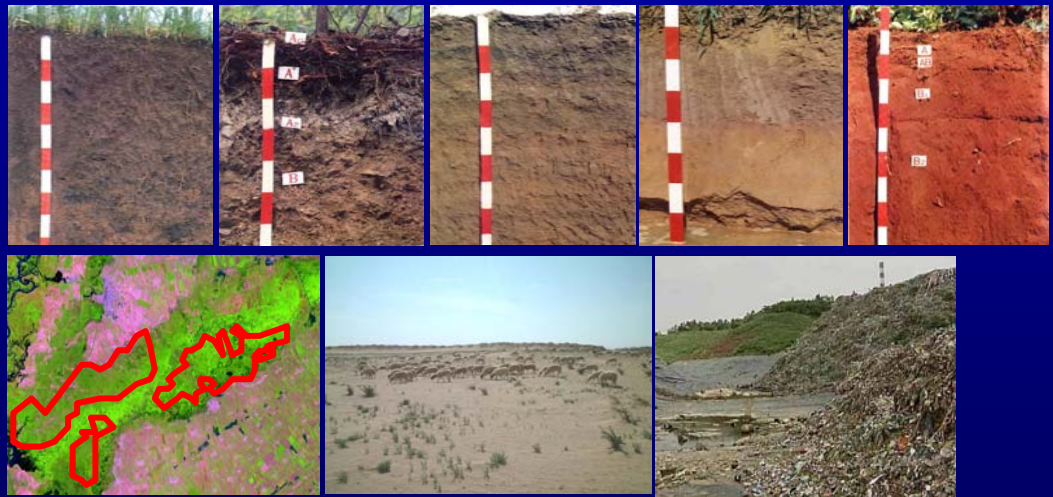


2010 CCICED meeting, Beijing

Developing Policies for Soil Environmental Protection in China

**Special Study Team
on China's Soil
Environment
Protection Policies**

November, 2010



Background

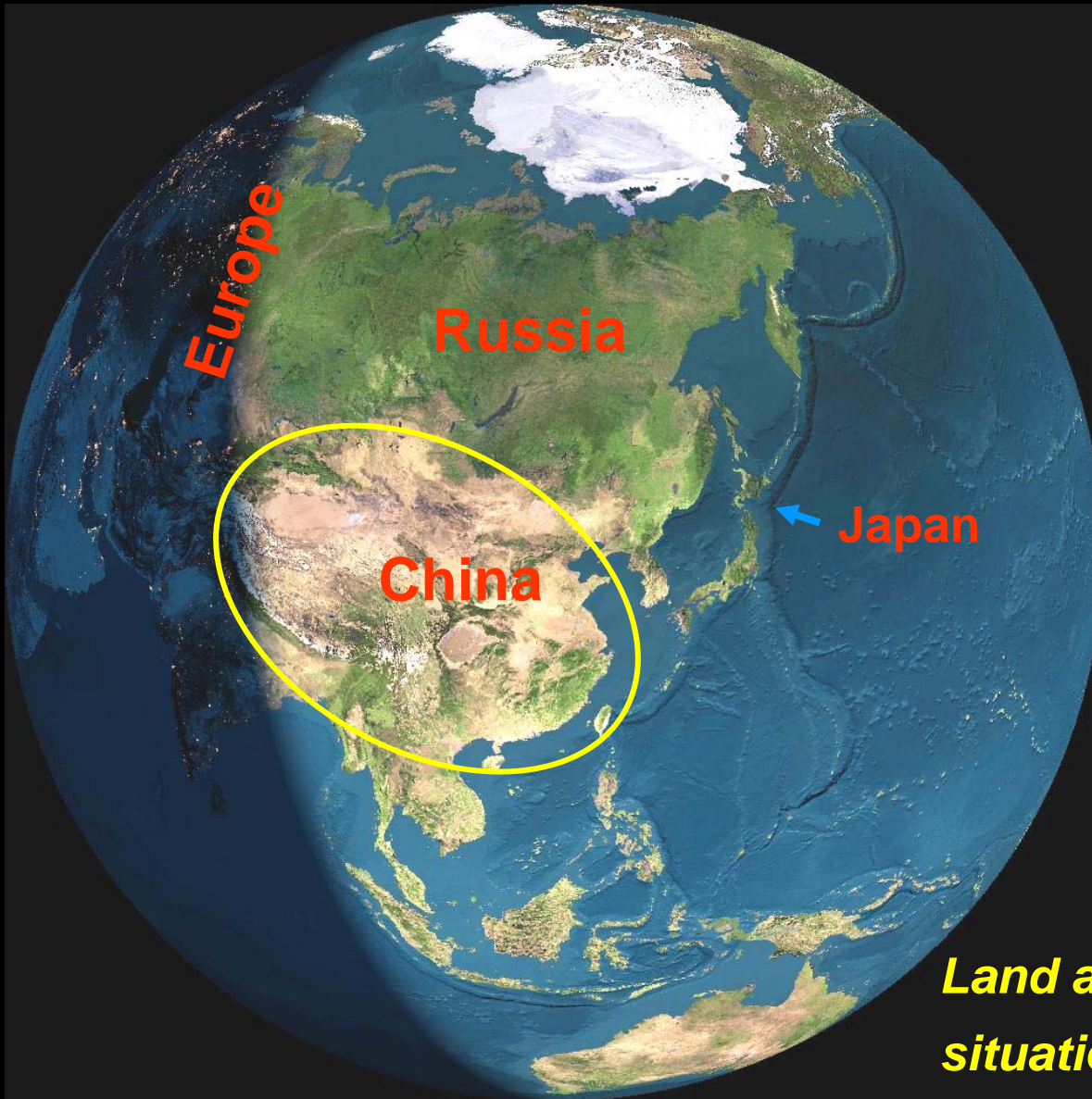
- China has achieved positive progress in soil environmental protection work, including capital investment, management supervision and technical support.
- The existing soil pollution prevention and control laws, standards system and remediation technology can not meet the increasing needs of soil environmental protection in China.
- The current foundation is weak for prevention and control of soil pollution in China, and China's overall situation of soil pollution is not optimistic at present.

Team Members

LI Fasheng	Professor	Department of Soil Pollution Control, Chinese Research Academy of Environmental Sciences
Ton Honders	Foreign expert	Dutch EPA
Anton Roeloffzen	Foreign expert	Environmental Agency of Rotterdam, Netherlands
Wit A. Siemieniuk	Foreign expert	Vice President for AMEC
LIN Yusuo	Professor	Nanjing Institute of Environmental Sciences, Ministry of Environmental Protection
WANG Shuyi	Professor	Wuhan University
WAN Hongfu	Professor	Guangdong Institute for Eco-environment and Soil Sciences
LEI Mei	Associate Professor	Institute of Geographic Sciences and Natural Resources Research, China Academy of Science
BAI Liping	Assistant Professor	Department of Soil Pollution Control, Chinese Research Academy of Environmental Sciences
Michiel Gadella	Foreign expert	Soil and Project expert, Netherlands

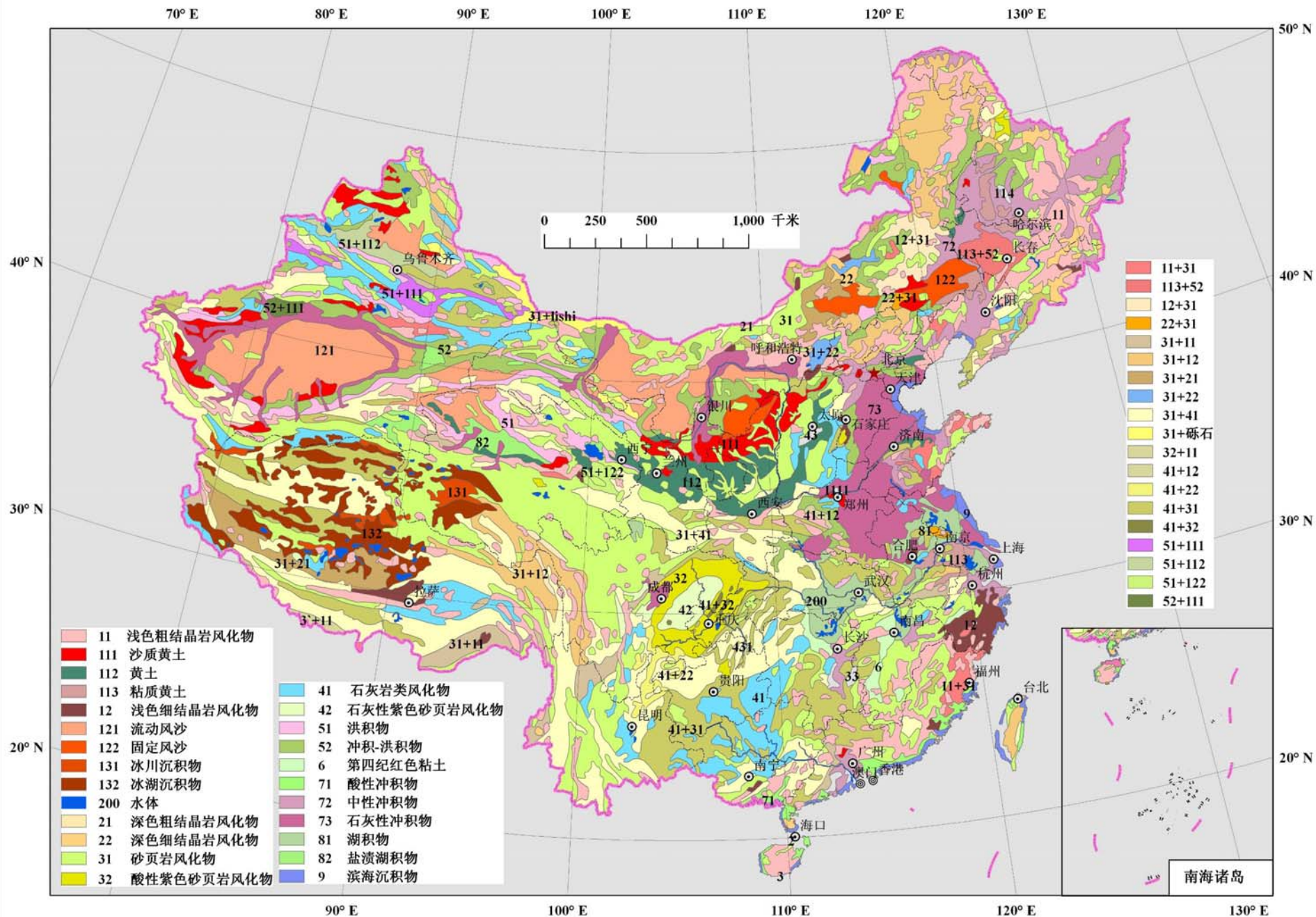
Research Consultants

YANG Juncheng	Professor	Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences, Ministry of Agriculture
WANG Jing	Professor	China Institute of Land Surveying and Planning, Ministry of Land and Resources

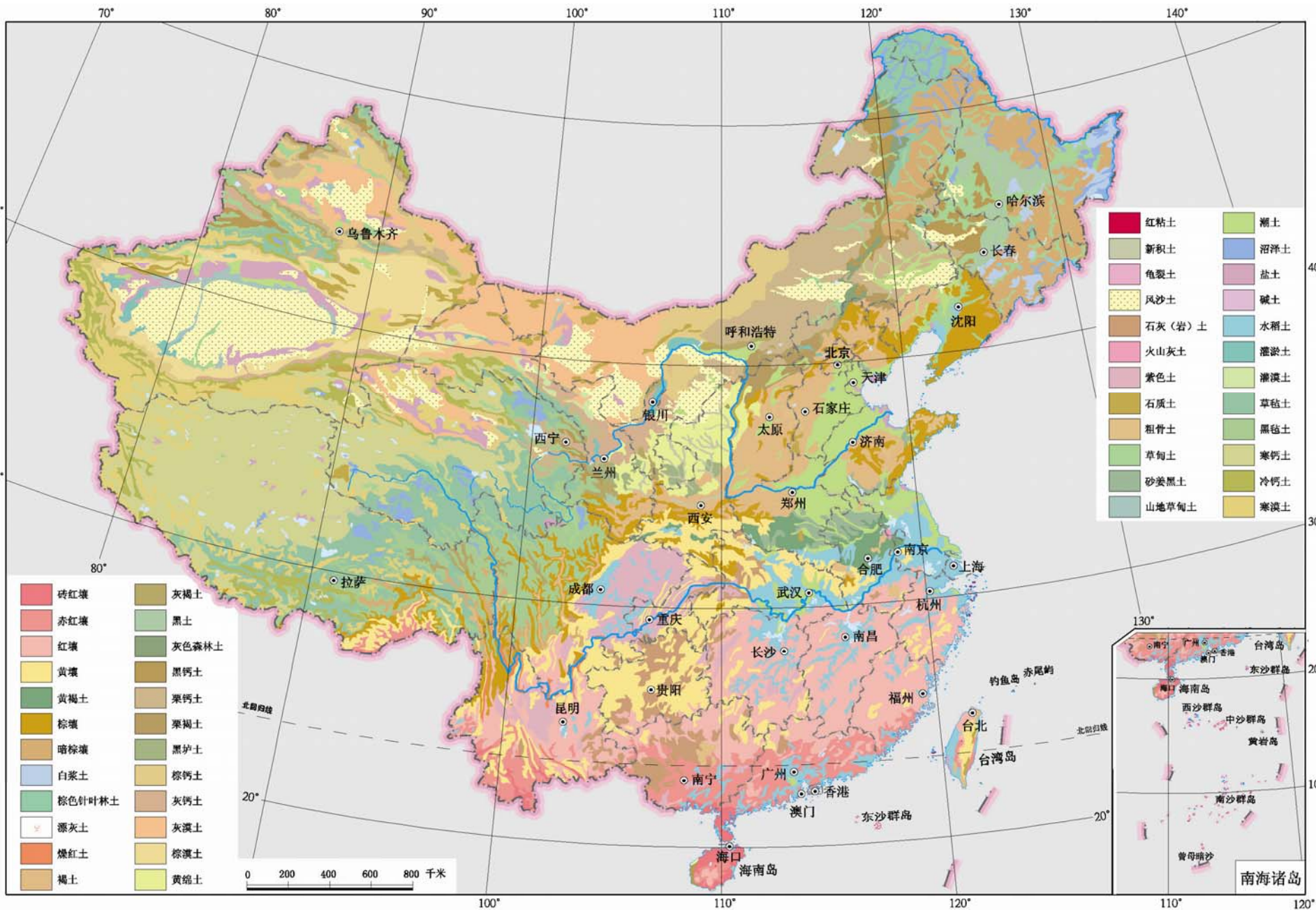


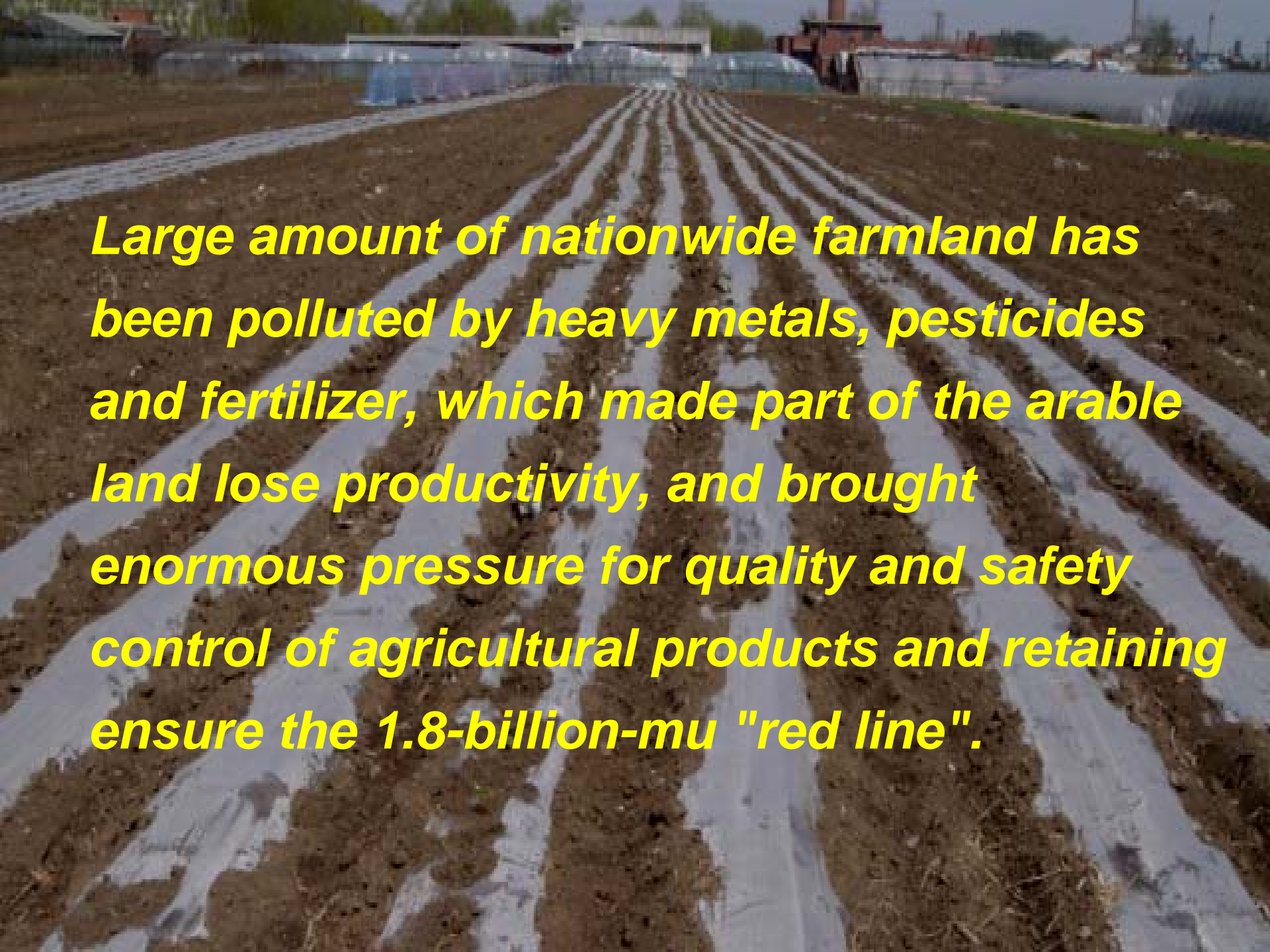
Land and soil environmental situation in China is not optimistic.

The main soil parent materials of China

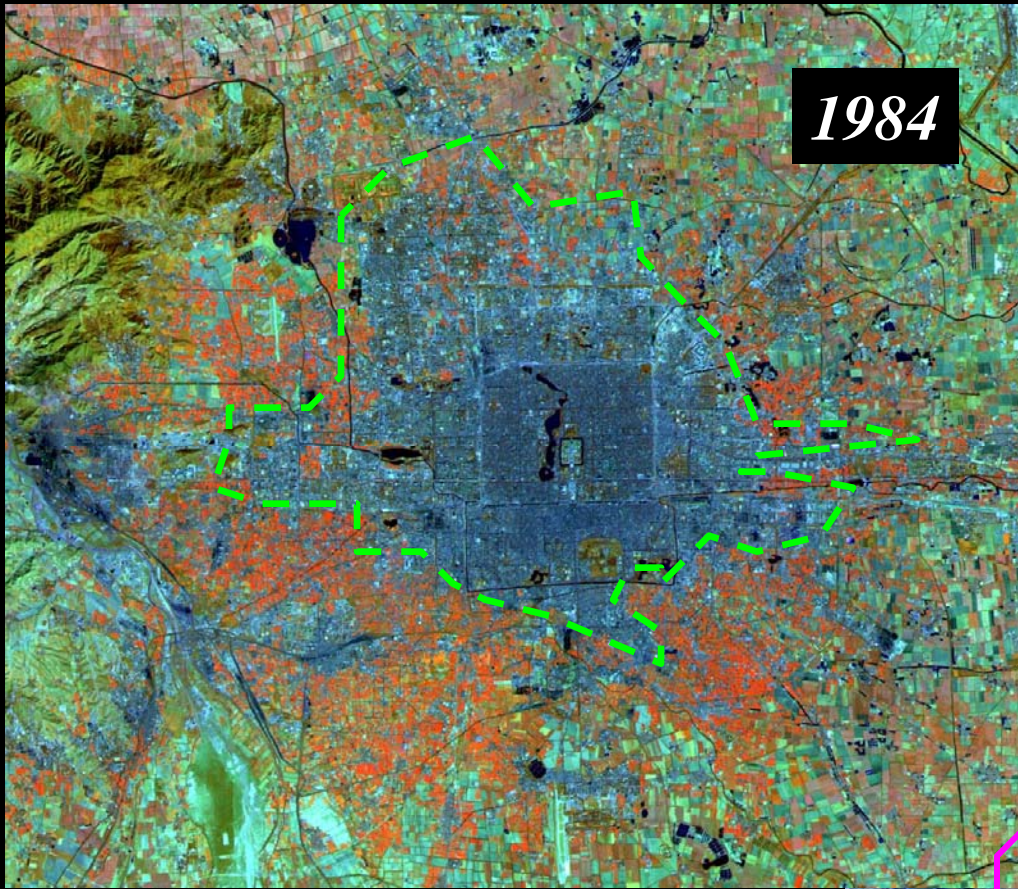


Soil type distribution in China

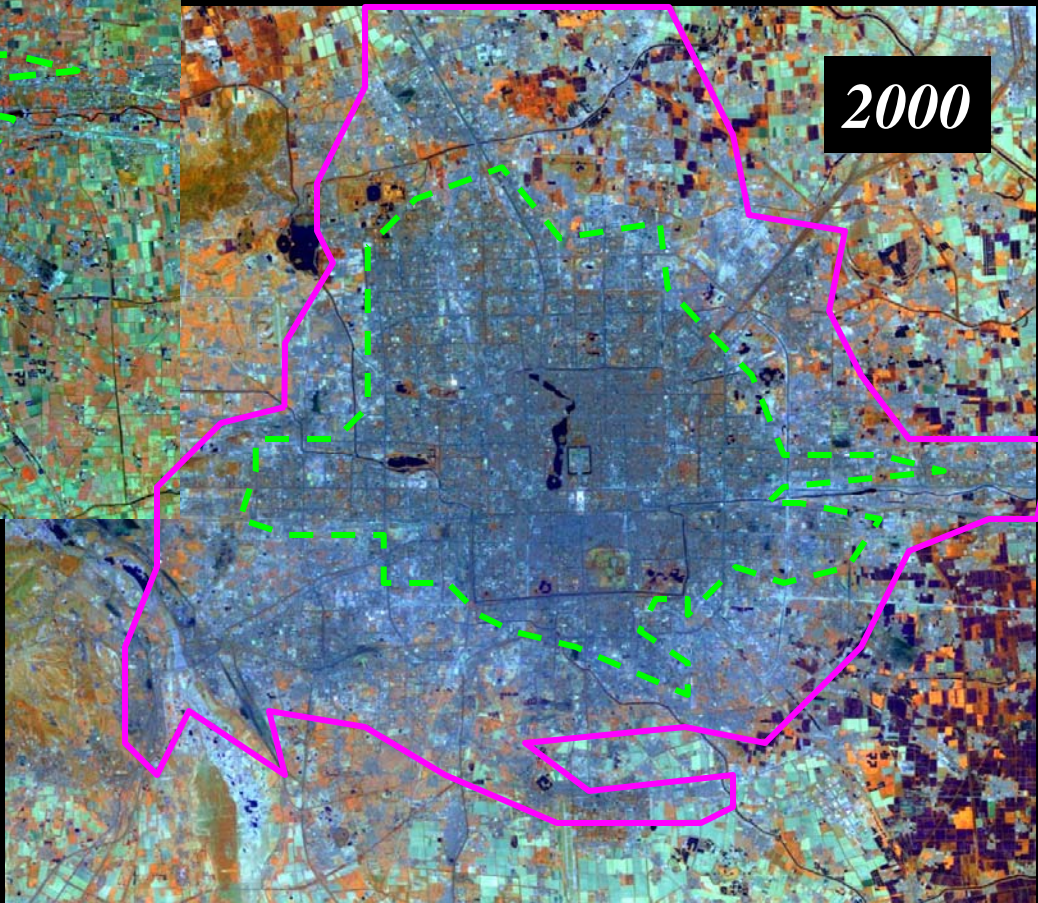




Large amount of nationwide farmland has been polluted by heavy metals, pesticides and fertilizer, which made part of the arable land lose productivity, and brought enormous pressure for quality and safety control of agricultural products and retaining ensure the 1.8-billion-mu "red line".



1984



2000

*Land use change
in Beijing*



With implementation of the policy on "scale down the secondary industry but scale up the tertiary industry" in recent years, a number of industrial contaminated sites need risk assessment and remediation.

Beijing: Over 200 polluting enterprises were moved out from the 4th Ring Road zone. 8 million square meters industrial land were displaced for redevelopment.

Shanghai: Dozens of enterprises were moved from the old industrial zone.

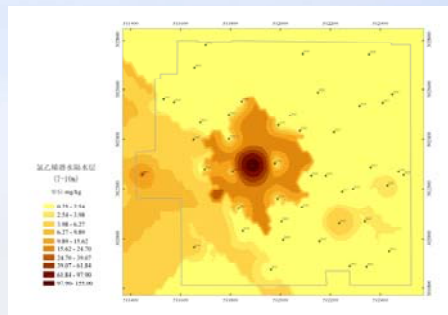
Shenyang: 56 polluting enterprises were moved in 2008. All the heavy polluting enterprises were moved in 2009.

Guangzhou: 147 large scale industrial enterprises have been closed, shut down or moved since 2007.

Chongqing: 112 polluting enterprises were moved in 2010.

Zhejiang: 100 polluting enterprises have been relocated or closed since 2005.

Jiangsu: 400 chemical enterprises were moved, and over 1000 small enterprises were closed.



Major Hazards and Influences of Soil/Land Pollution

- 1. Safety of agricultural products*
- 2. Human health*
- 3. Ecological degradation*
- 4. Sustainable land use*

Main Research Contents

1. Soil environmental protection status and problems in China

1.1 Achievements in China's soil environment protection work

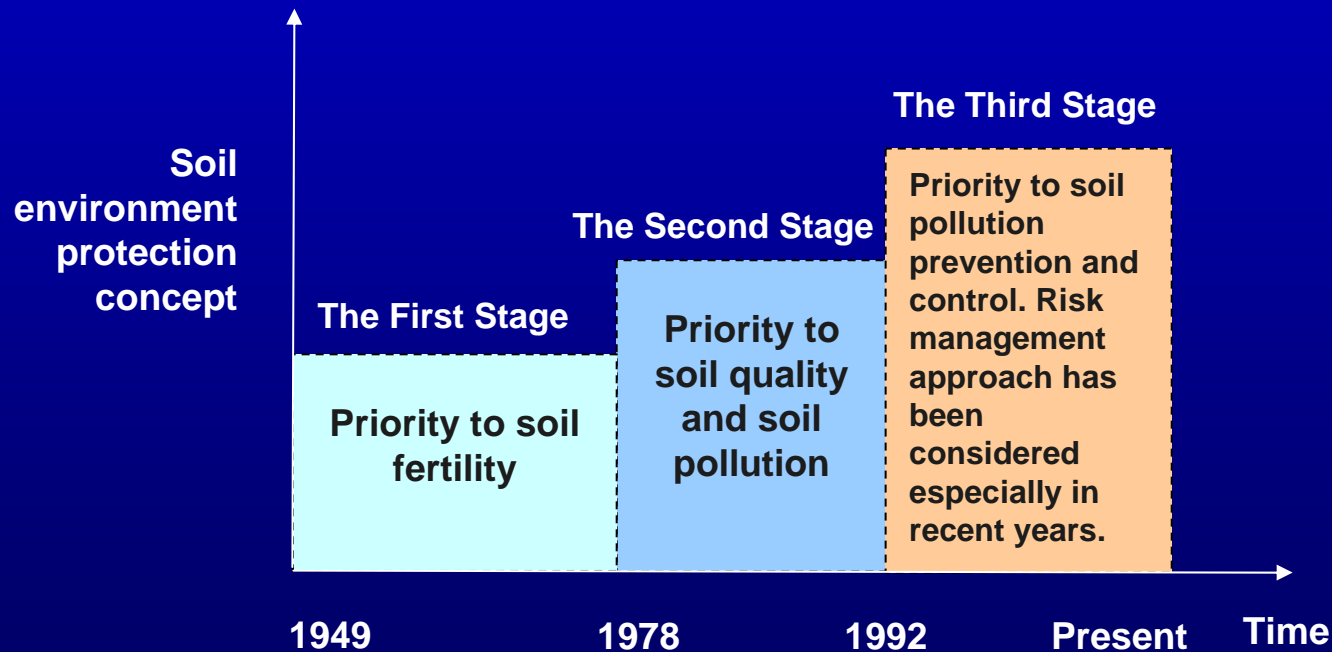


Chart of China's Development Stages of Soil Environment Protection



- ***China has successfully organized and carried out a series of soil environment investigations.***
- ***A series of standards and technical codes were prepared, issued and implemented.***
- ***Research on soil quality assessment and risk management of soil pollution was improved.***
- ***Emphasis was placed on strengthening monitoring over pollution sources. Demonstration projects of soil remediation were carried out, and International exchanges and cooperation were pursued.***

1.2 Status Quo of China's Soil Environment Protection

■ The rural area

Pollution from factories, industries and farms is still adding to the problems created by the historical practices in China. Transfer of industrial and city pollution to rural areas exacerbates the problem.

■ The urban area

The industrial contaminated sites remained after relocation or abandonment of industrial enterprises in city centers and suburbs may be redeveloped into residential environments. Therefore, those sites may be highly polluted and high-risk areas.

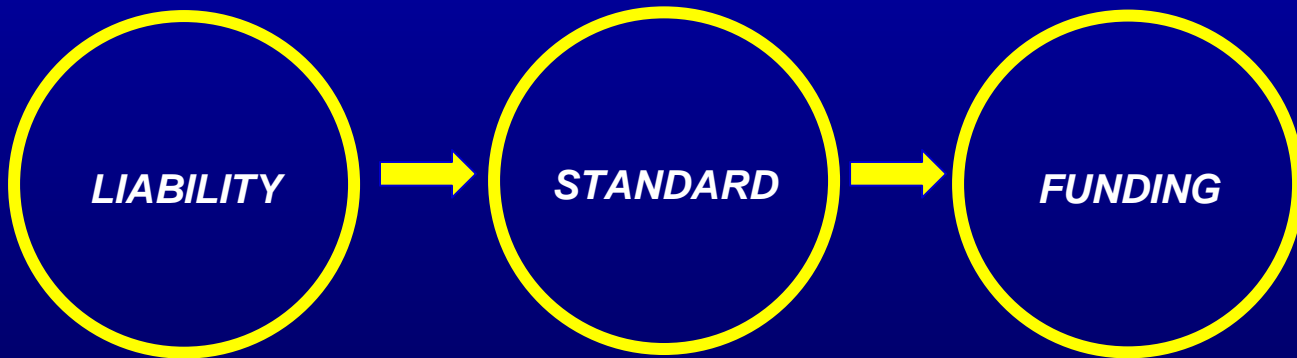
1.3 Problems Existing in Soil Environment Protection and Pollution Control

- **Absence of specific laws and codes for soil environment protection and pollution control**
- **Weak supervision ability to address soil environment issues and absence of perfect risk management system**
- **Unsound soil environment standard system**
- **Weak technical support for remediation of polluted soil**
- **Absence of funds safeguard for remediation of polluted soil**

2. International Experiences and Implications in Soil Environment Protection and Pollution Control for China

	Developed Countries	China
Legislation	Having special laws and codes for soil environment protection, such as Superfund Act and Brownfield Act in the USA, Soil Protection Plan in the Netherlands and Soil Pollution Countermeasures Act in Japan.	Having no special laws on soil pollution prevention and control.
Supervision	Adopting risk-based management modes.	Having not implemented risk-based management modes.
Standard system	Having a complete standard system for soil environment protection. Both Canada and the USA have established national and local guiding standards for soil quality.	The standard system is incomplete. And the whole country adopts the uniform Standard.
Fund guarantee	Multi-channel fundraising mode.	Fund sources are limited and not guaranteed.

Basic considerations for suggesting policies of soil environmental protection



3. Soil Environment Protection Policies Recommendations

3.1 Develop and Improve China's systems for laws and regulations on soil environment protection.

- **Set up a cross-departmental workgroup and define basic rights and duties of all parties.**

Define supervision management systems for soil environment protection.

- **Attach equal importance to soil pollution prevention and remediation.**

The fundamental solution for soil pollution is to control the discharge of pollutants.

3.2 For the supervision object, high attention should be paid on the soil pollution caused by industrial and agricultural activities.

- **Strengthen soil environment quality supervision in basic farmland and major agricultural production areas.**

Set up a group of bases of organic and green food and strengthen supervision of soil environment.

- **Attach importance to supervision of the high risk industrial contaminated sites.**

Attach great importance to the the following types of industrial sites: contaminated sites caused by industrial enterprises, stockpiling, toxic and harmful waste, gas stations or underground storage tanks.

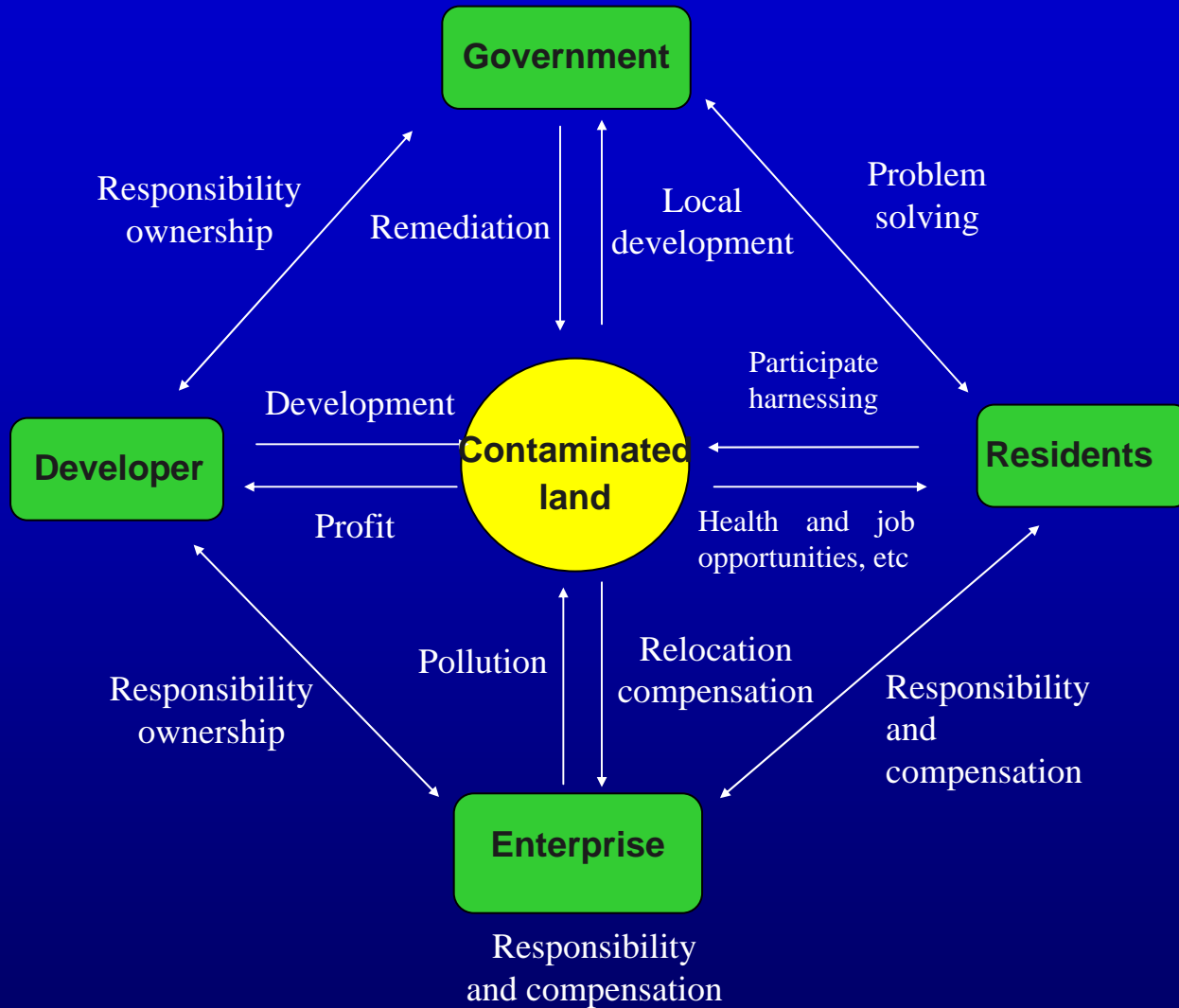
3.3 For the management concepts, the widely used risk-based management mode should be concerned and reinforced in China.

- **Draw up different management countermeasures based on risk management methods with the protection targets of human health, soil ecology and groundwater.**

Contaminated sites with the biggest risks -- remediation.

Contaminated sites with low-exposure and low-risk -- management approach.

- **Attach importance to stakeholder partnerships.**



The relationship among all direct stakeholders in contaminated land development

3.4 For the regulatory measures, construction of soil environmental standard system should be gradually promoted. Development of regional standards for soil quality and soil remediation should be encouraged.

- **Establish the soil environment supervision system suitable for China's actual conditions.**
- **Establish a registration system for contaminated sites at the point of property transaction.**
- **Improve China's soil environment standard system.**
- **Set the national and local guiding standards for soil quality.**

3.5 For the soil pollution control and management, the environmental protection departments should guide the demonstration projects to carry out the applicability evaluation of soil remediation technology, and study the financial mechanism for soil remediation.

- **The key areas include origins of agricultural products, the abandoned industrial sites with high risk, the sensitive areas and the hotspots.**
- **The local governments are the main parts of soil pollution control project, and such projects should be mainly funded by the local governments, while the central government's financial fund mainly serves as a guide to encourage the participation of private capital.**

3.6 Science and technology support for the soil environmental supervision should be strengthened in China.

- **Make lists of pollutants requiring prior control in different regions and different producing areas of agricultural products.**
- **Establish soil record and information management systems of contaminated sites.**
- **Establish screening systems for polluted soil restoration technologies and develop technologies and equipment for polluted soil restoration.**
- **Establish mechanisms for sharing soil environment data in China.**

Advantages for China to establish and implement soil environment protection policies

- *Rapid economic development*
- *High attention from central and local governments*
- *Constantly improved public awareness*
- *Extensive bilateral and multilateral international cooperation*

中荷土壤环境保护合作项目启动仪式暨第一期土壤环境管理高级培训班

Kick-off Meeting of Sino-Dutch Bilateral Cooperation on Soil Environment and the First Training Session on Soil Environmental Management

主办：中华人民共和国环境保护部
荷兰王国住房、空间规划及环境部

Co-organized by Ministry of Environmental Protection of the People's Republic of China (MEP)
Ministry of Housing, Spatial Planning and Environment (VROM) of the Netherlands

刘宁

Liu Ning

魏复盛

Wei Fusheng

庄国泰

Zhuang Guotai

Roud Cino

余元堂

Yu Yuantang

张山岭

Zhang Shanling

苏楠

Ton Honders



Thank You!

lifs@craes.org.cn