Electronic Supplementary Material (ESI) for Environmental Science: Water Research & Technology.

Supporting information

Table S1 Average values of non-metallic parameters (all values are in $mg \cdot L^{-1}$ except pH).

Parameters		pH	NH_3-N	COD_{Mn}	Total Hardness	Cl^-	NO_3^-	SO_4^{2-}	F^-
YX	Finished water	7.65	0.09	0.92	92.08	8.33	6.34	29.12	0.19
	Tap water	7.73±0.15	0.10±0.02	0.88±0.14	96.32±25.99	10.44±9.02	6.08±1.05	29.97±3.96	0.20±0.06
GY	Finished water	7.97	0.76	3.56	197.79	73.81	10.03	63.38	0.49
	Tap water	7.94±0.04	0.66±0.52	3.61±0.61	206.5±15.46	78.17±12.27	10.37±1.62	62.63±16.38	0.49±0.03
YZ	Finished water	7.37	0.17	1.37	182.16	63.97	8.58	40.16	0.40
	Tap water	7.50±0.12	0.15±0.06	1.74±0.12	171.09±7.0	55.99±6.17	8.16±0.32	38.77±0.75	0.38±0.02
SY	Finished water	7.66	0.22	2.62	228.21	75.45	8.38	77.60	0.58
	Tap water	7.68±0.18	0.23±0.15	2.60±0.35	232.96±18.48	68.78±6.87	8.50±2.13	64.60±11.63	0.56±0.07
XZ	Finished water	7.84	0.13a	5.75	268.24	70.79	6.90	100.82	0.57
	Tap water	7.32±0.32	0.05±0.04	2.43±1.38	338.05±108.12	50.34±19.55	22.28±11.78	73.20±17.62	0.35±0.26

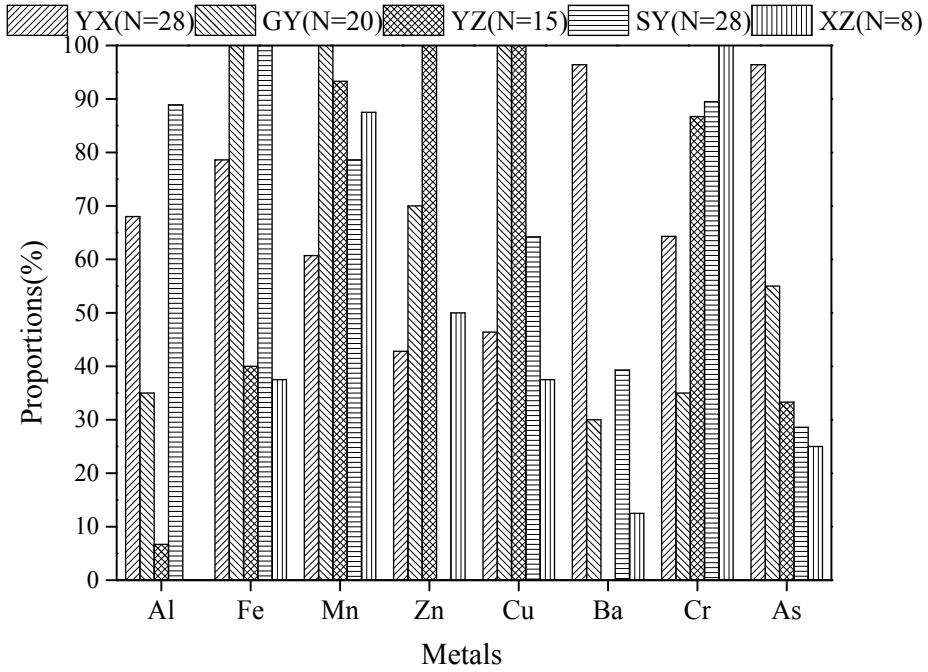


Fig.S1 The proportion of metals concentrations in tap water exceeds the finished water for five areas (%)

Table S2 Water quality standards for drinking water ($\mu g \cdot L^{-1}$)

	China [a]	WHO [b]	USEPA [c]	
			MCLG	MCL
Al	200	200	-	-
Fe	300	300	-	-
Mn	100	400	-	-
Zn	1000	-	-	-
Cu	1000	2000	1300	1300
Ba	700	700	2000	2000
Cr	50	50	100	100
As	10	10	10	10

[a] Chinese drinking water regulation (GB 5749-2006).

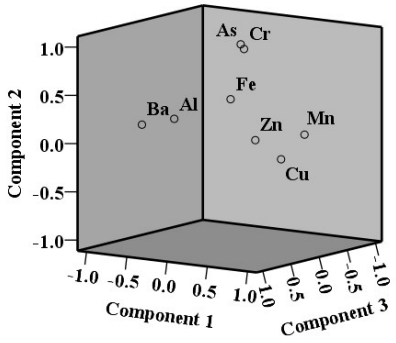
[b] WHO (2011) drinking water guidelines.

[C] US EPA (2003) drinking water standards.

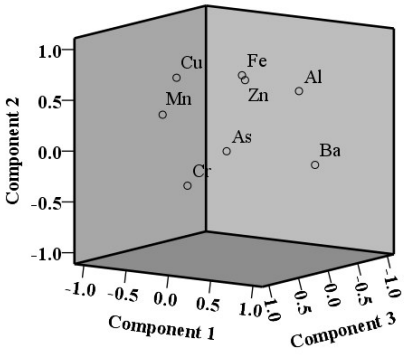
Table S3 Correlation coefficients of metal concentrations and quality parameters in the source water.

	Al	Fe	Mn	Zn	Cu	Ba	Cr	As	pH	Cl^-	NO_3^-	SO_4^{2-}
Al	1	0.804**	-0.161	0.237	0.34	0.622*	0.985**	0.877**	-0.031	0.492	0.421	0.182
Fe		1	-0.021	0.679*	0.731*	0.805**	0.779*	0.890**	0.041	0.989**	0.247	0.940**
Mn			1	0.443	0.381	-0.467	-0.406	-.686*	-0.42	-0.256	-0.059	-0.127
Zn				1	0.979**	0.17	0.755*	0.529	-0.11	0.526	0.239	0.404
Cu					1	0.217	0.833*	0.808**	-0.128	0.505	0.304	0.316

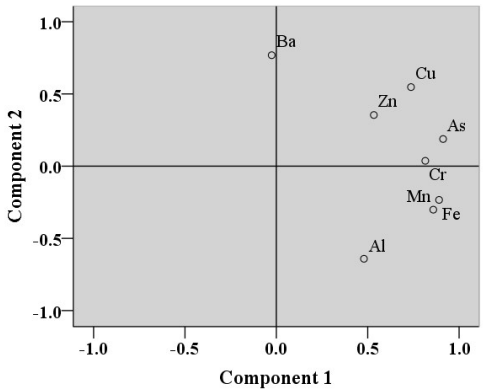
Ba	1	0.531	0.843**	0.246	0.851**	-0.045	0.826*
Cr		1	0.808*	0.036	0.391	0.283	0.098
As			1	0.365	0.781	0.008	0.488
pH				1	0.722*	-0.019	0.729*
Cl^-					1	0.285	0.882**
NO_3^-						1	-0.015
SO_4^{2-}							1



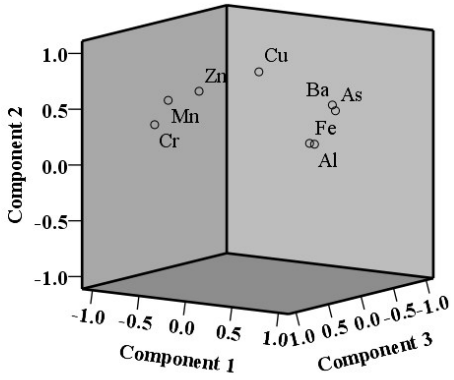
(a)



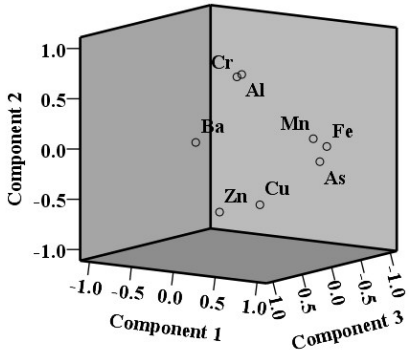
(b)


Component 2
Component 1
1.0
0.5
0.0
-0.5
-1.0
Ba
Cu
Zn
As
Cr
Mn
Fe
Al

(c)


Component 2
Component 1
Component 3
Cu
Zn
Ba
As
Mn
Fe
Cr
Al

(d)


Component 2
Component 1
Component 3
Cr
Al
Ba
Mn
Fe
As
Zn
Cu

(e)

Fig S2 A component plot in rotated space of metal loadings for five areas: (a) YX; (b) GY; (c) SY; (d) XZ; (e) YZ

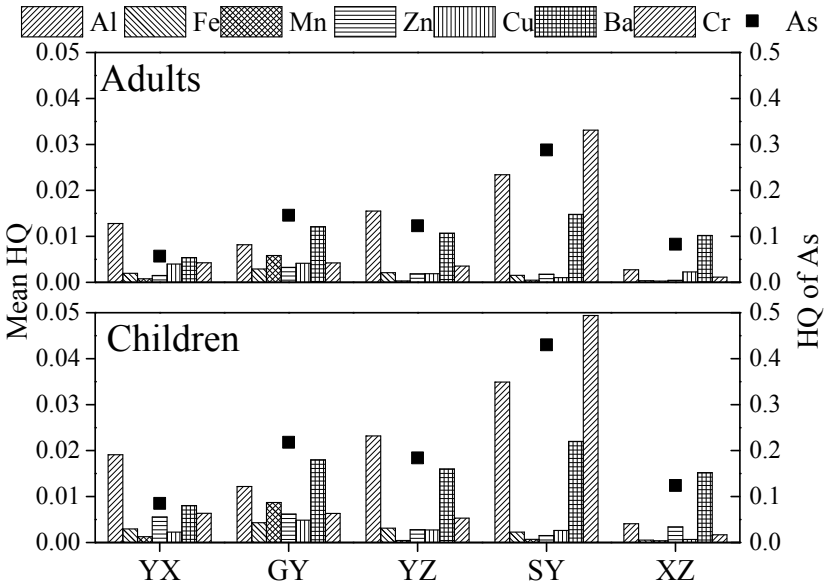


Fig.S3 Mean HQ of metals in the tap water for adults and children of different areas