

**Table S1.** Number of samples per species included in herbivore, omnivore and carnivore groups assessed for essential trace element concentrations.

IUCN status	Group	Scientific name	Common name	Block	TKR site (n)	MNR site (n)
VU	Herbivore	<i>Giraffa camelopardalis</i>	Giraffe	1	10	10
LC		<i>Tragelaphus strepsiceros</i>	Greater Kudu	2	10	10
NT		<i>Syncerus caffer</i>	African Buffalo	3	10	10
NT		<i>Equus quagga burchellii</i>	Plains Zebra	4	10	10
LC		<i>Connochaetes taurinus</i>	Blue Gnu	5	10	10
LC		<i>Aepyceros melampus</i>	Impala	6	10	10
LC		<i>Oryx gazella</i>	Gemsbok	7	10	-
LC		<i>Kobus ellipsiprymnus</i>	Waterbuck		-	10
LC		<i>Atherurus africanus</i>	Porcupine	8	10	4
LC		<i>Raphicerus campestris</i>	Steenbok	9	10	-
LC		<i>Tragelaphus angasii</i>	Nyala		-	10
LC		<i>Phacochoerus africanus</i>	Warthog	10	10	10
LC	Omnivore	<i>Canis mesomelas</i>	Black backed Jackal	11	15	15
LC		<i>Papio ursinus</i>	Chacma Baboon	12	10	10
NT	Carnivore	<i>Parahyaena brunnea</i>	Brown Hyena	13	15	-
LC		<i>Crocuta crocuta</i>	Spotted Hyena		-	15
VU		<i>Panthera leo</i>	Lion	14	15	15
VU		<i>Panthera pardus</i>	Leopard	15	8	9
EN		<i>Lycaon pictus</i>	African Wild Dog	16	15	15
LC		<i>Suricata suricatta</i>	Meerkat	17	15	-
LC		<i>Helogale parvula</i>	Dwarf Mongoose		-	15
					<b>193</b>	<b>188</b>

<sup>LC</sup> Least concern, <sup>NT</sup> Near Threatened, <sup>VU</sup> Vulnerable, <sup>EN</sup> Endangered (IUCN)

**Table S2.** Components of supplementary salt and mineral blocks supplied at the TKR site. Essential trace elements \* are discussed.

<b>Salt block</b>	
<i>~8000 – 10 000 kg/ha supplied</i>	
<b>Supplement</b>	<b>Per unit mass</b>
Potassium (K)	40-60 kg
<b>Mineral block</b>	
<i>~20 000 – 25 000 kg/ha supplied</i>	
<b>Supplement</b>	<b>Per unit mass (25kg)</b>
Calcium (Ca)	120 g/kg (max)
Cobalt (Co)*	3 mg/kg
Copper (Cu)*	150 mg/kg
Iodine (I)	15 mg/kg
Iron (Fe)*	750 mg/kg
Manganese (Mn)*	600 mg/kg
Phosphorus (P)	60 g/kg (min)
Selenium (Se)*	3 mg/kg
Sulphur (S)	49 g/kg (min)
Zinc (Zn)*	600 mg/kg

**Table S3.** Summary of fitted models for each essential element

Essential Element	Site effect	Group effect	Interaction effect	Block random effect (likelihood ratio test)	Overall effect size R <sup>2</sup> -Nagelkerke
B	F <sub>1,361</sub> =17.59 ; p<0.001	F <sub>2,14</sub> =12.75 ; p=0.001	F <sub>2,361</sub> =12.34 ; p<0.001	χ <sup>2</sup> <sub>1</sub> =312.83 ; p<0.001	0.742
Co	F <sub>1,361</sub> =60.26 ; p<0.001	F <sub>2,14</sub> = 8.26 ; p=0.004	F <sub>2,361</sub> = 7.05 ; p=0.001	χ <sup>2</sup> <sub>1</sub> = 84.14 ; p<0.001	0.394
Cu	F <sub>1,361</sub> = 3.02 ; p=0.083	F <sub>2,14</sub> =19.96 ; p<0.001	F <sub>2,361</sub> =12.84 ; p<0.001	χ <sup>2</sup> <sub>1</sub> = 27.22 ; p<0.001	0.194
Fe	F <sub>1,359</sub> =10.87 ; p=0.001	F <sub>2,14</sub> =16.22 ; p<0.001	F <sub>2,359</sub> = 4.79 ; p=0.009	χ <sup>2</sup> <sub>1</sub> =152.77 ; p<0.001	0.555
Mn	F <sub>1,361</sub> =20.19 ; p<0.001	F <sub>2,14</sub> = 4.69 ; p=0.028	F <sub>2,361</sub> =22.39 ; p<0.001	χ <sup>2</sup> <sub>1</sub> = 50.54 ; p<0.001	0.388
Mo	F <sub>1,360</sub> = 9.93 ; p=0.002	F <sub>2,14</sub> = 2.40 ; p=0.127	F <sub>2,360</sub> = 0.59 ; p=0.555	χ <sup>2</sup> <sub>1</sub> = 62.66 ; p<0.001	0.231
Ni	F <sub>1,358</sub> = 1.64 ; p=0.202	F <sub>2,14</sub> = 1.33 ; p=0.295	F <sub>2,358</sub> = 3.87 ; p=0.022	χ <sup>2</sup> <sub>1</sub> = 24.66 ; p<0.001	0.122
Se	F <sub>1,361</sub> =28.35 ; p<0.001	F <sub>2,14</sub> =9.75 ; p=0.002	F <sub>2,361</sub> = 3.12 ; p=0.045	χ <sup>2</sup> <sub>1</sub> =154.21 ; p<0.001	0.524
Zn	F <sub>1,360</sub> =60.24 ; p<0.001	F <sub>2,14</sub> =19.21 ; p<0.001	F <sub>2,360</sub> =11.07 ; p<0.001	χ <sup>2</sup> <sub>1</sub> = 61.68 ; p<0.001	0.435