

Table 1. Concentrations of Studied Elements in Well Water and Their Percentages of Contents Greater than the Maximum Contaminant Level in the Lanyang Basin ($\mu\text{g/L}$) (N = 1349)

Element	Mean	SE	Median	Maximum	Minimum	Percentage greater than MCL ^a	MCL*
Zn	99.77	10.95	23.4	15,210	ND ^b	2.9%	500
Na	44,359	1,619.59	35,030	1,321,000	3437		
Ca	17,740.81	334.38	12,420	149,000	348		
Cu	247.55	3.45	218.7	2,199	ND	93.2%	30
Fe	648.46	37.32	243.3	36,150	ND	42.5%	300
Mn	124.20	5.13	86.28	4,923	ND	69.2%	50
Mg	16,538.74	770.83	11,140	554,400	173		
Cr	473.51	19.80	311.3	23,420	ND	84.6%	50
Sr	249.94	5.70	195.1	4,626	19.2		
Ba	43.15	0.83	31.13	574	ND		
Cd	32.03	0.65	24.9	87.2	ND	73.4%	10
Be	0.49	0.02	0	22.4	ND		
B	347.29	4.12	308.3	1,475	ND		
As	237.57	9.42	39.01	3,842.61	ND	44.4%	50

^a ND, non-detectable.^b MCL, maximum contaminant level.**Table 2. Township-specific Concentrations of Studied Elements in Well Water of the Lanyang Basin ($\mu\text{g/L}$)**

Township	Chuangwei		Tungshan		Chiaohsi		Wucheih		p
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	
Zn	23.36	3.18	338.01	66.95	129.65	11.32	114.94	3.46	0.0001
Na	54,373.08	2,578.80	24,992.00	1,259.61	35,226.20	1,552.21	25,238.53	1156.75	0.0001
Ca	15,313.64	476.82	26,726.13	560.77	12,367.75	393.43	26,801.59	880.92	0.0001
Cu	147.26	2.22	317.93	8.87	417.59	8.62	526.71	2.83	0.0000
Fe	335.60	23.32	1,320.13	191.71	831.43	71.44	1,290.88	123.39	0.0001
Mn	140.30	7.74	98.84	10.67	99.91	5.08	98.54	8.63	0.0015
Mg	19,723.97	1,252.40	10,621.42	283.20	9,786.00	290.43	15,962.54	563.52	0.0001
Cr	167.11	3.78	956.73	116.36	874.99	12.14	1,055.37	6.46	0.0001
Sr	278.58	9.04	218.65	4.86	157.40	4.42	256.71	7.64	0.0001
Ba	17.35	0.51	57.93	0.90	92.22	2.46	112.31	1.01	0.0000
Cd	8.20	0.34	35.92	0.85	57.57	0.98	79.12	0.24	0.0001
Be	0.03	0.02	0.06	0.01	1.31	0.05	3.04	0.03	0.0000
B	294.67	3.52	243.14	8.52	540.45	12.06	571.80	18.08	0.0001
As	195.49	10.79	318.61	19.57	293.52	30.51	178.92	26.59	0.1260

Total number of water samples was 1,349.

townships had high arsenic levels in their well water.

The correlation coefficients of log-transformed concentrations of studied elements in well water are illustrated in Table 3. Seven elements are significantly correlated with As among these, four elements, including Ca, Fe, Cr, and Ba, were significantly positively correlated with As: while, the other three elements, including Mn, Mg, and Be, were significantly negative

correlated with As. As Table 4 shows, seven studied elements which were significantly correlated with arsenic were further used to examine the association with incidence of cancer at all sites combined through regression analysis. A significant regression coefficient was observed, which indicates the increase of risk per 100,000 person-years for development of cancer at all sites combined for every 1 $\mu\text{g/L}$ increment in Mn.