



Institutional Design for Strategic Environmental Assessment on Urban Economic and Social Development Planning in China

Guojun Song^{*}, Li Zhou, Lei Zhang

Environmental Policy and Planning Institute, Renmin University, Beijing 100872, China

ARTICLE INFO

Available online 24 August 2011

Keywords:

Strategic Environmental Assessment
City economic and social development plan
Institutional design
China

ABSTRACT

The National Economic and Social Development Plans (NESDPs) of cities in China, given their comprehensive, integrated and strategic nature, have significant and profound impacts on the development of cities and their embedded ecological environments. Strategic Environmental Assessments (SEAs) on city NESDPs have the potential to improve environmental policy integration at strategic level and to safeguard the sustainable development of cities. However, these plans are normally exempted from the current SEA requirement in China. We argue that it is more feasible to apply SEAs on city NESDPs before SEAs are expanded to higher level NESDPs in China. This article attempts to propose a China-specific institutional design for SEAs on city NESDPs based on experiments in selected cities and within the current legal framework. To obtain a holistic view about the long-term development of cities, more qualitative and descriptive analysis-based assessment methods should be adopted to broaden participation, to encourage the exchange of information and to reach consensus.

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1. Introduction

A recent review on Strategic Environmental Assessment (SEA) implementation in China from 2003 to 2009 proposes to expand the targets and scopes of SEA to cover the National Economic and Social Development Plans (NESDPs) that cause most significant influences and impacts on environment but are normally exempted from the requirement of SEA (Wu et al., 2011). In supporting this prospect, we go further to argue for prioritizing SEAs on city NESDPs and to propose an institutional design that fits the current situation in China.

The NESDP system is one of the legacies of China's centrally planned economy. Although changes have been made to NESDP during China's transition from planned economy to market economy, its nature remains the same. Most of the proposals to reform NESDP focus on its forms and contents (Cheng, 2005), and do not question its role in the development of China. NESDPs at various levels from the national to county level are renewed every 5 years. The Development and Reform Commissions (DRCs) at various levels are responsible for making their Five Year Plans (FYPs), which shall obtain approval by the People's Representatives Congress at the same level and shall be published to the public afterwards.

NESDPs combine two dimensions: economic development (from development targets to investment in infrastructure construction, from sectoral to regional development, from resources development

to allocation of productivities, etc.) and social development (such as population, employment, housing, social welfare and environmental protection) (Tang et al., 2006). They cover all major issues relating to the fields of social and economic development, and serve as a basis for other thematic or sectoral plans. They set strategic guidelines for other planning processes that go on to provide detailed guidance for specific sectors and regions. NESDPs serve as the guide and basis for funds allocation and projects approval in different sectors and fields, such as infrastructure construction in agriculture, water conservancy, energy, transportation and communication sectors; development and protection of major resources like land, water, ocean, coal, oil and natural gas; public utilities and services like ecological construction, environmental protection, disaster mitigation, science and technologies, education, culture, health care, social security and national defense. Hence, our emphasis is on NESDPs strategic importance, and the crucial role that SEA might play if systematically applied to them.

The "Law of the People's Republic of China on Environmental Impact Assessment" (the EIA Law), which was enacted in 2003, stipulates that "departments of the State Council and prefecture-level municipal governments and their functional departments shall conduct environmental impacts assessment during the process of making their land use planning and development planning for a region, watersheds and sea areas and shall include a chapter on environmental impacts in the planning documents". "Planning" in the EIA Law refers to those comprehensive and long-term plans, which can make profound impacts on future development. However, mainly due to key government departments' perception of the confidentiality

^{*} Corresponding author. Tel.: +86 10 6251 2045.

E-mail addresses: Songguojun@vip.sohu.com, Songguojun@ruc.edu.cn (G. Song).

of some policies contained in the NESDPs, these plans are not being subject to EIA. In the State Council's "Decision on Strengthening Environmental Protection and Implementing Scientific Development Outlook", of 2005, it was stressed that apart from EIA Law-specified EIAs on varied plans, environmental impact assessment should also be conducted on strategic governmental policies and decisions that impose major environmental impacts. By any interpretation, NESDPs are the most important strategic decision at various levels, yet no environmental assessments are required.

Due to various reasons, the efforts by the Ministry of Environmental Protection (MEP) to promote SEAs on national and departmental policies have met resistance from many ministries and commissions. However, if it is still premature to enforce SEAs on national and provincial NESDPs, it should arguably be more feasible to apply SEAs to city-level NESDPs. This is based on three arguments: a) cities in China face enormous environmental pressure and thus are in urgent need for better environmental policy integration in their strategic planning; b) municipal governments have more autonomy and direct influence on the activities within their territories; c) resources for conducting SEAs are limited in any country and thus should be targeted towards prioritized policy fields (Zhang, 2009). City NESDPs are a city's most comprehensive and strategic documents, which govern and guide other thematic and sectoral plans that – in turn – pose significant impacts on a city's social, economic development and its environment. Applications of SEAs on city NESDPs can prevent major environmental consequences from happening. SEAs will not only encourage cities to take into account environmental issues in NESDPs but also help find solutions to conflicts between social, economic and environmental objectives. Thus, SEAs of city NESDPs are strategically important (Jiang et al., 2008).

Given the complex nature and uncertainty of policy-making process, the procedures and methods for SEAs at different levels in different countries are also different (Wang et al., 2009). There are hardly any standard institutional frameworks and procedures to follow (Nilsson et al., 2009). This article focuses on city NESDPs, aiming to define the objectives, principles and contents of SEAs at this level. The proposal draws on the experience from pilot SEAs of NESDPs of Inner Mongolia Autonomous Region and of three cities: Wuhan, Linfen and Ningbo, in order to propose the necessary institutional arrangements to enable the applications of SEAs on city NESDPs.

2. Institutional design for city NESDP SEAs

2.1. Guiding principles

To be instrumental in empowering environmental agencies and in integrating environmental considerations into plan compiling, it is important to bring in SEAs in city NESDP process as early as possible so that the assessment results can be used to adjust and improve the planning. Since city NESDP is the most comprehensive and strategic plan for a city, SEAs should focus on cumulative environmental impacts of the planned programs and overall impacts on larger regional environment, such as acid rain issue, biodiversity and climate change (Therivel and Minas, 2002). To obtain a holistic view of the city development, SEA should be conducted by a team that consists of experts with different subject knowledge and should involve groups representing different interest. Instead of being an 'impact-based SEA', which frequently adopts quantitative methods for impact prediction, SEA should also apply social research methods wherever possible, so as to encourage effective participation and information exchange. Opinions of different stakeholders should be documented and considered during the assessment process. In case of any uncertainties and assumptions, detailed explanations should be given and documented as well.

The contents of city NESDP SEAs should include, though not be limited to, the following:

- (1) Assessment and proposals on urban population, size of the economy and ecological carrying capacity.
Plans, as comprehensive as NESDPs, must be based on the regional environmental carrying capacity. SEA should focus on the cumulative environmental impacts of the planned actions and to ensure development intensity within the growth limits. Creative measures are required to keep the population and the scale of the economic below the ecological carrying capacity.
- (2) Assessment of the ecological friendliness of the planned industrial structure and layout, and proposal for improvements.
Industrial structure and layout, to a large extent, dictate the economic benefits, resources utilization efficiency and environmental impacts. Quantitative and qualitative methods should be combined to assess the rationality of initial proposals, and come up with alternatives that improve the ecological friendliness.
- (3) Assessment of potential of energy conservation and emission reduction.
Energy conservation and emission reduction are challenging tasks for fast growing China. Therefore, energy conservation and emission reduction are important issues in the NESDPs. However, the SEA reports so far rarely touch on these issues, especially the assessment of CO₂ reduction potential. A city's ability to save energy and reduce emission is decided by investment, projects design and layout. Assessment of energy consumption and environmental impacts is essential to provide a solid basis for decision making.
- (4) Assessment of city's environmental management capacity, pollution control measures and proposals for improvement.
The assessment of the environmental management capacity is often neglected by those who conduct SEA, and is rarely mentioned in SEA reports. Without the required environmental management capacity, effective implementation of the plan cannot be expected. Assessment of the environmental management agencies, decision-making mechanisms, and environmental monitoring capacity, evaluation mechanisms, financing mechanisms, verification systems and accountability systems will provide a good indication of the likelihood of realizing stated environmental objectives. NESDP's SEA should also assess the effects of city's environmental pollution control and treatment measures, including end-of-pipe pollution treatment, air pollution control, non-point sources water pollution control, municipal environmental infrastructures construction, and so forth.

A structured methodological framework for SEA has not yet been established in China. Most of the methods used so far are borrowed from EIA methods at project level. Mathematic modeling, GIS, scenarios analysis, prediction, are among the most commonly used methods. While these methods are able to measure environmental impacts in a quantitative manner, and from different perspectives, they fall short in terms of being able to cope with uncertainties characteristic of the typically open, dynamic and huge complex eco-system of a city. Often, assessments on the same plan using different methods lead to different conclusions. To overcome these problems, social research methods should be brought in to build up a more comprehensive and holistic framework in which different perspectives and information are cross-checked and coordinated. By doing so, the final conclusions can be better understood and are likely to be more readily accepted by different interest groups.

The implementation of city NESDP SEAs shall be evaluated along specific criteria, including: the process should be integrated, sustainability-led, focused and policy-relevant (as opposed to dispersed), accountable, participative, interactive and influential in decision-making.

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