Supplementary Table S1 Land use pattern of the region being investigated, the coordinates of the studied sites, concentration of PTEs (mg/kg), and the coefficient of variation (CV).

S.N.	Lat.	Long.	Land use pattern	Al	As	Cd	Co	Cr	Cu	Hg	Mn	Ni	Pb	Sb	Sr	U	V	Zn	Fe	CV
S1	24.79040	46.42997	Palm farm	4100	2	0.25	3	13	12	0.5	165	23	4	1	258	10	13	39	8900	2.51
S2	24.79858	46.42606	Palm farm	12400	6	0.25	8	34	16	0.5	289	44	8	1	293	10	33	46	18100	2.42
S3	24.80200	46.43228	Palm farm	5900	5	0.25	4	18	8	0.5	163	22	4	1	283	10	19	26	10300	2.45
S4	24.81282	46.42724	Palm farm	6200	4	0.25	4	19	10	0.5	182	23	5	1	252	10	19	36	10900	2.45
S5	24.81489	46.43565	Palm farm	6800	3	0.25	5	22	22	0.5	202	28	5	1	266	10	20	65	11700	2.44
S6	24.81382	46.43887	Palm farm	2300	1	0.25	1	8	18	0.5	93	5	2	1	111	5	7	78	6900	2.67
S7	24.82335	46.45375	Palm farm, leafy green plant, lemon	5500	3	0.25	4	16	7	0.5	145	19	4	1	123	5	16	22	9400	2.47
S8	24.81794	46.46178	Palm farm	10800	5	0.25	6	29	13	0.5	245	40	6	1	246	10	29	38	15400	2.41
S9	24.81729	46.47353	Palm farm	7000	5	0.25	4	21	10	0.5	190	27	6	1	175	10	21	33	12700	2.49
S10	24.80615	46.47745	Palm farm	4000	4	0.25	2	13	5	0.5	116	16	4	1	155	10	15	14	8600	2.54
S11	24.80540	46.49805	Palm farm	3100	4	0.25	2	12	4	0.5	139	14	3	1	147	10	11	23	7200	2.55
S12	24.80453	46.50483	Palm farm	8500	4	0.25	6	26	11	0.5	227	32	5	1	226	10	25	31	15300	2.48
S13	24.80314	46.50863	Palm farm	4200	4	0.25	3	14	7	0.5	133	22	4	1	252	10	16	23	9200	2.53
S14	24.80340	46.51812	Palm farm	4100	3	0.25	3	15	7	0.5	157	16	5	1	167	10	14	28	12000	2.69
S15	24.80367	46.51846	Palm farm	6000	3	0.25	3	20	9	0.5	151	22	8	1	184	10	20	34	11000	2.48
S16	24.80547	46.52074	Palm farm	3300	2	0.25	2	12	7	0.5	101	9	3	1	44	5	9	27	8400	2.64
S17	24.80398	46.52515	Palm farm	5700	5	0.25	3	19	11	0.5	170	26	7	1	217	10	17	51	11700	2.52
S18	24.80482	46.52745	Palm farm	7300	6	0.25	4	23	10	0.5	191	35	7	1	266	10	22	32	13000	2.47
S19	24.80821	46.52357	Palm farm	8900	5	0.25	5	27	13	0.5	226	43	6	1	256	10	26	31	15100	2.46
S20	24.81141	46.52346	Palm farm, leafy green plant	7500	4	0.25	5	23	12	0.5	195	34	5	1	253	5	20	41	11800	2.42
S21	24.81096	46.52240	Palm farm, leafy green plant	9900	5	0.25	6	30	13	0.5	254	45	7	1	280	10	27	46	15100	2.42
S22	24.81015	46.51756	Palm farm	2800	1	0.25	2	10	4	0.5	104	8	3	1	53	5	8	155	8500	2.69
S23	24.81515	46.52042	Palm farm	5600	3	0.25	3	17	10	0.5	145	26	6	1	159	5	17	33	10300	2.49
S24	24.81146	46.51381	Palm farm	6900	4	0.25	4	22	13	0.5	181	31	6	1	216	5	20	37	12000	2.46
S25	24.81090	46.51370	Palm farm	6500	5	0.25	4	22	10	0.5	145	31	5	1	200	10	22	35	12700	2.51
S26	24.81151	46.51192	Palm farm, leafy green plant	5900	4	0.25	4	21	30	0.5	205	27	4	1	334	5	17	261	10400	2.39
S27	24.81299	46.50650	Palm farm	11000	5	0.25	6	33	13	0.5	275	51	6	1	651	10	30	39	15600	2.37
S28	24.81300	46.51003	Palm farm	7300	3	0.25	4	24	16	0.5	311	33	5	2	326	5	22	89	13200	2.44
S29	24.81359	46.50586	Palm farm	7700	5	0.25	5	25	14	0.5	214	37	7	1	653	10	24	51	13600	2.41
S30	24.81775	46.49814	Palm farm, leafy green plant	7200	4	0.25	4	24	12	0.5	210	35	6	1	312	5	22	46	13300	2.47
S31	24.82137	46.49757	Palm farm, leafy green plant	4500	3	0.25	2	16	6	0.5	128	20	5	2	220	5	15	21	9500	2.53

S32	24.82485	46.49585	Palm farm, leafy green plant	5700	4	0.25	4	19	9	0.5	168	29	3	1	231	10	18	30	10800	2.48
S33	24.82517	46.49342	Palm farm	2700	2	0.25	2	10	5	0.5	84	11	3	1	224	5	8	14	7000	2.60
S34	24.82500	46.49333	Palm farm, lemon, orange	5900	3	0.25	4	20	8	0.5	167	30	6	1	170	5	20	28	12300	2.54

Supplementary Table S2. Percentage of the size fraction for the different mangrove sediment samples

S.N.	> 500	500-250	250-125	125-63	<63	S.N.	> 500	500-250	250-125	125-63	<63
S1	7.10	32.21	36.97	13.42	10.3	**S18**	12.0	30.71	29.22	17.87	10.2
S2	5.00	35.97	12.01	14.02	33.0	**S19**	7.78	32.5	37.8	8.19	13.73
S3	9.48	30.98	36.19	11.91	11.44	**S20**	8.47	30.0	12.19	17.5	31.84
S4	7.13	36.8	30.54	15.85	9.68	**S21**	7.00	32.75	4.58	17.28	38.39
S5	6.19	32.7	37.44	15.51	8.16	**S22**	7.68	40.8	3.98	15.0	32.54
S6	7.90	36.44	34.0	12.11	9.55	**S23**	7.65	37.97	33.37	12.0	9.01
S7	4.11	32.10	36.77	15.81	11.21	**S24**	7.54	30.8	30.98	17.0	13.68
S8	12.20	40.6	2.91	15.18	29.11	**S25**	11.36	32.0	29.97	15.47	11.2
S9	6.56	38.0	31.24	12.0	12.20	**S26**	8.90	29.0	13.22	7.58	41.3
S10	8.00	40.13	31.6	11.16	9.11	**S27**	7.98	10.8	26.68	17.0	37.54
S11	8.70	35.40	39.9	7.81	8.19	**S28**	7.51	39.1	3.83	8.42	41.14
S12	6.00	39.90	5.22	17.58	31.3	**S29**	10.1	20.21	13.3	18.42	37.97
S13	3.19	30.75	34.39	17.19	14.48	**S30**	16.36	24.0	31.97	11.47	16.2
S14	7.30	33.17	29.51	20.91	9.11	**S31**	7.00	28.75	32.39	17.28	14.58
S15	5.23	30.51	38.14	17.42	8.70	**S32**	13.3	30.16	31.51	15.91	9.12
S16	7.78	30.50	29.8	18.19	13.73	**S33**	8.13	29.1	35.3	16.25	11.22
S17	9.13	41.10	20.84	16.81	12.12	**S34**	17.3	21.11	21.51	26.91	13.17

Supplementary Table S3 Pollution indices and sediment quality guidelines and their classifications.

EF	EF < 1	No enrichment
	EF<3	Minor enrichment
	EF= 3–5	Moderate enrichment
	EF= 5–10	Moderately severe enrichment
	EF= 10–25	Severe enrichment
	EF= 25–50	Very severe enrichment
	EF > 50	Extremely severe enrichment
I-geo	I-geo < 0	Unpolluted
	0 < I-geo < 1	Unpolluted to moderately polluted
	1 < I-geo < 2	Moderately polluted
	2 < I-geo < 3	Moderately to strongly polluted
	3 < I-geo > 4	Strongly polluted
	4 < I-geo < 5	Strongly to very strongly polluted
	I-geo > 5	Very strongly polluted conditions
CF	Cf < 1	Low contamination
	1 ≤ Cf <3	Moderate contamination
	3 ≤ Cf < 6	Considerable contamination
	Cf ≥ 6	Very high contamination
PLI	PLI < 1	Unpolluted
	PLI > 1	Polluted
	Eri <40	No~low risk

RI	RI<150	
	40 ≤ Eri < 80 150 ≤ RL < 300	Moderate risk
	80 ≤ Eri < 160 300 ≤ RL < 600	Considerable risk
	160 ≤ Eri < 320	High risk
	Eri > 320 RI > 600	Very high risk
ISQG	<ISQG-Low	Low risk
	Between ISQG-Low and ISQG-High	Moderately contaminated
	>ISQG-High	Highly contaminated

Supplementary Table S4 Exposure factors used in chronic daily intake (CDI) estimation for non-carcinogenic risk (Adapted from USEPA, 2002), and the reference dose (RfD) values of trace elements (USEPA, 2011).

Parameter	**Value**
IngR	100 mg/day (adult), 200 mg/day (children)
EF	350 days
ED	24 years (adult), 6 years (children)
BW	70 kg (adult), 15 kg (children)
AT	365 × ED adult/children
CF	1×10−6 kg/mg
HMs	**RfD (mg/kg/day)**
V	0.0090
Cr	0.0030
Cu	0.0371
Ni	0.0200
Pb	0.0035
Fe	0.7000
Mn	0.1400
Co	0.0200
Zn	0.3000
As	0.0003

Supplementary Table S5 The K-S test (p-value) of the investigated PTEs.

	Kolmogorov-Smirnov[a]		
	Statistic	df	Sig.
Al	.103	34	.200*
As	.182	34	.006
Co	.196	34	.002
Cr	.062	34	.200*
Cu	.177	34	.009
Mn	.091	34	.200*
Ni	.065	34	.200*
Pb	.137	34	.107
Sr	.193	34	.002
U	.399	34	.000
V	.104	34	.200*
Zn	.319	34	.000
Fe	.081	34	.200*