Supplementary Material

A multi-medium analysis of human health risk of heavy metals in rice-crayfish system, a case study from middle reach of Yangtze River, China

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Table S1. Instrumental operating conditions for the analysis of elements.

Microwave digestion	Successive step	Heating program
	Step (1)	6 min, 120 °C, maintained 3 min
	Step (2)	5 min, 160 °C, maintained 3 min
	Step (3)	5 min, 190 °C, maintained 25 min
ICP-OES	**Parameters**	**Value**
	Plasma power	1300W
	Pump speed	30 rpm
	Coolant flow	14 L/min
	Auxiliary flow	1.0 L/min
	Nebulizer flow	0.7 L/min
	Optical temperature	14.0-16.0 °C
	Nebulizer pressure	2.0-4.0 Bar
	Main Argon Pressure	6.0-8.0 Bar
	Sample uptake rate	0.8 L/min
	Replicates	3

Table S2. The variables input for Monte Carlo simulations.

Variable			Distribution	Unit
Body weight (BW)		Adults	Lognormal (Mean=70, SD=5.8)	BWkg
		Children	Lognormal (Mean=25, SD=5.7)	BWkg
Ingestion rate (IR)	Rice	Adults	Lognormal (Mean=0.34, SD= 1.2)	kg/day
		Children	Lognormal (Mean=0.24, SD= 1.8)	kg/day
	Crayfish	Adults	Lognormal (Mean=0.055, SD=1.4)	kg/day
		Children	Lognormal (Mean=0.02, SD=2.1)	kg/day

Table S3. The total variance explained and component matrices for the heavy metals in soils from RCS.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.711	71.387	71.387	5.711	71.387	71.387
2	0.926	11.570	82.958			
3	0.743	9.285	92.243			
4	0.277	3.460	95.703			
5	0.177	2.208	97.911			
6	0.092	1.153	99.064			
7	0.053	0.657	99.721			
8	0.022	0.279	100.000			

Metals	Component Matrix [a]
	PC1
Zn	0.976
Ni	0.973
Cr	0.943
Cu	0.941
Pb	0.905
As	0.857
Cd	0.512
Hg	0.470

Note: Extraction method: principal component analysis. [a] one component extracted.