

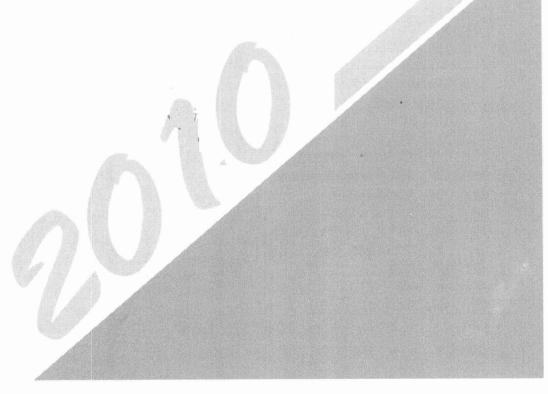
## CCICED ANNUAL POLICY REPORT

# ECOSYSTEM MANAGEMENT AND GREEN DEVELOPMENT





# ECOSYSTEM MANAGEMENT AND GREEN DEVELOPMENT



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#### **Preface**

The China Council for International Cooperation on Environment and Development (CCICED) was established with the approval of the Chinese government in 1992. Consisting of senior Chinese and international experts, it serves as a high-level advisory body with a mandate to conduct research and to provide policy recommendations to the Government of China on China's environment and development. The Council reports to the State Council and each year meets with a senior leader to discuss its recommendations.

Over the past 19 years, CCICED has witnessed significant change and progress in China's policies on environment and development. During the Council's tenure, issues have evolved in number, complexity and significance from those discussed at the 1992 Rio UN Conference on Environment and Development, to such environmental challenges as climate change, which has become the focus of economic and political concern throughout the world. CCICED continues to be a unique body, highly relevant to China's domestic needs and to fostering a better international understanding of China's contributions to global environment and development.

With ongoing support from the Chinese government, governments of many other countries and international agencies, CCICED has completed three phases. Phase I (1992-1996) carried out initial policy studies and research on key issues in the field of environment and development, and disseminated and exchanged international experiences and information on successful policies. Phase II (1997-2001), in addition to policy research, carried out policy and project demonstrations with positive outcomes. Phase III (2002-2006) met the challenge of addressing broader priorities and conducted a number of major policy studies. Based on the successful experience of previous phases, Phase IV (2007-2012) has drawn support from a larger number of donors and has focused on issues that will determine China's success in becoming an environmentally friendly society. China has entered a new era, and CCICED will play a major role in promoting China's strategic transformation in environment and development.

2010 presented many difficulties and challenges to China's sustainable development: climate change, an uncertain world economy, and frequent natural disasters. There is an increasing contradiction between rapid economic growth and the carrying capacity of resources and the environment. It is inevitable that China must shift its economic growth mode

for long-term development, attach greater importance to ecology and environment, and achieve harmony among economic development, resources utilization, and the environment.

In 2010, two CCICED task forces and three special policy study projects completed their work, addressing issues related to ecosystem service and management. Their policy recommendations formed the basis for the Council's 2010 Recommendations to the Chinese Government, which have aroused considerable interest. Three new task forces were established in 2010 on low carbon industrialization, green economy, and investment, trade and the environment.

This volume, *Annual Policy Report 2010*, contains documents presented to and approved by the CCICED's 2010 Annual General Meeting, which met in November with the theme "Ecosystem Management and Green Economy". It includes the Issues Paper, prepared as a discussion document addressing ecosystem service and management; final reports submitted by the two task forces and three special policy studies; and the final text of the Council's 2010 Recommendations, which has since been forwarded to the State Council and other governmental agencies. The task force reports represent the views of the individual teams and not necessarily those of the Council as a whole, while the Recommendations reflect a consensus among CCICED members attending the 2010 Annual General Meeting.

The materials in this volume offer some options for China to consider as it continues to strengthen its governance of environment and development. We wish to share them within and outside of China in the hope that they will lead to a better understanding of the environment and development challenges facing China, and China's contribution to resolving environmental issues domestically and internationally. Further information may be found on the CCICED website (http://www.cciced.net/encciced), including current task force reports and special policy studies, as well as reports from past years.

We would like to extend our thanks to those who have supported CCICED's work and China's environmental undertakings. We appreciate the financial and other support from the Government of China and other generous donors, and the contributions of the many Chinese and international experts who have conducted the research reflected in this volume. The invaluable assistance of the Chinese and International Chief Advisors and their group of experts, who provided guidance to the research work; the assistance of the International Secretariat Support Office at Simon Fraser University in Vancouver, Canada; and the advice of Council members, who volunteered their time and expertise in support of this undertaking, are all gratefully acknowledged.

The Secretariat of CCICED January, 2011

#### **Acknowledgments**

The China Council for International Cooperation on Environment and Development (CCICED) carried out a series of policy research studies on issues of ecosystem management and green economy, with strong support of CCICED Chinese and International Members, experts, and scholars as well as partners. Reports on and recommendation from these studies were presented to the CCICED Annual General Meeting in November 2010. An Issues Paper was also submitted, which summarized current issues related to environment and development in China. Based on these documents, Policy Recommendations were prepared by the Council's chief advisors and approved by the Council for submission to the Government of China. These documents are contained as chapters in this current volume.

The Chinese and international experts and other individuals who prepared each document are listed below:

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Last but not the least, we would like to express our sincere gratitude to CCICED staff members and for their hard work in editing and publishing this volume. They include: Zhu Yun, Zhou Yubao, Ding Yangyang, Zhu Wenjun, Li Li, Huang Ying and others.

#### **Contents**

Chapter	r 1 Policy Recommendations to the Government of China	1
1.1	Change Views and Management Approaches Regarding Ecosystem Services	
	and Management, and Update the National Strategy on Ecological Protection	
	and Rehabilitation	4
1.2	Strengthen Environmental Management and Allow Key Terrestrial Ecosystems	
	to Recover	7
1.3	Place Marine Ecosystem Management High on the Policy Agenda and	
	Promote Sustainable Ocean and Coasts Development	9
1.4	Promote Scientific Innovation, Improve Technological Support, and	
	Strengthen Capacity Building on Ecosystem Management	.13
1.5	Attach Greater Importance to Weak Links, Step up Efforts in Key Fields, and	
	Help Promote the Green Transformation of Economic Development Pattern	
	during the 12 <sup>th</sup> Five Year Plan Period	. 15
Chapter	r 2 Ecosystems and China's Green Development	.19
2.1	Introduction	.19
2.2	Global Green Initiatives	.22
2.3	China's Green Development	.29
2.4	Ecosystems and Ecological Services in China	.32
2.5	Nine Key Issues	.52
2.6	Conclusion	.63
Chapte	r 3 Ecosystem Service and Management Strategy in China	68
-	Introduction	
3.2	Concept of Ecosystem Services and Ecosystem Management	70
	Status of Major Ecosystems and Ecosystem Management	
	Scenario Analysis	
	Chinese Case Studies and International Experiences	

3.6 Ma	jor Findings101
3.7 Pol	icy Recommendations
Chapter 4	Ecosystem Issues and Policy Options Addressing Sustainable
	Development of China's Ocean and Coast
4.1 The	e Importance of Sustainable Development for China's Ocean and Coasts 113
4.2 His	storical Background of China's Sustainable Development Policy118
4.3 The	e Ecological Challenges of the Sustainable Development of China's
Oc	ean and Coasts
4.4 Les	ssons Learned and Trends in International Marine Management147
4.5 Co	nclusions
4.6 Pol	icy Recommendations
Chapter 5	China Ecological Footprint Report 2010
5.1 Hu	manity's Ecological Footprint: Global and Asia Context
5.2 Ch	ina's Ecological Footprint and Biocapacity160
5.3 The	e Challenge of Urban Ecological Footprint164
5.4 The	e National Impact of China's Ecological Footprint165
5.5 De	velopment and Ecological Footprint166
5.6 Glo	obal Impact of China's Ecological Footprint167
5.7 Th	e Water Footprint169
5.8 Ch	ina: Transforming Toward Sustainable Development
Chapter 6	Policy Framework Research on Improving Service Functions of
	Aquatic Ecosystems
6.1 Ch	aracteristics of China's Water Resources178
6.2 Ch	ina's Actions to Improve Aquatic Ecosystem Service Functions181
6.3 An	alysis on Aquatic Ecosystem Service Functions
6.4 Cu	rrent Situation and Evolution of China's Major Aquatic Ecosystems189
6.5 An	alysis on Changes in Service Functions of China's Aquatic Ecosystems 194
6.6 Ma	jor Contributing Factors to the Degradation of Service Functions of
	ina's Aquatic Ecosystems195
6.7 Im	pact of Reservoir and Dam Construction on River Ecosystem Service
Fu	nctions in China
6.8 Pol	licy Recommendations for Improving China's Aquatic Ecosystem Services 205

Chapter 7	Developing Policies for Soil Environmental Protection in China	210
7.1 Sta	tus Quo and Development Trend of China's Soil Environment Protection	210
7.2 Int	ernational Experiences and Implications in Soil Environment Protection	
and	l Pollution Control for China	222
7.3 So	l Environment Protection Policies Recommendations	229
Appendix I	Progress on Environment and Development Policies in China	
	(2009-2010) and CCICED Policy Recommendations Impact	240
Appendix I	I Name List of Council Members	282

### Chapter 1 Policy Recommendations to the Government of China

The 4<sup>th</sup> Annual General Meeting of the China Council for International Cooperation on Environment and Development (CCICED) Phase IV was held from November 10<sup>th</sup> to 12<sup>th</sup> 2010 in Beijing. The theme of the meeting was "Ecosystem Management and Green Development." This theme is an important means for exploring a new path for environmental protection in China—a path in which ecology and economy come into a more harmonious relationship.

The council members are pleased to see that a roadmap to "green transformation" and "people-centered" development during the 12<sup>th</sup> Five Year Plan period and beyond was put forward by the recently concluded 5<sup>th</sup> Plenary Session of the 17<sup>th</sup> CPC Central Committee. The theme of this roadmap is "scientific development", and the main thread is to "accelerate the transformation of economic development pattern". We understand that to realize such a vision, the Chinese government will formulate strategic measures on adjusting economic structure and vigorously promote science and technology development and innovation. Also, we support the government in its emphasis that the fundamental purpose for transforming the country's economic development pattern is to ensure that all people can enjoy a better quality of life, and that the force driving such a transformation is deeper reform and opening up. Emphasis on inclusive development is a welcome addition since it is an essential ingredient for successful sustainable development.

In particular, the council members noted that the Chinese government has identified the building of a resource-conserving and environment-friendly society as an important approach to promote the shift in the country's economic development pattern. On the one hand, the Chinese government hopes to "green" its economy by consuming less natural resources and better protecting the environment, while on the other hand, it aims to reduce the overdependence of economic growth on natural resources, and to mitigate environmental damage through green transformation. In order to implement this approach, China has started exploration for a new path of environmental protection that features minimum environmental cost,

good benefits, low pollution and sustainability. People naturally should have high expectations for this new path since it is an innovation in terms of both philosophy and methodology.

The council members speak highly of the efforts and substantial achievements of the Chinese government over the past year: at a time when the world was coping with the post financial crisis period, China managed to maintain rapid economic growth, promote green development and continue its focus on creating an ecological civilization. We understand that for the 11<sup>th</sup> Five Year Plan period China has met the targets ahead of time for SO<sub>2</sub> and COD reductions; and that the energy target is also likely to be achieved. The attainment of these targets is a major step towards optimizing the economic structure and improving environmental quality in some areas of China. Issuing the National Plan on Ecological Functional Zones is an important step in supporting the country's green development by identifying resource availability and environmental carrying capacity as a key factor in determining the development direction of each specific region.

We look forward to seeing further progress being made in tackling climate change now that the concept of low carbon development has been widely accepted within China. Certainly the successful Shanghai Expo has become a highlight in the exploration for low-carbon cities and green development. Moreover, the Chinese government's commitment to support the faster development of seven strategic emerging industries, featuring clean, green and low-carbon development, along with the various pilot programs on low carbon economy are additional encouraging evidence of China's commitment to pragmatic action on energy and environment concerns.

The concepts of green economy and green development gained international recognition during the financial crisis and will gain more attention in the post-crisis period as nations try to find new engines for growth. However, the council members note that, despite the plethora of approaches to promoting green development, one issue in this context has not gained as much attention as it deserves, either within China or elsewhere: the protection of ecosystems and enhancing their ecological function and services. Certainly China has undertaken major initiatives to restore forests, grasslands, wetlands and to designate nature reserves and protect species and other components of the country's natural capital. Yet much more remains to be done and the situation will grow more urgent with rising domestic consumption and continuing high rates of economic growth.

Ecosystems serve as the foundation of the subsistence and development of human beings, as well as all other forms of life on the planet. This natural capital, which is comprised of the richness of species, their diverse habitats, and the genetic resources that ecosystems

hold, can provide various services. For instance, ecosystems provide resources for economic and social development, they satisfy people's spiritual need to enjoy nature, and support and regulate the physical environment upon which mankind depends.

Harmonious relationships between people and nature are at the core of green development. It is development underpinned by healthy ecosystems and sound eco-services. Development that damages biodiversity and exceeds ecological carrying capacity is unsustainable. 60 percent of the world's ecosystems are being degraded, while the global ecological footprint per capita is overwhelming the world's biological carrying capacity. Already in 2007, the footprint was 50 percent larger than the Earth can sustain, which poses serious challenges to the green development goals being pursued by the international community. Therefore, in this International Year of Biodiversity, and at a time when green development is becoming a world trend and China enters its critical stage of green transformation, the council members consider it exceedingly important to focus on the issue of ecosystem protection and ecological services.

After years of tremendous efforts, in particular the continued restoration and enhancement of forest and grasslands, China has achieved considerable progress in ecological protection and recovery, and has laid a fairly solid basis for social and economic development as well as for ecological security. But the council members also note the conflict between the country's limited resources and ecological carrying capacity and the increasing economic and social demands being made on natural systems of all types. This conflict is resulting in continued ecological degradation, serious environmental pollution that affects ecological functions, and a weakened basis for green development. The council members voice their special concern over the frequent natural disasters that have plagued China this year, such as droughts, floods, landslides, typhoons and earthquakes. These disasters have rung alarm bells. They have exposed the fragility of the country's ecosystems and, in some instances, the desperate need for enhanced eco-services. In the future, climate change will place even more pressure on already overworked ecosystems.

Both theory and practice show that improved ecological management can help protect biodiversity and enhance ecological services. CCICED has two task forces reporting this year. One studied key ecological factors in terrestrial ecosystems (forest, grassland and wetland), and the second examined the sustainable use of China's marine and coastal ecosystems. Other studies were carried out regarding soil pollution, conservation of aquatic ecosystem services, the need for mainstreaming biodiversity conservation, and on the status of China's ecological footprint.

Based on the discussions during the Annual General Meeting and the results of the task

forces and other studies, the CCICED AGM 2010 proposes the following policy recommendations to China's central government.

### 1.1 Change Views and Management Approaches Regarding Ecosystem Services and Management, and Update the National Strategy on Ecological Protection and Rehabilitation

Serious problems exist in ecological protection and development in China, starting with the difficulty in protecting those values of ecosystems which are hard to price or are presumed to be simply a part of nature's abundance. A great deal of attention is given to the provisioning services (e.g., the production of food, fibre and other economic products) that ecosystems provide. But other functions and services of ecosystems are often undervalued or neglected. These other functions include natural regulatory services (e.g., flood control by forest ecosystems, climate regulation by type of land cover, pollutant absorption by wetlands), support services (e.g., natural regeneration of soil) as well as cultural services (e.g., high quality of life benefits such as recreation, knowledge). This problem exists not only in China but also elsewhere. The coming climate changes will stress and impact all of the services provided by natural ecosystems, creating a new urgency for improved ecosystem management at the present time.

In terms of management approaches, the mandates of regulating agencies are basically divided by sectors related to economic goods and jurisdictions. This approach is not well suited to the holistic and trans-regional nature of ecosystems. The implementation mechanism is largely "top-down", with the government playing a guiding role, while the spontaneous engagement of communities and the general public remains seriously inadequate. In addition, the overlapping of mandates among different regulating authorities blurs their responsibilities, powers and interests related to ecosystems. As a result, these agencies may implement sectoral laws, regulations and policies on ecosystems, and focus on problems like low efficiency, poor performance, and economic development of ecosystems, while neglecting, to varying degrees, conservation aspects and while avoiding the tackling of problems related to integrated management of the overall ecological system and of the interlinkages among ecosystems.

The council members therefore recommend that China should change its views and approaches regarding the use of natural capital; set healthy ecosystems and highly functional eco-services as a key goal; and take a holistic ecosystem management approach. The council members further recommend that with these changes, key goal

and management approach in mind, China should update the national strategy on ecological conservation and development in an effort to enhance the overall economic and social value of China's natural capital.

(1) Change views and recognize the holistic and multi-functional nature of China's ecosystems from a scientific development point of view. Scientific research and public education about ecosystems should be strengthened to raise the awareness of both policy makers and the general public about the multiple services and high value that ecosystems and their biodiversity can provide. This should lead to greater public participation in ecosystem protection. Of critical importance is the introduction of the ideas that improvement of ecosystem management could bring about multiple benefits of economic development, poverty alleviation, as well as job creation. It is of critical importance that both the quantity and quality of ecosystem services are improved at the same time.

In addition, management approaches should place as much attention on the functions of ecological regulatory processes, cultural enjoyment and ecological support as on the supply function of ecosystems. The former functions should be well protected, improved and given long-term attention. The goal for ecological conservation and development should be a healthy and resilient ecosystem with continuously improved eco-services. Biodiversity conservation should be mainstreamed into development strategies, and into the general efforts for ecological protection. A holistic and integrated view of ecosystem management embracing the linkages from China's mountaintops to its seas should be upheld as a basic approach in ecosystem management.

(2) Introduce National Medium and Long Term Strategic Guidelines on Ecological Protection and Development, and establish a coordinated action framework. During a nation's development, science and technology provide the driving force, education is the basis, talents are the key, and natural capital the roots. By drawing upon the modality of national guidelines on science and technology, education and human resources development, and taking into consideration the National Plan for Ecological Development (1998-2050), the National Guidelines on Ecological Conservation (2000-2030), and the results of the recently completed Macro Environmental Strategy Study, China should draft National Medium to Long Term Strategic Guidelines on Ecological Protection and Development.

The Guidelines can integrate various functions of the ecosystem and help the government to manage the country's ecosystems holistically. Consequently, the problems brought about by the current separated and jurisdiction-based management system will be resolved. Bearing in mind the National Plan on Ecological Functional Zoning, the Guidelines should incorporate the protection of all ecosystems, including forest, grassland, soil, wetland, rivers,

lakes, seas, and groundwater, as well as the endeavors of biodiversity conservation, ecological preservation and pollution control. The umbrella Guidelines should also identify the medium to long term targets and tasks for ecological protection and development in China. Based on the proposed Guidelines, subordinate plans or measures targeting specific types of important ecosystems should be developed.

(3) Establish a more comprehensive cross-sector and trans-regional coordination mechanism and an effective ecosystem management system. For an integrated use and management of ecosystems to be feasible, China should take a long term view and work towards the establishment of an administrative body that holds more fully the powers for regulating ecological conservation and development, with the current need being the establishment of an effective inter-ministerial and trans-regional coordination mechanism. Many problems such as: overlap of mandates; blurred responsibilities, powers and interests; coordination difficulties; and high management costs will have a better chance to be resolved.

At the central government level, a cross-sector and trans-regional coordination mechanism needs to be established that focuses on the entire ecosystem management and trans-regional river basin systems. It is important to streamline the responsibilities between central and local; between different ministries; and between upstream and downstream jurisdictions. At the local level, particularly in middle and western regions of China, it is important to establish an inter-provincial and intra-provincial ecosystem management coordination mechanism that becomes the decision-making body for ecological development, planning and management. This mechanism will facilitate inter-agency coordination and prevent unilateral and uncoordinated decision making.

The responsibility for biodiversity conservation and ecological preservation should not be limited only to national authorities on forestry, environmental protection, land and resources, and water resources, but also should be mainstreamed into the portfolio of the economic, industrial and agricultural agencies.

(4) China should encourage wider participation of the general public, enterprises, communities and NGOs in ecosystem management. Among other means this can be accomplished through education and awareness raising, market mechanisms such as ecocompensation that links their incomes with ecosystem health. Of critical importance is the creation of incentives, such as eco-product labeling and certifying process, to encourage the private sector to get involved and manage certain ecological services, foster certain new sectors, strengthen enterprises' social responsibilities, and reduce their ecological footprint. It is important to engage communities and individuals, especially those living in and directly exploiting natural ecosystems, to raise their awareness of the importance of the ecosystem

health, explore sustainable community action mechanisms, improve information disclosure, and alter their behaviors. Ecosystem service and management should be included into school curriculums and education programs. One critical path is to engage NGOs in ecosystem management and ask them to lead, support, monitor and implement the system themselves. A combination of both top-down and bottom-up approaches would help form a stronger force in ecosystem protection.

#### 1.2 Strengthen Environmental Management and Allow Key Terrestrial Ecosystems to Recover

More than 96% of the Chinese population lives on 34.9% of the land territory. Continuous and fast growth of economic and social activities brings about huge demands for multiple services from the country's terrestrial ecosystems, including its forests, grasslands, wetlands and other freshwater aquatic systems. In 2007, China's ecological footprint per capita was lower than the world average, but it is still 2 times the biological carrying capacity of the country's ecosystems. Meanwhile, the ecological deficit is annually becoming larger. There are many daunting challenges ahead in protecting and recovering ecosystems and their services. In spite of increasing forest coverage, most of China's forests remain inadequate in total volume, imbalanced in distribution and poor in eco-services; the overall grassland and wetland quality continues to deteriorate despite improvement in certain areas; soil problems, including soil erosion, desertification, salinization, nutrient impoverishment, and soil pollution, have become increasingly serious. In some areas, soil has been so badly polluted that it becomes a threat to ecological safety, food safety and human health. Furthermore, water ecosystems provide much poorer eco-services than before and their biodiversity has decreased. The status of endangered species is deteriorating, genetic resources are being lost. The Chinese government needs to strengthen terrestrial ecosystems management and enhance their functions, so as to form a sound natural underpinning for sustained and stable economic growth and a better life for the people.

Therefore, the council members recommend that: China should regard the terrestrial ecosystems as a whole; use systematic and coordinated approaches to improve terrestrial ecosystems management; introduce relevant laws and regulations, plans, policies, and measures; and grant more financial support to ensure success of these measures. The measures will help the important terrestrial and their associated aquatic ecosystems to rehabilitate.

(1) Amend or draft protection and recovery plans on important terrestrial ecosys-