

# **BACKGROUNDS, AIMS, EMPHASES AND PROGRESSES OF ECOLOGICAL CIVILIZATION CONSTRUCTION IN CHINA**

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# **CONTENTS**

- **DEFINITIONS**
- **BACKGROUNDS**
- **AIMS**
- **EMPHASES**
- **PROGRESSES**
- **PROSPECTS**

# **1. DEFINITIONS**

## **1.1 Definition of Ecological Civilization**

- One kind of modern civilizations in the world, compared with traditional agricultural civilization, industrial civilization.
- To respect, accommodate to and protect nature. Nature is the God (in the west), or nature is the Heaven (in China).
- One kind of cultural ethics guiding people to realize harmonious coexistence between human and nature.

- Pay much attention to protecting natural resources base, conserving and expanding environmental capacity, restoring and promoting ecological system.
- Public awareness of resources exhaustion, environmental pollution, ecological degradation: the most disappointed and severe problems and trends.
- Resource-saving , environmental friendly and ecological conserving life styles are welcome.

Ecological civilization is one kind of modern civilization respecting, accommodating and protecting nature, and aiming at realizing harmonious relationship and sustainable coexistence between the human and the nature.

## 1.2 Definition of Ecological Civilization Construction (ECC)

- The systematic or comprehensive **Attempts** to promoting ecological civilization in a nation, a province, a county, or in an economic, natural, social region.
- The whole evolution **Process** in which ecological civilization level is lifted or promoted step by step, gradually.
- The integrated **Engineering** of combining all stakeholders to participating into ecological civilization promotion.

- The ***constructors*** of ecological civilization: all stakeholders, such as residents, leaders, entrepreneurs and so on. But not all of these stakeholders take the same aspects in ECC.
- The governments (at every levels) play the important, basic, indispensable roles in ECC: organizer, planner, coordinator, supervisor, regulator, etc..



## **2. BACKGROUNDS**

## 2.1 China's Transfer of Economic Growth or Development Pattern

- China's traditional industrialization pattern: 3 "High"s and 3 "Low"s
  - 3 High: high input of materials, high exhaustion of natural resources, high discharge of pollutants.
  - 3 Low: low quality, low efficiency and low benefits of economic growth.
- China's economic growth pattern: 3 "Un-"s unbalanced, uncoordinated and unsustainable

## **2.2 ECC is the inevitable selection to deal with resources & environmental constraints**

The limitation of resources, environment and ecological factors on China's economic and social development has been changing in 6 aspects:

- From short-term to long-term
- From regional to national
- From few or limited sectors many sectors
- From few or limited types to many types
- From flexible to rigid
- From moderate or invisible to strong or visible

## 2.3 ECC is the inevitable selection after entering into middle-income period

- The *Kuznets Environmental Curve* tell us the relationships between environmental protection and income
- China is striving to build *the Moderately Prosperous Society*
- To stride over the *Middle-income Trap*
- To balance economic growth and environmental protection

## **2.4 ECC is the inevitable selection to establishing Responsible Large Nation Image and position in the world**

- Environmental factors play more and more important roles in international relationships
- World-wide resources shortage become serious, and ecological friction and environmental conflicts become remarkable
- Peaceful rise, development and co-existence are China's true targets
- ECC exploration, successful experiences will provide useful inspiration for other nations, especially for developing nations

# **3. AIMS**

## **3.1 The Top Goals: to Build Beautiful China**

- **Chinese Dream: Beautiful China**
  - Blue Sky: healthy breathing
  - Clean Water: healthy drinking
  - Green Land: healthy habitats
- **Chinese Dream: Harmonious China**
  - Food security/ satisfactory medical care/ and others
  - Harmonious communities and society
  - Harmonious relationships between the governments and the people

## **3.2 Main Aims: to Improve Resource base, Environmental Quality & Ecological Services**

- To improve the resource base: water and energy are in the top of the list
- To improve Environmental Quality and Capacity: urgent activities to alleviate the nationwide air pollution.
- To improve Ecological System and Services: much attention paid to forest, grass, farmland, wetland, water ecological systems and their services.



## **3.3 Important Aims: to Improve Sustainability of Economic Growth**

- To eliminate outmoded surplus production capacity: iron and steel, cement, and dirty power plants, etc..
- To regulate on energy, water and land consumption intensity of industrial production
- To regulate on pollutant discharge of large-size enterprises and communities
- To invest huge fund into environmental protection and promotion

## 3.4 Other Aims

- To Improve the Social Harmony in China
- To improve the International Images of China
- To promote the basis for China's sustainable development

# **4. EMPHASES**

# 4.1 Natural Resource Saving and Conservation

- **Resources Saving: China's *Basic National Policy***
- **Saving and protecting all types of natural resources**
  - Saving energy
  - Saving water
  - Saving land: Cultivated land conservation and protection, based on the need of Food and Grain security
  - Saving and conserving mineral resources
  - Conserving forestland, grassland, wetland

- To accelerate the reform *of resources pricing mechanism*, in order to reflect the real scarcity of resources, the real supply and demand relationships, the environmental pollution costs and the safe production costs.
- To accelerate the reform of *resources property rights*, in order to establish the resources property rights with clear margin, sound functions, smooth transfer.

- To accelerate the reform of **resources taxation and charge system**, in order to save and protect natural resources. Water charges, mineral resources tax and charges will be the keys for reform.
- To accelerate the reform of **natural resources management system**, in order to formulate the integrated management system of all types of natural resources.

## 4.2 Environmental Protection

- To improve the environmental evaluation system, in order to promote its independent, objective and fair nature.
- To improve the polluter compensation system, in order to reduce pollution activities and effects.
- To improve the environmental information opening system, in order to promote the transparency of environmental information.

- To establish\ perfect the ***early warning system*** of environmental public opinions, and the management mechanism for environmental emergent accidents, in order to alleviate the effects of the accidents and related social troubles.
- To establish\perfect the responsibility system for environment-related activities and the compensation system for environmental pollution, in order to reduce and punish pollution activities and the persons.



## 4.3 Ecological Conservation

- To objectively understand, scientifically evaluate, reasonably utilize and effectively protect the multifunctional ***values of ecological systems***. The idea of ***natural assets*** will be accepted by more and more leaders and citizens.
- To establish and perfect the ***ecological compensation system***, in order to protect and promote ecological conservation activities. The ***Ecological Compensation Regulation*** will be published at the end of this year.

- To establish the ***multi-sources ecological input\investment system***, in order to expand the sources of ecological conservation inputs.
- The ***Ecological Conservation Red Line*** will be identified and delimited at the national and regional levels, in order to effectively conserve the fragile ecological system, including the forestland, grassland, farmland, wetland and waters ecological systems. The concept of ***National Park*** appeared first in China's top document, which will include forest park, geological park, wetland park, etc..

## 4.4 Optimization of Spatial Structure

- ***The National Functional Zoning*** was published in 2010. All of China's territory was classified into four types: the Optimization Development Zones (such as Beijing, Tianjin, Shanghai and other developed regions with limited resources and environmental capacities), the Key Development Zones (such as rapid urbanization zones), the Limited Development Zones (including agricultural and ecological zones) and the Forbidden Development Zones (such as strategic ecological zones).

- ***The National Territorial Planning*** will be published in the near future. The concepts of (ecological) survival lines, (resource) supply lines, and (economic) development lines will appear in this planning.
- The ***rules and standards*** for territorial development will be established, in order to strictly forbid wrong and over-intensive development activities.
- The activities of ***territorial renovation and restoration*** are welcomed, encouraged and supported by the governments and citizens.

# **5. PROGRESSES**

# 5.1 Progresses at Central Government

- **MEP's**

- The main initiator or sponsor of ECC
- From environmental protection and ecological conservation to ECC: milestone leap forward
- Great efforts are paid to ECC experimentation and pilot projects: 125 experiment sites (counties or cities)
- “The National ECC Experimentation and Demonstration Indicators” published by MEP

system	Indicators	
<b>Ecological economy</b>	1	Growth rates of resource outputs
	2	gross output per unit of industrial land
	3	reuse rate of renewable resources
	4	carbon discharge intensity
	5	Energy consumption of GDP
	6	Fresh water consumption per unit of industrial added value
	7	Water use efficiency coefficients of agricultural irrigation
	8	Weight of energy-saving and environmental production sectors in GDP
	9	Weights of organic, green varieties plantation in the total

<b>Ecology and environment</b>	10	Discharge intensity of main pollutants (COD, SO <sub>2</sub> , NH <sub>3</sub> -N, Nox)
	11	Percentage of conservation land in total territory
	12	Coverage rate of forest and grass
	13	Restoration Percentage of polluted soil
	14	Restoration percentage of agricultural pollution sources
	15	Restoration Percentage of ecological system
<b>Ecological habitat</b>	16	Percentage of green buildings in total newly constructed
	17	Integrated management rate of rural environment
	18	Percentage of ecological areas in the total
	19	Public satisfaction rate of environment quality
	20	Percentage of ecological and environmental inputs in financial expenditure



<b>Ecological legislation</b>	21	The weight of ECC works in government examination system
	22	Percentage of energy-saving and environment-friendly products in official purchase
	23	Percentage of environmental evaluation of projects
	24	Opening rate of environmental information
	25	Participation rate of cadres in ECC training
	26	Popularization rate of ECC knowledge
<b>Ecological culture</b>	27	ECC courses in total teaching calendar
	28	Enterprises ECC related inputs in total ECC related expenditure
	29	Percentage of public energy-saving, water-saving and public traffic
	30	Indicators with local features and selection freedom

- **MWR' s**

- MWR's Ideas on Accelerating Water ECC

- To implement the strictest Water Management Legislation
    - To optimize water resources allocation
    - To enhance water-saving management
    - To promote water resources protection
    - To improve water ecological system conservation and restoration
    - To strengthen ecological conserve in water conservancy construction

- To launch nation-wide Water ECC pilot experimentation
- Taking water saving as the key
- Taking conservation and restoration of water ecological system as the key
- Taking environmental protection and recovery as the key
- There are 45 pilot sites in the first round of experimentation, from 28 provinces, metropolises and minority autonomous regions.

- **The State Forest Bureau's efforts**
  - One of the main initiators, advocates of ECC
  - Focus on conservation and restoration of forest and wetland ecological system for a long time.
  - Published the ***Planning ketch on Accelerating ECC (2013-2020)***
    - To establish the planning system for territorial ecological space
    - To establish the restoration engineering system for ecological restoration
    - To establish the production system of ecological products and services
    - To establish the institutional system for ecological security
    - To establish the ecological cultural system

## 5.2 Local Governments' Efforts

- Some or more and more provinces and cities launch their efforts in ECC
- Energy-saving, water-saving, land-saving are always the keys in local ECC
- Air pollution management and recover is also the key in local ECC, especially in north China, including Beijing, Tianjin and Hebei for their severe air pollution
- Land or soil pollution management and restoration is also the key in some areas, such as Hunan Guangdong province.

## 5.2 DRC's Researches on ECC

- ECC researches focus on scientific assessment system and government examination system for ECC
- The framework for the scientific assessment system
  - Target layer: ecological economy; ecological society; ecological culture; ecological politics; and ecological services and environmental quality.
  - Main indicators: energy consumption per unit of GDP; fresh water consumption per unit of GDP; etc..

- **The framework for the government examination system**
  - Pay much attention to the final results of ECC
  - Pay much attention to the qualities: especially to the quality of economic growth, the quality of environment, the quality of ecological system, and the quality of social development and citizen living.
  - to play the indispensable important roles of public in government examination

# **6. PROSPECTS**



## 6.1 The Success of ECC Depends on the Followings: 10 or more factors

- Public ***awareness*** of ECC, especially awareness of resources saving, environmental protection and ecological conservation: ***education and culture***.
- Establishing the scientific ***evaluation*** system on ECC: theories, procedures and methods.
- Transforming the official ***appraisal, examination and promotion*** system, with ECC related activities as the main contents.
- Successful ***experiences and models*** of ECC.

- Effective and efficient ***monitoring system*** for air, water, solid and other pollution.
- The transparency of environmental ***information***, especially the information environmental pollution and damages.
- ECC institutional and technological ***innovation***.
- Sustainability of ***economic growth***.
- The shift of consumption and production **style and patterns**.
- The ***world*** changes, trends and ***international*** relationships.

## **6.2 Main Fields or Topics for Future\Further Researches on ECC**

- **Advanced and practical technologies for ECC**
  - Energy saving
  - Water saving
  - Air pollution management
  - Water pollution management
  - Soil pollution management
  - Forestland, wetland, grassland and desert land ecological system restoration and recovery
  - Pollution monitoring

- **Advanced and feasible institutions for ECC**
  - Resources, ecological valuation\pricing and compensation institution
  - Resources, environmental and ecological accounting system
  - Resources, environmental and ecological auditing system
  - ECC investment mechanism
  - ECC public participation mechanism
  - Natural resources, environmental and ecological management system

- ***Wish to Cooperate With All of you in China's ECC Researches!***
- ***Thank You for Your Attention!***

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