



Science for Environment Policy

Soil management in China and the EU

Following rapid urbanisation, management of contaminated soil has become a political priority in China. In this study, researchers reviewed the current system in China as compared to Europe and provide recommendations for the sustainable management of soil.

China's rapid economic growth, and the accompanied urbanisation, has come at a considerable cost to the environment. In the late 1990s, environmental degradation became an important policy issue, with particular attention being paid to [air](#) and [water](#) pollution. More recently, [soil](#) pollution has featured highly on the agenda.

The first nationwide survey on soil contamination was conducted between 2006 and 2010¹. The findings, which were released in early 2014, revealed diffuse contamination, predominantly from the metals cadmium and nickel, the insecticide DDT, arsenic and polycyclic aromatic hydrocarbons (PAHs), and encouraged policymakers to make soil a priority issue.

In 2010, the Chinese Ministry of Environmental Protection (MEP) released draft Provisional Rules for the Environmental Management of Contaminated Sites². Although they have not yet been enacted, the rules discuss in detail the current situation of contaminated site regulation in China, and seek to address major bottlenecks in management by attributing a central role to local Environmental Protection Bureaus, defining responsibility for pollution, and streamlining assessment and remediation procedures. Local standards have already been developed, especially in areas where the need to manage contaminated sites is most pressing due to rapid urbanisation.

So, China has introduced robust practices for the risk-based management of contaminated sites, including definitions of contaminated sites, clear responsibility for environmental management, and local standards that are steering national regulation. Yet despite the clear political commitment, the actual capacity in China to manage soil contamination is limited, and there are clear areas for improvement in monitoring, legislation, administration and funding.

The EU has robust experience in terms of soil policy and has developed a range of institutional arrangements and technical tools to tackle soil contamination. In this study, funded by the EU GLOCOM³ project, the soil management system in China was reviewed and areas for improvement were identified based on experiences in Europe.

The EU has several, separate policies that consider soil pollution and management. Due to the fragmentation this creates, the [6th Environment Action Programme](#) proposed a [Soil Thematic Strategy](#). Importantly, the consultation process for its development involved a wide range of participants, emphasising the importance of stakeholder participation in EU policymaking. Like China, the EU also established a 'polluter-pays' framework, enacted via the Environmental Liability Directive. However, in the EU, greater progress has been made in creating a soil contamination monitoring structure, leading to establishment of the [European Soil Data Center](#) (ESDAC) as well as inventories at national and subnational level.

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Contact: critto@unive.it

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1.This was the first survey specifically focused on pollution to be carried out nationwide. See:
<http://www.sciencedirect.com/science/article/pii/S0160412014001342>

2.Ministry of Environmental Protection of P.R. China (2010) Provisional Rules for the Environmental Management of Contaminated Sites – Draft for Comments

3.Global Partners in Contaminated Land Management (GLOCOM) is supported by the European Commission under the Seventh Framework Programme. See:
http://www.dais.unive.it/~glococom/?page_id=132

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Soil management in China and the EU (continued)

Clearly, contaminated soils are a major concern for policymakers in both China and the EU. The management systems developed in response to this challenge also share commonalities. Both have adopted the polluter pays principle, both use risk-based methodologies, and both aim to establish a standardised legislative framework.

However, there are significant differences in the EU framework, and the authors close by suggesting ways in which China could take inspiration from these arrangements. Firstly, they say China could adapt monitoring practices used by the EU. In particular, ESDAC and national inventories could provide a suitable example for China. The nation could also consider transferring responsibilities to environmental protection agencies, as is the case in the EU, to ensure management practices are adopted.

Although there is no specific policy on funding used in the EU that could be adapted to China, the EU's method of managing structural funds to partially cover remediation costs could aid the efforts of Chinese local authorities in redeveloping sites occupied by state owned enterprises. National funding policies adopted by individual EU Member States could also be useful, especially in countries that have recently transitioned to a market oriented economy like China.

However, there are several problems and barriers to effective soil management. For example, in Beijing, efforts to create national legislation to manage contaminated sites have been hampered by institutional conflicts⁴.



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4. Deng, Y., Brombal, D., Farah, P., Moriggi, A., Critto, A & Zhou, Z. (2015) China's Water Environmental Management Towards Institutional Integration. A Review of Current Progress and Constraints vis-a-vis the 0020 European Experience. *Journal of Cleaner Production*. [Advance online publication](#) <http://dx.doi.org/10.1016/j.jclepro.2015.08.022>