

# Integrating environment into land-use planning through strategic environmental assessment in China: Towards legal frameworks and operational procedures

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## Abstract

China currently put forwards “striving to build an environmentally friendly society” as one of the most important development goals. The land administration authorities are facing the challenge of effectively incorporating environment considerations into their planning system. This paper aims to investigate why and how Strategic Environmental Assessment (SEA) is enacted as an effective tool to integrate the environment into land-use planning during the construction process of an environmentally friendly society in China, and identify factors that influence the integration. It presents characteristics of the land-use planning system, and reviews the progress and current state of SEA in China. Results show that SEA provides many benefits in promoting environmental considerations into the land-use planning process. The legal frameworks and operational procedures, in the context of land-use master planning SEA, are summarized and an assessment made of their effectiveness. Some barriers are highlighted through examination of the latest case studies, and several recommendations are presented to overcome these obstacles.

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## 1. Introduction

Land is now viewed as one of the most valuable finite resources in China. With a large population base, China is very limited in its per capita acreage of cropland (Lo and Xing, 1999).

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Latest figures of the Ministry of Land and Resources showed that China's per capita arable land dropped from 1.41 mu (0.094 ha) in 2004 to 1.4 mu (0.093 ha) in 2005, which was only 40% of the world average (Xinhuanet.com, 2006a). Relative shortage of land is becoming a critical issue hindering China's development, particularly in those coastal regions experiencing rapid urbanization, industrial development and population growth. Some problems depleting land include: grasslands degeneration, increasing desertification, drought, alkalization and soil erosion. In order to promote and achieve coordinated development of the economy, society and environment, a vital role has been presented to making economic growth more environmentally friendly in the 11th Five-Year Plan in China (Xinhuanet.com, 2006b). The objective of "striving to build an environmentally friendly society" has become one of the most important developmental goals. If this goal is to be achieved, the integration of the environment into land-use decision-making process is very essential.

Strategic Environmental Assessment (SEA) can be seen as a breakthrough point of constructing an environmentally friendly society in China (Chen, 2005). SEA may be defined as a systematic and comprehensive process for evaluating the environmental consequences of proposed policy, plan or programme (PPP) and its alternatives in order to ensure they are fully considered and appropriately addressed at the earliest suitable stage of the decision-making process (Therivel et al., 1992; Wood and Djeddour, 1992; Sadler and Verheem, 1996). Many countries, e.g., Canada, the Netherlands, New Zealand, and the United States (Wood, 1995) have established some form of SEA system. The application of SEA to plans and programmes is more prevalent, especially the energy, transport, waste and water sectors and on spatial or land-use plans (Dalal-Clayton and Sadler, 2005). However, it could be said that every SEA and land-use planning system is unique because of their respective legal, administrative and political circumstances (Jones et al., 2005).

In autumn 2002, China promulgated legal requirements for SEA with the adoption of the *Environmental Impact Assessment Law of the People's Republic of China* ("EIA Law"). EIA Law has been implemented in China since 1 September 2003 and requires those plans that have potential significant environmental effects to undergo environmental impact assessment. Although the formal legal arrangement has been in place on paper for more than three years, SEA's actual application in plan-making has remained premature in its development. In the land-use planning sector, a key issue is the incorporation of the EIA Law's requirements into an SEA process EIA Law is largely "procedural" in nature and sets out a number of well-defined steps that must be undertaken by a Plan-level SEA. The methodology for undertaking each procedural step is left to the SEA practitioners to determine. In order to apply SEA effectively, the system within which it functions needs to be analyzed first. This paper is intended to examine the characteristic of Chinese land-use planning and suggest how SEA can be more readily applied to the land-use master plan-making process, the foundation of the land-use planning system in China.

## 2. Land-use planning system in China

### 2.1. Land Administrative Law

The countrywide governance of land management is based on the *Land Administrative Law of the People's Republic of China* (LAL, formulated in 1986, amended in 1998 and 2004). LAL provides detailed legal frameworks for the management of land resources, as well as contains strong provisions for the protection of farmland, for the establishment of land-use planning, and explicitly concerning with environmental protection (Palubeski et al., 2004).

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