



# Soil Contamination Legislation in China: Progress and Prospect

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# Background



- Situation of Soil Contamination
- Causes of Soil Contamination
- Concerns about Soil Contamination
- Current Laws and Regulations



# Situation

- The soil contamination is diversified, complex, and can be historical or current, and inorganic or organic.
- The pollution of soil through industrialization is rather serious





# Situation

- On April 17 2014, the Ministry of Environmental Protection and the Ministry of Land and Resources released the first-ever results of a nationwide soil pollution survey that took place from 2005 to 2013.
- The soil survey results only provide an general and macro picture of soil quality in China.
- Overall, the situation is “**not optimistic.**”
- The **inorganic pollutants** are the primary contaminants in China’s soil.
- **16.1 percent** of surveyed points (点位 or *dianwei*) “exceed limits.”
- “approximately **6.3 million** square kilometers” of arable land is contaminated.



# Alarming Figures

The first official nationwide land pollution survey was conducted between April 2005 and December 2013

Survey covers 6.3 million square kilometers, or about two-third of China's territory



Some 16.1 percent of the samples tested were polluted. The south had the worst pollution



## Pollution by Land Type

The pollution of different types of land across the country



**Arable land:**

**19.4%**

Total area:  
133 Mln hectares



**Idle Land:**

**11.4%**

Total area:  
180 Mln hectares



**Grassland:**

**10.4%**

Total area:  
220 Mln hectares



**Woodland:**

**10.0%**

Total area:  
250 Mln hectares

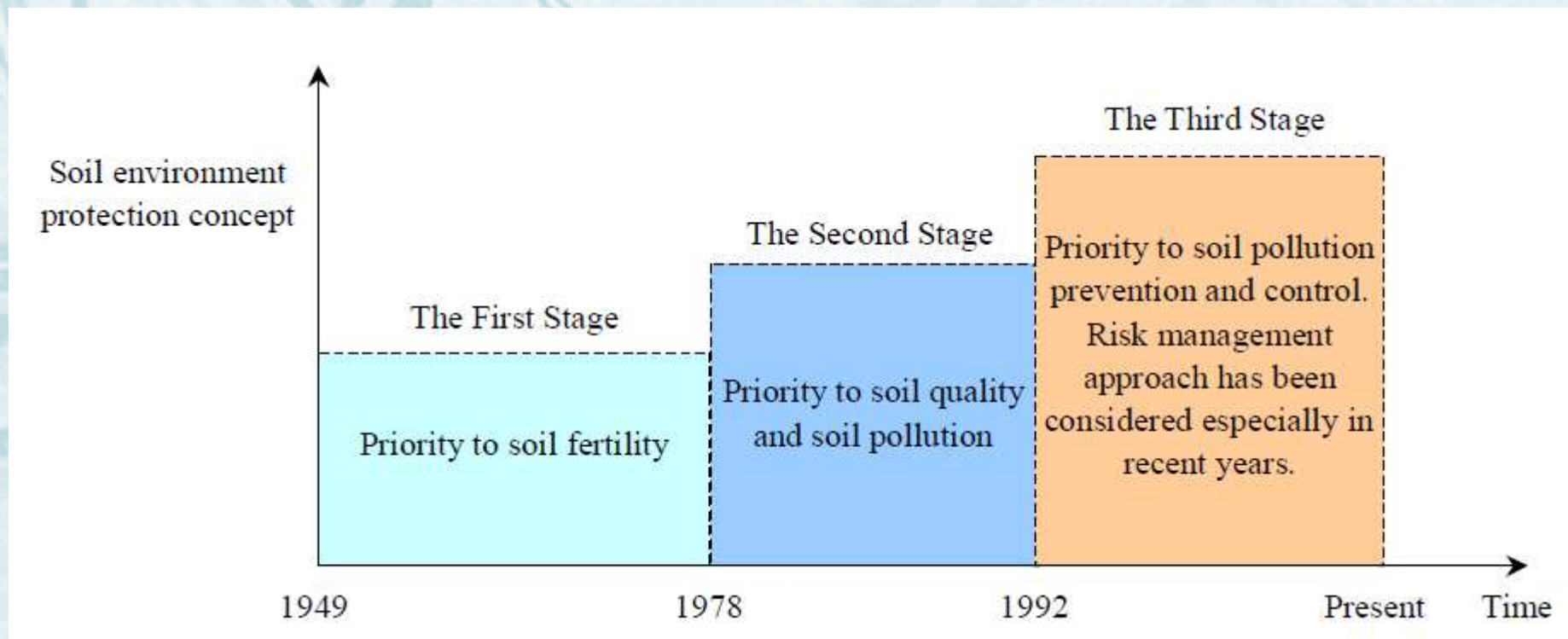




# Causes

- In the past, China did not give due attention to soil contamination

Chart of China's Development Stages of Soil Environment Protection





## Causes

- In China, heavily soil polluted and high risk areas have occurred in aggregation at or near heavy pollution enterprises or industries, mining areas and their surroundings, cities and suburbs.
- In addition, pollution of soil caused by leakage of dangerous goods due to emergencies during production, traffic accidents or natural disasters further contributes to the problem.





## Causes

- The activities causing the site pollution include heavy chemical industry, oil extraction and distribution, mining, metal smelting, chemical production and use and industrial waste stockpiling, treatment and disposal.
- Soil contamination **sources** include: industrial (waste water, waste gas and waste residue); domestic waste from urban residents (domestic sewage and urban refuse); agricultural chemicals (pesticides, animal remedies, chemical fertilizers, growth substances, modifiers and additives); and waste from breeding of livestock and poultry.



# Concerns

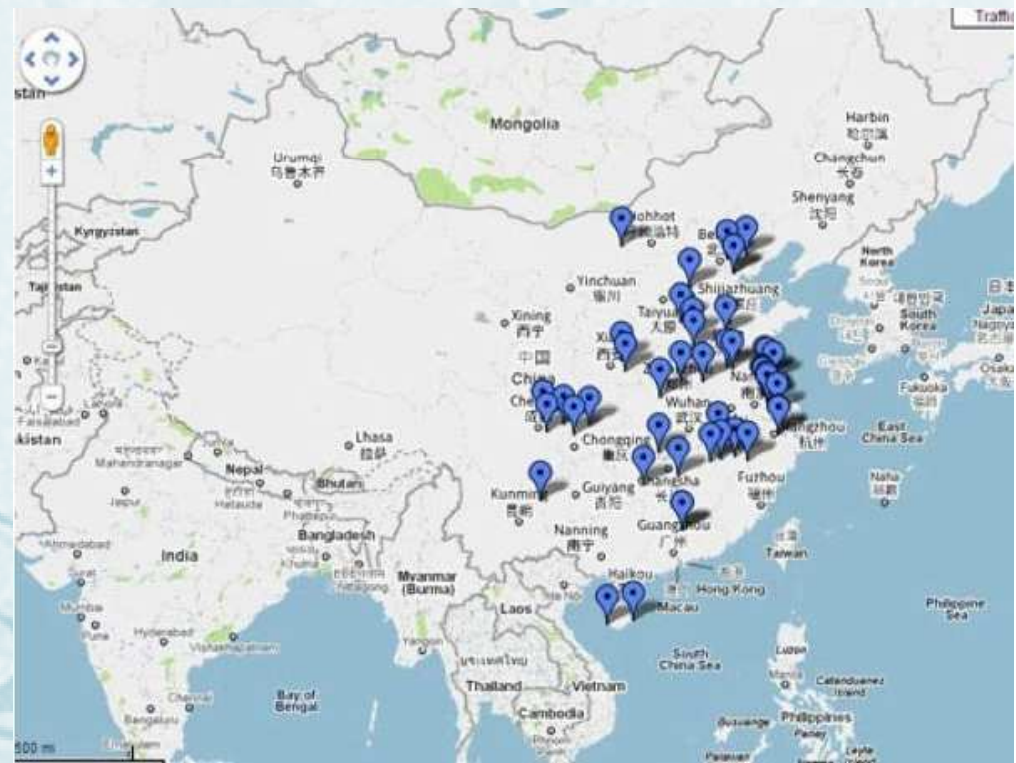
- Soil contamination threatens the **public health, ecological environment and safety** of underground water and food.
- Safety of agricultural products from contaminated areas is of concern.
- Mass events caused by soil contamination have increased year by year and soil contamination has become a key concern of the public affecting social stability.



# Concern: Public Health

- The contaminated soil in cities and industrial sites is a serious threat to human health in China.
- For example, the petroleum hydrocarbons can go into human or animal bodies in such forms as breathing, skin contact or food intake, resulting in cancers, mutagenesis and teratogenesis.

## Sites of “Cancer Villages”





## Concern: Food Safety

- It's estimated that nationwide, grain polluted by heavy metal is up to 12 million tons every year, with direct economic losses exceeding RMB 20 billion.
- Chronic exposure to cadmium can lead to kidney disease, and was recently found to be present in almost half of the rice tested in the city of Guangzhou



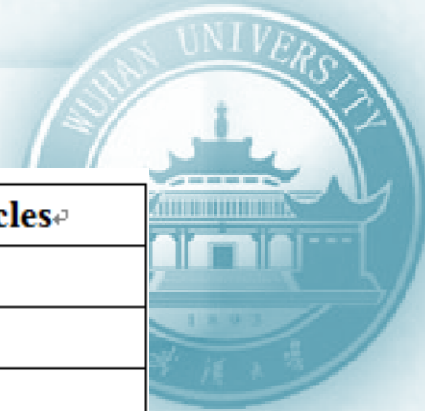


## Concern: Environment

- After the soil is polluted, its original characteristics will be destroyed and the quality of crops will lower accordingly.
- Polluted soil in the surface stratum is vulnerable when acted on by wind and water forces.



# Current laws and regulations



<b>The Relevant Laws and Regulations</b>	<b>The Relevant Articles</b>
Environmental Protection Law 2014	33、49、50
Radioactive Pollution Prevention and Control Law 2003	24 (1)
Law on the Prevention and Control of Environmental Pollution by Solid Waste 2004	20 (1)、22
Land Administration Law 2004	35
Law on Quality and Safety of Agricultural Products 2006	18、19
Water Pollution Prevention and Control Law 2008	51
Agriculture Law 2012	58 (1)
Law on Promotion of Cleaner Production 2012	22
Regulations on Nature Reserves 1994	32、33
Regulations on Protection of Capital Farmland 1998	25、26
Rules for Implementation of Water Pollution Prevention and Control Law 2000	24
Regulations on Pesticide Administration 2001	28
Regulations on Safety Management of Hazardous Chemicals 2011	19 (1) 72 (2)
Regulations on Land Reclamation 2011	16

# Current laws and regulations



- Dispersed Legislation
- Subsidiary Legislation
- fragmented, unsystematic, unfocused, unworkable
- **Absence of specific law for prevention and control of soil contamination**



## Progress: Relevant Policies

- The national standards on soil contamination testing methods have been published 2013, which help to strengthen the monitoring of soil environmental quality.
- In the 2014 **No. 1 Document** of the central government put its top priorities as “improving rural environment and maintaining food security”.
- Meanwhile, the MEP has announced on 3 March 2014 that the **Soil Pollution Prevention & Remediation Action Plan** will be issued by the end of this year, with five key tasks including 1) to give priority to protect arable lands, 2) pollution sources control, 3) risk management of contaminated sites, 4) pilot sites for soil remediation, and 5) to strengthen monitoring and management of the soil environment.



# Progress: Draft Legislation



## Participating departments

- **Ministry of Environmental Protection** (the lead department)
- National Development and Reform Committee
- Ministry of Land and Resources
- Ministry of Industry and Information Technology
- Ministry of Agriculture
- Ministry of Housing and Urban-Rural Development
- Ministry of Science and Technology
- National Health and Family Planning Committee
- The **“Soil Environmental Protection Law” (draft)** was completed preliminarily in 2013 , but remains internal discussion .



# Key Issues

- Title
- Basic Principles
- Institutions Arrangement
- Basic Systems
- Rights and Obligations of Different Actors
- Fund Safeguard
- Legal Liability

# Key Issues: Title



- **Soil Contamination Prevent and Control Law**
- More specific and targeted
- Attaching equal importance to prevention and control
- **Soil Environmental Protection Law**
- Bigger extension
- Emphasizing on protection (prevention)

# Key Issues: Basic Principles



- **Attaching equal importance to soil contamination prevention and control**
- Comprehensive account of China's current situation, the legislation should focus on both soil contamination prevention and control.
- **Giving priority to protection (prevention)**
- The fundamental solution for soil contamination is to control the discharge of pollutants with whole-process clean production and recycling of materials.
- Protection (prevention) is more cost-effective



## Key Issues: Basic Principles

- Other possible basic principles
- Carrying Out Comprehensive Treatment
- Public Participation
- Taking Liability for Pollution/Damage?
- Risk Management and Control



## Key Issues: Institutions Arrangement

- **Division of functions and responsibilities** among such departments as Environmental Protection, Land and Resources, Industry and Information Technology, Agriculture, Housing and Urban-Rural Development
- The competent department of environmental protection conducts **unified supervision** and administration **or**
- The relevant departments respectively conduct **respective** supervision and administration?



## Key Issues: Basic Systems

- Monitoring and Survey
- Soil Contamination Prevent and Control Plan
- Areas for Priority Conservation
- Risk Assessment
- Soil Restoration and Remediation
- Use Change of Contaminated Land

# Key Issues: Rights and Obligations of Different Actors



- Duties of the Government and Relevant Departments
- Liabilities of Enterprises, Public Institutions and Other Producers and Business Operators
- Rights and Obligation of Citizens
  - access to information
  - participating
  - supervision
  - using the recycled products and reducing the generation of wastes
  - cooperation in the implementation of the law



# Key Issues: Funds Safeguard for Remediation of Contaminated Soil



- Huge Cost
- Coordinating with Tax System and Market Mechanism
- American Model “Super Fund”?
- Unfeasible in China?



## Key Issues: Legal Liability

- Much Stricter
- Imposing the fine thereon consecutively on a daily basis?
- Order to stop operations or close down?
- Imposing a detention?



# Prospect

- The soil contamination prevent and control legislation ranks first priority of the legislative plan of the 12<sup>th</sup> NPC.
- The Environmental and Resources Protection Committee (ERPC) of the NPC is in charge of the draft drawing.
- It is said that the draft will be drawn in 2015, finished and submitted to the NPC Standing Committee in 2016.

Thanks/Vielen Dank!  
Questions and Comments?



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