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Suggestions to Taiwan Government Regarding the Topic of "Soil and Land Management"

As a non-profit organization, CTCI Foundation has recently transformed into a professional think tank for environmental and energy specialty, providing a platform for exchange of information and emerging knowledge. Soil and Groundwater Pollution Remediation Law was promulgated more than six years ago, with the aim of ensuring sustainable use of land and groundwater resources. Regarding contaminated land, to evaluate whether to introduce risk assessment mechanisms for facilitating appropriate remediation, control and scenario play of development of standards.
Regarding unpolluted land, as consensus is still lacking on many areas, it is important to better understand how to prevent and manage pollution. The forum of "Soil and Land Management", which was held on October 25th, 2007, aimed to address soil pollution prevention, re-use and assessment of remediation site issues with participants from industries, government and research institutes. The contents and discussions of the forum were published in the Economy Daily News. The summarized suggestions are listed below:

A. To Reach Consensus on the Establishment of Soil Management

1. To decide whether to fully use of environmental carrying capacity or assimilation capacity of soil

Soil is the ultimate environmental receptor and often carries a variety of substances. Once pollutants get into the soil, they accumulate and are difficult to spread. The degree of environmental carrying capacity or the assimilative capacity of the soil application affects the remediation strategies and goals on soil pollution prevention. Quick assessment and discussion are highly recommended so as to gather consensus on soil management issues.

2. Whether to set up hierarchical supervision on the basis of soil usage

Based on the kinds of uses of lands, there are different district usage regulations, for example, there are agricultural, industrial and residential sites, roads, parks and so on. Pollution of different districts, such as polluted soil or groundwater, has different extent of environmental hazards and health risks to local residents. It is suggested to continue investigating on the health risk assessment in order to establish hierarchical district usage management.

3. To integrate resources of government and research institutes in order to establish a database containing soil related background information

Full background information of soil is required in order to set up reasonable soil control standards and management mechanism. Since soil background information is collected by different units in Taiwan currently, it is suggested the integration of relevant information should start at this instant for establishing soil database of Taiwan's major pollutant contents.

B. Prevention on Soil Pollution

1. To encourage 3R's while preventing soil pollution

Waste recycling and reuse should be actively promoted. To reuse may end up returning back to the land or soil, which should be properly supervised to avoid soil and groundwater contamination. It is suggested to clarify the manage interface of Resource Recycle Act, Waste Disposal Act, the Soil and Groundwater Pollution Remediation Act and other related acts in order to maintain the consistency of each environmental act and principles.

2. Reconciliation of controlled items and standards

Main causes for soil and groundwater pollution include improper effluent discharge, illegal dumping or disposal of waste, leakage of liquid waste or raw material storage tank and inadequate resourcelization of waste. It is recommended to establish the management platform with high consistency, in order to reconcile supervising items and standards of different contaminated media.

C. Remediation of Soil Pollution

1. Classification of remediation of soil pollution

Practical implementation of remediation of soil pollution should take in health risk and cost-benefit issues into account. Therefore, it is suggested that contaminated soil can be allowed for re-use to facilitate the full use of land under the conditions that contaminated soil can be properly disposed and risk-free of spread of pollutions. There should be more practical supervision and remediation plans especially to factors or plants in operation, thus they can proceed with remediation while maintaining their operational and financial standards.

2. To select a remediation of soil pollution site to illustrate

First is to select a remediation site as a remediate model. Along the remediation processing, figure out and resolve related problems such as law and regulations, technology, human capital, funds, credit accordingly.

3. To Introduce Market Trading Mechanisms and Motivate Enterprise Renovation

In accordance with the existing measures of soil and groundwater pollution, enterprises are not willing to invest in the soil contaminated sites, mainly because there are numerous regulations which cause high transaction costs. Even when it is profitable, too many uncertainties make

enterprises reluctant to invest in soil contaminated site development. To bring in private sector market valuation and trading mechanism and to be profitable are important factors which are driving the real estate agencies to come up with re-developing proposals for the future remediation of contaminated sites.