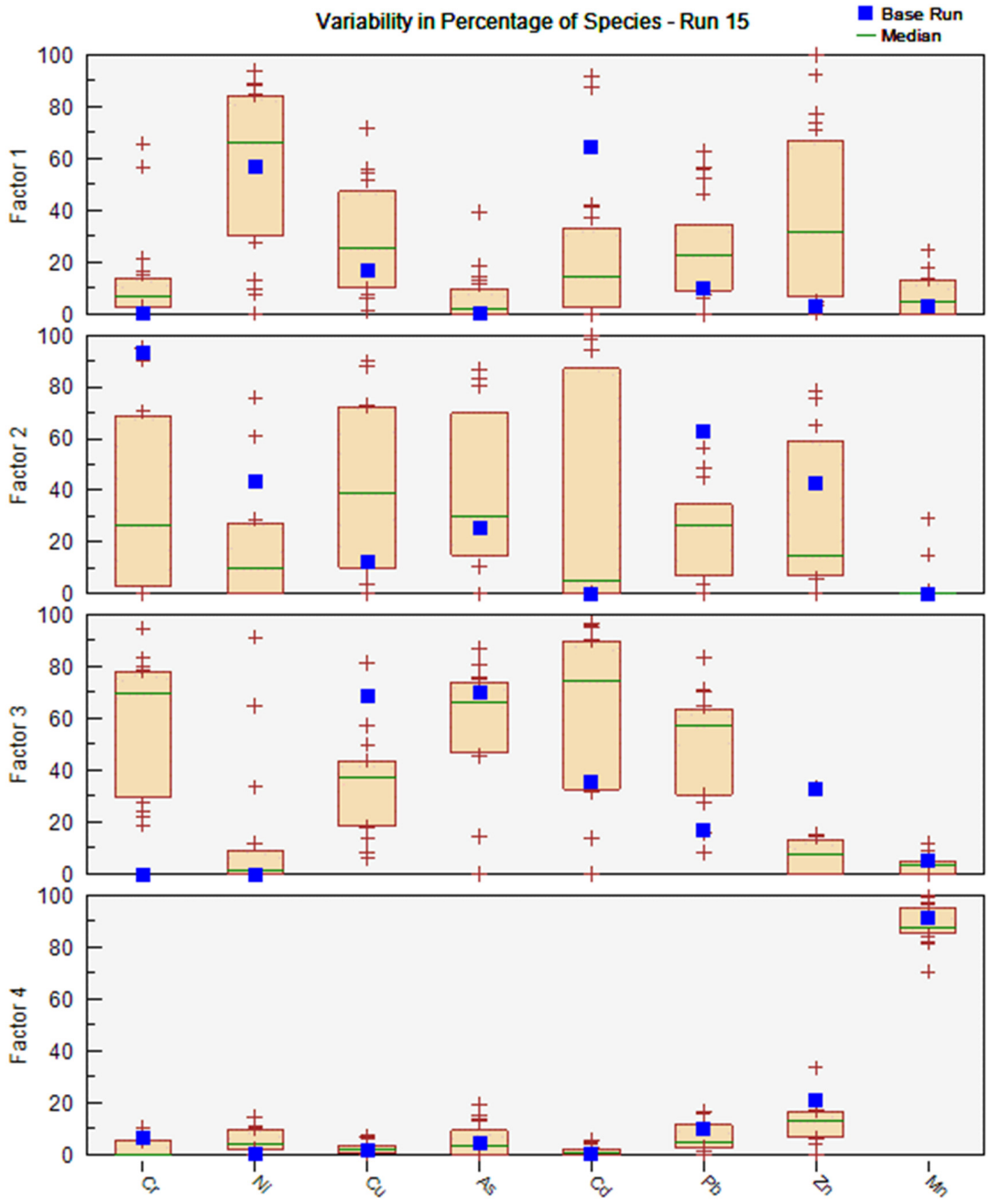
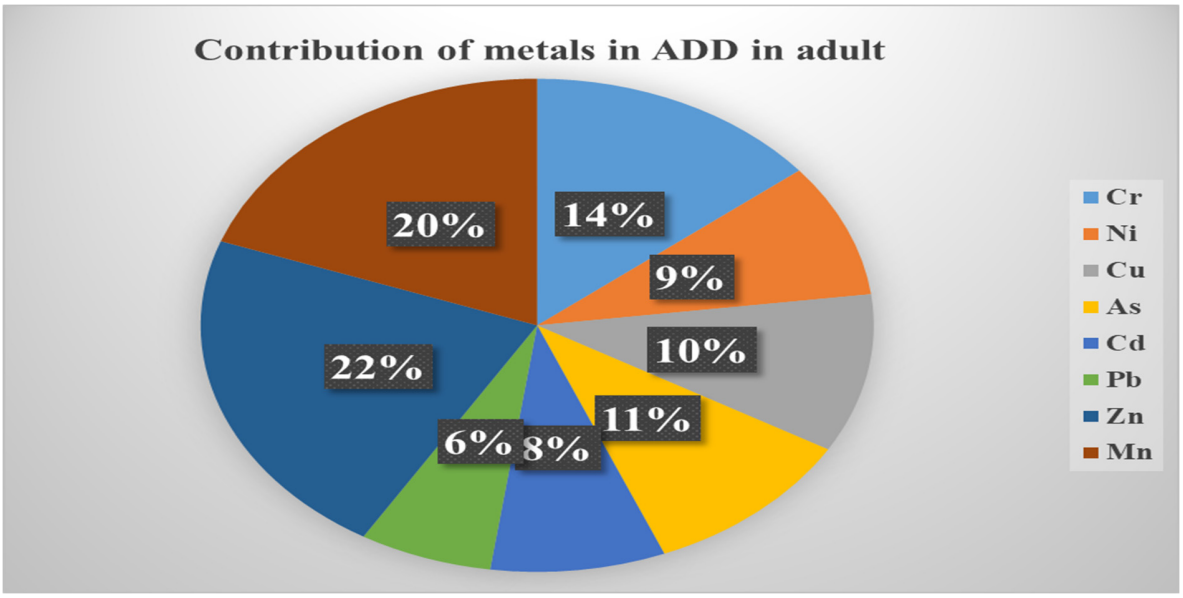


Fig. S4. Box plots showing the contributions of three factors originated from PMF model to the studied metal(oid)s in the surface water based on Bootstrap (BS) analysis. The box indicates the inter-quartile range (25th-75th percentile), and the values outside of this range are represented as crosses. The median is shown as the horizontal green line, and the factor contributions obtained in the base run are displayed as filled blue square for comparison.



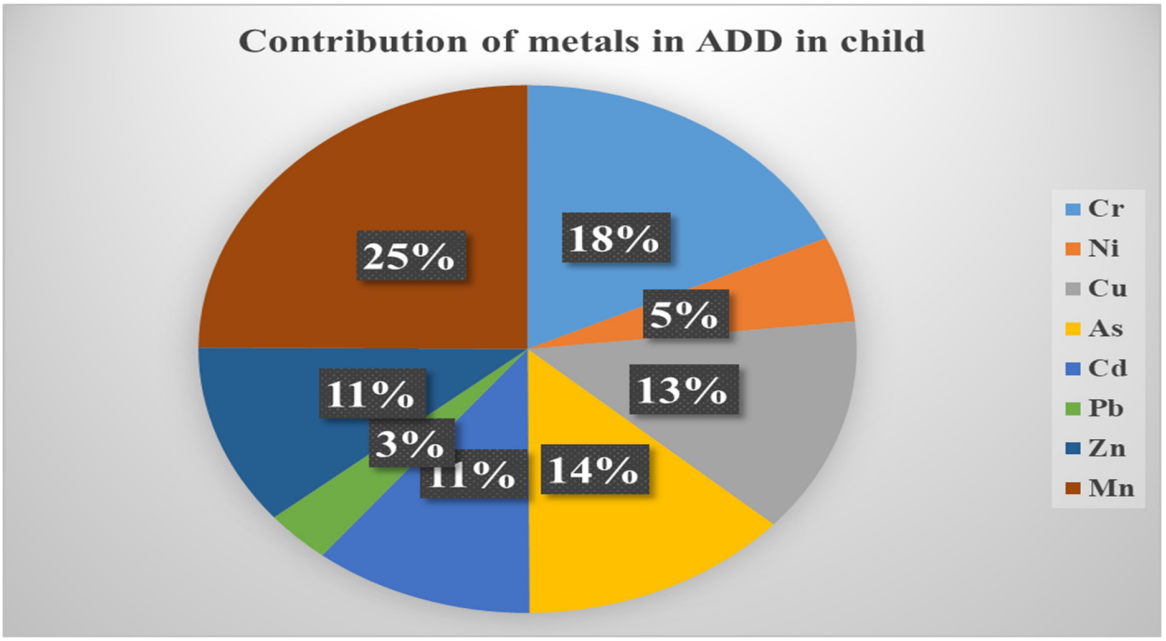
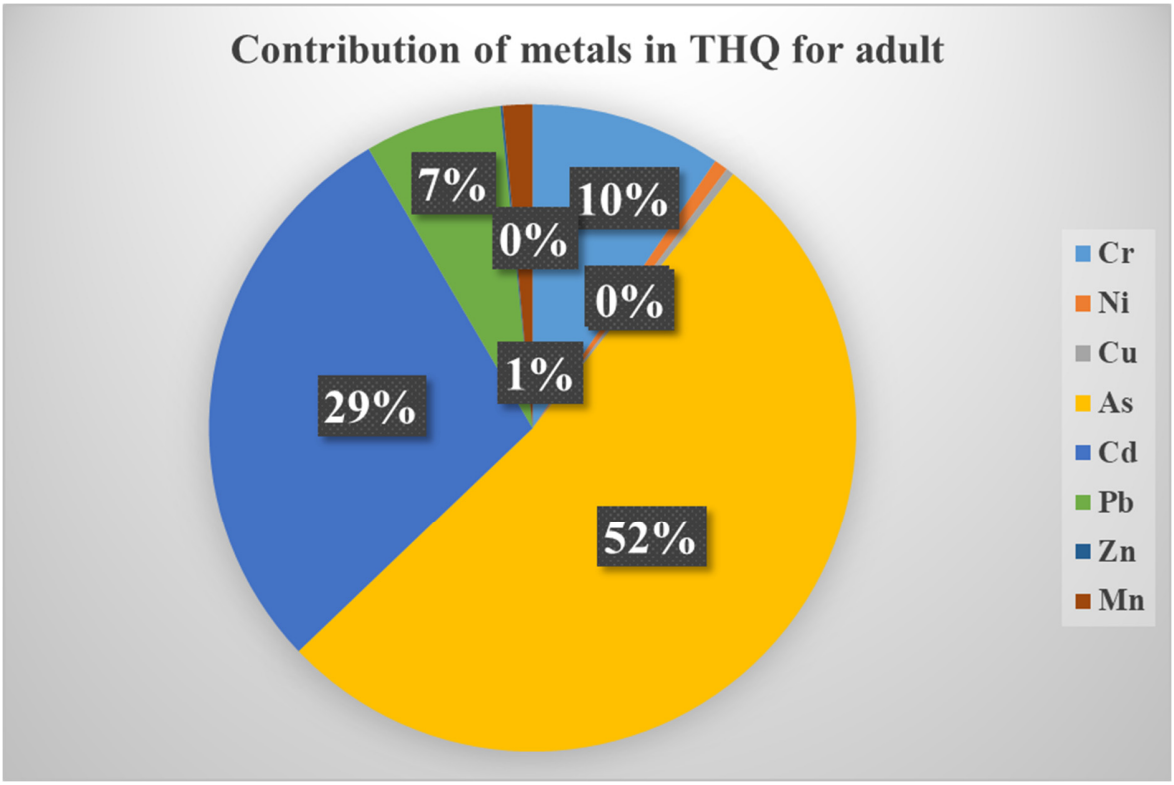


Fig. S5. Metal(oid)s contribution in ADD due to ingestion and dermal contact of water in adult and children.



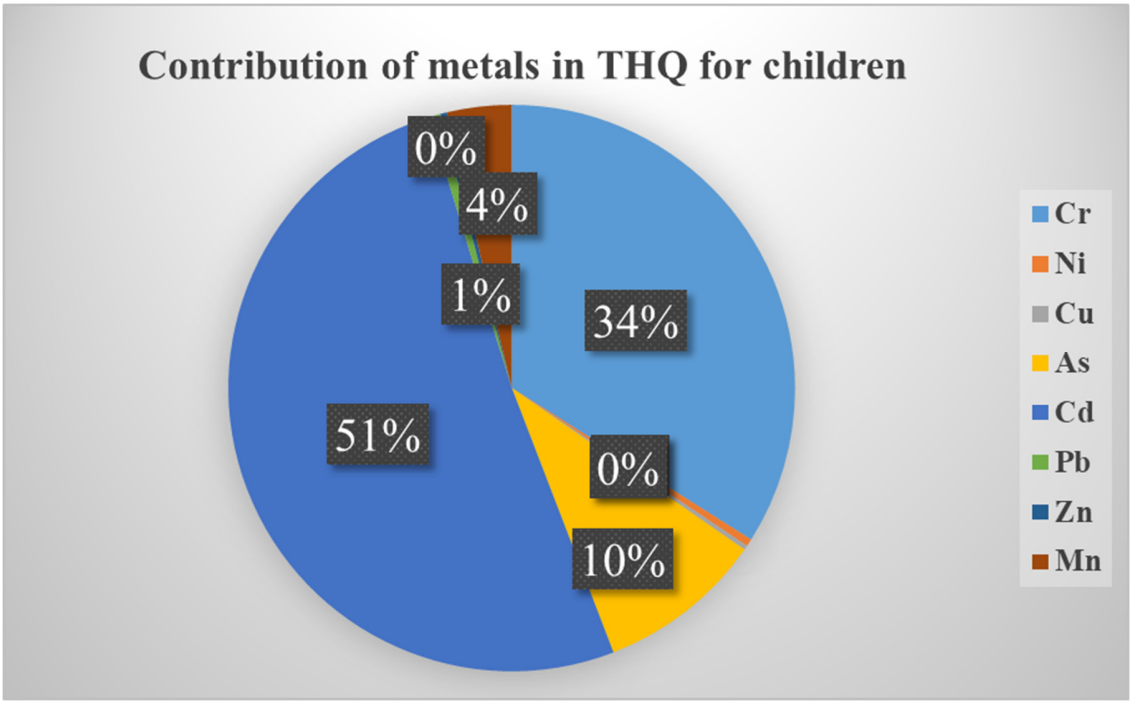


Fig. S6. Metal(oid)s contribution in THQ due to ingestion and dermal contact of water in adult and children.

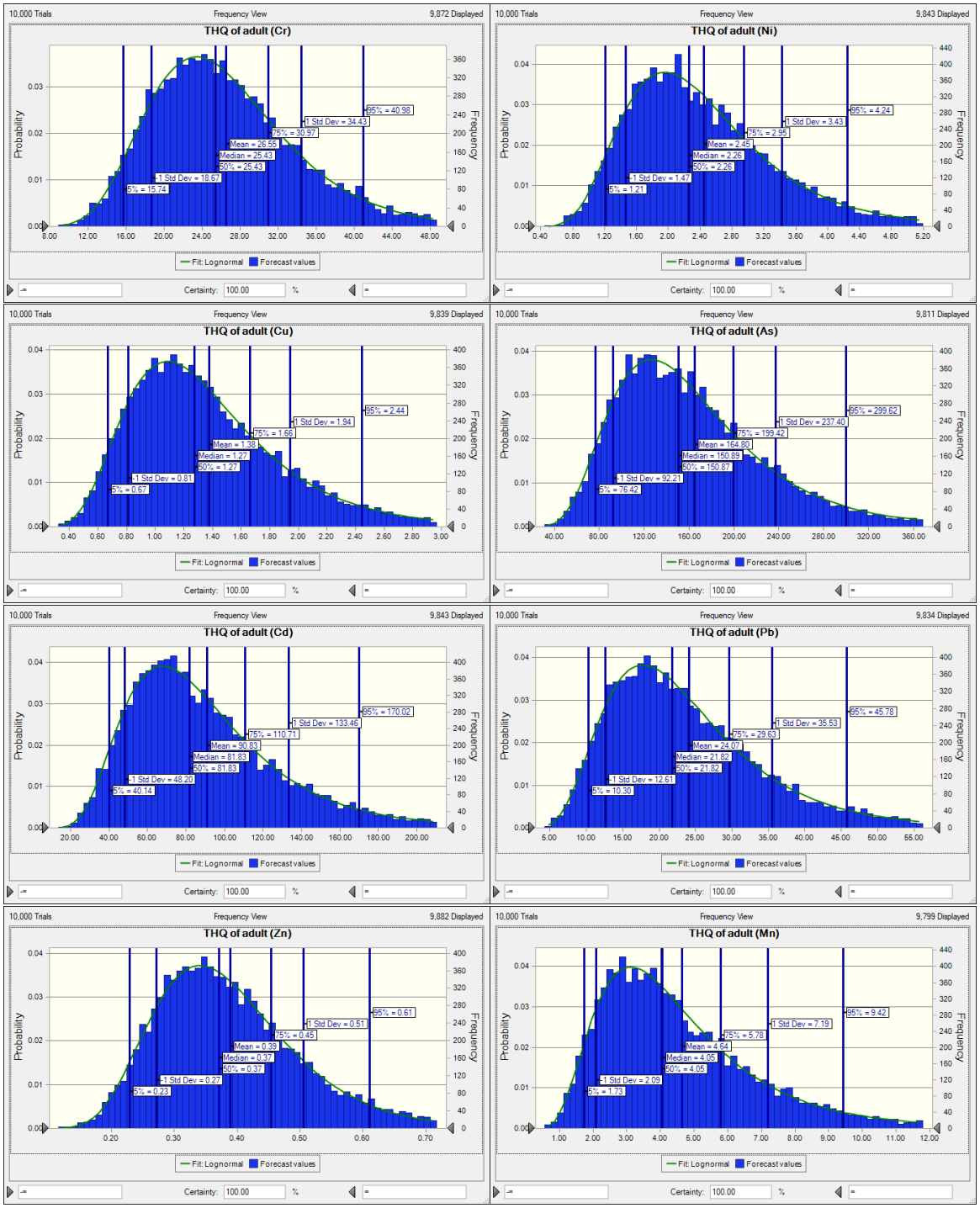


Fig. S7. Probability distribution of noncarcinogenic risks of metal(oid)s contamination in water for adult.

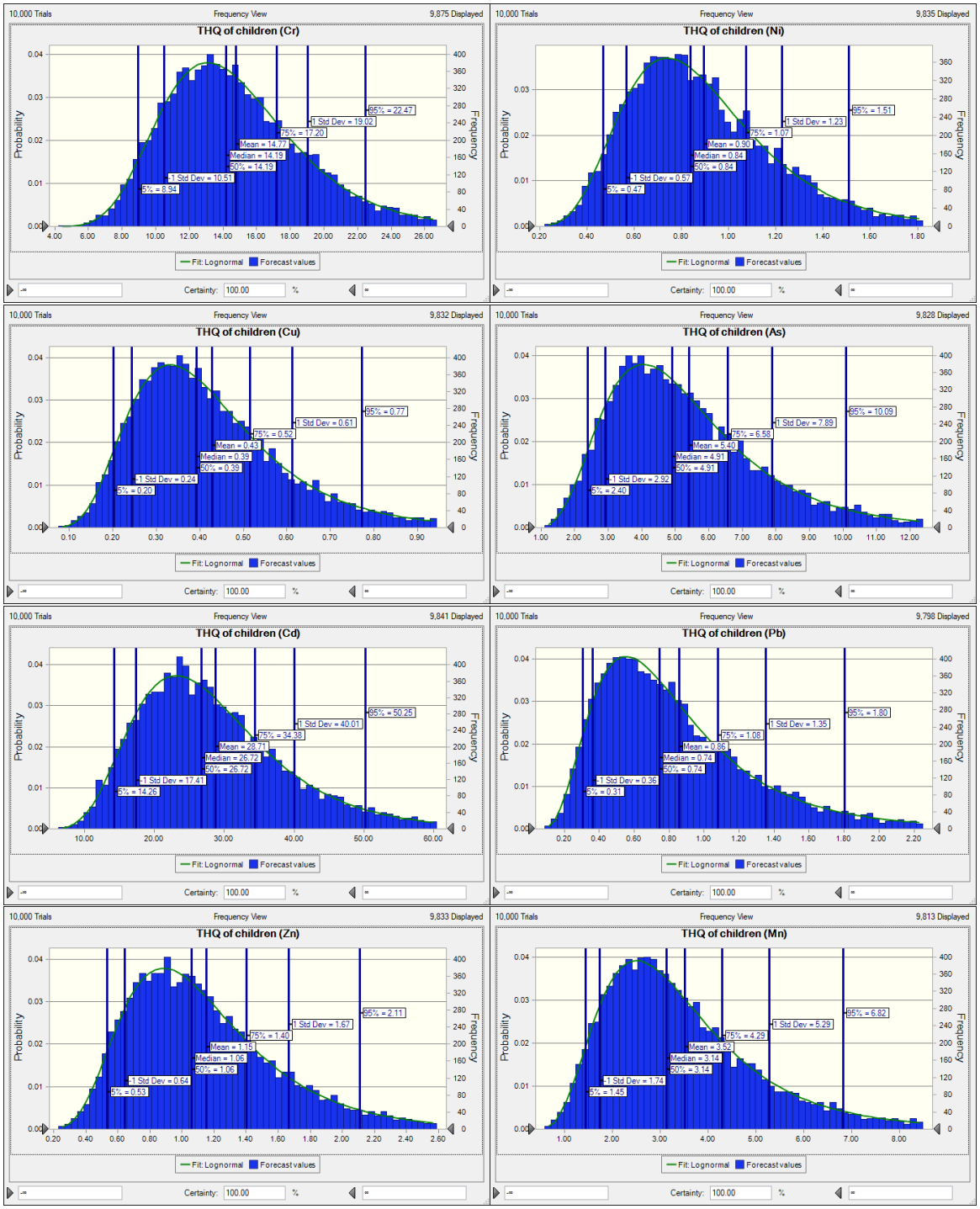
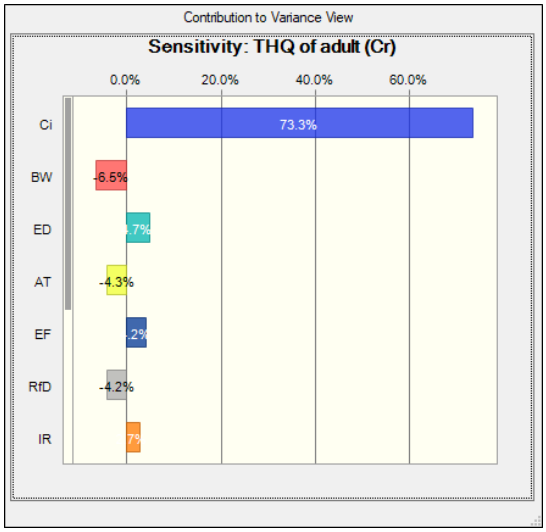
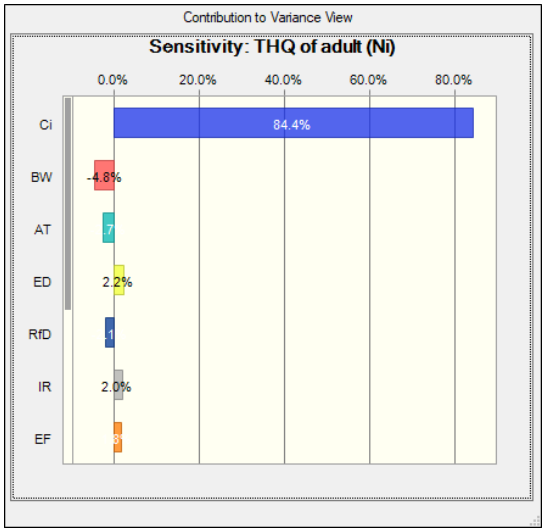
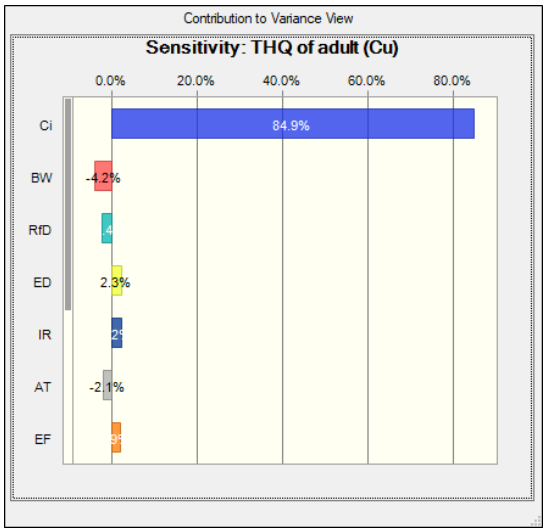
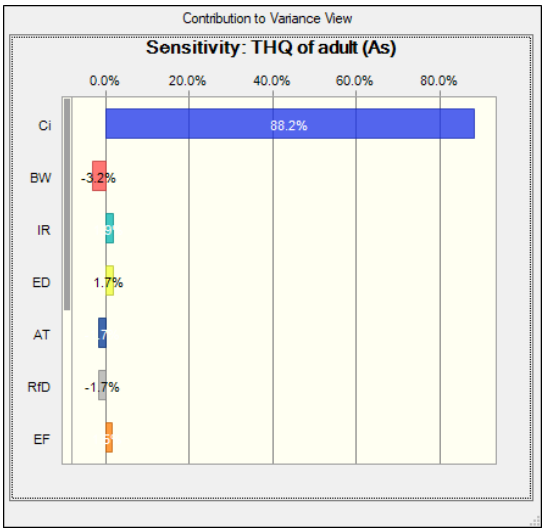


Fig. S8. Probability distribution of noncarcinogenic risks of metal(oid)s contamination in water for children.


Contribution to Variance View
Sensitivity: THQ of adult (Cr)
0.0%
20.0%
40.0%
60.0%
Ci
BW
ED
AT
EF
RfD
IR
73.3%
-6.5%
-4.3%
-4.2%


Contribution to Variance View
Sensitivity: THQ of adult (Ni)
0.0%
20.0%
40.0%
60.0%
80.0%
Ci
BW
AT
ED
RfD
IR
EF
84.4%
-4.8%
2.2%
2.0%


Contribution to Variance View
Sensitivity: THQ of adult (Cu)
0.0%
20.0%
40.0%
60.0%
80.0%
Ci
BW
RfD
ED
IR
AT
EF
84.9%
-4.2%
2.3%
-2.1%


Contribution to Variance View
Sensitivity: THQ of adult (As)
0.0%
20.0%
40.0%
60.0%
80.0%
Ci
BW
IR
ED
AT
RfD
EF
88.2%
-3.2%
1.7%
-1.7%

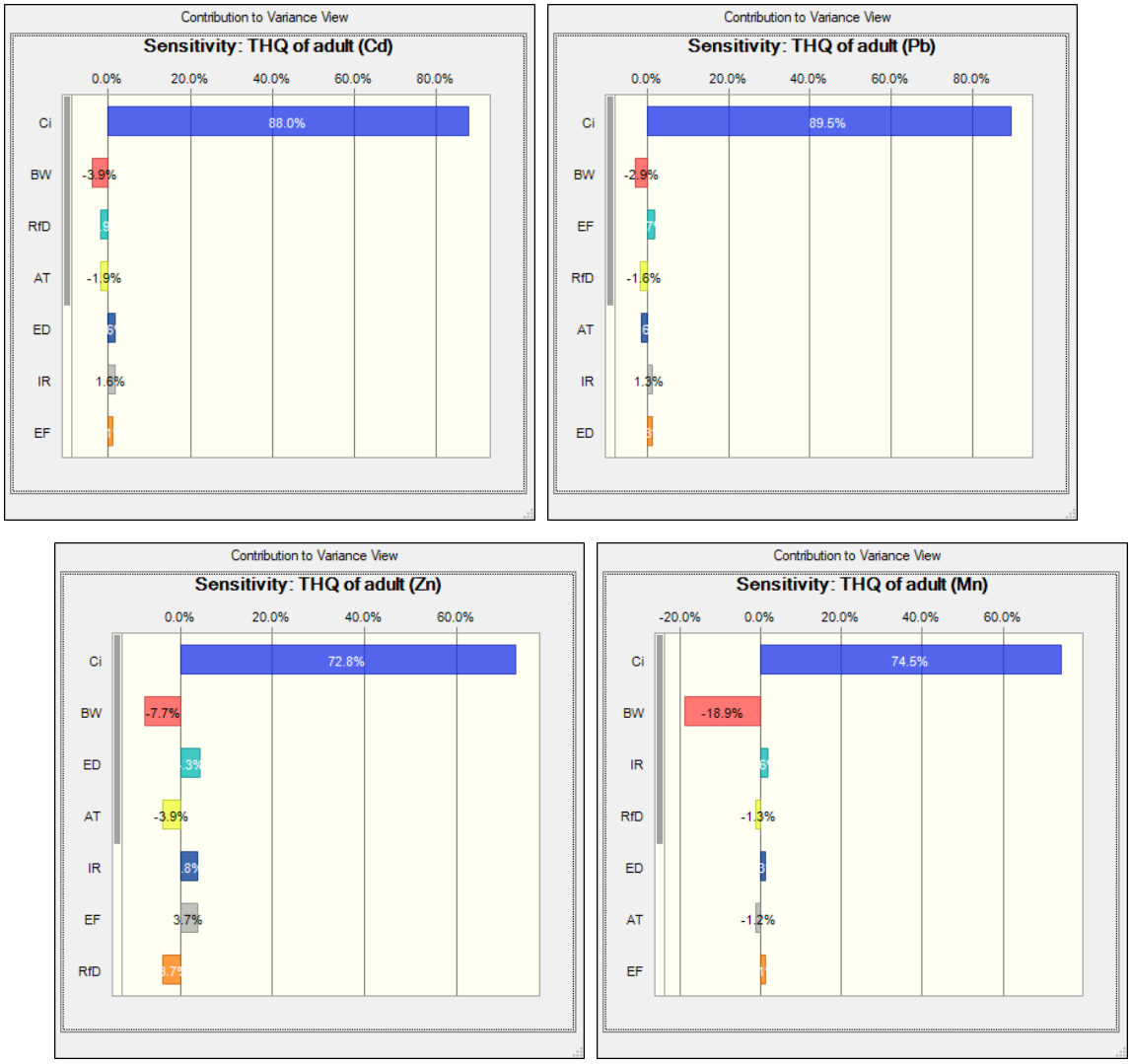
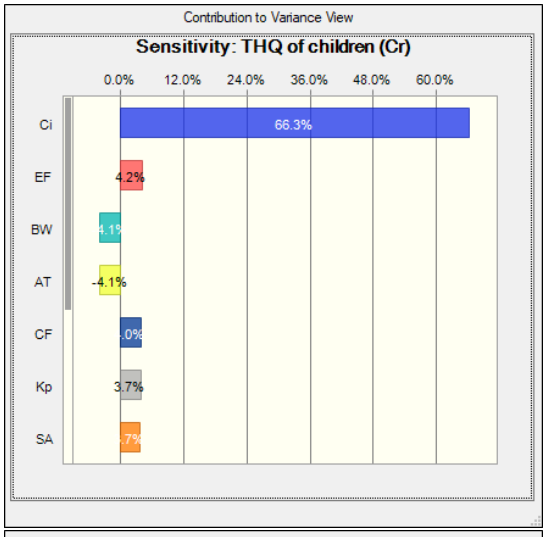
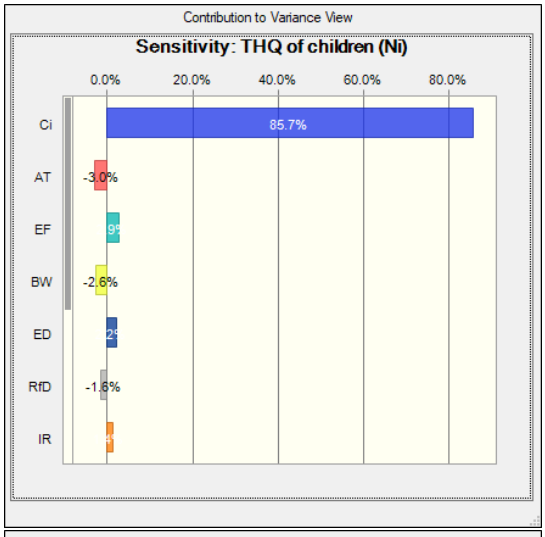
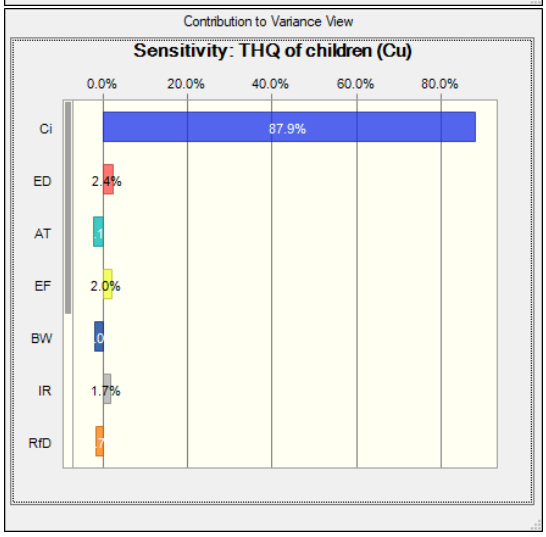
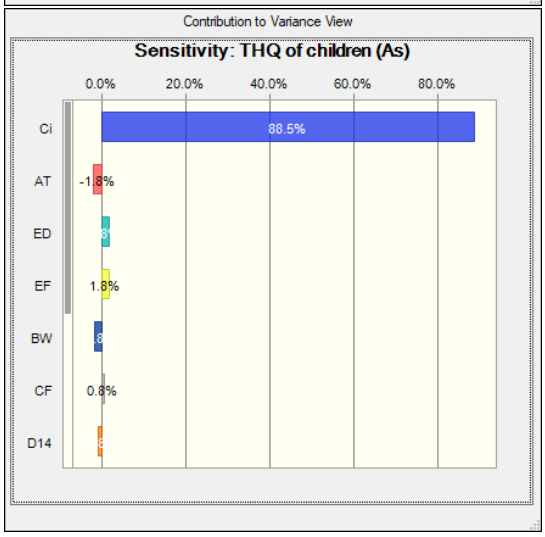


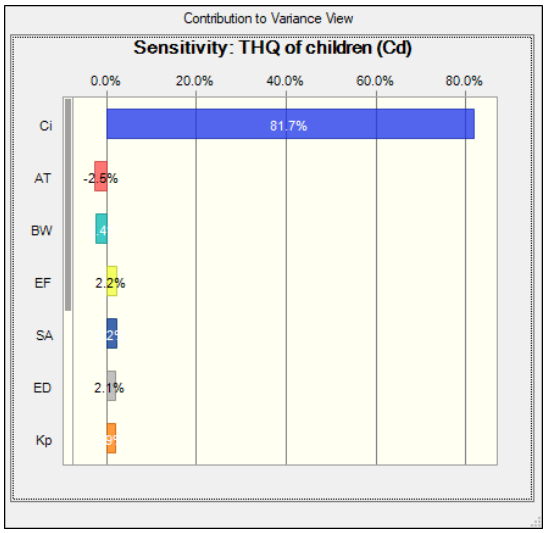
Fig. S9. Sensitivity analysis of noncarcinogenic risks (THQ) of metal(oid)s contamination in water for adult.

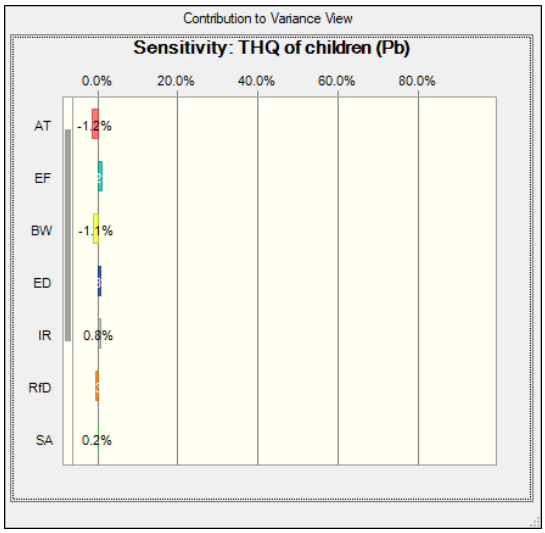

Contribution to Variance View
Sensitivity: THQ of children (Cr)
0.0% 12.0% 24.0% 36.0% 48.0% 60.0%
Ci
EF
BW
AT
CF
Kp
SA
66.3%
4.2%
-4.1%
3.7%


Contribution to Variance View
Sensitivity: THQ of children (Ni)
0.0% 20.0% 40.0% 60.0% 80.0%
Ci
AT
EF
BW
ED
RfD
IR
85.7%
-3.0%
-2.6%
-1.6%


Contribution to Variance View
Sensitivity: THQ of children (Cu)
0.0% 20.0% 40.0% 60.0% 80.0%
Ci
ED
AT
EF
BW
IR
RfD
87.9%
2.4%
2.0%
1.7%


Contribution to Variance View
Sensitivity: THQ of children (As)
0.0% 20.0% 40.0% 60.0% 80.0%
Ci
AT
ED
EF
BW
CF
D14
88.5%
-1.8%
1.8%
0.8%


Contribution to Variance View
Sensitivity: THQ of children (Cd)
0.0% 20.0% 40.0% 60.0% 80.0%
Ci
AT
BW
EF
SA
ED
Kp
81.7%
2.2%
2.1%


Contribution to Variance View
Sensitivity: THQ of children (Pb)
0.0% 20.0% 40.0% 60.0% 80.0%
AT
EF
BW
ED
IR
RfD
SA
-1.2%
-1.1%
0.8%
0.2%

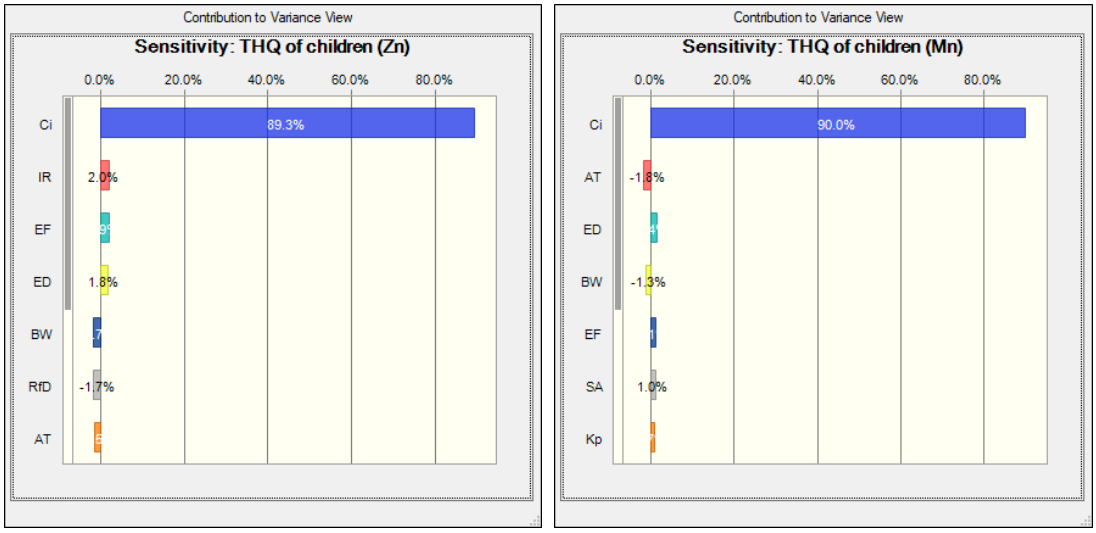


Fig. S10. Sensitivity analysis of noncarcinogenic risks (THQ) of metal(oid)s contamination in water for children.

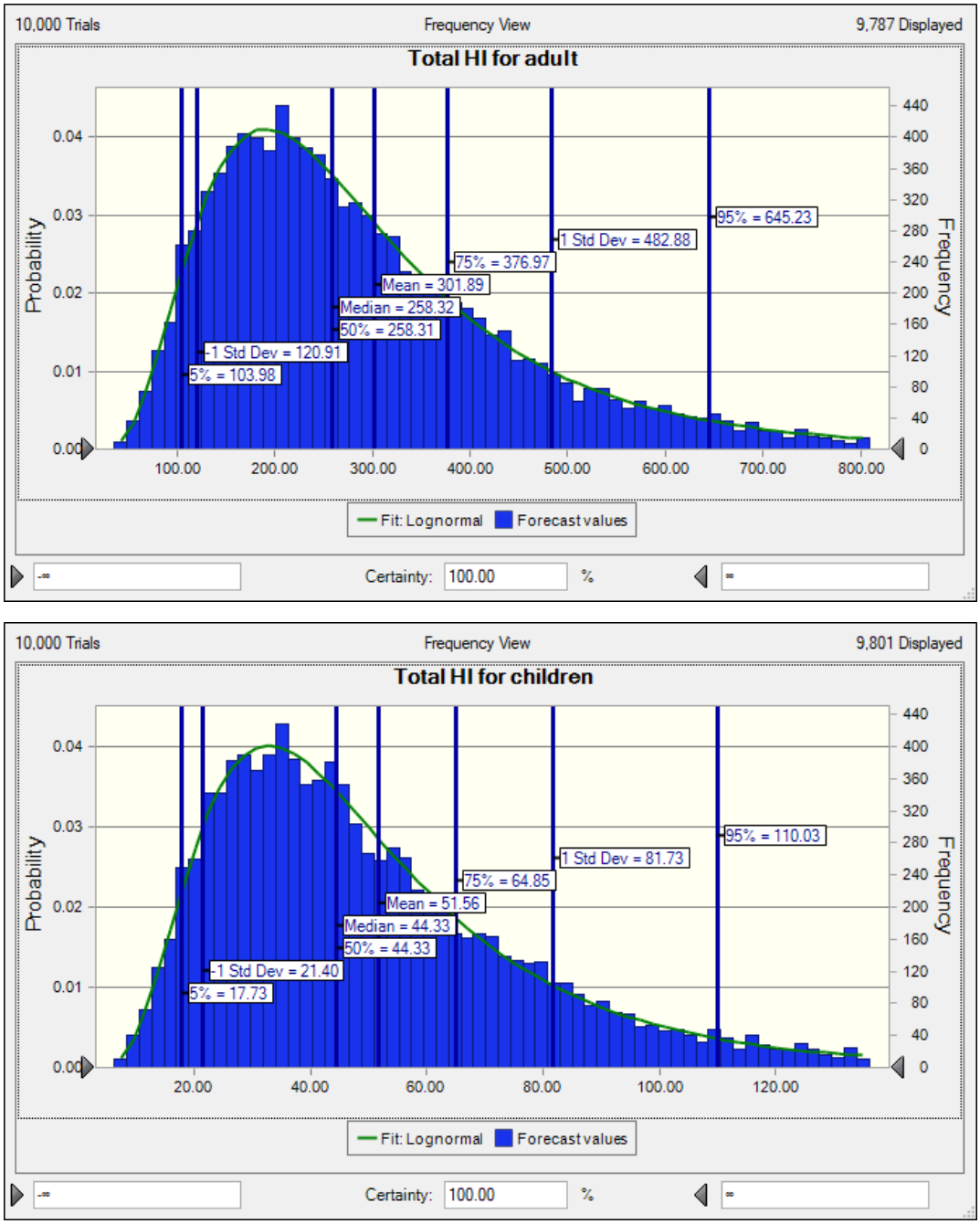
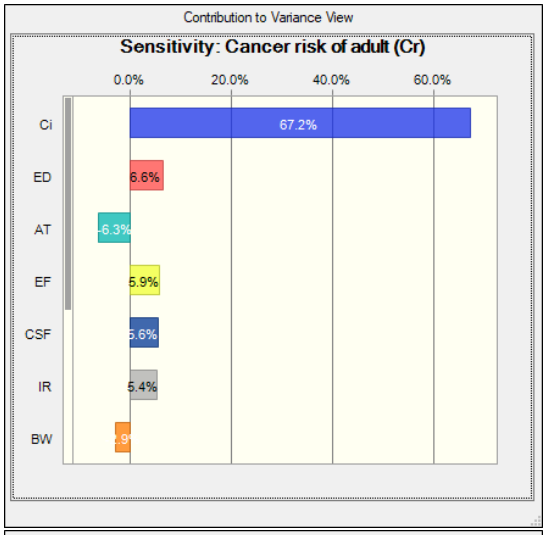
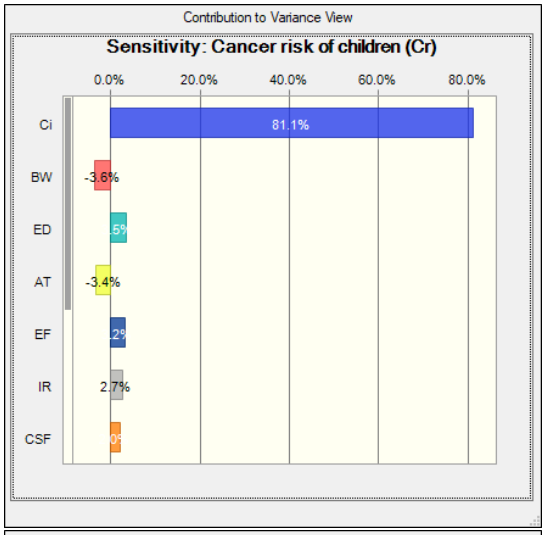
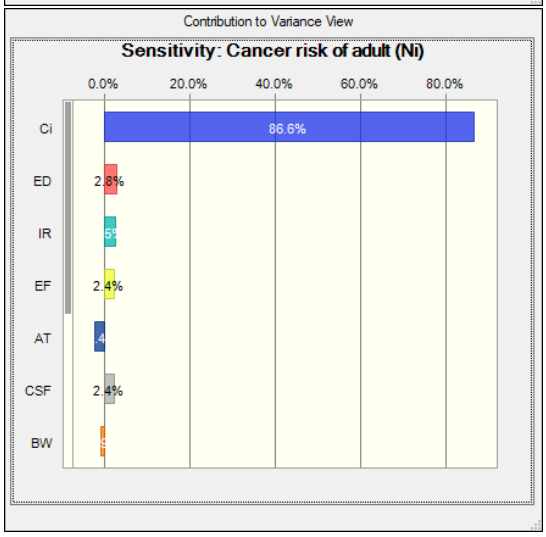
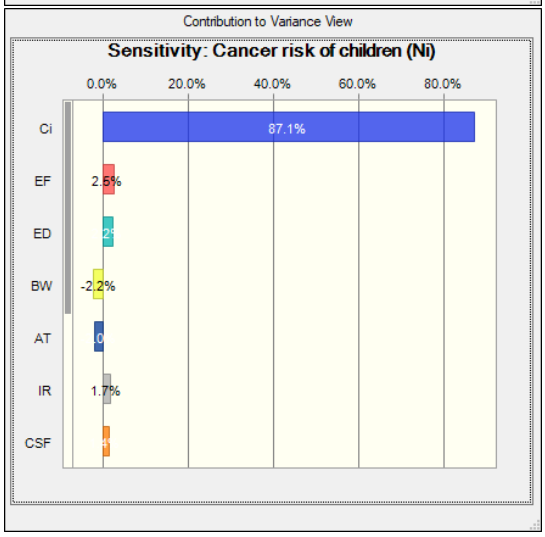


Fig. S11. Probability distribution of noncarcinogenic risks (HI) of metal(oid)s contamination in water for adult and children.


Contribution to Variance View
Sensitivity: Cancer risk of adult (Cr)
0.0%
20.0%
40.0%
60.0%
Ci
ED
AT
EF
CSF
IR
BW
67.2%
6.6%
-6.3%
5.9%
5.6%
5.4%


Contribution to Variance View
Sensitivity: Cancer risk of children (Cr)
0.0%
20.0%
40.0%
60.0%
80.0%
Ci
BW
ED
AT
EF
IR
CSF
81.1%
-3.6%
-3.4%
2.7%


Contribution to Variance View
Sensitivity: Cancer risk of adult (Ni)
0.0%
20.0%
40.0%
60.0%
80.0%
Ci
ED
IR
EF
AT
CSF
BW
86.6%
2.8%
2.4%
2.4%


Contribution to Variance View
Sensitivity: Cancer risk of children (Ni)
0.0%
20.0%
40.0%
60.0%
80.0%
Ci
EF
ED
BW
AT
IR
CSF
87.1%
2.5%
-2.2%
1.7%

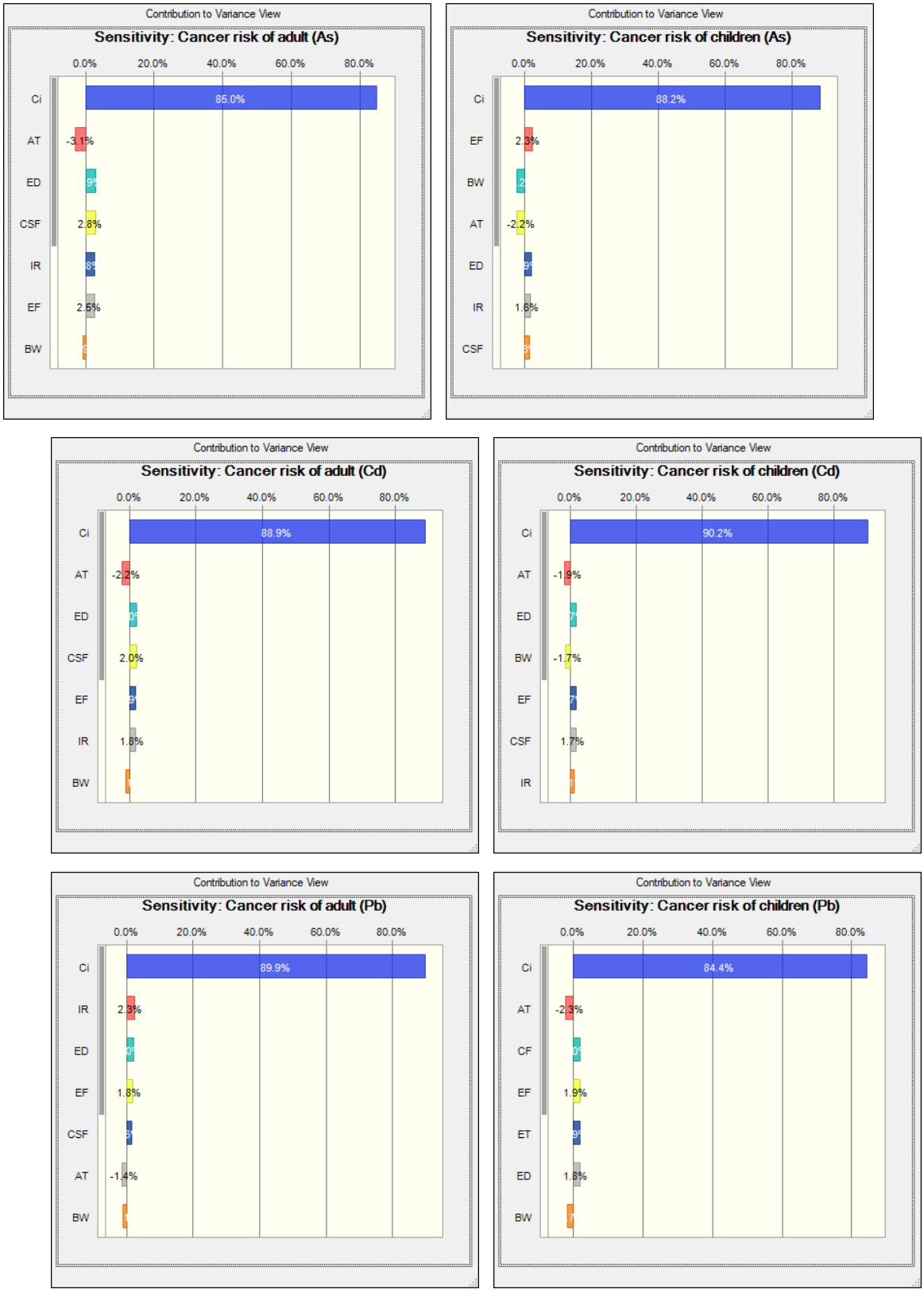


Fig S12. Sensitivity analysis of carcinogenic risks for adult and children.

Table S1 Distribution of metal(oid)s concentrations in river water of Bangladesh.

Rivers	Cr	Ni	Cu	As	Cd	Pb	Zn	Mn	Sample number	Analysis method	Digestion	Pollution sources	References
Balu River	930 (120-1370)	40.00 (40.00-47.00)	110 (10-240)		20.00 (15.00-25.00)	32.00 (29.00-35.00)	80.00 (75.00-85.00)		38	AAS	HNO_3	Industrial effluents, urban runoff, agricultural practices, untreated municipal waste, and natural processes.	[1,2]
Rupsa River	8.03 (3.19-16.59)	4.66 (0.04-14.51)	5.69 (2.13-11.14)	5.75 (3.13-10.97)	1.17 (0.21-2.55)	7.20 (1.54-14.9)	68.40 (25.0-190.00)	288.46 (1456.0-445.7)	40	ICP-MS	HNO_3, H_2O_2	Industrial discharge, shipbreaking activities, urban runoff, agricultural inputs, and untreated sewage.	[3,4]
Buriganga River	114 (12-180)	150 (90-400)	239 (100-990)	134 (5-220)	59 (30-90)	119 (100-210)	332 (110-900)	157 (60-310)	30	AAS	HNO_3	Industrial effluents, tannery waste, municipal sewage, urban runoff, and improper waste disposal.	[1]
Kortoa River	101.425(38.8-181)	94.325(33-164)	74.8(33.7-138)	21.75(3.12-47.1)	1.2(0.39-2.78)	54.925(26.6-97.7)	69.6(33.7-133)	47.4(23.5-66.7)	120	ICP-MS	HNO_3, H_2O_2	Agricultural runoff, industrial effluents, municipal waste, and sediment erosion.	[5]
Bhairab River	31.735(21.06-46.29)			3.68(2.06-5.12)	1.44(0.75-2.95)	23.815(13.67-37.12)			10	GF-AAS	HNO_3	Industrial discharges, agricultural runoff, urban wastewater, and waste dumping.	[6]
Brahmaputra River	10.5 (9-12)	440 (20-80)	120 (30-200)		10.00 (8.00-12.00)	110 (40-210)	305 (190-420)	1440 (1100-2500)	36	AAS	HNO_3	Upstream industrial effluents, agricultural runoff, urban waste, and natural erosion processes.	[7,8]
Dhaleshwari River	2970 (2350-3790)	7.21 (5.47-9.74)	1050 (870-1230)	580 (210-1020)	1705 (1280-2200)	1170 (900-1480)			18	GF-AAS	HNO_3, H_2O_2	Tannery effluents, industrial discharges, agricultural runoff, and municipal waste.	[9]
Halda River	30.0 (10.0-120.0)	410.0 (30.0-620.0)	100.0 (50.0-150.0)		40.0 (30.0-50.0)	30.0 (10.0-200.0)	350.0 (200.0-480.0)	160.0 (40.0-300.0)	24	AAS	HNO_3	Industrial effluents, agricultural runoff, urban waste, and shipbreaking activities.	[10]
Meghna River	45 (29.7–57.6)	5.00		24.00 (11.6–38.5)	18.00 (5.7–92.1)	9.00 (5.1–18.5)	36.46 (24.2-78.1)	18.82 (15.3-25.00)	25	AAS	HNO_3	Industrial discharges, agricultural runoff, municipal waste, and upstream contamination.	[4,11]
Pasur River	48.9(25.7-77.4)	21.40 (7.00-32.00)	20.0 (0.9-36.0)	9.88(2.76-16.7)	1.585(0.42-2.98)	23.35(12.6-42.7)	33.80 (11.00-55.00)	65.40 (40.0-80.0)	15	AAS	HNO_3	Industrial effluents, agricultural runoff, shipbreaking activities, and untreated sewage.	[12,13]
Shitalakhya River	75.00 (37.1-102.3)	269.7 (144.1-513.0)	61.3 (16.0-143.4)	8.38 (1.9-13.00)	12.2 (6.5-15.2)	15.60 (11.00-21.00)	83.80 (37.00-115.00)	192.20 (133.00-270.00)	30	AAS	HCL	Industrial discharges, agricultural runoff, and untreated wastewater from nearby settlements.	[4,14]
Gomti River	60.0 (10-280)			22.0 (14-27)	6.00 (4.0-7.0)	53.0 (22.0-161.0)		30.0 (2.0-97.0)	20	ICP-MS	HNO_3	Industrial effluents, agricultural runoff, urban sewage, and waste disposal.	[15,16]
Turag River	610 (10.0-1450.0)	960 (20.0-2050.0)	750 (20.0-1920.0)	2970.0 (1150-4800)	1020 (43.0-2000.0)	320.0 (10.0-700.0)	1600.0 (500.0-3200.0)		20	AAS	HCL	Industrial effluents, agricultural runoff, domestic sewage, and waste dumping.	[17,18]
Bangshi River	93.0 (43.0-157.0)	35.0 (13.0-58.0)	1050.0 (650.0-1460.0)	24.0 (9.0-39.0)	7.0 (5.0-10.0)	108.0 (68.0-173.0)	3320.0 (2130.0-4170.0)	88.0 (59.0-124.0)	9	AAS	$HClO_4$, HNO_3	Industrial discharges, agricultural runoff, untreated sewage, and waste dumping.	[19]
Dakatia River	3.0 (1.0-4.0)		32.7 (1.0-67.0)		1.3 (1.0-2.0)	9.5 (6.0-13.0)	114.0 (2.0-210.0)	334.0 (23.0-666.0)	21	AAS	HNO_3	Industrial effluents, agricultural runoff, and untreated sewage.	[20]
Karnaphuli River	6.0 (3.0-9.0)	18.0 (2.0-37.0)	7.0 (4.0-11.0)	2.0 (1.0-3.0)	17.0 (13.0-29.0)	22.0 (3.0-64.0)	59.0 (.04-107.0)	1530.0 (470-2880.0)	27	AAS	HCL, HNO_3	Industrial discharges, shipbreaking activities, agricultural runoff, and untreated wastewater.	[21,22]

Khiru River			4.3 (3.7-4.9)		127.5 (54.2-174.8)	22.1 (10.7-33.0)	6.56 (5.3-8.3)	167.2 (82.2-324.3)	18	AAS	HNO_3	Industrial effluents, agricultural runoff, and untreated sewage from nearby settlements.	[23]
Louhajang River	5.23(0.18-13.2)	4.12(0.02-19.04)	6.235(0.96-15.92)	5.86(2.18-12.51)	0.44(0.02-2.42)	5.12(0.49-15.74)			40	ICP-MS	HNO_3, H_2O_2	Industrial discharges, agricultural runoff, and untreated sewage.	[24]
Naf River	27.01 (9.4-37.0)	217.29 (102.0-285.0)	49.36 (38.0-57.0)	1.25 (0.84-1.99)	59.22 (33.0-70.0)	159.51 (14.7-313.0)	39.45 (26.8-69.2)		42	AAS	HNO_3	Industrial effluents, agricultural runoff, untreated sewage, and cross-border contamination.	[25]
Sela River	34.60(23.3-53.3)	148.1(79.7-217.8)	23.6(15.3-37.5)		30.7(18.2-53.6)	83.71(20-148)	28.01(17.06-37.54)	34.98(5.57-104.26)	20	FAAS, HGAAS	HNO_3	Industrial discharges, agricultural runoff, and untreated sewage from nearby areas.	[26]
Surma River	38.2(38-40)		4.2(4.2-4.2)			13(13-13)	579.084(2.59-1443.1)		5	AAS	HNO_3	Industrial effluents, agricultural runoff, urban waste, and mining activities.	[27]
Kirtankhola River	30.01 (12.64-48.74)			4.33 (1.67-6.59)	0.59 (0.01-1.59)	19.06 (8.03-35.68)			10	AAS	HNO_3	industrial discharges, shipbreaking activities, agricultural runoff, and untreated sewage.	[28]
Ichamati River	72.4 (38.0-118.0)	16.7 (11.0-26.0)	5.63 (1.70-16.0)	9.00 (2.89-13.20)	2.65 (1.60-6.00)	17.6 (10.0-30.0)	34.2 (16.0-60.6)	382 (42.0-630.0)	20	AAS	HNO_3-$HClO_4$-HF-HCl	Industrial effluents, agricultural runoff, untreated sewage, and waste disposal.	[29]
Teesta River	3.34 (2.1-5.00)	4.44 (2.9-6.0)		1.78 (1.3-2.5)	4.66 (3.9-5.1)	4.80 (4.2-5.5)	46.0 (10.0-100.0)	676.00 (450-1170)	10	AAS	HNO_3	Industrial discharges, agricultural runoff, and upstream contamination from India.	[4]

Table S2 Average units adopted to calculate health risk assessment.

Symbol	Parameter	Units	Distribution		References
			Adult	Child	
C_i	average concentration	µg/L			
IR	intake rate	L/day	2	0.64	Wang et al. 2017
EF	exposure frequency	days/year	350	350	Wang et al. 2017
ED	duration of exposure	years	30	6	Wang et al. 2017
SA	exposed area of skin	cm^2	18000	6600	Wang et al. 2017
ET	exposure time	h/day	1	0.58	Wang et al. 2017
BW	body weight	kg	70	15	Wang et al. 2017
AT	average time	days	25550	2190	Xiao et al. 2019
CF	conversion factor	cm^3	0.001	0.001	USEPA, 2004

Table S3 Reference dose units adopted to calculate Hazard Quotient and Cancer Risks**.**

.Metal(oid)s	$RfD_{ingestion}$ (µg/kg/day)	RfD_{dermal} (µg/kg/day)	Kp (cm/h)	SF_{ing} $(mg/kg/d)^{-1}$	SF_{der} $(mg/kg/d)^{-1}$	References
Cr	3	0.075	$1*10^{-3}$	0.5	20	Wang et al. 2017
Ni	20	0.8	$2*10^{-4}$	1.7	42.5	Wang et al. 2017
Cu	40	8	$1*10^{-3}$			Wang et al. 2017
As	0.3	0.285	$1*10^{-3}$	1.5	1.5	Xiao et al. 2019
Cd	0.5	0.03	$1*10^{-3}$	6.1	0.38	Wang et al. 2017
Pb	1.4	0.42	$1*10^{-4}$	8.5×10^{-3}	0.073	Wang et al. 2017
Zn	300	60	$6*10^{-4}$			Wang et al. 2017
Mn	24	0.96	$1*10^{-3}$			Wang et al. 2017

Table S4 Distribution of input parameters for the evaluation of Monte Carlo simulations.

Parameters	Unit	Distribution		Total	SD
Metal concentration (C_i)	µg/L	Log-normal	Cr	5355.4	622.76
			Ni	3336.0	220.9
			Cu	3923.6	312.52
			As	3941.2	609.09
			Cd	3167.7	393.26
			Pb	2432.3	238.32
			Zn	8330.4	715.8
			Mn	7337.5	391.91
			Children	Adult	
Ingestion rate	L/day	Uniform	0.64	2	
Average body weight (BW)	kg	Log-normal	(Mean=16, SD=2.23)	(Mean=60, SD=5.67)	
Exposure duration (ED)	years	Uniform	6	30	
Average time of exposure (AT)	days	Uniform	2190	25,550	
Exposure frequency (EF)	day/year	Uniform	350	350	
Exposed area of skin (SA)	Cm^2	Uniform	6600	18000	
Exposure time (ET)	h/day	Uniform	0.58	1	
Kp	cm/h	Uniform	Cr: $1*10^{-3}$, Ni: $2*10^{-4}$, Cu: $1*10^{-3}$, As: $1*10^{-3}$, Cd: $1*10^{-3}$, Pb: $1*10^{-4}$, Zn: $6*10^{-4}$ and Mn: $1*10^{-3}$		

RfD (ingestion)	mg/kg/day	Uniform	Cr:3, Ni: 20, Cu: 40, As: 0.3, Cd: 0.5, Pb: 1.4, Zn: 300 and Mn: 24
RfD (dermal)	mg/kg/day	Uniform	Cr: 0.075, Ni: 0.8, Cu: 8, As: 0.285, Cd: 0.03, Pb: 0.42, Zn: 60 and Mn: 0.96
CSF (ingestion)	$(mg/kg/d)^{-1}$	Uniform	Cr: 0.5, Ni: 1.7, As: 1.5, Cd: 6.1, and Pb: 0.0085
CSF (dermal)	$(mg/kg/d)^{-1}$	Uniform	Cr: 20, Ni: 42.5, As: 1.5, Cd: 0.38, and Pb: 0.073

Table S5 Test for normality of distribution of dataset using Shapiro-Wilk test.

Metal(loid)s	**Cr**	**Ni**	**Cu**	**As**	**Cd**	**Pb**	**Zn**	**Mn**
Shapiro-Wilk statistic	0.85	0.78	0.81	0.97	0.58	0.93	0.83	0.72
p value	<0.0001	0.002	0.16	0.0003	0.001	0.007	0.11	0.0009
Passed normality test?	No	No	Yes	No	No	No	Yes	No
Number of values	23	19	20	18	23	24	19	16

Table S6 Contamination factor of metal(oid)s in water

Rivers	Cr	Ni	Cu	As	Cd	Pb	Zn	Mn
Balu River	28.00	5.33	18.89		15.33	12.67	2.13	
Rupsa River	2.14	0.62	2.53	1.53	3.12	9.60	1.82	26.15
Buriganga River	30.40	20.00	26.22	15.73	27.33	58.67	8.85	25.33
Kortoa River	17.05	12.58	13.24	5.80	3.20	23.23	1.86	15.80
Bhairab River	8.46			0.98	3.84	31.75		
Brahmaputra River	2.80	18.67	13.33		16.67	16.67	8.13	20.00
Dhaleshwari River	12.00	0.96	16.67	15.67	16.67	15.00		
Halda River	8.00	14.67	14.44		10.67	9.00	9.33	13.33
Meghna River	12.00	0.67		6.40	18.00	12.00	0.97	6.27
Pasur River	13.04	2.85	8.89	2.63	4.23	11.13	0.90	21.80
Shitalakhya River	20.00	35.96	27.24	2.23	32.53	20.80	2.23	34.07
Gomti River	16.00			5.87	16.00	20.67		10.00
Turag River	12.67	28.00	33.33	29.00	27.00	26.67	12.67	
Bangshi River	24.80	4.67	46.67	6.40	18.67	14.00	28.53	29.33
Dakatia River	0.80		14.53		3.47	12.67	3.04	21.33
Karnaphuli River	1.60	2.40	3.11	0.53	25.33	19.33	1.57	11.00
Khiru River			1.91		14.00	20.47	0.17	25.73
Louhajang River	1.39	0.55	2.77	1.56	1.17	6.83		
Naf River	7.20	28.97	21.94	0.33	17.92	12.68	1.05	
Sela River	9.23	19.75	10.49		11.87	11.61	0.75	11.66
Surma River	10.19		1.87			17.33	15.44	
Kirtankhola River	8.00			1.15	1.57	25.41		
Ichamati River	19.31	2.23	2.50	2.40	7.07	23.47	0.91	27.33
Teesta River	0.89	0.59		0.47	12.43	6.40	1.23	25.33
Mean	11.08	8.31	11.69	4.11	12.84	18.25	4.23	13.52
Minimum	0.80	0.59	1.87	0.33	1.17	6.83	0.17	6.27
Maximum	30.40	35.96	46.67	29.00	32.53	58.67	28.53	34.07

Table S7 Heavy metal pollution index, metal index, Nemerow pollution index, and heavy metal evaluation index of metals in river water in Bangladesh

Rivers	Heavy metal pollution index (HPI)	Metal index (MI)	Nemerrow pollution index (NPI)	Heavy metal evaluation index (HEI)
Balu River	35.76	82.35	17.89	27.46
Rupsa River	41.31	47.51	6.88	1.76
Buriganga River	55.63	212.53	12.30	32.55
Korotoa River	28.94	92.76	5.40	10.26
Bhairab River	22.36	45.03	2.28	1.49
Brahmaputra River	25.79	96.27	34.63	32.47
Dhaleshwari River	34.82	76.97	28.30	29.66
Halda River	18.95	79.44	8.04	32.17
Meghna River	22.69	56.31	3.48	5.58
Pasur River	26.79	65.47	2.33	3.65
Shitalakhya River	34.58	175.06	4.88	19.67
Gomti River	25.67	68.54	5.11	4.09
Turag River	38.44	169.34	16.59	36.17
Bangshi River	12.37	173.07	13.72	29.65
Dakatia River	9.46	55.84	7.98	2.02
Karnaphuli River	37.88	64.87	16.44	8.89
Khiru River	11.58	62.28	14.34	26.45
Louhajang River	25.67	14.27	0.50	0.77
Naf River	27.84	90.09	15.51	27.47
Sela River	14.64	75.36	8.18	16.48
Surma River	18.53	44.83	1.29	1.22
Kirtankhola River	26.74	36.13	1.83	1.21
Ichamati River	13.68	85.22	9.15	4.46
Teesta River	21.75	47.34	16.08	3.06
Mean	26.33	84.04	10.55	14.94
Minimum	9.46	14.27	0.50	0.77
Maximum	55.63	212.53	34.63	36.17

Table S8 The correlation between heavy metal concentrations and MI and HEI value.

	Cr	Ni	Cu	As	Cd	Pb	Zn	Mn
MI	0.07	0.48*	0.50*	0.38	0.17	0.15	0.51*	-0.09
HEI	0.36	0.54**	0.56**	0.39	0.42*	0.45*	0.38	0.05

*Correlation is significant at the 0.05 level (2-tailed).

**Correlation is significant at the 0.01 level (2-tailed).

Table S9 Principal component analysis with Kaiser-Meyer-Olkin Measure of Sampling Adequacy. And Bartlett's Test of Sphericity.

Metals	Eigenvalue	% of variance	Cumulative %	Loadings		
				PC1	PC2	PC2
Cr	4.06	50.78	50.78	0.40	-0.41	0.06
Ni	1.63	20.46	71.24	0.20	0.57	0.38
Cu	1.13	14.22	85.47	0.44	0.07	-0.30
As	0.88	11.07	96.54	0.34	0.42	0.25
Cd	0.19	2.41	98.96	0.46	-0.17	0.16
Pb	0.05	0.74	99.70	0.53	-0.33	0.08
Zn	0.01	0.21	99.92	0.42	0.22	-0.53
Mn	0.006	0.07	100	-0.08	0.005	0.61
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.						0.64
Bartlett's Test of Sphericity			Approx. Chi-Square			223.87
			df			28
			Significance			0.00

Table S10 Contribution of PMF model-based factors in river water.

Rivers	Factor 1	Factor 2	Factor 3	Factor 4
Balu River	0.35	0.98	0.08	1.31
Rupsa River	-0.20	0.11	0.03	1.52
Buriganga River	2.14	2.12	0.17	0.57
Kortoa River	1.31	1.16	-0.20	0.13
Bhairab River	0.78	0.29	-0.09	0.86
Brahmaputra River	2.63	-0.13	-0.20	7.42
Dhaleshwari River	-0.20	7.03	16.70	-0.20
Halda River	0.76	0.33	0.20	0.66
Meghna River	0.05	0.73	0.11	0.07
Pasur River	0.26	0.37	-0.04	0.30
Shitalakhya River	0.28	0.52	0.03	0.82
Gomti River	1.60	0.96	-0.18	0.03
Turag River	8.28	7.97	5.86	-0.20
Bangshi River	0.44	1.39	-0.07	0.37
Dakatia River	-0.03	0.06	0.01	1.74
Karnaphuli River	-0.14	0.06	0.17	2.25
Khiru River	-0.03	-0.20	1.05	0.61
Louhajang River	-0.13	0.10	0.01	1.09
Naf River	3.64	-0.12	0.09	0.66
Sela River	2.05	0.09	0.04	0.01
Surma River	0.24	-0.02	0.17	0.25
Kirtankhola River	0.01	0.10	0.00	1.55
Ichamati River	0.01	0.07	0.02	1.35
Teesta River	-0.08	0.06	0.04	0.86
Minimum				
Maximum				

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