

**Electronic Supplementary Information**

Table ESI 1: Statistics of POPs measurements during the pilot phase sampling programme as 6-month mean mass (ng/sample), for PCDDs and PCDFs I-TEQ (pg I-TEQ/sample), together with meteorological data (min-max monthly mean, sum) and site classification. IA = international airport, IS = industrial site.

Station	Site type	Meteorological characteristics			Pollution					
		Air temperature (°C)	Relative air humidity (%)	Precipitation totals (mm) / (number of rainy days)	PCBs	HCHs	DDTs	HCBs	PCDDs and PCDFs	PAHs
Tunis (Tunisia)	Residential	12.8-24.9	65-83	0-57 / 0-12 <sup>14</sup>	11.7	2860	3.4	10.2	12.8	1607
Cairo (Egypt)	Urban	12.6-29.3	41-60	0-10 / 0-6	38.8	60.3	38.3	38.5	561	11636
Khartoum (Sudan)	Urban	23.1-35.1	18-57	0-3 / 0-1	23.6	12.4	75.3	5.0	28.8	4231

Tombouctou (Mali)	Residential	19.1-35.7	16-33	0-9 / 0-1	1.2	4.0	1.8	3.4		688
Dakar (Senegal)	Urban industrial	22.7-26.2	55-91	0-2 / 0-1	93.3	20.1	411	3.5	79.3	9279
Niono (Mali)	Agricultural	20-32	<sup>16)</sup>	0-8	1.4	4.5	10.9	2.3		1890
Bamako Centre (Mali)	Urban <sup>1</sup>	22.8-31.4	23-74	0-111 / 0-9	20.0	22.3	113	3.9		5040
Bamako IA (Mali)	Urban	<sup>6)</sup>	<sup>6)</sup>	- / 0-7	12.0	14.1	37.7	2.7		1726
Koutiala (Mali)	Agricultural	22.3-32.5	30-75	0-174 / 0-10	3.7	10.4	37.3	2.8		9255
Sheda (Nigeria)	Agricultural	-	-	-	3.7	6.9	6.4	2.5		3669
Koumakonda(Togo)	Agricultural	26.4-29.4 <sup>10</sup>	53-90 <sup>10</sup>	0-246 / 0-13 <sup>10</sup>	2.4	60.8	4.6	3.1	2.0	2310
Kwabinya (Ghana)	Residential	-	70-89 <sup>12</sup>	- / 19- 31 <sup>12,13</sup>	10.1	8.1	5.2	2.8	22.9	1951
East Legon (Ghana)	Residential	-	<sup>6)</sup>	<sup>6)</sup>	12.8	9.1	12.1	2.4		3383
Asela (Ethiopia)	Residential	16.8-18.9 <sup>4</sup>	25-44 <sup>4</sup>	0-94/ 0-	1.8	16.5	108	4.1	2.7	14547

				17 <sup>4</sup>						
Mt Kenya (Kenya)	Remote	-	-	-	1.4	9.9	1.9	3.8	0.7 <sup>11</sup>	185
Kitengela (Kenya)	Agricultural <sup>1</sup>	18.7-20.9 <sup>5</sup>	0-48 <sup>5</sup>	2-193 / 1-12 <sup>5</sup>	4.8	4517	3979	16.2		1117
Dandora (Kenya)	Agricultural <sup>2</sup>	6)	6)	6)	26.0	14.0	25.0	14.8		8147
Nairobi IS (Kenya)	Industrial	6)	6)	6)	40.9	9.1	54.2	6.4		7147
Kabete (Kenya)	Residential	6)	6)	6)	2.2	10.5	7.7	2.0		1942
Orstom de Brazzaville (Congo)	Urban	23.6-26.7 <sup>3</sup>	88-93 <sup>3</sup>	0-125 / 0-10 <sup>3</sup>	10.3	12.9	16.9	2.6	8.0	3390
Kinshasa (Congo DR)	Urban	-	-	-	39.1	12.6	44.7	2.1		6423
Lusaka IA (Zambia)	Urban	16.9-27.3	-	- / 0-25 <sup>15</sup>	3.5	4.2	36.5	2.8	1.7 <sup>11</sup>	1618
Reduit (Mauritius)	Remote	24.3-27.9 <sup>7</sup>	79-84	66-338/ 8-18	1.8	6.8	9.3	2.0		3127
Vanderbijl Park (RSA)	Industrial	13.2-23.3 <sup>9</sup>	47-60 <sup>9</sup>	8-247 / 2-5 <sup>9</sup>	3.1	23.4	3.5	3.4		5434

Molopo (RSA)	Remote	13.6-28.1 <sup>8</sup>	29-38 <sup>8</sup>	7-73 / 1-8 <sup>8</sup>	1.8	4.7	1.8	1.4	0.8	423
Barberspan (RSA)	Remote	<sup>6)</sup>	<sup>6)</sup>	<sup>6)</sup>	1.4	7.1	2.9	1.6		385

PCBs = sum of PCB 28, PCB 52, PCB 101, PCB 118, PCB 153, PCB 138, and PCB 180, HCHs = sum of  $\alpha$ -,  $\beta$ -,  $\gamma$ -, and  $\delta$ -hexachlorocyclohexane isomers, DDTs = sum of o,p'- and p,p'-DDT, -DDE and DDD, HCBs = sum of hexachlorobenzene (HCB) and pentachlorobenzene (PeCB), PCDDs and PCDFs = 11 and 14 species, respectively, PAHs = sum of naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(123cd)pyrene, dibenz(ah)anthracene and benzo(ghi)perylene (= 16 EPA PAHs).

Sites geographical coordinates: cf. Klánová et al., 2009.

<sup>1</sup> obsolete pesticide dumping site

<sup>2</sup> waste dumping site

<sup>3</sup> data reported from two stations combined

<sup>4</sup> data from Addis Abeba station, 8°59'N/38°48'E, 2324 m a.s.l.

<sup>6</sup> data from Nairobi station, 1°19'N/36°55'E, 1624 m a.s.l.

<sup>6</sup> no data, cf. station in line above

<sup>7</sup> data from St.Brandon station, 16°27'N/59°37'E, 3 m a.s.l.

<sup>8</sup> data from Upington station 28°24'S/21°16'E, 836 m a.s.l.

<sup>9</sup>data from Pretoria station 25°44'S/28°11'E, 1330 m a.s.l.

<sup>10</sup>data from Atakpame station 7°35'N/1°07'E, 402 m a.s.l.

<sup>11</sup>April-June covered only

<sup>12</sup>January-March covered only

<sup>13</sup>estimated based on relative humidity measurements (daily maximum > 98%)

<sup>14</sup>data from Carthago station, 36°52'N/10°20'E

<sup>15</sup>dates do not match with months, but deviate by 3-7 days

<sup>16</sup>no data, cf. station in line below