

Sources and characteristics of organochlorine pesticides in the soil and sediment along the Kaidu-Peacock River, Northwest of China

Wei Chen (1,2), Shihua Qi (1), Fei Peng (1), Chengkai Qu (1,3), Yuan Zhang (1), Xinli Xing (1), Jiaquan Zhang (1,4)

(1) State Key Laboratory of Biogeology and Environmental Geology & School of Environmental Studies, China University of Geosciences, Wuhan, 430074, China (craig040051@gmail.com), (2) Lancaster Environment Centre, Lancaster University, Lancaster, LA1 4YQ, UK, (3) Dipartimento di Scienze della Terra, dell'Ambiente e delle Risorse, Università degli Studi di Napoli "Federico II", Naples, 80134, Italy, (4) School of Environmental Science and Engineering, Hubei Polytechnic University, Huangshi, 435003, China

Organochlorine pesticides (OCPs) are a sub-group of persistent organic pollutants (POPs), which have raised the concerns from researchers all around the world for several decades. But very little research has been conducted on POPs in the arid zone of Northwest China. More than 100 soil and sediment samples were collected from Kaidu-Peacock River of Xinjiang, Northwest of China, to investigate the organochlorine pesticides (OCPs) in this region analysed by the gas chromatograph equipped with a mass selective detector (GC-MSD). Our pre-study in 2006 (Chen et al. 2011) in the same region, showed that OCPs except *o,p'*-DDT were detected in sediments from the Peacock River. Similar results were found in the whole river catchment in this investigation. DDTs, HCHs, chlordanes and endosulfans were the dominant OCPs residual in the soil and sediments. This study confirmed that POPs, such as OCPs in this region were contributed to by both local emissions and long-term atmospheric transport and may pose risks to human health and the ecosystem.

Chen, W., Jing, M., Bu, J., Ellis Burnet, J., Qi, S., Song, Q., Ke, Y., Miao, J., Liu, M. & Yang, C. (2011) Organochlorine pesticides in the surface water and sediments from the Peacock River Drainage Basin in Xinjiang, China: a study of an arid zone in Central Asia. *Environmental Monitoring and Assessment*, 177, 1-21.