

Urban Environmental Sustainability: Background, Commitments, and Intervention Points

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Workshop on Urban
Environmental Sustainability

Newport Beach, CA.

February 5-7, 2006

[Background]

Rio

- “Earth Summit” of 1992 promoted urban sustainability, but evidence suggests that the world of cities is not moving towards ecological sustainability.
- The urban sustainability discourse is limited by its failure to confront the deeper causes of unsustainability.

[Background]

- The changing model of growth
 - Postwar “long boom”, Fordism. Challenged 1970s
 - Oil crises

[Background]

- Globalization
 - Global capitalist economy
 - Increasing consumption of nature
 - Cities have “ ecological footprints”
(flows of energy and matter to and from a city’s economy and convert these into the corresponding land and water required from nature to support these flows.)

Ref: Nicholas Low et al. *Consuming Cities*.
Routledge, 2000

Ecological footprint analysis of selected countries following Wackernagel and Rees, 1996:97-9

	<i>Ecological footprint (ha. per capita)</i>	<i>Ecologically productive land within the national territory (million ha.)</i>	<i>Land Surface consumed (million ha.)</i>
USA	5.1	725.6	1,315.8
Britain	3.0	20.3	174.0
Germany	3.0	27.7	243.9
Japan	2.0	30.4	250.0
India	0.38	250.0	345.8
Australia	3.74	575.9	66.9

[Background

China

- 1990-2020, 18 million added to urban population per year.
- Floating population, 75-90 million people.

[Background

- Can China's national resource base meet the challenge?

$$I = P \times A \times T$$

I, total societal impacts

P, population size

A, living standard

T, technology used (Ehrlich, 1996)

[Background]

- Resource depletion in China
 - Land degradation
 - Depletion of forests
 - Water shortage
 - 300 cities have water supply shortage problems
 - 110 seriously
 - Energy pressures
 - Total energy consumption third in the world

Commitments

China's Agenda 21, adopted in March 1994

- Conscious attempt to integrate sustainable development into country's national development strategy.
- From theoretical debates to practical action.
- Top-down and prescriptive
- SD became a national priority

Commitments

China's Agenda 21 in 4 parts:

Strategy:

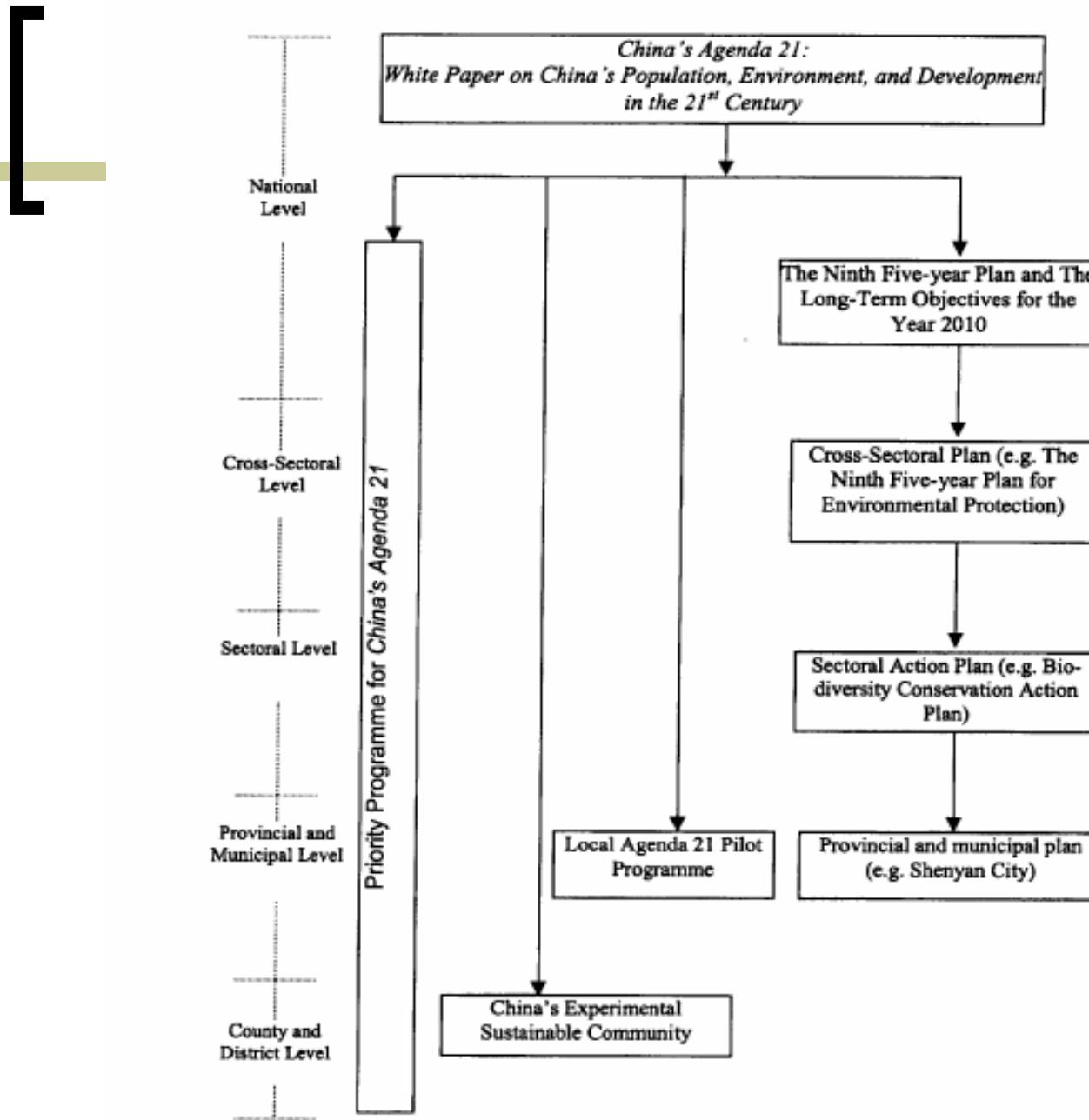
1. Comprehensive strategy and policy for SD
2. Social SD
3. Sustainable economic development
4. Rational utilization of resources and environmental protection

Commitments

Priority programmes – 9, including environmental pollution control, population, health and human settlements

SD into national 5-year plan process

Figure 2 Process for the integration of sustainable development considerations into development planning in China (national level)



Source: synthesised from [14–17]

Table 3 Plan for the control of the total amount of major pollutants discharge during the Ninth Five-year Plan Period

<i>Project</i>	<i>1995</i>	<i>2000</i>	<i>2000vs.1995 (+or %)</i>
The amount of soot emission (10,000 tons)	1,744	1,750	0.37
The amount of industrial dust discharged (10,000 tons)	1,731	1,700	-1.80
The amount of sulphur dioxide emission (10,000 tons)	2,370	2,460	3.82
The amount of chemical oxygen demand discharged (10,000 tons)	2,233	2,200	-1.49
The amount of oil pollutants discharged (ton)	84,370	83,100	-1.5
The amount of cyanide discharged (ton)	3,495	3,273	-6.4
The amount of arsenic discharged (ton)	1,446	1,376	-4.8
The amount of mercury discharged (ton)	27	26	-3.7
The amount of lead discharged (ton)	1,700	1,670	-1.9
The amount of cadmium discharged (ton)	285	270	-5.4
The amount of sexivalent chromium discharged (ton)	670	618	-7.7
The amount of industrial solid wastes discharged (10,000 tons)	6,170	5,995	-2.9

Source: synthesised and modified from [22]

[Commitments]

- Local Agenda 21 (provinces, cities)
- Conclusion – China's Agenda 21 has earned international recognition and financial support, but NGOs need to get involved.

[Intervention Points]

- SD is about the achievement on a global scale of three principles: economic development, social justice and ecological responsibility.
“twenty / eighty society”

[Intervention Points]

“...technology and social organization can be both managed and improved to make way for a new era of economic growth” (Brundtland Report, 1987:8)

Intervention Points

- Technology and urban SD in China,
 1. Tackle pollution, reverse “dirty production”
(coal consumption, automobile explosion, recyclable energy)
 2. Water conservation and pricing policy
 3. Resources-conserving urbanism
(land, energy, water etc.)

Intervention Points

4. Preparation for natural hazard – early warning signal system (recall: 2004 tsunami in SE Asia, Hurricane Katrina in New Orleans, 2005)
5. Use IT and related innovations to educate population on environmental consciousness. SD starts with every person. A new mind set.

[Intervention Points]

- Hong Kong's experience in SD
 - 1999, policy at highest level
 - “Every citizen, every business, every government department and bureau needs to start working in partnership.”
 - First SD strategy for Hong Kong, 2003

Thank you