



CHINA COUNCIL FOR INTERNATIONAL COOPERATION ON ENVIRONMENT AND DEVELOPMENT

Policy Research Report on Environment and Development

ENVIRONMENT
AND SOCIETY FOR
GREEN DEVELOPMENT

2013

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**China Council for International Cooperation
on Environment and Development**

Policy Research Report on Environment and Development

Environment and Society for Green Development 2013

CCICED Policy Research Report on Environment and Development

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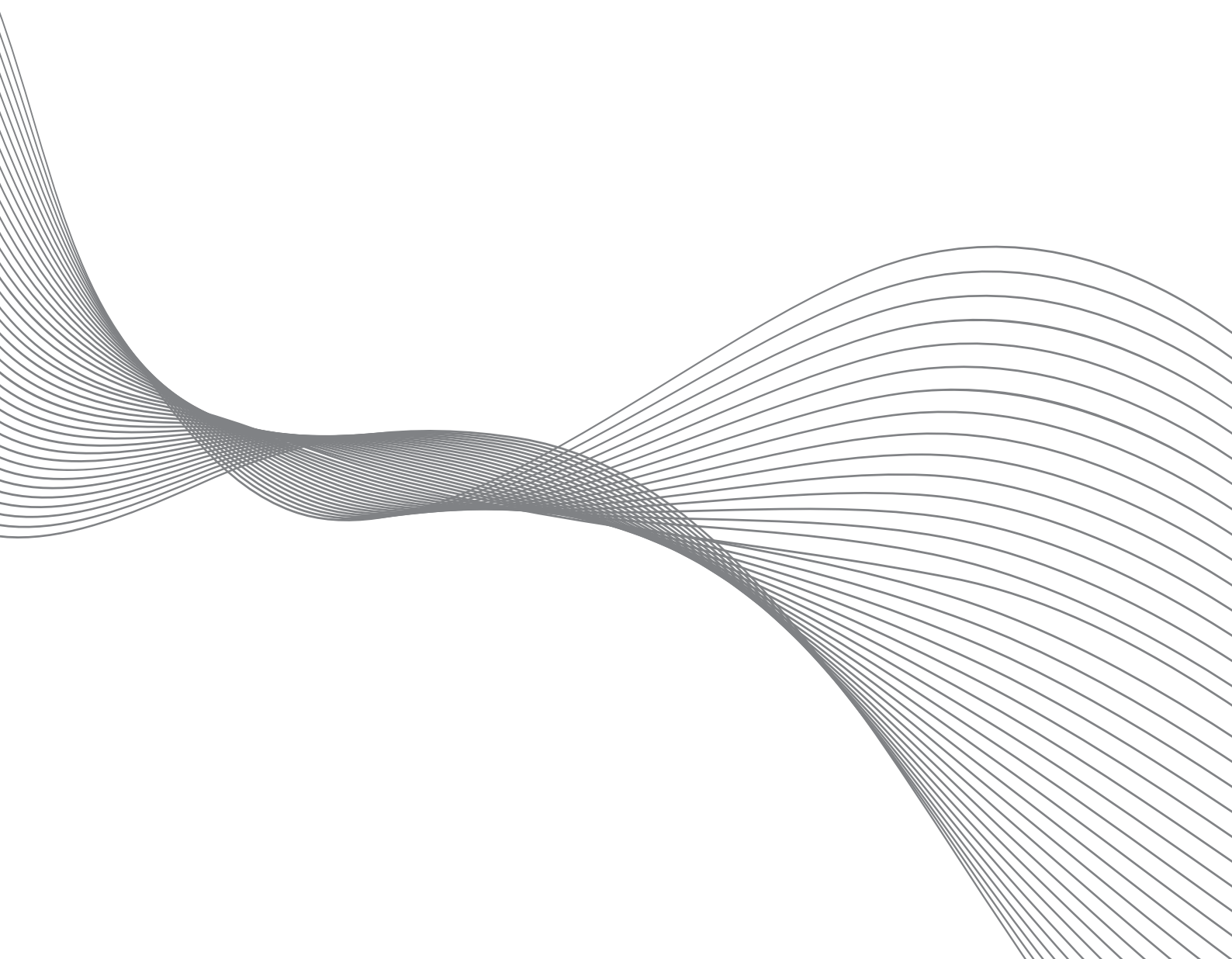
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NOTE ON THIS VOLUME

The year 2013 was an important year for China's environment and development. The 3rd Plenary Session of the CPC 18th Congress drew up a comprehensive plan for ecological progress and for building a beautiful China through the process of ecological civilization and mechanisms for spatial development, resource conservation and ecological and environmental protection. The Congress also called for the development of an eco-environmental management system for facilitating integrated control of all pollutants.

China's rapid economic growth has led to a high occurrence of environmental incidents, and environmental pollution and ecological degradation has had a significant impact on social development. The Government will focus, for the near future, on improving people's livelihood, protecting public interests, and strengthening social management and innovation. Many environmental and social studies have been carried out on prominent and urgent issues and have provided forward-looking, strategic and operational policy recommendations for economic restructuring and social development.

In this context, the China Council for International Cooperation on Environment and Development (CCICED) convened its 2013 Annual General Meeting (AGM) on the theme of "Environment and Society for Green Development." Five policy research study teams presented their reports: "China's Environmental Protection and Social Development," "Sustainable Consumption and Green Development," "Media and Public Participation Policies on Promoting China's Green Development," "Corporate Social Responsibility in Green Development in China" and "Promoting Urban Green Travel." In addition, three thematic forums were held during the AGM on the themes "Green Development and Social Harmony," "Public Participation and Green Development" and "Practice and Innovation of Ecological Civilization Construction". At those forums CCICED Council members and invited experts shared their perspectives. CCICED policy recommendations were discussed, finalized and adopted at the AGM for submission to the Chinese Government.

China is at a critical stage where continuous healthy economic development can only be achieved through transformation and innovation, as pointed out by Chinese Premier Li Keqiang at his meeting with CCICED international members and representatives during the AGM. People are making increasing demands for better environmental quality and the Government is making a great effort to strike a new balance between the environment and economic development, said Premier Li, adding that the Earth is the one and the only home to mankind. Recognizing this, China would like to strengthen international cooperation with other countries through information and knowledge sharing and technical and technology cooperation.

Zhang Gaoli, Vice Premier and CCICED Chairperson, when meeting with CCICED international members and representatives during the AGM, said that China, as the world's largest developing country, treats environment and

development issues seriously, and has incorporated resource conservation and environmental protection into basic national policies. China has made a continuous effort to protect the environment in the process of development, and regards protecting and improving the ecological environment as a prerequisite to protecting and improving productivity. The Government will continue to raise the awareness of the need for green development, circular development and low-carbon development. He stressed that sound environmental protection relies on a strong institutional foundation, and that China will accelerate the establishment of a comprehensive ecological management system, reforming and improving the systems governing property rights and the use of natural resource assets, establishing ecological red lines and implementing user-pay and ecological compensation measures.

CCICED Council Members recognized that China has reached an important stage in its development, and is addressing the complex challenges of achieving economic transformation, enhancing eco-environmental protection, and ensuring social development. The decisions made at the Party Congress on major issues concerning deepening reforms have sent a positive signal to the international community. These decisions will not only expedite the process of China's sustainable development, but will also have a far-reaching impact on environment and development globally.

This Policy Research Report on Environment and Development comprises 2013 policy research findings, 2013 policy recommendations to the Chinese Government, and a review of policy progress in China's environment and development during 2012-2013, and is intended to serve as a reference for decision-makers at all levels, experts, scholars and the general public.

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CHAPTER 1

POLICY RECOMMENDATIONS TO THE GOVERNMENT OF CHINA

The 2nd Annual General Meeting of the China Council for International Cooperation on Environment and Development (CCICED) Phase V was held from November 13 to 15, 2013, in Beijing with the theme of “Environment and Society for Green Development.”

CCICED members appreciate the shift in green strategic thinking and major initiatives of the new leadership of China’s government. We specifically note: the green development emphasis in the 12th Five-Year Plan (FYP), the significant foothold Ecological Civilization has gained recently in China’s society and, within the “China Dream,” the vision of a “Beautiful China,” which can inspire Chinese green prosperity actions. Members believe that the commitment towards economic reform within China provides substantial opportunities for transformative environmental improvements. The new *Air Pollution Control Action Plan (APCAP)* highlights to us the new level of determination and commitment by China’s government to environmental protection that is urgently needed.

The Council members are particularly pleased to learn of the comprehensive reforms agreed upon at the 3rd Plenum of the 18th Communist Party of China’s Central Committee. These reforms will be of great value for the construction of China’s Ecological Civilization since they effectively link environment with other key domains, including economic, political, cultural and social development. Internationally, CCICED Members also appreciate the incorporation of Ecological Civilization into decision document (Decision 27/8) by the 27th Governing Council of UNEP (First Universal Session). CCICED expects that Ecological Civilization can become a ‘Made in China’ enhanced version of sustainable development and a new path for China’s environmental protection that enlightens and contributes to global sustainable development.

Environmental problems involve social values. Therefore solutions must be to form environment-friendly social values, ethics and culture, thus establishing a new institutional framework and patterns of behavior that encourage harmony between people and nature, and that guide transformation of the entire society towards green development and social harmony. An Ecological Civilization is the only type of civilization that is sustainable in the long term.

Yet CCICED members also recognize the huge environment and development challenges China is now facing. Some are of a global nature such as climate change; others are of a national or local nature. The world has taken note of the large scale, frequent and long-lasting haze/smog pollution occurrences in various regions of China. Despite the significant efforts of China’s government on environmental protection and on mainstreaming transformation of the development mode, the environmental situation is becoming more serious. Problems are becoming more complex, with an array of legacy issues arising from past development and new environmental issues that are often associated with rising levels of industrial development and modern levels of energy use and domestic consumption; difficulties and lags in changing the development mode. Inadequate implementation of some environmental policies and enforcement limitations of laws and regulations are serious challenges.

When considering people's reaction to smog pollution and public concerns about environmental and health impacts of construction projects, it is apparent that the relationship between environment and society has significantly changed with the progress on social development of China.

On the one hand, environmental issues now have greater impacts on quality of life, for example, through the impact of environmental pollution on public health. There is a need for greater recognition of the rights of environmental pollution victims and more equality of access to environmental public services. On the other hand, there are significant changes in terms of extent, methods and effects of public reaction on environmental issues. It is beneficial for the public to demand environmental information disclosure, to report and monitor environmental pollution and damaging activities and to supervise government performance. China, like other countries will have to set out fair and reasonable protocols for addressing NIMBY ("Not In My Backyard") situations, and for other public responses to proposed projects. These protocols will require greater attention to mechanisms for dispute resolution.

China's decision-makers need to identify key areas and prominent issues that currently and in the future will affect environment and society linkages in China and clarify new policy directions that can be followed by gradual establishment and improvement of specific policies. Specifically, the following seven areas of social concern require attention: environment and health, environment and social risk, environment and social justice, environment and poverty, environment and employment, environment and sustainable consumption and NIMBY issues.

At this stage of China's development, and in a time of expanding use of social media and the need for further public information dissemination, what constitutes appropriate environmental rights and public or private sector obligations obviously requires good judgment. There is an apparent need to shift towards a new approach for accurate information dissemination, whether on project planning and environmental assessment, or for more fundamental environmental monitoring and other knowledge. This new approach would make the default decision be to release environmental information on a timely and regular basis so that people could be well informed on important matters that pertain to their daily lives.

CCICED Members believe that great opportunities exist for transformative change in China's relationship between environment and society. A prominent example is the need for setting in place sustainable consumption as part of stimulating domestic consumption. Furthermore, a reasonable foundation already exists for establishing an overall green and coordinated relationship of environment, society and development. Environmental awareness of the Chinese people is increasing in both breadth and depth. Thus, demands of the people for reasonable environmental rights and rational environmental behavior will become a strong social pressure and driving force to promote environmental protection. Already, there is positive change of understanding on environment and society relationship on the part of China's government, illustrated by a deep understanding statement from Chinese leaders — that "a sound ecological environment is the fairest public good, and most beneficial welfare."

In 2013, CCICED focused its studies on several key fields of environment and society linkages in China. These studies included the following task forces (TF) and special policy studies (SPS):

- China Environmental Protection and Social Development TF
- Sustainable Consumption and Green Development TF
- Media and Public Participation Policies on Promoting China's Green Development SPS
- Corporate Social Responsibility in Green Development in China SPS
- Promoting Urban Green Travel SPS

Based on outcomes of these 2013 studies, discussions during the AGM and other inputs, CCICED is providing five major policy recommendations to the Government of China.

1.1 RECOMMENDATION 1. Speed up institutional innovation and implementation of Ecological Civilization, in order to strengthen green development and to establish a more harmonious relationship of environment and society in China

While China now has clearer strategic thinking and an overall arrangement for Ecological Civilization, the institutional system for implementation lags behind in terms of adequacy and innovation. Implementation at local levels has yet to be embraced across key sectors and deepened in terms of content. Therefore, the Government of China should pay high attention to speeding up top-level design for an institutional system that can construct and implement a coherent and coordinated approach to Ecological Civilization. This institutional system must be capable of shifting values, people's behavior, lifestyle choices, and both production and consumption towards patterns of long-term sustainability and goals of improved environmental use and protection, strengthened ecological services and due respect for nature.

Institutional innovation is required to redirect decisions from a “sectoral” approach towards a “whole of government” approach that will reduce actions that work at cross-purposes, turn public environmental behavior into positive energy for environmental protection, and enable environmental protection to fulfill its obligations towards safeguarding environmental services and related public goods. Climate change is already causing problems and is a major future risk. Avoiding decisions that lock China into a high emission economy, while charting a future path to a low carbon economy and preparing adaptation responses to climate risks are all part of Ecological Civilization.

CCICED recommends the following actions:

1.1.1 Speed up improvement of top-level design and comprehensively promote practical implementation of Ecological Civilization.

- i. In line with the Third Plenum reform directions, establish the appropriate institutions and systems for Ecological Civilization implementation. Promptly develop guidelines for strengthening Ecological Civilization construction in the immediate future, and formulate Ecological Civilization mid-term (2015-2030) and long-term (to 2050) vision, objectives and plans, with a greater degree of public participation and expert inputs. This vision will provide a basis for the preparation and establishment of indicators, statistics and accounting systems. Establish a high-level leading and coordination mechanism for construction of Ecological Civilization. The mechanism should receive inputs from various stakeholders, identify implementation actions, identify responsibilities of central governments, local governments and among government agencies and recommend channels for the necessary sustainable financing including new local sources of revenue.
- ii. Create the most stringent and effective as possible resource and environmental protection system. Speed up relevant legislation processes to complete a comprehensive revision of the Environmental Protection Law and specific supporting laws and regulations. Conduct pro-environment modifications to economic and social laws and regulations so they become consistent with Ecological Civilization requirements. Define a comprehensive and credible ecological redlining approach. Establish an accountability and compensation regime for resource and environmental damages, as well as improved mechanisms of payment for resource uses and environmental services, extend the scope and degree of ecological compensation to balance and coordinate equitable distribution of resource and environmental benefits.

Speed up institutional reform for eco-environmental protection management. Establish an environmental governance system for unified supervision of all pollutants, all emission sources, all environmental components

and all ecosystems. Establish a regional joint action mechanism that coordinates terrestrial and marine regimes for ecosystem conservation and restoration and for pollution prevention and control.

China's central government should use economic incentives to encourage local pilot efforts for Ecological Civilization construction, and gradually form an overall pattern of building Ecological Civilization initiatives in line with specific local conditions.

- iii. Carry out a study on green accounting needs for the national economy, and gradually establish a national economy evaluation system incorporating resource consumption, environmental damage and environmental protection benefits. Incorporate Ecological Civilization progress as an important indicator into the local government official performance evaluation system.
- iv. As China is moving towards the final years of the 12th Five-Year Plan, it is important for the Chinese Government to examine and identify characteristics of economic, social and environmental development for the 13th Five-Year Plan, and to set up mid- and long-term goals and measures for green development, environmental protection, energy conservation and emissions reduction and climate change for the future 5 to 15 years.

1.1.2 Focus greater effort on resolution of prominent environmental issues such as air, water and soil pollution, in order to meet basic public demands for a healthy environment.

Enjoying a healthy environment is a basic right for people. Severe pollution issues that significantly affect public health and life are key factors leading to current tensions and non-harmonious environment and society relationships in China. Therefore, effectively solving these issues is a fundamental approach to reduce societal tensions. The *Air Pollution Control Action Plan (APCAP)* is a good start. However, the Government of China should develop special action plans for other environmental issues that seriously affect public health and life such as water pollution, soil pollution and rural environmental problems.

The key element for an environmental action plan is to have a credible and implementable approach that will result in demonstrable improvement in environmental quality for prescribed time periods. Concerning implementation of *APCAP*, the central government should focus its supervision and coordination efforts on three aspects:

- i. Strengthening overall action implementation by local governments and step up review and accountability
- ii. Fulfillment of responsibilities of central government agencies, especially the development of supporting policies for investment, fiscal arrangements, taxation, finance, price, trade and science and technology
- iii. Joint actions among local governments within each region. The supervision of enterprise actions should fall mainly under the responsibility of local government and environmental authority, with full utilization of public and social organizations.

The fundamental approach to resolve current prominent environmental issues such as air pollution is to change the economic growth mode and adjust the energy structure. Measures such as a cap on the total consumption of coal and improved fuel quality are necessary parts of such a shift. In order to fully realize co-benefits arising from economy, environment and energy measures, it is important to coordinate efforts for reduction of conventional pollutants, energy conservation and for low carbon development. Market-based long-term mechanisms including pricing, taxation and emissions trading are important instruments for this coordinated effort. It is further recommended that efforts be stepped up in exploring and creating new funding mechanisms and resources for environmental protection and environmental investments. These approaches are not only critical measures for the success of *APCAP*, but also effective mechanisms to ensure long-term effects continue after completion of the action plan.

1.1.3 Improve governance policies for green development and speed up transformation of environmental governance.

- i. Government agencies at all levels should explicitly take environmental protection concerns into account in all aspects of their governance and decision-making, such as economic/social and cultural construction, development of programs and policies, policy implementation and evaluation and performance evaluation. Government and staff should be evaluated and promoted on the basis of delivery of sustainable/green development.
- ii. Clearly recognize environmental rights as a basic component of citizens' rights. This should be done through legislation and be considered as a basic principle for policy development in economic, social and environmental fields. Ensure public environmental rights are protected through concrete institutional systems based on the rule of law, including litigation, incentives and compensation.
- iii. Strengthen ecological compensation and pollution damage compensation mechanisms to reasonably solve unbalanced and unjust distribution of environmental benefits and costs between regions, urban and rural areas and among different social groups.

1.1.4 Reform Environmental Impact Assessments (EIAs) and Social Impact Assessments in a systematic manner.

An environmental and social assessment mechanism for major policies should be implemented and made to work effectively. To be convincing, the approach should be based on principles of openness and transparency and on meaningful public access. Specific actions should include:

- i. Establishment of a “pre-approval” screening system for major projects with environmental and social implications. Introduce third-party assessment mechanisms for social and environmental impacts. Policies and reforms are needed to ensure public environmental interests are better served.
- ii. In the event of failure by cadres to strictly follow the assessment process, such failures should seriously be taken into account in the regular evaluation of such cadres.
- iii. The building of a more robust and anticipatory environmental emergency response mechanism should be given priority. Review the adequacy of plans for existing facilities, beginning with large projects in proximity to populations or to water resources. Set up hierarchy of priority industries and locations.
- iv. The provision of timely, and accurate information during environmental incidents is important. Full advantage should also be taken of new media platforms to ensure more widespread and accurate knowledge of such incidents.

1.1.5 Improve environmental governance structure by establishing robust green government-public-enterprise partnerships.

In the current environmental governance structure in China, the roles and responsibilities of various actors and stakeholders are not always well defined, and there is sometimes a lack of effective communication and consultation mechanisms. Therefore, a primary task of improving environmental governance is to clarify the roles and responsibilities of government, enterprises and the public as key stakeholders in Ecological Civilization construction, green development and environmental protection. CCICED suggests the following roles, rights and responsibilities for each sector:

- i. Government – As necessary, develop regulations, policies and an institutional system to regulate behavior of all important actors (including the government itself), enable cooperation among various actors, build

trust in the relationship between government and society on environment and green development issues, strengthen environmental awareness and capacity of enterprises and the public and encourage the role of social organizations in environment and development. Develop a “balanced scorecard” for all SOEs, local and provincial governments and key ministries whereby Corporate Environmental and Social Responsibility can be taken into account.

- ii. Enterprises (SOEs and private sector) – Strictly follow environmental regulations and mandatory standards and implement basic environmental obligations, behave environmentally responsible according to industrial and corporate standards and guidelines and cooperate with other stakeholders such as media and environmental non-governmental organizations (NGOs) to enhance corporate environmental and social responsibilities. Ensure establishment of an internal environmental management structure within SOEs and large private enterprises. Publically reveal the identity of the corporate officer responsible for these matters.
- iii. Public and social organizations – Explore innovative social governance mechanisms for environmental protection, integrate various social resources and forces to establish more effective communication mechanisms between the public and government through which public opinions can be communicated in a rational and effective way; establish consistent, effective and wide spread public participation mechanisms in environmental decision making, clarify supervision and evaluation roles for citizens in environmental management processes and for performance of government and public sectors and conduct participatory environmental education and awareness raising activities.

1.1.6 Ensure equal standing of environmental, economic and social issues in national and provincial planning and reporting.

- i. From the 13th FYP, the five-year plan of the Chinese government should be listed as the National Economic, Social and Environmental Development Plan. The National Economic and Social Development Report submitted by the Chinese government to the National People’s Congress and the Chinese Political Consultative Conference (NPC & CPPCC) would then also have been changed to the National Economic, Social and Environmental Development Report accordingly. A similar adjustment should be made at the provincial level.
- ii. To support this change, the Government should submit to the National People’s Congress an annual report with the achievements made by the Government and with equal emphasis on the economy, society and environment. In this way the Government will demonstrate responsibility for environmental protection in China, and clarify the relationship between the three key elements for sustainable development progress.

1.2 RECOMMENDATION 2. Change consumption patterns towards sustainable consumption in order to drive green development

In China, economic reform and social development requires stimulation of domestic consumption. This may result in dramatic shifts on the expenditure patterns of China’s citizens, especially the rising middle class in both cities and the countryside. It would be disastrous for an excessively high level of per capita consumption based on western levels of energy and materialism to replace the frugal habits of most Chinese. Yet, China’s rising ecological footprint and other evidence suggests that substantial numbers of Chinese are already following a path of high consumption.

Sustainable consumption is a topic that has not received sufficient attention in China. It requires urgent consideration in order to identify sustainable consumption patterns appropriate for China, and to encourage people to adopt

lifestyles and purchasing decisions accordingly. The Government of China can take various enabling measures, including incentives, laws and regulations and information dissemination relevant to sustainable consumption. Therefore, CCICED recommends:

1.2.1 Incorporate sustainable consumption as an important element of Ecological Civilization construction.

Develop and implement a national sustainable consumption strategy and action plan consistent with Ecological Civilization and Green Development and formulate a sustainable consumption road map.

The national sustainable consumption action plan should:

- Select priorities among consumption themes where there are major resource and environmental impacts such as housing, household appliances, travel options and food. Specific attention should be placed on green building codes and incentives.
 - For the short-term, incorporate the sustainable consumption concept into the 13th FYP and establish an institutional foundation. For the mid-term (to 2030), establish and improve the legal framework to promote sustainable consumption pattern among the emerging urban middle class in China. For the longer-term (to 2050), further enhance the sustainable consumption capacity and level in the whole society including the transition to an extremely low carbon society successfully adapted to climate change considerations.
 - Develop differentiated sustainable consumption strategies for different regions, cities and consumer groups.
- i. Improve laws and regulations that promote sustainable consumption. In the short-term, incorporate the concept of sustainable consumption into the currently being-revised *Environmental Protection Law*, *Consumer Rights Protection Law* and *Government Procurement Law*. For the longer-term, consider development of a special *Sustainable Consumption Promotion Law* to reconcile the relationship among consumer rights protection, food safety, environmental protection and sustainable consumption.
 - ii. Reform and improve pricing, taxation and financial incentive policies that promote sustainable consumption. Strengthen public transport financial support, including increased funding for local public transport development. Redesign government subsidy programs drawing on the “appliance to countryside policy” and “old appliance trade-in policy” and focus subsidies on the top 10% best performance products. Impose environmental taxes on resource-intensive or emission-intensive consumption products. Link family income tax breaks with sustainable consumption, encourage recycling of product and waste resources and provide low interest credit for purchasing green buildings.
 - iii. Strengthen sustainable public procurement and give preferential purchase treatment to products from green supply chains. Update the current energy-saving products catalog and environmental label inventory and assign mandatory quotas for government procurement of green products and services. Include green standards of hotels for business travel and meetings into government procurement standards. Revise government procurement systems to include new energy and low emission vehicles, and make green supply chains an important indicator for procurement standards.

1.2.2 Promote innovation through sustainable consumption policy and institutional systems.

- i. Strengthen the credibility and independence of the Chinese green product certification system and enhance China’s environmental labeling system. Promote consistency of China’s green product certification system with

international standards. Establish independent consumer associations and consumer advisory committees and develop a national database of green products managed by a third-party body charged with collecting and publishing product information.

- ii. Develop a sustainable consumption indicator system at the national, regional and local level and carry out sustainable consumption pilot demonstration. Incorporate sustainable consumption into other programs and plans such as a pilot demonstration of Ecological Civilization construction and low carbon economy. Implement small-scale community pilots and local demonstration initiatives, and a pilot of urban green travel and urban road resources optimization.

1.2.3 Foster sustainable consumption partnerships, with participation by stakeholders.

- i. Encourage the role of private sector and incorporate sustainable consumption into market-based codes of conduct. Give full play to sectors such as retailers and financial institutions in sustainable consumption. Encourage the establishment of green supply chain management and encourage incorporation of sustainable consumption objectives into the core business of financial institutions.
- ii. Encourage social organizations and consumer groups to participate in development of national and local sustainable consumption policy frameworks. Establish consumer information center in cities to provide dialogue platform for citizen, entrepreneurs and local governments and to provide advisory service on recycling, products sharing, water saving and food safety. Include sustainable consumption in the school curricula at a national and local level.
- iii. Promote international cooperation in sustainable consumption. Actively participate in multi-lateral policy framework negotiation on sustainable consumption, participate in UNEP's *10 Year Framework Programmes on Sustainable Consumption and Production* and focus on the topic of sustainable consumption in the WTO government procurement agreement negotiation.

1.3 RECOMMENDATION 3. Recognize environmental and social roles of enterprises and promote corporate environmental and social responsibility (CER and CSR)

Enterprises can be the driving force of economic growth but also a primary source of environmental pollution. It is a significant challenge for Chinese enterprises (both SOEs and private sector) to harmonize development and environmental protection and to explore a green and sustainable development path.

Implementation of corporate social and environmental responsibility has three levels:

- i. A basic level of compliance with regulations
- ii. Moving beyond compliance by proactive participation
- iii. Taking a leadership level of corporate environmental responsibility. For enterprises at different levels, government should develop corresponding strategies and policies with objectives of punishing enterprises that violate regulations, encouraging voluntary implementation of corporate environmental responsibility and advancing enterprises where possible to a higher level of green development.

Therefore, CCICED recommends:

1.3.1 Developing a national strategy and action plan for corporate environmental and social responsibility.

Address different needs of state-owned enterprises (SOEs) and small and medium-size enterprises (SMEs) and develop differentiated national strategies and action plans to promote CER/CSR, define cooperative relationships involving government, enterprises and society and clarify responsibilities of various government departments. In boosting CSR and CER practices, implement the polluter pays principle.

1.3.2 Develop a working mechanism for social organizations and industrial associations to press for corporate social and environmental responsibility.

Encourage industrial associations to play an important role in standards development, guidance and self-discipline to support implementation of CER/CSR by enterprises.

Advocate corporate environmental responsibility initiatives and encourage supervision and active participation of the public. Encourage social organizations, media and Internet sources to play a full role in performance evaluation, information disclosure, supervision of behavior and public feedback. Strengthen international cooperation and learn from success stories.

1.3.3 Enhance CSR and CER incentives and other mechanisms for stimulating actions beyond compliance.

Strengthen supporting laws and regulations for implementation of CER/CSR. Enhance coordination of *Corporation Law*, *Environmental Protection Law*, *Consumers Rights Protection Law* and *Labor Law*, increase punishment of enterprises not in compliance with the laws and regulations, promote establishment of local environmental protection courts and improve relevant juridical practices, support environmental public litigation and enable the supervision function of social organizations.

Actively construct the financial investment environment to promote CER/CSR. Promote green investment and credit, for example, through establishment of investment funds that can provide interest discounts or subsidies to enterprises with good CER/CSR performance. Provide priority government procurement support to enterprises with good CER/CSR performance.

Government should give priority to public policies that provide incentives for SMEs to fulfill CER/CSR. In addition, government should pay attention to policy and capacity building for Chinese overseas enterprises to meet CER/CSR requirements. Specific attention needs to be paid to cultural differences in terms of local expectations abroad about corporate responsibility and performance.

1.3.4 Improve information disclosure systems of CSR and CER performance to increase transparency.

- i. Increase the extent of enterprise's environmental information disclosure. Build a tracking system for enterprise social and environmental information, pay attention to environmental information storage, processing and analysis, regulate enterprise environmental information disclosure and improve rewards and penalty measures for enterprise information disclosure.
- ii. Develop sectoral reporting requirements based on industrial characteristics.

- iii. Promote industrial associations to build an information platform on Chinese firms' CER/CSR implementation record.

1.4 RECOMMENDATION 4. Promote active roles of media and public participation in order to turn social concern for environment into a driving force for green development

The public is the major and essential stakeholder in Ecological Civilization construction and is the direct beneficiary of green transformation of economy and environmental quality improvement. China's Ecological Civilization will lay a solid foundation and make sustainable progress only when it is widely and effectively supported by the public. While facing the growing public concerns and inspirations on environmental issues, the government is not yet well prepared to transform the public concerns and inspirations into an orderly and rational public participation. There is an urgent need to enhance government functional shifts and capacity building on environmental education, knowledge dissemination, information disclosure and emergency response so that the roles of media (especially new media) can be fully realized. Therefore, CCICED recommends:

1.4.1 Improvements to the institutional system in order to promote legitimate, orderly and rational public participation.

- i. Develop measures and mechanisms for early engagement, transparent and effective public participation in planning and project decisions. Effective public participation in early stages will contribute to green development, reduce social conflicts and improve decision-making and its social acceptance.
- ii. Develop a more complete emergency response system for environmental accidents and mass incidents. First, ensure rapid information disclosure and transparency. This includes timely and accurate information provided to media (traditional and new media), online information disclosure tools that the public can access, response guidelines, process transparency and relevant risk information. Second, provide rational access and channels for public opinion expression. Related laws and regulations need to be issued to encourage and protect whistleblowers, and to ensure that environmental issues, accident and emergency are reported without delay.
- iii. Support development of environmental NGOs. Simplify registration procedures for NGOs and non-corporate social groups, encourage their development and growth, actively guide and standardize the development of different public environmental organizations, give full play of industrial associations in environmental protection, actively encourage and lead environmental organizations and urban/rural communities engaging in environmental protection.

1.4.2 Promote implementation and completion of environmental information disclosure systems.

- i. Further improve and implement environmental information disclosure systems. Providing real-time and reliable information will help produce better decision and improve public support to government decisions. Integrate currently scattered environmental information and data in different institutions and departments and develop an accessible national environmental information and data system. Based on the experience gained in implementing *Government Information Disclosure Regulation* issued in 2008, effort needs to be made to develop an information disclosure law. With such a law, the government needs to ensure the right of the public to timely access of information, to embrace the principles of the 1992 *Rio Declaration on Environment and Development* and to ensure the public can obtain information in line with common international standards.

- ii. Develop a pollutant inventory for industrial point sources and other emission sources and improve monitoring capacity and transparency of pollution data. Development of pollutant inventory can draw on experience of the *Pollutant Release and Transfer Register (PRTR)* now in use in many countries. Such a system could initially be piloted in the chemical industry within China, which has had many mass incidents due to high levels of public concern.

1.4.3 Enhance the role of media to form a communication and education system promoting green development.

- i. Enhance the utilization of new media platforms and public information dissemination activities for green development. New media technology can be more widely used to provide open, detailed, accurate and real-time environmental information and to establish an important platform for collecting public opinions on environmental and development decision-making. Media's social responsibility needs to be enhanced to ensure information authenticity and accuracy.
- ii. Strengthen the environment and green development information dissemination and education systems. Establish specific working organizations and mechanisms for environmental strategy dissemination and public participation to study and predict environmental hot topics for a certain period of time or more generally in the future and to promote public participation and public acceptance of environmental decisions.

1.5 RECOMMENDATION 5. Pay high attention to resource and environment challenges in the process of urbanization and explore paths to green urbanization including urban green transportation

Urbanization is an opportunity because people's needs can be met more efficiently in urban areas than in rural areas. Cities are the drivers of economic growth but great care is required to ensure that cities remain or become attractive places to live and work. It is predicted that permanent urban residents in China will reach 1 billion and China's urbanization rate will reach around 70% in the coming two decades. About 300 million people will emigrate from rural area into cities. Undoubtedly, this will make many problems become more prominent, such as mismatches in the spatial distribution of urbanization and resource capacity and other resource and environmental constraints. Thus, the Government of China needs to pay high attention to the environment risks in the coming new round of urbanization. Therefore, CCICED recommends:

1.5.1 Develop urbanization systems and layout in line with resource and environmental capacity.

Strictly control the scale of cities in defined urban areas of the *National Main Functional Zoning Plan*, optimize layout of urban development and promote coordinated development of cities and small-towns. Place special emphasis on urbanization quality in the rapid development pattern now occurring in Western China. Maintain and reserve adequate ecological spaces, properly handle the relationships among urbanization, new countryside construction and ecological service and nature reserves and encourage the adoption of "*compact and multi-centred*" city plans.

1.5.2 Accelerate adoption of an integrated and sustainable urban master plan.

Such a master plan is an important measure to integrate environment elements into urban space, with rational allocation and use of local resources and environments. Expand the scope of pilot demonstrations for creation of urban environment master plans and establish/improve standards, specifications and an institutional system for these plans.

1.5.3 Improve urban resource and energy efficiency.

Urbanization should facilitate sustainable production and consumption to minimize environmental impacts. Actively promote green building standards, green architecture design and green community construction. Vigorously promote green transportation, enforce urban energy and water conservation management and increase usage of renewable energy as much as possible.

1.5.4 Build urban environmental infrastructure along with urbanization process.

Construct environmental infrastructure such as waste water treatment, solid waste separation, collection and disposal facilities and hazardous waste management facilities according to population and urban function layout. Enhance operation management of urban environment infrastructure.

1.5.5 Encourage and promote urban green travel.

China's urban transport systems are presently on the wrong course — leading towards low density and socially divisive car dependency. The government should urgently address the promotion of urban green travel as part of the necessary transformation of China's urban development strategies and facilitate establishment of a modern, low emission and high efficiency green public transport system. This requires attention to cross-sector coordination and cooperation for better designed policies of car usage and public transport development, strengthening of the ability of the central government to encourage and pressure local governments to develop urban green travel through financial leverage and other means, providing clear guidance for Chinese cities to promote green travel and enhancing local governments' capacity to finance, supervise and assess the urban transport system.

- i. Develop the 'Outline of China Urban Green Travel Implementation.' Speed up developing or amending Urban Public Transport and Chinese Cleaner Air Act, carry out pilot projects to promote urban green travel and build a modern urban green transport system with Chinese characteristics.
- ii. Formulate 'Policy Guidelines for the Rational Use of Vehicles and Road Space' to reduce congestion and air pollution. Road user charges should be encouraged in congested areas in mega cities and greater limitations on car ownership should be implemented.
- iii. Support investment in urban green transport to raise sufficient and sustainable local sources of revenue to fund local public transport companies. The Central Government should establish a management system for the central fiscal fund that promotes green travel as well as monitor and appraise the usage of the fund, for example shifting the fuel tax collection from a fixed amount of tax to an *ad valorem* basis, so that fuel tax income increases as fuel prices rise.
- iv. The state and city administrations should be required to ensure cross ministry/department policy coordination, as well as enhanced performance appraisal and management accountability. Public participation should be encouraged. Set up a coordinating mechanism to promote urban green travel.

CHAPTER 2

ENVIRONMENT AND SOCIETY

CCICED ISSUES PAPER

2.1 INTRODUCTION

This year marks the start of new leadership for China's government, and the mid-point of the 12th Five Year Plan for social and economic development. Indicators point to China being able to meet its ambitious GDP goals for a 'moderately well off society' by 2020. There will be substantial improvement towards education and some health and other social development goals. And China will continue along its dramatic path towards rapid urbanization. Yet despite bold development plans, China is caught in a serious situation of environmental challenge, as the smog situation in many cities revealed this year. It is a challenge of governance and therefore of government at national and local levels, since it has the potential to destabilize development plans and their outcomes, to undermine confidence and trust on the part of citizens, to affect quality of life at a time of rising expectations and to degrade ecological services needed for society to thrive.

Substantial investment on environmental protection has already taken place¹ but still not enough to turn the curve towards consistent environmental improvement. At the same time, emerging pressures from both new and existing types of development, climate change and rising domestic consumption are setting off new alarm bells. In particular, institutional and management strengthening for a sustainable relationship between the natural environment and society have not kept up with the pace of economic growth and development.

China has made important technological and managerial strides towards new solutions for environment and development, many of which will become very important in the middle term, between 2015 and 2030. Even more significant, however, is what remains to be done for creating a satisfactory relationship between environment and society within China, and in the country's international relationships.

In November 2012 at the CPC 18th Party Congress, the idea of Ecological Civilization was incorporated into the meeting report and enshrined into the newly revised Constitution of the Party, and at the same time accelerated action for environmental improvement was called for.² In March 2013 at the National People's Congress renewal of government, these points were again emphasized. Thus China is now at an important crossroads along the path towards sustainable development.

How can Chinese society move towards becoming one that has a deep respect for nature and ecological systems, while fully meeting human needs? This is the fundamental question driving the idea of Ecological Civilization, now placed as one of the five most important policy areas for the country (along with social progress, economic progress, political progress and culture). Ecological Civilization is part of the larger vision for China's future. This larger vision promoted by President Xi Jinping is the 'China Dream': for Chinese society, especially its younger members, to rejuvenate the nation along the lines of *socialism with Chinese characteristics*.

1 For examples of progress on environmental protection see the Ministry of Environmental Protection. *2012 Report on the State of the Environment Report in China*, and China Forum of Environmental Journalists. *China Environment Yearbook 2012*.

2 See Meng Si. 2012. *An Insight into the Green Vocabulary of the Chinese Communist Party*. In china dialogue (<https://www.chinadialogue.net/article/show/single/en/5339>) for an explanation of various significant environment and development terms including Ecological Civilization; also see the CCICED 2008 Issues Paper. *Environment and Development for a Harmonious Society*. 26 pp.

According to the China watcher Robert Lawrence Kuhn, the Dream *has four parts: strong China (economically, politically, diplomatically, scientifically and militarily); Civilized China (equity and fairness, rich culture, high morals); Harmonious China (amity among social classes); Beautiful China (healthy environment, low pollution)*.³ Another view, with apparently strong support in China, is from Peggy Liu, co-founder of the NGO JUCCE⁴ established to address the sustainability aspects of the Chinese Dream. As she indicates,

*China's middle class will grow from 300 million today to 800 million by 2025 and the country could shift from 'made in China' status to 'consumed in China'... The China dream realigns success with a healthy and fulfilling way of life — living more, rather than just having more. It promotes a sustainable lifestyle, but is not explicitly green... For China, this is no time for incrementalism. It needs to steer the emerging middle class to greener pastures before they develop the unsustainable tastes and habits of the western middle classes... China is unique because the government can help push behaviour change with local policies. The China dream offers a new model of prosperity that can spark sustainable consumerism in countries around the world.*⁵

Unquestionably, people's behavior and perhaps their values are being drastically reshaped by new needs and aspirations as China transitions into a consumer-oriented largely urban society with a rising middle class and citizens well-connected via social media. These observations suggest that even as transformative structural changes occur in China's economy, it is social change that will require ever more attention.

By comparison to extensive efforts over the past two decades to examine environment and economy relationships, fewer CCICED studies have focused on social and environmental linkages, even though many of the CCICED research teams have made socially relevant recommendations such as the need for greater public participation in environmental decisions. Therefore, it is timely for CCICED to examine how social change will influence environmental progress, and how environmental considerations are likely to influence social development and progress.

The 2013 research studies examine how social development might improve environmental protection, contribute to improved green development and meet expectations for China's Ecological Civilization. The studies also consider the other side of the relationship—how improvements in environment and development can enhance China's social development and related matters such as implementation of the rule of law, health of people, and overall quality of life for citizens. The studies include two task forces (TF) and three special policy studies (SPS):

- China Environmental Protection and Social Development TF
- Sustainable Consumption and Green Development TF
- Media and Public Participation Policies on Promoting China's Green Development SPS
- Corporate Social Responsibility in Green Development in China SPS
- Promoting Urban Green Travel SPS

This Issues Paper⁶ tackles the overarching 2013 CCICED AGM theme of Environment and Society. Much has been written on this topic, with many controversies, including Malthusian views on population growth, the 'Tragedy of the Commons,' the 'Environmental Kuznets Curve' and views about human impacts on climate change. Environment and Society is the basis of a variety of discipline and interdisciplinary fields including environmental ethics, environmental health, human ecology, ecological anthropology and human geography, to name but a few. There are

3 <https://globalbalita.com/2013/06/12/what-exactly-is-the-china-dream/>

4 <http://jucce.org/chinadream>

5 Peggy Liu. Guardian Professional Network. 13 June 2012. *China Dream: a Lifestyle Movement with Sustainability at Its Heart*. <http://www.theguardian.com/sustainable-business/china-dream-sustainable-living-behaviour-change/print>

6 The Issues Paper is prepared each year by the CCICED Chief Advisors, Arthur Hanson and Shen Guofang with inputs from the Chief Advisors Group and from others.

many interesting compilations⁷ including books on environmental history⁸ and much has been written on China and other parts of Asia⁹. However, unifying theory on environment and society is lacking — and perhaps always will be — since the topic is so wide-ranging in scope.

2.2 INTERNATIONAL SITUATION IN 2013

With the world's economy still in a recovery phase, back-pedaling on environmental ambitions and commitments might seem almost inevitable. However China has expanded its efforts — not only in fields such as water and sanitation improvements, but also for investment in environmental technology innovation and in many other environmental fields — in the expectation that transformative change can occur for both environment and economy, situating China well for building future competitiveness and for achieving better environmental conditions.

Yet China has garnered considerable international attention with the unprecedented level of smog in a number of cities from January 2013 onward, leading to a considerable outpouring of public concern and the focused attention of the central government, with a 10-point national action plan on this subject issued in September 2013.¹⁰ The smog problem and high levels of awareness about the dangers of PM_{2.5} crossed a certain line in the bond of trust between the government and citizens in China. This one problem has become symbolic of much broader environmental challenge within China. It is affecting international perceptions of China's efforts on environment and development.

In many parts of the world, despite economic turmoil, there are some grounds for optimism. In many OECD countries, a quiet green revolution is underway as new technologies mature and is entering into many sectors, including more types of hybrid and electrical vehicles, emissions reduction efforts in ocean shipping, power grids capable of accepting more inputs from renewable energy sources, green buildings and more consumer products with reduced life cycle environmental costs. In Europe¹¹ and the USA¹² pollution reduction progress continues. But there are important exceptions.

Internationally, greenhouse gas reduction has not seen hoped for breakthroughs and the slow progress on adoption of carbon tax and carbon emissions trading schemes has been problematic.¹³ As noted recently by the OECD Secretary-General,¹⁴ there is a need for much greater action on pricing carbon in order to achieve zero net emissions from fossil fuels quickly. The arguments relate directly to accommodating 2-3 billion more people on our planet

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- 7 See, for example, John Walsh. 2007. *Encyclopedia of Environment and Society*. Sage Publications. 5 Volume Set, 2105 pp.; Paul Robbins, John Hintz, and Sarah A. Moore. 2010. *Environment and Society: A Critical Introduction*. Wiley-Blackwell. 312 pp.; Stewart Barr. 2008. *Environment and Society: Citizens, Culture and Nature*. Ashgate Studies in Environmental Policy and Practice.
- 8 Jared Diamond. 2005. *Collapse: How Societies Choose to Fail or Succeed*. Penguin Books. 575 pp.; A.W. Crosby. 2004. *Ecological Imperialism: The Biological Expansion of Europe, 900-1900*. (Studies in Environment and History). Cambridge University Press. 390 pp.; Clive Ponting. 2007. *A New Green History of the World: The Environment and the Collapse of Great Civilizations*. Penguin Books. 464 pp.
- 9 R.B. Marks. 2011. *China: Its Environment and History*. Rowman & Littlefield. 464 pp.; Bryan Tilt. 2009. *The Struggle for Sustainability in Rural China: Environmental Values and Civil Society*. Columbia University Press. 216 pp.; Mark Elvin. 2006. *The Retreat of the Elephants: An Environmental History of China*. Yale University Press. 592 pp.; Association of Academies of Sciences in Asia (AASA). 2011. *Towards a Sustainable Asia. The Cultural Perspectives*. Science Press Beijing and Springer. 93 pp.; Ma Jianbo. 2013. *The Land Development Game in China*. Lexington Books. 267 pp.; Michael J. Hathaway. 2013. *Environmental Winds - Making the Global in Southwest China*. University of California Press. 272 pp.
- 10 http://english.mep.gov.cn/News_service/infocus/201309/t20130924_260707.htm
- 11 EEA. 2013. *Towards a Green Economy in Europe – EU Environmental Policy Targets and Objectives 2010 – 2050*. European Environment Agency. <http://www.eea.europa.eu/publications/towards-a-green-economy-in-europe>
- 12 <http://science.house.gov/hearing/subcommittee-environment-state-environment-evaluating-progress-and-priorities>
- 13 OECD. 2013. *Climate and Carbon: Aligning Prices and Policies*. <http://www.oecd.org/environment/climate-carbon.htm>
- 14 Lecture by Mr. Angel Gurría, London, 9 October 2013. *The Climate Challenge: Achieving Zero Emissions*. <http://www.oecd.org/env/the-climate-challenge-achieving-zero-emissions.htm>

and to protecting the world's ecology. In addition he has noted immediately pressing needs related to local impacts, for example in China on health and environment. The mounting insurance bills and social costs associated with weather disasters and other signs of climate extremes are sending a strong signal in a number of countries.

Globally, preparations for the post-2015 sustainable development agenda are addressing a strengthened focus on poverty reduction and an inclusive approach to sustainable development, especially for the poorest, with integrated approaches to environment, economy and social aspects and with sustainable patterns of consumption and production, as noted in the report of the UN High Level Panel on the Post-2015 Development Agenda.¹⁵ This general approach is also endorsed by the G20 in its development priorities. In addition, the G20 believes an agreed outcome “with legal force” applicable for all Parties to the Climate Change Convention COP should be in place by 2015. The G20 continue to place major emphasis on inclusive green growth focused on energy efficiency, clean energy technologies and energy security, with additional effort towards phasing out of fossil fuel subsidies.¹⁶ A Green Growth Action Alliance has started to bring private investment into the G20 activities.¹⁷ The 2013 Intergovernmental Panel on Climate Change (IPCC) report more definitively than ever has set out warnings regarding future trajectories if sufficient action is not taken.¹⁸

2.3 A NEW ERA IN CHINA BUT LEGACY ISSUES REMAIN

2.3.1 Ecological Civilization, Green Development and Environmental Protection

Ecological Civilization is a phrase uniquely Chinese but it has garnered considerable international interest since being mainstreamed into policy discussions this past year. It is discussed widely, with various major conferences¹⁹ in China on the subject, and with research and pilot activities. As noted by Professor Shen Guofang²⁰, it is a term that *has its own rich and in-depth meanings*, that is a *genuine innovation of the Chinese Government* and for which *there is no precedent in other countries to pay so high attention to ecological conservation and environmental protection*. It is indeed an aspirational goal, but there are already efforts underway to understand how its implementation can occur and how progress towards Ecological Civilization might be measured. Ecological Civilization might be considered a top tier policy subject, even though the thoughts and actions can be generated and carried out at any level within society and at local as well as national levels of government.

In his speeches, President Xi Jinping has noted some fundamental observations for building Ecological Civilization. Most importantly, that *economic development determines people's living standard while environmental quality is a prerequisite for man's survival*. The following points provide guidance on key requirements.²¹

15 *A New Global Partnership: Eradicate Poverty and Transform Economies through Sustainable Development*. <http://www.post2015hlp.org/wp-content/uploads/2013/05/UN-Report.pdf>

16 Saint Petersburg G20 Leaders Summit 5-6 September 2013. <http://climate-iiisd.org/news/g20-leaders-adopt-declaration-action-plan/>

17 <http://www.weforum.org/reports/green-growth-action-alliance-progress-report-first-year-catalysing-private-investment>

18 IPCC. September 2013. Climate Change 2013. The Physical Science Basis. <http://www.ipcc.ch/report/ar5/wg1/#.UISVDxaQsqg>

19 A prominent example is the Eco-Forum Global Annual Conference held in Guiyang City, July 2013. The CCICED 2013 Roundtable Forum was held in conjunction with this meeting.

20 Importance shall be attached to the English translation of Sheng Tai Wen Ming. CCICED Chinese Chief Advisor, December 2012.

21 The observations are prepared by MEP Minister Zhou Shengxian in an article published on the MEP website, 9 February 2013, Towards the New Era of Ecological Civilization—Studying the Important Statement by Comrade Xi Jinping on the Building of Ecological Civilization. http://english.mep.gov.cn/Ministers/Activities/201309/t20130917_260331.htm

- *Respect nature, accommodate nature and protect nature.*
- *Give priority to protection and strive for economic development in the process of environmental protection and protect the environment in the course of economic development.*
- *We must firmly uphold the concept of ecological red line... and prepare a comprehensive scheme for maintaining the ecological red line and pay attention to enforcement.*
- *Explore a new path to environmental protection... learn from developed countries on pollution control... make innovation based on China's national conditions and stage of development and employ new thoughts and methods to conduct comprehensive treatment.*
- *Focusing on prominent environmental problems harming public health... achieve phased results and gradually improve environmental quality... we must also realize this will be a prolonged battle.*
- *Never should we take GDP growth as the biggest achievement... indicators on ecological civilization such as resource consumption, environmental damage and ecological benefits should be included in the social development assessment system and be given more weight.*
- *People who have made blind decisions without regard for the environment and caused serious consequences will be held responsible and even for a lifetime.*

It is remarkable how quickly the concept of Ecological Civilization has entered the vocabulary of China's environment and development. It has provided a strengthened opportunity for policy coordination and the top political attention being given has already resulted in efforts throughout government and society to take this new idea seriously. Within China and internationally there is a sense that Ecological Civilization is an important opportunity for China to develop a unique pathway for development of high value to its own society and to people elsewhere.

There are two other levels of environment and development action that will help to fulfill expectations for Ecological Civilization.²² One level is the wide variety of sectoral actions and governance actions that will enable and enhance China's efforts for green development. These can be linked to global green economy, green growth and sustainable development. This will require enormous effort and fundamental transformations in China's investment directions, urbanization and rural development over the coming decades. Green development is the overarching theme of CCICED for its work during Phase 5.

At yet another level, but of course linked to Ecological Civilization and to green development, is the subject matter of an environmental protection agency and other relevant bodies. China's major efforts to date will require a more integrated approach tied to airsheds and watersheds, urban agglomerations, industrial sectors and further improvements in protection for ecological services. It will be essential to stop further degradation and to address legacy issues related to soil pollution, marine and coastal development and other pressing matters. For some matters, emergency action is needed, for example on regional air pollution for many parts of China. Transformative change related to bringing about a 'New Path for Environmental Protection'²³ has started but is still inadequate in terms of the tools, capacity and, likely, the financing needed to bring about desired results. Inconsistent alignment among various development interests continues to hold back robust environmental protection progress.

22 The three levels, Ecological Civilization, Green Development, and Environmental Protection, highlight different points of emphasis regarding policies and implementation actions. Further explanation is provided in a short paper by Arthur Hanson. January 2013. *China and Ecological Civilization*. 7 pp. CCICED.

23 http://www.cciced.net/enciced/event/AGM_1/2011agm/speeches2011/201205/P020120524356500627645.pdf

2.3.2 China at a Crossroads for a New Environment and Society Relationship

Society within China is already at the point of achieving ‘moderately well off’ financial and other goals²⁴ by 2020 or before. For those areas in China not already at this stage of economic achievement, there is expanded economic development producing the very high GDP growth levels seen by richer coastal provinces until 2008. In some poorer areas with fragile ecosystems the accelerated pace of environmental impacts such as groundwater depletion and grassland degradation is troubling. However there are many efforts and progress to reconstruct damaged ecosystems and to create new livelihoods based on tourism or other sectors in provinces such as Guizhou, Xinjiang and Shaanxi.

Within the richer provinces, economic growth rates are falling, generally to below 8% but from much larger bases than 5 or 10 years ago. Yet from an environmental point of view, even these lower rates may still not be sustainable, as environmental issues are not only related to economic growth rate and scale, but also related to industrial structure, especially rising domestic consumption and lifestyle changes of people. Fortunately, substantial improvement towards education, health care access and other social development efforts are helping to improve economic efforts. Environmental quality has become a major concern since even when targets for pollution reduction are achieved, environmental quality does not improve due to complexity in the environmental pollution situation.

Political support is well enunciated but pathways for success are not well understood or sufficiently implemented and mechanisms to reduce challenges and policy effectiveness continue to be blocked by special interests, slow movement on enforcement, implementation of important mechanisms and policies such as environmental taxation, subsidy removal, pricing and other economic incentive systems, plus other problems.

In many parts of the China social tensions are on the rise, in part due to perceptions and worries about development directions, and sometimes mixed with other concerns such as local corruption and wealth inequalities. The dramatic increase in social networking and the use of improved electronic communications to highlight what are often legitimate local concerns on the part of citizens is a subject of worry for China’s government.

On the one hand, there are clear messages that the government wants to increase the participation of people in decisions affecting their quality of life, and in the supervision of government performance and project planning. As noted by President Xi, *Anyone who exercises power should serve the people, be accountable for the people and consciously accept supervision of the people.*²⁵ On the other hand, social stability continues to be a major concern, and so, for example, there have been recent efforts to put in place severe penalties for spreading of false information via the Internet.

The right to know — and to use that knowledge constructively and the need to ensure China’s continued effort to create new infrastructure and a modern society should be highly complementary objectives. However at present, it is still a struggle to achieve an optimum situation. China’s continued effort to create a scientifically and technologically advanced society provides a great opportunity to expand public inputs into development decisions, but there should not be an expectation that disputes will disappear. There is a need to build stronger risk assessment, dispute resolution mechanisms and environmental rights.

With the new government policy focus on stimulating domestic consumption, urgent action on Corporate Social Responsibility (CSR) and on improved safety and environmental standards for products, are needed. These will assist in reducing excessive and environmentally damaging consumption in government procurement, in business and in household consumption. China is close to crossing some important ecological footprint thresholds on supplying its needs from resources within the country and perhaps globally.²⁶

24 The indicators are described in Xu Xianchun. 2009. *The System of Xiaokang Indicators: a Framework to Measure China’s Progress*. Third OECD World Forum. Busan. 9 pp. <http://www.oecd.org/site/progresskorea/44120516.pdf>

25 http://news.xinhuanet.com/english/china/2013-01/22/c_132119843.htm

26 http://www.footprintnetwork.org/images/article_uploads/China_Ecological_Footprint_2012.pdf

Sustainable consumption is largely new territory for policy makers, and indeed for Chinese businesses and consumers. This topic presents a major opportunity for linking Ecological Civilization and green development to purchasing decisions of people, businesses and government, and requires a major focus on green market supply chains. This aspect also has important implications for China's trade and *Going Out* efforts since sourcing of products beyond China's borders will require greater attention to full life cycles of products and greater participation in various programs of international certification and green standards. Sustainable consumption should be considered a huge opportunity for green development and for building an Ecological Civilization.

Shifts in approach for environmental protection are urgently required, although difficult to accomplish in terms of demonstrating rapid improvements to environmental quality outcomes. Renewed emphasis has been placed on control of basic air, water and soil pollution. Yet even as progress is made on some issues, new problems emerge, for example, the extent of groundwater pollution and the changing sources and complexities of air pollution. The unprecedented level of new investments on action plans provides the timing and opportunity to accelerate the transition to the new path of environmental protection, including solutions to the following questions. Will the new investment be efficiently and effectively managed to produce optimal results? Will potential co-benefits be proactively sought and optimized, for example to address greenhouse gases and to ensure public health is actually improved? Will long awaited changes to greater use of market-based instruments and green tax reform be implemented to the fullest extent?

The following issues quite clearly need to be dealt with and might be considered as near- term and mid-term opportunities for the new administration.

- The targets-based approach to environmental protection needs to be shifted to scientifically substantiated outcomes/improvements based on environmental quality, quality of life, environmental health and ecosystem health criteria.
- Another shift should be from reliance on local efforts to greater emphasis on ecologically sound regional efforts (especially air, water and soil pollution).
- New opportunities are required for 'development supervision by the people.' These need to be based on much greater information transparency and participatory approaches, and to be linked to the current drive to eliminate corrupt practices.
- Since environmental damage has reached severe levels and cumulative ecological debt continues to grow, the investment to achieve green development must grow very substantially, probably to 10% or more of GDP when all sources of expenditures are considered and be based on technical, social and governance innovation and administration.

These points will be considered in more detail at a later point in this Issues Paper.

2.3.3 Social Factors and Transformative Environment and Development Shifts

Consideration of social factors generally is dominated by the following issues and subjects: people's perceptions and values, ethics, rights and obligations, inequalities, individual and institutional behavior, vulnerability, risk and public safety, quality of life, environment and security in wars and in disasters, poverty reduction, access to livelihoods, access to social benefits, freedom of choice and fulfillment of 'needs and wants.' Governance is shaped by social factors, with special emphasis on stakeholder relationships, access to services, transparency in decision-making and performance, perceived levels of honesty and trust, quality of government performance and freedom from corruption.

This daunting list perhaps explains why the relationship between environment and society remains fraught with difficulties. Also, why tensions exist — not only in China but in most other countries — when it comes to matters such as siting of waste incinerators, environmental health concerns from pollution or access to natural resource use and on mechanisms for participation in planning decisions and for fair treatment and resolution of environmental complaints. While there is not full agreement on any single unifying theory²⁷, it is certainly possible to sketch out many of the important components of the environment and society relationship and to consider and identify actual linkages and feedback loops.

- i. **Social Development in China.** Social development is an essential element for sustainable development. Within China this relationship has been subject to much study including China Agenda 21, the series of China Human Development Reports, and work by leading Chinese academies and universities. Box 2-1 lists some key achievements in Chinese social development.

Box 2-1 Some important Chinese social development achievements

Despite the considerable progress in social development over the past several decades, some very important challenges remain. Among them are the following:

Social management policies

- Adjustments to the One Child Policy
- Urban residency requirements (*hukou* household registration system)
- Land ownership and usufructuary resource rights, especially in relation to rural residents and rural-urban migrants
- Implications of an aging population

Social safety net

- Basic social security still limited
- Public health and access to health care improving but limited measures to deal with environmental health issues, workplace safety and inadequate monitoring for many concerns.
- Education and training
- Job security and insecurity

Information management and institutional freedom

- State secrecy requirements
- State propaganda bureaucracy
- Release of information on incidents, development approval processes, environmental decision-making, etc.
- Media and communications
- Social media expansion and wide usage for social and environmental matters
- Monitoring and control over civil society organizations, activities of philanthropic and charitable organizations and role of local and national social and environmental organizations

27 Among various authors, Prof. Amartya Sen has produced perhaps the most significant theoretical concepts regarding social choice and other aspects of human development that are relevant to environment and society (see, for example, A. Sen. 2009. *The Idea of Justice*. The Belknap Press of Harvard University Press). Prof. Partha Dasguptahas examined the issues carefully in a related but distinctive way, for example, in *Human Well-Being and the Natural Environment*. Oxford University Press, Rev. ed. 2004. Combining theory and experience from various parts of the world, Jeffrey Sachs has played a particularly important role in the Millennium Development Goals, and has worked to highlight key approaches, for example in his 2008 book *Common Wealth: Economics for a Crowded Planet*. Penguin Press.

- ii. **Social Factors and Environmental Improvements.** Social factors generally are still not well understood in relation to Chinese efforts for environmental improvement. Internationally, the same might be said.

With China's great interest in building a harmonious society, there is a genuine need for deepening the public's knowledge of environmental science and for much greater transparency in decisions and accurate information on the state of the environment. These are prerequisites for improving public participation in development supervision and also important in order to find out more from the public about future 'needs and wants' for a good quality of life. The emerging middle class in both cities and in rural areas is most important for these are the people, who may be most influential in creating the levels of consumption and type of lifestyle for a modern, or even post-modern China.

The transformative period ahead in China, with its many transitions such as rapid urbanization and introduction of new technologies, is likely to be messy with regard to social and environmental factors. Inequalities may persist, and possibly worsen in some ways. It cannot be presumed that sustainable consumption will unfold in a smooth way if governed by people's individual and household decisions alone. Already many people, particularly some in cities, are consuming energy and materials at very high levels. Along with many legitimate concerns about development impacts on the environment, there will be strong vested interests continuing to shape decisions locally and sometimes nationally towards their needs and concerns. NIMBY ('Not In My Backyard') campaigns will likely become more frequent, sometimes driven by perceived risks that may or may not be real. There also will be disputes for which no environmental consensus may be possible, for example, regarding large hydro dams.

These observations are cautionary notes about social and environmental relationships, and raise the question about what level of disagreements and dissent should be recognized as legitimate in a harmonious society? In many countries, including a number of western societies, but also countries such as South Korea, India, South Africa, Costa Rica, Brazil and Indonesia, the threshold for tolerating dissent within the society has become quite high on addressing environmental protection and development concerns.

There are a variety of internationally well-tested approaches for considering social and environmental needs in planning and management, as noted in Box 2-2. China is engaged in most if not all of these approaches but not necessarily in a systemic fashion.

Box 2-2 Social and environmental planning and management approaches

Basic Mechanisms

- Public Participation in decision-making
- Disclosure
- Stakeholder engagement
- Consultation processes
- Freedom from harassment and retribution
- Access to complaint processes, legal remedies
- Social communication and media

Shared Responsibilities in Governance and Management

- Corporate Social Responsibility (CSR)
- Co-management and community-based management
- Citizen-based science and monitoring
- Reporting and control of illegal activities
- Voluntary efforts for environmental protection

Planning and Assessment

- Environmental and social impact assessment
- Risk management and disaster planning
- Integrated urban and rural regional planning
- Zoning, including ecological functional zoning
- Red lining for food security and for ecological purposes

Sustainable consumption promotion and analysis

- Shifts in consumer behavior via incentives, laws and voluntary action
- Life cycle analysis of energy and material
- Green market supply chains
- Green certification

iii. **Successes and Challenges in Linking Environment and Social Development.** It may be too early to say that the glass is half full with respect to improvements on addressing environment and social development issues in China. But certainly there are some very good results of initiatives in locations throughout the country. Yet there appear to be systemic issues that make it very difficult to achieve progress on some types of problems. Several examples are provided below.

Examples of successful interventions:

- Capacity of senior leaders to provide a coherent rationale and approach linking environment and social considerations, including Ecological Civilization, scientific development and low carbon economy.
- Circular Economy with changes to behavior of individuals, units of government, communities and enterprises towards resource conserving practices, and with major transformation of global recycling.

- Ecological Construction and Eco-compensation initiatives on reforestation and to a lesser extent for wetland reconstruction and grassland protection. Provision of social benefits to both local farmers and downstream inhabitants, with some biodiversity protection and improvement of upper watersheds and water basin resilience.
- Natural disaster planning and early warning action to reduce human injury and death toll from extreme weather events such as typhoons.
- Introduction of environmental amenities and other quality of life improvements in major cities, including green zones, better public transportation, waterway cleanups, etc., in some cities.
- Programs for cleaner rural energy and installation of biogas stoves and other means to improve indoor air quality in rural homes.

Examples of very challenging problems:

- Environmental enforcement programs have failed for a variety of reasons, but often because they have not provided sufficient incentive for enterprises to shift behavior.
- Programs working at cross-purposes, for example, incentives to purchase private automobiles and to use them extensively, while at the same time having inadequate measures to mitigate or contain the resulting smog and other environmental and social impacts.
- Integrated action plans to address environmental management have been put into place in river basins and in some marine subregions such as the Bohai Sea. However they have not curbed unsustainable practices, leading to a variety of serious pollution incidents (e.g., red tides in coastal areas, green algae in major lakes, loss of important species, such as dolphins in the Yangtze River).
- More efforts are needed to address the variety of problems nationwide related to soil pollution (full compensation, timely restoration).
- Emerging signs of chronic health and environment problems facing the public throughout China.
- Failure to alter sufficiently the 'pollute first, cleanup later' syndrome linked to very high rates of GDP growth.
- Limited success or effort to equip the public with programs providing necessary information and opportunities to take voluntary action for environmental improvements and for sustainable consumption.

2.3.4 Opportunities Ahead for China

A solid mix of opportunities for creating a new Environment and Society relationship exists, as noted in Box 2-3.

Box 2-3 Opportunities for strengthening links between Chinese social development and Ecological Civilization, green development and environmental protection

- Setting an overall vision for Ecological Civilization and building a relationship to social development aspirations that have been defined for the 12th FYP and beyond.
- Setting specific objectives for green development that can be related to social development sectors including public health, primary and secondary education, job training and in major processes involving transformative change for people's perception and behavior, especially urbanization and displacement of rural communities.
- Strengthening public supervision role in overall development directions and for specific programs and projects, including addressing matters such as anti-corruption, poor planning, environment and social monitoring of projects, unjust practices by officials nationally or locally in the design and implementation of new initiatives.
- Further opening of public input channels for dealing with environmental and social impacts of development and to have improved mechanisms for addressing public discourse. Social media will continue to grow in significance in terms of their role for both environment and social development matters.
- Creating a more transparent information sharing system for environment and social information. The models of environmental and social information sharing in the USA and many other OECD countries can be examined for relevance to China's situation. There is a need for further relaxation of constraints placed upon Chinese media sources in their reporting of environment and social concerns. On occasion, they have shown a high level of competency in bringing forward some important environmental incidences and issues.
- Implementing better enabling measures for the creation and operation of Chinese civil society organizations that place a major emphasis on environment and social development concerns. These will take many forms, some with very specific objectives, others more general in nature. The process will be aided by responsible linkages and cooperation with international NGOs and professional organizations.
- Fostering CSR practices on the part of Chinese SOEs and private sector enterprises (including SMEs) whether their operations are in China, or include activities abroad through ODI and China's Going Out policy. This effort can be enhanced through enabling measures in laws and regulations, and through various incentives. However, CSR requires direct commitments by enterprises and their associations that should be done on a voluntary basis.
- Creating a national framework of certification and other measures such as product and production standards designed to promote sustainable consumption by households, and sustainable procurement practices by public institutions (hospitals, universities), government bodies and by enterprises of all sorts. Although such efforts are underway within China, they are still nascent and not well backed up by governmental effort.
- Utilizing banks or other sources of credit as allies to help screen out initiatives inside and outside of China that are likely to have undesirable social or environmental consequences.
- Utilizing environmental improvements to a greater extent in poverty reduction programs, and making these efforts compatible with international post-2015 sustainable development goals, if these prove to be compatible with Chinese interests..

2.4 POLICY AND IMPLEMENTATION ISSUES

2.4.1 Managing gaps of rising expectations, environmental perceptions and the reality of environmental conditions and problems in China.

Even if China is able to significantly reduce the extent of such visible problems as smog and water pollution during the coming five years, which should be possible and certainly desirable, there is likely to be continued public discontent regarding environmental quality and livability within cities. There will be more NIMBY cases, reactions to inevitable environmental accidents and changing environmental conditions, and on-going concern about public health and environmental safety. No matter how much is invested in public education and awareness-raising, significant differences of perception will remain. Perceptual and conceptual differences in approach to environment are a normal part of the human condition as shaped by culture, strongly held values, history and past experiences and various other factors including income level and views about the governance system. For many if not most environmental matters there will be public views split into pro-development, development with restraints and safeguards and anti-development. Many other countries have successfully dealt with such splits.

For development on the level of complexity, scale and rapidity in China there is no other country in the world that can serve as a comprehensive model for what will be required in the coming two decades and beyond. For this reason it is important for China to invest in an approach that will be unique but that draws upon experience from elsewhere. Ecological Civilization provides the opportunity to build a new approach that is indeed capable of dealing with the inevitable gaps that will persist regarding public understanding of environment and development issues, and the scientific, economic and other expert views shaping policy decisions.

Built into this new approach must be a larger window for the public into sometimes very detailed knowledge of issues and more encouragement of peoples' participation in decision processes and follow-up monitoring. There is much to be done in the way of environmental education to ensure people are capable of understanding and participating. But given that much of the perceptual problem is tied up in trust-building and in raising credibility of both government and enterprises, there must be considerable tolerance of divergent views and with dialogue efforts that are seen to be productive by most people.

Many positive environmental actions beneficial to health and quality of life and to protection of ecological systems and services, are possible. Determining the extent of investment needed should be well backed up by credible analysis in terms that are acceptable to stakeholders and to the public at large. This is a difficult task, as seen in many other countries trying, for example, to come to grips with climate change or urban development, and where balancing public and private interests appear to clash, especially in the short term. Strong and consistent national approaches such as the Scandinavian countries have developed and applied provide good examples to consider.

2.4.2 Balancing traditional Chinese values, contemporary social values in China and outside influences in seeking progress towards Ecological Civilization, green development and environmental protection.

A society changing as fast as China's has during the past three decades, demands a remarkable level of resilience, but also can be expected to seek a reasonable balance in what it will desire from old and new. In its opening up, China has taken on board many of the most environmentally damaging approaches to development from abroad, including transportation infrastructure oriented to suburbanization, the tools of advertising that promote overconsumption and many industrial enterprises that have not sufficiently respected nature or the health of people. On the other

hand, the technology revolution in China has promoted communications and other innovation technologies in unprecedented ways. China also has joined many international accords regarding environment and development and these will help to shape future national action for sustainable development within China.

What is the right balance among these often-competing interests from today to 2020, 2030 and to 2050? The answers to this question are still fragmented and tilted in favour of strong vested interests both within China and outside that seek either stability of existing but ultimately unsustainable practices such as rising fossil fuel use or look for dramatically expanding markets for products such as automobiles and other consumer goods following western development patterns. As a result, putting it bluntly, what will differentiate a consumer in Shanghai in 2030 from one in Paris or Houston or São Paulo?

The ideals from past centuries, including Confucian philosophy will undoubtedly be useful in shaping an improved environment and society relationships, for example, in the period to 2020 for the attainment of a Xiaokang Society. However, it is the shaping of contemporary social values through urban in-migration, education and access to social services, livelihood shifts, and the broadening travel and experience of Chinese citizens as they become wealthier that will likely play a crucial role.

2.4.3 Making environment and development governance more inclusive, effective and efficient.

It has been pointed out that China's environmental crisis is actually a crisis of governance, since it reflects a falling trust level by people concerning whether government on its own can actually deliver satisfactory improvements in environmental conditions. Governance, of course, is a term that reflects relationships among stakeholders to address problems and therefore goes beyond the action of government. Thus improvement in governance must rely on mutual trust-building and people's participation, greater sharing of responsibilities, for example between government and enterprises, better value for investment in environmental protection and restoration and efficiency in the sense of not unnecessarily slowing development as a consequence of environmental improvement. None of these points are new, but they are taking on greater significance with the growing levels of both problems and actions to alleviate them.

Several topics stand out for concerted effort. More attention is needed on how to implement integrative approaches to address cross-sectoral conflict and to optimize among varying development objectives. Solving the critical issue of local-national disconnects about the priority given to environmental matters compared to economic development is essential. There is no doubt that the concern over corruption and other issues of "clean government" are important regarding environmental matters. Many of these issues are linked to the current model of land transfers associated with urbanization. Environmental impact assessments and other planning efforts for regional development and projects must be done with considerably more transparency and with mechanisms that genuinely allow for peoples' supervision. In the design of new green development, exemplary methods are required in order to build trust. What constitutes exemplary methods is a topic to be worked out jointly by stakeholders.

2.4.4 Linking transformative economic and social structural change with transformative environment action.

The emphasis on China's economic shift towards tertiary sector dominance and domestic consumption, plus the accelerated pace of urbanization are very important points. However, they are not fully linked with the transformative change now underway on environmental protection mechanisms and very likely also not to some aspects of green development.

China's environmental protection is largely based on the feature of strong government intervention and still does not fully embrace a market-based approach, while the current incomplete policy implementation and inadequate enforcement of command and control measures, throw confusion into the transformative economic and social reforms. Genuine progress towards significant improvement in environmental quality and quality of life will require moving environmental protection to an intersecting track with economic and social structural changes. This point has been made by CCICED a number of times in recent years, for example in its work on green economy and on low carbon industrialization in 2011 and in several studies reported in 2012.

Some good signals have been provided by President Xi Jinping and by Premier Li Keqiang, and in the New Path for Environmental Protection enunciated by MEP Minister Zhou Shengxian. The tasks, however, are complex and appear difficult to be brought forward in a comprehensive way. They include, among others the following key areas: fundamental green tax and subsidy reform, widespread implementation of CSR among industries, the energy sector, the financial sector and other sectors such as information technology, mineral development, tourism and agri-business, a robust approach to green market supply chains, including greater effort to build credible certification and effective means of green public procurement and better options for environmentally-sound consumer choices. Some of these points are amplified in the issues noted below.

2.4.5 Implementing comprehensive fiscal and tax reform for Ecological Civilization, green development and environmental protection.

Although such reforms have been proposed to China by many groups within China and by some international organizations such as the World Bank, Asian Development Bank, OECD and by CCICED, implementation has been slow. The moment never appears to be quite right. Now the stakes are higher. In part this is a result of better understanding of problems and the recognition that incentives are required for action. Furthermore, the costs of inaction in terms of health and loss of ecological services are being measured more carefully. As well, there are questions about the efficiency and effectiveness of traditional regulatory provisions that rely upon expensive command and control laws, even though these are still needed.

The most important new point to emphasize is the great opportunity to expand benefits of fiscal and tax reform as a result of dealing with all three aspects, Ecological Civilization, green development and environmental protection in a common framework where there can be co-benefits and greater efficiency using such measures. For example, if there were a shift away from sale and conversion of land as a means of funding current expenditures by city governments, there would be fewer cases of overdevelopment and less suburban expansion, resulting in lower pollution and more habitable cities. If taxes shape purchasing decisions by consumers, they may buy fewer but more durable items and thereby reduce their ecological footprint. Fiscal and tax reform can be designed to address both social development and environmental protection objectives, for example, those related to public health and air pollution reduction.

The highest priorities should include environmental objectives where measurable environmental quality improvements are possible: fiscal and tax measures directly linked to air, water and soil pollution, a strengthened, comprehensive and long-term eco-compensation program of direct benefit to rural people and the environment locally and elsewhere, environmental tax reform to price carbon appropriately and coupled with additional efforts for carbon emissions trading within China, more appropriate pricing of ecological goods and services, reform of urban taxation policy to encourage a move away from large scale land appropriation and continued efforts to establish price structures for both manufactured goods and resource structures that fully account for externalities. All these measures require renewed effort to develop an improved system of green accounting, and improved efforts to develop a reasonable benefit/cost approach to environmental reform that takes into account environmental public health and ecosystem goods and services.

2.4.6 Using the educational system and public awareness raising to move Chinese society towards actions compatible with environmental and social harmony while still enhancing prosperity.

Perhaps it is correct to assume that China is somewhat unique in its capacity to shape views towards sustainable consumption and other aspects of its environment and society relationship through better use of formal and informal education, and via both traditional and new media mechanisms. However, for a society that is now well exposed to many sources and types of advertising, and to policies that encourage increased consumption, at best there will be many contradictions in the effort to shape lifestyles. Furthermore, knowledge alone is not enough to ensure that green choices will be made. Thus, while improved awareness and education are essential, they cannot be treated as either a responsibility that is for government alone, or even by government plus business. The situation really does demand a 'movement' in which citizens become the critical part of the solution, individually in their lifestyle choices, through their work place and through the various organizations in which they participate.

How such movements can be fostered is, of course, a matter of debate. One of the most interesting examples is 'Earth Day,' particularly in its earlier years from 1969-75. This movement had its roots in universities and with a handful of politicians, but quickly grew to encompass public and private schools, and with participation from the media, businesses and many others drawn from all sectors.²⁸ Within a few years it became a global event.

In China and some other countries such as the United Kingdom, perhaps one of the most prominent and relevant movements in recent times has been the embrace of Low Carbon Economy as a new and rather integrative approach to energy, climate change, consumption and lifestyle concerns. It has spread through a combination of public awareness and education by governments, mayors of cities, scientists, some enterprises, media and "opinion leaders." Yet in most places, it has slammed into institutional barriers that have not yielded to the new movement. Andrews-Speed has noted that *significant or even radical institutional change across the polity, economy, and society in China will be required in order to accelerate the transition to a low carbon economy.*²⁹ The point to be made is that for education and awareness-induced movements to actually create substantive change in conditions, behaviour and perhaps values in society, there must be concurrent institutional shifts, better policies and improved coordination.

The rise of social media and the global linkages possible via the Internet are dramatically changing the landscape of educational practices and awareness raising. China has shown itself to be very proactive in the dissemination of officially sanctioned information for shaping public opinion, very wary concerning the "spreading of rumours" via social media and to set significant limitations on information disclosure, for example regarding environmental assessments or other project and planning documents. There are very difficult matters under discussion for example, regarding disclosure and release of government information on such matters as toxic wastes and also the debate about what constitutes acceptable and unacceptable practices on the part of members of the public regarding spreading of opinions (in an age where observations can "go viral" in minutes).

Given that China now probably has the world's largest digitally-connected population, and many of the most sophisticated users of communications technology of any country, clearly there must be new accords reached to ensure that these technologies support not only educational and awareness needs, but also serve as the basis for improved dialogue between various interests. Only in this way can there be real movement towards genuine public participation. What constitutes appropriate rights, responsibilities and even duties on the part of the public,

28 Adam Rome. 2013. *The Genius of Earth Day: How a 1970 Teach-In Unexpectedly Made the First Green Generation*. Hill and Wang. 368 pp.

29 P. Andrews-Speed. 2012. *China's Long Road to a Low-Carbon Economy - An Institutional Analysis*. Transatlantic Academy Paper Series. 26 pp. http://www.transatlanticacademy.org/sites/default/files/publications/AndrewsSpeed_China'sLongRoad_May12_web.pdf

businesses and government is an issue that is likely to be tested in various ways, just as happens elsewhere in the world. It will be encouraging if China can indeed find ways in which a well-educated public can become among the world's best monitors of environment and development progress.

2.4.7 Engaging the full range of Chinese enterprises in Corporate Social Responsibility (CSR).

There are excellent role models for CSR, including many enterprises within China, and there are many types of activities that have been undertaken. These are well documented and with awards (e.g., Golden Bee corporate award) and other mechanisms to encourage CSR participation.^{30,31}

Progress is still relatively slow in comparison to the needs, and advanced characteristics such as development of green market supply chains leave much to be desired. However, CSR could well become one of the most important bright spots of China's environment and development relationship during the coming decade. If CSR becomes widespread, including SMEs in China and in Chinese companies of all sizes engaged in overseas activities, there will be benefits not only for domestic green development but also for other countries.

What is necessary to accelerate the pace of acceptance? In countries such as the USA, CSR has been driven mainly by specific actions of industry associations and individual companies, coupled with dialogue and approaches involving stakeholders. In China, it is likely that government will be more proactive, perhaps using legislation or other "compulsory" mechanisms. In addition, government could use a variety of tools such as economic incentives, education, and involvement of SOEs in the greening of market supply chains. Some multinational companies in China could be called upon to share their experience as well.

Government might also take a sectoral approach, strategically working with sectors such as automobiles, heavy chemicals, agri-food subsectors, etc., in order to improve many of the specific needs such as green certification and standards, implications of CSR in natural resource development, etc. There are important roles in promoting CSR for the government-aligned chambers of commerce and other business and industrial associations.

While it would appear sensible to pursue a broad program of CSR implementation within China, there are definite challenges and issues. One major concern is simply the short-term profit perspective of many businesses. Tied to this are the still low fines or other penalties imposed in some situations of pollution or social problems created as a result of industrial activities. Some other concerns include the limited push from the financial sector to incorporate environmental criteria into their loan approvals, limited interest on the part of investors in the Chinese stock market to promote CSR, and the limited use of environmental risk criteria on the part of insurance companies. Fortunately there is movement on these concerns. Another issue is the lack of transparency in the operations of many companies — not the necessary level of accurate data and information release on emissions release, monitoring to ensure follow-up to EIAs or other commitments. A major concern has been the local protectionism of local governments regarding the way environmental and social matters are treated. All of these problems are well enough known, but difficult to resolve.

30 <http://www.csr-china.net/en/second.aspx?nodeid=ddd0b45c-b7c4-4947-b2e3-e20374708733>

31 Li-Wen Lin. 2010. *Corporate Social Responsibility in China: Window Dressing or Structural Change?* Berkeley J. of International Law. 28(1):64-100. <http://scholarship.law.berkeley.edu/cgi/viewcontent.cgi?article=1377&context=bjil>

2.4.8 Addressing shortcomings in agricultural sustainability and impacts on green development.

Food security will always be a major concern for China's government and society. Fortunately there has been impressive progress in food self-sufficiency. However, several major shifts are now underway with major implications for China's green development. One is the consolidation of farms and the complex issues surrounding land allocation, rural-urban migration, and aging farm populations. A second cluster of concerns relates to the very substantial and increasing environmental impacts of farm production and processing. With the shift to animal protein in people's diet, the expansion of aquaculture and feedlots for livestock and the need to expand agricultural land to supply fodder are creating many pressures. This issue extends to agricultural water demand. Agricultural activities pollute soil, air and water and issues such as non-point source pollution are very difficult to control. In addition, processing agricultural products have created major pollution in various parts of China.

Rural sustainability is intrinsically and intricately related to China's biodiversity and the health of ecosystems. Grasslands are under intense pressure as a consequence of the expansion of livestock and also from alternate uses of land. Despite China's great commitment to nature reserves and other forms of land and water conservation and protection, management of social aspects of use, perceived inequalities, illegal harvesting and other problems are working against sustainable use. Functional ecological zoning and red lining for protection of ecological services are still at an early operational stage. Integrated management strategies for coastal marine areas and for water basins leave much to be desired.

In addition, as recent years of extreme weather demonstrate, there can be no guarantees that China will escape ravages of climate variability and change in the decades ahead. Already a serious and expensive set of adaptations and mitigation efforts is required to lessen the impacts of flood, drought and severe summer and winter weather in various parts of China. It is a tribute to the resilience of Chinese rural and suburban communities that, even with more intensive use of the natural resource base, there has been considerable progress on disaster planning and management. However, there may be significant tipping points, especially regarding ground water, toxification of agricultural lands and other ecological concerns including loss of key species such as pollinators.

From a social perspective, the ability to carry on traditional approaches to agriculture is likely to be limited by the outmigration from communities and through land consolidation and conversion to other uses. Thus China will have to continue innovating, as it is doing by introducing new economic activities such eco-tourism, wine production, and in some environments such as the desert and semi-arid areas, medicinal crops.

2.4.9 Aligning New Style Urbanization with Ecological Civilization aspirations and green development needs.

The unprecedented attention being given to urbanization is certainly well justified. It is the most important long-term investment China will make in its stock of built capital and has enormous implications for the environment and people's future prosperity. The rush to urbanization will peak over the coming 15 to 20 years. However the patterns of infrastructure now being created will set the stage for 50 to 100 years. Thus issues such as option foreclosure associated with design of cities, suburban growth and sprawl and the choices for interurban transportation and environmental connectivity are extremely important. Most urban citizens now or eventually will perceive themselves as part of China's 'middle class.' They will set the pace for sustainable consumption, NIMBY and other environment and green development matters. McKinsey and Associates³² estimate that the most important group among consumers will be the 'upper middle class' who in 2012 constituted about 36 million households in urban areas.

³² http://www.mckinsey.com/insights/consumer_and_retail/mapping_chinas_middle_class

By 2022 their number may reach 193 million urban households. Their use of disposable income will be extremely important in determining sustainable consumption outcomes, and the demands for a high quality urban lifestyle.

‘New style urbanization’ is a work in progress led particularly by Premier Li Keqiang. It places central emphasis on putting people at the heart of urbanization (“humanity oriented”), but addressing the realities of cities as the engine of economic growth, and the need to seek both “quality and efficiency” in the layout and operation of urban development. Urbanization must contend with improvements to the largest cities, but also place more attention on medium and smaller cities, and on the rate of development of new cities.

Media reports during the last half decade — when economic stimulus funding was easy to come by — of quickly built “ghost cities”³³ with relatively few inhabitants, present a disturbing picture of poorly timed local planning decisions. The very rapid development of national transportation networks and interurban connections sometimes raises questions about actual levels of demand. Considerations in infrastructure investment, such as access to water supply, remoteness from markets and ecological impacts may play second fiddle to local ambitions and showcased physical results of investment. What is clearly required throughout the country is an integrated approach to infrastructure renewal and construction that is based on realistic goals and, as noted by Premier Li, *a path that incorporates the ideas of green and efficient growth*.³⁴

For New Style Urbanization to properly take hold, the following topics must be well worked into the policies for planning and implementation:

- Job creation with an emphasis on the service sector, green industrial parks and manufacturing facilities and appropriate new activities for migrants.
- Sustainable life style attributes for urban dwellers so that people of all levels of prosperity have access to basic services, green transportation, environmentally friendly, safe and clean neighborhoods, the means to live comfortably and sustainably and with equitable access to social benefits.
- Shifts in revenue sources to meet the expanding needs of transportation, environmental and social development. In particular, the land alienation process carried out by local governments is damaging in a number of ways, such as encouraging urban sprawl.
- Reforming the unfair practice of *hukou* and other social and economic discriminatory policies against migrants and their families. Modification or ending of these inequities has been called for by many Chinese experts, but still appears to be difficult to put into practice.
- A regional approach to urbanization is required in order to address environmental protection concerns and for efficient infrastructure development. The inability to handle air pollution, control of floods and other natural hazards, groundwater depletion and other environmental issues at present is in large measure the consequence of weak regional development planning and monitoring. The problems will expand with climate change and with rapid extensive growth mode. China has made good progress towards linking hinterlands and urban environmental protection through its eco-compensation activities, but these are not operating with optimal efficiency and financial costs are not being paid by the urban areas receiving the main ecological service benefits.

33 Ordos, located in Inner Mongolia became the ‘poster child’ for “ghost cities” after international media coverage including a Time magazine article. Here and in many other spots, empty apartments and unused roads and offices may reflect the time lag between incredibly rapid infrastructure completion, and the sale and occupancy of properties, but the problems appear to be much deeper, including overly ambitious projections of economic growth and poor development planning, corrupt land development practices, and the purchase of multiple properties by individuals or companies but leaving some empty.

34 <http://english.peopledaily.com.cn/90785/8393033.html>

- Compact city design and ecological red lining. Ring roads encourage sprawl and the proliferation of highways contributes to suburban development and the accompanying commute-by-automobile lifestyle that has now developed around many Chinese cities. Urban sprawl cuts into farmland and sometimes into ecologically sensitive areas. These and other problems suggest a need for much more effort to rethink the design of cities to make them more compact and complete. A new but not well-implemented idea is ecological red lining so that areas important for food production, water supply, cultural or other purposes are well protected, with significant penalties if they are disturbed. This is particularly important for areas where suburban development would otherwise be likely.
- Extract lessons learned from eco-cities, low carbon economy initiatives and other pilot efforts whether from within China or abroad. A rich base of experience is available from cities around the world and certainly within China on urban sustainable development. While this experiential learning is well advanced in China, it is not being fully integrated into urban and regional planning. In general, integrated approaches are not a strong point, given the breakneck speed of Chinese urbanization and the compartmentalization of functions within municipal governments.

Despite this rather lengthy but still incomplete list of issues surrounding Chinese urbanization, many positive things can be said about progress to date, and about the dynamism and willingness of local governments to address the existing problems. Already, many cities are taking seriously the challenge of green development and experimenting with how to define new paths towards sustainability and ultimately towards Ecological Civilization. What should be clear is that during the coming years improvement of urbanization is a central to achieving a better environment and society relationship.

2.4.10 Aligning China's environment and development reforms with international accords including major global environmental conventions, other agreements and post-2015 sustainable development goals.

China participates in many international agreements with environmental implications, whether these are part of global UN agreements or via less binding agreements made at the G20 or in other forums. For certain of these commitments, for example on the climate change convention, China has clear goals for greenhouse gas emissions intensity reduction. Other obligations will surely follow in the years ahead. As progress is made on defining green growth and green economy, there will be additional opportunities to work cooperatively with other countries in order to achieve necessary transitions. In the UN discussions for a new sustainable development approach, China will certainly wish to have its voice heard and to share experiences regarding green development.

There are many practical concerns regarding each of these points. The metrics for monitoring progress are still relatively weak, and the actual monitoring processes deserve careful attention to ensure information gathered is internationally compatible. This will be very important for matters such as greenhouse gas emissions reporting, and for agreements such as mercury reduction. On matters such as subsidies for green technologies, China will want to avoid repetition of what happened with wind and solar power international trade actions. Regarding post-2015 sustainable development and poverty reduction goals, it will be to China's advantage to highlight its successful experience during the implementation of the Millennium Development Goals and to seek ways to build on this experience and to share it with others.

A decade from now, China should be able to demonstrate very clearly how its domestic actions have contributed to improvements in global environment and development. This will require careful analysis and consideration of the institutional strengthening and other advances in order to credibly demonstrate progress. Over the longer-term, as China gains experience in the construction of Ecological Civilization, there should be considerable interest

globally and in some other countries in drawing upon this practical experience. As that occurs, China will be well positioned to incorporate key ideas into its *Going Out* efforts.

2.5 CONCLUSIONS

There must be a turning point in the complex relation between society and environment in China, whereby acute problems related to air, water and soil are seen to be lessening. Exactly when that turning point can actually be reached is uncertain, but it is an urgent matter in relation to the goals for a “moderately well off society” by 2020. Therefore, performance on environmental protection and green development during the remaining years of the 12th FYP and particularly in the 13th FYP will have to be improved quite dramatically. The shift from pollution emission reduction towards goals based on real environmental quality gains is essential, since targets for individual pollutant reductions alone have not proved sufficient to achieve overall effective improvement of environmental quality. Furthermore the quality and effectiveness of investments for environmental protection must be examined carefully now that government and industry are increasing spending, and will continue this trend with new action plans.

Chinese society clearly values the environment, expects improved environmental quality and desires improvements that will reduce environmental risks of various sorts, including issues such as food safety. Expectations for quality of life are definitely on the rise as income levels increase and as people become more appreciative of the many facets constituting a “good life.” At the same time, connections to the land and nature are being lost as millions of rural dwellers leave for cities and new occupations and as access to electronic gadgets, automobiles and other components of a modern life style shape interests and behavior of populations. Such rapid change presents both challenge for environment and social development concerns and opportunities to redefine what is important to a society and to reinforce desired pathways. That is the challenge for Chinese society, government, and indeed, governance processes within China.

Citizens express their views in many different ways — in commentary as “netizens”, as consumers and sometimes as angry demonstrators upset about development decisions, corruption, poor regulation of food purity and other issues. This dynamic provides a specific condition that permits government to learn from the people, and — as is frequently noted by high authorities — for the people to supervise the actions of government. The difficulty is setting in place sufficient but not stifling levels of checks and balances. More broadly, it is concern about rights, responsibilities and duties. Also, it is about improved formal public participation in decisions and transparency through information sharing. Environmental improvement should be a double win when the right circumstances are in place: the improvements have human and ecological benefits that are real and worthwhile for both present and future generations and secondly, more effective ways of promoting social harmony emerge for problem solving among people and institutions driven by different interests.

What cannot be promised at this stage of China’s transformative changes and reform, is certainty regarding the level of success on longer-term environment and development matters such as those related to intensive exploitation of water resources, climate change mitigation and adaptation, biodiversity protection and protection of ecological services. For all these, there remains uncertainty and serious challenges, as they are closely related to various legacies of the past and difficulties to address and change the demands created by China’s increasing population and rising consumption patterns. The longer-term problems are some of the most important to be addressed through construction of Ecological Civilization. They must be dealt with through technology and managerial approaches, but also by more effective restraints on demand, as determined by changes in perspectives, attitudes and behaviour, and perhaps shifts in values. Society must become both more resilient and more adaptive in order to achieve an optimal environmental relationship. This is true not only in China but in other countries and societies as well.

Over the past two decades, China's leaders have set in place an increasingly coherent and well communicated set of concepts to guide the country, its enterprises, and its citizens on the subject of environmental improvement. These ideas have been a balance of home grown thinking such as Ecological Civilization and internationally produced concepts such as Green Growth and Green Economy. Now, with the vision of *Beautiful China* there is the opportunity to bring focus to a sense of pride not only in what China has achieved, but also an appreciation of its marvelous endowment and why it is so important to protect and cherish the natural environment, the cultural attributes and remnants of the past, while shaping as perhaps no other nation is capable, a new lifestyle and physical infrastructure compatible with living within earth's limits.

CHAPTER 3

CHINA'S ENVIRONMENTAL PROTECTION AND SOCIAL DEVELOPMENT

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SUMMARY

Since the start of its reform process, China has prioritised economic growth in its strategic planning and policy making. The unprecedented speed of economic development has increased standards of living for Chinese people but also led to enormous pressures on the environment and negative impacts on citizens' health, current and future livelihoods, public safety, social cohesion and with inequitable access to resources and basic public environmental services. Population growth, increasing consumption levels and urban migration add to these pressures.

The idea of an 'Ecological Civilization' provides a vision for a harmonious society, sharing the fruits of development and safeguarding social justice and equity. However there is an urgent need to deepen the currently weak understanding of environmental and social relationships and to identify priority fields for action, in order to achieve this vision.

This Executive Report of the CCICED Task Force on Environmental Protection and Social Development examines the critical linkages between the environment and social development in China suggests a preliminary framework to guide policy and practice in both the short and long term, as well as providing some specific policies for implementation and areas for further study.

We have proposed a framework for policy-makers that: develops an awareness of appropriate values and norms, enables and constrains the appropriate behaviour and participation of citizens, enterprises and other social organisations and develops coordinated governance systems which improve legislation, social and environmental risk management and the distribution and coverage of public services. The Task Force also identified five principles to guide policy-making: multi-stakeholder participation, coherence between long and short-term visions and targets, policy coherence between environmental and social policy, a strong legal foundation as well as equity and justice in the distribution of rights and responsibilities, access to environmental resources and participation in decision-making.

Overall, we proposed a Vision 2050/Action 2020 framework to connect the goal of an Ecological Civilization by the middle of the 21st Century with policy decisions and actions necessary in the near term. We also have sufficient evidence to recommend several immediate actions

Recommendation 1 Elaborate a vision of coordinated social, economic and environmental development for 2050 and develop a phased plan of policy and actions that will be essential to achieve that vision (Vision 2050/Action 2020)

Recommendation 2 Promote social norms and values related to ecological civilization through education and training plans for cadres, schools, vocational training and universities, conceptual and policy-oriented research and through a variety of media and actors.

Recommendation 3 Encourage everyone in society to exercise their appropriate roles. Specific actions could include advocating healthy and sustainable lifestyles, enhancing public participation, promoting acceptance by enterprises of environmental and social responsibilities or supporting the further development of environmental and social organizations.

Recommendation 4 Strengthen public governance through: a "whole of government" approach that, for example, creates policy coherence between environmental and social development, is underpinned by the 13th FYP renamed the National Economic, Social and Environmental Development Plan and reporting annually, establishes an environmental and social assessment mechanism for major policies and improves environmental and governmental performance evaluation systems.

Recommendation 5 Establish mechanisms to assess, communicate and mitigate the social risks of environmental protection.

Recommendation 6 Improve the level and distribution of public environmental services.

The work of this Task Force was preliminary. Elaborating and further developing the proposed framework will be a major undertaking. Several strategic studies on complex priority issues would be useful: understanding how to promote shifts in lifestyle and behaviours, developing the legal underpinning for coordinated social development and environmental protection and understanding how to make available the financial resources required for implementing and optimizing the positive relationship between environmental protection and social development.

Understanding this relationship will allow China to better develop effective policies that will avoid unintended consequences and maximize the potential for successful outcomes.

3.1 INTRODUCTION

Sustainable development is broadly understood as a process that must consider simultaneously economic, environmental and social factors. This requires a systemic approach to policy, with an understanding of complex linkages, synergies and trade-offs among these three policy domains. However it has proven to be difficult to conceptualise or implement — in China or elsewhere.

Since the start of its reform process, China has prioritised economic growth development has led to enormous pressure on the environment in the form of air, water and soil pollution, resource over-exploitation and environmental degradation. Harmful impacts are most directly experienced in areas with soil depletion and deforestation, air and water pollution, water scarcity and industrial environmental accidents that directly affect public safety, health and livelihoods. All citizens are exposed to risks associated with climate change³⁵, ecological damage that affects the stability of water basins and coastal zones and contamination of soil that affects food safety. Population growth combined with increasing incomes and changing consumption patterns (such as the inclusion of more meat in the daily diet) further exacerbate pressures on an already constrained natural resource base.

Ecological and biodiversity degradation is felt less directly by all, but is visible in deforestation and desertification and loss of species. Loss of intangible benefits such as the beauty of China's landscapes and the loss or threat of extinction of iconic species such as pandas and river dolphins, are also of significance to China. Indeed, their protection and survival provide hope and inspiration for the creation of a 'Beautiful China.'

It is not surprising then that while economic growth has generated impressive improvements in the living standards of the Chinese people, it has also led to rising inequalities and conflicts related to the environment. Current environmental conditions have created serious concerns for public health and also contribute to the unjust distribution of resources and consequent living standards across China. An uneven pattern of economic and social development, across regions and social groups maps in different ways onto environmental inequalities, while social and economic inequalities are exacerbated by environmental problems in specific geographic contexts. Poor rural populations are more likely to be located in ecologically rich but fragile regions that are vulnerable to environmental degradation. They may depend on such environments for their survival, yet further degrade the environment in the pursuit of viable livelihoods. The poor, whether rural or urban, have few if any choices about where to live, so are more likely to suffer from poor air and water quality, which in turn negatively affects their health and productivity. In cities, living conditions for both poorer people and the emerging middle class may not allow for a 'moderately well-off

³⁵ Intergovernmental Panel on Climate Change IPCC Working Group I assessment report, *Climate Change 2013: the Physical Science Basis* concludes that human influence on the climate system is clear, and this is evident in most regions of the globe.

standard of living' even where income levels are above poverty level. At the same time, an educated and financially well-off middle class now has higher expectations and demands for acceptable environmental conditions.

Such factors have led to an intensification of social conflict around environmental concerns. Unrest may be associated with changing land use, siting of industrial activities and acute incidents such as oil or chemical contamination or chronic pollution problems such as air quality – problems that disproportionately affect the poor and tend to reinforce pre-existing inequalities or deprivation. Environmental issues are often at the core of protests against large projects, particularly when there is uncertainty about the magnitude of negative social and environmental impacts. Sometimes these concerns may be more perceived than real but nonetheless they need to be addressed. Limitations in the existing information disclosure system, leading to a lack of accurate, freely accessible information, sets the stage for the spread of rumours or inaccurate information, which in turn can aggravate tensions.

China recognised the importance of environmental protection at a relatively early stage in its reform. The Second National Conference on Environmental Protection in 1983 explicitly emphasized the need for a coordinated advancement of both economic development and environmental protection. With the increasing severity of environmental problems, however, the government more recently prioritised a balanced emphasis on economic growth and environmental protection in its 11th (2006-2010) and 12th (2011-2015) Five-Year Plans. Some positive results have been achieved in industrial restructuring, energy conservation and emission intensity reductions, while coordinated efforts in both environmental protection and economic development have been implemented through a series of laws and regulations, programs and policies. Despite these efforts, major problems persist, with the health impacts of environmental damage in particular attracting increasing public attention.

Consequently attention is now being directed at trying to better understand relationships between the three dimensions of environment, economy and society. This includes

- The relationship between environment and society. Critical aspects include the relationship between the environment and population, poverty and inequality, health and wellbeing, consumption, disaster prevention and mitigation, the provision of basic services, the improvement of peoples' living environment necessary for good health and livelihoods and the role of public participation in environmental governance.
- The relationship between environment and economy. This covers areas such as links between the environment and economic growth, sustainable agriculture and rural development, industrial growth and environmental pollution prevention and control, sustainable development in the transportation and communications sectors and sustainable energy production and consumption.
- The relationship between resource utilization and ecosystems. This covers the protection and sustainable use of natural resources, protection of the air, water and soil ecological systems, biodiversity conservation, sustainable utilization of the oceans and seas, desertification control, protection of the atmosphere and environmentally harmless solid waste management.

For the past 25 years, the notion of sustainable development involving a mutually reinforcing relationship between development of the environment, the economy and society has been represented in a simple diagram such as Figure 3-1. In practice, achieving synergies and managing trade-offs between economic, social and environmental policies and actions necessary for sustainable development has been difficult — as recently reflected in the 2012 Rio Sustainable Development Conference, and has led to efforts to define a set of global objectives for sustainable development.³⁶

³⁶ <http://sustainabledevelopment.un.org/index.php?menu=1300>

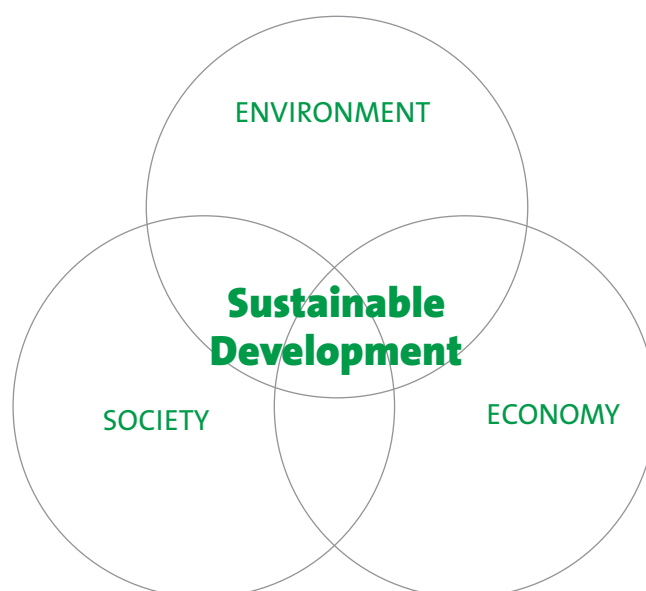


Figure 3-1 A view of sustainable development

Within China, the concept of ‘Ecological Civilization,’ introduced in 2007, provides a vision for a harmonious society, sharing the fruits of development and safeguarding social justice and equity.³⁷ At the 18th Communist Party Congress in November 2012, the concept of Ecological Civilization was incorporated into the Party’s constitution and became a fifth element added to the existing four pillars of development policy - economic, political, social and cultural.³⁸ As a result, concerns over the relationship between environmental protection and social development have reached the highest political level, creating an urgent need to deepen the understanding of environmental-social relationships and identify priority fields for action.

This Executive Summary Report of the CCICED Taskforce on Environmental Protection and Social Development examines the critical linkages between the environment and social development in China, with a view to suggesting a preliminary framework that can guide policy and practice both in the short and the long term. It also proposes some specific policies that could mutually support both environmental protection and social development. By comparison to the extensive work done by CCICED over the past two decades on the relationship between environment and economy, the current Task Force’s effort is ground-breaking in its focus on social development, but therefore can be expected to yield only tentative conclusions and recommendations at this stage.

Three important questions (Box 3-1) have been at the centre of the Task Force’s work. Our Executive Summary Report draws upon information reported by the Chinese members of the Task Force in a longer report,³⁹ and the opinions and expertise of both Chinese and international team members based on a series of Task Force meetings and field visits held from August 2012 to September 2013. The Task Force also focused on urbanization as an issue that illustrates both the linkages among the three dimensions of sustainable development and the opportunities that exist for developing policies and practices that are mutually reinforcing. More complete referencing to support observations and conclusions drawn in this Executive Summary Report can be found in the longer report.

37 See the CCICED 2008 Issues Paper *Environment and Development for a Harmonious Society*. 26 pp.

38 http://china.org.cn/china/18th_cpc_congress/2012-11/15/content_27118842.htm

39 CCICED Task Force Report, *Report on Environmental Protection and Social Development in China*. In Chinese.

Box 3-1 Key questions to be addressed in this report

- i. What is our understanding of the current and future relationship between environmental protection and social development in China?
- ii. What are the most important opportunities for policy and interventions that would address simultaneously and positively the twin objectives of environmental protection and social development, while minimising unintended consequences?
- iii. In a rapidly changing global context, how can China combine short-term actions, mid-term objectives and long-term visions to achieve social justice and sustainable development?

Chapter 2 focuses on China's environmental and social achievements and challenges, identifying critical environmental, health and social issues and reflecting on the linkages among them. Chapter 3 draws upon international experience in environmental and social development, summarizes domestic and international research findings and constructs a conceptual framework based on notions of values, behaviour and public governance. Chapter 4 illustrates how this framework could be operationalised by specifying objectives for action over various time horizons — by 2015, 2020, 2030 and 2050. Finally, Chapter 5 concludes by proposing some specific policy recommendations. Some terms used in this Report are explained in Box 3-2.

Box 3-2 Key terminology

Social development is both a *process* of change leading to the desirable objectives or outcomes decided by a society, and the *outcomes* or measurable achievements of those objectives. Definitions tend to include material, social and cultural achievements (such as good health and education), access to the goods and services necessary for decent living, a sense of security and the ability to be part of a community through social and cultural recognition, participation and political representation. Social development is shaped by institutions and actors (such as households, communities, civil society organisations, the media, private or market enterprises or the state). A core element of any social or 'people-centred' development is participation by all people in decision-making processes that affect their lives, along with mechanisms of accountability, redress and access to justice.

Environmental protection refers to activities, strategies and policy instruments aimed at safeguarding and prudently using the environmental resources that people and societies depend on for their livelihoods and wellbeing. The disruption of ecosystems, or specific environmental impacts such as pollution or climate change by, for example, economic activities can affect present and future human livelihoods, as well as health and wellbeing. Environmental protection behaviours are influenced by factors such as legislation, individual and group ethics and education. Increasing understanding of the complex and inter-dependent relationships between living and non-living parts of the environment are seen to require more collaborative policy and action across government departments or between stakeholders to improve information and understanding, manage trade-offs, create synergies and improve policies and implementation.

A **public service** is provided by a government either directly or through the government financing or subsidising private or social organisation delivery. These services are those that society believes should be available to all people in order to live decent lives, regardless of their income. Examples vary across countries but tend to include energy provision, water, civilian and military security, environmental protection, waste management, education, social security and social services.

A **public good** is an economic definition of a product that one person can use or consume without reducing its availability to others (non-rivalrous), but from which no one can be excluded access (non-excludable). Examples include sewage systems, public parks, or air. They therefore tend to be provided or protected by the public sector.

Box 3-2 *Continued*

Environmental justice focuses on the fair distribution of environmental benefits and burdens as well as equal access to decision-making and recognition of community ways of life, local knowledge and cultural and power differences. There therefore tends to be an emphasis on equality. Wider political and economic inequalities are believed to result in higher levels of environmental harm. In other words, those who are relatively more powerful or wealthy gain benefits from economic activities that degrade the environment. The relatively poor tend to disproportionately bear the costs of such activities.

Environmental rights relate to such things as: ensuring human access to natural resources that enable survival, including land, shelter, food, water and air, the ability to enjoy natural landscapes and securing environmental justice. They can also include non-human rights such as the survival of a particular species. Environmental rights tend to be seen as basic human rights since people's livelihoods, health, and even existence depend upon the quality of, and access to, the surrounding environment. Environmental rights also tend to include rights to information, participation, security and redress.

3.2 THE CURRENT CHINESE SITUATION

3.2.1 Introduction

China has made some progress in harmonizing economic, social and environmental development as it continues its quest towards sustainable development. However, a number of daunting challenges and obstacles remain. It is not possible in this short report to discuss fully all aspects of either China's achievements or major problems and issues regarding the relationship between the environment and social development. There are many sources that do so in both Chinese and international literature. The main purpose of the Chapter is instead to introduce some of the themes of significance to the relationship between social development and environmental protection and to provide some examples of both progress and difficulties.

Broad public awareness and major expressions of concern about pollution and environmental change became important in China 20 to 25 years ago. However, from the beginning of history, there is evidence that when China was primarily an agricultural society, the Chinese people took measures to improve and manage their local environmental conditions. Traditional land use practices such as rice paddy terraces and multi-species agriculture and husbandry had positive results for the environment. During often devastating natural disasters, revolution and war, the Chinese people have demonstrated resilience and the capacity to live as a conserving society, with per capita domestic consumption rates, sometimes close to the baseline levels for survival. Thus, until recently, despite its size, China has had a low total ecological footprint in comparison to western industrial countries.

Chinese society was however poorly prepared for the speed of environmental degradation and rising levels of pollution that accompanied a natural resource-intensive process of economic development commencing in the 1980s. In rural areas, the direct impacts on health and livelihoods quickly became major concerns of the rural population. Economic and industrial development, along with creation of infrastructure such as railways, roads and pipelines, has seriously affected the environment and social structure even in isolated communities. With the emergence of an affluent urban middle class, citizens are today increasingly aware of or engaged in environmental issues and activities. Millions of people are expected to migrate to urban areas in the next decade, increasing pressure on the use of energy and natural resources and intensifying the demand for social services.⁴⁰ The changing climate, extreme weather events and natural disasters impact millions of lives each year.

⁴⁰ China Human Development Report. 2013: *Sustainable and Liveable Cities: Toward Ecological Urbanisation*, Beijing: China Translation and Publishing Corporation

Given the prioritisation of economic growth in the early reform period, insufficient effort or expenditure were dedicated to environmental protection or social development. This changed with the latest (11th and 12th) five year plans (2006-10 and 2011-15). These plans more clearly integrate environmental and social goals, considering both the impact of social and economic development on the environment and the contribution of environmental protection to equitable and sustainable development. The adoption by the Communist Party of *Ecological Civilization* as one of five pillars driving policy is a powerful signal that opens up new possibilities for a strong and symbiotic relationship between environment and social development.

This Chapter describes some of China's recent achievements in environmental and social development. It also raises some unresolved challenges and questions, including how to respond to strong expressions of public protests, how to enshrine in legislation and policy the concept of environmental and social justice, how to develop indicators that accurately and consistently describe the state of the natural and social environment, how to improve the flow of information and increase knowledge to encourage a more informed dialogue about environmental and social impacts and how to better understand expectations and deficiencies in the respective social responsibilities of civil society, enterprises and all levels of government.

3.2.2 Accomplishments in linking environmental protection and social development

The First National Conference on Environmental Protection in 1973 placed environmental protection on the national agenda, reflecting heightened environmental awareness on the part of the Chinese Government. Subsequently the Government's increased attention to environmental issues became evident in the introduction of laws and the promotion of such measures as cleaner production, environmental labelling and corporate environmental information disclosure. The environmental awareness of some Chinese enterprises has improved to the point where corporate social responsibility (CSR) has been introduced and where banks and other financial bodies are incorporating environmental criteria into their lending practices.

The level of public environmental awareness is on the rise,⁴¹ as the impacts of environmental degradation are more directly felt, as public understanding of and attention to environmental issues improve and as the public is more directly involved in activities promoting environmental benefits.

In a 1998 survey, environmental issues ranked fifth after social security, education, population and employment as an area of public concern. However, in a 2008 poll, environmental pollution ranked third as a public concern.⁴² More recently, media reports about air pollution have also played an active role in raising public awareness and participation in efforts to support amendment to *Air Quality Standards* regulations.

A rising number of non-governmental organisations (NGOs) have come to play an important role in environmental protection. Since the birth of China's first environmental NGO, Friends of Nature, in Beijing in March 1994, the numbers have expanded rapidly. By the end of 2012, a total of 7,928 environmental NGOs had registered with the Ministry of Civil Affairs (MCA).⁴³

41 Guodong Yan, Jiancheng Kang, et al. 2010. *China Trends in Public Environmental Awareness*. China Population, Resources and Environment, 2010 No. 10.

42 Data come from *Survey Reports on National Public Environmental Awareness 2007*.

43 See CCICED Task Force Report, *Report on Environmental Protection and Social Development in China*. 22pp-23pp, 253pp-254pp. In Chinese.

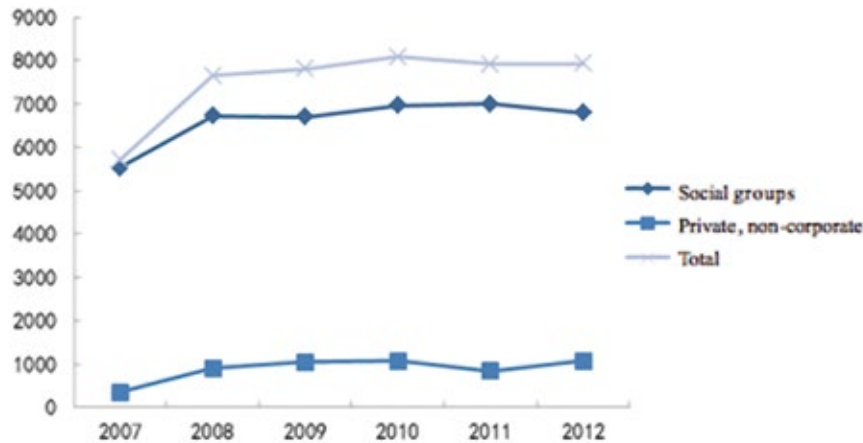


Figure 3-2 Number of environmental NGOs registered in MCA, 2007-2012

Improving environmental behaviour on the part of various social actors

There are signs that public and social organizations and some larger enterprises are also acting to improve the environment. The involvement of these actors is facilitated by the development of environmental regulations, policies and standards, social supervision and management, environmental information disclosure and environmental impact assessment of major projects. Public engagement is also increasing, as illustrated in 2013 by demands for a better environment and for public involvement in national and local environmental decision-making triggered by issues such as air pollution in Beijing and the PX project in Kunming.

Corporate Social Responsibility

Amid growing attention from the media, the public and the government, Chinese businesses have become more active in implementing their corporate social responsibility. With the influence of two important priorities embodied in the 12th Five-Year Plan – improved livelihoods and energy saving and emission reduction – some enterprises have effectively developed business management plans that strategically focus on sustainability. The *Grant Thornton International Business Report 2011*⁴⁴ showed that Chinese mainland enterprises are increasingly aware of social responsibility, driven by such external factors as public opinion, tax incentives and regulatory policies. That report also showed that Chinese enterprises placed the most emphasis on human resources and environmental protection. In their telephone survey of some medium and large companies in mainland China, 84% of respondents claimed active involvement in employee health and welfare, 75% stated that they improved products or services in order to mitigate adverse environmental and social impact, 69% and 63% of respondents reported efforts to conserve energy and reduce pollution emissions respectively and 39% were said to have begun to calculate their own carbon footprint.

The Task Force visited the Elion Resources Group – a well-known example of one corporate group where social and environmental objectives are jointly considered in the restoration and sustainable development of China's seventh largest desert area.

⁴⁴ See *Corporate Social Responsibility: the Power of Perception*. 24 pp in the IBR 2011 report. http://www.internationalbusinessreport.com/files/IBR_2011_CSR_Report_v2.pdf

Legislative and administrative framework for environmental protection

Environmental protection has grown in importance in national decision-making, especially since the 11th FYP period. In 2008, the State Environmental Protection Administration (SEPA) was upgraded to the Ministry of Environmental Protection (MEP), directly under the State Council. Systems for integrated management, pollution prevention and control and supervision and law enforcement have gradually improved. To date, the National People's Congress (NPC) has created 10 environmental laws and 30 resource protection laws. Among them, the *Criminal Law* dedicates a chapter to the “crime of destruction to environmental and resource protection” and the *Tort Liability Law* interprets “environmental pollution liability” in a special chapter. Local people's congresses and governments have developed more than 700 local environmental rules and regulations and the departments of the State Council have issued hundreds of environmental regulations, including 69 regulations formulated by the MEP. The SEPA issued *Interim Measures on Public Involvement in Environmental Impact Assessment* and introduced *Interim Measures on Environmental Information Disclosure (Trial)* in 2006 and 2007. More recently, the proposed amendment to the *Law on Environmental Protection* embodies environmental and social provisions, while the new ambient air quality standards released in February 2012, and the new *Atmospheric Pollution Prevention Action Plan* released in September 2013 demonstrate a shift in orientation to addressing environmental health hazards.

In theory, these efforts should provide some additional legal protection to the Chinese public in the expression of environmental demands. Furthermore, a number of new initiatives – in areas such as green credit, environment pollution liability insurance, power tariffs for desulphurization, improved coal-fired power generation, ecological compensation for watershed and mineral development and ladder tariffs - have been implemented or are being tested in many parts of the country and have some potential to bring social benefits. However, the real impact will only be seen when these initiatives are assessed, and when legislation, policies and practices are implemented effectively. Weak enforcement is a widespread concern.

3.2.3 Problems at the intersection of environmental protection and social development

In spite of such progress, China currently faces significant challenges: environmental issues are already a major factor affecting social development (in areas such as health, livelihoods and equitable access to resources) and social stability, and may compromise future economic and social development.

Increasing mass incidents caused by environmental problems

Environmental petitions and complaints have increased by an average of 29% annually since 1996 (Figure 3-3), focusing on such issues as food and water safety, persistent organic pollutants (POPs), hazardous chemicals and hazardous waste. China witnessed 21,985 “unexpected environmental events” (environmental incidents) between 1995 and 2010 in such areas as water pollution, air pollution, solid waste pollution, noise pollution and earthquake hazards. The MEP has handled 927 environmental incident cases since 2005.

Examples of such disputes and mass incidents include the dispute on the Environmental Impact Assessment (EIA) for the Yunnan Nujiang hydropower development plan in 2004, the Xiamen PX project, the Beijing Liulitun waste incineration plant in 2007⁴⁵, the Liuyang cadmium pollution incident in Hunan in 2009, Oji Paper's wastewater discharge project near Qidong and the Shifang molybdenum-copper project in Sichuan in 2012⁴⁶.

45 Wanxin Li, Jieyan Liu, Duoduo Li. 2012. *Getting Their Voices Heard: Three Cases of Public Participation in Environmental Protection in China*. *Journal of Environmental Management*, 2012, 98: 65pp-72pp.

46 Gilbert, N. 2012. *Green Protests on the Rise in China*. *Nature* 488(7411): 261pp-262pp.

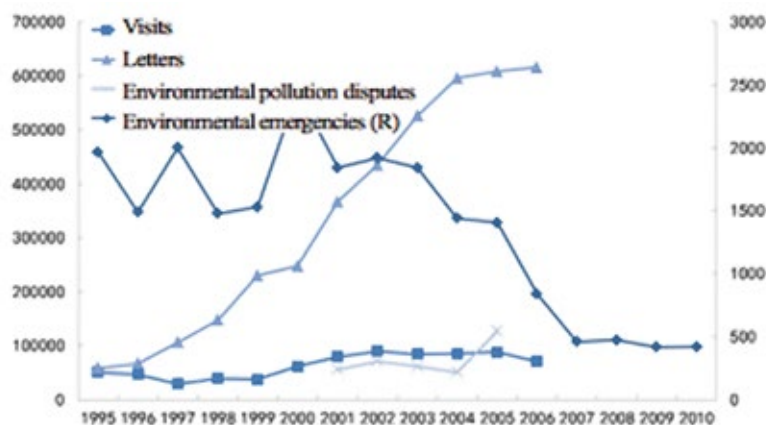


Figure 3-3 Number of environmental petitions, environmental pollution disputes, and environmental emergencies in China, 1995-2010⁴⁷

As a result, construction projects have been suspended or relocated due to strong public opposition and government-led projects such as the Liulitun incineration plant failed to proceed as scheduled because of the strong expression of public concern. Of even greater concern, danger to public health has sparked mass protests, which has even led to the occupation of government offices, judiciary organs and companies involved, and there have been some cases of rioting. These negative incidents may be factors in social instability. On the other hand, they also highlight the need for greater attention to environmental impacts and scientific monitoring and better mechanisms for early public input to planning of potentially controversial activities.

Public health hazards caused by environmental degradation

Surface water pollution affects the major economically developed and densely populated areas in China because of the concentration of industry in these areas. Farmland contamination is caused in part by mining and non-ferrous metal smelting. Many Chinese are directly exposed to environmental pollutants at levels much higher than international standards. Given the high concentrations and long duration in the environment of some pollutants, China's large and concentrated population base, complex and diverse channels of exposure and historical accumulation of environmental pollution, health effects of environmental degradation are difficult to fully eliminate in the short term or perhaps even the medium term. The situation is made more complex by health hazards caused by new environmental pollutants, and the difficulty, in a situation where pollution has many causes, in identifying the main pollutants, pollution sources and health hazards.

The 2010 *Global Burden of Disease* study by the World Health Organization (WHO) indicates higher stroke and heart disease mortality in China because of PM_{2.5} pollution. Disease caused by outdoor air pollution grew by 33% during 1990-2010, and 20% of lung cancers in 2010 can be attributed to PM_{2.5} pollution.⁴⁸ A study in Xi'an indicated that, with every 100µg/m³ increase in the PM_{2.5} concentration, the total mortality and the mortality for respiratory diseases, cardiovascular diseases, coronary heart disease, stroke, chronic obstructive pulmonary disease (COPD) would increase by 4.08%, 8.32%, 6.18%, 8.32%, 5.13%, and 7.25% respectively.⁴⁹ In addition, environmental endocrine disruptors (EEDs), persistent organic pollutants (POPs) and new materials and chemical contaminants can be assumed to further complicate the picture of potential health impacts.

47 Data source: Environmental Statistical Bulletin, 1995—2011.

48 WHO. 2010. *Global Burden of Disease*. http://www.who.int/healthinfo/global_burden_disease/en/

49 Ke Zhao, Junji Cao, Xiangmin Wen. Urban Residents' Mortality and PM_{2.5} Pollution in Xi'an. *Journal of Preventive Medicine Information*, 2011,27 (4): 257pp-261pp.

Environmental degradation and poverty

Environmental quality plays a decisive role in people's health, productivity or earning capacity, security, energy supply and living conditions. In particular, environmental degradation exacerbates the vulnerability of the poor in rural areas who are dependent on land and other natural resources and intensifies poverty in some regions. In turn, rural poverty may lead to overuse of very limited resources that accelerates ecological deterioration, giving rise to a vicious cycle. Yet the link between these impacts in China's development policies has not been fully recognized.

New social injustices brought about by environmental issues

Against the backdrop of deep-rooted regional, urban-rural, gender and ethnic inequalities in China, environmental and social injustices have become increasingly prominent. These inequalities are reflected in income, access to environmental resources and services, environmental damage, environmental pressure and health and social security. In the field of resources and the environment, injustice is manifested in the sharp differences evident in the possession and allocation of environmental resources and in access to public environmental services among regions and groups. Existing studies related to education and health care call for the integration of public environmental services into the Government's social objectives, given that public environmental services serve as an important means to create a green economy, economic restructuring and the desired "service-oriented governmental transition."⁵⁰ Moreover, the *12th Five-Year Plan for Public Services* underlines environmental protection as an important aspect in the equalization of basic public services. Solid waste treatment and urban and rural drinking water safety are considered priorities in environmental protection and access to public environmental services is also an important indicator of environmental justice.

However, studies reveal distinct provincial differences in the environmental performance of basic public services (see Figure 3-4). Most eastern provinces enjoy better public environmental services than do provinces in the central and western regions. Inequality also exists between economically developed areas and economically underdeveloped areas and between urban and rural areas.¹² It is evident that, if public environmental services are neglected in the acceleration of economic development in underdeveloped areas, environmental injustice will become more widespread and the relationship between environment and social development will deteriorate further.

Mounting pressure on resources and the environment with rapid urbanization

According to the national census, China's urban population grew from only 11% in 1949⁵¹ to 36% in 2000 and now to over 50%.⁵² China's urbanization rate has accelerated and more than 10 million people flow into cities each year, creating huge challenges for local governments. By 2030, it is projected that the urbanization rate will reach 70% and 300 million people will have moved from the countryside to the cities (see Figure 3-5).

50 State Council. *National 12th Five-year plan (2011-2015)*, 2011.

51 Third National Population Census 1982, 5th National Population Census 2000

52 National Bureau of Statistics, *China Statistical Yearbook 2012*

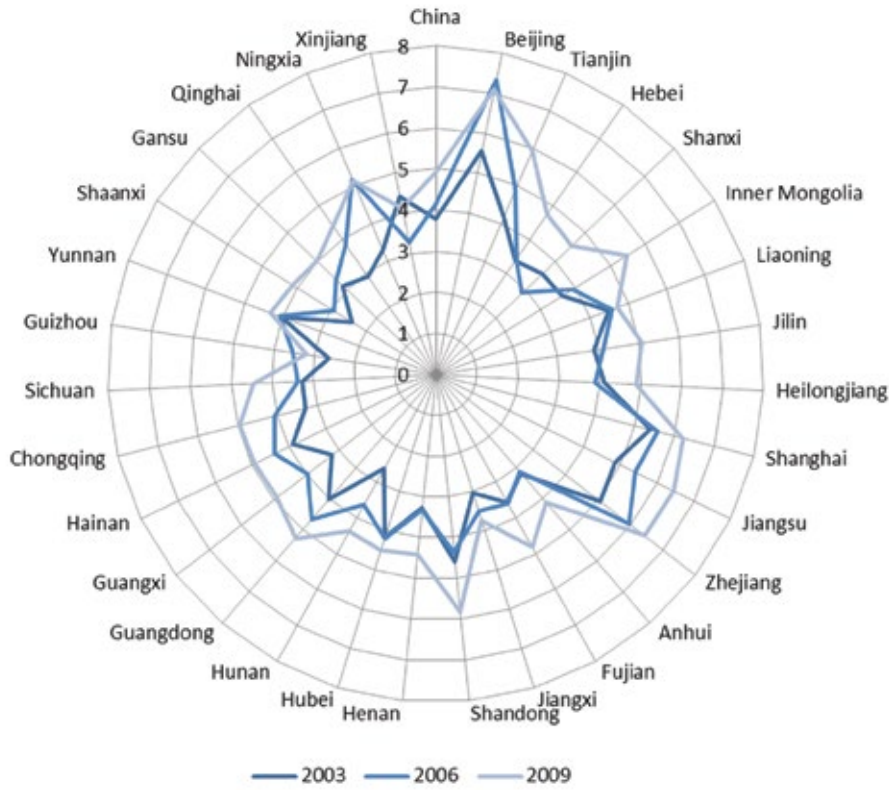


Figure 3-4 Assessment of basic public environmental services by province, 2003–2009⁵³,

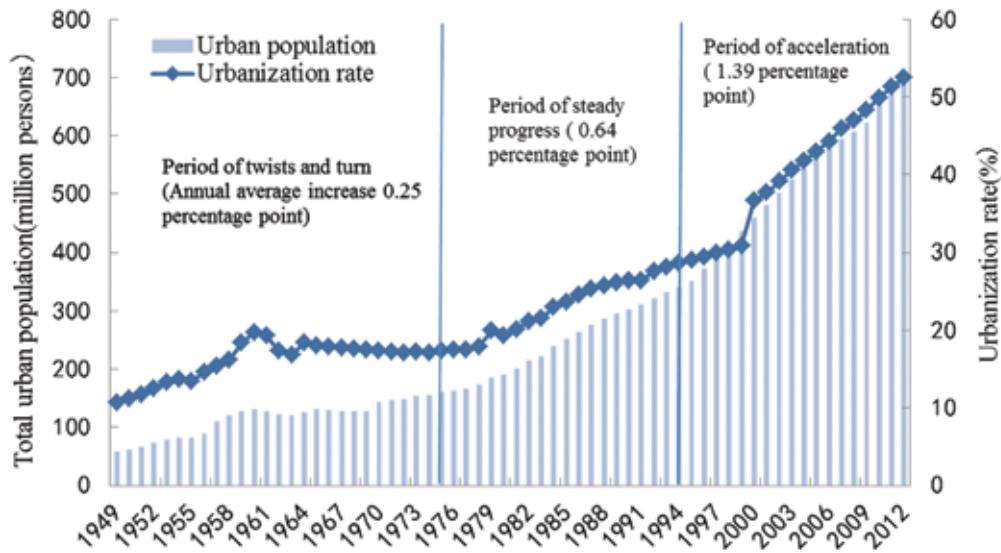


Figure 3-5 Stages of China's Urbanization

53 Education, health care and transportation, environmental protection are all important components of the public service system. In China, environmental public service is performed by central and local governments for ensuring the basic supply of high-quality environmental products, such as environment infrastructure construction, environmental management, water resources protection and pollution treatment. Hongyou Lu, Guangping Yuan, Sixia Chen, et al. 2012. The Quantitative Measurement of Basic Public Service Efficiency of China's Provincial Environment. China Population, Resources and Environment, 2012, 22 (10): 48pp-54pp

The core challenges are to consider how to reconcile the intensive utilization of resources and the carrying capacity of the environment, how to integrate the development of city centres and the surrounding hinterland with ecological protection and how to coordinate urban and rural development and equitable access to public services among regions. The Wuhan Urban Circle and the Xiangtan Urban Agglomeration, for example, were authorized by the State Council in 2007 and 2008 respectively as pilot projects in the construction of “resource-saving and environment-friendly society.” Subsequently, several local governments have begun to explore new models of urbanization.

Urban land use efficiency is low. Land devoted to urban construction land grew by 6.04% annually during 2000-2010, much higher than the rate of urban population, 3.85%. As a result of the rapid expansion of urban space and construction, cultivated land is dwindling. Over 400 of 650 cities face water shortages, of which about 200 are serious. The spatial distribution of cities and towns does not match the carrying capacity of resources and the environment. Urban agglomerations are not designed appropriately. Mounting population pressure in some large cities intensifies the degree to which environmental carrying capacity is exceeded, while middle and small-sized cities, due to the disparity between cluster industry and population needs, have not fully exploited their potential. Uncoordinated urban spatial distribution and size structure push up economic, social and environmental costs. Further, urban construction frequently ignores the protection of existing natural ecosystems, and in most cities and towns, the native natural ecosystems are withering quickly. Due to the mounting costs of the construction of urban environmental infrastructure coupled with weak environmental protection, regional urban environmental problems are increasing.⁵⁴

Current models of urbanization will therefore face bottlenecks in water, available land for construction, energy (see Figure 3-6) and eco-environmental quality. Environmental issues arising from urbanization will become increasingly intertwined with social issues, creating a huge challenge for sustainable development. Forecasts for urbanisation suggest there will be a net increase of 1.89 times in the demand for energy, 0.88 times water, 2.45 times construction land and 1.42 times, eco-environmental overload pressure.⁵⁵

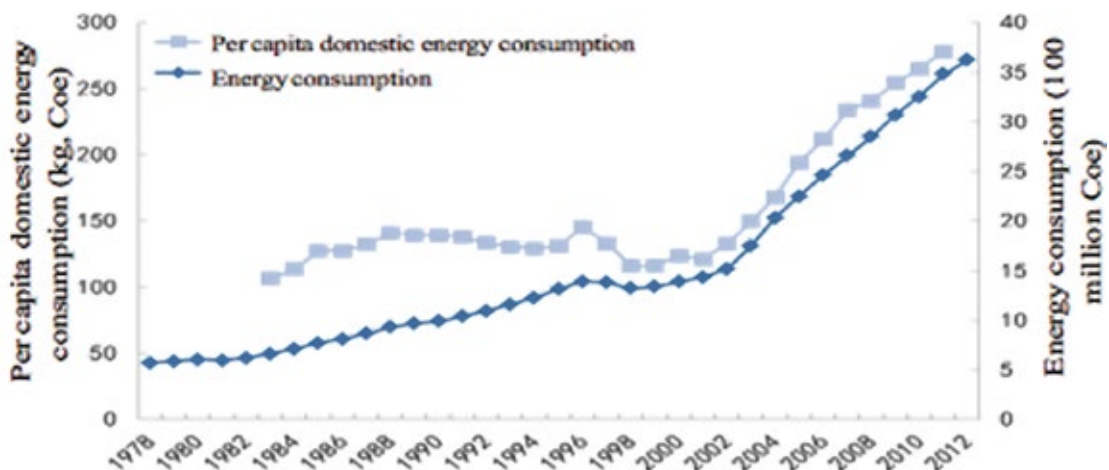


Figure 3-6 Energy consumption in China's rapid urbanization process 1978-2012⁵⁶

54 See CCICED Task Force Report, *Report on Environmental Protection and Social Development in China*. 218-243. In Chinese.

55 Chuanglin Fang, Jiawen Fang. *The Analysis on the Resources and Environmental issues of China's Urbanization*. China National Conditions and Strength, 2013, 4: 33-34.

56 Source: China Statistical Yearbook 2012

3.2.4 Obstacles to environmental and social development

Addressing the above problems at the intersection of environmental and social problems requires attention to a number of critical obstacles. Here we focus on three clusters of bottlenecks identified as significant obstacles to progress. These are: lack of knowledge, inadequate identification and fulfilment of appropriate roles of all actors in the system and deficiencies in governance.

Environmental perceptions and lack of information

At present in China there is inadequate research, knowledge and understanding about the inextricable relationships between the environmental and social dimensions of sustainability. Consequently those relationships, whether positive or negative, are not yet a well-developed focus of policy concern. The prioritisation of economic growth at all levels of government means that it has been difficult to design a development path that also meets social and environmental objectives. Frequent and serious environment pollution incidents in recent years, such as groundwater contamination, illegal dumping of hazardous toxic waste and intentional concealment of pollution are all too evident.

The Chinese public is understandably concerned about local environmental issues that directly affect their daily lives and in the absence of information or alternative channels for redress increasingly resort to protest. Inadequate knowledge may also lead to government planning, such as spatial or urban planning, that may meet economic objectives but cause unintended impacts on the environment or fail to recognize the way in which the daily lives of people are affected.

Challenges also stem from the lack of public trust in government and enterprises. This is in part a result of poor quality or lack of access to information, for example, official environmental and social reports. The belief that environment-based mass incidents are compromising social stability is leading to government measures that affect the use of media, particularly regarding information sources that may prove to be false or open to varying interpretation. It is therefore increasingly difficult to reach a consensus on policies and measures for environmental protection and social development, or to achieve public acceptance of these policies, especially when the process requires compromise or negotiation.

Inadequate fulfilment of social responsibility by all actors in society

Sustainable development requires the fulfilment of roles and obligations by all actors. Businesses, the public and social organizations are not yet fulfilling their responsibilities in ways that would contribute to coordinated environmental and social development. Nor have they been adequately empowered or mobilized to do so. Raising the levels of personal and institutional commitment to practice a green lifestyle, and to engage fully in consistent support of sustainable, green development is difficult.

Although the Chinese leadership, in its drive for Ecological Civilization, has recognized the need to actively engage people to help improve policy design, delivery and implementation of sustainable development, the actual mechanisms for doing so are still lagging. The full range of activities that could systematically and consistently allow for monitoring, investigating and reporting on social and environmental impacts and changes have not yet been implemented. This lack of supportive systems and infrastructure also make it difficult to create a vibrant and active civil society around these concerns. Similarly, corporate social responsibility is in its infancy in China. There is also limited understanding about the role and limits of the market in meeting social and environmental objectives.

Deficiencies in the public governance system

Our preliminary analysis has pointed to legislative, financial and structural deficiencies that limit the realization of positive impacts that would come from understanding and acting on social, environmental and economic objectives at the same time. For example, although the investment in environmental protection has increased, local government funding remains inadequate because of fiscal decentralization, and thus the quality and delivery of environmental and social public services among regions is uneven and may create social instability. Notwithstanding the considerable efforts and declarations of the Chinese Government, a green lifestyle has not been realized and the intensity of resources and energy use has not been optimized.

The rule of law underpinning environmental and social development is weak in its implementation and coverage. Increasing public awareness of environmental benefits and the growing incidence of transboundary damage highlights weaknesses in environmental compensation mechanisms and inadequate mediation capabilities. Increasing environmental violations and mass disputes have underlined inadequacies in the operability and enforcement of environmental regulations. Environmental petition and litigation procedures are lengthy and complex, not well understood or managed by officials or the courts. There is also poor access to, and limited availability of, appropriate redress for people and communities.

In terms of policy development, the current policies on social development and environmental protection and their implementation, as well as economic policies are formulated separately and implemented independently. This lack of integration weakens the likelihood of creating a harmonious and productive relationship between them. Not only are opportunities for synergy not identified and maximized but opportunities to deal with inevitable tensions before they become serious problems are missed. Furthermore, public and stakeholder involvement remains inadequate in policy design, formulation, implementation and evaluation.

This also means that incentives that promote negative behaviour patterns continue to dominate. For example, existing societal norms, pricing of goods and services and how policy outcomes are measured, influence what is deemed to be important and are not challenged. Local government officials are not fully trained, evaluated or rewarded on the basis of achieving environmental protection or social development goals. Reinforcing status norms among the public, such as automobile ownership or wasteful eating patterns, leads to unsustainable consumption.

Finally, China has profound inequalities between different geographic areas, between rural and urban residents, between genders and ethnicities. These inequalities manifest themselves in income, in access to and benefits from environmental resources and services and in relative exposure to environmental harm and threats to health and social protection. Reducing these inequalities for present and future generations is more likely to be achieved with policies and actions that are based on an improved understanding of the relationship between the environment and society.

3.2.5 International observations on environmental protection and social development in China

Three major multilateral organizations have previously addressed the relationship of environmental, economic and social development in China and the need for policy harmonization among them. Brief highlights of these reports appear in Box 3-3. It is noteworthy that the OECD recommendations, presented two planning cycles ago, remain appropriate today, and indeed have become even more urgent.

Box 3-3 International studies on environment and social development in China

- i. The Organization for Economic Cooperation and Development (OECD) stated in its *Environmental Performance Review of China* (2006)²³ that, to improve integrated environment and social development, improvements are needed in six areas: (1) increasing the proportion of the population with access to better environmental services (including safe drinking water, basic sanitation and power.), (2) accelerating the collection of environmental health and health-risk information, (3) improving the quality, frequency, scope and reach of information disclosure on exposure to environmental health hazards, (4) improving channels for the general public's access to environmental information, (5) improving environmental education and dissemination and (6) strengthening government cooperation and partnerships with enterprises, the public and NGOs to promote corporate social responsibility.
- ii. The World Bank indicates in *China 2030*²⁴ that China has the potential to become a modern, harmonious, creative and high-income society, but reaching that goal requires a new development strategy. This strategy should include the implementation of structural reforms to strengthen the foundations of a market-based economy, the acceleration of the pace of innovation and the creation of an effective and creative innovation system; seizing the opportunity to "go green" through a mix of market incentives, regulations, public investments, industrial policies, and institutional development, the promotion of social security for all by facilitating equal access to jobs, finance, quality social services and portable social security and ensuring the provision of adequate financing to local governments to enable them to meet their responsibilities.
- iii. The *China Human Development Report 2013* of the United Nations Development Programme²⁵ conducted in-depth research on China's urbanization process from the perspective of human development and long-term sustainable development. The Report argues that human development should be the over-riding issue and primary benchmark in China's urbanization process and that strengthening governance in the social sphere is the key to future success. In the absence of strong and effective governance structures and mechanisms, it will be difficult to meet the complex challenges inherent in future urbanization.

3.3 PERSPECTIVES FROM INTERNATIONAL PRACTICE AND THEORY

3.3.1 Introduction

This chapter elaborates on international experience and perspectives concerning the relationship between environment and society. It examines: (1) the historical association of environmental protection and social development particularly since the industrial revolution, (2) international theoretical research on environment and social development, including alternative disciplinary perspectives and (3) construction of a conceptual framework for the integration of environmental and social development building on the widely accepted definition of sustainable development. The chapter concludes with some implications for environmental protection and social policies in China.

3.3.2 Environmental protection and social interaction since the Industrial Revolution

A look into environmental history reveals that the relationship between humans and the natural environment has undergone profound changes in the transition to a modern economy and lifestyle that began with the Industrial Revolution. Yet in that transition from agricultural society, when the dependence on water, land and biological

57 OECD. 2006. *Environmental Performance Review China*.

58 World Bank. 2012. *China 2030: Building a Modern, Harmonious, Creative, High-income Society*.

59 UNDP-China. 2013. *China Human Development Report 2013: Sustainable and Liveable Cities: Toward Ecological Civilization*.

diversity was absolute, to an urban and post-industrial society, the point is sometimes lost that people still have an absolute dependence on nature for their existence and well-being. However much societies may believe that it is possible to “have dominion over nature” or to substitute for the many natural goods and services provided by ecosystems, there are rude awakenings, sometimes in the form of “natural disasters” that often are the result of human action⁶⁰.

Historical review

This short review (Box 3-4) examines key landmarks at the intersection of environmental, social and economic development, starting with the Industrial Revolution. This marked a critical transformation, with a large share of agricultural labour moving to urban areas, as well as changing production and consumption patterns. Industrialisation enhanced the capacity of humans to use and change their natural environment, while industrial activity led to the deterioration of ecological resources and environmental pollution. Throughout this process, environmental and social issues became increasingly closely linked.^{61 62}

Box 3-4 Timeline of some events and actions affecting environment and society

Time	Major Events and Actions
1760s -	The first technological revolution occurred, in which the steam engine was widely used as a power machine. Social wealth expanded dramatically alongside the production machines. Social lifestyles changed with the development of a large industrial economy. Migration to cities and industrial towns created unsanitary living conditions and local pollution. Natural resources were harvested on a larger scale, often from other less developed countries around the world.
1820s -	The world's population, human activities and environmental pressure mounted. Because the rapid population growth happened in Europe and large emigration to the Americas, Oceania and Africa, the distribution throughout the world changed as well. ²⁹
1870 – 1920	The second technological revolution was marked by the wide application of electric power, internal combustion engines and new means of transportation, new means of communication and the birth of the chemical sector. The world moved into the “electric era” and increased use of oil-based energy production, which fuelled development. Western countries took a number of measures and enacted a series of laws and regulations, such as the British Alkali Act and Rivers Act, Plant Management Regulations of Osaka, Japan, and early pollution prevention regulations of the United States and France. Conservation measures and national parks became popular. Water supply and sanitation was the focus of attention, especially in the new era of urban planning.
1900 -	Local social organizations were active in nature and landscape conservation and tried to achieve the access to and long-term ownership of natural and cultural heritage. Urban planning linked public housing promotion with environmental and social objectives by improving the indoor and outdoor living environment.
1920-1950	Air, soil and waters were subjected to on-going pollution with the formation and development of coal, metallurgy and chemical industries. Consumer and war-time industries thrived but without much pollution control or eco-efficiency, and post-war urbanization led to suburban development. The first great climax of pollution issues arrived, including the farmland water pollution in Ashio copper area in Japan, air pollution in Belgian Maas valley industrial zone, photochemical smog in Los Angeles and the Donora smog.

60 Some scientists believe human influence on the environment is so great that we have entered the Anthropocene epoch. <http://www.anthropocene.info/en/home>

61 A more detailed timeline of key environmental events and actions from the early 1960s to 2012 is available from IISD. (International Institute for Sustainable Development.) http://www.iisd.org/pdf/2012/sd_timeline_2012.pdf

62 For regionally differentiated assessment worldwide, considering timelines and linkages between environment and social issues, see for example www.unep.org/GEO and Kok, M, et al.: Environment for Development —Policy Lessons from Global Environmental Assessments. Netherlands Environmental Assessment Agency. the Netherlands: Bilthoven; 2009 – www.pbl.nl

63 Vries, Bert JM de: Sustainability Science. Cambridge University Press, 2013. Data as compiled in the History Database of the Global Environment (HYDE) <http://themasites.pbl.nl/tridion/en/themasites/hyde/>

Time	Major Events and Actions
1950 -1970	<p>The third technological revolution broke out, with significant inventions and breakthroughs in atomic energy, computer, aerospace engineering and biological engineering.</p> <p>The Western powers competed for development after World War II, accelerating the industrialization and urbanization processes. Health problems increased dramatically as a result of industrial activities and private car use.</p> <p>A variety of air and soil pollution and food contamination incidents intensified, including the Minamata disease in Japan during 1953-1965, the Toyama Prefecture during 1955-1972 and the rice bran oil incident in 23 counties in Japan, including Aichi and Kyushu in 1968.</p> <p>The Western countries began to set up specialized agencies for environmental protection and promulgated and developed a series of environmental regulations and standards to strengthen the rule of law, especially after the USA established the National Environmental Policy Act in 1969.</p> <p>The awareness at the international dimension of environmental change (cross-border air and water pollution, regional and global issues) was enhanced, for example through the International Joint Commission between Canada and the USA.</p>
1970 – 1990	<p>People became aware of and demanded action concerning such environmental issues as illegal logging and land reclamation, overfishing, stratospheric ozone depletion, chemical pollution and climate change and demanded action. The first Earth Day (1970) involved thousands of organizations.</p> <p>Major watersheds in industrialized countries were gradually restored, with urban air pollution brought under control.</p> <p>New environmental departments and non-governmental departments began to use specialized, integrated and systematic means to address issues associated with public health, natural resources and landscape.</p> <p>Frequent major industrial accidents forced the adoption of more stringent laws and regulations and also increased voluntary action such as Responsible Care in the chemical industry.</p> <p>The United Nations Conference on Human Environment was held in 1972 in Stockholm and launched the International Human Dimensions Programme on Global Environmental Change (IHDP). The concept of sustainable development was raised by the IUCN and in 1987 by the World Commission on Environment and Development (Brundtland Commission) and gradually accepted globally and at community levels.</p> <p>UNEP was founded and began to play a coordinating and facilitating role through the United Nations and its agencies.</p> <p>Global environmental change was recognized in the early 1970s. International NGOs (such as the Club of Rome) joined in environmental action together with other international, national and local civil society organizations.</p> <p>A number of regional multilateral environmental agreements came into existence, such as the European <i>Convention on Long-range Transboundary Air Pollution</i>, and some protocols on desertification and chemicals.</p>
1990 – 2010	<p>Humans entered the era of globalization and computer network technology, information technology, biotechnology, genetic engineering technology and microelectronics integration technology were becoming highly integrated and industrialized.</p> <p>Ministerial Conference on Environment and Development held in 1991 in China adopted and announced the Beijing Declaration. In the same year, the CCICED was established in Beijing.</p> <p>In 1992, the United Nations Conference on Environment and Development convened in Rio de Janeiro, Brazil and adopted two programmatic documents, namely the Rio Declaration and Agenda 21, marking that sustainable development had been generally recognized by countries of varying ideologies about development.</p> <p>2002 UN World Summit on Sustainable Development held in Johannesburg, brought attention to poverty eradication and environment links, and to the creation of the Millennium Development Goals.</p> <p>The systematic and integrated assessment and outlook of national, regional and global environment situation, human development and other issues were conducted by the UNDP, UNEP, WHO and OECD among others.</p> <p>Following introduction of the World Wide Web and various social media, communications related to environment and social issues expanded dramatically.</p> <p>A number of international environmental conventions were made, such as the Vienna Convention and Montreal Protocol, and some consensus and principles on global environmental governance reached, such as “common but differentiated responsibilities.”</p> <p>The 2009 Copenhagen Climate Change Conference discussed the global agreement on greenhouse gas emissions reduction by 2020.</p>
2010s -	<p>The 2012 UN Conference on Sustainable Development, which took place in Rio focused on two topics: (1) role of a green economy in sustainable development and poverty eradication and (2) an institutional framework for sustainable development including the creation of Sustainable Development Goals.</p>

The above review suggests that the relationship between societal issues and the environment have become complex over time and the dependency between them increasingly close. Environmental protection measures and policies are increasingly constrained and driven by social issues, and the reverse is also true. The following international statements are examples of the clear recognition of this complexity.

Economic and Social Development Links: *We recognize that poverty eradication, changing consumption and production patterns and protecting and managing the natural resource base for economic and social development are overarching objectives of and essential requirements for sustainable development.*⁶⁴

Green Jobs: *...Coordinated global action and investments of about US\$1.8 trillion to achieve a series of sustainable development objectives might lead to 13 million new green jobs per year until 2050. Considering that higher costs in energy supply would replace other jobs through lower consumption, net global job creation would be less, possibly substantially so...Under no conceivable assumptions will green jobs alone be an answer to the global employment challenge to create on the order of 63 million decent new jobs per year until 2050.*⁶⁵

Liveable and Sustainable Cities: *...Denotes urban areas managed to provide for people's basic needs and comfort in the short and long term. Some indicators include sound urban planning and design, urban form, the availability of well-maintained public spaces, adequate and widely available services, the preservation of culture and tradition, the promotion of cultural services and infrastructure and cultural industries, clear sky and clean waters and efficient use of natural resources...*⁶⁶

Lessons from historical experience

This brief review (Box 3-4) reveals an accelerating pace of economic development and social change that can work both for and against environmental protection and social development, as well as the increasing complexity and dependency in this relationship. The timeline also reveals the influence of innovation and of disruptive technologies that can provide new solutions but also create new problems. It also highlights the important roles that cities have played in development and the great need to make them liveable.

Even this cursory overview of changes that have been important in shaping development in various parts of the world yields significant conclusions that are important for China's future sustainable development planning and decision-making. Several key points are highlighted below.

- Coal-based and other resource-dependent industries have accelerated industrialization and urbanization, but in the process they have stimulated the rise of unsustainable lifestyles and consumption patterns, leading to serious environmental and social risks and challenges.
- For countries well on in the process of industrialization, government actions to address environmental and social issues can be dated back to the late 19th and first three decades of the 20th century. In general, these actions are driven by the direct impact of industrialization on human health, but also, sometimes by the conservation of ecosystems, increasing awareness of the relationship between poverty, ill-health and the environment through public and community health campaigns. The U.S and Japan, for example, took many appropriate measures to clean up public waterways, formulated laws on factory management and carried out public health control measures and social policy initiatives to increase investment in basic public services. However, with a lack of effective policy instruments to address emerging public policy issues, these early actions were quite constrained.
- More complex public policy responses, pollution governance and environmental regulations were rolled out in the second half of the 20th century, with improvements in technology, public awareness of environmental

64 2002 *Johannesburg Statement on Sustainable Development*. <http://www.un-documents.net/jburgdec.htm>

65 Rio 2012 Issues Briefs *Green Jobs and Social Inclusion*. <http://www.uncsd2012.org/content/documents/224Rio2012%20Issues%20Brief%207%20Green%20jobs%20and%20social%20inclusion.pdf>

66 UNDP China. China National Human Development Report 2013. *Sustainable and Liveable Cities: Toward Ecological Civilization*. http://www.undp.org/content/china/en/home/library/human_development/china-human-development-report-2013/

pollution and human health, and the level of attention given to environmental issues. From the 1950s onwards, industrialized countries began the clean-up of contaminated waterways and smog abatement by introducing new environmental laws and organizations, and increasing government spending for environmental protection, (for example, to levels of 1% to 2% of GDP of the United States and Japan). Environmental movements emerged in the late 1960s, registering citizen concern for environmental degradation impacts on human well-being and the economic costs. Environmental issues gradually became the focus of global attention. In 1972, the first United Nations Conference on Human Environment was convened in Stockholm.

- The international background of discussions on the environment has undergone tremendous change as many traditional regional and local environmental issues have evolved into global issues, such as illegal logging, air pollution, climate change and over-consumption. It is noteworthy that scientific and technological progress, as well as the institutional frameworks, governance mechanisms and social movements for environmental protection in developed countries generally do not mitigate the environmental impact on developing countries, while the discussions on economic development, human welfare and environmental rights become more heated in developing countries.
- Many long-term changes arising from human activities such as emissions, excessive natural resource use, biodiversity and habitat loss are now recognised to be irreversible. Scientific studies of the global impacts of human activity on the environment suggest that some ecological limits are being exceeded. This shifts the calculus of risk, requiring greater emphasis on precaution and preventive measures.
- Actions to protect the environment are intertwined with a variety of political, economic and social issues, such as the liberation movement of workers in Europe in the 1920s, the Western anti-authoritarian sentiments during the Vietnam War in the 1960s and 1970s, the turmoil of the centrally planned economy in Poland in the 1980s and the minority (Kurdish) national issues in the large-scale water and mining projects in Turkey during the 1990s.
- Over the past four decades, social organizations and NGOs have played an important role in environmental policies and actions, as well as on other social issues. Civil society activities are now widespread in both rich and poorer nations and in the international community. Transnational networks play significant roles in shaping policy action, and are frequently at the leading edge of social and environmental matters.
- In some developing countries, including China, better-educated, wealthier middle-class citizens with higher environmental awareness have raised new demands from governments. Beyond simple health, livelihoods and short-term environmental issues, their demands incorporate higher aspirations, including participation in decision-making, transparent governance process, information disclosure, and better government attention to environmental issues. In this sense, economic prosperity and rising expectations press for new and better requirements to deal with contaminated products, but also that unsustainable consumption may lead to worsening of environmental problems. Meanwhile, in the context of increasingly quick and transparent information dissemination, the tensions between different interest groups (social organizations, businesses and governments) are more likely to spark public mass incidents.
- Green economic transformation and international partnerships have become a new international trend. In the short run, green economy policies may have similar goals to current policies in promoting economic growth and employment. However, over the longer term, investment should be reallocated to enhance social and environmental benefits. According to UNEP's *Green Economy Report*⁶⁷ an annual input of 2% of the world's GDP, i.e., USD 1.3 trillion at the current level, to 10 major economic sectors from now to 2050 could be used to catalyze the transition to a low carbon green economy. Under the guidance of green economy policies

67 <http://www.unep.org/greeneconomy/greeneconomyreport/tabid/29846/default.aspx>

at national and international levels, priority areas for investment would include agriculture, construction, energy, fisheries, forestry, manufacturing, tourism and transportation. While stimulating growth and creating jobs, an appropriate 'green development' strategy should be designed to reduce pressure on water and other critical resources, and contribute to the eradication of extreme poverty and the mitigation of climate change.

- The current global ecological and environmental protection crisis is resulting in a rethinking of environmental, social and economic policies, in order to identify a new path of green development in the 21st century. Countries in the world recognize that the global ecological environment is also a commons of concern to all people. Increasing population and increasing per capita consumption have shifted the world's attention to climate change, planetary boundary limits and the Earth's carrying capacity.⁶⁸ Through the UN Earth Summits of the past two decades and current negotiations over a set of Sustainable Development Goals, finding pathways to sustainable development has now become a priority for the international community. However in practice a failure to implement appropriate policies, the dominance of economic growth and disagreement over the allocation of responsibilities make this new path a profound challenge.

3.3.3 Theory and practice at the intersection of environmental protection and social development

No single theoretical or disciplinary approach or 'model' is adequate for illuminating or explaining the complex and multi-dimensional relationships between environmental and social issues, or the conditions under which they lead to conflict. The goal of an 'integrative' framework, that appropriately balances these different elements, remains elusive. The taskforce sought to develop a simple framework that might be of help in identifying some of the more important linkages that should be taken into account when balancing environmental protection and social development needs, in order to identify 'win-win' solutions and minimise trade-offs and to provide guidance to policy makers. This section identifies some of the theories and practices that form the basis for such a task, a simple framework is proposed in the following section.

Key policy issues and research fields

Any society or organization in the process of transformation will face certain basic contradictions and problems. These include conflicts between economic, environmental and social objectives, over the reallocation of resources and among vested interests. As a consequence, tensions among different social actors and groups will arise, sometimes exacerbated by long-standing inequities and uncertainties, Public policy and governance mechanisms and institutional arrangements must play a role in the resolution of such conflicts.

Some key areas of interaction between environment and social issues, potentially leading to tension or conflict, are seen in the following fields:

- **Environment and poverty.** Pressures from environmental degradation, water scarcity and climate change pressures fall on vulnerable groups through a series of mechanisms. Environmental issues could therefore exacerbate social differentiation. Rural poor populations are often regarded as the managers of the natural resources on which they depend, but they may also be responsible for environmental degradation, usually because of the lack of alternative livelihoods. The urban poor population is likely to be subject to hazards from their living and working environment. In addition, poorer people may be more prone to natural disasters due to their geographical location or limited response capacity.

⁶⁸ Recent reports on these subjects have been produced by the Intergovernmental Panel on Climate Change (IPCC), the Stockholm Resilience Centre, and the WWF.

- Environment and population. Important progress has been made in reducing pollution and environmental degradation and improving the efficiency of resource use in large parts of the world. This improvement can be attributed to a significant extent to technological progress. A fear that population pressure would wipe out these gains has been mitigated by a slowdown in the rate of population growth. However, controversy exists over whether the needs of a still growing population can be met within environmental limits through technological advances alone or whether more profound changes in consumption and lifestyles are required. Another demographic trend is occurring in many countries, including China, with rapid population aging. This places burdens on government budgets and social policies, with high and rising costs in care. Elderly people are also more vulnerable to environmental problems such as urban air pollution, which implies that environmental-related mortality and morbidity (and associated costs) will rise as populations age. Relatedly, the World Health Organization (WHO), the World Meteorological Organization (WMO) and the Intergovernmental Panel on Climate Change (IPCC) have drawn attention to the multilayer effects of metropolitan agglomeration, population aging and extreme climate change.
- **Environment, migration and urbanization.** The movement to cities causes many problems both in the countryside and in cities and suburban areas. For the coming 20 to 30 years such migration will be extremely important in countries throughout the world mostly in Asia and Africa.⁶⁹ However none will match the scale of urbanization in China. Thus urbanization has rightly become a matter of intense focus for China's leadership.⁷⁰
- **Environment and health.** Major public health and environmental management activities are driven by the relationship between environment and health. Poor environmental conditions undermine the health and the capacity of populations to cope with disasters or shocks, while conversely ill-health increases the vulnerability to other shocks including environmental hazards. Environment-related public infrastructure and services, such as water, sanitation and solid waste management, have thus been a critical mechanism for improving public health, and are generally provided by states through public health programs.
- **Environment and employment.** Better employment is a critical mechanism for solving livelihood and poverty concerns, but also requires improvements in workplace safety and the work environment. In this respect, the current thrust towards creating "green" jobs and providing skills training for viable and sustainable economic sectors, may contribute to both social and environmental gains. At the same time, improved eco-efficiency and other innovations could help to meet environmental protection goals in the workplace in ways that would also improve the competitiveness and profitability of enterprises.
- **Environment and social justice.** In low-income areas, environmental and social tensions mainly relate to the conflicts arising from the use of resources (minerals, land, water) and forests, grasslands and other ecosystems to achieve basic livelihoods and well-being. Generally, poorer populations face higher health risks and are more susceptible to industrial and workplace-related pollution. However, with respect to the rich and those living in more developed regions, environmental concerns tend to relate more to quality of life or consumption and behaviour patterns, lifestyle expectations and information needs. Environmental issues rise to become pressing political issues when the environmental economic costs become apparent (e.g., reduced productivity and rising health costs) or social conflicts and protests break out.

69 UN HABITAT estimates that world's urban population is likely to increase from current fifty per cent to seventy per cent by 2050 <http://www.unhabitat.org/documents/GRHS09/FS1.pdf>.

70 Premier Li Keqiang has advocated for a new type of urbanization: "people's urbanization" which should be human-centered, ensure the prosperity of the people, and support China's growth. http://www.chinadaily.com.cn/china/2013npc/2013-03/18/content_16314958.htm

- **Environment and sustainable consumption** has been a major concern since the 1990s but progress on reducing overconsumption in richer countries has been slow. Sustainable consumption involves a complex mix of values and behaviour changes and depends upon enabling measures such as access to greener consumer products, green market supply chains and green government and industry procurement practices. Sustainable consumption also needs to take into account growing environmental footprints and sometimes, trade practices. For large, rapidly developing countries such as China, particular dilemmas include gaining access to sufficient resources, while increasing eco-efficiency in their industrial operations and in energy use generally.

Theoretical perspectives and policy linkages

In mainstream neoclassical economics, environmental and social issues have generally been subordinated to economic ones. A widely held but disputed view is that once societies reach a certain level of aggregate affluence they have the financial means, sufficiently mature political structures and institutions, and technological attainment to respond to environmental challenges, as represented in the ‘environmental Kuznets curve.’⁷¹ While experience does point to more affluent countries effectively tackling problems of pollution, there is no evidence for a deterministic relationship between income and environmental protection. Furthermore, this relationship has been misinterpreted in assuming that growth, by raising incomes and reducing poverty, will lead to better environmental (and social) outcomes and that market mechanisms are the best facilitators of sustainable growth.

Even within mainstream economics, the limits of markets are acknowledged: markets are subject to imperfections or failures, or simply do not exist. These limits apply to many essentially ‘non-market’ goods and services such as environmental services and common property resources, to externalities and public goods (or ‘bads’) such as air pollution, cases of natural monopoly as in many environmental services such as sewage, drainage, public sanitation, public transport or energy supply. Cap and trade mechanisms that aim to combine markets with environmental limits have had mixed results. The application of such market mechanisms to environmental services (for example, through pricing policies) also has strong distributional impacts, tending to reinforce existing inequalities in the absence of strong redistributive measures. Often associated with mainstream economic approaches is a corresponding reliance on technological solutions to overcome environmental constraints. Social issues, in such approaches, tend to be relegated to a residual category with policies aimed at providing minimal assistance only to the most vulnerable.

A number of alternative approaches exist, coming from fields such as institutional and ecological economics or from other social sciences, such as political economy and political ecology. These tend to analyse the more complex links between economic, environment and social issues, including the ways in which markets are socially embedded and reflect broader institutional arrangements, social and power relationships, and diverse values and priorities. For example, institutional economists have shed light on collective action problems related to common property resources, political ecologists are also concerned with how the environment affects or constrains development, and the structural (including gendered) inequalities which are central to environmental degradation. Other social science disciplines point to a range of alternative social, ethical, cultural and philosophical perspectives, allowing for different values attached for example to nature and the environment, different perceptions of risk and alternative interpretations of rationality. They thus provide greater scope for understanding and addressing sources of disagreement and possible conflict and for developing more integrative frameworks linking social science with natural science and policy.

71 Selden T M, Song D. Environmental quality and development: is there a Kuznets curve for air pollution emissions? *Journal of Environmental Economics and management*, 1994, 27(2): 147pp-162pp.

The main 'framework' around which efforts are currently being made to build consensus at a global level and which informs international policy and practice, is that of 'sustainable development.' Following the 1987 Brundtland Report, the dominant view of sustainable development is of three inter-related domains or pillars, with presumed equality between them, which can be reconciled to create a 'triple win' scenario – delivering gains for individuals and societies within environmental constraints and ensuring adequate environmental resources and services now and in the future. In reality, these domains have not received equal treatment, and the social generally remains weakest, as illustrated by the current emphasis on 'green economy' solutions which focus principally on environmental and economic linkages. Multiple critiques have generated on-going efforts to reconceptualise the relationship. One approach is as a nested concept where the economy domain lies within the social domain, and should contribute to social goals, while both need to remain within the (shifting) boundaries of environmental carrying capacity and ecosystem functioning. One representation of this way of thinking can be found in Figure 3-7.

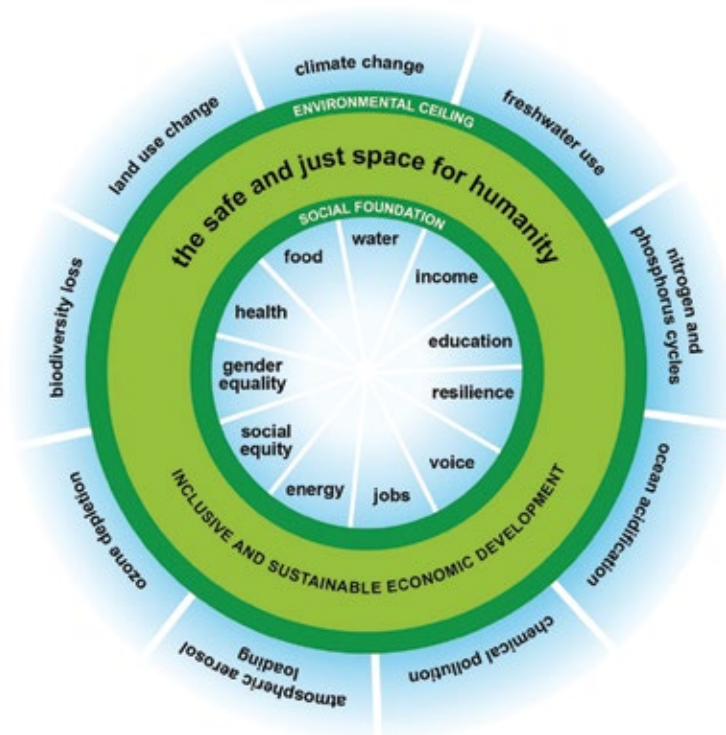


Figure 3-7 The Oxfam 'doughnut' showing the balance between planetary boundaries and a social minimum of resource use and environmental impact⁷²

Despite these theoretical and conceptual debates and challenges, a range of analytic tools and policy innovations have nonetheless been developed which aim to address more systematically the neglected environmental-social linkages. Examples include the following:

- i. **Capitals:** An approach that has been promoted by World Bank environmental staff examines these relationships through consideration of expanding and contracting stocks of capitals: natural, social, human and built (or manufactured), some also include financial capital.⁷³ This approach recognizes that there can be interplay among these types of capital, for example natural resources can be managed to invest in education and health care, and thus contribute human capital and also, perhaps, to institutions that enhance social capital. The

⁷² <http://www.oxfam.org/sites/www.oxfam.org/files/dp-a-safe-and-just-space-for-humanity-130212-en.pdf>

⁷³ See <http://www.forumforthefuture.org/project/five-capitals/overview>

capital approach is useful in defining necessary natural capital in the form of ecological goods and services, essential levels of open green space in cities and levels of renewable resources to supply the material needs of present and future generations.

- ii. **Risk Assessments, Environmental Impact Assessments (EIA), and Social Impact Assessments (SIA)** provide an important set of tools that help to shape decisions regarding environment and social concerns about projects and policies. However these tools tend to be used separately, most commonly an EIA is performed. Joint consideration of EIA and SIA would provide for a more thorough understanding of the relationship between environmental protection and social development and may lead to less conflict over results. Risk assessments allow for a more careful and quantitative assessment of both social and environmental concerns. An objective examination of the nature of risk and probability, and the possible impacts, however, requires that such assessments be carried out in a transparent way by independent agents and based on good scientific knowledge coupled with follow-up action and monitoring of effectiveness. It also requires openness of information flows and credibility in the information, institutions and processes among the wider public. Access to the decision-making process is also necessary for those affected or likely to be affected by the outcome.
- iii. **Environment and Regional or Urban Development Planning** have long played an important role as an integrative means of addressing a wide variety of social and environmental needs in development planning. The approach should be inclusive and adaptive both from an environmental and social perspective, and this is often a stumbling block. Also, the planning must draw upon a wide range of information with considerable sophistication in the analysis in order to address key concerns such as the creation of green transportation systems, parks and other open spaces, risks related to the siting of natural hazards and to minimize conflicts of land use that raise environmental and social problems.

Approaches to sustainable development reflect varying perceptions, assumptions or preferences and fundamental values or conventional wisdom. Among these are views about the relative roles of the market and the state, the relative weight given to efficiency versus equity, methods for the evaluation of various material and non-material resources (such as environmental or cultural resources), the balance sought between the well-being of current and future generations and alternative choices between pathways towards 'weak sustainability' through incremental reform of current practices or the more transformative action needed for 'strong sustainability.' As far as China is concerned, the current focus on Ecological Civilization suggests a shift from the dominant focus on income and GDP growth to give more attention to non-material and ecological goods and services. On a worldwide scale, similar changes are observed in the discussions about the green economy, especially since the United Nations Conference on Sustainable Development in 2012.

Policy frameworks and priorities also change over time and space. From a temporal point of view, the focus of work changes, for example in the case of food products from the earlier technical approach (as in the green revolution) of the 1960s to 1980s, the community-based resource management approach from the 1970s to 1990s and then to the more recent emphasis on genetically modified crops and the green economy and now further to a blend of all of these that takes into account sophisticated environmental protection and food safety factors. From a spatial point of view, regional and global differences can also be observed, further complicating responses given the difficulty of determining environment and social responsibilities and distributing costs and benefits, in different places or at different levels. An added layer of complexity exists for cross-border issues, which may involve local boundaries or international borders, or small and isolated communities.

Current Opportunities

In spite of numerous challenges, innovative environmental and social policies are emerging to address systematically a range of interrelated environmental and social development challenges. Such policies have the potential of improving social outcomes, reducing risk and enhancing social justice while achieving environmental goals more effectively. For example, efforts could include the incorporation of environmental and social objectives jointly into long-term development planning and impact assessments, introduction of environmentally-targeted social policies as is currently done for some eco-compensation efforts for watershed protection, as well as the formulation of policies to promote education and training and green jobs. There is also a clear need to enhance environmental information release to the public beyond steps already taken and to foster the participation of the public in assessments and improve oversight mechanisms.

Increasingly, decision-makers around the world are recognizing that their understanding of the importance of the environment and societal relationships and the potential contribution of social policies to environmental goals into policies and practice is limited and needs to be transformed. At present, the issues of most concern include: the impact of environmental change or degradation on the livelihoods and health of populations, communities and social groups, the impact of human behaviour and consumption on the environment, the impact of such tertiary factors as economic growth, various inequities and resource allocation on environmental and social outputs and governance and participation, including the establishment of mechanisms to address tensions and manage potential or actual conflicts. In fact, understanding the social context helps to identify and analyze key factors in the environmental and social interaction, such as the role of different social actors and the formation of values, social equity and distribution and social and public policies.

Among these, the potential use of social policies in achieving environmental objectives has not been fully explored, and in fact, may offer significant opportunities. Social policy encompasses a range of public actions designed to manage livelihood risks, protect people against contingencies (such as ill-health and loss of income) and invest in their capacities to contribute productively to the economy. It is also important in awareness-raising and public participation. Social policies thus have a significant role in the transformations required for sustainable development: by reducing well-being deficits associated with unequal resource access, incorporating environmental risks which disproportionately affect the poor, facilitating 'green' employment and skill transitions, creating incentives to change the behaviour of consumers and fostering social inclusion, cooperation and trust in institutions, which can in turn reduce social tensions and threats of conflict.

A logical further step in the extension of social policies is thus to incorporate environmental objectives into the existing social policy system. Social policies can be designed to extend beyond the scope of protection and compensation mechanisms, to support a structural change towards sustainability of lifestyles, consumption and behaviour of individuals, businesses and governmental bodies, while ensuring the fairness of the results. These mechanisms may include the collective supply of social and environmental public goods, housing, energy and infrastructure investment for the poor and low-carbon consumption incentives. In addition, the mechanisms should also cover the design and implementation process of public policies, the right of civil and social institutions to influence decisions, protection of the rights and interests of vulnerable groups or relevant systems to supervise business and government and improve their accountability.

All change processes are inevitably accompanied by new problems, such as unequal benefits, new resource conflicts and social unrest, and generally there are no easy solutions. Conflicts between the environment and development will not resolve themselves or be resolved strictly through technical means and the market. On the contrary, the market tends to exacerbate the existing unfair distribution and power relations, while technological solutions tend to be insensitive to social and distributional issues. International practice and theories also clearly tell us that the social

conflicts resulting from increasing environmental awareness and concerns over impacts will not melt away automatically, especially as resource use intensifies and urbanisation proceeds. If environmental protection improvements do not keep pace, public concern and pressure for solutions will become a greater political as well as social problem.

In other words, to solve the social problems created in a changing environment, concerted and coordinated actions by governments are needed to reduce the negative environmental impact on some groups and to resolve conflicts. Such approaches need to be supplemented by appropriate governance, social management and participatory mechanisms. In addition, strong actions should cover polluting enterprises and local governments. The implication for China is that the government at all levels needs to be more innovative in the management of problems, as well as providing a wider space for civil society groups and citizen action and clarifying environmental and social rights and responsibilities.

3.3.4 Explorations for a suitable framework linking environmental improvement to societal action

An important challenge is to shift the focus from sector-specific theoretical perspectives and practices towards creation of an integrated policy framework. At the moment, countries around the world are making efforts to reach a consensus on an international set of policies and practices that provides a more robust framework for sustainable development.⁷⁴ However, such a framework will need to be grounded in the development of mechanisms that are relevant to, and implementable in, local situations in countries as complex as China. The contribution of this Task Force toward such an effort will indeed be modest due to limitations of time, and to some extent differing views among members.

The Task Force examined several simple word models to demonstrate the links and feedback loops between four key factors: human society, the natural (and in some cases also the built) environment, behaviour towards the environment and environmental governance. These four factors are interactive.

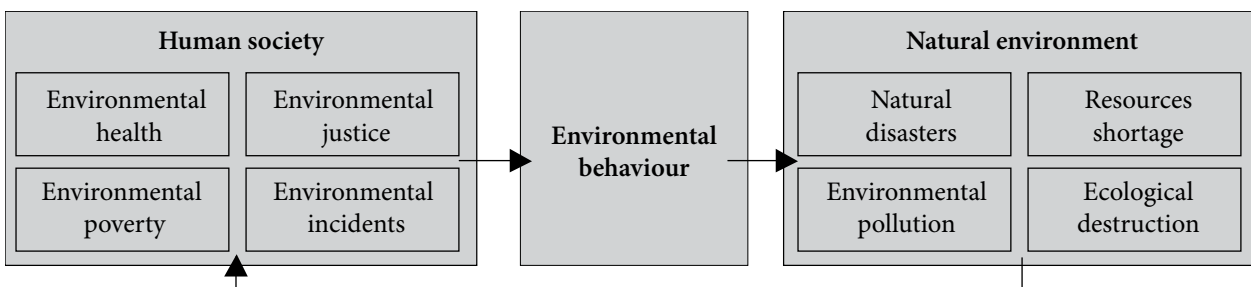


Figure 3-8 Model considering human behaviour towards the environment and the role of environmental governance

The model in Figure 3-8 is based on the assumption that appropriate behaviour in production and living is conducive to the quality of the natural environment, thus contributing to the solution of environmental problems and social progress, and thereby the coordinated environmental protection and social development. What is described here is an ideal and points to the need for adjustment of uncivilized or irrational environmental behaviour — whether on the part of government, businesses and individuals. In reality, however, tensions between environment and society may be addressed at a local level, but remain problematic overall.

⁷⁴ See the efforts for a post-2015 set of global sustainable development goals. <http://sustainabledevelopment.un.org/index.php?menu=1300> ; and also efforts to establish green economy and green growth experience throughout the world (UNEP and OECD among others).

Figure 3-9 reveals in somewhat more detail what must be considered in both responding to environmental problems, and in satisfying society that problems are being properly addressed.

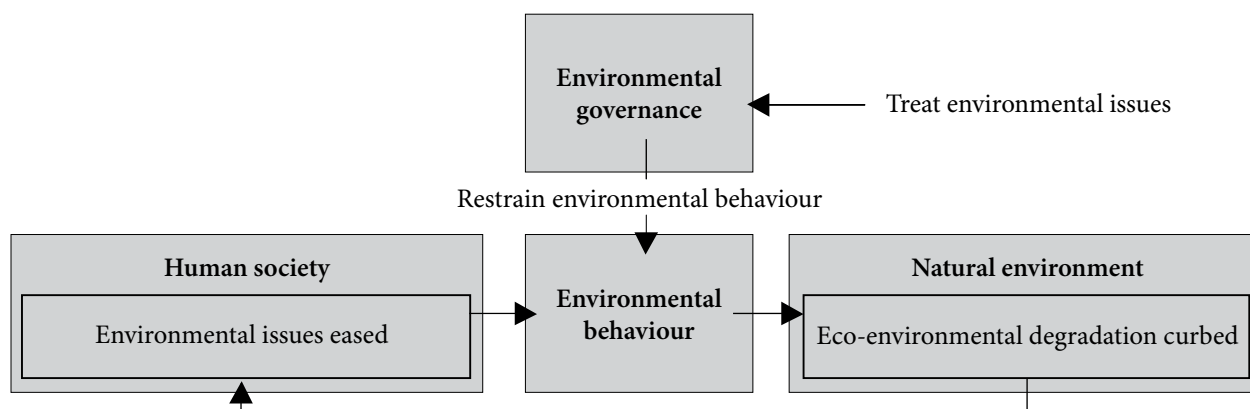


Figure 3-9 Theoretical model considering environmental behavioural variables

In Figure 3-10 a preliminary effort has been made by the Chinese members of the Task Force to put forward a conceptual framework suited to Chinese circumstances – one that will ensure progress towards achieving an Ecological Civilization. It incorporates concern for maintaining social stability while seeking environmental protection improvements and for promoting social harmony and acting on environmental values. It assumes continued economic development and innovation in institutional, management and technological aspects, all related to the Scientific Outlook for Development. This model is likely to be quite different from models based on a western democratic society, and yet it will need to be robust in terms of improving both environmental protection and the social condition.

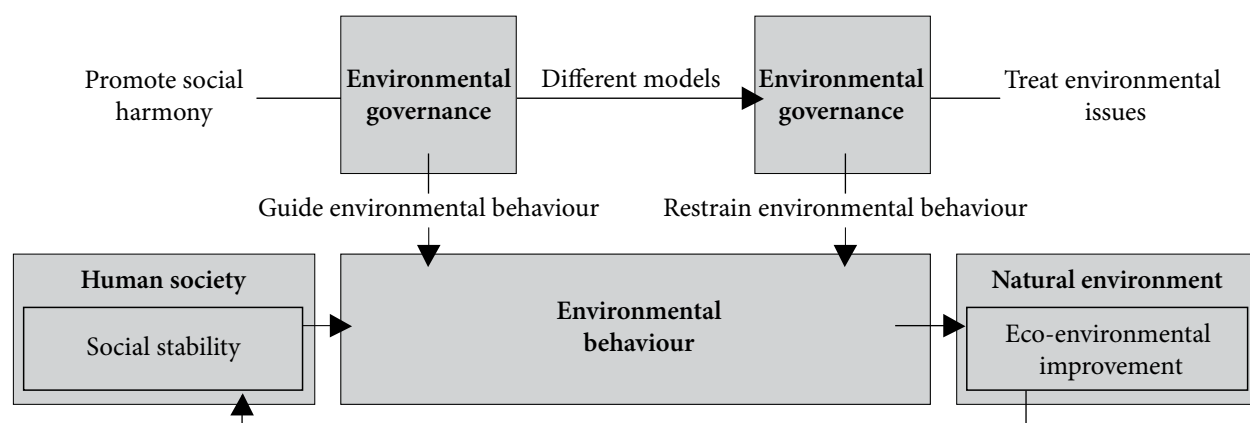


Figure 3-10 Model considering environmental behaviour, public environmental governance and environmental values

Importantly, its application to China will also have to consider some important dynamics over time that affects both environmental and social development. For example, the demographic changes already in motion, the growing importance of domestic consumption and the sheer pace of China's current changes. These are not shown in the simple version depicted below.

3.4 A FRAMEWORK FOR POLICY AND ACTION

To achieve a long-term vision or goal of Ecological Civilization the Task Force puts forward for consideration a framework for policy and action that integrates social development and environmental protection. The outcome should be improved environmental and social harmony, and overall progress towards a “Beautiful China.”

3.4.1 Basic principles

The Task Force has identified five principles that can usefully guide the formulation of policies for linking environmental protection and social development.

- **Multi-stakeholder participation.** Attaining sustainable development is a shared responsibility. Experience has shown that the commitment of the Chinese government to economic development over the last three decades has generated many environmental and social problems and incidents have arisen, some of which undermine the credibility of the Government. This can be attributed, in part, to inadequate opportunities or mechanisms for all actors and social groups to provide input into policy. It is therefore necessary to clarify the roles and responsibilities of different actors. Where necessary, it may be important to transform the functions of the Government, so as to more appropriately drive coordinated economic, social and environmental progress. Mechanisms to enable and recognize the positive contributions of businesses/corporations can also be created.
- **Coherence between long- and short-term visions and targets.** The Task Force emphasizes that environmental protection and social development require immediate practical actions, but also a long-term vision and plan to safeguard future generations and build a “Beautiful China.” Thus, the process of policy formulation should articulate clearly both a long-term vision and develop short-term targets and objectives to make progress toward reaching that vision. Achieving an Ecological Civilization is a long-term vision. To this end, the Task Force suggests setting clear objectives and tasks for China’s future development process associated with environmental protection and social development over short, medium and long-term timeframes.
- **Policy coherence.** Policies for economic, environmental and social development should be interdependent and mutually reinforcing, rather than conflicting or contradictory. For a country moving towards sustainable development, it is necessary to integrate and coordinate the development and implementation of economic, social and environmental policy objectives, even while recognizing the need for parallel and distinct means of accountability.
- **A strong legal foundation.** The Task Force highlights the importance of laws and regulations, designed to support the objectives and needs of economic, social and environmental development rather than being based on the preferences and propositions of vested interest groups, enterprises or individuals. This is an important guarantee for long-term social stability. It is particularly important to protect and safeguard the provision of public goods and services and to ensure that any framework considers the legal guarantees relative to other mechanisms such as market instruments. Laws and regulation should enable public access to information, and create a legal framework for robust and useful mechanisms for public supervision of development policies.
- **Equity and justice.** Environmental resources, rights and responsibilities should be distributed equitably. Access to a clean environment and an acceptable quality of life should be available to all. In order to fulfil their obligations to achieving environmental protection and social development individuals, organizations and enterprises must have the capacity, knowledge and means to behave responsibly. In formulating relevant policies in matters such as green procurement or sustainable consumption, not only equitable distribution

of rights and interests among different groups should be secured, but also their obligations to participate in environmental protection and social development should be promoted.

3.4.2 Vision 2050/Action 2020

Adopting a Vision 2050/Action 2020 approach will require immediate actions in order to bring the 2030 and even the 2050 Visions within reach. That is due to the need to consider the time required to change and/or build infrastructure, spatial patterns and financial obligations.^{75,76,77} Through backcasting from a vision, it is clear that some decisions needed to be taken soon, especially for the 13th FYP, in order to ensure the chances of achieving the vision. Some of these actions have been identified and are recommended in Chapter 5. Such backcasting is also important because it will give direction to a further program of targeted policy-oriented studies following this initial study.

To achieve policy coherence over various timeframes, a number of goals and objectives could be envisioned.

- **By 2015, the ecological, environmental and social targets in the 12th FYP should have been achieved.** People's lives will continue to improve and the main medium- and longer-term goals for environmental protection, production patterns and lifestyles of quality will take initial shape. A more favourable and robust legal system for the coordination of environmental and social development will be established, while the management system and policy system will become better coordinated.
- **By 2020, the aim is to have built a moderately prosperous *Xiaokang* society.** Better spatial land patterns and environmental functional zoning will be in place. A resource-conserving and environment-friendly economic structure and system will basically have been built, although still in need of much more attention. Levels of efficiency of resource utilization should be closer to the most advanced levels in the world, while the energy consumption per unit of GDP will have been reduced substantially. As the total discharge of major pollutants decreases drastically, overall environmental quality will improve significantly. The concept of Ecological Civilization will be firmly rooted in the whole of society. Specific improvements will also have been made in the legal system, policy system, social risk prevention and control system and public environmental management and service system.
- **By 2030, environmental pollution problems will be much more fully resolved.** Upon meeting environmental quality objectives fully, environmental public health needs will be met. Ecosystems will be stable and healthy with robust service functions and improved biodiversity protection. The spatial land pattern and environmental function zoning will be fully established, while the economic and industrial structure will be able to meet the requirements of an Ecological Civilization. Resource efficiency likely will reach the world's most advanced level. With the further penetration of the concept of Ecological Civilization, the values of environmental protection and low-carbon and eco-friendly production and consumption patterns and lifestyles become dominant. A scientifically-based and sound public environmental governance system will have been put in place. A green, prosperous, harmonious society is at the inception and a "Beautiful China" is being created. China will be widely regarded as having a highly functional Green Economy and a Green Development governance system fully in place.

75 WBCSD (2010) *Vision 2050. The new agenda for business*. World Business Council for Sustainable Development, Geneva. English edition. Chinese edition available.

76 PBL (2009) *Getting into the Right Lane for 2050. A primer for EU debate*. PBL Netherlands Environment Assessment Agency and Stockholm Resilience Centre. PBL, Bilthoven, The Netherlands

77 TIAS (2010). *A comparative study of Visioning-Backcasting Initiatives*. The Integrated Assessment Society. <http://www.tias.uni-osnabrueck.de/backcasting/>

- **By 2050, the coordination between environmental protection and economic and social development will be the norm, and much more reasonable levels of harmony between people and nature will be realized.** A “Beautiful China” with full ecological civilization will have been born. Most people will be housed in very liveable cities, but there will also be robust, ecologically-sound practices throughout the countryside and in China’s ocean and coastal areas. Indeed, most ecologically degraded landscapes will be restored. Climate change adaptation and mitigation measures will be helping to lessen the impacts of climate change. Energy use patterns will be radically different from today, with much less dependence on fossil fuels and with eco-efficient industry, transportation systems and practices.

Previous successful studies have shown that there is greater likelihood of success when any analysis starts with the vision, then reasons back. This allows the identification of the critical steps that must be taken in time in order to keep the vision within reach. The longevity of infrastructure and capital stock is a key factor as illustrated by the urbanization cases investigated by the Task Force (Xixian New Area in China and Randstad area in The Netherlands).⁷⁸

3.4.3 Policy fields and actions

In response to current and future challenges, finding a symbiotic balance between social development and environmental policies will be essential. Finding those synergies will not happen by accident, thus an organized and disciplined set of actions and actors are described below.

All actions can be seen through the perspective of three functions: developing an *awareness* of appropriate values and norms in society, supporting appropriate *behaviour* of citizens, enterprises and other social organizations and developing coordinated *governance systems*.

In terms of **awareness**, efforts should be made to establish values and norms compatible with an Ecological Civilization. By means of a combination of laws and regulations, dissemination and education, policies and measures, environmental rights should be identified explicitly as a right of citizens; and environmental protection and social development presented as a shared responsibility and a basic obligation of the whole society.

In terms of **environmental behaviour**, policy actions should be directed towards enabling and constraining the behaviour of public, government officials, enterprises and other social organizations. Incentive policies should be introduced to encourage public participation in environmental protection and dissemination of information and education should cultivate environment-friendly habits and conduct and build sustainable consumption patterns throughout the whole society. While environmental laws, regulations and standards are to be further improved and implemented, economic policies and incentives should be put in place to cultivate among enterprises better incorporation of the concept of corporate social and environmental responsibility. With the development of guiding policies, the government should inclusively support public environmental organizations, industry associations and communities and motivate a new pattern of broad participation in environmental protection and social development.

Various key roles are shown below in Figure 3-11.

In terms of the system of **public governance**, efforts should be made to improve legislation, social and environmental risk management, and the distribution and coverage of public services. In further developing the legal system, it is necessary to protect by legislation the public’s right to know about, participate in and supervise or monitor environmental protection activities. To this end, improvement is needed with respect to information disclosure, environmental hearings, environmental public interest litigation and environmental damage

⁷⁸ See CCICED Task Force Report, *Report on Environmental Protection and Social Development in China*. 266pp-272pp. In Chinese.

compensation systems. Where appropriate laws and regulations exist, attention should now turn to effective implementation. As already mentioned, environmental protection should be given equal importance alongside economic and social development.

Government	Business	Individuals and communities	Social organizations
Decision-makers from different policy fields and sectors together develop coordinated and flexible policies, so that social, economic and environmental policies operate in parallel, without conflicts.	Corporate environmental behaviour should meet the requirements of laws and regulations. Businesses shall be active in the decision-making process for environmental and social issues.	Actively adopt sustainable lifestyles Participate in environmental and social activities Avoid social conflicts caused by individuals or groups	Provide support for individuals and businesses to participate in environmental activities and safeguard environmental benefits Participate in government policy formulation and decision-making As a third-party, monitor the execution of environmental and social regulations and policies

Figure 3-11 Actions of the various players in governance

Efforts are needed to accelerate the formulation of social policies for environmental protection, and to establish a sound assessment mechanism for major social policies. Consideration should be given to creating an independent mechanism for environmental and social policy evaluation that could be related to environmental impact assessment as is done in some other countries. In respect of risk control, it is important to set up a social risk assessment mechanism for major environmental projects and improve public communication and appeal mechanisms. An improved emergency response mechanism should be put in place to cope with sudden environmental accidents. Communication, dialogue, and consultation between the government, businesses and the public should take place on a regular basis. With respect to public services, it is important to build trust and social capital by continuing to improve government openness and transparency.

The following framework (Figure 3-12) summarizes the most important coordinated actions to be carried out in eight policy fields over the next 35 years by various actors in order to achieve a vision of Ecological Civilization and a Beautiful China with harmony between humans and nature.

Stage One begins now and continues to the end of the 12th five-year plan. The focus during this period will be on building the appropriate infrastructure and support systems. Its main task will be to conduct thorough investigations of major environmental and social problems and policies, to establish a sound legal system, and to perform trial environmental and social policies in areas and fields where the conditions are right. Stage Two which is projected to coincide with the 13th five-year plan period until 2020 will focus on institutional improvement. The main task for this stage is to complete the development of parallel yet coordinated economic, social and environmental goals in a manner that ensures strength in all three elements. Stage Three will occur during the decade ending in 2030. This stage is committed to the completion of medium-term targets, that is, comprehensively solving environmental pollution problems, taking into account the contributions of appropriate social development so that environmental quality basically satisfies the health demands of the public, with stable and healthy ecosystems and restored ecosystem service functions. Stage Four, planned to conclude in 2050 should see the attainment of China's long-term goals, namely, securing the balance between environmental protection and economic and social development, establishing harmony between people and nature so as to realize an Ecological Civilization and a "Beautiful China."

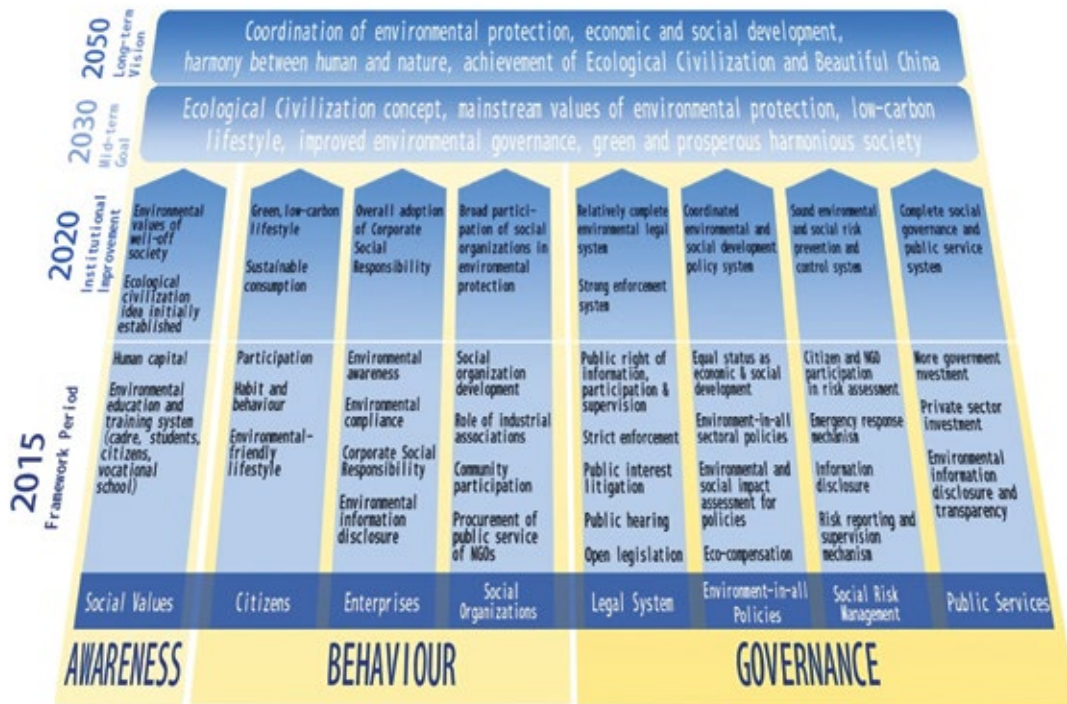


Figure 3-12 Policy and action framework

3.5 RECOMMENDATIONS AND CONCLUSION

3.5.1 Introduction

Developing an Ecological Civilization is an ambitious vision. Central to achieving it is the ability to strike a good balance among the objectives of economic growth, environmental protection and social development through coherent, coordinated and consistent policies. Thus far, in China and elsewhere, relatively little focus has been put specifically on the relationship between environmental protection and social development. The Vision 2050/Action 2020 framework presented in Chapter 4 is one way of addressing this deficiency. In particular, the framework would help to connect the long-term vision of an Ecological Civilization and a “Beautiful China” by the middle of the 21st Century with policy decisions and actions that are necessary in the near term.

Considering these near term issues, it was apparent to the Task Force that for some of these there is already sufficient evidence to recommend immediate action. These recommendations are described only in intent – the actual details of design and implementation were not the mandate of the Task Force. The Task Force underlines that any short-term initiatives should be considered part of a strategic shift and so they should be consistent with the overall vision. For example, environmental protection initiatives should carefully consider social impacts and any social development initiatives should identify and address their impact on the environment.

The Task Force also recognizes that there are relevant policies and practices that have already been proposed, for example in earlier CCICED reports. Not all are repeated here. However a number are included since they deserve greater attention and strengthened implementation.

3.5.2 Recommendations

Recommendation 1. Elaborate a 2050 vision of coordinated environment and development and develop a phased plan of policy and actions that will be essential in achieving that vision. (Vision 2050/Action 2020)

The overarching recommendation of the Task Force is to further develop a Vision 2050/Action 2020 framework that will guide actions over the short, medium and longer time frame in a manner that will genuinely coordinate the social, economic and environmental aspects of development in China. See Figure 4.3.

In particular, the proposed framework will be a tool to identify, among the many important challenges and opportunities, those near term policy steps that are decisive in determining whether the long-term vision can be reached (*'back casting'*). The Task Force recommends that the contents of this framework will be elaborated based on specific follow-up studies in a Chinese context. The next recommendations provide an initial list of issues to be addressed in these studies.

In addition to charting key steps over time, the proposed framework serves to highlight the various societal actors that need to be involved – not only the government. We have expressed this by clustering the following recommendations as addressing three dimensions. The first dimension is *awareness* aimed at establishing and enhancing norms associated with environmental protection and social development. The second dimension is *behaviours* – in particular, the behaviour of the general public, businesses and social organizations. The third dimension is *public governance*. See Chapter 4 for a graphical representation of the framework and a brief discussion of these three dimensions.

Recommendation 2. Promote social norms and values related to ecological civilization (*'Awareness' dimension*)

The development of social policy begins with and builds on values and social norms. The Task Force acknowledges that social values and norms related to Ecological Civilization in China are the foundation for the development of future policies and practices in environmental protection and social development. Therefore, it should be a priority to advance the understanding, early on, that a sound environment is basic to the welfare of citizens. To that end, it is important to emphasize both the environmental rights and basic obligations of citizens. The government's role in transparently producing and disseminating information is particularly important. Specific actions could include:

Developing education and training plans such as: (i) Improving cadre training by developing or appropriately modernizing an integrated environmental-social curricula for the party school system, colleges of administration and other training centres for cadres at all levels of government. (ii) Developing an educational initiative through China's vocational school system to ensure that groups that are socially disadvantaged such as the next wave of rural-urban migrants have the workplace skills to contribute to a sustainable modern urban environment. (iii) Investing in the future generation by incorporating basic environmental knowledge and sustainable development approaches within the school system and at universities.

Supporting conceptual and policy-oriented research on the development and implementation of the "five-in-one" system (economic, political, cultural, social progress and ecological civilization) emphasizing environmental values that are consistent with Chinese traditional moral and cultural philosophy.

Promoting values related to ecological civilization through extensive use of news media, Internet and other communication channels, recognition of positive activities on the part of individuals and organizations and the promotion of distinctive literary and artistic works and publications.

Assessing and communicating actively the potential social risks of environment developments. The Task Force recommends that the Government establish a trustworthy mechanism to implement a comprehensive approach to ex ante environmental and social risk assessment based on principles of openness and transparency and meaningful public access. In other words, the approach should go beyond mere disclosure.

Recommendation 3. Encourage all in society to exercise their appropriate roles **(‘Behaviour’ dimension)**

To address increasingly diverse and pluralistic social demands, all individuals and organizations in society should be encouraged to play their respective and complementary roles in a positive and cooperative interaction with government and businesses. Achieving the vision of simultaneous social development and environmental protection in China can be greatly accelerated by connecting to the energy and flexibility of players other than the government. Specific actions could include:

Advocating healthy and sustainable life styles. It will be necessary to foster lifestyles that are healthy, resource-conscious and that consider quality rather than quantity in consumption and personal mobility. Advocacy and education shall be used to promote a sustainable lifestyle and behaviours, including through encouraging leaders of social organizations, entrepreneurs and other public figures to play a demonstration role by pursuing a healthy and sustainable lifestyle.

Public participation. Public participation in decisions that influence daily life, health, safety and enjoyment is important for coordinating environmental protection and social development. This engagement will be contingent upon the protection and enhancement of the public’s right to know through disclosure of environmental information, the affirmation of environmental rights and interests of the public through the legal system and the encouragement of citizen participation in development and environmental planning, as mentioned in Recommendation 3. China’s large urbanization process offers a unique opportunity to make progress in this respect, for example through experiments with innovative, participatory planning.

Promoting acceptance by enterprises of their environmental and social responsibilities. The responsibility of enterprises to conserve resources in a socially and environmentally responsible manner should be encouraged, in a manner that mobilizes their creativity and innovation potential. This has the potential to dramatically reduce pollution and conserve resources, including energy, while strategically moving to longer-term business models. Obviously, this is contingent upon important improvements outside the scope of this Task Force, such as the establishment of sound economic policies putting in place true incentives for enterprises to move beyond environmental compliance to innovation. The Task Force also recommends development of an improved system of tracking corporate environmental impact assessments through independent oversight and public participation.⁷⁹ Similarly it is recommended to promote the active use by the financial industry of environmental and social norms for evaluating loans, insurance and the potential worth of enterprises. These norms should include enhancement of environmental and social standards for access to formal qualifications of listed companies in China.

Supporting the further development of environmental and social organizations. Social organizations should be enabled to contribute by serving as independent assessors and supervisors of development activities, protecting citizens’ rights, improving environmental and social awareness, conducting surveys, contributing to community activities, protecting nature and ecosystem services and offering advice and suggestions for policy formulation.

⁷⁹ Insights discussed during the study trip of the Task Force to Europe. See Schijf, B. and Boven, G. van, in: Strategic Environment Assessment in Development Practice. A Review of Recent Practice. 2012. OECD/DAC report 9789264166745 (PDF) ; 9789264166738 (print) DOI :10.1787/9789264166745-en. OECD, Paris. Also in “Views and Experiences nr 11, 2012, Netherlands Commission for Environmental Assessment”, downloadable from <http://www.eia.nl/en/publications>.

This would extend to a much wider range of social and business organizations than reflected in the current official registration in China. For example, trade associations have a potential role in environmental protection. It would be appropriate to consider policy change around registration of social organizations such as to easing restrictions on their ability to undertake activities across the environmental and social domains. Obviously, promoting the responsible partnership of non-profit environmental organizations is conditional upon conditions being created to overcome difficulties in registration, funds and social participation. Specific actions could include: (i) actively encouraging and guiding urban and rural communities to participate in environmental protection, for example, playing a role in publicity and mobilization, (ii) encouraging and enabling social organizations to actively participate in environmental impact assessment and social risk assessments of major projects that promote fair, impartial and transparent proposals as input to project planning, (iii) including environmental organizations in the bidding on government purchases of public services in order to establish a closer relationship between governments and social organizations, make up for the shortage of government's provisions of public services and enable social organizations to provide some public services.

Recommendation 4. Strengthen public governance ('Governance' dimension)

At the heart of realizing the vision of ecological civilization will be the development of a coherent and comprehensive set of legislative and policy actions by government, such as:

Establishing a highly functional environmental policy system. The Task Force recommends that the Chinese government sets out a strategy of simultaneously strengthening environment policy per se and also strengthening policy coherence on matters of environment and social development through the full breadth of its policies and institutions. International experiences from the environment and public health domains strongly suggest that a 'whole of government' approach is required to pursue these societal objectives with sufficient political power and at a credible scale.⁸⁰ At the same time, in view of the complex ecological and environmental problems in China, it is necessary to build a strong comprehensive policy field of environmental protection on an equal footing with economic and social policies. Specific actions could include:

- i. From the 13th FYP, the five-year plan of the Chinese government should be listed as the National Economic, Social and Environmental Development Plan, so that environmental policy and the associated planning will truly become a significant item in parallel with economic and social policies. Meanwhile, the National Economic and Social Development Report submitted by the Chinese governments at the National People's Congress and the Chinese Political Consultative Conference (NPC & CPPCC) would then also have been changed to the National Economic, Social and Environmental Development Report accordingly.
- ii. To support this point, the Government, represented by the Premier in order to underline the whole-of-government approach, should submit to the National People's Congress an annual report with equal emphasis on the economy, society and environment. The report should list the achievements made by the Government with respect to economic, social development and environmental protection for all Chinese citizens in three clear and separate sections. In this way the Government will demonstrate responsibility for environmental

⁸⁰ In particular, the World Health Organization, on the basis of worldwide examples, points out that strong support from the top policy level is always required to achieve effective coordination. It also suggests, by implication, that the period of increasing concern about China's environment and environment-related unrest provides a not-to-be-missed opportunity to embark on such a policy strategy. Obviously, the accountability that would be demonstrated by the Premier should find its way to other layers of government as well, but the Task Force focuses at the Premier to provide the strongest possible example. See (i) report of study trip Geneva and The Netherlands to be included in Long Report of the Task Force; (ii) Leppo, K. et al. eds. (2013) *Health in All Policies. Seizing opportunities, implementing policies.* Helsinki 2013. Publications of the Ministry of Social Affairs and Health 2013:9. ISBN 978-952-00-3406-1 (printed) ISBN 978-952-00-3407-8 (online publication) URN <http://urn.fi/URN:ISBN:978-952-00-3406-1>

protection in China and clarify the relationship between environmental protection and social development through the report. To be a fair and credible assessment, the report should cover achievements in the past year based on objectives that were set, using quantitative and qualitative indicators and measurements of success, as well as an assessment of the future significance of current developments and actions.

- iii. An environmental and social assessment mechanism should be established for major policies. An EIA traceability and accountability mechanism should be put in place to force EIA units and individuals to take responsibility for the assessments, and increase penalties for violations. Thus, *ex ante* policy impact assessments in the style of the European Commission would be a key instrument in pursuing policy coherence.
- iv. The environmental performance evaluation and government performance evaluation system should be improved, encouraging local governments to increase investments in environmental protection, by setting up a scientific evaluation system placing greater weight on environmental public services provided. The weight and therefore number of ecological environment and social development indicators should be gradually increased.

Recommendation 5. Establishing a sound mechanism to assess, communicate and mitigate the social risks of environment protection

The Task Force recommends that the Government put in place a comprehensive approach to environmental and social risk assessment. To be convincing, the approach should be based on principles of openness and transparency and meaningful public access. Fundamental to achieving an effective and trusted risk management approach would be the systematization of information. Specific actions could include:

- i. Establishment of a “pre-approval” system for major projects with environmental and social implications as well as policies and reforms involving public environmental interests to consider procedure legality, policy reasonability, program feasibility and appeal rights.
- ii. To win the understanding, trust and support of the public, solicitation and incorporation of their opinion should be undertaken in advance of decisions on major projects through seminars, public hearings and public notices. In particular National People’s Congress and Chinese People’s Political Consultative Conference industry associations and community or social organization representatives should be invited to review the social risk assessment reports.
- iii. Cadres who fail to strictly follow the assessment process should be seriously punished in cases of “evaluation failure” and policymakers who do not attach importance to risk assessment should be held responsible for this failure.
- iv. Building a more robust environmental emergency response mechanism should be given priority. Complete and operational contingency plans should be developed that clarify the conditions and timing when the response mechanism should be launched, as well as the personnel and equipment needed.
- v. The provision of timely and accurate information during environmental incidents is important, to avoid misleading and untrue reports, speculations and rumours. Full advantage should also be taken of new media platforms such as micro blogging to ensure more widespread and accurate knowledge of such incidents.

Recommendation 6. Improving the level of public environmental services

Public services regarding the environment are prioritized here as an opportunity to demonstrate that the government can meet the objectives of improving and protecting the environment and meeting the expectations of citizens regarding their health and well-being. Policy coherence in delivering environment-related public services

is particularly important during a time of rapid urbanization and significant change at the urban-rural interface that requires infrastructure planning and decision.⁸¹ Basic public service is provided by the Government to meet the essential needs of all citizens for survival and development. Basic human needs include clean water, unpolluted air and productive land. In addition to basic services, increasing attention is required for intangible services like institutional arrangements, standards and laws.⁸² Actions could include:

- i. Setting up appropriate coordination mechanisms to ensure access throughout China to public services. Development of appropriate scope and standards for basic environmental public services, such as placement of sewage treatment and garbage disposal facilities, clean water, clean air and tranquillity, environmental emergency response mechanisms, environmental information services, the public right to know and to supervise environmental actions.
- ii. Consideration of outsourcing certain public services. For example, social organizations can be mobilized for environmental monitoring and assessment and carry out “advocacy work” for improving environmental awareness
- iii. Gradually improving the proportion of spending on basic public environmental services. Measures should be taken to encourage multi-sourced financial mechanisms, better possibilities for cross-regional transfer and better incentives for private investment. In this way, local governments can obtain adequate funding for their social and environmental policies in line with differing regional needs.
- iv. The formation of a more complete ecological compensation mechanism for different functional zones should be pursued, so that ecological environmental protection can increase local revenues and benefit the local people living in ecologically significant areas.

3.5.3 Final considerations

The work of this Task Force was preliminary. Obviously elaborating the proposed framework will be a major undertaking. The Task Force recommends that several strategic studies on complex priority issues also be commissioned. These studies would involve more comprehensive analysis of previous international work and engagement with various societal actors. Three priority topics are:

Lifestyle and behaviour. A strategic study might be commissioned to explore the best alliances and an efficient package of government measures that would promote the shifts in lifestyle and behaviour that are necessary to achieve environmentally and socially sustainable outcomes. Experience abroad suggests that this is a long-term goal that is difficult to achieve. It also suggests that the direct role of government in influencing lifestyle and behaviour can only be modest, by current Chinese standards. Others, in particular social organizations and entrepreneurs, could be more influential in setting trends. Therefore, significant thought would have to be given to designing the necessary initiatives to be most effective and avoid unintended side effects. The study should advise on combinations of initiatives in education and communication policies with various ‘harder’ incentives such as changes to the fiscal system, taxes and resource pricing. The current CCICED Task Force on Consumption may provide guidance on this matter.

Legal underpinning for coordinated social development and environmental protection. It is a matter of urgency to explore how to address the sense of injustice in relation to environmental issues and unfair exposure to pollution.

81 See CCICED Task Force Report, *Report on Environmental Protection and Social Development in China*. 127pp-134pp, 218pp-243pp. In Chinese.

82 World Bank (2012) *China 2030. Building a Modern, Harmonious, and Creative High-Income Society*. Conference edition. World Bank and Development Research Center of the State Council, the People's Republic of China. World Bank, Washington DC.

For example, protest or ‘mass incidents’ occur in part due to a lack of alternative channels – often where the judicial system would not necessarily be appropriate or available as an option. An effective legal regime is built upon characteristics of integrity, authority and long-term consistency. The legal basis for environment policy as well as the system for expressing complaints are undergoing major revisions at the time this report is being written. It is therefore recommended to evaluate as soon as possible what the current changes mean in the light of the framework of Vision 2050/action in four stages. At this point in time, key aspects for the evaluation seem to include: the balance between judicial and administrative channels to express complaints, the system of participation during the actual revision of the law, including the system of public notification of intended changes, the system of handling and responding to opinions expressed and the system of legislative hearings and, last but not least, the impact of the changes on feelings and opinions of injustice.

Financial resources required for implementing the twin mandates of environment protection and social development. The highly decentralised fiscal system in China creates challenges and opportunities to build and optimize the positive relationship between environmental protection and social development. It creates structures and incentives that undermine the government’s capacity to implement its vision. Even when there is a policy statement of coordination in mandates, there is not always a financial allocation mechanism that provides an appropriate level and timely flow of financial resources to various levels of government to fully implement the mandate. Moreover, in current large urbanization projects it happens that late central interventions, for example in land allocation, put a strain on the projects finances and therefore on the envisaged long-term combination of environmental, social and economic objectives.⁸³ Thus, a strategic issue is to understand these challenges on the basis of objective information and good analysis. The recommended study can show where the real commitments are to the implementation of the government’s vision.

3.5.4 Conclusion

China is facing enormous challenges at present, including economic restructuring and rapid innovation in policy and governance. These also provide rare opportunities to explore the relationship between environmental protection and social development. Understanding this relationship will allow China to better develop effective policies that will avoid unintended consequences and maximize the potential for successful outcomes. The achievements made by the Chinese government in these areas will attract attention from many other nations and international organizations.

Acknowledgments

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As part of the research process, Task Force meetings were held in Beijing, Xi’an and the Netherlands. A study tour was conducted and the Task Force thanks the hosts in the Netherlands and Switzerland for organizing meeting and visits to sites, relevant research units and government departments.

This report was submitted by the Task Force on Environmental Protection and Social Development

⁸³ See CCICED Task Force Report, *Report on Environmental Protection and Social Development in China*. 218pp-243pp, 266pp-272pp. In Chinese.

CHAPTER 4

SUSTAINABLE CONSUMPTION AND GREEN DEVELOPMENT

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SUMMARY OF KEY FINDINGS

Chapter 1 of this report provides definitions of Sustainable Consumption (SC) and Green Development (GD). It was identified that SC is a central component of any Green Development strategy. Furthermore, SC is closely aligned with China's unique approach of creating an Ecological Civilisation and is important for China's on-going urbanisation process. As China's emerging urban middle class will become the main driver for economic growth over the next decades, SC needs to be integrated into urban development strategies to ensure that the urbanisation process will be a sustainable one. SC will also be an important component to finding solutions for the current environmental challenges of China's cities. Furthermore, SC can be an approach to bridge the gap between the rich and poor and differences in living standards between urban and rural areas.

Chapter 2 looks at existing laws and policies in China and how SC is reflected in them. The Task Force found that SC has been on the Chinese policy agenda as early as China's Agenda 21 and that a number of policies aim at promoting SC. However, a systematic policy approach that strongly pushes for SC could not be identified. Such a policy approach would include an overarching framework and perhaps a national action plan. Chapter 2 concludes with a number of opportunities for China that would result from making SC a policy priority, including low-carbon urbanization, changes in household and individual consumer behaviour, innovative business models, high-quality green products, enhanced international competitiveness and enhanced opportunities for social development among others.

Chapter 3 provides an overview of international experiences on SC and their relevance for China. It identifies the current unsustainable consumption patterns of the industrialized countries as too high, which should not be taken as examples to follow. A range of policy approaches are being applied in various countries to address the issue of high ecological footprints. Best practice policy approaches include Action Plans for SC, stringent product certification and labelling systems, independent comparative product information and testing, local consumer advisory centres, the development of indicators for SC, local community pilot initiatives and the engagement of the retail sector.

SUMMARY OF KEY RECOMMENDATIONS

Chapter 4, the final section of this report, provides a set of policy recommendations. The recommendations are presented in three thematic clusters: Recommendation 1 proposes to integrate sustainable consumption into national political and socio-economic development frameworks, Recommendation 2 advises to enable institutional innovations for SC in the administrative system and society and Recommendation 3 encourages initiating multi-stakeholder partnerships for SC.

The Task Force concludes that to successfully promote SC in China, the government should take an overall strategic approach. Strategic goals should be formulated and gradually carried out to integrate with China's medium-term and long-term social and economic development planning, as well as with the existing resource management and environmental policy objectives under the 12th Five-Year Plan (FYP).

Furthermore, measures to establish SC patterns need to be differentiated according to different development levels of Chinese regions. They need to reflect the high level of development and the already high consumption levels of China's eastern regions and major cities, the low level of development of Western and Central China and the urgent needs of China's rural people — many of whom eventually will become higher-income consumers in urban settings.

It is recommended to feature SC prominently in the 13th FYP (2016-20) and to include SC into existing legal frameworks, particularly the Environmental Protection Law, the Consumer Rights Protection Law and the Public Procurement Law. The recommendations provided address three levels including macro level political frameworks, meso level policies for smooth implementation and specific initiatives and action items to be initiated on local levels. It is further recommended to initiate a SC Roadmap Process and Action Plan in order to establish a solid basis for SC over three stages: now until 2015, until 2020 and after 2020. Furthermore, policies should target specific consumption domains with the highest impacts, namely housing, mobility and food. SC should also become integrated into China's low-carbon urban development strategies.

Concerning the necessary institutional innovations in the administrative system and society, the Task Force recommends the establishment of an inter-ministerial cooperation mechanism and working group on SC. Of high importance is the need to enhance the credibility and independence of China's product certification and labelling systems. Furthermore, the initiation of pilot projects for SC on local level is recommended to generate practical experiences for scaling-up. Indicators for measuring progress towards SC should be developed and used. Regarding multi-stakeholder partnerships, which will be necessary to bring about the required socio-technical innovations, it is recommended to focus on the following: building capacity on the part of local governments to establish local SC practices, engaging the private sector (particularly retailers and financial institutions), enabling civil society initiatives and public participation and collaborating more closely on SC with the international community.

In addition, concerning the demand area of mobility, the Task Force strongly supports the recommendations provided by the Task Force on Green Commuting.

INTRODUCTION

It is reasonable to expect that the impressive economic growth that China has experienced over the past three decades will continue in the foreseeable future as the country continues to urbanize and rebalance its economy. The traditional economic development model, based mainly on exports and investments, is set to shift significantly in favour of increased domestic consumption. This realignment will be an opportunity to further improve the resource use and energy efficiency of China's economy. Furthermore, boosting domestic consumption could contribute to the achievement of a moderately well-off *Xiaokang* Society by increasing quality of life and contributing to the creation of a socially just and politically stable "Beautiful China" (*mei li zhongguo*).

There are encouraging indications that China is revising its course so that it can continue its economic and social development reform process and move towards pathway of sustainable urbanization. The concept of an Ecological Civilization was added to the CPC constitution during the 18th National Congress of the Communist Party of China (CPC), which has catalysed numerous national initiatives to facilitate the advancement of a circular economy as well as the design of low-carbon technologies and cities. The relationship to China's urbanisation process has also been noted in China's 2013 UNDP Human Development Report: *China is revising urban planning policies and implementing important new initiatives to focus them more on sustainable development in the midst of continued economic expansion... Resource consumption, energy security and critical environmental issues are increasingly integrated in urban planning.*⁸⁴

However, sustainable urbanisation and Green Development cannot be achieved only through technological solutions without paying great care to avoid unsustainable consumption patterns. China's recent experiences with worsening urban air pollution and increasing municipal solid waste in many major cities are, to a large degree, direct results of unsustainable consumption practices. These include the soaring use of private automobiles, fast growing energy consumption of buildings and lack of waste separation at the household level. Seeing as China's new urban middle classes will become the main driving engine for China's future economic growth, it is necessary to integrate Sustainable Consumption into the urbanization process. This means that consumers will opt for high-quality green goods and services with low environmental impact instead of spending on resource and energy intensive goods and services with little social benefits. Another challenge concerns China's rural citizens who will need to benefit from the next phase of China's economic growth by increasing their levels of consumption.

The benefits of establishing as early as possible the conditions for Sustainable Consumption patterns in conjunction with urbanization are numerous. In addition to solving the immediate environmental issues and health concerns of Chinese citizens, Sustainable Consumption will also be a driver for innovation and experimentation. It will be a driver for education and health services and create important economic and trade benefits. The shift towards sustainable green products will bring new advantages to China's export economy, and simultaneously reduce China's dependence on foreign imports.

This report introduces and discusses the concept and practical approaches of Sustainable Consumption, its relationship to Green Development, sustainable urbanisation and the resulting implications for China. Chapter 1 introduces the principles and definitions of Sustainable Consumption and Green Development and the consumption challenges that China is facing. In Chapter 2, the current status of policies for SC in China is described and existing gaps, challenges and opportunities are identified. Chapter 3 provides a summary of the most relevant international experiences in the area of SC, including policy instruments and best practice examples. Chapter 4 provides a list of detailed recommendations for the Chinese government on how to successfully foster SC before China's emerging consumers become locked-in to unsustainable consumption patterns.

⁸⁴ UNDP China. 2013. *China National Human Development Report 2013. Sustainable and Liveable Cities: Toward Ecological Civilization*. UNDP: Beijing

4.1 PRINCIPLES OF SUSTAINABLE CONSUMPTION AND PRODUCTION

4.1.1 Definitions of Sustainable Consumption (SC)

The concept of Sustainable Consumption was first formulated at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992 and has been further refined over the following 20 years. Numerous countries (especially in Europe) have prepared Sustainable Consumption action plans and identified both macroeconomic and household-level interventions to achieve quantitative reductions in resource use. Governments have been compelled by the desire to reduce greenhouse gas emissions, enhance competitiveness by limiting dependence on resource-intensive products and services and to improve quality of life by breaking the linkage between consumerism and perceived well-being. The United Nations Environment Program (UNEP) launched a 10-Year Framework of Programs on Sustainable Consumption and Production (10YFP) in 2013. Since then, various regional country-groups have been working to design geographically tailored Sustainable Consumption strategies.⁸⁵

These activities at national, regional and international levels are evidence of committed interest in Sustainable Consumption and have inspired a variety of different definitions of the concept. A particularly notable one was formulated in the United Nations' *Guidelines for Consumer Protection (2003)*:

Sustainable Consumption includes meeting the needs of present and future generations for goods and services in ways that are economically, socially and environmentally sustainable... Governments should promote the development and implementation of policies for Sustainable Consumption and the integration of those policies with other public policies... Governments, in partnership with business and relevant organizations of civil society, should develop and implement strategies that promote Sustainable Consumption through a mix of policies that could include regulations, economic and social instruments,... removal of subsidies that promote unsustainable patterns of consumption and production.

Green Development is closely connected with efforts to foster SC. As early as 2002, the UNDP-China⁸⁶ provided valuable insights into the definition of Chinese Green Development. The Report suggested that *Green Development stresses unified and harmonious development of the economy and environment, a positive path of people-centered sustainable development*. The notion that it should be people-centered development makes a particularly strong connection to SC.

4.1.2 Consumption challenges facing China

Linking SC and Green Development highlights China's unrelenting demand for energy and materials. This idea also offers a way to alleviate pressure on global resources in a way, as illustrated by the following examples, that is consistent with Chinese preferences.

First, SC in the building of new housing can reduce China's growing need for primary metals, steel, timber and concrete in urban construction. SC principles applied in the usage of edifices will considerably reduce energy, and thereby China's coal and electricity consumption.

⁸⁵ The activities of the Asia-Pacific Roundtable on Sustainable Consumption and Production are particularly prominent. Refer to <http://www.aprscp.net>.

⁸⁶ UNDP China. 2002. *Making Green Development A Choice. China's 3rd National Human Development Report*. Available at: <http://hdr.undp.org/en/reports/national/asiathepacific/china/name,2761,en.html>.

Second, promoting SC in mobility patterns could substantially reduce China's oil consumption which has been rising exponentially since 1990. Currently oil consumption exceeds 10 million barrels per day and is expected to grow by a further 50% by 2030⁸⁷.

Third, China's emphasis on household goods and their energy and material efficiency is already one of the best efforts at providing better product choice to consumers — but more needs to be done. Establishing SC patterns in the demand for food, will contribute to both food security and food safety as well as lowered demand on the environment including the use of air, water and soil. China is already the world's top consumer of wheat and rice. Another trend is the increasing dietary reliance on beef and pork.

China's per capita usage of natural resources is increasing rapidly. Though the average per person has not reached the same levels as the United States, Europe and other industrialized countries, this rapid increase is still of major concern. China first exceeded the world average for per capita domestic material consumption in 1995, and by 2008 was consuming materials at a rate over 160% of the world average.⁸⁸ This also demonstrates China's rapidly growing per capita ecological footprint.⁸⁹ In some urban areas, parts of the population are major consumers.

Current and on-going efforts to restructure the Chinese economy may cause these trends to worsen. The country's economic transformation to reduce its dependence on public infrastructure investment and production for exports while increasing domestic consumption creates an urgent need to ensure that the emphasis is on *sustainable* consumption.

It is projected that by 2030 China will have the largest population of consumers in the world, with an urban middle class of over half a billion people.⁹⁰ While this transition is arguably necessary to balance the national economy, the sweeping changes that it entails will create new — perhaps even unprecedented — resource demands, especially in household-energy use, transportation and food consumption. In order to manage these trends, the government has set ambitious targets to enhance efficiency. However, the pace of these improvements will likely be inadequate to offset more than modest increases in consumption.

Overall resource use will continue to rise, perhaps quite markedly over the next several decades. Enhanced efficiency will likely lower the price of resources that may spur more consumption. China's commitment to reduce its economic reliance on infrastructure development and labour-intensive manufacturing and to instead foster mass consumption, will require a diverse array of interventions to minimize potential adverse consequences.

The absence of full coverage in retirement pensions, medical insurance and public education in China has led to high levels of savings in urban households. During 1996-2009, disposable income increased from 19 to 30 percent.⁹¹ The inclination to save, combined with exceptionally high rates of public investment and production of exports, has led to what many economists consider 'insufficient consumption' as a proportion of gross domestic product (GDP).

The Chinese government is enhancing pensions, improving access to health care and good education, while encouraging household spending. These initiatives increase access to middle-class lifestyles and are expected to stimulate consumption. China will partially replace its reliance on exports to other countries with newly emboldened domestic consumers. The absence of policies which mitigate the social and environmental impacts of more an increase of private cars, air conditioning and materialistic lifestyles could prove to be overwhelming. The likelihood of these

87 BP. 2013. *BP Energy Outlook 2030*. Available at: www.bp.com/statisticalreview

88 UNEP. 2013. *Recent trends in material flows and resource productivity in Asia and the Pacific* Available at: <http://www.unep.org/pdf/RecentTrendsAP%28FinalFeb2013%29.pdf>

89 WWF-China. 2012. *China Ecological Footprint 2012 Report*. Beijing: WWF-China.

90 See, for example, J. Woetzel, X. Li, & W. Cheng. 2012. *What's Next for China?* Shanghai: McKinsey and Company.

91 International Monetary Fund. 2011. *Targets, Interest Rates, and Household Saving in Urban China*. IMF Working Paper. WP/11/223.

outcomes suggests the need to formulate a Sustainable Consumption policy program with short, medium and long-term objectives. In the short term, consumers must be encouraged to purchase and use energy efficient products that are not resource-intensive. Over the medium to long term, lifestyles should adapt to using dematerialized services and shared goods rather than accumulating more consumer goods.

4.2 SUSTAINABLE CONSUMPTION POLICIES AND TRENDS IN CHINA

Frugality and modesty have traditionally been regarded as virtues in Chinese culture. These sensibilities are reflected in the country's savings rate which is among the highest in the world. China has entered a new development stage and the combination of its large population and increasing prosperity is driving energy and material consumption to new levels. The consumption levels of private households for both urban and rural residents, but particularly the urban middle classes, will continue to increase. This trend will not only influence the economy, society, resources and environment of China, but will also significantly influence consumption and production around the world. Enabling the establishment of a SC strategy and framework from the outset is therefore crucial for the success of China's new economic reform. The following section will provide an overview of the current status of SC related policies, the existing policy gaps for successfully promoting SC and the challenges and opportunities for SC in China.

4.2.1 The status of current policies with relevance for SC in China

The concept of SC has already been featured in some policies, which promote China's sustainable development. An overview is provided below:

In *China's Agenda21*, released in April 1994, China began to draw attention to the need for the country to *establish a Sustainable Consumption pattern*. China was one of the first countries to propose SC and this development occurred at approximately the same time as UNEP began to formulate its first efforts in this area. At the Fourth National Conference on Environmental Protection in 1996, President Jiang Zemin emphasized two "insistences" for sustainable development. The first insistence was to *save water, land, energy, material, grains and other resources*. The second insistence focused on *taking the virtuous circle of the biological environment as foundation* and it became the guiding thought for promoting SC in China.

The 2005 Resolution on Implementing the Scientific Outlook on Development and Strengthening Environmental Protection by the State Council stated that *in the consumption link, the government should vigorously advocate an environmentally friendly consumption pattern and implement environmental labelling, environmental verification and government green purchase system*. In June 2007, the National Development and Reform Commission developed the National Action Plan on Climate Change. This document advanced the objective of *enhancing the whole society's awareness of energy efficiency, accelerating the construction of resource-conserving society and slowing down the emissions of greenhouse gases*.

Also in 2007, the 17th National Congress of the Communist Party of China (CPC) set the goal of creating a well-off society that would include building an ecology-conscious culture and formulating a new consumption pattern. The CPC Central Committee for formulating the Eleventh Five-Year Plan (FYP) stated that the government should promote greater awareness in economizing, encourage the production and use of fuel-efficient automobiles and products conducive to energy and water conservation, develop energy-and-space-saving constructions and develop consumption patterns that use resources efficiently.

The 18th CPC National Congress in 2012 emphasized that China should drive economic growth by increasing its consumption capacity. The Congress suggested that consumption become one of the top three drivers for economic

growth. At the same time, it was proposed that China should simultaneously promote *a resource efficient and environment-friendly lifestyle, improve people's consumption rate, increase the incomes of urban and rural residents and release the consumption potential of the residents*. In the 12th FYP, China's government mentioned the concept of green consumption as an approach to promote Green Development. To summarize, SC is in various ways, part of China's sustainability agenda, but is not yet incorporated in a comprehensive and consistent way.

In recent years, in addition to macro-level guidance frameworks, the implementation departments of the State Council have issued several policies related to stimulating SC. These include the financial subsidy policy for new energy, the investment policy for energy-saving service industries, the establishment of a fund for the development of renewable energies, the provision of subsidies for alternative fuel (mainly electric) automobiles and the adjustment of taxes for passenger cars. A detailed overview is provided in Table 4-1.

Table 4-1 Selected laws and support policies for Sustainable Consumption in China

Title of law or policy document	Enacted/Issued by	Time
Environmental Protection Law	National People's Congress	1989
Law on the Protection of Consumer Rights and Interests	National People's Congress	1994
Government Procurement Law	National People's Congress	2003
Energy Conservation Law (revision)	National People's Congress	2008
Notice on reducing the consumption tax on passenger cars with low pollution emissions	Ministry of Finance	2003
Notice on encouraging the development of the energy-saving and environmentally-friendly automobiles with small emissions	[State]General Office	2005
Implementation plan for pilot work of sales of appliances in rural areas	Ministry of Finance and Ministry of Commerce	2007
Notice on implementing pilot of subsidy to personal purchasing of new energy automobiles	Ministry of Finance	2010
Notice on adjusting and improving consumption tax policy of the State Administration of Taxation	State Administration of Taxation	2006
Notice on distributing the promotion of the financial subsidies of high-efficiency lighting products (first group)	Reform and Development Commission	2008
Notice on implementing the 'people-benefit project with energy-saving products'	Ministry of Finance and the Reform and Development Commission	2009
Notice on adjusting the financial subsidy policy of energy-saving air-conditioners	Ministry of Finance	2010
Notice on further implementing the energy-saving and new energy automobile demonstration and promotion	Ministry of Finance	2011
Rules of implementing the people-benefit project of promoting high-efficiency and energy-saving flat-panel TV	Ministry of Finance	2012
Rules of implementing the people-benefit project of promoting high-efficiency and energy-saving refrigerators	Ministry of Finance	2012
Rules of implementing the people-benefit project of promoting high-efficiency and energy-saving electric washing machines	Ministry of Finance	2012
Rules of implementing the people-benefit project of promoting high-efficiency and energy-saving water heaters	Ministry of Finance	2012

These policies demonstrate that to date, the Chinese government has been primarily using financial incentives to encourage the consumption of more energy-efficient products. For example, the *Implementation Plan for Pilot of Appliance Sales in Rural Area* issued by the Ministry of Finance and the Ministry of Commerce has stipulated that financial subsidies shall be provided at a rate of 13% of the sales price of relevant household appliances, 80% of which are provided by the central government budgets while the remaining 20% are contributed by the local government budgets. Further details are listed in Table 4-2.

Table 4-2 Subsidies for household appliances and their effects from 2007 to 2013

Programme	Appliance sales in rural areas	“Get new appliance for old one”	Energy saving and people-benefit project
Time frame	2007.12 Start 2013.01 End	2009.06 Start 2011.12 End	2012.06 Start 2013.05 End
Items	TVs, refrigerators, washing machines, air-conditioners, mobile phones and PCs	TVs, refrigerators, washing machines and air-conditioners	Flat-panel TVs, refrigerators, washing machines and air-conditioners
Subsidy limit	13% (with upper limit)	10% (with upper limit)	RMB 70-600/set
Effect	298 million appliances were sold in rural areas, totalling RMB 720.4 billion.	92.48 million sets of appliances were sold, totalling RMB 342 billion	Driving the sales of the energy-saving appliances, totalling RMB 250 billion

Another important piece of legislation is the *Government Procurement Law*, which was issued in 2003 and establishes a legal framework by government entities for green purchasing. As of 2012, 12 energy-saving products and 12 products with an environment label have been issued. Some central and local government departments have gradually implemented green procurement practices and the scale has been regularly expanded. This policy has had some impact on the consumer behaviour of public authorities, but sustainable procurement practices have not yet become mainstream.

Government statistics suggest that during the 11th Five-Year period, the central and local governments spent RMB 272.6 billion on energy-saving and environmentally-friendly products. This accounted for 65% of total government procurement. Many local governments have increased awareness about sustainable practices among the public and in the private sector. Strategies used for companies have included training enterprises to establish green supplier databases, evaluate the enterprises participating in green government procurement activities, guide and encourage enterprises to improve the quality of green products and promote the supply of green products.

Box 4-1 Green government procurement and green supply chains in Tianjin

The Tianjin Municipal Government Procurement Center has been conducting compulsory or prioritized procurement of the products listed in the *Energy-Saving Products List for Government Procurement* and the *List of Products with Environmental Label for Government Procurement* strictly in accordance with regulations. Furthermore, it actively engages with stakeholders such as businesses and other local procurement centres in China to develop and apply a set of well-developed and workable standards and systems for public green procurement. In addition, a Tianjin International Trading Center for Green Products is under development.

4.2.2 Deficiencies of existing policies promoting SC in China

It has been almost 20 years since China first articulated a need to establish Sustainable Consumption patterns. However, SC as a strategic approach to sustainable development has neither been integrated into national development plans and major laws nor has it been systematically instituted into national policy frameworks. SC has yet to become a well-recognized part of industrial reforms and innovative policy programs. Compared with technological approaches to pollution control and energy efficiency, SC has played a relatively minor role. Consequently, SC has not been leveraged as an incentive for enterprises to provide greener products and it has not been used as a priority to shape the behaviour of consumers.

Furthermore, existing policies related to Sustainable Consumption do not sufficiently consider differences in China's regional economic development - most notably the comparatively lower consumption in the Western part of the

country and higher levels in the Eastern part. Policies regarding consumption have not balanced the needs of poor rural residents or moderated the impacts of relatively affluent people in urban areas.

One reason for limited effectiveness in promoting SC to date is that levels of consumption are not key features in legislation. For instance, the current Environmental Protection Law makes no mention of the concept or how SC policies could effectively be used to reduce industrial pollution and protect natural resources. The Consumer Rights Protection Law neither includes any provisions on the rights of consumers to green products nor provides guidance on how consumers can take responsibility for their choices. Furthermore, these laws do not make the link between access to affordable ecological products and consumer rights.

SC policy also lacks effective enforcement. For example, the Government Procurement Law from 2003 has not been fully effective in popularizing the choice for sustainable goods by public authorities. Product-selection criteria and the development of procurement practices lag behind and cannot fully steer the public into choosing to make sustainable purchases. In addition, the consumption of green products is still only voluntary for local authorities. Mandatory product standards have improved over the last decade but they also lack effective enforcement. Food safety continues to be a hot-spot in China even though the legislation and food-safety standards have been in force for many years. The current system to ensure transparent and trustworthy product information and certification remains deficient.

To secure the implementation of Sustainable Consumption in China, proper institutional support and structures are needed. The national government must assign clear responsibilities to the multifarious stakeholders involved in Sustainable Consumption: local government agencies, businesses, industries, nongovernmental organizations, research institutes and the public. The awareness and education on SC, especially among the future generation of consumers, is not yet a strong enough part of China's regulatory and policy landscape, but is mainly promoted by the media and civil society. China's official national consumer associations lack capacity and have not yet made strong enough efforts to promote SC.

4.2.3 Challenges for promoting SC in China

At present, consumption per capita in China is the lowest among large economic powers. Consumption accounts for only 36% of China's gross domestic product (GDP) and is half of American consumption and two-thirds that of Japan and the European Union. Between 2000 and 2011, China's consumption rate as percentage of GDP of both urban and rural residents dropped from 46.4% to 34.4%, which is a reduction of 11.6%. The detailed numbers are displayed in Table 4-3. The reason for the drop is not a decline in absolute consumption, but the very high growth rates in investments with which domestic consumption could not keep up. Promoting SC as strategy for sustainable economic growth will therefore also need to take on the challenge of curbing unsustainable investment.

Table 4-3 Change of consumption rate as percentage of GDP for rural and urban residents in China between 2000 and 2011 (%)⁹²

Year	Consumption rate of rural and urban residents	Consumption rate of urban residents	Consumption rate of rural residents
2000	46.4	31.3	15.3
2001	45.2	30.7	14.5
2003	41.7	29.7	12.0
2005	37.7	27.6	10.2
2007	35.6	26.5	9.1
2009	33.9	27.7	8.5
2011	34.4	27.0	8.0

At the same time, the consumption power of both rural and urban residents has increased substantially in recent years. From 2006 to 2011, the annual per capita disposable income of urban residents increased from RMB11,760 to RMB 21,810, an increase of 115%, while that of rural residents increased from RMB 3,587 to RMB 6,977, an increase of 105%.⁹³ Despite these marked improvements, the gap between urban and rural consumption levels remains significant. Therefore, the challenge for policy is on one hand to continue to increase the consumption levels and living standards of the rural population according to SC principles while reducing the already high ecological footprint of urban consumers by shifting their consumption patterns.

Fostering SC requires a multi-stakeholder approach because of the need to involve the government, businesses, academics, civil society organisations, communities, households and individual consumers. The challenge is to mobilise these different stakeholders. In China, the role of communities and consumers in such processes remains weak, but their involvement is crucial to the process of shifting the country onto a SC trajectory. Consumers are increasingly concerned about environmental, social and economic issues, and are willing to act on these concerns. Obstacles including the availability, affordability, convenience, product performance, conflicting priorities, scepticism and force of habit of consumers do not directly translate into changes in behaviour.⁹⁴

Furthermore, business must participate in the conception and promotion of sustainable products and lifestyles. Platforms which would support SC have not yet been established as a regular and powerful base. Leading industries such as the food and building sectors have the capacity to mainstream SC towards safe and ecological food and energy efficient buildings. Businesses need to be encouraged to eliminate unsustainable and unsafe products through stricter product standards and regulations. They must also be supported so that they can provide greener goods and services through market-based mechanisms and supplementary voluntary actions.

4.2.4 China's opportunities for SC

Major opportunities were identified to advance SC in China:

- i. By reducing the gap between rural and urban lifestyles, SC can contribute to bridging disparities between rich and the poor, thereby contributing to social equity and to helping China realize the establishment of a Harmonious Society. Enabling access to green and safe products (see Box 4-2) for China's emerging urban consumers and rural population will contribute to enhanced satisfaction.
- ii. Mainstreaming sustainable public procurement practices will be a crucial driver for upgrading consumption practices and greatly increasing the share of green products in the market. The basis for effective sustainable public procurement by the Chinese administration is already established and best practice examples exist. These must now need to be scaled-up to become business-as-usual practices across China.
- iii. Linking SC and China's rapid urbanization is essential, since it is the emerging middle class of cities of all sizes and in all parts of the country that will make the crucial difference in whether SC practices become widespread. Specifically, low-carbon urbanization will enable China's new urban residents to practice SC from the outset. By developing policy interventions that integrate SC and low-carbon urbanization, it will be possible to reduce lock-in effects related to problematic transportation infrastructures and energy-inefficient residential buildings. SC will also stimulate innovative low-carbon approaches to urban design and new forms of communication and individual mobility. SC can be deployed as a way to reduce the growing volume of

93 Data source: 2012 *China Statistical Yearbook*

94 World Business Council for Sustainable Development. 2008. Sustainable Consumption Facts and Trends: From a Business Perspective. Geneva: WBCSD.

municipal solid waste. By fostering sustainable food consumption, which accounts for as much as 50% to 70% of the solid-waste flow in many Chinese cities, and establishing food-waste collection for food-to-energy generation or composting, the need for new landfills and incinerators can be greatly reduced.⁹⁵

- iv. Setting advanced green standards for goods and services, resource use and energy efficiency, as well as developing a trustworthy certification system for ensuring product quality, go hand in hand. If well formulated and enforced, these measures could contribute greatly to increasing product quality, reducing environmental impacts, making Chinese products more competitive in the international market and enhancing the quality of life for Chinese consumers. They would build trust in government-supervised regulatory systems. There is also a role for enhanced public participation in the independent third-party supervision of green product standards and comparative product testing. Furthermore, in addition to government regulations, public awareness campaigns to advance SC are required so that the public can be actively involved.
- v. Expanding the market for green products will open new economic opportunities. It also will expand the share of green consumption in the GDP. Sustainable Consumption necessitates the creation of innovative business models that improve resource efficiency and that shape consumer behaviour in a sustainable direction by providing better choices. SC will also increase opportunities for green job creation. Businesses taking a leadership role in promoting sustainable patterns of production and consumption and meeting societal needs within ecological limits will be very well positioned in the future to pursue opportunities within China and in export markets through China's *Going Out* strategy. Business can reach these goals through responsible environmental management, which will lead to enhanced competitiveness and more profitable operations.
- vi. SC also has an international dimension and offers China the opportunity to shape up its international image. Moving quickly on SC will enable China to become a leader on issues of immense importance to global and regional trade and investment, and, if it desires, to help drive Green Development and Ecological Civilization globally.

Box 4-2 Community-based organic agriculture and eco-tourism in rural Sichuan

Anlong village is a farming community, located about 30 km to the west of Chengdu city. Since 2005 farmers have successfully started a transition towards 'ecological food production'. The practices applied are basically the same as organic farming, though organic certification is currently still too expensive for small farmers in Anlong. A program was introduced to recycle as much as possible, including human waste. 160 composting toilets have been installed together with 160 household bio-digesters. Communal gardens were set up so that Chengdu urbanites and their families can plant and maintain their own organic vegetable gardens with the help of the local farmers. This addresses the needs for organic food and interaction with nature of Chengdu residents. Teahouses, small restaurants and home stays have been established. Local food processing businesses are showing a strong interest in locally-produced 'ecological food'.

4.3 INTERNATIONAL EXPERIENCES AND INSPIRATION FOR SUSTAINABLE CONSUMPTION IN CHINA

This chapter provides an overview of the most relevant international experiences and best practices for SC as well as a comparison of different consumption patterns and their environmental impacts. After this technical introduction, international developments and policy instruments for SC are summarised, followed by experiences from several regions including the EU, Japan, North America and Latin America. Chapter 3 concludes with a summary of approaches that are deemed to be very relevant for China.

⁹⁵ Tai, J., W. Zhang, Y. Che, and D. Feng. 2011. Municipal solid waste source separated collection in China: A comparative analysis. *Waste Management* 31(8):1673

4.3.1 Global consumption patterns

The effects of consumption on the economy, environment and society become increasingly important. For this report we selected three indicators—per capita ecological footprint, per capita ecological carrying capacity⁹⁶ and per capita carbon-dioxide (CO₂) emissions — to demonstrate the effects of current consumption patterns in different regions. In 2008, the global average per capita ecological footprint⁹⁷ was 2.70 global hectares (gha), while the global per-capita ecological carrying capacity declined to 1.70 gha. The WWF data show that ecological per capita footprints of countries vary greatly. For instance, the USA had a per capita footprint of 7.19 gha, while that of Germany was 4.57, Japan, 4.17, Brazil, 2.93 and China was 2.13. Countries with ecological footprints within the carrying capacity, such as Nepal (0.76) or Kenya (0.95) struggle to meet the basic needs of their population. Likewise, the per capita CO₂ emissions in the world stood at 4.44 tonnes in 2010, but are not distributed equally. The CO₂ emissions of the United States was 17.3 tonnes per capita, Canada was 15.7 tonnes, Germany was 9.3 tonnes, Japan was 9 tonnes, China was 5.4 tonnes, Brazil was 2 tonnes, Nepal was 0.1 tonnes and Kenya was 0.2 tonnes. Although the per capita CO₂ emission in China are low compared to the US and Canada, they are already on par with European countries like Sweden (5 tonnes) and Switzerland (5.6 tonnes).

Based on these indicators it is possible to differentiate four types of consumption patterns: Excessively high consumption patterns, high consumption patterns, medium consumption patterns that are still above carrying capacity of the planet and low consumption patterns. Countries such as the USA, Germany and Japan have unsustainable high consumption patterns with large footprints that need to be reduced significantly in order to become sustainable. The relatively low indicators in China show that there are ‘insufficient consumption’ levels for a large proportion of the population. Emerging economies including China and Brazil must consider that urban consumers are already consuming on par with those in industrialized countries. The ecological footprint per capita in Beijing and Shanghai was close to 4 hectares in 2008, which indicates that the consumption patterns for these residents have already reached levels comparable to Germany and Japan. In contrast, people in the western provinces of Gansu, Guizhou and Yunnan had ecological footprints between 1 and 1.5 hectares.

Table 4-4 Comparison of various consumption patterns and indicators of selected countries

	Global average	Very high consumption <i>USA and Canada</i>	High consumption <i>Germany and Japan</i>	Low to Medium consumption <i>China and Brazil</i>	Very Low consumption
Per capita ecological footprints (gha), global average and different consumption modes (2008)	2.70	USA 7.19 Canada 6.43	Germany 4.57 Japan 4.17	China 2.13 Brazil 2.93	Nepal 0.76 Kenya 0.95
Per capita ecological carrying capacity (gha), global average and different consumption modes (2008)	1.78	USA 3.86 Canada 14.92	Germany 1.95 Japan 0.59	China 0.87 Brazil 9.63	Nepal 0.53 Kenya 0.53
Per-capita CO ₂ emissions from fuel combustion (tonnes of CO ₂), global average and different consumption modes (2010)	4.44	USA 17.31 Canada 15.73	Germany 9.32 Japan 8.97	China 5.40 Brazil 1.99	Nepal 0.12 Kenya 0.27

Tabulated according *Ecological Footprint Report* of WWF in 2012 and the *IEA Statistics 2012 edition CO₂ Emissions from fossil fuel combustion*

96 See WWF. 2012. *Ecological Footprint Report– Biodiversity, biocapacity and better choices*. WWF International, Switzerland.

97 The ecological footprint is a measure of human demand on the Earth's ecosystems. It is a standardized measure of demand for natural capital that may be contrasted with the planet's ecological capacity to regenerate. It represents the amount of biologically productive land and sea area necessary to supply the resources a human population consumes, and to assimilate associated waste. For more information about ecological footprint please refer to the Long Technical Report of the CCICED Task Force on Sustainable Consumption and Green Development.

The relationship between high ecological footprints, high incomes and high consumption patterns is clear. In industrialized countries, per capita gross national incomes are high as are consumption levels. While the world average per capita gross national income in 2011 was USD 9,491, those of the US, Germany and Japan were USD 48,450, 43,980 and 45,180 respectively. In contrast, the average gross national income of middle-income countries was USD 3,631 and that of low-income countries only USD 567⁹⁸. Furthermore, the relatively comprehensive social welfare systems and availability of credit have provided the consumers in richer countries with a sense of social and financial security, which encourages consumer spending which can sometimes reach unsustainable levels.

Looking at these issues from a consumption or demand side perspective, three areas of consumption — housing, transportation and food — account for the largest impacts. For instance, in the EU-27 countries, private consumption is two to three times the level of public sector consumption. Housing, transportation and food/drink are the private consumption realms, which have the greatest impact on the environment, are responsible for 74% of EU greenhouse gas emissions, 74% of acid emissions, 72% of troposphere ozone precursor emissions and 70% of the direct and indirect material inputs.⁹⁹

4.3.2 Policy frameworks and instruments for SC

In the past 20 years, SC has become better understood and attracted the attention of policymakers. A lot of research has been conducted at the global, regional, national and local levels, which has led to the creation of a variety of policy initiatives. At the global level, the United Nations Conference on Environment and Development (the Earth Summit) held in Rio de Janeiro in 1992 and the World Sustainable Development Summit held in Johannesburg in 2002, established an international foundation for the promotion of Sustainable Consumption at the regional and national levels. During the 2002 World Summit on Sustainable Development, a call to formulate a 10-year framework of programmes on Sustainable Consumption and production led to the establishment of the Marrakesh Process which was a multilateral dialogue and cooperation platform. This initiative was formalized at the Rio+20 Summit in 2012. To implement these macro-level political agreements, a variety of policies and tools for encouraging SC patterns are available to policymakers. The policy instruments are categorised according to their different approaches and are briefly described in Box 4-3.

98 Data according to WDI data base of the World Bank and data from *International Statistical Yearbook 2013*

99 European Environment Agency (2012) *Consumption and the environment — 2012 update*. Copenhagen: European Environmental Agency. Available at: <http://www.eea.europa.eu/publications/consumption-and-the-environment-2012>

Box 4-3 Common Policy instruments to encourage SC

Strategies and action plans set out the processes that public bodies or government agencies take to implement targets, strategic objectives and goals set by the national or local government. Examples include, urban waste management strategies at the local level, or Action Plans on SCP, which are initiated by a number of governments worldwide.

Regulatory instruments have been used by governments for a long time and have been the basis for effective environmental policy making all over the world. For the promotion of SC, regulations can mandate or prohibit specific consumption behaviours or the use of certain products. Regulations that are of relevance to SC can be divided into the following three categories: environmental quality standards, technical/emission standards and restrictions/bans.

Economic instruments enhance the efficiency and effectiveness of environmental policy making. Most prices for products and services are set by the market and do encourage overconsumption of natural resources and not properly reflect environmental and social impacts.

Information-based policy instruments have become increasingly popular in recent years, partly due to the IT revolution, which decreases the costs of information collection, analysis, and dissemination. There are instruments that provide information about a product or service (e.g. product qualities, certification, how to use and discard the product) to consumers, with the hope that informing the consumer or raising awareness about certain product attributes will influence consumer behaviour. Important information-based tools for SC that are currently used are product labels awarded through third-party verification procedures.

Voluntary agreements between a government authority and one or more private parties in order to achieve environmental objectives or to improve environmental performance beyond compliance to regulated obligations. Voluntary agreements can include rewards and/or penalties or sanctions. The negotiation aspect makes these policies different from typical top-down regulatory approaches.

4.3.3 Country experiences on SC and SCP policy approaches

European Union: At the EU level, Sustainable Consumption and production (SCP) have been the priority in many policy strategies, such as the *Lisbon Strategy*¹⁰⁰ and the *Sixth Environmental Action Programme of 2002-2012*. Sustainable Consumption and production is recognized as one of the ten key objectives of the *2008-2010 Community Lisbon Programme* and is among the seven key challenges to be tackled within the *EU Sustainable Development Strategy*. In 2008, the *EU Sustainable Consumption and Production and Sustainable Industrial Policy (SCP/SIP) Action Plan*¹⁰¹ was adopted to improve the environmental performance of products and increase the demand for sustainable products. The Action Plan includes eight key building blocks: 1) creating eco-design requirements for more products, 2) reinforcing energy and environmental labelling, 3) devising incentives and public procurement for high-performance products, 4) designing green public procurement practices, 5) ensuring consistent product data and methodologies, 6) working with retailers and consumers, 7) supporting resource efficiency, eco-innovation and the environmental potential of industry and 8) promoting SCP internationally.

The EU has experienced some progress in promoting Sustainable Consumption patterns. The market for organic products in Europe has grown rapidly and accounted for more than 50% of the total income of the world organic product market in 2007. Yet it has still not reached 2% of the total expenditure of food consumption in Europe. Household energy and water consumption in Europe is decreasing and the output of household waste has decreased

100 The Lisbon Strategy for growth and jobs, launched in 2000 by the European Council, was the EU's joint response to facing the challenges of globalisation, demographic change and the knowledge society. It aimed at making Europe more dynamic and competitive to secure a prosperous, fair and environmentally sustainable future for all citizens. More info at: http://ec.europa.eu/education/focus/focus479_en.htm

101 European Commission (2008) Sustainable Consumption and Production and Sustainable Industrial Policy Action Plan http://ec.europa.eu/environment/eussd/pdf/com_2008_397.pdf

due to the introduction of effective recycling systems. Products that are harmful to human health and the environment are gradually being eliminated. An example is the phase-out throughout Europe of incandescent light bulbs. The strategies used in different Member States comprise the use of eco-labels, green public procurement (GPP), education of consumers on environment, pollution and waste. Voluntary information instruments are used widely in Europe and include the ecological marking of products (ISO Class I), environmental product statements (EPDs, ISO Class III), organic food labels and educative material provided to consumers. The EU Eco label is a noteworthy voluntary label promoting environmental excellence, which is recognised throughout Europe. This label was developed by scientists, NGOs and stakeholders as a reliable way to make environmentally responsible choices. Although it is voluntary, hundreds of companies across Europe have joined because of the competitive edge and demonstration of commitment to the environment, which are exemplified by this label.

Box 4-4 Initiatives for Sustainable Consumption in Germany

Although there is no overarching policy framework, Germany adopted a variety of effective measures to promote Sustainable Consumption:

Germany issued the first *Circular Economy and Waste Disposal Law* in the world in 1994. The concepts and practices of recycling have been integrated into the minds of the producers and consumers and have guided the production processes of various industries and the consumptive behaviour in households.

The “Blue Angel” eco-label is the world’s first environmental label for products and services. It was created in 1978 by the German Federal Minister of the Interior and was approved by the federal Ministers of the Environment. More than 11,700 products and services in 125 product categories carry the Blue Angel eco-label today.

Local consumer information and advisory centres operate nationwide. The centres are funded by public contributions to ensure that they are not influenced by commercial interests. These centres have increased the knowledge of consumers and improved their trust in green products and consumption policies.

An independent product comparison testing system (Stiftung Warentest) was established in 1964 to provide and publish the results of independent comparative tests of products and significantly increase knowledge among consumers, influence their choice in products, and improve the performance of many products.

In order to promote energy efficient housing, the German KfW Bank offers low-interest loans (1,41 % p.a.) for the purchases of energy efficient apartments and houses and for the retrofitting of existing buildings. This financial support resulted in the construction of 1.5 million energy efficient housing units worth over 25 billion Euro between 2010-2012.

Japan: Sustainable Consumption in Japan has the following unique features: 1. The green purchasing system is implemented strictly. The *Law on Promoting Green Purchasing* has designated procurement items and environmental selection criteria for each item. 2. The Fundamental Plan for Establishing a Sound Material-Cycle Society, issued in 2000, has the objective of restraining the consumption of natural resources and minimizing the environmental burden. 3. The country announced its intention to establish a low-carbon society in 2008 and accordingly implemented 12 major actions. Measures in the energy efficiency of buildings and appliances, green public procurement, environmentally friendly enterprises, product labelling and carbon footprinting are particularly advanced in Japan.

Box 4-5 12 major actions for the creation of a Low-Carbon Society in Japan

- i. Constructing buildings with green and comfortable living environment
- ii. Using energy-saving devices whenever and wherever possible
- iii. Promoting the supply of seasonal and local food
- iv. The use of sustainable and energy-saving construction materials
- v. Expanding environmentally-friendly enterprises
- vi. Providing networks with rapid supply
- vii. Constructing low-carbon cities
- viii. Developing and using high-efficiency and low-carbon appliances
- ix. Developing and providing renewable energy
- x. Developing the new generation of low-carbon fuels
- xi. Implementing low-carbon labels for goods and services
- xii. Strengthening the organization and leadership to build a low-carbon society

North America: The federal and state governments of the United States rarely issue Sustainable Consumption policies to restrict consumer behaviour. As per the Marrakech Process, the United States and Canada constitute North America. Since 2002, both countries have held two meetings in support of this initiative, but SC has limited visibility in the United States because few programs promote SC at the federal or state level. American policy makers continue to address the adverse effects of resource utilization almost exclusively from the standpoint of efficiency standards, dissemination of information, and public education. To date, the USA has adopted policies and measures that encourage reasonable growth, promote the integrated development of land in cities and suburbs, encourage non-automobile travelling and implement plans for community agriculture.

The core areas for SC in the United States are the alternative systems of food cultivation and distribution. Farmers markets, community-supported agriculture (CSA) schemes, home gardening and barter networks have enabled small networks to forge innovative arrangements that transcend the customary agro-food supply chains. Similar structures are now developing to support the reuse and sharing of clothing, children's toys, tools and other household items. The term "collaborative consumption" is increasingly used to describe these developments. In 2008, the United States issued the financing plan of Property Assessed Clean Energy (PACE) to encourage the installation of solar photovoltaic systems on the roofs of buildings. City governments and other government departments have issued bonds with high interest rates to encourage investors to deal with the high cost of purchasing and installing rooftop photovoltaic systems.

Latin America: The Latin American (LA) region has joined the international community commitment to establish more sustainable production and consumption patterns. The LA region was the first to host a regional consultation meeting on the international Marrakech Process on SCP in 2003. During the meeting, a regional SCP strategy was developed which defined priorities, concrete actions and specific pilot projects to be implemented. The strategy emphasized the importance of strengthening the capacity of government institutions as well as the importance of implementing SCP-related policies and activities in the production and financial sectors. A Regional Council of Government Experts on SCP was set up in 2003 to support the implementation of the SCP regional strategy.

Brazil has developed a National Action Plan for Sustainable Consumption and Production (2010-2013) in coordination with other national policies and multi-stakeholder engagement processes. The National Action Plan builds linkages with other strategic plans such as the National Plan for Climate Change and the National Plan for

Solid Waste. The plan will be implemented between 2011 and 2013 and identifies six main priorities: Education for Sustainable Consumption, Sustainable Buildings, Sustainable Retail, Green Public Procurement, Implementing an Environmental Agenda in Public Administration and the Increased Recycling of Solid Waste.

4.3.4 International SC and GD experiences as examples for China

Although the global challenge of creating SC patterns has not yet been solved, there are a number of initiatives that have been successful. While it might not be possible to emulate these experiences in China, the experiences listed below can serve as examples for China's path towards SC and GD.

SCP Action Plans set the macro-level framework for SC: The EUSCP Action Plan and the Brazilian SCP Action Plan demonstrate that establishing such strategies place SCP on the agenda of policymakers. These plans set a roadmap, provide specific goals and policies to be implemented and measure the achievement of these goals. These frameworks guide the design of specific policy instruments to be implemented at local levels across various sectors.

Establishing legal provisions for SC: Establishing laws, regulations and policy mechanisms for SC can influence public consumer behaviour to shift towards SC, whilst influencing the private sector to provide sustainable products and services.

Product labelling and providing product information from independent sources: Ensuring the availability of credible and transparent information about products that is trusted by consumers is very important. In many countries, such access to information has already contributed to more and better quality green products in the market. For instance, the Danish organic food label has been firmly established and is accepted by 93% consumers. Strict criteria have made Danish dairy products an important sector for export. In Germany, the "Blue Angel" eco-label, the world's first and oldest environment-related label, is widely trusted.

Indicators for SC: The development of indicators has proven necessary to measure progress. These indicators go beyond simple GDP measurements and include well-being and social progress. Experiments with alternative indicator systems started in communities in the USA. The European Environment Agency has developed a sophisticated set of SCP indicators.

SC pilot initiatives: There are many local community initiatives promoting different methods of SC. Examples include community gardens, car-free neighbourhoods and sustainable housing. The One Planet Living communities in the UK and the sustainable mobility and energy efficient housing initiatives in the district of Vauban (Freiburg) in Germany are successful pilot initiatives.

Engagement of private sector through voluntary agreements: These have proven successful in promoting SC and increasing the quality and availability of green products in the market. The European Retail Forum engages retailers to enable sustainable choices for their customers and influence their suppliers to improve the quality of their products by reducing the environmental impact generated over the life cycle. The EU Food Roundtable successfully promotes healthy and ecological food consumption habits in many European countries.

Increasing awareness about SC and lifestyles: Consumers in industrialized countries are aware of the need for sustainable products and services. However, this awareness needs to translate into the establishment of concrete actions to promote SC.

Synergies between government and civil society initiatives: The experiences of industrialized countries suggest that initiatives by enterprises and non-government organizations could supplement, improve and assist government policies. The proposals from enterprises and NGOs are supplementary in nature as the promotion of the Sustainable Consumption still requires the guidance and promotion of the government. Experiences of the EU, North America and Latin America strongly suggest that advocacy for Sustainable Consumption and green development requires building

alliances with a number of stakeholders and opening up channels for various stakeholders to participate and create opportunities. The role of civil society organizations (CSO) has shifted from playing the role of a watchdog to becoming an important collaborative partner in managing societal challenges. In this capacity, the role of CSOs is to ensure that other stakeholders are following the principles of accountability, transparency, participation and equal opportunity.

Municipal waste management: There are many successful international experiences regarding how municipalities manage waste. Germany’s “Green Dot” waste sorting and recycling system and the waste sorting program in the city of Londrina, Brazil, which is followed by 100% of the households of the city are two successful examples.

Economic measures to reduce traffic obstruction and eco-taxes are promising approaches: The economic measures to change the driving behaviour of citizens in Sweden and the UK have produced good effects. In Stockholm and London, traffic congestion charging systems are used to effectively reduce the traffic jams during rush hour and resulting high air pollution and PM2.5 levels. Despite initial scepticism, the measures are now widely accepted by citizens.

4.4 RECOMMENDATIONS FOR CHINA’S SUSTAINABLE CONSUMPTION AND GREEN DEVELOPMENT STRATEGY

Based on the findings in Chapters 1 to 3, the task force suggests three main recommendations to promote and foster SC in China. The proposals and their relationship are summarized in Figure 4-1 below and explained in detail in the remainder of the Fourth and final chapter.

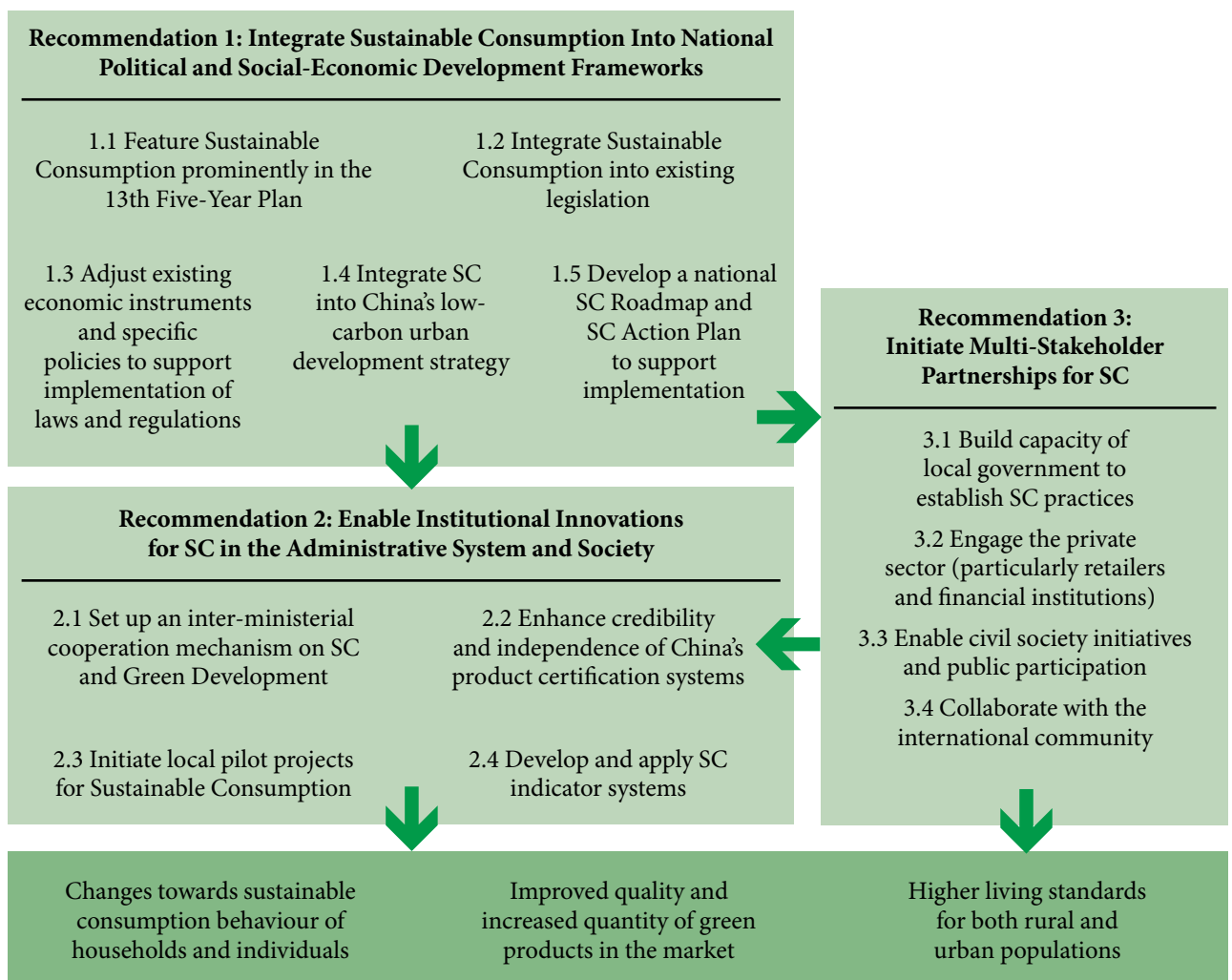


Figure 4-1 Policy recommendations for advancing Sustainable Consumption and Green Development in China and expected results

4.4.1 RECOMMENDATION 1: Integrate Sustainable Consumption into National Political and Social-Economic Development Frameworks

Establishing SC patterns will be crucial for the realization of China's Ecological Civilization. The promotion and achievement of SC at a strategic political level will ensure the responsible use of resources and the reduction in energy consumption by the public and private sector and through the consumption choices of citizens. Sustainable Consumption is also important to ensure that the income gap and consumption levels between the rich and poor do not widen and jeopardize social stability. This first set of recommendations proposes to include SC into the next Five-Year Plan. Furthermore, the relationship between the protection of consumer rights, food safety, environmental protection and SC should be emphasized by including SC into existing laws which are currently being revised. Stronger efforts should be made to use Sustainable Public Procurement as an instrument for the promotion of SC across society. To ensure the effective implementation of these laws, policies including pricing mechanisms, taxes and subsidy schemes should be included. SC should also be used as strategic approach for sustainable urbanisation and to support the development of China's low-carbon city pilots. Finally, a SC Roadmap and Action Plan should be designed to guide the process in the next decade.

Recommendation 1.1: Feature Sustainable Consumption prominently in the 13th Five-Year Plan

For the next Five-Year Plan, it is recommended to emphasize the link between SC and the establishment of a moderately well-off and Harmonious Society by the end of 2020. The concept of Green Consumption has already been mentioned in the 12th Five Year Plan. Greater attention to SC is needed in the 13th FYP. The focus SC should be on SC as national strategy, including key SC strategies in the housing, transportation and food sectors and on differentiated SC strategies in China's regions. The 13th Five-Year Plan should use SC as an economic pillar to link China's target to reduce carbon intensity by 40-45 per cent by 2020 over 2005 levels with the economic restructuring and increase in domestic consumption.

Recommendation 1.2: Integrate Sustainable Consumption into existing legislation

The Task Force recommends updating laws and regulations that can help to guarantee a national and local transition to SC. Integrating SC into the legislative process, with the main goal of constraining wasteful consumption patterns and excessive consumer spending, should be enacted as soon as possible since often there is a lag of several years before changes take effect. At present there is only very limited legal guarantee for the mainstreaming of Sustainable Consumption. In particular, SC should be featured in the revised version of the Environmental Protection Law (or in regulations related to the revised law), in the Consumer Rights Protection Law and the in the Public Procurement Law.

The revisions of the **Environmental Protection Law should include specific provisions to curb the environmentally unsustainable consumption behaviour of industry, households and the public.** Furthermore, specific provisions to encourage SC behaviour and lifestyles should be included as important element for environmental protection. In particular, the issue of urban household waste can be addressed through SC approaches, in order to reduce the amount of waste produced and to encourage waste citizens to separate, reuse and recycle.

The Public Procurement Law should be amended to ensure that more Sustainable Consumption practices are incorporated, including restrictions on excessive government consumption among China's public authorities at the national and local levels. A number of important additional regulations have passed in recent years, but the implementation of sustainable procurement is insufficient. The legal system of government procurement needs to be completed and environmental goals should be clearly defined. The Task Force therefore recommends setting a

mandatory share of green products and services purchased by local governments in the Public Procurement Law. Additional support regulations to ease implementation should be issued. It is necessary to revise the two existing procurement lists for energy-saving products and environmental labelling. This would entail improving green procurement standards in the lists, including new sustainable product groups and deleting out-dated low-performance products from the lists. Government business trips should be reduced and substituted with virtual meetings when possible. Sustainable transportation should be chosen whenever possible. Furthermore, green hotel standards for business trips and meetings in hotels should be included into government procurement standards. Bidding systems, bringing new energy and low-emission cars into government procurement lists, need to be revised. Finally, additional measures such as capacity building for local procurement staff on life-cycle costing methodologies are necessary. Green market supply chains, like the pilot program in Tianjin, should become part of the legal criteria for procurement.

The Consumer Rights Protection Law should include specific provisions for SC as a key approach to guarantee product safety and consumer protection. All instruments that promote progress towards SC patterns provide the added bonus of increasing the protection of consumer rights. SC changes should aim to enhance consumers' rights while reducing negative social and environmental impacts. The updated law should include the right for consumers to choose high quality green products and sustainable lifestyles. In addition, SC revisions to this law should emphasize consumer responsibilities, focused on eliminating unsustainable consumption practices in the housing, transportation and food sectors.

In the medium term, the Task Force recommends **passing a specific Sustainable Consumption Promotion Law, which should contain goals for consumption in specific sectors and target values for per capita consumption levels of resources, food, energy and water.** These targets must be interrelated with the targets set in other regulations and plans (e.g. China's greenhouse gas reduction plan). The two main objectives of the Promotion Law should be the elimination of unsustainable excessive consumption in urban areas and poverty reduction in rural areas by increasing incomes and access to affordable green products. Furthermore, the Sustainable Consumption Promotion Law would have to be oriented towards specific sectors such as agriculture and sub-sectors such as iron, steel and cement to promote green supply chains. The levels of resource consumption in cities should be targeted by the Promotion Law, which would also affect household consumption levels. The Sustainable Consumption Promotion Law should target specific product groups with high negative environmental impacts, e.g. large automobiles, oversized household appliances or furniture from uncertified sources. Discussions on the design of this proposed SC Promotion can commence at the 13th Five-Year national planning with stakeholders and others so that it is broadly acceptable.

Recommendation 1.3: Adjust existing economic instruments and specific policies to support the implementation of laws and regulations

The policy framework to support the effective and efficient implementation of the laws mentioned above should be facilitated by various methods (coercive, economic and informative) to build synergies among policy measures. A significant number of specific SC approaches exist to support the implementation of legislation. **The Task Force recommends greater use and improvement of existing pricing and taxation systems and financial incentives mechanisms in ways that will support SC.** Mechanisms to improve energy efficiency of buildings, encourage household energy conservation and support the uptake of green products are particularly required.

The promotion of high quality, energy efficient appliances and the phase out of inefficient appliances currently in use should be a priority. Both positive and negative lessons can be drawn from previous experiences of the *Home Appliances Going To The Countryside* policy and the *Old For New* policy. **Subsidy schemes need to be designed in**

such a way that these subsidies are only provided for the purchase of the most efficient appliances and also to ensure that they help poorer households. It is recommended that subsidies should be provided only to the top 10% of products with the best performance. The goal of this subsidy scheme should be targeted at low- and middle-income families who would otherwise not be able to afford efficient appliances. The subsidy should prioritize low-income households and first-time buyers of appliances (e.g., young families) to promote SC in households from the start.

In the specific case of air conditioning units, most small businesses (e.g. small restaurants, shops) and small service provider offices currently have very inefficient air conditioners installed. A specific subsidy policy should encourage small businesses to change their air conditioners. This will encourage their utilization and encourage manufacturers to improve their product standards. Furthermore, take-back schemes need to prevent so-called rebound effects through purchases of new larger appliances, which have better efficiency ratings, but increase overall energy consumption. Oversized appliances and luxury consumer electronics such as large screen TVs should be excluded from receiving subsidies.

In addition, pricing policies will be important for the promotion of SC. In particular, **it is recommend to complete and perfect the tiered electricity price policy for households, which was introduced in 2012.** Overall, the current electricity price for higher consumption users of the third-tier, currently paying only about RMB 0.3 per kilowatt hour more than average consumers, is not yet high enough to discourage wasteful consumption. Furthermore, in order not to be regressive, the pricing policy must consider the constraints of low-income households.

Consumption taxes have a vital role to play in reducing overall resource consumption, and specifically in shifting consumption to low energy-usage or less polluting products. The Task Force recommends expanding the scope of consumption taxes and improving the collection methods of taxes. Taxation on resource and emission intensive consumer goods that are currently not covered by consumption taxes should be introduced to include the environmental and social externalities in the prices of these goods. Life-cycle assessments should be the basis for identifying such products. The expanded consumption tax could already be implemented during the current 12th FYP period. In addition to consumption taxes for high impact products such as cars with high fuel consumption, oversized home appliances, furniture and wood products made from tropical timber or seafood from overfished marine areas, it is suggested to link household tax breaks to SC. For instance, **to encourage recycling, tax reductions can be given to households that demonstrate high recycling levels or produce little household waste.**

To encourage the construction and uptake of energy efficient and green residential buildings, **it is recommended to provide low-interest credits or mortgages to homebuyers for such buildings. Government subsidies should be complemented by green credit systems of financial institutions.** This low-interest mortgage scheme needs to be implemented in conjunction with an independent verification process that the buildings are indeed low-energy buildings. Furthermore, such credits can be extended to include solar energy technologies, particularly roof top solar photovoltaic (PV) and solar water heaters, heat pump systems, household biomass power generation technology and new energy vehicles. For solar PV products in particular, credits for end-users should replace current subsidies given to PV manufacturers to encourage domestic use of the technology.

In order to simultaneously ensure the uptake of green products and increase the incomes of rural residents, economic mechanisms to promote eco-tourism and organic agriculture are recommended. To encourage these new rural business models, a special fund for Sustainable Consumption and subsidies for environmentally certified products and services in rural areas could be established.

Recommendation 1.4: Integrate SC into China's low-carbon urban development strategy

SC approaches are the key to ensuring that greenhouse gas emissions from households and industry will not grow exponentially when shifting the driver for China's future economic growth from investment to consumption. Considering China's low-carbon city initiatives and pilot projects, **the implementation of SC strategies will be crucial to ensure the reduction of the cities' carbon emissions and contribute to improving air quality.** It is recommended to review the current low-carbon development strategies of the "Five Provinces and Eight Cities" low-carbon pilots and to identify areas for SC and its contribution to emission reductions. Furthermore, in current efforts to clean up urban air pollution, particularly PM 2.5 levels, the regions of Beijing, Hebei and Shandong will be required to reduce coal consumption by 10% within the next five years. While this can be partly achieved through efficiency improvements, reducing electricity demand through SC will be necessary for the regions to achieve this target. It is recommended to include SC into the strategic air pollution reduction plans of these three regions.

Recommendation 1.5: Develop a national SC Roadmap and SC Action Plan

At the moment there is no national Sustainable Consumption Action Plan or a comprehensive roadmap for such a Plan. Both of these are needed to clearly specify relations among Sustainable Consumption, economic development and social development. **China's Action Plan for SC should aim to advance SC not only by making markets more sustainable and limit excessive consumption, but also by ensuring access to Sustainable Consumption choices for both urban and rural consumers in all parts of the country.** To be operational the national Sustainable Consumption Action Plan should focus on consumption sectors with the highest environmental impacts. The priority areas are: housing (including energy use), appliances (including all types of electronics), transportation and food.

The national government needs to create spaces for opportunity among various stakeholders in order actively participate in implementing a national SC Action Plan through engagement mechanisms that speak most effectively to different actors. Drawing on international experiences of the EU and Brazil, China's SC Action Plan could adhere to the following principles:

- i. **Take a comprehensive life cycle perspective** that considers all impacts from resource extraction, production, transport, retail, consumption and end-of-life disposition. Only in this way can a shift of environmental impacts from one phase to another be avoided.
- ii. **Enable participation of all stakeholders, including manufacturers, government, consumers, civil society organisations and academia.** Other stakeholders, including representatives of the retail industry, the advertising industry and the financial industry, can play an important role in creating conditions and opportunities for China's Sustainable Consumption and Green Development.
- iii. **Identify and use synergies with existing initiatives for sustainable development in China, particularly low-carbon and circular economy approaches.** To facilitate employment and the acceptance of specific SC policy instruments (e.g. product labelling) and governmental initiatives (e.g. low-carbon cities, sustainable government procurement) parallel processes should be synchronized.

The implementation of China's SC Action Plan should be implemented in three phases:

Phase I (present to 2015, improvement period): Develop and establish the institutional basis for SC by including it into the 13th Five-Year Plan, revise existing laws and policy frameworks by including SC. Focus is on the four priority areas of implementation: housing (including appliances), transportation, food and clothing. This first phase combines the expansion of green products and the improvements in their quality, the advancement of non-material consumption and services, and the enhancement of the spending power for the rural

“lower-consumers.” At end of Phase I, the aspects of energy conservation and climate protection for SC in the four priority areas are fully understood.

Phase II (2015 to 2020, consolidation period): Improve and expand the legal and policy frameworks to actively promote Sustainable Consumption patterns among China’s emerging urban middle classes. Fine-tune and customise policy packages for local contexts and stakeholders. By 2020 Chinese consumers and companies should be fully aware to ensure broad support and active participation in the implementation of the policy interventions for advancing Sustainable Consumption.

Phase III (after 2020, continuous advancement): Continuously improve capacity and degree of SC in the whole society. The aim should be a peak of impact levels of consumption in housing, transportation, food and clothing. Overall per capita consumption impacts are declining and the gap between rural and urban income and consumption levels are closing. China’s SC strategy is on par with those of other regions including the EU, Japan and Brazil. China as a whole should then be on track to implement a Sustainable Consumption and production system.

4.4.2 RECOMMENDATION 2: Enable Institutional Innovations for SC in the Administrative System and Society

Innovation is crucial for the advancement of SC. Innovation includes not only technological, but also that of various institutional levels in public administrations and society. In most countries, including China, some existing administrative and social institutions are geared towards perpetuating unsustainable consumption patterns. To advance innovation for SC in these two important areas, the following recommendations are provided:

Recommendation 2.1: Set up an inter-ministerial cooperation mechanism on SC and Green Development

The task force recommends setting up an inter-ministerial cooperation mechanism or working group on SC. As consumption-related policies are cross-cutting and often touch upon the domains of various ministries. It is necessary to coordinate SC policies, particularly those relating to financial incentives or pricing mechanisms, but also those relating to urbanisation and construction, supervision of standards and education. It is recommended that a senior member of the State Council leads the inter-ministerial working group. The working group comprises members of the following ministries and agencies: National Development and Reform Commission and Ministry of Environmental Protection (to take the lead), Ministry of Agriculture, Ministry of Commerce, Ministry of Education, Ministry of Finance, Ministry of Housing and Urban-Rural Development, Ministry of Land and Resources, Ministry of Transport, Ministry of Science and Technology, Ministry of Water Resources, State Administration for Industry and Commerce, State Forestry Administration and State Administration of Taxation.

The working group should be established as soon as possible and become involved in including the topic of SC in the 13th Five-Year Plan. The working group should report directly to the State Council and be put in charge of developing the SC Action Plan and SC Roadmap. Furthermore, the working group should be involved in the design and feasibility and effectiveness assessment of existing and new policy instruments for the promotion of SC. There should be close coordination with the existing Leading Group on Climate Change and other related working groups on the economy and environment.

Recommendation 2.2: Enhance credibility and independence of China's product certification systems

The task force identified the strong need to reconcile an international and Chinese green product certification that is credible. In order to avoid an unreliable and non-transparent product information that is not credible among consumers, **it is necessary to strengthen the existing institutions such as the China Quality Certification Centre** which supervises the standards of products. The China Environmental Labelling Program should be further extended with the goal of increasing the number of certified products and gaining consumer trust and recognition. Strong efforts should be made to mainstream successful international experiences from product certification and labelling in China. In addition to official certification bodies, independent consumer information associations need to be established. These proposed associations should be allowed to carry out independent comparative product testing and provide information to consumers. The independent product testing will increase consumer trust in product-related information and potentially lead to increased sales of these products and services. Furthermore, support should be provided for the establishment of independent consumer associations and consumer advisory committees, which could offer sustainability-related advice to consumers and provide information from the independent testing panels. In addition, **an open-access green product information platform for consumers should be established. Green product information should be collected in a national database, which is operated and controlled by an independent third-party organization.** Furthermore, relevant departments should improve the efforts to make product life-cycle information widely available to manufacturers and consumers.

Recommendation 2.3: Initiate local pilot projects for SC

China is already implementing pilot projects to build eco-cities (e.g., in the Tianjin Binhai area) and has initiated a number of low-carbon pilot cities and provinces. **To complement these efforts, small-scale community pilots and local demonstration projects for SC should be implemented.** Ideally, these model communities are not built from scratch, but are existing communities that include SC initiatives as part of their transformation process. The pilots should combine local knowledge and international best practices. For example, **one or more communities for “One Planet Living” can be set up in China, leading community residents to adopt lifestyles within the carrying capacity of our planet Earth.**

Buildings could be zero-energy buildings (equipped with solar PV, heat pumps and according to highest efficiency standards). In addition, they should be equipped with waterless toilets, grey water recycling systems and constructed with local, renewable building materials. New buildings should be designed in such a way as to be able to be used for rooftop farming. Community-based gardening should be encouraged, combining local food production with food waste recycling, composting systems and biogas generation. In terms of mobility, urban design should prioritise highly efficient transport, cycling and walking. Furthermore, pilots should be a ‘living lab’ where experiments for collaborative consumption such as electric car sharing systems can be tested. Every project should set up a visitor and training centre, in order to show to the interested public and other external stakeholders how this community works, and what sustainable lifestyles look like in practice. The SC pilot community can also be linked with existing initiatives for low-carbon cities. In addition, sharing economy approaches and the use of alternative indicators for social well-being should be experimented. Local government should participate by implementing strict sustainable public procurement practices. Progress of the pilot projects should be measured by a SC indicator system. This proposal would be based on the successful model of One Planet Living, which is based on 10 principles of sustainable living.¹⁰²

102 The principles were developed by BedZED ecological village in London, which was selected as the world's fourth most influential green building area in 2012 by American architects. At present, similar projects have formed an international network. More such communities can be built throughout China, then be expanded in scale, and promoted to other cities.

Recommendation 2.4 Develop and apply SC indicator systems

It is recommended that China designs, tests and implements a SC indicator system for tracing progress on SC and the contribution of SC to Green Development. It is proposed that indicator systems of SC be closely linked with indicator systems currently used to measure low-carbon urban development and social progress beside GDP. These initiatives, which have vital significance for the development of an Ecological Civilization, have already started. **For it is suggested that local indicator systems in addition to traditional GDP indicators should be developed and used by local authorities.** These would measure people's happiness and life satisfaction based on indexes such as the OECD Sustainable Consumption Index Framework and monitor whether implementation of SC policies is on track. Furthermore, the European Environment Agency has developed a highly sophisticated SC indicator system, which should be used as reference.¹⁰³ To advance the understanding of SC indicators, it is recommended to establish a specialized working group within the CCICED.

4.4.3 RECOMMENDATION 3: Initiate Multi-Stakeholder Partnerships for SC

To successfully implement SC policies mentioned above and to promote SC beyond government requirements within business and society, multi-stakeholder partnerships are necessary. The following section contains recommendations on how to engage the most influential stakeholders to become pro-active partners for fostering SC in China.

Recommendation 3.1: Build capacity of local government to establish SC practices

Local governments should ensure the implementation of Sustainable Consumption strategy and practices. Sustainable procurement practices on the part of local governments, creating infrastructure that enables sustainable lifestyles, and establishing local centres for awareness raising are some of the most direct ways through which local governments can show their commitment to SC. Sustainable public procurement not only stimulates the market for sustainable products and services, but also legitimizes sustainable norms in social behaviour. Capacity building on methods like life cycle assessments will be necessary. Local governments will also have the task to ensure quality and safety of green products by following the standards set by the national government. Technological innovation should be encouraged to reduce power consumption and improve product quality. Increases in the number of staff in local quality supervision departments will be necessary.

Recommendation 3.2: Utilize the power of the private sector (particularly retailers and financial institutions)

All types of businesses should assume responsibility for shaping consumption patterns into a sustainable direction by incorporating SC into their codes of conduct. Retailers play a critical gatekeeping role in supply chains, since they chose product which enter the market supply and control the information flow between consumers and manufacturers. Retailers should support creation of markets that encourage sustainable products by:

- Placing demands on and stimulating producers to manufacture and offer sustainable products and services
- Choosing and offering sustainable products in retail shops
- Providing information in shops to consumers on food safety, quality and nutritional value, as well as on the environmental and social features of products. Besides having access to information, consumers also need incentives and support to choose and use products and services in a sustainable manner.

¹⁰³ European Environment Agency (2010) *Towards a Set of Indicators on Sustainable Consumption and Production (SCP) for EEA reporting*. Available at: http://scp.eionet.europa.eu/publications/SCP_Indicator_frame

To enable easy access to credible information about SC products and services during and after sales, retailers will have to employ innovative technologies through ICT supported platforms and devices, e.g., smartphone scanners of RFID tags, bar codes and quick response codes. And, to assist the creation of sustainable markets, **retailers should support independent and credible 3rd party certification schemes for products and services that could help to increase trust of environmental and ethical products.** The retailers must practice responsible and pro-sustainable marketing and advertising and offer the appropriate training to customer support staff.

In order to undertake this wide range of tasks, retailers need to be educated. **The government should support Sustainable Consumption actions in the retail sector by organizing an on-going multi-stakeholder forum on SC operating at all levels of government, and by strengthening the capacity of retailers to build demand for SC.** In addition, the government at both national and local levels could facilitate alliances between retailers and consumer organisations in order to increase transparency and to foster environmental and social quality assurance in supply chains. These steps are essential to raise consumer trust in sustainable products and services.

Through the integration of Sustainable Consumption goals into core business, financial institutions, including banks, insurance companies, funding agencies, investors, etc., should fundamentally contribute to shaping consumption practices of individual consumers and institutional customers, and make long-term investments in infrastructure more sustainable. Financial institutions play a catalysing role in facilitating the incorporation and mainstreaming of Sustainable Consumption practices at various levels of society and among different stakeholders.

Specifically, **financial institutions should engage in providing mortgages and loans only for energy efficient buildings, which would ensure long-term sustainability. Financial institutions should take the lead and encourage investments in infrastructure that facilitate sustainable lifestyles,** e.g. ‘10-minute neighbourhoods’ (all necessary services are within 10 minutes walk) and integrated mobility systems that encourage and enable the use of public transportation instead of private cars. In addition, they should devise innovative financial products in order to stimulate entrepreneurship for SC and lifestyles.

The government has to create an enabling environment for the financial sector to fulfil its role in promoting SC at different levels of society. Specifically, **the government has to encourage, promote and ensure that financial institutions invest in those businesses and market players that integrate SC activities in their operations and practices.** The government should commit to close collaboration with the financial sector in building the markets for long-term, sustainable lending, investment and insurance products and services. These should encourage Sustainable Consumption patterns that support and enable sustainable lifestyles for consumers. The government should also support the integration of SC goals into the portfolios of financial institutions by organizing a high-level multi-stakeholder forum to discuss SC challenges and solutions in the financial sector. This should be done at the national and more local levels, including cities. The government can assist in building capacity of financial institutions on SC and by joining the international Finance Initiative run by UNEP which acts as an exchange platform for international best practices and innovative financial tools for sustainable development.

Recommendation 3.3: Enable civil society initiatives and public participation

It is important to encourage civil society, particularly environmental groups and consumer groups, to actively engage in the implementation of SC patterns at national and local levels. Input must be solicited from civil society and consumer groups when it comes to making SC strategies operational in different geographical localities and for various stakeholders. Civil society groups have a particular role in raising people’s awareness and initiating bottom-up initiatives, which stimulate social innovation for SC. Consumer CSOs can help change unsustainable practices and habits by structured approaches that are adapted to local consumer preferences. The current potential of innovative approaches from civil society organisations is in many cases restricted. One outstanding issue to tap

into the full potential of civil society groups for SC is to **perfect and ease the regulations for registration and fundraising of civil society organisations.**

The Task Force recommends **enabling the establishments of local consumer advisory centres**, operated by citizens in cooperation with other stakeholders to provide independent information on products and sustainable lifestyles; and to engage in awareness raising and consumer education. To ensure independence from business interests, local governments should provide funding to cover the operations of the centres without being overly involved in implementation. The consumer advisory centres could provide information about environmental and social features of products and services that are available to consumers in shops, on local markets and through other distribution channels. Connected to these local consumer advisory centres could be facilities that provide repair services for products. The centres can also provide dialogue platforms between citizens, social entrepreneurs, local business and local governments on topics such as sustainable lifestyles, quality of life and happiness.

Internet-based initiatives that activate social entrepreneurs and consumers to change their consumption patterns should be encouraged. International initiatives are building on the idea of ‘Sharing Economy and Collaborative Consumption,’ where individuals allow others to access their products, e.g., cars, gardening equipment, leisure sports articles or electronics. There provides an opportunity for social entrepreneurs to engage through offering shared services and to provide electronic platforms for the exchange of services.

Finally, to complement information initiatives for existing Chinese consumers, **SC should be actively promoted in schools to raise the awareness of the next generation of consumers that are very susceptible to messaging about lifestyle and consumerism.** Schools are the place to create new social norms around SC. Specific initiatives in school should focus on recycling, sharing products, saving water and energy and healthy food. School gardening activities in urban areas demonstrate that they shape students awareness of food, nutrition and understanding of ecological processes. Government can assist by mandating SC in national and local curriculum development initiatives.

Recommendation 3.4: Collaborate with the international community

China has the huge potential to promote SC and as such should actively participate in international exchanges and cooperation programmes on SC. On the international and regional level, China should actively participate in multilateral policies framework discussions for SC. An important example is **participation in UNEP’s 10 Year Framework Plan on SCP, to gain global perspective on SC related issues and promote SC at a global level.** Furthermore, more attention should be given to integrating SC in the negotiation process of WTO’s Agreement on Government Procurement.

It is necessary to establish institutions charged with the task of tracking international developments and trends in SC policy, research and practice. **The Task Force therefore recommends setting up an international research platform and knowledge hub on SC to enable long-term cooperation between Chinese and international experts.** Specific cooperation activities could include cooperating with UNEP on their on-going “hot spot” initiatives and collaborating on European product footprint initiatives. Furthermore, a National Sustainable Consumption Centre must be established so that it can complement the work of China’s existing National Cleaner Production Centre. The Centre would lead China’s national research and consultation on SC and be a focal point for international research collaboration.

Furthermore, **SC activities and initiatives of Chinese domestic industries, business associations and enterprises must be aligned with the latest international developments.** It is particularly vital to align processes for domestic products with international product standards. Chinese product certification associations should enhance their cooperation with well-recognised international organizations such as the ISO, the Forest Stewardship Council

(FSC), the Marine Stewardship Council (MSC) and other national certification bodies. Aligning with certification procedures and product standards would increase the international competitiveness of Chinese products and services and would promote SC in China.

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As part of the research process, study tours were held in Shanghai and Shandong, which are both important regions for the development of consumption practices. There was an additional tour in Germany and Belgium.

During the survey visit to typical regions in China, the Task Force delegation held discussion forums with the Shanghai Environmental Protection Bureau, Office of the Spiritual Civilization Steering Committee of the CPC Shanghai Committee, Shanghai Environmental Education and Communication Center, Bailian Group, Shanghai General Motors Co., Ltd., IKEA Trading Service (China) Co., Ltd., Shanghai Zesheng Environmental Technology Co., Ltd., Shanghai Society for Environmental Sciences, and Environmental Protection Department of Shandong Province. These interactions provided valuable opportunities to gain knowledge on the Sustainable Consumption status and corresponding policy demands in China. Our gratitude goes to the hosts, the Shanghai Environmental Protection Bureau and the Environmental Protection Department of Shandong Province for organizing the forums and for their logistical assistance.

During the international study tour, the Task Force delegation visited renowned institutions including *inter alia* the German Federal Environment Agency (UBA), Bundesdeutscher Arbeitskreis für Umweltbewusstes Management (B.A.U.M), International Council for Local Environmental Initiatives (ICLEI), North Rhine-Westphalia representation to Brussels, and HafenCity Hamburg GmbH; and interviewed nearly 40 specialists involved in Sustainable Consumption practices from institutions including Lichtl Ethics & Brands GmbH, Fairfood International, Directorate-General Environment of European Commission, Unit Health and Consumer of European Commission,

Directorate-General for Development and Cooperation (EuropeAid), European Environment Agency, PIANO Dutch Expertise Centre on Public Procurement, BioRegional, Global Infrastructure Basel Foundation, and Collaborating Centre on Sustainable Consumption and Production (CSCP). The Task Force delegation also visited best practice examples for Sustainable Consumption and Green Development such as energy-efficient buildings, the Brussels Urban Gardening Project, CAR2GO Programme, “Carfree Sunday”, BIQ Bio Intelligent Quotient, and HafenCity Hamburg. We owe our thanks to all of the experts, scholars, and staff involved in the study tour. Sincere thanks to the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety of Germany (BMU) for their support under the framework of the Sino-German Environmental Partnership Project implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH,

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CHAPTER 5

MEDIA AND PUBLIC PARTICIPATION POLICIES ON PROMOTING CHINA'S GREEN DEVELOPMENT

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GLOSSARY

Environmental accident: a judgmental term defining an event that causes an unintended change to environmental conditions or harm to economic, social or ecological situations.

Environmental communication: communication by government of such information as environmental pollution, environmental policies and action and environmental data and communication from citizens and other stakeholders to policymakers on environmentally related topics.

Environmental incident: similar in meaning to an environmental accident, but without the value judgment that it was an accident, since some incidents are the result of planned activities or activities without tractable drivers, often used in safety and health reporting as well as for matters affecting ecosystems.

Environmental information: a term for information in any format on: the state of the environment, factors affecting the environment, such as pollution, noise and radiation, activities, including policies, legislation and plans that may affect the environment and the state of human health and safety as it may be affected by the state of the environment.

Environmental protest: a public expression of objection, dissent or interest, by words or by actions or violence, to particular construction projects, planning or policy, in which participants attempt to make their opinions heard, to express discontent or to influence decisions.

Green development: an advanced development model that focuses on economic structural adjustment and the elimination of out-of-date production, so as to achieve a more environmentally friendly and more sustainable, upgraded economy in China.

New media: media characterized by on-demand access to digital content on multiple devices, as well as interactive user feedback and creative participation. Examples include Facebook, Twitter, Sina Weibo, WeChat and instant communication tools, such as QQ.

Public participation: in this SPS study, public participation implies the active search for, and response to, input from citizens to enable meaningful involvement in environmental decision-making.

SUMMARY OF KEY FINDINGS

- i. The Chinese government lacks experience in turning public concern about environmental issues into legal and orderly public participation. This has resulted in a growing incidence of environmental protests and a serious loss of trust between the public and government that could negatively affect China's green transformation and economic upgrading.
- ii. Full public participation is necessary to rebuild trust between the government and people, to improve policy formation and implementation and to build ecological civilization. Full participation is closely related to information since information enables participation and participation adds to the information available to policymakers, thus enhancing the quality of policy outcomes. Participation requires clear rules to promote and facilitate early public involvement in environmental decision-making and systematic education of the public and government at all levels on environment and sustainable development. The Chinese experts in the policy study found that public participation should be promoted systematically as both a right and responsibility. This did not reach full agreement between all of the policy study members.

- iii. Full public participation in environmental protection has been hampered by inadequate implementation of existing government laws and regulations and the lack of sufficient channels for concerned stakeholders to represent their legitimate interests or to protect themselves against the consequences of poor policy decisions.
- iv. The government's support for the goal of public participation has been inadequate; insufficient resources have been devoted to environmental education, and environmental information is not optimized or integrated. Improvement is further required in the following areas: environmental information disclosure, response to letters and visits from the public and environmental complaint hotlines, definition of competencies and responsibilities of different organizations and agencies across government and optimization of resources and functions to support public participation in environmental protection.
- v. Government performance in the following areas is also inadequate: communications in environmental emergencies, environmental monitoring and pollutant control and elimination, environmental information disclosure, response to the media and the public over pollution incidents and controversial new construction projects and other environmental issues of concern. Further research could help to illuminate the lessons of recent environmental incidents and protests, so as to avoid future mistakes.
- vi. The government lacks an active and systematic strategic plan for environmental communications. A strategy to upgrade and integrate environmental public relations, identify potential environmental risks, provide systematic solutions and offer open information and proactive communications is required.
- vii. New media have become important channels for the Chinese public to access environmental information, to express their wishes and opinions, to participate in environmental decision-making, to exercise their right of supervision and to make green choices that benefit the environment. Government at every level has an inadequate understanding of the important potential for new media to promote public participation and improve interaction with the public and this is hampering its efforts both to understand public opinion and to communicate effectively with the public.

SUMMARY OF MAIN POLICY RECOMMENDATIONS

- i. Strengthen legal and orderly public participation in environmental fields as an important basis for promoting Ecological Civilization, building a 'Beautiful China' and bringing benefit to the Chinese people.
- ii. Promote and develop open environmental information systems, consolidate and improve information management capabilities of central and local government and enterprises and effectively implement open information legislation.
- iii. Create a comprehensive environmental communications strategy to include the accelerated introduction of national environmental education legislation, in order to raise environmental awareness and promote environmental participation across all sectors of society.
- iv. Improve the implementation of existing laws, regulations and policies on public participation in planning. Reform and introduce new laws, regulations and guidelines to improve public participation where necessary.
- v. Adapt government communications to the new media context, promote an open media system suited to the challenge of green development, with support for environmental reporting and enhanced two-way online communication between government and the public.
- vi. Improve environmental incident response mechanisms.

BACKGROUND AND IMPLEMENTATION OF THE PROJECT

The emergence and rapid development of information technology, such as the Internet, social networks and instant communication tools in China have changed the form of public participation in Chinese society. The collection of and response to public opinion is therefore also facing unprecedented challenges. In this new environment of information and social transition, how can the government make comprehensive use of traditional and social media to conduct environmental communication and education more effectively? How can the public learn to express its demands and participate in environmental protection? How can new media broaden the channels for public participation in environmental protection? And how should the government respond to the growing number of environmental incidents in the country? These are the new issues that central and local governments face. This CCICED Special Policy Study (SPS) aims to provide policy recommendations to the State Council on media and public participation to cope with these challenges.

This SPS was a cooperation between Chinese and international experts. The research team includes co-chairs, core experts, supporting experts, advisory experts and coordinators. The study began work in late February 2013 and the main research work was completed at the end of September 2013. In the past seven months, the research team completed the following: convened three working meetings (March 20, May 9-10 and July 22-23) and one writing meeting (September 12-13) in Beijing, completed one international field trip in the end of June to Sweden and Germany and conducted seven Chinese field trips to Jinan, Shandong, Xi'an, Shanxi, Chengdu, Pengzhou, Shifang, Xiamen and Jiangmen. More than 10 relevant organizations and personnel were interviewed, including officials in the Ministry of Environmental Protection, social experts in Chinese Academy of Social Sciences, influential NGO leaders, local governmental leaders, participants in environmental protests and enterprise leaders from controversial projects. During the research process, we kept close contact with the CCICED teams, with more than four oral presentations to the secretary on this study.

We sincerely hope that these SPS policy recommendations will offer a timely and positive contribution to China's green development.

5.1 INTRODUCTION

The rapid industrialization and urbanization of Chinese society represents remarkable economic progress. However, the speed of change and the unbalanced character of economic and social development have brought severe social stresses and environmental degradation. In the next 15 years, China will further accelerate its urbanization and industrialization and aim to build a moderately prosperous society. Although the 18th CPC National Congress paid unprecedented attention to "ecological civilization" and proposed the building of a "beautiful China," public expectation is very low due to the continuing deterioration of the environment.

Public discontent over such serious long-term environmental problems as air, water and soil pollution has contributed to a growing mistrust of government communications, associated public demands for transparency and participation in environmental decision-making and a mounting tally of social protests. Achieving an ecological civilization will require full public participation. Without this, lasting environmental protection cannot be ensured, discontent will continue to grow and trust will not be restored. Such public participation would be a bottom-up, sustainable force. To participate effectively, the public needs to be informed and environmentally aware. This requires education, good government communications through both formal and social media and improved information disclosure.

In September 2013, Premier Li Keqiang chaired an executive meeting of the State Council, which concluded that the disclosure of government information is required by law, both to allow government to maintain close contact

with its citizens, and to ensure that government officials support the citizen's right to know, to participate and to supervise. This report echoes Premier Li's earlier remarks at China's Seventh National Environmental Protection Conference that channels of public participation in environmental protection should be smoothed to allow citizens' voices to be fully heard in environmental planning and decision-making, to expose environmental violations and to enhance social supervision.

But despite the introduction of the Interim Measures for Public Participation into Environmental Impact Assessment, the Environmental Information Disclosure Ordinance and other related regulations, most of the government's decision-making process remains closed, with no participation from the general public or other stakeholders.

Mechanisms for public participation are weak, access to information is often blocked, everyday government communications and emergency communications during environmental incidents are inadequate and citizens' voices are not heard. Public participation in environment and development is a necessary part of the decision-making, policy formation and implementation required to build an ecological civilization. The public increasingly distrusts closed processes, where decisions are made by experts and enforced by government and demands participation and transparency in policy formation and implementation, as well as access to environmental information.

Furthermore, the digital age has transformed the way citizens receive, process and distribute information. In the new media digital age, the public can no longer be expected to be passive recipients of top-down information, but increasingly produce their own content, choose their own sources and decide for themselves whom to trust and what to believe. Today, more than ever, green development depends upon good two-way communication and information disclosure. Where access to information has been blocked, where information has proven unreliable or its release has been unnecessarily delayed, public trust has been undermined, rumours have flourished and the risk of social conflict has grown. Without more open information, more responsive and effective government communications through all available media and more effective public participation, green development and ecological civilization cannot be achieved. Where information is withheld and meaningful participation thwarted, frustrations will continue to find expression in protest. Rebuilding trust between citizens and government in the digital age is a multi-faceted task that begins with removing the obstacles to citizen participation and access to information and requires an open and trusted system of government communications at every level.

This study aims to identify obstacles to full public participation, access to information and deficiencies in government communication on environmental issues in China, to present a positive vision for best practice on public participation, communication in the digital age and open information for green development and ecological civilization. Additionally, it aims to make recommendations with a plan for improving communication, participation, policy outcomes and implementation, thereby helping to build ecological civilization and trust between citizens and their government.

5.2 PUBLIC PARTICIPATION

5.2.1 Introducing public participation

Public participation in China's green development involves three aspects: information disclosure, public participation and communications. Full public participation should be a cooperative, joint enterprise between government and an informed, engaged public, where citizens should not only have the right to object, but also the right to participate in the early stages of decision-making. In other words, the public should be involved in deciding what kind of environment they would like to live in.

Environmental education is an important aspect of public participation. Public participation should support the citizen's ability and opportunity to learn. Likewise, an environmentally educated public can be expected to make better consumer choices and to play a full part in environmental decision-making. International experience of collaborative planning shows that the public's willingness to engage with scientific and technical information is closely related to their capacity to understand and do something with that knowledge in a deliberative context. If people have real power to effect change, or to participate in environmentally significant planning decisions, they will engage with information in a sophisticated manner. If they do not have power, they are more likely to display apathy, indifference or hostility, which can lead to public protest.

This Special Policy Study considered environmental incidents, such as chemical spills, and social incidents, such as protests related to planning and environmental decision-making. Both environmental and social incidents, when poorly handled, can do lasting damage to public trust in government, restricting the progress of China's green transition. All require transparency from government and rapid, responsible and effective communications. Representative examples of social incidents in China related to proposed projects in recent years are presented as Table 5-1:

Table 5-1 Representative examples of social incidents in China

Year	Place	Focus of protest
2007	Xiamen, Fujian	Proposed PX project
2007	Shanghai	Maglev train route
2007	Yantai, Shandong	Haiyang nuclear power station
2007	Beijing	Liulitun waste incinerator
2008	Chengdu, Sichuan	Pengzhou petrochemical project
2008	Guangzhou, Guangdong	Nansha petrochemical project
2008	Nanjing, Jiangsu	PX project
2009	Guangzhou, Guangdong	Waste incineration
2012	Shifang, Sichuan	Copper refinery
2012	Qidong, Jiangsu	Waste-water pipeline from paper factory
2012	Ningbo, Zhejiang	Zhenhai PX project
2013	Kunming, Yunnan	PX project

Where public participation in environmental decision-making is non-existent or ineffective, public suspicion of development projects is high and levels of public trust tend to be low. In the absence of effective channels for public participation in environmental decision-making and in the event of environmental incidents, citizen voices frequently find their outlet through protest. Protests related to environmental problems have increased at an average annual rate of almost 30% in recent years. This is a situation that not only undermines social cohesion but also indicates and contributes to less sustainable policy decisions, potentially threatening its green development plans and economic upgrading. China has thus reached a critical point in its green transformation.

Legal and orderly public participation in planning ensures more environmentally, socially and politically sustainable decisions and improves the chances that better and more acceptable decisions will be made, which will be more readily supported by the public. Public participation may prolong the planning process, but international experience suggests that the benefits of higher quality decisions, greater public acceptance and the resulting increased legal security for investors and enhanced social harmony, outweigh the costs of a delayed process and help to mitigate the risk of project cancellation at later stages, a risk that is unnecessarily high in China today. Informing the public at the earliest juncture about the public participation process and the scope of the decision to be taken, rather than soliciting public participation after a developer submits an application for a project, is also shown to be more sustainable, since it allows the public to contribute to improved or alternative development concepts. This offers the opportunity to turn potential hostility into involvement and support, and allows the authorities to better evaluate not only which is the best concept, but also which will gain greater public acceptance.

In China, offering a structured process for legal and orderly public participation will help to increase social harmony, maximize fairness, improve policy outcomes and implementation and address the highly uneven nature of public participation at a time when there is a low level of public trust in the political authorities.

Box 5-1 Stuttgart 21

Stuttgart 21 is a railway and urban development project in the German city of Stuttgart, the details of which were negotiated in the early 1990s among different government and industry stakeholders. Although no laws were broken in the development process, no great effort was made to ensure the fullest possible public participation in the planning of this large-scale project. Protests broke out in 2009, when residents were surprised to see construction crews arriving on the site and trees being cut down. The following year, hundreds of demonstrators were injured when the police deployed water cannons, pepper spray and batons to clear protestors. This police overreaction infuriated the public, leading to a 50,000-strong protest the following day, organized via social media, and a major electoral victory for the Green Party in the state elections that followed.

This experience forced the Stuttgart city authorities to change strategy. The developers created a web-forum to solicit structured public participation, where opposing views on the project were sought, questions regarding the project were collected on a daily basis and the most important and relevant ones were chosen by participants through an online voting mechanism, to be answered by the relevant authorities. The Stuttgart 21 case thus provides an illustration of how following limited public participation procedures is sometimes insufficient to achieve complete understanding of popular sentiment and a more cooperative and early-stage approach is required to gain public acceptance and avoid social conflict around a controversial planning decision. Such a digital platform facilitating early-stage public participation provides a model for potential pilot projects to help avoid social conflict in planning in Chinese cities, where plans for large industrial developments, power plants and other projects have sparked frequent conflicts.

5.2.2 Public participation in green development

The core of international agreements on public participation in environmental decision-making is Principle 10 of the Rio Declaration agreed at the United Nations Conference on Environment and Development, (the “Earth Summit”), in Rio de Janeiro in 1992:

“Environmental issues are best handled with participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous material and activities in their communities and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.”

The Rio Declaration thus links public participation to access to information and access to justice or redress. Basic implementation guidelines for Principle 10 are set out in the *Guidelines for the Development of National Legislation on Access to Information, Public Participation and Access to Justice in Environmental Matters* (the “Bali Guidelines”), which were adopted in 2010 by the governing body of United Nations Environment Programme, which includes China. These guidelines are not laws, but represent the international consensus on public participation in environmental matters, as well as the importance of information disclosure as a basis for such participation, and thus provide a benchmark against which the implementation of Rio Principle 10 can be assessed. More than 90 countries have since adopted framework laws or regulations for access to information, including China, Indonesia, Nigeria, Liberia, Mongolia and Brazil.

Box 5-2 The Bali Guidelines Relating To Open Information And Public Participation

Guideline 1: Any natural or legal person should have affordable, effective and timely access to environmental information held by public authorities upon request (subject to guideline 3), without having to prove a legal or other interest.

Guideline 2: Environmental information in the public domain should include, among other things, information about environmental quality, environmental impacts on health and factors that influence them, in addition to information about legislation and policy, and advice about how to obtain information.

Guideline 3: States should clearly define in their law the specific grounds on which a request for environmental information can be refused. The grounds for refusal are to be interpreted narrowly, taking into account the public interest served by disclosure.

Guideline 4: States should ensure that their competent public authorities regularly collect and update relevant environmental information, including information on environmental performance and compliance by operators of activities potentially affecting the environment. To that end, States should establish relevant systems to ensure an adequate flow of information about proposed and existing activities that may significantly affect the environment.

Guideline 5: States should periodically prepare and disseminate at reasonable intervals up-to-date information on the state of the environment, including information on its quality and on pressures on the environment.

Guideline 6: In the event of an imminent threat of harm to human health or the environment, States should ensure that all information that would enable the public to take measures to prevent such harm is disseminated immediately.

Guideline 7: States should provide means for and encourage effective capacity-building, both among public authorities and the public, to facilitate effective access to environmental information.

Guideline 8: States should ensure opportunities for early and effective public participation in decision-making related to the environment. To that end, members of the public concerned should be informed of their opportunities to participate at an early stage in the decision-making process.

Guideline 9: States should, as far as possible, make efforts to seek proactively public participation in a transparent and consultative manner, including efforts to ensure that members of the public concerned are given an adequate opportunity to express their views.

Guideline 10: States should ensure that all information relevant for decision-making related to the environment is made available, in an objective, understandable, timely and effective manner, to the members of the public concerned.

Guideline 11: States should ensure that due account is taken of the comments of the public in the decision-making process and that the decisions are made public.

Guideline 12: States should ensure that when a review process is carried out where previously unconsidered environmentally significant issues or circumstances have arisen, the public should be able to participate in any such review process to the extent that circumstances permit.

Guideline 13: States should consider appropriate ways of ensuring, at an appropriate stage, public input into the preparation of legally binding rules that might have a significant effect on the environment and into the preparation of policies, plans and programs relating to the environment.

Guideline 14: States should provide means for capacity-building, including environmental education and awareness-raising, to promote public participation in decision-making related to the environment.

5.2.3 Public participation laws and their implementation in China

In China, the main laws that provide for public participation in new development projects are the *Environmental Impact Assessment (EIA) Law* (2002), *Administrative Licensing Law* (2003) and the Ministry of Environmental Protection's *Interim Measures on Public Participation in the EIA Process* (2006). Article 5 of the *EIA Law* stipulates that: "The state encourages relevant entities, experts and the general public to participate in the appraisal of the environmental impacts in appropriate ways." However, at present the solicitation of public opinion comes not at the early, scoping stage, but only after a project design is finalized and an EIA completed, though before it is submitted for official approval. Article 17 of the *Interim Measures* states that "construction units [and] EIA agencies authorized by the units should take public opinions seriously and make it clear whether to adopt or not in the EIA Statements."

In China, the methods of public participation popularly employed to comply with these measures include public hearings, surveys, expert consultations and seminars. Public hearings can and should be held in China throughout the entire process of preparing EIAs, the issuing of licenses for proposed construction projects, the issuing of some administrative penalties for environmental violations and where new environmental legislation is proposed. At present there are no detailed, standardized instructions for the conduct of hearings, nor is there a standardised way for selecting public representatives to participate in hearings. Chinese local governments also use polling, by both governmental and non-governmental pollsters, in environmental decision-making. By the end of 2009, 23 provincial governments had established polling companies.

Box 5-3 Hotline 12369

China's Hotline 12369, operated by the Ministry of Environmental Protection allows the public supervision of the enforcement of environmental regulations through telephone tip-offs about pollution incidents. However, many people do not know about the Hotline. A survey conducted in 2005 showed that fewer than 20% of those questioned knew that it existed. In June 2013, the hotline received a total of 149 complaints from the public, suggesting awareness of the hotline is extremely low.

5.2.4 Public participation in practice

The Bali Guidelines state that members of the public concerned should be informed of their opportunities to participate at an early stage in the decision-making process. The "public concerned" is defined in those guidelines as the public "affected or likely to be affected by, or having an interest in, the environmental decision-making." Furthermore, non-governmental organizations (NGOs) promoting environmental protection (and meeting any requirements under national law) are also deemed to have an interest. This is often not the case in the Chinese context, where the process of identifying the public concerned has not been standardized and NGOs are typically not given the opportunity to engage in legal and orderly public participation processes, reducing the effectiveness of the public participation process, decreasing the likelihood of public acceptance, and increasing the likelihood of unrest and social protest. In Germany, for example, qualified NGOs (those that are non-profit, operate in the whole nation and serve the common interest) can register to obtain a legal status that entitles them to be consulted by government on environmental issues and challenge government decisions in court.

The US Environmental Protection Agency notes that a thorough process of identifying the interested and affected public is the “cornerstone” of public participation. It recommends that environmental protection officials identify the public concerned through:

- Research: into the community, its history, groups and past environmental decisions, including through the use of surveys, questionnaires and scientific sampling to identify those who might be concerned or affected by the issues.
- Communication: with community groups and leaders, individual stakeholders, experts, local officials and environmental organizations, as well as other environmental protection officials.
- Publicity: about the clearly defined reason for public participation, stressing the value placed on the community’s participation, using diverse sources of media, including email, printed flyers, mailings, meetings, door-to-door contact, radio, or advertisements in newspapers.

International experience suggests that the public participation process that follows this identification of the public concerned should take multiple forms and that an effective process of public participation must be underpinned by procedures that allow a decision to be challenged in the court of law. Various methods should be employed in order to promote a positive dynamic of interaction between empowered and mobilized citizens and a government committed to cooperating with the public. Based on academic literature and the investigations carried out by this Special Policy Study, Table 5-2 is a brief overview of some of the methods used for various purposes in the public participation process.

Table 5-2 Brief overview of public participation methods

Purpose	Appropriate method
Disseminating information	Press conferences, printed media (e.g. flyers), websites and online notices, government microblogs, presentations, exhibitions, public displays.
Gathering additional sources of ideas and information	Citizens’ juries, consensus conferencing, focus groups, deliberative opinion polls, online polls, crowd sourcing, online forums, social media analysis, citizens’ panels, referenda.
Monitoring and appraisal by citizens	Design dialogue, citizen science, online mapping, community-needs analysis, priority search, public scrutiny, village appraisal, parish mapping, community indicators.
Broadening of public acceptance and reducing social conflict by bringing together stakeholders (including government)	Public hearings, consensus-building, future search, community visioning, round tables, online forums.

Box 4: Botkyrka

The “design dialogue” method for public participation in urban planning has been successfully demonstrated in the municipality of Botkyrka in Sweden. In a series of structured workshops over a period of around two months, different members of the community, including school-age children, were invited to share their knowledge and feelings about their community, evaluate different development options and come to a consensus on a development plan. Photographic documentation and visualization techniques, conversational aids, such as game boards and storytelling, as well as exhibition showrooms, were used to facilitate dialogue and flatten differences in status and educational level. Thus, the municipality, working closely with the architecture firm Nyrens Architect Bureau, came up with a long-term urban re-development plan that has helped to turn a relatively poor and marginal community, with many social divisions, into a socially and ecologically sustainable community.

5.3 ACCESS TO ENVIRONMENTAL INFORMATION

5.3.1 Introducing open environmental information

Transparency in environmental information is not only desirable for its own sake, but also because it leads to better policy outcomes and higher levels of public consent. These outcomes are more sustainable environmentally, socially and politically.

Government information strategies, in any country, serve a variety of purposes. Governments may be concerned to: provide citizens and organizations with the knowledge and means required to alert them to environmental problems, so that early action can be taken to avoid harm to people or social order, raise awareness of existing or anticipated environmental problems or emergencies, such as pollution or flooding, to provide guidance to citizens on how to protect themselves and provide clear information about government action in the emergency, have a better understanding of citizens' and stakeholders' sentiments, anxieties and priorities on environmental issues or to build policy around citizen and stakeholder perceptions.

Citizens and organizations that make use of information may also have different purposes. They may be concerned, for example, to: ensure that policymakers are properly informed about the contexts of environmental decisions, including the concerns of citizens and stakeholders and to influence policy decisions that affect them; and to obtain reliable and relevant information and guidance to guide their choices in daily life in pursuit of green consumption. Informative labeling and rating systems, for instance, help to identify green choices and consumers might choose between brands on the basis of information about the environmental performance of the manufacturer. Government approaches to information provision are most effective when they recognize and accommodate these user priorities, as well as serving the objectives of the providing agencies.

The new media context

The last 10 years have seen great changes across the world in the ways in which information is provided and shared, stemming from developments in information and communications technology. The development of the Internet and the World Wide Web have enabled information providers to make much more information available, in new forms, and has enabled users to gain access to a much broader range of information, from a wide variety of official and unofficial sources. The more recent development and adoption of online social networks and microblogging facilitate fast information sharing within both closed and open user groups, accelerating the spread of information. The integration of these communication applications with audio, image and video applications has greatly enriched sharable content. The proliferation of mobile phones and more recently of smart phones has made the Internet and social networking applications much more readily available to many more people, on the move as well as from fixed locations, intensifying online activity.

According to the China Internet Network Information Center, China has 591 million Internet users and more than 460 million mobile Internet users. China's Internet has already been through three, major development stages, from the era of large, portal websites in 2003 to the rise of the search engines and bulletin boards in 2008 and the take-off of Chinese language micro-blogging in 2010. SinaWeibo, the largest micro-blogging service, has more than 500 million registered users. The QQ instant messaging service had 798.2 million registered users at the end of 2012. Today citizens use a new range of media platforms, such as bulletin-board systems (BBS) and QQ groups, to share information on and organize opposition to polluting projects, waste incinerators or infrastructure projects. Opinions can be shared among the public with ease, and stories that emerge in new media can become important issues in traditional media, amplifying the debate in the public sphere. New media platforms have also given a platform to new, charismatic opinion leaders and citizen journalists.

There are important distinctions between the approach to information provision through traditional media and those that are effective in the new media environment. Traditional media mechanisms for environmental information based around print media, broadcasting and even formal consultation, have generally been hierarchical. They have enabled policymakers at every level of government to deliver messages to citizens and communities, but offered little scope for the interaction or feedback that might help policy makers learn from citizens. New media, by contrast, particularly social media, such as online social networks and microblogging sites, are networked rather than hierarchical, and highly interactive, enabling users to exchange views and contribute their own content, including multimedia content, to discussions in real or near-real time, thus blurring the boundaries between information and participation.

This has two important implications for policymakers and officials, who need to adapt to the dynamics of these new information channels. First, it makes it much more difficult to control the flow of information on environmental issues, particularly where these environmental issues may have powerful local impacts. Policymakers must expect information and comment on environmental issues to spread widely and rapidly through social media, influencing public opinion. Some, but certainly not all, of this information will be accurate, some may be malicious, self-interested or merely misinformed. The best way for government agencies to ensure that public discussion is fair and well-informed and to reduce the influence of rumours, be they innocent or pernicious, is for policymakers and officials themselves to provide accurate, comprehensive, reliable and timely information that the target audience trusts. Second, social media should be used alongside traditional media within a cohesive framework for providing environmental information. The inclusion of social media in information strategy is important both because of the speed with which information can travel on social media and because they are increasingly influential. Different social media have different characteristics, however, and should be incorporated in different ways. Successful strategies are likely to be those that understand and exploit the value of horizontal networking among networks' user communities. Strategies for using social networks that see them as channels for top-down information management are unlikely to be effective.

Information provision should aim to secure more sustainable policy outcomes and enhanced public involvement, understanding and therefore consent to environmental policies and decision-making. These aims are closely linked with public participation. Public trust and confidence in the information made available is extremely important. This is partly a matter of trust in the source, partly of its perceived reliability and partly of its relevance to the users' own circumstances. As shown in the case studies of environmental incidents below, information that proves unreliable, inaccurate or out of date jeopardizes confidence in future information, fosters rumours, anxiety and misunderstanding, and encourages alternative sources.

For example, attempts by government authorities in China to censor and regulate online media coverage of protests almost invariably provokes a public backlash, greater confrontation, greater credence for rumour and greater public sympathy with the protestors, not to mention a further reduction in levels of public trust in government. It is clear that if government departments are concerned about the spread of rumours, the most sustainable and effective strategy is to respond with greater transparency and the timely provision of accurate information.

Box 5-5 Chongqing Environmental Protection Bureau

In an effort to create a communications platform between the government and the public that is effective in the new media context, the Chongqing Environmental Protection Bureau started a series of microblog accounts. These accounts, on Sohu, Tencent and Sina Weibo, are intended as new platforms for faster information dissemination, greater transparency and improved responsiveness to public opinion and citizen complaints. The accounts have around 300,000 followers, and there are individual accounts for each of Chongqing Municipality's 40 districts. EPB employees have specialized training on how to use and coordinate microblogging effectively. This training outlines various principles, including maintaining a culture of openness that accepts criticisms from the public as valuable information, valuing accuracy and admitting errors where they occur, thereby increasing public trust. The accounts are used for releasing air quality information, tips on more environmentally responsible behaviour and practical advice. When environmental emergencies occur, the accounts are used to give citizens fast and accurate information about the risks and hazards. This method is much quicker than traditional media, helping dispel rumours, Xinhua news agency has praised the accounts as a model for helping to avoid social unrest.

5.3.2 Open information laws and their implementation

International agreements on access to information do not have the force of law in China, however, they are foundation documents that have emerged from extended discussions within the United Nations framework and provide a sound starting point for legislation and implementation in UN member-states, including China. The Bali Guidelines call for public authorities in all countries to provide “affordable, effective and timely access to environmental information” to citizens and organizations on request, including “information about environmental quality, environmental impacts on health and factors that influence them... information about legislation and policy, and advice about how to obtain information.” Underlying these principles is the idea that information raises the level of debate and influences opinions that might otherwise be compromised by mistrust and bias, thus helping to underpin more sustainable decision-making. Governments are thus expected to establish processes for the regular collection and publication of “information about proposed and existing activities that may significantly affect the environment,” and to build the capability of public authorities and the public to make use of information access.

Open information laws in Europe

The principles of information transparency that emerged from the 1992 Rio Summit underpin approaches to environmental engagement, particularly information transparency, that were subsequently adopted by a number of governments and regional organizations, most extensively in Europe. There are two key European institutions: the Aarhus Convention of the United Nations Economic Commission for Europe (UNECE), whose membership also includes North America and parts of Central Asia, and the European Environment Agency (EEA).

- i. The *Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters*, known as the Aarhus Convention, was agreed by member-states of the United Nations Economic Commission for Europe (UNECE) in 1998. It grants extensive information access and participation rights to individuals, communities, businesses, NGOs and civil-society organizations on issues concerning the environment.

The Aarhus Convention requires governments to publish or make public both general environmental information and information of environmental significance relevant to specific individuals or communities. It states that the public should be informed “early in an environmental decision-making procedure and in an adequate,

timely and effective manner” about any specific environmental matter that affects them, afforded the information necessary to understand and analyze its impact, and provided with the means to express their views.

As well as encouraging publication of environmental information, the Convention grants individuals and organizations the right to obtain unpublished information. Under the Aarhus provisions, any individual or organization can request and obtain any “environmentally relevant” information (as defined above) from any national or local government agency, any public body or any private company that provides public services (such as a privatized utility). Applicants do not have to give any reason for their request. There is also a presumption in favour of disclosure: public agencies must provide the information requested, within set time limits, unless there are very specific and narrowly defined reasons why it would not be appropriate in a particular case. Information is not confined to data and final policy documents, but includes material related to decision-making processes.

Box 5-6 Pollutant Release And Transfer Registries

A 2003 Protocol to the Aarhus Convention established the Pollution Release and Transfer Register (PRTR). PRTRs are national databases of potentially hazardous materials that are released into the environment (air, water or soil) and/or transferred elsewhere for treatment or disposal. Businesses and public sector bodies responsible for pollutants are required to report regularly on the quantities of pollutants they release or transfer. Published data enable governments and other stakeholders to monitor businesses’ environmental performance, hold high polluters to account and take any necessary enforcement action. The public reporting requirement tends to encourage companies to reduce their pollution and, in some cases, to identify ways of making productive use of waste materials. European Union directives require EU member-states to implement the Aarhus Convention, including the PRTR, in national legislation. Encouragingly, China’s Ministry of Environmental Protection introduced a PRTR system into the nation’s *Measures for the Hazardous Chemical Management and Registry*, enforced in March 2013. Related regulations were published in July 2013. However, the list of substances concerned has not yet been published.

- ii. The European Environment Agency (EEA) is an agency of the European Union, although a number of non-EU countries have also chosen to participate in its work. It defines its role as being:

“To support sustainable development and to help achieve significant and measurable improvement in Europe’s environment through the provision of timely, targeted, relevant and reliable information to policy-making agents and the public.”

The EEA gathers and makes available data sets, including near-real time data, on the whole range of environmental issues, produces integrated environmental assessments and thematic analyses, monitors the effectiveness of environmental policies and seeks to anticipate emerging issues to gather information ahead of policymakers’ needs. In 2013, a typical year, it will prepare and publish around 35 annual and analytical reports on major environmental issues across Europe.

Eionet is a partnership between the EEA and its member-states, built around a network of 1,500 contact points, research institutes and key informants, which collate and share data for dissemination and develop thematic and integrated assessment reports and national State of the Environment Reports. It currently works around six topic centres: air pollution and climate-change mitigation, climate-change impacts, vulnerability and adaptation, biodiversity, inland, coastal and marine waters, spatial information and analysis and sustainable consumption and production.

The EEA is developing a Shared Environmental Information System (SEIS), networking the information systems of EEA member states to “create an integrated web-enabled, EU-wide environmental information system.” This represents a shift in the overall approach of environmental information dissemination, “from individual countries or regions reporting data to specific international organizations, to creating online systems with services that make information available for multiple users – people and machines.”

The principles of this shared environmental information system were crystallized in an important document from the Eye on Earth Network, known as the 2013 Dublin Statement, which states that data and information should be:

- Collected once and shared with others for many purposes
- Managed responsibly at source
- Readily available to easily fulfil reporting obligations
- Easily accessible for users and available in national languages
- Enabling comparisons on the appropriate geographical scale and to support citizen participation
- Supported through investment in common standards and interoperable systems

The emphasis on supporting citizen participation signals support for citizen science initiatives, which the EEA supports as high quality, cost-effective methods of data collection that improve public participation and policy implementation.

Box 5-7 Mapping For Change

Mapping for Change is a London-based social enterprise founded by Muki Haklay, a professor of geographic information science, and Chris Church, a veteran environmental campaigner, which uses online maps as tools for public participation in sustainable development. For example, when Mapping for Change was approached by residents of Pepys Housing Estate in Deptford, a disadvantaged area of south London, who wanted to campaign against an unpopular local scrapyards, the organisation developed a methodology for collecting noise measurements with cheap, hand-held devices that the residents could use to create an online map of noise pollution in the area. For the first time, the community had a visual way to show what they had been struggling to argue for eight years, and at a public meeting, the community were able to present the authorities with the evidence. The local authorities and the environmental agency were able to see that there was a problem, which was subsequently confirmed by professional acousticians. The environmental agency subsequently revoked the license for the scrapyards. The case demonstrated the value of citizen science, not only in public supervision, but also in improving environmental education and social cohesion. For example, one of the women from the community in Deptford, who did not have a high level of formal education, reported that her involvement in the project inspired her to study for a work-based qualification.

Implementation of open information laws

An appropriate legal framework is essential for effective environmental information provision. Legislation, however, is not sufficient in itself to ensure that information provision is an effective part of environmental governance. European experience suggests that three further aspects are required:

- Government agencies and officials need to ensure that legislation is effectively implemented. This requires training and awareness-raising across government.

- Businesses and organizations responsible for activities that affect the environment need to implement procedures that enable them to provide information and respond to information requests promptly and proactively. European experience, notably with the PRTR, suggests that businesses that do so can gain significant competitive advantages, as they become more aware of their own environmental impact and of potential cost savings that may result from mitigation.
- Information needs to be provided in ways that are relevant and appropriate for different audiences, and that build public trust in the information that is made available. This is best achieved through an open approach that provides relevant information in ways that can be readily understood by non-specialists and that recognize the value of feedback from those affected.

The overall aim of environmental information provision in Europe and elsewhere is to develop a culture of information provision that is supported both by legislation and these essential elements of implementation. Such a culture presumes that information should be provided unless there are strong reasons not to do so. To achieve this, it is important that the scope of environmental information is clearly defined in legislation and in guidelines to officials.

Environmental Impact Assessments have also proven particularly important in determining the suitability of industrial and other development proposals. Their publication in full has been important in European efforts to engage public opinion and ensure that developments are environmentally sustainable.

Open information laws and their implementation in China

The Chinese Academy of Social Sciences established a specific research institute focusing on open government information laws in 1999. In 2006, this institute submitted China's first draft regulations on open government information to the State Council. The *Open Government Information Regulations of the Peoples Republic of China* (OGIR) came into effect in May 2008. The *Measures on Open Environmental Information*, the first decree specifically based on the OGIR, entered into force at the same time.

The measures require not only environmental authorities but also enterprises to disclose environmental information, both proactively and in response to information requests from citizens. In the measures, "government environmental information" refers to information made or obtained by environment authorities in the course of their environmental protection work. "Enterprise environmental information" refers to information about environmental impacts arising from an industry's operations.

The measures stipulate that environmental protection departments should disclose government environmental information on their own initiative: "by means of government websites, government gazettes, press conferences, as well as through newspapers and other publications, radio, television and other methods that make it convenient for the public to be informed." Enterprises are also encouraged to disclose environmental information voluntarily. The government also mandates the disclosure of certain types of information from industry, including emergency plans for sudden environmental pollution accidents and discharge information if polluters have exceeded national or regional pollution limits. The measures also specify that government environment information should be made available to the public within 20 working days, responses to information requests from citizens should be answered within 15 working days and major polluters must disclose and report emissions data within 30 days.

Independent studies have been conducted to assess the enforcement of these regulations. These have consistently shown that while many environmental departments have stepped up their efforts in environmental information disclosure since the adoption of the measures, considerable shortcomings remain and progress has been highly uneven. Local authorities vary hugely in how and to what extent they disclose environmental information to the public. One positive example of increased proactive disclosure is the transparency around air quality information, pioneered in Beijing in 2012.

Box 5-8 PM_{2.5}

Beijing suffered terrible air pollution in late 2011, but official monitoring data merely indicated that the air was “slightly polluted,” stirring strong dissatisfaction among citizens. A major focus of attention became small particulate matter, known as PM_{2.5}, which was collected but not reported in the Ambient Air Quality Standards, leading to a significant gap between the official data and people’s impressions. Citizen science efforts and independent air quality measurements, including from US Embassy measurements that were posted on social media, confirmed the high levels of PM_{2.5} and widespread concern about the issue on social media caught the attention of China’s decision-makers. On November 15, 2012, then Premier Wen Jiabao said that monitoring standards for environmental quality should be improved and should gradually reach international standards. At the Seventh National Environmental Protection Conference, then Vice-Premier Li Keqiang also demanded that the air quality standards be revised and published as soon as possible. PM_{2.5} has now been included in real-time pollution indicators in many Chinese cities, including Beijing.

Many of the regions where pollution is at its worst have not enforced the regulations effectively. The primary concern is that requests for information from citizens concerned about environmental risks are routinely rejected on spurious and unlawful grounds, such as inconvenience. Scholars have suggested this is due to a lack of capacity, training and specificity in the regulations, as well as a pervasive bureaucratic culture of secrecy at a local level. Citizens’ requests for Environmental Impact Assessments (EIAs) are frequently rejected. Although EIAs are required in Chinese legislation, they are not generally published in full. Access to information about the most hazardous pollutants, such as heavy metals and dioxins, is frequently barred. Polluting enterprises have been allowed to maintain an indifferent attitude towards the information disclosure measures. This has the unfortunate effect of undermining public trust in government when it is needed most.

The following scorecard in Table 5-3 indicates China’s current level of compliance with the Bali Guidelines.

Table 5-3 China's current level of compliance with Bali Guidelines

Bali Guidelines Relating to Information Aspects of Environmental Information and Participation		China's Regulations and Policies on Open Environmental Information	
<p><i>Guideline 1:</i> Any natural or legal person should have affordable, effective and timely access to environmental information held by public authorities upon request (subject to guideline 3), without having to prove a legal or other interest.</p>		<p>≈ Would benefit from improvement.</p> <p>China's <i>Measures on Open Environmental Information</i> (2008) states that: "Citizens and legal persons and other organisations may request environmental protection departments to obtain government environmental information." In practice, many find that access is refused or delayed.</p>	
<p><i>Guideline 2:</i> Environmental information in the public domain should include, among other things, information about environmental quality, environmental impacts on health and factors that influence them, in addition to information about legislation and policy, and advice about how to obtain information.</p>		<p>≈ Would benefit from improvement.</p> <p>The <i>Measures</i> define "government environmental information" as "information made or obtained by environmental protection departments in the course of exercising their environmental protection responsibilities and recorded and stored in a given form." In practice, certain forms of environmental information, such as information regarding EIAs or the disposal of hazardous waste, are difficult to obtain.</p>	
<p><i>Guideline 3:</i> States should clearly define in their law the specific grounds on which a request for environmental information can be refused. The grounds for refusal are to be interpreted narrowly, taking into account the public interest served by disclosure.</p>		<p>× Ineffective.</p> <p>The <i>Measures</i> state that information should not be disclosed if it may "endanger state security, public security, economic security and social stability." These grounds for refusal are unspecific. In practice, many refusals do not cite this article in the <i>Measures</i>, suggesting that it has been interpreted broadly.</p>	
<p><i>Guideline 4:</i> States should ensure that their competent public authorities regularly collect and update relevant environmental information, including information on environmental performance and compliance by operators of activities potentially affecting the environment. To that end, States should establish relevant systems to ensure an adequate flow of information about proposed and existing activities that may significantly affect the environment.</p>		<p>× Ineffective.</p> <p>The flow of environmental information is inefficient and opaque. Enterprise environmental information is a particular problem, with rare instances of mandatory reporting for enterprises and little compliance with voluntary measures.</p>	
<p><i>Guideline 5:</i> States should periodically prepare and disseminate at reasonable intervals up-to-date information on the state of the environment, including information on its quality and on pressures affecting the environment.</p>		<p>≈ Would benefit from improvement.</p> <p>Government departments produce annual reports on the environment, but these are often incomplete. Indicators and targets are vague and difficult to compare over time.</p>	
<p><i>Guideline 6:</i> In the event of an imminent threat of harm to human health or the environment, States should ensure that all information that would enable the public to take measures to prevent such harm is disseminated immediately.</p>		<p>× Ineffective.</p> <p>In the event of environmental emergencies, access to information is still commonly barred.</p>	
<p><i>Guideline 7:</i> States should provide means for and encourage effective capacity-building, both among public authorities and the public, to facilitate effective access to environmental information.</p>		<p>× Ineffective.</p> <p>Supervision capacity among the public and the authorities, and the enforcement of existing regulations, are major problems. However, these shortcomings have not been sufficiently acknowledged and little has been done to address the implementation gap.</p>	
<p>Legend: Scores based on research by the SPS, as well as secondary literature.</p>	<p>× Ineffective. China does not have relevant policy requirements or has not effectively implemented regulations that meet the guideline.</p>	<p>≈ Would benefit from improvement. China's policies provide for partial or occasional implementation of the guideline.</p>	<p>✓ Effective. China has adequate regulations or policy in place, with effective implementation.</p>

5.4 RESPONDING TO ENVIRONMENTAL INCIDENTS

5.4.1 Introducing emergency response

Environmental incidents are regrettably common in China and government responses to environmental incidents underscore the need for transparency and public participation. If poorly handled, such incidents can do lasting damage to public trust in government. If properly managed, legal and orderly public participation can help to support effective government action to remedy environmental problems and reduce public alarm and rumour. Moments of environmental crisis can be highly charged with public emotion and are subject to intense public and media scrutiny. Thus they have an enormous impact on public perceptions of official conduct, shaping lasting views on governmental competence and transparency.

It is therefore a mistake for environmental officials to shut down channels of public communication in an environmental emergency. Failing to communicate bad environmental news is bad public policy with long-term consequences and should be avoided at all costs. In an age of broadly distributed media power, attempts to “manage” public opinion through partial, incomplete or misleading information will fail. Worse, such attempts will inflame public outrage and foster rumour and speculation.

Official misinformation and lack of information are often reversed or corrected only after the damage to public trust and official credibility has been done. As the case study below from the United States demonstrates, officials should release all information quickly, provided they are confident that it is accurate. Similarly, rushing to release falsely optimistic information or temporarily refusing to release crucial information undermines public confidence in official credibility and competence. In an age of citizen science and social media, accurate information from other sources can expose official misinformation and undermine governmental credibility, just when trust is needed most.

Box 5-9 The Deepwater Horizon Spill

The blowout of BP's Macondo well on April 20, 2010, which triggered the Deepwater Horizon oil spill, caused crude oil to gush from the floor of the Gulf of Mexico for 87 days. The disaster was a colossal environmental catastrophe — the largest offshore oil spill in history — and as responders struggled to staunch the flow of oil, the grim spectacle triggered a deep loss of public trust in both industry operations and government oversight.

This loss of public confidence was compounded by serious communications errors committed by federal authorities. The Federal On-Scene Coordinator consistently downplayed the size of the spill. Official estimates were gradually raised to 10 times the original estimate. In all, some 4.9 million barrels of oil leaked from the seabed before the broken well was capped on July 15, 2010. Independent scientists, using a small amount of publicly available flow data, generated more accurate estimates that called into question the official accounts. These unofficial estimates were widely disseminated by news media and social media, but the oil company BP attempted to dismiss their work. The combination of inaccurate official estimates and dismissive treatment of good-faith third-party estimates led to a breakdown of public trust.

Despite their mistakes, the responders did many things right in their approach to communications. They set up a “Common Operating Picture (COP),” digital tools that tracked every aspect of the response, with thousands of data layers, and posted a version of it at the website GeoPlatform.gov, to give direct public access to response status information. However, the communications measures they got right were negated by what they got wrong. Key facts were mangled, and with them, official credibility. A clear lesson from the incident is that officials should not withhold information arbitrarily, or release falsely optimistic information, as the US Coast Guard did, undermining public confidence in their credibility and competence.

5.4.2 Whistle-blowing

In the context of environmental controversies, especially where there have been failures in the information management system, it is inevitable that so-called whistle-blowers emerge from time to time, claiming to have information about environmental hazards and/or alleged public or private improprieties. Since it is impossible to determine at the outset which of them may be exposing authentic impropriety and that may be mistaken, misguided or malicious, all must be protected from official or unofficial retribution, and all of their allegations must be seriously investigated and evaluated.

Box 5-10 Millstone 2

In the mid-1990s, an engineer at the Millstone 2 nuclear power station in the US state of Connecticut became disturbed by what he regarded as the plant's unsafe maintenance practices. The engineer, George Galatis, noted that spent fuel rods from the reactor core were being stored indefinitely – in violation of US Nuclear Regulatory Commission (NRC) regulations – in the spent fuel cooling pool outside the containment vessel. If the pool was ever drained of its water by an earthquake or malfunction, Galatis calculated that the result would be a significant and dangerous release of radioactive steam outside of containment.

Galatis brought his concerns to plant management and was rebuffed for purportedly exaggerating risks. Galatis took his concerns to the NRC and was rebuffed again, by inspectors whom Galatis believed had close ties to the power plant's management. Finally, Galatis sought formal whistle-blower protection under US government statutes, and contacted the Union of Concerned Scientists, an NGO that took his concerns to the media. Special Policy Study expert Eric Pooley was then a reporter for *Time* magazine and investigated Galatis' claims for a 1996 cover story. The story triggered an NRC investigation that uncovered multiple safety violations and led to the permanent closure of the Millstone 2 plant. Since then, federal whistle-blower protections in the United States have been strengthened. Today, it is likely that allegations such as Galatis' would be widely aired via social media, before becoming fodder for traditional news outlets, which is all the more reason for authorities to put in place protection measures and fairly evaluate whistle-blower allegations.

In developed nations, government and corporate officials alike tend to be hostile to whistle-blowers, but these whistle-blowers often serve the greater social good. For this reason, official procedures must be put in place to ensure that whistle-blowers are protected from retribution and given the benefit of the doubt. For example, protection for whistle-blowers is accepted as an important part of environmental decision-making in Sweden. The Swedish Public Access to Information and Secrecy Act is designed to permit government officials to leak otherwise secret information. With certain specific exceptions, such as protection of another person's integrity or state security, the law permits an official to read from a secret document to another person, if the purpose is to publish the information. Journalists have no right to reveal the source of the anonymous information. Only the informant or the court can revoke the confidentiality between a media outlet and a source.

Box 11: The Bohai Gulf Spill

On 21 June 2011, users of the Sina Weibo microblogging service read this short post: “Two wells at a Bohai oil field have been leaking for two days. I hope the leaks are controlled and pollution prevented.” It was then just a rumour, but it turned out to be true. It was likely written by a whistle-blower at China National Offshore Oil Corp (CNOOC), the state-owned Chinese company that forms half of a joint venture with ConocoPhillips at an oilfield (Penglai 19-3) in the Bohai Sea, off China's northeastern coast. In the end, the size of the oil spill officially reached about 2,500 barrels, polluting around 4,250 square kilometres of seawater. However, despite an increasing volume of concern both online and in the traditional media, the State Oceanic Administration (SOA) did not confirm the leak until an entire month later – a secretive response that led to a serious loss in public trust.

However, decision-makers learned an important lesson from their initial response. On July 12, another small oil leak occurred at a different CNOOC field in the Bohai Gulf. This time, SOA announced the news within 12 hours. Even more significantly, on July 13, SOA ordered the field to halt operations and required that information on the leak be made public: the first time a government department had urged a polluting company to disclose information on an incident of this kind. This was a breakthrough for transparency and was widely praised.

5.5 POLICY RECOMMENDATIONS

5.5.1 Strengthen legal and orderly public participation in environmental fields as an important basis for promoting Ecological Civilization, building a ‘Beautiful China,’ and bringing benefit to the Chinese people.

Legal and orderly public participation is an important basis for higher quality, sustainable decision-making. It will help to address the loss of trust between citizens and government, foster social peace, especially regarding potentially controversial planning and development decisions, and ultimately, improve green development and build an Ecological Civilization.

Access to information is essential for effective public participation. In an era of rising citizen concern, more complex environmental issues and proliferating sources of digital information, creation of a sustainable strategy for open environmental information is a complex task. It will be most successful if it is carried out as a joint enterprise between people and government, in which the benefits of social media concepts such as crowd-sourcing, two-way information flows and citizen science are harvested for improving sustainable development potential.

Therefore, in order to promote public participation in China's sustainable development, this Special Policy Study recommends the following measures:

- i. Government officials at all levels should be encouraged to recognize that full, early and effective public participation can help promote green development with better quality decisions and greater societal acceptance. Government should proactively seek participation in a more transparent manner, including during the planning phase for industrial projects, the setting of national and local economic development plans and through the promulgation of environmentally relevant laws and policies. These steps will ensure that concerned citizens have adequate opportunities to express their views. Mechanisms for handling complaints from the public should be improved.

Methods of public participation might include public hearings, citizen juries, focus groups, publicly-accessible displays and opinion surveys. Government should recognize that participation in the early, scoping-stage is especially important for sound and efficient environmental decision-making with less social conflict. It is

also much less costly than having to stop, redesign or relocate a project at a later design stage. This approach demands a new ethos among officials charged with achieving sustainable development and should be enforced by administrative and legal sanctions in cases where officials fail to adequately seek public participation.

- ii. Citizens should play a substantive role in creating a sustainable Ecological Civilization by taking part in the collection and monitoring of environmental information. Government should harness the potential of citizen science and crowd sourcing as potentially high-quality and cost-effective methods of data collection that improve policy implementation, increase public trust, enhance social inclusion, improve environmental education, reduce the spread of false information and advance citizen supervision of sustainable development. In an era of information sharing and widely proliferated geographic and computing technologies, Chinese citizens can no longer be expected simply to consume expert-produced information, but should be actively involved in its production. This effort could be advanced by building upon successful local government and NGO pilot schemes. For example, in the field of solid waste management and treatment, citizens could submit data and information about solid waste issues via websites and smart-phone applications. This info would then be compiled for use in open online maps and other digital tracking tools that would enable greater citizen participation and public supervision.
- iii. Government should take steps to strengthen citizens' overall understanding of public participation and promote responsible public environmental behaviour. While upholding the public's environmental rights, the government should create an open information system in which accurate information can flourish and promote plentiful forms of public participation, including positive environmental behaviour to foster active participation in a green societal transformation through green consumption, sustainable travel and environmentally friendly lifestyle choices.
- iv. Public participation can benefit from the establishment of an effective, long-term and reliable institutional mechanism that allows effective public opinion solicitation and the widest possible incorporation of expert opinion, including opinion from beyond the narrow scientific and technical community. Today, there are clear inadequacies and deficiencies in the current institutional arrangements for environmental decision-making. For example, the MEP currently has two advisory committees on environmental decision-making, both with a very narrow constituency in the scientific and technological expert community: the National Environmental Advisory Commission, chaired by the MEP Minister, with membership consisting of the most senior and most well-established scholars, and the MEP's Science and Technology Committee, chaired by a Vice-Minister. The pool of experts staffing these two bodies is too limited to deal effectively with environmental problems that are positioned within broader social problems. We recognize this and recommend the establishment of a Committee for Environmental Communication and Public Participation as the appropriate institutional mechanism for broadening the expertise base of environmental decision-making.

Members of the Committee should include scientists, social scientists, technical experts, NGO members and members of the public. The principles of fairness, public interest and openness should guide the selection of Committee members, so as to ensure the inclusion of individuals who can truly provide quality advice on environmental decision-making.

5.5.2 Promote and develop open environmental information systems, consolidate and improve information management capabilities of central and local government and enterprises and effectively implement open information legislation.

Open, extensive, detailed and accurate environmental information provide an essential foundation for effective public participation and for sound and sustainable policy outcomes. Since 2008, China has made great strides in information provision, but policies and regulations are unevenly implemented across different provinces, regions and municipalities, and throughout different departments and ministries of the central government. Despite the regulations, many enterprises and local governments still do not pay enough attention to the citizen's right to know. Where access to information is blocked, where information is unreliable, or where its release is unnecessarily delayed, public trust is undermined, rumours flourish, policies are poor, the risk of social conflict grows and the central role of the public in constructing an ecological civilization is eroded.

The principles agreed in the 1992 UN Conference on Environment and Development (and elaborated in the UNEP Bali Guidelines of 2010) represent the international consensus on public participation in environmental matters and the importance of information disclosure as a basis for such participation. The Dublin Statement of 2013, originating from the Eye on Earth Network of the European Environmental Agency, represents leading edge international expert opinions on open information and citizen science, which China can harness in its new efforts to build an Ecological Civilization. The Special Policy Study recommends the following measures:

- i. Government should more fully implement the information provisions set out in existing legislation and guidelines, such as the *Regulations of the People's Republic of China on Open Government Information* (2008) and the *Measures on Open Environmental Information* (2008). It is a means for facilitating both the proactive publication of environmental information and for opening public access on request to information that is not proactively published. Government should mandate a presumption in favour of open and timely access to information, subject to clearly defined and limited reservations, for instance in respect to commercial confidentiality. This will require a new culture of transparency among officials, enforced by administrative and legal sanctions where officials fail to respond appropriately.

To aid the public supervision of this measure, government should ensure that any citizen, who considers that a request for environmental information has been unreasonably refused or in any other way not handled in accordance with the law, can challenge this decision through a review procedure before a court of law or another independent body.

- ii. Government should demonstrate its commitment to international standards of access to environmental information by passing Chinese legislation to more fully implement the Rio Declaration principles and elaborated in the Bali Guidelines. Government should formally recognize that the provision of timely and reliable information leads to better policy outcomes and enhanced public consent and should use these UN-agreed principles as the basis for its new approach.
- iii. Government should establish a national environmental information system, in which data and information are: collected once and shared many times, managed responsibly at source, readily available to fulfill reporting obligations, easily accessible for users, including citizens, and preferably in real time, usable for comparisons at the appropriate geographical scale to support citizen participation and made more valuable to users by investment in common standards and interoperable systems.

Enterprises, departments, bureaus and even pilot citizen science schemes that collect environmental information from the public should be required to submit environmental information to a single, national information system. Information and data will then be shared for compiling pollution inventories (see recommendation [5.2.4]), for assessing the state of the environment and for enforcing and supervising environmental regulations at central and local levels by citizens and government. This national environmental system will improve the quality of existing information services of all central and local government departments and bureaus relevant to the environment, including the National Bureau of Statistics, the Environmental Protection Bureaus, the Ministry of Environmental Protection, the Ministry of Water Resources and others. It will also have a positive educational impact on officials and the public.

- iv. Government should improve the monitoring and public availability of environmental data through the adoption of an inventory of pollution from industrial sites and other sources. We welcome MEP's introduction in March 2013 of a Pollution Release and Transfer Registry (PRTR) system (as detailed at www.prtr.net). This is a coherent, nationwide system of pollution inventories on a structured, online and publicly accessible database, under the *Measures for the Hazardous Chemical Management and Registry*. However, the regulated hazardous chemical inventory has not yet been published and there is as yet no unified platform on which the public can access information on these pollutants. We recommend that the government publish the regulated chemicals list and disclose the registered chemical information to the public through an open online platform. Using the example of hazardous chemicals as a pilot, the government should standardize the reporting and public disclosure of all hazardous chemicals based on the PRTR system. The government should adopt this PRTR model of mandatory annual reporting and support it with effective, independent auditing. This would help reduce pollution and help businesses, particularly in the chemical industry, improve their environmental performance and contribute positively to their "social license to operate," thereby allaying public fears, rebuilding trust and advancing sustainable development.

5.5.3 Create a comprehensive environmental communications strategy to include the accelerated introduction of national environmental education legislation, in order to raise environmental awareness and promote environmental participation across all sectors of society.

Accurate, effective and responsive government communication is a necessary aspect of sustainable environmental decision-making, but government at present lacks a proactive, national environmental communications strategy. In the absence of such a strategy, the response of central and local governments has been reactive and inadequate, undermining the building of trust between the public and government. Furthermore, the level of the public's environmental awareness and scientific understanding can negatively affect the quality of public participation. To encourage more active government environmental communication and to foster a more informed public, the Special Policy Study recommends:

- i. To enhance public environmental awareness and environmental protection, government should develop national strategies for communication in the following areas: communications on key environmental issues related to the government's annual and Five-Year plans, such as measures to control air, soil and water pollution control. Government should also develop comprehensive national communications strategies, to be implemented on such key topics of public concern as haze pollution, groundwater pollution and nuclear energy. This would emphasize and encourage public participation, help create better access to information, build trust between people and government and be implemented by government departments at all levels.

- ii. Further research should be conducted on the design and effect of environmental education laws elsewhere, including but not limited to, Taiwan, the United States, Japan, Brazil and South Korea. For example, the Environmental Education Act in Taiwan requires high school staff and students, staff and leaders of government branches at all levels and employees of state-run enterprises, to take four hours of environment-education classes each year. Building on not only international experience but also successful pilots at the local level in China, such as those in Ningxia Province and Tianjin Municipality, the State Council Legislative Affairs office should accelerate the introduction of a national environmental education law to address the needs of urban and rural citizens, officials at all levels of government and managers in private and public enterprises, where environmental education should be linked to strict corporate social responsibility practices.
- iii. Environmental communication and education are currently under-resourced and inefficient. The government should optimize and integrate resources to improve environmental communication and environmental education and to establish a unified, government agency to deal with these issues.
- iv. Beyond the formal education system, environmental education should involve new and traditional media, mass organizations and community-level communication channels, including those at the neighborhood and village level. Environmental education should support: consumers to make responsible, informed and sustainable consumption choices, urban and rural citizens to supervise environmental protection and to build Ecological Civilization through responsible environmental behaviour, enterprises to pursue green development and officials, especially at the municipal and other local levels, to make more sustainable decisions, to encourage and support public participation and to work effectively in constructing an Ecological Civilization.

5.5.4 Improve the implementation of existing laws, regulations and policies on public participation in planning. Reform and introduce new laws, regulations and guidelines to improve public participation where necessary.

Constructing an Ecological Civilization requires the rigorous enforcement of existing planning laws and, where necessary, the reform of laws pertaining to public participation in environmental decision-making. To improve policy quality and implementation, to rebuild trust between the people and the government and to avert a deepening social crisis, this Special Policy Study recommends the following steps:

- i. The *Environmental Impact Assessment Law* (2002) at present requires the publication only of abridged reports. Government should mandate full public disclosure of Environmental Impact Assessments (EIAs). In the context of rapid urbanization and an increasingly informed public concerned about the impacts of new developments on health and the environment, there is an urgent need to reform urban planning guidelines to enhance and expand legal and orderly public participation and to develop trust in the integrity and quality of environmental impact assessments. Online public disclosure of EIAs in their entirety, as is common practice in Europe and the USA, subject to limited restrictions for commercial confidentiality, is essential to secure public trust in new developments through open discussion and debate and to raise the quality of project designs and EIAs. In addition, disclosure of all other relevant information, such as feasibility investigations, social-stability risk assessments and approval documents, should also be mandated through relevant legislative reform.
- ii. Government should reform the EIA system to mandate early and more comprehensive participation of stakeholders in the EIA process. The *Environmental Impact Assessment Law* (2002), the *Administrative Licensing Law* (2003) and the Ministry of Environmental Protection's *Interim Measures on Public Participation in the EIA Process* (2006) provide legal channels for public consultation on new development projects, including industrial development, through such methods as public hearings, surveys, expert consultations and seminars. At present, however, the solicitation of public opinion comes only after a project design is finalized and an EIA

completed, though before it is submitted for official approval. This is too late for effective participation. It fails to capture the capacity of stakeholders to improve project design and can raise the risk of conflict and project failure. To improve project design, public acceptability and sustainable development and decision-making, government should establish a mechanism for stakeholder and public consultation in the conception and planning stages of development, public works and infrastructure projects. This will improve the project quality and the legitimacy of decisions, thus enhancing social harmony. Government should strengthen transparency in the participation process and provide a clear, robust, independent appeal mechanism, supported by law, to guarantee affected citizens unimpeded access to legal remedies.

- iii. Government should introduce or reform relevant laws to ensure that public participation mechanisms include the participation of recognized environmental NGOs. Government should simplify the registration process for environmental NGOs and should encourage the growth and development of independent NGOs and think-tanks, recognizing their important role in promoting public participation and fostering constructive, two-way dialogue between people and government, thereby reducing the incidence of social conflict.

5.5.5 Adapt government communications to the new media context, promote an open media system suited to the challenge of green development, with support for environmental reporting and enhanced two-way online communication between government and the public.

New media have become the main channels for the public to express, participate and supervise environmental issues. It is important for government to understand the importance of new media in the disclosure and dissemination of environmental information and in environmental communications. An informed and networked public increasingly challenges closed models of environmental decision-making and communication, where decisions are made by government and supported only by experts. If projects are to gain public acceptance, government agencies must communicate with the public and clearly demonstrate how citizens have been actively involved in decision-making. Government agencies at all levels should pay more attention to the roles of different media — mainstream and new media, online and offline — to disseminate environmental information more effectively. Social media are now particularly important in both the gathering and the provision of information in China. The Special Policy Study recommends government agencies should embrace two-way communication with the public on the Internet and recommends the following measures:

- i. Government should create strategies for more effective communication using new media, including social media, to disseminate information, learn from the public and facilitate public participation in environmental decision-making. It should build upon both international experiences and the specific characteristics of the Chinese media environment. These strategies must acknowledge today's diverse information culture, in which information is widely shared across networks of users on the Internet and social media, and that the uni-directional model of information used by government agencies is no longer effective or sufficient. These strategies could include the pilot use of web forums for structured online participation around the planning and construction of controversial projects, where the systematic analysis of public feedback could inform policy recommendations, and thereby enhance public input to environmental decision-making.
- ii. Government should make full use of microblogs and other new media technologies for open, detailed and accurate real-time environmental information disclosure. Government officials at all levels should also recognize new media as an important vehicle to gather public opinion for environmental decisions, improving decision-making in environmental protection overall. Furthermore, government should encourage the public

to use new media as a means to play an important role in collecting, monitoring, reporting and supervising environmental information according to law.

- iii. The government should give full play to the media (including social media) to advance citizens' legal rights and interests in the process of information disclosure and public participation, thus fostering a media context in which accurate and responsible information flourishes and social conflict is diminished.

5.5.6 Improve environmental incident response mechanisms.

Poorly handled environmental accidents can do lasting damage to public trust in government. When properly managed, public participation can support effective government action and reduce public alarm and rumour. Honest, transparent and effective handling of information in environmental accidents is essential to the restoration of public trust. The Special Policy Study recommends that government adopt the following suggestions:

- i. Government, when tasked with informing the public of the known facts of an environmental accident or emergency, should create a Common Operating Picture. This must include: information provided for traditional and new media audiences, including regular press briefings and daily incident reports published online and a standard set of online digital tools for citizens to track and learn about all aspects of the crisis and its response. Government should engage honestly with the public and promote transparency in its procedures. All relevant information on risks to the public should be disclosed. The government should brief thought leaders and trusted intermediaries, including NGOs and other stakeholders, mainstream and new media, as early as possible to enable them to inform the public throughout the crisis.
- ii. Government should regard social media channels not only as tools for disseminating the known facts of an environmental crisis, but also as tools for citizens to inform government departments about an emergency. Government should recognize that an involved, alert and adaptive public, networked through social media, can improve the effectiveness of emergency response through bottom-up, positive participation.
- iii. Government should create a series of Crisis Communications Handbooks for government officials at every level, for stakeholders, for media and for communities to help them recognize and respond to a variety of crisis types. This includes specific environmental incidents, such as nuclear radiation leaks, coastal oil spills, heavy metal soil and water pollution incidents or severe air pollution. Officials should be equipped with appropriate and time-tested communications tools for traditional and new media contexts, the media should be encouraged to adopt best practices for emergency reporting, stakeholders should be offered advice on responsible and effective communications in an environmental emergency and communities should be educated on how an environmentally aware and informed public can help to protect the environment in an emergency and help to ensure the public's environmental rights.
- iv. Government should introduce robust regulations to encourage and protect whistle-blowers, and to ensure early reporting of environmental problems, accidents and emergencies. Such regulations are necessary to reduce the environmental damage that decreases public trust and to strengthen a responsive and effective environmental monitoring, information and media system. These regulations should not override existing legal protections against fraudulent claims, false information or leaking of state secrets, but should provide robust protection for genuine whistle-blowers against special interests.
- v. This SPS has considered environmental incidents, such as chemical spills, and social incidents, such as protests related to planning and environmental decision-making. Both environmental and social incidents, when poorly handled, can do lasting damage to public trust in government, restricting the progress of China's green transition. All require transparency from government and rapid, responsible and effective communications.

Early stage public participation and interactive communication can mitigate the risk of protest and build public trust and greater public acceptance in the planning of controversial projects, such as PX and nuclear projects. In such cases, the government should also ensure the full disclosure of all feasibility studies, risk assessments and other relevant documents. Public opinion should be fully consulted and the public interests fully considered. All means of public participation should be adopted to consult stakeholders, share information and enhance project design.

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This report was submitted by the Special Policy Study on Media and Public Participation Policies on Promoting China's Green Development.

CHAPTER 6

CORPORATE SOCIAL RESPONSIBILITY IN GREEN DEVELOPMENT IN CHINA

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SUMMARY OF KEY FINDINGS

- i. Corporate Social Responsibility (CSR) has become a globally recognized and defined concept (see ISO 26000) and has moved from a perception of CSR depending on the philanthropy or charity of business owners to a core concept in business that reflects respect for the rule of law and going beyond compliance through taking environmental and social considerations into account in business operations. CSR incorporates corporate environmental responsibility (CER), which provides the basis for companies to contribute to and makes it an integral part of Green Development by adequately preventing and reducing environmental impacts of business activities.
- ii. Chinese companies are divided into three levels based on their compliance to environmental laws and fulfillment of CSR expectations. The government should develop strategies to punish enterprises that do not comply with the law and basic CSR expectations while encouraging others to develop and achieve more advanced CSR policies and strategies beyond compliance
- iii. In China, CSR and CER are at early stages because there is insufficient awareness about these practices, corporations lack the capacity to ensure CSR/CER, monitoring and governance are weak and there is no strong pressure from external actors. Most companies behave either under the baseline or as compliers with few taking leadership roles.
- iv. The central and local governments, corporations and civil society stakeholders will play a major role in shaping the future development of China's CSR. The government can assume the roles of promotion, enforcement, guidance and cooperation in ensuring CSR.
- v. The experiences of developed countries demonstrate that businesses require support, commitment and active participation from the government and other sectors. A national framework and effective public policies designed by the government must integrate the connection between economic development, sustainability and CSR/CER.
- vi. Stakeholders, including governments, social organizations, residential community groups and the media, must actively guide, motivate and put pressure on companies to encourage them to act responsibly.
- vii. In order to promote sustainable development and create an ecological civilization, it is essential to create a national strategy and action plan for CSR/CER. Such a plan should strengthen government coordination and cooperation, provide support and services to enterprises and develop mechanisms to enhance information disclosure and transparency.

SUMMARY OF PRINCIPAL POLICY RECOMMENDATIONS

Five categories of recommendations for government actions have been generated from the key findings of this study.

- Develop a national strategy and action plan
- Establish consensus and coordination mechanisms among relevant government entities, organizations and other stakeholders
- Expand capacity building and education for government, enterprises and other stakeholders
- Increase enforcement of environmental legislation and incentivize companies to go beyond compliance
- Strengthen mechanisms for better information disclosure and transparency

These five categories include the rationale behind the recommendation and detailed proposals for action.

INTRODUCTION AND REASON FOR THIS SPECIAL POLICY STUDY

Globalization and China's accession to the World Trade Organization (WTO) have significantly changed the opportunities for Chinese enterprises in the domestic and overseas markets. Chinese companies must comply with local laws and regulations, government approval and inspection and respond to greater public scrutiny on the impact that they have on society and the environment. The financial crisis and global warming have increased the concerns of the public to include energy efficiency, pollution, life cycles of products, green supply chains, contributions that businesses make to community development, workers' health and safety and timely disclosure of information. These issues influence the success of enterprises, the market performance of their products as well as the ratings and financial support provided by banks.

CSR increasingly affects the reputation and public image of businesses. Many international agreements and institutions such as the UN Global Compact, the International Labour Organization (ILO), the World Business Council for Sustainable Development (WBCSD) and international financial institutions advocate that businesses should conform to the principle of sustainable development and develop environmental-friendly technologies. Large multinational companies in developed countries attach great importance to the image that they project to investors and the public and therefore make substantial efforts to push forward Green Development. In China, many companies continue only to consider the financial cost of CSR and are unaware of the potential business opportunities associated with good CSR practices. Some state owned and private enterprises even disregard CSR when they enter overseas markets, which seriously weaken their long-term competitiveness and damages China's international reputation.

The November 2012 report of the 18th National Congress of the Communist Party of China emphasized including the concepts of ecological civilization, resource consumption, minimization of environmental damage and addition of ecological benefits into the economic and social development evaluation systems. The report also highlighted the need to improve the core competitiveness of large enterprises and accelerate and enhance the international operations of Chinese companies. Based on the requirements of the 18th National Congress, the report presented by this task force will, analyze the status of CSR and Green Development, the factors which influence them, policy requirements to develop CSR capacity and recommendations to push forward the implementation of CSR to ensure the Green Development and ecological progress of China. The objectives of the CCICED report on "Corporate Social Responsibility in Green Development in China" are:

- i. To investigate the status of China's CSR and Green Development policies, and analyze problems
- ii. To explore international trends on CSR and Green Development
- iii. To establish a framework for CSR in Green Development
- iv. To provide policy recommendations on promoting CSR in Green Development
- v. The special policy study collected and analyzed CSR reports of enterprises from a multitude of sectors. A Chinese team and a foreign team collaborated in over 20 workshops, seminars and meetings. The project management group connected with the CCICED Secretariat throughout the process and made regular reports during key stages in order to ensure successful implementation.

REPORT AND RECOMMENDATIONS

6.1 BACKGROUND: Understanding Corporate Social Responsibility And Green Development

China's economic success is dependent on social and environmental stability. Its on-going prosperity requires sustainable growth based on thinking and actions that take a balanced approach to development. China should continue to pursue the concept of a "balanced-growth future," better known as following a "path towards green reform."

This Special Policy Study is focused on CSR in Green Development and their connection to environmental challenges facing China as a result of rapid and unprecedented growth over the past three decades. Increasing environmental and social problems are negatively impacting the welfare and health of Chinese citizens, which in turn threatens to jeopardize the societal achievements that have been realized.

6.1.1 Overview

The globalization of economies and businesses increasingly emphasize the widespread dimensions of both CSR and Green Development as business and development concepts and as public policy instruments that promote local, regional and global sustainability and stability.

It is important to find a way to balance economic growth and sustainability. The public and private sectors must collaborate to ensure that sustainability is promoted at an individual and group level, but also on a global, regional, national and local scale.

CSR and Green Development are subsets of sustainable development, which is a preoccupation for economists, politicians, policy makers, business leaders, entrepreneurs, activists, environmentalists and individuals.

The concept of CSR now includes environmental issues (CER – Corporate Environmental Responsibility) and is driving the paradigm that it is critical for companies that seek sustainable development to take measures to ensure environmental protection. Companies are increasingly realizing that their integrity is affected by their responsibility and compliance to laws and regulations. As a result, in China attitudes have been changing, with the private sector becoming a more active partner in environmental development and protection. A growing number of governments and businesses are realizing that environmental protection and economic growth are not always in conflict. Companies are beginning to understand that what is fundamentally good for society and the environment is actually good for business.

The evolution of CSR with Chinese characteristics results from the general direction of China's development path and the expectations regarding the impact companies should have on society. Therefore CSR/CER is not simply the promotion of environmental protection and balanced economic development through legislation. The concept of CSR in China reflects thinking that moves away from a focus on "growth at any cost" toward a sustainable model that balances growth with social harmony, and innovation with environmental stewardship. This has been one of the key themes of the 12th Five Year Plan (2011-2015). Themes that have consistently surfaced in the thinking and policies of China's top leaders over the past decade include concepts and policy frameworks such as "building a *xiaokang* (well-off) society," "harmonious society," a "scientific outlook on development," "circular economy," "low-carbon economy" and the short-lived "Green GDP." More recently, this direction continues to be proclaimed in President Xi Jinping's "China Dream" and "the great renaissance of the Chinese nation."

6.1.2 Corporate Social Responsibility (CSR) and Green Development

The November 2010 ISO 26000 definition reflects the most authoritative international understanding of SR or CSR by the international community so far.

"...the responsibility of an organization for the impact of its decisions and activities on society and the environment, through transparent and ethical behavior that contributes to sustainable development, including health and the welfare of society, takes into account the expectations of stakeholders, is in compliance with applicable law and consistent with international norms of behavior and is integrated throughout the organization and practised in its relationships." (ISO26000, 2010)

During its earliest stage, CSR was deemed as the charity of corporate owners. The growth in numbers and scale of corporations means that they must become accountable and responsible for their negative environmental and social impacts. Generally, corporations will not initially pay for remediation costs that occur beyond their boundaries, but will be forced to internalize them through governmental regulations. Compliance with governmental regulations is an important aspect of corporations assuming social responsibilities and constitutes the second phase of CSR development.

The incorporation of CSR into their decision-making process is largely due to companies changing and evolving in the way in which they operate. CSR has become an important tool in corporate strategy and has gradually evolved into becoming a core component of the strategic planning and decision-making process of global businesses.

Green Development decouples growth away from a heavy dependence on resources and carbon while promoting growth through the creation of new green product markets, technologies, investments and changes in the behavior of consumption and conservation. It is driven by harsh economic and environmental realities, changing global priorities and growing technological possibilities.

Traditionally, environmental protection has been an issue of public interest and governments have therefore assumed the main responsibility for assuring its preservation. In this role, governments have directed the private sector to adopt environmentally sound behavior through regulations, sanctions and occasionally, through incentives. When environmental problems have arisen, the public sector has generally borne the responsibility for mitigating the environmental damage.

In recent years, the roles of these sectors have been changing. The private sector has become an active partner in environmental protection mainly in response to increased awareness and expectations of stakeholders. Through CSR engagement, governments and businesses are now beginning to realize that environmental protection and economic growth are not always in conflict.

CSR alerts business to the need to be part of new sustainable growth models and to replace unsustainable ones. Focusing on the environmental pillar of the triple bottom line of people, plants and profits leads to CER. This demonstrates the fundamental role that businesses play in reversing the environmental misuse and degradation of our planet's eco-systems.

6.1.3 Levels of implementation of corporate environmental social responsibility

Compliers. In order to ensure corporate environmental responsibility, it is of foremost importance that businesses comply with laws and regulations including national laws and environmental standards. Legal obligation is the minimum standard of corporate responsibility but is of principal importance. At present, there are still many corporations that do not comply with environmental laws, regulations and standards in China. These corporations should assume their legal responsibilities.

Active cooperators. These are corporations that take environmental and social responsibilities and contribute to the sustainable development of the economy, environment and society. Modern corporations with a strong sense of social responsibility are very sensitive to their influence on the environment and society. They respond in a prompt and active manner to national requirements and make great efforts to ensure environmental protection and sustainable development.

Future leaders. Given the transition towards a global green economy, businesses will increasingly look into the future, seize opportunities and take leadership roles in this economic transition.

The policies instated by the government should encourage CSR at these three levels and should promote companies to move towards the second and third stages while ensuring strict compliance within the first class.

6.2 CSR, CER AND GREEN DEVELOPMENT IN CHINA

6.2.1 Overview

China's economy has enjoyed a steady and rapid growth for 35 years with an annual average growth rate of 10.7% between 2003 and 2011¹⁰⁴. China's GDP ranks 2nd globally after the USA¹⁰⁵. This high economic growth has been accompanied by a high use of energy (20.3% of world's total in 2011), high raw material consumption (almost 60% of cement, 49% of iron and steel), extensive environmental degradation, the world's highest carbon emissions rates and extensive pollution (30% of domestic rivers only reach Grade IV water quality levels, air quality in 76% of key monitored cities cannot meet acceptable standards)¹⁰⁶.

The negative impacts of pollution on China's economic development are a source of increasing social unrest and turmoil. A key to China's continued economic growth is a sustainable development path for its enterprises and the country as whole. This puts CSR, CER and Green Development at the top of the agenda for ensuring China's future growth and stability.

104 National Bureau of Statistics, http://www.stats.gov.cn/tjfx/ztfx/sbdcj/t20120815_402827873.htm

105 Xinhua Agency, http://news.xinhuanet.com/newmedia/2011-12/29/c_122502425.htm

106 Ministry of Environmental Protection of China (MEP), China Environment Report 2012

6.2.2 State and evaluation of CSR/CER implementation by enterprises in China

China has based its CSR/CER implementation on the International Standards Organization's guideline for Social Responsibility, which is known as ISO 26000. This contains guidelines for environmental responsibility, accountability, compliance with laws and regulations, operational transparency and developing a multi-stakeholder approach.

In recent years, Chinese enterprises have made great strides and enjoyed achievements in reducing pollution. According to official environmental statements and governmental reports, although pollution persists, the situation is ameliorating.

- i. **Pollution Prevention.** Data over the past 10 years shows that the organic compounds, ammonia nitrogen, petroleum waste and other heavy metals from industrial enterprises have been decreasing in industrial wastewater. Industrial emissions of SO₂ and smog-dust both decreased year by year during the 11th Five-Year Plan period and NO_x emissions increased slightly. While the gross industrial output value has increased, emissions per 10,000 Yuan of output have decreased¹⁰⁷.

However environmental accidents during the past five years indicate that companies still face large problems with pollution prevention and control. These accidents include: the Guangxi Longjiang cadmium spill, pollution from the Harbin Pharmaceutical Factory and Yunnan Luliang Chemical Industry's dumping of chromium slag. In almost all cases, the companies concealed information or used local government protection to keep it dissimulated. There are many other pollution incidents that have not yet raised concerns and in some places pollution is commonplace and considered as normal.

- ii. **Resource Use:** During 11th FYP period, the 7% annual increase of energy consumption was lower than the 10% economic growth¹⁰⁸. Energy-consumption-saving reached 0.63 billion tons coal equivalent (tce) through energy conservation and efficiency improvement. Chinese enterprises actively invest in new energy and renewable energy areas. The capacity of wind, solar and biomass power generation reached 0.4 billion MW, 1000 MW and 50 million MW respectively by the end of 2011. To reduce resource consumption and improve the rate of energy utilization, many companies have started to look for a way to achieve sustainable development through the development of a circular economy.

Chinese enterprises have not yet solved the issues of high energy and raw materials consumption and low efficiency. Total energy consumption has increased significantly, but energy efficiency is not keeping up with this rapid rise. China's of coal, oil, natural gas and electricity continue to increase which reveals that the on-going industrialization and economic growth required for China necessitates that the consumption of energy will continue to rise.

- iii. **Climate Change:** China's enterprises took steps to tackle climate change through their "energy saving and emission reduction" activities, by which 1.46 billion tonnes of CO₂ emission were reduced during the 11th Five Year Plan period. Significant energy saving and emission reductions were achieved in many energy consuming industrial sectors such as the power and coal sectors. Energy-saving and emission reduction activities for enterprises can be categorized into three levels: adaptive, proactive and strategic. (Figure 6-1)
- iv. **Information Disclosure.** The main channels of CSR/CER information disclosure are the CSR, sustainability and environmental reports of companies and their websites. The number of sustainability reports released by Chinese enterprises has increased rapidly between 2006 and 2011 (Figure 6-2). Published sustainability

107 MEP, Environmental Statistics Year Book 2011

108 China Energy Research Society, China's energy development report 2013

reports include environmental information, but key quantitative data such as GHGs emissions, energy consumption, water consumption, gas emissions, waste water generation and generation of solid waste, are not disclosed. The disclosure of environmental information on websites is very simplified and only meets the lowest requirements.

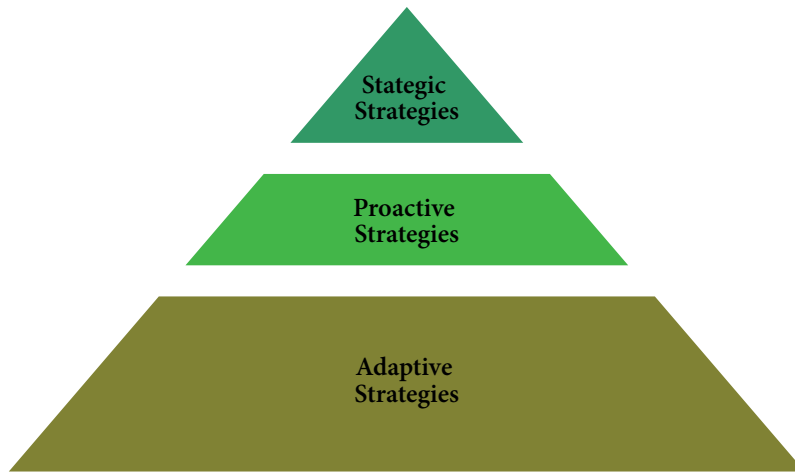


Figure 6-1 Three levels of enterprises' energy-saving and emission reduction activities

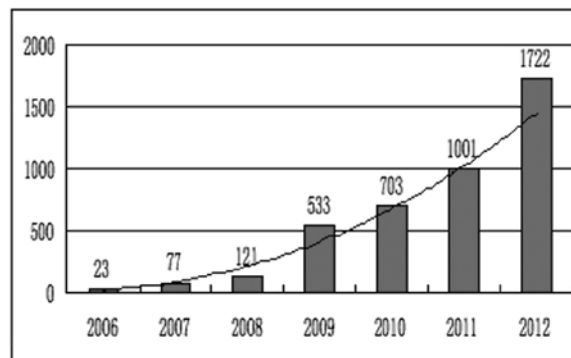


Figure 6-2 CSR reports released in China by year

6.2.3 Analysis of CSR/CER

- i. **Awareness of CSR/CER.** Chinese enterprises should learn to differentiate between environmental awareness and environmental responsibility. Environmental awareness is understanding the harm caused by environmental pollution. In a study that looked at 574 Sustainability Report from companies, nearly 1/3 indicated their greenhouse gas emissions but very few indicated their CO₂ emissions. Some Chinese companies do not clearly understand or recognize their role in causing environmental problems.

Many enterprises lack an awareness of environmental responsibility, and are driven by economic benefits instead of wanting to address pollution reduction and environmental protection by reducing emissions, using resources sustainably and tackling climate change.

- ii. **Capacity of Enterprises to Implement CSR/CER.** Many enterprises not only lack the awareness, but also the capacity to understand and implement CSR/CER. China's small and medium sized enterprises (SMEs) account for 99% of the total number of enterprises and have usually low technical capabilities and inefficient management. SMEs need to increase capacity building, upgrade their technology and better understand how

CSR/CER can change their unsustainable mode of operation and management. State-owned enterprises and large private enterprises that have CSR/CER awareness also need to enhance environmental literacy, the management of environmental impact and technological innovation.

- iii. **Institutional Barriers for companies to implement CSR/CER.** The institutional barriers for companies to implement CSR/CER are mainly from government and enforcement institutions. Local governments focus mainly on GDP growth and financial results, giving little attention to environmental issues. In many cases collusion of local officials with polluters escalate the problem and make it difficult to find solutions. Zijin Mining contributed to almost 60% of local revenue of Shanghang County and won a prize for “Corporate Integrity” in the same year that they caused a series of pollution accidents. This is indicative of how the government lacks the ability to monitor and also protects individuals who collude with the polluters.

Another institutional barrier is that many large state-owned enterprises (SOEs) do not face regulations from local governments. In June 2013, Anqing Pec., a company under Sinopec, was fined for the first time by a local environmental protection bureau for air pollution that started when the factory began operations 40 years ago. This is known as “strong company, weak government” in China.

- iv. **External Pressures affecting the implementation of CSR/CER.** There are not enough external pressures for implementation of CSR/CER in China. China lacks sufficient stakeholders, such as government bodies, media, environmental protection organizations, powerful NGOs and activist consumers who can consistently put pressure on, and demand more transparency and accountability from, companies. Currently, the ministry of environmental protection and the media place the most pressure on companies. But economic development goals often mean that the legal enforcement and media monitoring are weakened. The number of environmental protection organizations and NGOs in China is smaller and less powerful than in other countries.
- v. **CSR/CER in SMEs and OFDI Companies.** SMEs require special attention because they are numerous, make huge economic contributions and are the main source of environmental pollution. Many SMEs must maintain low operational costs and are averse to investing in environmental technologies. SMEs choose to favor economic results instead of ensuring environmental protection. In addition, SMEs are difficult to monitor and supervise because they are numerous and small in size.

As the number, scale and diversity of Outward Foreign Direct Investment (OFDI) increases, special attention should be paid to their environmental responsibility. Some Chinese-funded enterprises invest in projects that are in sensitive ecological environments where problems can easily arise. Western media often exaggerates the negative repercussions of Chinese companies abroad with titles such as “Chinese environmental threats” or “ecological dumping.” This adversely affects the international image and impedes further overseas investment by China. To counteract these perceptions, Chinese-funded enterprises should strengthen their environmental and social practices and actively communicate them with local stakeholders.

6.2.4 CSR/CER perspectives from various stakeholders

- i. **Government.** The government is an important stakeholder in the promotion of CSR/CER. The government can exercise four functions in the implementation of environmental responsibility by enterprises:
- regulation and legislation through laws and standards,
 - supervision and punishment against illegal acts,
 - support by promoting CSR/CER in enterprises and providing them with the training to build capacities and
 - cooperation to jointly promote CSR/CER with other stakeholders such as the media and environmental protection organizations.

- ii. **Media.** The media is becoming an important driver for CSR/CER as it plays a major supervisory and monitoring role in the environmental performance and decision-making of enterprises. The exposure by media drives the central and local governments to concentrate on finding solutions for environmental issues. Social media delivers continuous coverage, faster, with a deeper analysis and much sharper criticism.
- iii. **Investors.** Investors are including corporate environmental issues in the evaluation of investment risks. The intervention of investors through Socially Responsible Investment (SRI) is becoming an important factor that drives the implementation of CSR/CER.
- iv. **Industry Associations.** Industry associations play an important role in promoting CSR awareness, reporting, establishing standards and training. For example, the China Enterprise Confederation actively promotes the United Nations Global Compact and the textile association developed CSC 9000T industrial standards for their industry.
- v. **Environmental Protection and Non-Governmental Organizations.** These organizations provide education, publicity and initiatives, which is instrumental in increasing the awareness of CSR/CER among companies. Some have shifted to taking decisive actions against polluting enterprises, forcing them to become more accountable for their impacts. Other NGOs partner with the government or become mediators between the government and enterprises to actively promote the implementation of CSR/CER.
- vi. **Academic Institutions.** Universities, academies and non-governmental think tanks have been paying more attention to CSR/CER and have published influential reports, including “Climate change and China’s enterprise,” “Annual Report of China’s Green Development Index” and the “Annual Review of Low-Carbon Development in China.” Academic institutions also play a major role in promoting CSR in MBA and MPA programs and in executive trainings.
- vii. **Public.** Companies fail to recognize that a more environmentally conscious public pays more attention to the pollution emitted by enterprises, which may cause mass protests. Citizen campaigns typically include “NIMBY”(Not in My Backyard) and “Compensation politics” approaches, whereby the creation of an external supervisory force for CSR/CER is neglected until the threat of instability is circumvented and a more orderly participation in social affairs can be assured.

6.2.5 Shift of CSR/CER from legal compliance to competitive advantage

Society has become very concerned about environmental issues, especially the ones that have a direct impact on quality of life such as air pollution and food safety. Because of this, companies face mounting pressure and are forced to become more proactive.

Activism is becoming more prevalent in society, thereby drastically changing the external environment. For enterprises, an environmental crisis causes high costs of clean-up, heavier restrictions, loss of reputation and stricter controls. Companies must ultimately comply with regulations and shift their thinking to risk avoidance and long-term cost savings by adopting new technologies that ensure sustainability and environmental compliance. Enterprises must integrate CSR/CER strategies into their overall business strategies with the goal of creating competitive advantages in the future.

6.3 POLICIES AND REGULATIONS TO PROMOTE CORPORATE ENVIRONMENTAL AND SOCIAL RESPONSIBILITY IN CHINA

6.3.1 Overview

Faced with increasingly severe environmental problems and growing public expectations, the government must create an enabling environment for CSR/CER and Green Development. To achieve these goals, the government must be committed to the overall planning and coordination of all parties by providing effective institutional and policy frameworks. This requires a bilateral relationship between the government and enterprises to jointly meet the expectations of the public and other stakeholders.

Over the past 30 years, the government's process for driving environmental responsibility has transitioned from a single to multi-faceted mechanism that encompasses administrative regulations, economic incentives, social cooperation and legislative reforms. The role of local governments in CSR/CER is more localized and diversified, showing the characteristics of regional differentiation with good practices and the promotion of regional competitiveness. The central and local governments, enterprises and relevant stakeholders should form strategic partnerships to achieve a greater impact on environmental performance and sustainable development.

6.3.2 Analysis of policies from Central Government to promote enterprises' performance of CSR / CER

At first, the Central Government solved environmental issues via a vertical legal system and through administrative intervention. Since the 1990s, the Central Government has been using economic policy and the encouragement of more public participation to address issues. In recent years, environmental legislation, public interest and litigation have developed rapidly and have been strengthened to promote the concept of environmental responsibility.

- i. **Control over large enterprises while relaxing control over small enterprises.** The emphasis of the central government has been on increasing regulations for large enterprises such as state-owned enterprises, listed companies and Chinese enterprises investing abroad, while neglecting attention to small enterprises.

In 2008 the State-owned Assets Supervision and Administration Commission of the State Council (SASAC) released its "Guidance Opinions on the Fulfillment of Social Responsibility of Central Enterprises," which required SOEs to behave in environmentally and socially responsible manners and to publish CSR reports. In 2007, the Shenzhen Stock Exchange issued the "Social Responsibility Guidelines of Listed Companies of the Shenzhen Stock Exchange," and in May 2008, the Shanghai Stock Exchange issued "Environmental Information Disclosure Guidelines for Listed Companies of the Shanghai Stock Exchange". These required publicly listed companies to become more transparent in disclosing environmental data and to follow Socially Responsible Investment trends.

In early 2013, the Ministry of Commerce and the Ministry of Environmental Protection jointly issued the "Environmental Protection Guidelines for Foreign Investment Cooperation," which requires foreign companies to pursue CSR/CER by complying with the environmental protection laws, standards and practices adopted by international organizations and multilateral financial institutions.

Unfortunately, these initiatives do not address relevant guidelines and capacity building for SMEs which makes it more difficult for them to fulfill and easier to neglect their responsibilities.

- ii. **Multiple economic policies to promote CSR/CER.** As environmental problems increase, it has become more difficult to control environmental violations through administrative supervisory systems alone. Additionally, the cost of administration and supervision measures is very high. Since the 1990s, the government has adopted a series of economic instruments to encourage enterprises to eliminate their externalities and implement environmental social responsibility through energy-saving and emission reduction policies, the clean production policy, green credit, compulsory insurance of environmental pollution and through the cultivation and development of strategic emerging industries. In February 2012, the China Banking Regulatory Commission issued the “*Green Credit Guidelines*” with the aim to organize and manage green credit, effectively control environmental and social risks and support the green economy, low-carbon economy and circular economy. Through this initiative, China was the first country in the world to enforce environmental standards in the national banking sector.
- iii. **Overseeing of CSR/CER by society.** Through the “*Provisional Measure of Public Participation in Environmental Impact Assessment*” and the trial of an “*Approach to Environmental Information Disclosure*,” the government is creating social cooperation, encouraging the public, media, NGOs, research institutions, industry associations and other stakeholders to actively participate in the supervision of CSR/CER behavior, promoting corporate social responsibility and providing multiple views for environmental management and decision making.
- iv. **Legislative reform.** China’s environmental legislation has gone through three stages since the 1980s: Initial creation, strengthening and evolving with Chinese characteristics. The *Law of Water Pollution Prevention* and the *Law of Air Pollution Prevention* are amongst others, part of the Environmental Protection Act and listed in the 2011 legislation plan of the 11th National People’s Congress to promote environmental protection. With the awakening of civil consciousness and an increase in the number of environmental violations, environmental litigation cases have increased year by year.

6.3.3 Analysis of the Chinese Central Government’s mechanisms for the promotion of CSR/CER performance

Governments play a significant role in driving the CSR/CER of companies. The “ice hockey player” theory by Nobel Prize winner Tom Shelling explains the importance of government control in environmental responsibility. Though the helmets used in hockey ensure player safety, they are initially rejected because using them hinders performance. The National Hockey League must ultimately step in and make it mandatory for all ice hockey players to wear helmets in order to participate in a competition. Like the National Hockey League, the government must formulate rules and requirements to standardize all enterprises and make them jointly assume environmental protection responsibilities to remain in the economic and commercial game.

According to the World Bank scholar Fox, the government can assume four roles in encouraging corporate environmental responsibility¹⁰⁹.

Four roles that the government can assume in encouraging CER:

Regulations (Creating and overseeing the implementation of laws, regulations, standards and disciplinary actions)	Incentives (Economic, acknowledgment and other rewards)
Guidance (Planning, information disclosure, researching funding)	Cooperation (With the media, environmental organizations and NGOs)

109 The role model originally from T Fox, H Ward, B Howard, 2002, Public sector roles in strengthening corporate social responsibility: a baseline study.

Positive Aspects Of Government Engagement In Csr And Cer

+	Environmental protection has become a state policy
+	The 12 th Five-Year Plan focus is on environmental protection and compulsory environmental indicators
+	Advocating supervision from media and public ensures the participation of the whole society
+	Measures on Publishing Environmental Information Publicity (trial stage)
+	The China Certification Committee for Labeling Environmental Products was established in 1994
+	Most state-owned enterprises and overseas funded enterprises have CSR departments
+	Government always proactive in implementing relevant international laws and international conventions

Negative Aspects Of Government Engagement In Csr And Cer

-	Lack of coordination between national and local governments for environmental protection
-	The overall degree of environmental information disclosure by enterprises is lower than expected
-	No introduction of CER practices to Small- and Medium Size Enterprises
-	No relevant coordination and management organizations have yet been developed for CSR/CER
-	No research or training funds for CSR and CER
-	No laws on environmental and social responsibility reporting and no laws to protect informers of environmental problems
-	The number of government inspections of the environmental practices of enterprises have decreased
-	Influence of international organizations related CSR / CER is limited in China and there is a lack of communications with the government

The roles and impacts of government shown above suggest that it faces substantial challenges in promoting environmental social responsibility among enterprises. The government should tailor the four aspects of encouraging CSR/CER according to the different levels reached by enterprises. Companies which do not yet meet CSR/CER regulations should be motivated and guided to comply with basic requirements, companies meeting the regulations should be encouraged to surpass and create voluntary measures and enterprises that create and meet voluntarily targets to increase their corporate responsibilities should be promoted and upheld as good examples among other businesses and the society.

6.3.4 The role of local government

The National 12th Five-year Plan on Environmental Protection states that local governments are the main bodies responsible for improving environmental planning. At the end of 2013 and 2015, medium-term and final assessments on local government performance will be reported to the State Council and the public.

In urging enterprises to fulfill their social responsibility for the environment, local governments take integrated approaches that reflect the complex relationships between the local government, enterprises and the public. These include law enforcement, supervision, facilitation and cooperation, including actively issuing policies specifying enterprises' social responsibility for the environment, development of assessment system of enterprises' social responsibility for the environment, conduct training sessions to improve capabilities, passively disclosing information and environmental law enforcement.

Measures taken by local governments to promote social responsibility reflect that:

- The protection of offending enterprises by local officials is widespread and is a major cause for the number of illegal and polluting enterprises.
- Many decision makers in local governments still lack a clear understanding of the significance of CSR and Green Development. This affects the effectiveness of local public policy and innovation to promote environmental social responsibility of enterprises.

- Environmental responsibility is sometimes built into the local government performance evaluation system and has occasionally become an important competitive driver for regional sustainable development. The Pudong District in Shanghai and Yantai in Shandong have elevated the concept of CER to a local development strategy which makes it easier for the government to enforce environmental social responsibility among enterprises.

6.4 CSR AND GREEN DEVELOPMENT IN A GLOBAL CONTEXT

The globalization of economies and businesses increasingly emphasize the value of CSR and Green Development as public policy instruments that ensure local, regional and global sustainability and stability.

6.4.1 Green Development and CSR in a global perspective

Global CSR governance and measurement systems that have become points of reference include the OECD's Guidelines for Multinational Enterprises, UN Global Compact, International Organization for Standardization's ISO 26000 and the Global Reporting Initiative's Guidelines for Sustainable Development.

- Regional perspectives of global corporate social responsibility.** CSR presents a proliferation of approaches that differ for developed countries, developing countries and emerging/ transitional economies (Crane, Matten & Spence).¹¹⁰

A modern definition of Corporate Social Responsibility was introduced by developed Western countries including Europe and the United States because a vast amount of academic literature and good practices exist in those regions. In the United States, where personal freedom and responsibility is in high regard, social problems including education, medical treatment and charity, become core elements of CSR. European governments have instated these social issues as norms that have increased the concern of European companies on social and environmental issues. In societies across the globe, indigenous approaches to CSR inspire elements of CSR practice.

Developing countries have a huge potential to improve CSR practices as they typically have low standards for working conditions and environmental protection, corruption and poor provision of healthcare and education. CSR in these countries has gradually shifted from being about aid and charity to responsible behavior for development (Crane, Matten & Spence). Current trends show that the governments in developing countries are beginning to view CSR activities as a means to enhance sustainable development strategies and as a component for them to compete for foreign direct investment and better position their exports globally.

- CSR in key regions.** A global perspective of CSR comes from examining what is happening in the key regions around the globe.
 - North America:** CSR is viewed as a tool for companies to present themselves as socially responsible organizations and is driven by a large array of stakeholders. In order to build their image, most companies give resources to the community through philanthropic programs and volunteerism. Companies tend to appear as being socially responsible by emphasizing their involvement in initiatives that go beyond simple promotional activities. They tend to focus on issues linked to the welfare of the community, education, quality of life, culture and environmental issues such as global warming and climate change.
 - Europe:** CSR in Europe is shaped by the diversity of economic, political and cultural landscapes across the continent. The idea that companies can contribute to societal well being beyond their legal obligations has a long tradition in many European countries. The development of CSR has been driven by proactive

¹¹⁰ Andrew Crane, Dirk Matten, Laura J., Spence, Corporate Social Responsibility: In Global Context (2008).

strategies adopted by pioneering businesses, European institutions and national governments and by external pressures from stakeholders such as civil society and investors.

- c. **ASIA:** There is no single Asian approach to CSR because Asia is so diverse. Asian CSR has a long tradition of philanthropy, through implicit obligations that were embedded in business practices and institutional frameworks. Drivers of CSR range from religious traditions, notions of trusteeship, family philanthropy role models within countries, company responses to regulation, NGO and civil society pressure and requirements of national and international business partners.
- iii. **Policies on promoting CSR – EU case.** In October 2011, the European Commission published a new policy on corporate social responsibility that defined it as “the responsibility of enterprises for their impacts on society.” To fully meet their social responsibility, enterprises “should have in place a process to integrate social, environmental, ethical human rights and consumer concerns into their business operations and core strategy in close collaboration with their stakeholders.”

The commission’s earlier definition, adopted in 2001, called for companies to integrate “social and environmental concerns in their business operations and in their interactions with their stakeholders on a voluntary basis.” The 2001 definition explicitly recognized CSR as voluntary. Companies were expected first and foremost to be businesses, but were encouraged to address social and environmental issues arising in their operations and in dealing with employees, customers and other stakeholders.

The new strategy proclaims a “Modern Understanding of Corporate Social Responsibility” in which CSR becomes the defining purpose of the company. The new strategy describes the aim of CSR as “maximizing the creation of shared value for their owners/shareholders and for their other stakeholders and society at large.” The European Commission issued an action agenda on corporate social responsibility for 2011-2014. This agenda aims to increase the visibility of corporate social responsibility to promote good practices, improve the level of trust in businesses, promote self regulation of enterprises, improve market returns for companies that have good CSR practices, encourage the disclosure of environmental and social information, incorporate CSR into education, training and research, emphasize the important of national and regional CSR policies for which the EU Commission invited EU member States to present their plans for the promotion of CSR by mid 2012 and better align EU and global approaches to CSR.

In 2011, the European Commission also stressed that member governments should “promote legislation in high school and college curriculum” and encouraged European Business School to sign the Commitment on Responsible Management of Education Standards (EC, 2011:12).

The EU CSR policy increases awareness, the dissemination of good practices and creates a framework that fundamentally redefines the EU’s approach to CSR and signals a new era of more social and environmental regulation.

The 2011 communication of the European Commission on its renewed strategy for CSR also emphasizes the role that member states can play in encouraging education establishments to integrate CSR, sustainable development and responsible citizenship into relevant education curricula, including at secondary school and university level. European business schools are encouraged to sign the UN Principles for Responsible Management Education” (EC, 2011: 12).

6.4.2 Public policies in Green Development: Country Profiles

Green Development with a goal to change the mode of consumption and maximize the use of resources has become an important mode of growth in many developed countries.

- i. **Germany's New Energy Plan.** In May 2011, Germany announced that it would close all of its nuclear plants by 2022 and become the first industrialized country to completely shift to clean energy by increasing investment and R&D in renewables and energy efficiency. Nuclear power currently provides 22% of Germany's electricity. To fill the gap in its energy supply after it abandons nuclear, Germany has proposed the vigorous development of wind, solar and biomass, new standards for thermal efficiency of buildings and the creation of a continent-wide super smart grid, which would include the import of power from sun-rich North Africa.

(World Bank and DRC of the State Council, China 2030 Building a Modern, Harmonious, and Creative Society 2013)

- ii. **The Republic of Korea:** a leader in the implementation of green growth. Korea's move towards green growth stems as a response to the global financial crisis of 2008 and combines three mutually-reinforcing objectives: (i) responding to the latest economic crisis through a green stimulus, (ii) reducing energy dependency and (iii) rebalancing its economy towards green sectors in the long term. The financial crisis exposed Korea's reliance on imported energy as a major weakness in its growth. Korea imports 96% of its energy, which accounts for 2/3 of its total imports. To rebalance this situation by 2030, Korea aims to decrease its energy intensity by 46% and increase the share of renewable energy in total energy usage from 2.4% in 2007 to 11%. Furthermore, the latest Five-Year Plan allocates 2% of GDP to 10 green growth strategies, each containing quantitative objectives and well-defined projects. Korea aims to increase its global market share of green technology exports from 2% in 2009 to 10% by 2020.

(World Bank and DRC of the State Council, China 2030 Building a Modern, Harmonious, and Creative Society 2013)

- iii. **Japan's energy efficiency strategy.** Japan's energy intensity decreased 26% between 1980 and 2009 and it is now one of the most energy-efficient countries in the world. Nevertheless, Japan pledged to go further with its 2006 "Energy Conservation Law" by improving energy efficiency by another 30% by 2030 relative to 2006. The plan's implementation strategy fosters energy conservation technologies and develops a benchmarking approach to monitor energy conservation. In addition to promoting the most advanced technologies across the energy sector, the plan also introduces integrated energy consumption standards for all buildings and aims to create zero-energy houses by 2020, which will become a nationwide norm by 2030. Japan's Top Runner Program, tests 21 types of appliances — ranging from vending machines and air conditioners to television sets — to determine the most efficient model and make that model's level of efficiency the new baseline. Manufacturers then have the obligation to meet the new baseline within four to eight years. Japan's newest innovation is the concept of "smart community," a model city that maximizes the use of renewable energy and relies on smart grids to mitigate the intermittent nature of renewables. Four large-scale pilot projects were started in 2010.

(World Bank and DRC of the State Council, China 2030 Building a Modern, Harmonious, and Creative Society 2013)

Countries and enterprises throughout the world are facing problems including environmental degradation and resource depletion. An increasing number of countries have abandoned development through economic growth. Under the auspice of Green Development, CSR has become a means for global development. Countries are exploring development paths and modes of their own. China should actively learn from those international experiences, and create a new growth mode with Chinese characteristics.

6.5 FRAMEWORK OF CSR/CER IMPLEMENTATION IN GREEN DEVELOPMENT

6.5.1 CSR/CER Framework

A framework for CSR/CER is represented by a pyramid with four levels. (see Figure 6-3.) The bottom layer shows companies that do not comply with minimum regulations. The successive levels demonstrate companies that meet the standards for laws and regulations, those that have taken voluntary measures to exceed minimum regulations and companies with standards as part of their strategic integration are at the top. All enterprises must reach the level of compliance with regulations. Responsibility above “compliance with regulations” is a voluntary action that raises enterprises to a higher level and includes the adoption of stricter pollutant emission standards, more efficient resource use and cleaner production processes. “Strategic integration” requires enterprises to incorporate Green Development responses into business strategies, lower their carbon footprint, recycle and ensure that products comply with cradle-to-cradle design.

Most Chinese enterprises do not observe basic environmental regulations and standards, and therefore fit in the bottom part of the pyramid. These companies recklessly discharge pollutants to avoid extra costs and continue to subsist. A few companies such as IKEA, China Industrial and Commercial Bank of China, China Mobile comply or reach higher stages of the pyramid. This pyramid model demonstrates the complexity and difficulty of promoting CSR/CER in China.

The ideal shape to demonstrate CSR compliance and responsibility of Chinese companies is a spindle where there are few enterprises not complying with the minimum regulations and few pioneering enterprises achieving strategic integration with most companies achieving compliance with regulations and voluntarily taking environmental protection actions. In reality, in China the form for this chart is a vase, which indicates that there are many enterprises which do not comply with regulations and the number of enterprises at the higher levels reduce even further.

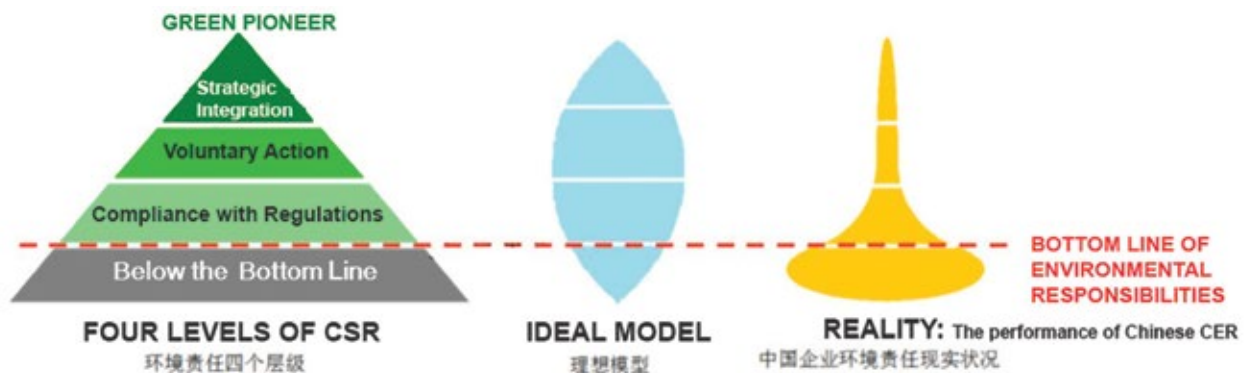


Figure 6-3 CSR/CER Framework

6.5.2 A framework for CSR/CER in Green Development

Integrating CSR and CER into a company’s strategy is the core of Green Development and requires knowledge of the right concepts, effective management and active engagement of these efforts. Transparency and communication with all stakeholders is critical in the successful implementation of CSR and CER. Ultimately environmental development and sustainability are a responsibility of the business sectors and of all society.

The “**Three Circle Framework of CSR/CER**”¹¹¹ framework is structured to demonstrate the responsibilities of stakeholders and society.

The framework consists of three concentric circles, as shown in Figure 6-4. The core is the strategy integrating CSR/CER/Green Development in which environmental responsibilities are combined with enterprise operations.

The second ring consists of four parts: 1) Awareness for environmental responsibilities of enterprises, including the collection of relevant information, 2) Responsibility management, which includes the implementation of environmental responsibilities, systematic management, framework organization of a code of conduct and an assessment system, 3) Environmental responsibility and action on issues such as pollution prevention and control, responding to climate change and ensuring biological diversity and 4) Transparent communication on environmental topics with stakeholders through channels and report. Although corporate environmental responsibilities are divided into four parts, the boundary between them is not very obvious and content may overlap.

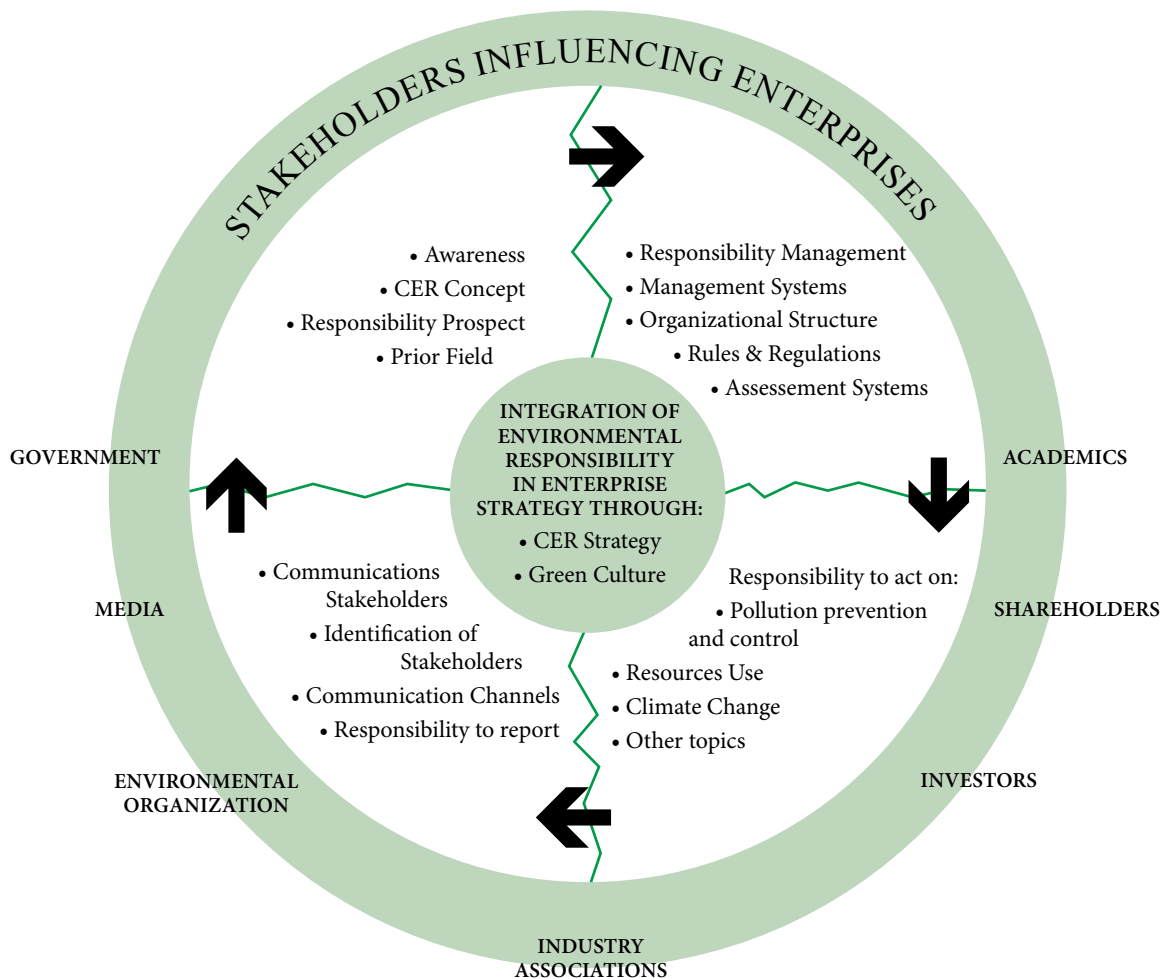


Figure 6-4 Three-Circle Framework of CSR/CER

111 Xie Jian and Jiang Chulin, 2009. Study on Resource-based Corporate social Responsibility (soft science project of Guizhou Science and Technology Department)

The two spheres above describe mechanisms for enterprises to perform their environmental responsibilities internally. The outermost layer is the external environment where enterprises collaborate with, stakeholders including the government, environmental protection organizations, media, civil society, industry associations, research institutes, think tanks, other enterprises in the same industry and consumers. These interactions are essential in guiding enterprises to perform their social responsibilities.

When enterprises are aware of the external support and constraints, they increase their knowledge, implement management, carry out the practice, and use feedback from other stakeholders to constantly improve and eventually form a strategy to respond to external pressures. This framework provides an entry point for policy suggestions to see if it can improve the capability of the enterprise in the aspects of awareness management, practice and external communication.

6.6 POLICY RECOMMENDATIONS TO THE CHINESE GOVERNMENT

6.6.1 Recommendation 1: Develop a national strategy and action plan

Developing a national CSR strategy and action plan is part of a more comprehensive national policy strategy building and planning process. In order to gain maximum support for the strategy and plan, they should be developed on the basis of a multi-stakeholder consultation process. Generally, a national CSR strategy and action plan consists of the following components:

- Introduction and clear definition of CSR with references to internationally and nationally relevant strategies, plans, regulations and guidelines
- Rationale why CSR is needed as part of a comprehensive sustainable development strategy
- Outline major elements of a strategic approach to enhancing CSR
- A defined action plan and timeline, which explains the measures that will be implemented, how they will be implemented and by whom.

A national CSR strategy and its associated action plan are of high relevance for CSR in Green Development because they are embedded in the general national strategic development and planning framework (e.g. the 5-Year Plan). Creating a national strategy for CSR will clearly define the focus period of time, and measures to enhance awareness, knowledge and application of CSR.

Recommended Actions (Recommendation 1):

- i. Develop a National CSR Strategy for a fixed period of time (e.g. three or five years) that clearly outlines the Chinese understanding of CSR in Green Development, its relevance and how it should be promoted.
- ii. Launch the “action initiative for corporate social responsibility” in relevant government departments and increase awareness on CSR among the staff. For example, the Belgian government proposed the “civil servants initiative of corporate social responsibility” in 2006 and built a global framework of corporate social responsibility. The departments shall further clarify their roles and use to their respective advantages to promote environmental social responsibility among enterprises. For instance, the National Development and Reform Commission, Ministry of Commerce and State Administration of Work Safety shall identify their position when taking part in the environment social responsibility activities of enterprises.

- iii. Evaluate the central government requirements for the social responsibility of enterprises. Given the large number of small and medium-sized enterprises in China, the government must provide a favorable environment for small and medium-sized enterprises to enact environmental and social responsibility. The government must also attach importance to the CSR/CER of China's overseas enterprises in order to enhance their international competitiveness.

6.6.2 Recommendation 2: Establish coordination mechanisms and consensus among relevant government entities and other stakeholders

Two mechanisms for better coordination and stakeholder involvement and communication regarding CSR-related work are necessary for the promotion of CSR in Green Development:

- A cross-sector coordination mechanism to coordinate the work of government entities
- A multi stakeholder platform to build consensus among relevant stakeholder groups relevant to and interested in promoting CSR in Green Development through cooperation with the government.

Currently, there is no centrally coordinating body or coordination mechanism in the government that steers CSR-related activities. For example, at the central level, the Ministry of Environmental Protection shares its responsibilities to protect the environment with other government bodies such as the National Development and Reform Commission, the Ministry of Agriculture and the Ministry of Land Resources. In order to coordinate integrated policies that respond to the impacts that companies have on the environment, a central coordinating agency would have to be established so that it can work closely together with a multi stakeholder platform consisting of government, associations, trade unions and NGOs.

The effective promotion of CSR in Green Development needs a coordinated approach among the central, provincial and local government entities. In addition, a multi-stakeholder platform with advisory and information sharing functions needs to be established.

Recommended Actions (Recommendation 2):

- i. Designate an existing or create a newly formed government organization at the central, provincial and local levels to become a coordination mechanism for CSR in Green Development work in China. The European Commission has a coordinating department that is responsible for CSR under the DG Enterprise and established a multi-stakeholder platform on CSR in 2001. In Germany, the German Ministry of Labour and Social Affairs is responsible for CSR coordination on central government level and a multi-stakeholder platform was founded in 2009 to develop the National CSR Strategy and Action Plan.
- ii. Establish a multi-stakeholder forum or platform, whose work and regular meetings are organized by the coordinating mechanism or agency. The platform should allow performance evaluation and information disclosure to allow industry associations, social organizations and media to participate fully and expand social participation and strengthen cooperation through constructive dialogue.
- iii. Chinese companies should strengthen their cooperation with the international community and the Chinese government should become an active participant in the international governance of CSR so that it can introduce international standards and practices. It is also important to share the environmental protection experience of Chinese enterprises to reveal the global responsibility of large developing countries and perhaps set up an international model for developing countries.

6.6.3 Recommendation 3: Expand education and capacity building for government, enterprises and a broad set of stakeholders

The promotion of CSR can take place through a range of government policies that are formulated and implemented by a large number of government bodies. There is a need for information sessions and formal training for government officials that take up CSR related positions. This is important to ensure that government bodies and officials on central, provincial and local levels are able to provide leadership by example. There also exist organizations with regular contact with businesses that can play a role in promoting CSR in companies. These include:

- Industry associations and chambers of commerce which provide industry handbooks and guidelines to firms about practices and technologies that can lead to improved performance
- The management of industrial parks and hi-tech zones which introduce environment friendly practices, pollution prevention and pollution treatment practices to firms
- Civil society organizations (CSOs) which can play an important role in monitoring and signalling negative environmental impacts created by industries and supporting initiatives for sustainable, green and healthy (safe) products

China needs to promote the capacity building of the government, enterprises and other stakeholders to solve the “no pressure, no motivation, no capability” problem of the enterprises.

Recommended Actions (Recommendation 3):

- i. Form an institutionalized and standardized management system in competent departments that will promulgate and popularize ESR for enterprises.
- ii. Encourage and support initiations and research activities of professional intermediary organizations that ensure the CSR of enterprises. The British government has realized the importance of intermediary organizations in between government agencies and enterprises and has given them the ability to dialogue, propose and disseminate good practices, propose bills and implement and evaluate policies.
- iii. Promote education, training and scientific research on corporate social responsibility and establish a professional academic research institution based out of the universities to provide intellectual support for CSR practices of the enterprises in the country. The Dutch government has carried out a university research program on corporate social responsibility, in which the universities organized research institutions to maintain the benign interaction between government policy and business practice. China will also encourage the establishment of corporate social responsibility institutions in universities to carry out scientific research, personnel and skill training, provide services and support for the government, enterprises and various stakeholders.

6.6.4 Recommendation 4: Strengthen enforcement of environmental legislation and simultaneously incentivize companies to go beyond compliance

There is a continued need to update and strengthen environmental laws and regulations and develop effective enforcement strategies. Companies should feel obliged to move beyond compliance and be motivated to make a positive contribution to society and deliver products and services in a responsible manner in order to strengthen long-term competitive advantages.

Government agencies must fulfil various roles in the promotion of CSR ranging from legislation and enforcement to providing guidelines for information and discussion of CSR. Other roles include endorsing and incentivizing CSR practices.

Several studies suggest the relevance of incentives. SMEs do not react significantly to environmental legislations and are more likely to respond to simple and effective financial incentives.

Recommended Actions (Recommendation 4):

- i. Strengthen legal mechanisms for *Company Law*, *Environmental Protection*, *Consumer Rights and Interests Protection Law* and *Labor Law*. In addition, China should increase penalties for violations, improve the judicial practice of environmental courts for local issues initiated by the public, allow environmental protection groups to have a strong supervisory role and collect references of legal cases.
- ii. Actively establish and promote responsible investment into credits and funds that foster environmental and social responsibility. Concurrently offer tax exemptions and subsidies for enterprises with good environmental and social responsibility performance. An amendment to the British Pension Bill requests pension trust institutions to consider social and environmental impact when investing. This move has promoted the development of socially responsible investments in the market and has become a model that many countries now follow.
- iii. Set up labels to indicate the environmental and social behavior of companies, promote responsible consumption, carry out green public procurement and encourage consumers and government departments to buy products with these signs. The government should give preferential support to purchasing from enterprises with good social responsibility performance.

6.6.5 Recommendation 5: Strengthen mechanisms for better information disclosure and transparency

When environmental impact information from companies is transparent, the public is able to oversee more effectively, government departments can have clear targets in pollution control and investors can get a comprehensive understanding of the environmental performance of the company.

Currently the information disclosure mechanism and quality of information available for enterprises in China is poor. The government and the public have limited ways to supervise information disclosure. The enterprises tend to emphasize form and neglect the quality of content in an effort to meet the government's mandatory disclosure requirements. This means that companies fail to integrate valuable information of their business operations.

Recommended Actions (Recommendation 5):

- i. Further revise the Measures of Environmental Information Disclosure and strengthen their enforcement. Attach great importance to the basic work of reserving, organizing and analyzing environmental information and establish a tracking system of the social and environmental information of the enterprises. Modify the inapplicable provisions in the measures and expand the channels of information access. Supervise the environmental information disclosure of the enterprises and strengthen the rewards and punishment measures for the information disclosure of enterprises.
- ii. Emphasize the standards and certification of the social and environmental responsibility reports of enterprises. Formulate norms for industry reports that allow enterprises to clarify their reporting standards. In this way, the public can obtain accurate business information. At the same time, encourage professional institutions to do audits and certifications for their business.
- iii. Establish a "national information center for the environmental social responsibility of enterprises." Austria's corporate social responsibility association is an exchange platform that was requested by the enterprises and is funded by the government. Gather information and cases from all stakeholders, to promote information

disclosure and dissemination, improve the transparency of information on environmental social responsibility of the enterprises, encourage the establishment of an information center for the environmental social responsibility of the enterprises with emphasis on the small and medium-sized enterprises and guarantee the disclosure of environmental information.

CONCLUSION

This Special Policy Study concludes that the link between CSR and Green Development offers tremendous opportunities for China to more effectively deal with the environmental challenges it faces today. The main reasoning behind this is the realization that environmental issues are increasingly placing constraints on economic growth and social development. This negatively impacts the welfare and health of Chinese citizens and threatens to jeopardize future growth.

Sustainability is the baseline for this study. CSR, representing the relationship between business and society has become a driver of environmental sustainability through Corporate Environmental Responsibility (CER) and how this both supports and promotes Green Development. This relationship offers a mapping for how China's economy should develop and provides deeper insights into how environmental development in China affects China and the world. CER presents a framework for solving environmental issues and creates a platform that supports national economic growth, transformation, innovation and stability.

The key findings of the study reaffirm the strong belief that through a multi-stakeholder approach, CSR and CER not only have an essential role to play in forming public policy that supports Green Development but also creates value as potential economic growth drivers. This promotes greater commitment and active participation of enterprises in the areas of both compliance as well as voluntary action.

The study recognizes that the Chinese government, in addition to enacting laws and regulations and formulating public policies that explicitly require enterprises to perform the statutory environmental liabilities, must also act through various methods of guidance, motivation and cooperation, to create a good institutional environment for enterprises to become more socially and environmentally responsible and proactive.

The recommendations in this study emerged from the analysis of the government's role and mandate to ensure a clean and sustainable environment for its citizens. They recognize that this is accomplished through a mix of legislation, regulations, monitoring, incentives, education and actions that create an effective enabling environment for the business sector to wholeheartedly embrace ecological efficiency and Green Development. The successful combination of government control, company compliance but also the willingness of companies to go beyond just compliance and contribute to the bigger picture of sustainable development is what is needed to drive participation and greater investment in Green Development by the business sector.

The bottom line of this report is that China's environmental future rests largely in the hands of its government, business sector, civil society and the Chinese people themselves. China's local governments have the authority necessary to reform local industries and must take responsibility for achieving ecological transformation at local levels. They have attained powers that make them important players in determining China's environmental future. Given the tremendous pressures put on local governments to deliver GDP growth, the trade-off between environmental sustainability and local economic development must be replaced by growth strategies that have sustainable impacts. Experiences in China and abroad have shown that investments in environmental sustainability are key to securing long-term economic viability and growth, ecological balance and social stability.

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CHAPTER 7

PROMOTING URBAN GREEN TRAVEL

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INTRODUCTION

This Executive Report provides an overview of the work carried out by the study team comprising Chinese and international experts, who were asked to develop a set of high level recommendations for the State Council on how to deal with the growing problems of traffic congestion and traffic-related air pollution in Chinese cities. The detailed findings and research evidence that underpins these recommendations can be found in the supporting full technical report.

This study forms part of a wider initiative on exploring the ways in which China might develop more sustainable cities and focuses on the contribution that 'green travel' can make to achieve this goal. The report argues that tackling the twin problems of congestion and air pollution requires a switch in investment and policy away from car travel to encouraging the use of more sustainable and efficient 'green' modes of transport; in particular, enhanced rail (and bus) services, supported by better walking and cycling networks for local travel and taxi travel for specific purposes.

While the use of cleaner cars and fuels help to reduce air pollution, they don't reduce traffic congestion, and so are not considered in this report which focuses on what needs to be done to promote 'Urban Green Travel' – passenger transport by public transport, walking and cycling in cities.

SUMMARY OF KEY FINDINGS

The main causes of the extensive traffic congestion and air pollution in Chinese cities

Extensive traffic congestion and air pollution from road traffic in Chinese cities pose significant health and safety threats, compromise operational efficiency and increase fuel consumption. Factors that contribute to this problem include rapid and extensive urbanization, increased usage of private cars and the deterioration of good walking and cycling environments. The root cause of urban traffic congestion and traffic generated air pollution in China lies in the insufficient management of urban and transport development by public authorities. Insufficient management includes a lack of top-level vision for urban transport; insufficient attention to local government management and leadership, insufficient financial support, weak administrative capacity of local governments, imperfect performance evaluation systems and the central government's limited influence on local governments.

China has an opportunity to change direction and promote urban green travel

Currently the motor vehicle population in Chinese cities remains very low compared to economically developed countries, and in many small and medium-sized Chinese cities, non-motorized transport modes still dominate. These factors provide a unique opportunity for Chinese cities to develop the more efficient, effective and economically sustainable modes of green travel. However, promoting green travel is a complex social project. If the 'green' travel environment is not continually and significantly improved, and if the government cannot provide a sufficiently attractive green travel system for potential car users or fail to adopt effective car ownership and use control policies that influence car ownership and use, it will become very difficult to curb the rising trend of car ownership and use. Ultimately, the prosperity of the large cities and the well-being of its citizens have to be built around walking, cycling and efficient rail and bus based public transport. Green travel has to be delivered by the city governments and the role of central government is to enable, encourage and support city governments to green their transport systems. Promoting urban green transport is vital to promoting equal urban access for all.

China should deliver its urban green travel ‘vision’ and become a role model for developing countries

China’s current situation makes it possible for China to become a role model or trendsetter for developing countries and even developed countries, on urban green travel. Chinese cities should build a modern urban green travel system that reflects China’s needs. Such an urban transport system will attract people from all social levels to make use of suburban rail services, subways, bus rapid transport (BRTs) and other types of buses and enable residents to choose safe, environmentally friendly and health travel modes such as walking and cycling.

Central and city governments *both* need to take comprehensive measures to promote urban green travel

City governments should be the principal actor to promoting green travel. Urban green transport will depend critically on city governments’ organizational competence, long-term administrative commitment and the quality of successive political leaderships. However city governments alone cannot establish a green travel system that provides services for all. The central government should therefore work together with the city government to establish a green travel system and to ensure a regional approach to the prevention and control of transport related air pollution. All levels of the Chinese government should make comprehensive use of the three major strategies of promoting public transport and walking and cycling, namely ‘guiding city development, increasing green travel supply, improving traffic demand management’ and the four strategies of ‘avoid, shift, improve, increase’ to promote green travel.

SUMMARY OF THE SIX PRIORITY POLICY RECOMMENDATIONS

China’s urban transport systems are presently on the wrong course – the course towards low density and socially divisive car dependency. This is not a viable future for China, economically or socially. The central government should urgently address the promotion of urban green travel as part of the necessary transformation of China’s urban development strategies. This requires attention to cross-sector coordination and cooperation, strengthening of the ability of the central government to encourage and pressure local governments to develop urban green travel through financial leverage and other means, providing clear guidance for Chinese cities to promote green travel and enhancing local governments’ capacity to finance, supervise and assess the urban transport system.

Based on China’s current situation and a review of international best practice, the Special Policy Study team proposes the following six priority policy recommendations.

Recommendation 1:

The State Council should agree on an ‘Outline of China Urban Green Travel Implementation’ as part of the national strategy for building an ecological civilization. This should guide cities to build a modern green transport system following four principles. It should:

- i. Be attractive to all social groups, have low emissions and have high operational efficiency
- ii. Prioritize public transport, walking, and cycling, with seamless transfers and facilities for those with special needs (e.g. people with disabilities, elderly, young children)
- iii. Implement private vehicle ownership and usage management measures

- iv. Ensure that city development makes efficient use of land and provides all residents a liveable environment, with safe access to basic services and jobs without undue time and cost burdens.

Recommendation 2:

Central government should: a) enable city governments to raise sufficient and sustainable local sources of revenue to fund local public transport companies and b) provide targeted financial support for specific projects. More specifically, the central government should ensure that local cities can raise adequate funds through new forms of taxes, support green transport in cities through a variety of economic instruments, adjust public transport pricing and establish a management system for the central funds that encourages green travel.

Recommendation 3:

The State Council should issue ‘Policy Guidelines for the Rational Use of Vehicles and Road Space’ to reduce congestion and air pollution, requiring that:

- i. Public transport, walking and cycling should have clear priority in the allocation of city road space.
- ii. The definition of official vehicles should be broadened and strict limitations on official vehicle numbers and rules for the use of official vehicles should be issued.
- iii. Free private parking spaces should be reduced or charged/taxed.
- iv. Road user charges should be encouraged in congested areas and limitations on car ownership should be implemented.
- v. Each city must have the final say on the best mix of policy instruments to meet agreed objectives.

Recommendation 4:

The state and city administrations should be required to ensure cross ministry/department policy coordination, as well as enhanced performance appraisal and management accountability. Public participation should be encouraged.

- i. The State Council should set up a coordinating mechanism within the central government to promote urban green travel, which should be led by the Vice Premier.
- ii. The Ministry of Transport should set up a ‘Bureau of Urban Passenger Transport Management.’
- iii. Local governments should set up a coordinating mechanism for Promoting Green Travel.
- iv. To strengthen performance evaluation and accountability and encouragement of public involvement, the State Council should order the Ministry of Transport to establish a National Green Travel Index Monitoring Mechanism for cities.

Recommendation 5:

The central government should amend the Urban Public Transport and Air Pollution Management legislation to require local governments to fulfil its duties to promote urban green travel.

Recommendation 6:

Central government should select different types of cities to organize and implement a series of Demonstration Projects to promote urban green travel.

BACKGROUND AND IMPLEMENTATION OF PROJECT

With the rapid development of China's modernization and urbanization, the population of motor vehicles has been growing rapidly and cities of all sizes are generally plagued by chronic urban diseases such as traffic congestion and traffic generated air pollution which significantly compromise residents' basic travel and quality of life, urban economic activity and national energy security. Together these urban transport problems have become a major national issue.

The 18th CPC National Congress proposed a series of new concepts, ideas and requirements, including "Beautiful China," "Ecological Civilization" and "Adopting a New Model of Urbanization." The 2013 Central Economic Work Conference further put forward the concepts of fully integrating the concept and basic principle of ecological civilization into the whole process of urbanization and adopting "a new intensive, intelligent, green and low-carbon model of urbanization." As a result, urban transport development in China has also entered a crucial period of strategic transformation. *Guiding Opinions of the State Council on Giving Priority to Development of Urban Public Transport* (GuoFa [2012] No. 64) clearly points out that:

*"in accordance with the resource conservation and environmental protection requirements, focusing on energy conservation and emission reduction, we should vigorously promote the development of **low-carbon, high-efficient, large-capacity urban public transport systems**, speed up the popularization and application of new technologies, new energy, new equipments and advocate green travel."*

The study team has taken the term 'urban green travel' to refer to the development of attractive alternatives to the private car which meet the twin objectives of reducing urban traffic congestion and traffic-related air pollution. This includes greatly enhanced rail and bus-based public transport services, plus taxis in selected situations, together with supporting enhanced walking and cycling to meet local travel needs and provide access to public transport stops, stations and terminals. By promoting these alternatives it should also be possible to capture valuable co-benefits such as reducing traffic accidents, CO₂ emissions, and to improve public health and enhance social inclusion.

Promoting urban green travel is an important means to implement the new model of urbanization to reduce traffic congestion, improving traffic-related air quality and rebalanced urban and transport development.

To strengthen the government functions of the State Council and the relevant departments in promoting urban green travel and increase the policy influence of the central government on promoting green travel to local governments, China Council for International Co-Operation on Environment and Development (CCICED), in conjunction with the European Commission (DG Mobility and Transport), organized experts from China and abroad to undertake the special policy research project of "Promoting Urban Green Travel." The project was led by the China Academy of Transportation Sciences, CANGO Green Commuting Fund and the Research Institute of Highway, who took part in the project. Beijing, Shanghai and Shenzhen were also involved as research survey and case study cities.

In a short period of six months from March-September 2013, the project team organized field surveys in Shenzhen, Shanghai and Beijing and held three seminars on promoting urban green travel with various stakeholders. These included government departments (including inter alia; Environmental Protection, Finance, Development and Reform), public transport companies, universities, research institutes and public welfare organizations. The project team listened to policy suggestions from all stakeholders on promoting urban green travel. The project team held several internal meetings, analysed different policy recommendations and finally selected policy recommendations based on an analysis of the opportunities and challenges China is facing in promoting urban green travel and the combined expertise of the experts at home and abroad.

The project team also launched a green travel survey via the online survey platform on ‘Sohu’ to obtain first hand data on the opinions and preferences of Chinese urban residents regarding public transport, walking and cycling conditions and transport demand management policies. The team prepared the *Special Report on Social Survey and Analysis of Green Travel in China 2013* (hereinafter referred to as the “*Green Travel Survey Report*”). The report provides a valuable support for the analysis of challenges and problems and the policy recommendations for promoting urban green travel.

The project team has also carried out research on how China might develop green travel indexes, by which it will be possible to appraise the implementation results of various measures adopted to promote urban green travel.

The results of the research work have been discussed by the project team in order to agree on the policy recommendations.

7.1 CAUSES AND CONSEQUENCES OF URBAN CONGESTION AND AIR POLLUTION

Rapid urbanization and motorization has stimulated the economic vitality of Chinese cities, but it has also led to chronic ‘urban diseases’ such as traffic congestion and traffic-related air pollution. Beijing, Shanghai, Shenzhen, Guangzhou and other first-tier cities in China frequently suffer from large-scale traffic congestion during peak hours, as well as severe fog and haze pollution and increasingly severe air pollution caused by motor traffic. Chongqing, Changsha and other second-tier cities, and even some prefecture-level cities, have also been seriously affected by traffic congestion in their central areas. The urbanization and motorization processes in China are still in the acceleration phase, which indicates that in the absence of strong, long term measures, traffic congestion and air pollution will get much worse and spread to small and medium-sized cities.

7.1.1 Serious consequences of urban congestion and air pollution

Congestion and air pollution harms citizens’ basic ability to travel and quality of life and rapid traffic growth threaten public health, urban economies and national energy security.

Threats to people’s basic travel, health and safety. Firstly, low-income groups mainly travel by public transport and non-motorized modes and thus suffer more the inconveniences of travelling on overcrowded public transport and unattractive and unsafe walking and cycling networks. Secondly, motor vehicle exhaust pollution is one of the main sources of air pollution in the cities of China and a key cause of haze pollution. Serious traffic jams further increase air pollution. The environment monitoring agencies in Beijing and Shanghai have stated that 22% and 25% of PM2.5 in those cities came from vehicle pollution in early 2013. The air pollution index in many cities frequently exceeds the World Health Organization Standards by a factor of ten. Nearly half of 74 key monitoring cities across China suffer from serious pollution, with traffic related pollution being a major contributor to the problem in most cities. Haze pollution has seriously affected the health of urban residents, disproportionately affecting the low-income groups who adopt non-motorized travel modes¹¹² (see Box 7-1).

Box 7-1 Air pollution has severely harmed Beijing citizen’s health

The unprecedented scale of the haze in Beijing was reported for 8 minutes on China Centre Television (CCTV) news on January 12, 2013. The Beijing meteorological center announced the first haze ‘Orange Alert’ in history and initiated emergency response actions, on the most seriously polluted days official cars were required to stop driving. This haze has caused increased respiratory and cardiovascular diseases occurred such as tracheitis and bronchiolitis (upper and lower respiratory tract infections). http://www.news365.com.cn/xwzx/qc/201301/t20130116_900096.html

A decade ago road traffic injuries became the leading cause of death among persons age 45 and younger in China.¹¹³ According to national statistics, based on police report, there were 220,000 road traffic accidents in China in 2010, which killed over 65,000 people. China already has the highest number of road deaths in the world. These traffic accidents caused 926 million Yuan (111 million €) of direct property loss, of which road traffic accidents in 36 central cities caused 224 million Yuan (27 million €) of direct property losses (about 25.3% of direct economic losses from road traffic accidents in China). Non-motorized green travel by foot and by bicycle accounts for 35% of all police-reported traffic fatalities.¹¹⁴

Recent research published by the World Health Organization compared police-reported traffic fatalities with official Chinese death registration data. The latter data source, which international best practice has found to be more reliable than police reports, suggests that traffic related fatalities in China may be double the police-reported statistics. Underreporting of traffic related fatalities for children and cyclists tend to be even greater.¹¹⁵ In addition to the suffering and economic costs this is a question of social equity as this situation puts pedestrians, cyclists, and public transport users in peril and, importantly, **acts as a deterrent to urban green travel in China.**

Reducing the efficiency of the urban economy. The daily hours subject to traffic congestion in Beijing have extended from 3.5 hours in 2008 to 5 hours in 2012, seriously affecting the operational efficiency of the city¹¹⁶. Due to congestion, the transport system has become increasingly unreliable. Adverse weather conditions or a single traffic accident can often cause massive traffic jams and even the collapse of the transport systems in the whole city. On September 17, 2010, five days before the Mid-Autumn Festival, due to heavy rain, 143 roads in Beijing suffered from congestion in the evening peak hours, causing traffic congestion lasting nearly nine hours¹¹⁷. The latest research of Niu Wenyuan, chief scientist, counsellor of the State Council, shows that due to traffic congestion and management problems, China's 15 largest cities suffer a daily time loss of nearly 1 billion Yuan (12 million €), Figure 7-1 shows the additional fuel cost due to congestion in RMB and as a share of average monthly income. It can be seen that these direct economic costs of congestion in first-tier cities such as Beijing, Shanghai and Guangzhou are significantly higher than those of second-tier cities such as Chongqing and Xi'an.

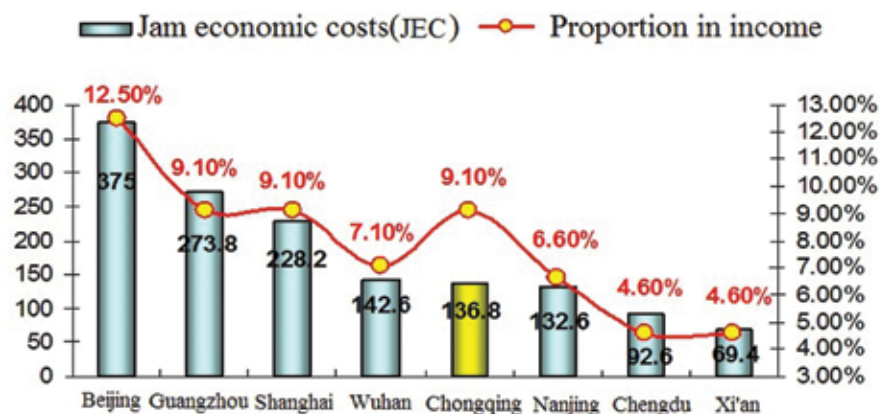


Figure 7-1 Congestion Costs in Chinese Cities¹¹⁸

113 Wang SY, Chi GB, Jing CX, Dong XM, Wu CP, Li LP. Trends in road traffic crashes and associated injury and fatality in the People's Republic of China, 1951–1999. *Inj Control Saf Promot* 2003; 10: 83-7 doi: 10.1076/icsp.10.1.83.14105pmid: 12772490.

114 2010 China Road Traffic Accident Annual Statistical Report, Traffic Management Bureau of Ministry of Public Security, 2010.

115 Hu, Guiqing, Timothy Baker and Susan Baker, Comparing Road Traffic Mortality Rates From Police Reported Data and Death Registration Data in China, *Bulletin of the World Health Organization*, 07 September 2010, <http://www.who.int/bulletin/volumes/89/1/10-080317/en/>.

116 China's New-urbanization Report 2010 issued by the Chinese Academy of Sciences

117 <http://city.ifeng.com/cshz/bj/20110121/34217.shtml>

118 2009 Foton Chinese Index for Mobility-Chinese residents motorization index report

Increasing energy consumption and intensifying energy shortage. In recent years, energy consumption by transport vehicles has been growing rapidly and traffic congestion uses fuel inefficiently. Transport, industry and construction are the three sectors that consume the most energy. According to national forecasts, the proportion of total energy consumed by the industry sector will gradually decline from 73% in 2000 to 57% - 59% in 2020, and the proportion of energy consumed by transport will increase from 11% in 2000 to 16% - 17% in 2020. At present, road transport fuel consumption is 40 - 50 million tonnes, accounting for a third of total oil consumption in China. By 2020, the transport sector will become China's largest oil consumer, accounting for about 55% - 60% of total oil consumption¹¹⁹.

7.1.2 Factors causing urban congestion and air pollution

There are four main causes of congestion and traffic-related air pollution in mega- and large Chinese cities:

Fast growing and spreading urbanization greatly increases travel needs. Since the 16th CPC National Congress, urbanization in China has grown rapidly. From 2002 to 2011, China's level of urbanization increased on average 1.35% percentage points each year, and the urban population grew by 21 million each year¹²⁰(as shown in Figure 7-2). By the end of 2012, China's urbanization rate reached 52%, starting to exceed the world average. Rapid urbanization has led to rapid growth and spread of urban population and multiplication of urban travel demand. However, the extensive rapid urbanization (as shown in Figure 7-3) has resulted in serious phenomena such as a greater separation of work and residence locations of new residents, thus causing higher motorised travel frequency and longer travel distances.

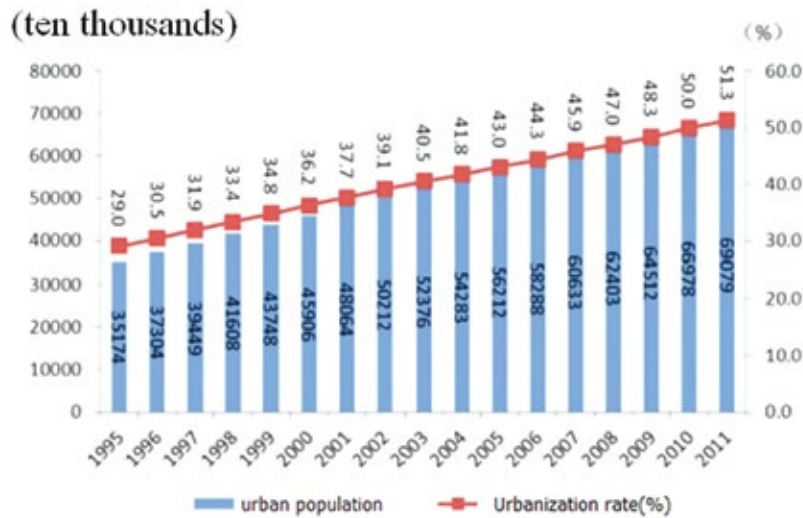


Figure 7-2 China's Urbanization Process in 1995-2011¹²¹

119 Data from Development and Research Centre of the State Council

120 Data from National Statistics Bureau

121 Data from China Statistical Yearbook 2012



Figure 7-3 Urban sprawl¹²²

Limited public transport supply and poor service levels, as well as the absence of effective car restraint policies has stimulated the use of cars leading to fast growing private car ownership, high car use and high urban car density. The growth of motorization in China, averaging between 20% and 30% per annum over the past five years, is unprecedented in the world (see Fig. 7-4). The “three highs” phenomenon of car use (Figure 7-5) has caused traffic congestion in cities, intensified the disparities between transport demand and supply and brought huge pressure on urban road systems. If the car fleet and use continue to grow at the current rate, then expensive **road infrastructure construction will never catch up with the demand for car movement. In the absence of effective management urban mobility will inevitably deteriorate.**

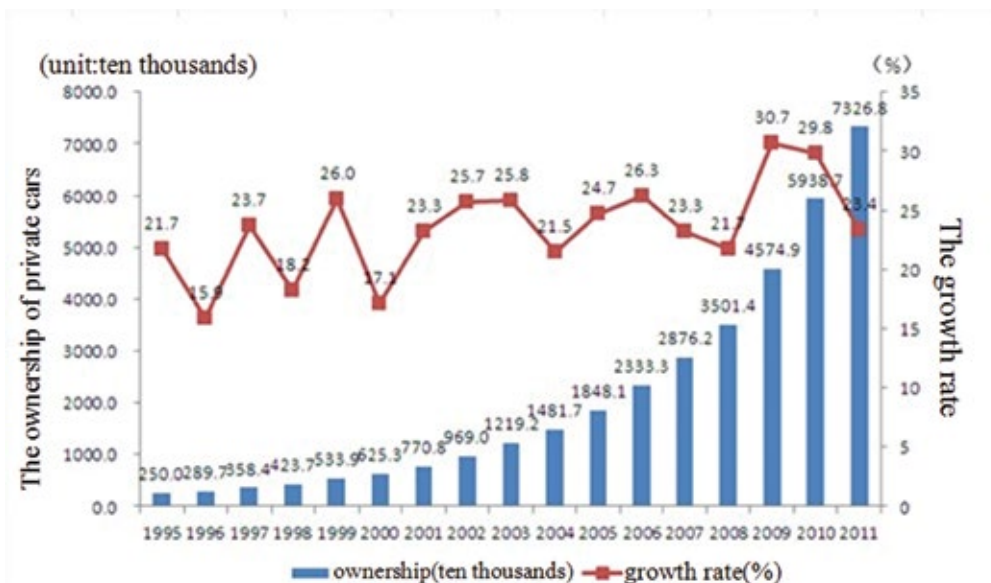


Figure 7-4 Development Trends in National Private Car Ownership¹²³

122 Figure from Beijing Municipal Committee of Transportation

123 China Statistical Yearbooks

The non-motorized travel environment is poor and has been deteriorating, as people who previously travelled by non-motorized modes have shifted to cars or road-based public transport. This has increased the pressure on urban road transport network – causing a further deterioration of the walking and cycling environments. This has exacerbated the imbalance of supply and demand. The *Green Travel Survey 2013 Report* shows that 81% of the participants were not satisfied with the urban pedestrian environment. Respondents’ complaints primarily related to vehicles’ and other facilities’ use of walking areas and vehicles’ priority over pedestrians in walking areas as shown in Table 7-1.

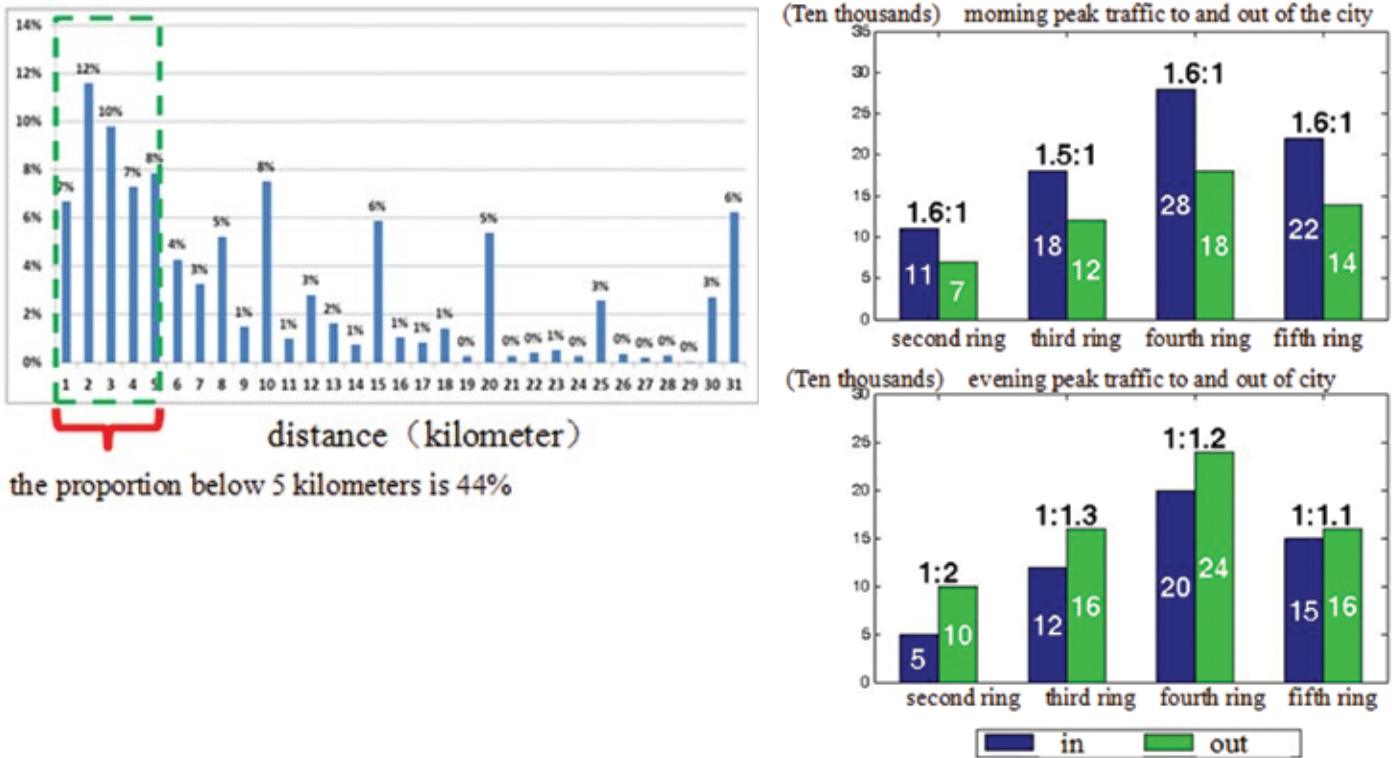


Figure 7-5 Intensity of Use of Private Cars in Beijing¹²⁴

The survey showed a high level of dissatisfaction with cycling provisions as well, only 15% are satisfied. The main complains are lack of segregated facilities and vehicles asserting priority over cyclists, as shown in Table 7-2.

Table 7-1: Complaints about walking conditions from participants¹²⁵





Causes	Votes	Percentage
Vehicle and other facilities’ use of walking areas	2567	33%
Vehicle priority above pedestrians	2120	27%
Poor road condition	1285	16%
Not enough walking space	1157	15%
Satisfied	668	9%

124 Data from Beijing Municipal Committee of Transportation

125 Green Travel Survey Report 2013

Excessive use of official vehicles. Official cars, with their large engines, high fuel consumption and intensive use, have long been regarded as one of the major symbols of the car orientated development in China. In 2010 there were over 62,000 official vehicles in Beijing, the Beijing Municipal government alone had over 20,000. Official vehicles are used more intensively than private vehicles and are not sensitive to economic instruments. On non-working days official vehicles have 1.94 trips per day on average, many of which must be for personal use.

Table 7-2: Cycling environment complaints¹²⁶

Causes	Votes	Percentage	
Lack of separation facilities, not safe	2285	33%	 33.01%
Vehicle's priority against cyclers	2250	33%	 32.51%
Not enough cycling space	1806	26%	 26.09%
Satisfied	581	8%	 8.39%

7.1.3 Key problems regarding China's urban transport development

The root causes of the extensive traffic congestion and traffic-related air pollution include the following:

Lack of a top-level strategy and priority for sustainable urban transport development. Although a transition to more green travel is generally considered as necessary in China's cities, there is no modern urban green transport vision. The contribution and role of urban transport in promoting sustainable urban development is not clear and urban transport development goals are not coordinated with policies on environmental protection and efficient use of land. This means that the efficient provision of sustainable urban transport is not prioritized in urban development planning, resulting in the prevalence of car-oriented development. In urban transport systems priority is given to motor vehicles, resulting in a continuous rise in congestion despite the increase in the number of roads built.

Insufficient attention to transport demand management in smaller cities at the local level. In response to the huge pressure from the rapid growth in the number of motor vehicles, Beijing, Shanghai, Guangzhou, Shenzhen and other first-tier cities in China have generally implemented a range of demand management measures, including differentiated parking fees, restricted purchase regulations, vehicle quota license auction, motor vehicle plate restrictions and staggered rush hours, to good effect.

However, the governments of many second-tier cities are still not fully aware of the potential or long-term benefit of transport demand management and believe that there is no need to implement transport demand management measures as long as no traffic congestion occurs. Some cities dare not take necessary transport demand management measures due to social pressures. In addition, there are no national-level transport demand management laws and regulations, and the central government has no policy guidance for promoting green travel, controlling car ownership and introducing parking and congestion charging, which together has limited the implementation of transport demand management policies.

Insufficient fiscal incentives to promote green travel. First, the levels of fiscal support for green travel are weak and the total central financial investment in public transport is insufficient to enable growth in travel demand to be carried by sustainable transport modes rather than by private cars. Compared with the investments in road infrastructure construction, investment in urban public transport is inadequate. Secondly, the present structure of financial investments in public transport is irrational. The existing annual fuel subsidies from the central government for urban public transport are several dozen billion Yuan (several billion €), but the use of those subsidies does not encourage the development of green transport systems. Third, there is no stable fiscal investment mechanism to fund

126 Green Travel Survey Report 2013

urban public transport investment and operation. Cities rely considerably on one-off land sales for infrastructure finance, an unreliable long-term mechanism. The funds for public transport development at all levels are limited, and so cannot meet the needs for rapid development of urban public transport. Fourth, there is no standard fare setting and subsidy mechanism for urban public transport. In many cities, a mechanism to link transport cost, fare, subsidy, service quality and operational efficiency has not been established, fares income is too low, while the financial capacity of municipal governments to subsidise operations is limited.

Weak administrative capacity of local governments and poor performance appraisal systems. The relevant departments of the central government have long proposed the guiding principles of giving priority to the development of urban public transport, but in the rapid urbanization and motorization processes that have taken place in Chinese cities, urban transport development in many cities has been based around the private car. The main causes of this mismatch between aspiration and achievement are poor decision-making skills at the management level of municipal governments, imperfect cross-sector policy coordination, lack of rigorous performance assessment of policy implementation and lack of public participation.

In terms of performance appraisal of system construction, *Guiding Opinions of the State Council on Giving Priority to Development of Urban Public Transport* (GuoFa [2012] No.64) has specifically put forward the proposal for the “implementation of an urban public transport development level performance assessment system,” but as public transport development involves several departments, the current lack of an effective coordination mechanism makes it difficult to implement such a performance assessment system.

7.2 PROMOTING URBAN GREEN TRAVEL – OPPORTUNITIES AND CHALLENGES

7.2.1 China still has favourable conditions for promoting urban green travel

The level of motorization is low in China. Figure 7-6 shows that in 2010, the number of motor vehicles was 773 per 1000 persons in U.S.A., which ranked first in the world, followed by France (599) and then Japan (592). In 2010 there were only 59 motor vehicles per 1000 persons in China. However, the level of motor vehicle ownership in cities like Beijing already exceeds that of Tokyo, despite a far lower level of per capita income in Beijing. Other cities across China could copy Beijing’s motorization pattern in the coming decade or the nation could build on its existing green transport foundations to avoid serious problems.

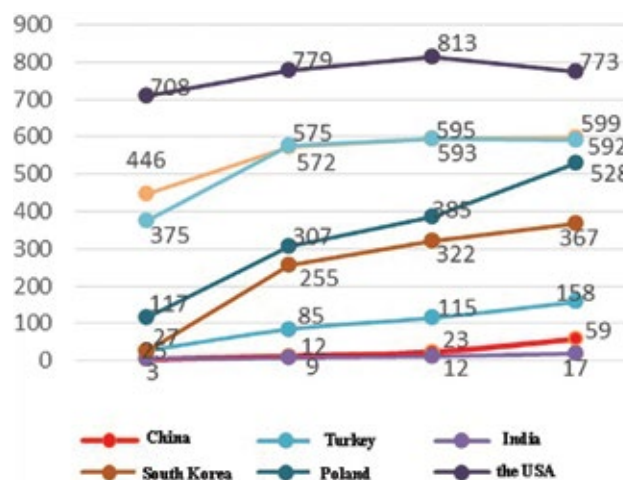


Figure 7-6 Comparison of the Motorization Process of China and Foreign Countries -2010 numbers¹²⁷

127 Data from various web-pages of the included governments

The ratio of urban green transport in China is still high compared with developed countries. Non-motorized travel modes in Chinese cities, especially in small- and medium-sized cities, still take a dominant position. In cities with a population of 3-10 million, such as Zhengzhou and Hefei, the proportion of non-motorized travel is more than 60% and in cities with a population of more than 10 million such as Shanghai, non-motorized urban travel accounts for over 25%. Small- and medium-sized cities have an even higher proportion of non-motorized travel. As the proportion of non-motorized travel is much higher than that in developed countries, China has a good foundation and tradition in urban green travel, which is illustrated in Figure 7-7. However, in most cities, current road conditions are discouraging rather than encouraging use of these modes.

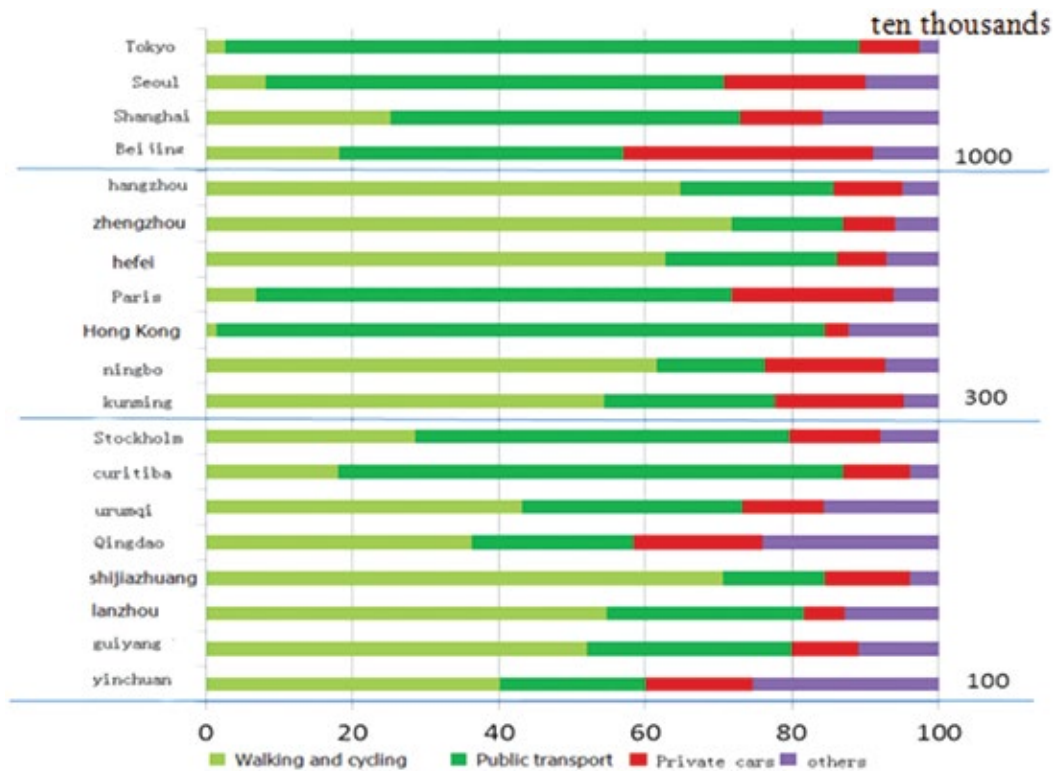


Figure 7-7 Comparison of Green Travel Mode ratios in cities of different population size¹²⁸

7.2.2 Promoting urban green travel supports China's national policy objectives

Promoting urban green travel is in line with the policy objectives that China is advocating, namely ecological civilization, a new type of urbanization, safeguarding social fairness and justice; The Chinese Government focuses on developing an ecological civilization and strives to promote green and low-carbon development. Furthermore emphasis is on land use patterns, industrial structures, production modes and lifestyles favourable to energy saving and environmental conservation. The Government has introduced a series of major initiatives that will play a strong supporting role in establishing the laws, regulations and systems and providing the financial security for promoting green travel and improving air quality.

China is focusing on comprehensive and integrated transportation management in order to carry out the adjustment and improvement of transport in China, and should actively support the promotion of green travel. China is moving towards building a safe, convenient and cost-effective green integrated transport system and to promote the smooth interoperability of infrastructures, the use of advanced, applicable, energy-saving and

¹²⁸ Data for the Chinese cities in this figure are from the report of the Chinese Ministry of Transport. The data for international cities are from various webpages and materials received from officials during the Chinese study tour to Europe Summer 2013.

environmentally friendly transport equipment, intensive, efficient, economical and convenient transport organization and quick, convenient, fair and high-quality transportation services. The Government is paying attention to improving the transport service levels to improve people’s livelihood and try to provide a variety of high quality public transport services.

Information technology and intelligent transport systems could provide the necessary support for China’s promotion of green travel. Information technology should be widely utilized in transport planning, design, construction, operation and management. The promotion and application of advanced transport technologies and products helps promote the transformation of traditional technologies and ensure that new infrastructure can be used intelligently. The above could raise the overall technological level and thereby support the promotion of green travel.

The strengthening of the society and people’s engagement in green travel will assist in stimulating the promotion of green travel. The society, people, and media should be the advocator, propagator and practitioner on promoting green travel and related activities to achieve a low carbon life style. This could create a positive social environment for green travel at the local level.

7.2.3 Promotion of urban green travel is a test of the governing capacity at all levels of government in China

China’s institutions must be capable of solving the problems caused by the increase of traffic demand due to fast urbanization, low public transport capacity and poor environments for walking and cycling. Urban travel demands are increasing dramatically with urbanization, which can be analysed from the growth of travels, both in terms of frequency and distance. China’s traditional urban transport systems are used to adapting passively to the demands of urban development and are not prepared to actively influence the transport demand and deliver the service to support rapid urbanization. This has resulted in growth in travel demand brought about by the rapid urbanization, a shortage of aggregate public transport supply, lack of coverage of public transport areas and a lack of attractiveness of public transport services for those with access to car travel.

Public dissatisfaction with public transport, walking and cycling will drive more people to drive and erode the market share of green travel modes. A recent survey of 4,000 participants from 31 provinces on ‘public transport coverage of commuting needs’ found 24% of the participants unsatisfied with the commuting service provided by public transport, as shown in Figure 7-8.

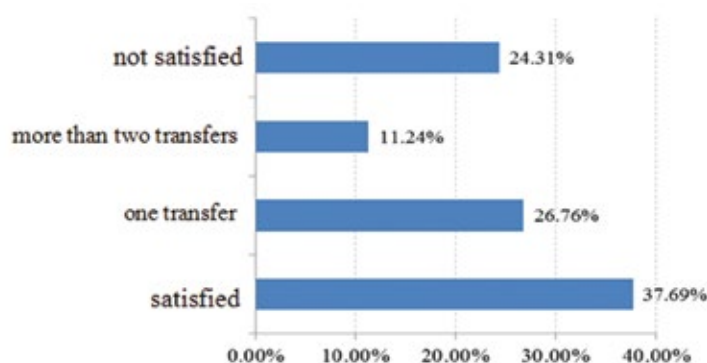


Figure 7-8 Level of Satisfaction: Commuting by Public Transport¹²⁹

The long lasting conflict between the rapid increase in motorization and the idea of promoting green travel.

At present, there are three phenomenon; “fast growing private car ownership, high car use and high urban car density” that challenge the promotion of urban green travel. China’s movement to green travel is in essence a competition between the supply of green travel services and the growth in private car ownership. China must seize the opportunity to properly manage and adjust urban transport, before motorized travel becomes the dominant travel mode. If the green travel environment cannot be improved continuously and significantly, and if the government fails to bring into place a sufficiently attractive green travel service system for potential car consumers, it will be difficult to curb the rising trend of car use. Chinese cities will miss the best timing to cultivate green travel modes.

In a recent survey, 62% of respondents said that travelling by private car is always faster than by public transport, as shown in Figure 7-9, and 47% said that public transport’s inability to cover special family travel needs is the main reason for buying cars. More than 35% believed that the added time of taking public transport is the main reason for buying cars, as shown in Figure 7-10.

The challenges of promoting non-motorized travel (NMT) and halting the fast decline of NMT. Non-motorized travel modes still have a dominant position in cities of China, but are adversely affected by fast growth in car use. Indeed the mode share of non-motorized travel is declining rapidly in Chinese cities. In a decade, the non-motorized travel rate in Beijing, Hefei, Changsha and other cities has decreased by more than 10%. Figure 7-11 shows the changing trend of bicycle sharing rate in Beijing, which dropped from 62.7% in 1996 to 16.7% in 2010. The decline in the share of non-motorized travel modes reduces the critical mass of pedestrians and cyclists on the streets. This reduces the social and political legitimacy and safety of these modes of transport, leads to a deteriorating non-motorized travel environment and increases average commuting distances in cities.

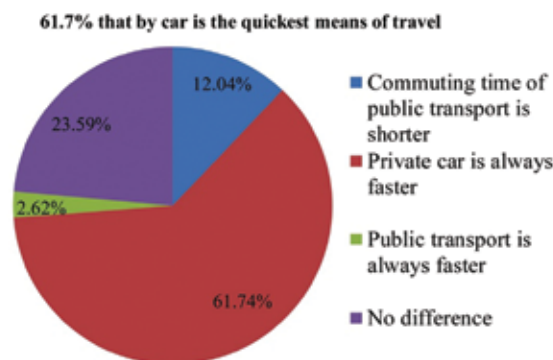


Figure 7-9 Survey on Travel

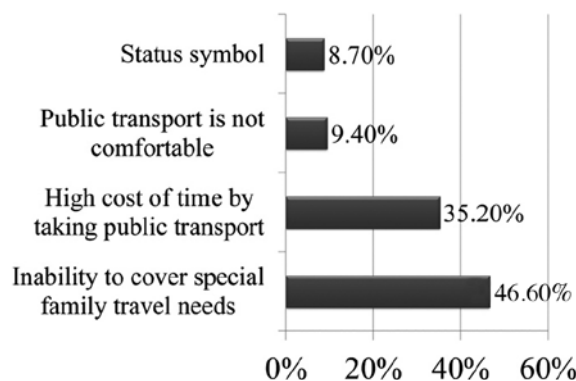


Figure 7-10 Reasons for using Efficiency of Cars¹³⁰ Public Transport and Private Cars¹³¹

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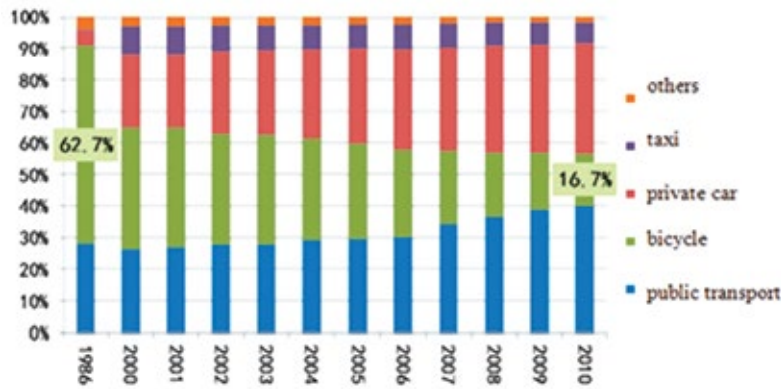


Figure 7-11 The Decline of Bicycle Mode Share in Beijing¹³²

Different levels of governments face great pressure to ensure financial support to the infrastructure construction and operation of public transport. To promote green travel the governments need to provide strong support to green transport infrastructure construction and public transport operations. The current funding for public transport and non-motorised is insufficient. In cities in mid-western China especially, the normal financial budget at the local level is insufficient. City governments in China need to provide a wide range of basic public service (public education, social service, social security, health system, population control, housing, public culture, infrastructure and environmental protection), which results in difficulties ensuring funding for green travel infrastructure construction and operation.

The current government institutions, urban policies, and implementation capacity are not capable to manage the urgent need for improving China's urban green travel. Promoting green travel and prioritizing urban public transport is a complex social project. The related departments in the central government have long discussed the guidelines for prioritizing urban public transport, but many cities have made mistakes during the urbanization and motorization process. For example, the spatial layout and industrial structure planning are often disconnected from transport planning, urban transport management is car-oriented and public transport development is not prioritized. These mistakes are related to the non-optimal distribution of department responsibilities, poor cross department coordination, low decision making and management capacity of the local governments, as well as lack of strict performance evaluation for policy implementation and public participant. At present China is in the middle of wide-ranging institutional reforms, and each reform will encounter many difficulties. The improvement of government capacity, performance evaluation and public participation need time to be completed. These unfavourable factors negatively influence the development and implementation of green public transport.

7.3 INTERNATIONAL EXPERIENCES

The main lessons from international experience that have influenced this report are:

7.3.1 'Public transport oriented urban development' in EU and US

Due to the pressure caused by raising prices on energy, urban air pollution and environmental damage, urban planning that makes efficient use of land and is ecologically friendly has become an internationally accepted sustainable urban development approach. Such approaches reduce transport demand and support the business case for the continued supply of quality public transport and local walking and cycling. It has also become an international trend to strengthen the integration of transport planning with urban spatial planning, environmental protection

¹³² Data source: Beijing Municipal Committee of Transportation

and efficient land use, in order to achieve public transport-oriented urban development. The EU and the U.S. governments encourage and stimulate city governments to take actions through regulations and guidance in the fields of planning, land use and pollution management, etc. The EU supports the implementation of Sustainable Urban Mobility Plans. These are strategic plans, developed at the local level, with the goal of ensuring urban accessibility to improve safety, reduce air pollution, carbon emission and improve energy consumption, improve efficiency of passenger and freight transport and enhance the quality of the urban environment. The purpose of these plans is to develop, based on consensus and consultation, a long term, sustainable urban comprehensive transport vision necessary for the development of cities.

7.3.2 ‘Public transport + cycling + walking’ an internationally recognized concept

The urban green transport system of ‘public transport + cycling + walking’ plays an increasingly important role in improving air quality and congestion management and in building sustainable cities. High quality and well managed taxis are an important part of the ‘urban green transport’ solution providing complementary services to public transport, walking and cycling. EU law on air quality drives the establishment of the urban green transport system of ‘public transport + cycling + walking.’ France has issued a law on air quality protection and energy conservation (e.g. the LAURE Act of 1996) that states six requirements for metropolis and urban transport planning. Some of the cities e.g. in France, Sweden, the UK, among others, have world-class urban public transport systems. Under the guidance of EU policies and national transport development strategies, many EU cities are committed to prioritizing public transport and improve public transport service quality. Cities like Paris and London are increasing walking areas and introducing more cycling lanes in the old town areas that have limited street space, as well as providing excellent public transport. Moreover, European and American cities focus on linking various modes and improve public transport transfers by taking a ‘multi modal’ approach to planning, system design and transport management.

7.3.3 Sustainable financial for urban green travel

The fare income of public transport cannot, and should not, cover the full costs of public transport infrastructure and facility investment, maintenance and operation. Therefore, in order to develop a stable public transport infrastructure and services, many countries in the world have assigned additional funding sources for urban transport development through national laws and national funding mechanisms. The common sources of funds include local income tax, sales tax, taxes relating to land value appreciation, parking pricing, vehicle plate auction income, congestion charge, low emission zone charge and city maintenance charges.

Paris’s employers pay a ‘public transport’ tax, which the city uses to reduce the operational deficit of the public transport companies. London and Stockholm collect congestion charges, apply differentiated parking charge and use part of the income to improve public transport facilities. Many countries have developed reasonable fare adjusting mechanisms. In Singapore, Berlin and New York the fare levels are linked with economic development and the increase of average income. In the 21st century, the European and American countries tend to shift the function of urban transport financing to cities and the central governments provide part of the funding to guide and support investments at the local level. The projects that qualify for the use of the central funds include large public transport infrastructure construction and investments in environmentally friendly transportation equipment. There are controls to ensure that the funds are used according to the rules. The US Clean Air Act states that transport development must be in line with air quality goals, the Federal Transit Administration and Federal Highway Administration can only approve and support transport projects and programs that conform to adopted mobile source air pollution emission budgets designed to protect public health and to meet national air quality standards.

The city governments generally perform ‘contract + performance appraisal’ tasks in relation to public transport companies, i.e. they sign service contracts or franchise contracts with the public transport company and determine the amount of subsidy, award and fines according to the performance appraisal. These processes ensure that the public transport companies will provide public transport services that are stable, in line with the quality requirements set in the contract and ensure value for money.

7.3.4 Travel Demand Management (TDM) recognised as instrument for urban green travel

It is generally agreed internationally that the citizens have the right to access different urban transport modes that include car ownership and use. However, when there are congestion and pollution problems, the priority should be given to green travel modes that are efficient and environmentally friendly. Under these circumstances, car ownership and use should be restricted. In the EU alleviating urban congestion and reducing transport emissions through controlling car ownership and use through the use of economic instruments and urban access regulations have the same importance as the policies of prioritizing public transport and non-motorised transport. Some EU member states require that TDM measures are included in regional and city transport planning and countries such as Sweden have laws to guide the implementation of congestion charging and the use of the income it generates. Measures such as differentiated parking policies (including pricing), low emission zones and congestion charging have been adopted in many EU countries, and have generated promising results. It is fully expected that in the future TDM measures will become even more widely adopted around the world.

7.3.5 The rise of comprehensive and integrated transport management

Many countries are shifting the transport management system from single transport mode management to a more comprehensive, integrated management model. Transport for London has set up the Surface Transport and Traffic Operations Centre (STTOC) that creatively integrates different departments’ functions and even includes the police service. Moreover, the cooperation between organizations that have different responsibilities and roles plays an important role in comprehensive transport planning, operation organization and regional transport development coordination. In France, senators from cities and towns form an urban transport management commission (AOTU), which is independent from city and town governments, and monitor urban public transport network construction and management. In Germany, the Regional Transport Alliances (RTA) plays an important role in developing sustainable transport planning, coordinating regional capacity building, and improving service quality.

7.3.6 Increased public participation in urban transport planning.

There is a consensus in Europe that urban transport development goals can only be achieved with the support of the citizens. Therefore, many EU cities put a strong focus on public involvement. In 2006, a year after Stockholm started collecting congestion charges in the downtown area, the city let the citizens decide through a referendum, whether to continue the charging or not, 52% of the voters favoured the policy. Paris developed an urban transport plan—the PDU¹³³—by following nine criteria, one being to strengthen the sense of responsibility of the Paris citizens for participating in public transport planning decision making. By inviting the public into the public transport planning process policy making and implementation has been improved. Furthermore these processes mean urban green travel measures are more broadly accepted by citizens. Both the central and city governments in many countries are encouraging public involvement in developing or revising plans and policies in open and transparent processes.

¹³³ Plan de déplacements urbains (PDU) in French

7.3.7 Using information technology to deliver urban green travel

Developed countries have been able to have good management of urban transport and information is playing an increasingly important role in the management process. In the EU and US, the continuous improvement of urban transport and environment models, as well as support from new information products and software, underpins nearly every aspect of transport: urban transport planning, transport policy making, public transport operation and management, parking management, congestion charging, low emission zone charging and transport information services. Governments at different levels are becoming increasingly aware of the importance of information to urban transport and are providing support to data collection, monitoring and information sharing. Success at this requires institutional capacity development. With wider use of new information technologies like smart phones, the urban transport sector is on the brink of a fundamental transformation in how it relates to real time data to manage, monitor and operate systems that better serve customer needs. China needs to embrace these opportunities.

7.4 PROMOTING URBAN GREEN TRAVEL – OBJECTIVES AND GOALS

7.4.1 The objectives of urban green travel in China

To achieve the goal of building a prosperous society, it is necessary that urban transport development benefit all people. To strengthen and improve public services, the first priority is to reflect social equity, guarantee the basic travel needs of all groups and make utmost efforts to meet people's needs for high-quality travel services. With China's rapid urbanization and motorization, issues such as traffic congestion, environmental pollution, accidents and energy shortage are becoming more conspicuous. The rapidly developing new-type urbanization must have the objective of making people's lives more convenient and comfortable. It should ensure urban mobility for all and protect the vulnerable, and so improve social equity. Urban green travel is a key element in building green habitable cities that are socially, economically sustainable, and where human beings and nature can co-exist in harmony.

7.4.2 China's vision of promoting urban green travel

Chinese Government has clearly put forward the “**Road of Intensive, Smart, Green and Low-Carbon New-type Urbanization**,” which serves as the basis for building an ecological civilization and achieving social equity objectives. An efficient urban transport system is conducive to urban economic development and social justice, reducing impacts on environment and people's health.

7.4.3 Widespread promotion of urban green travel in China

To promote urban green travel, China has to follow three cardinal principles - guiding urban development with public transport friendly layouts, increasing supply of green travel and strengthening transport demand management, and carry out the tactics of “avoid, transfer, improve and enhance.” Due to the size of Chinese cities and their varying characteristics different guidance will be required to allow for the differences between cities.

- i. **Avoid, shift, improve and enhance.** The strategy for promoting China's urban green travel – to reduce congestion and improve air quality can be summarized as “avoid, shift, improve and enhance.”

“Avoid” means:

Managing travel demand by reducing unnecessary and low value travel through smarter urban spatial planning, communications, pricing and logistics.

“Shift” means:

Establishing an urban public transport system featuring wider coverage, smoother linkages, enhanced safety and better services to meet people’s diverse travel needs and encouraging them to *shift* to green travel modes such as public transport, cycling, walking and other high occupancy modes.

Pursuing the principle that every vehicle user has to pay a corresponding fee for the environmental and economic impacts he or she causes, and thereby making travel by car bear the cost for high resource occupancy, high energy consumption and high emission, pushing the transfer from travel by car to green travel.

Using administrative and technical means to influence traffic participants’ choice of the mode, time, place and route of transportation, so as to minimize peak traffic flow, to *shift* the time and location of travel needs to make better use of the transport infrastructure.

“Improve” means:

Improving the public transport service capacity, equipment, smart management level and service quality to relieve such problems as “slow traffic, long waiting time, crowded vehicles and poor information services,” as well as making public transport considerably more attractive, thereby encouraging residents to travel by green modes rather than driving;

Improving the travel environment for non-motorized transport such as cycling and walking and ensuring the basic right of way for cycling/walking as well as promoting the development of non-motorized transport systems;

Improving the taxi information, reducing the practice of cruising empty searching for passengers and decreasing taxi mileage to facilitate energy conservation and emission reduction.

Improving public travel information services in cities and gradually integrating the information resources of public transport, civil aviation, railway, highway and other transport modes so that comprehensive, trans-regional and one-stop information inquiry services can be provided through various media.

Improving motor vehicles and fuels to improve fuel economy and exhaust emission standards of vehicles and adopting clean-energy vehicles to reduce exhaust emissions of motor vehicles.

“Enhance” means:

Enhancing public knowledge of green travel, strengthening public participation in promoting green travel and fostering a cultural atmosphere conducive to green travel.

Enhancing the professional proficiency, sense of responsibility and politeness of transportation staff to support the growth of urban green travel.

- ii. **Implement differentiated guidance according to city characteristics.** Guidance must take into account different types of cities and their situations (size, mode share, ambient air quality, geography, climate etc.), and recognize that city officials need to determine the most locally appropriate means to implement sound green urban transport practices and to achieve broad national goals.

7.5 POLICY RECOMMENDATIONS TO PROMOTE URBAN GREEN TRAVEL

The Chinese Government has clearly put forward the “**Road of Intensive, Smart, Green and Low-Carbon New-type Urbanization**” strategy. Promoting urban green travel will become key for Chinese cities when adopting a new model of urbanization. **China has a high share of green travel, but a modern urban green transport system needs to be established.** The reason is not that the Chinese government is not determined to develop urban green transport, **but that neither the development nor the organization of cities and transport are reinforcing each other.** Funding and regulatory incentives from the central government for local transport are insufficient, **contributing to local disregard for national guidance** that promotes green urban development.

The Chinese government should make comprehensive use of the three major strategies for improving public transport, namely i) guiding city development, ii) increasing green travel supply and iii) improving traffic demand management, and the four strategies of ‘avoid, shift, improve and enhance.’ The central government needs to link the promoting of urban green travel to the broader green transformation of China’s development strategies, relevant policies and key tasks.

Following international best practice, the central government should spur more effective local government actions promoting urban green travel with appropriate design of transport financing programs linked to regulatory guidance and local and central government capacity to supervise, assess and monitor urban transport system development and operations.

The policy recommendations are:

7.5.1 The State Council should issue the *Outline of China Urban Green Travel Implementation* as part of the national strategy framework for building an ecological civilization and reform urbanization, help cities coordinate urban planning with transport, environment and land use as well as establish a modern urban green transport system.

A key reason for why China’s larger cities suffer from serious congestion and air pollution, even though the level of motorization is comparatively low, is the comprehensive disconnect between transport, environment and land use planning and management.

The State Council should develop the *Outline of China Urban Green Travel Implementation*, to guide cities in building a modern green transport system. The system should: 1) be attractive to all social groups, have low emission and high operation efficiency, 2) be walking and cycling friendly and have convenient public transport linkages, 3) implement management measures for private vehicle ownership and use and 4) ensure that city development makes efficient use of land and provides all residents with a liveable environment and safe access to basic services and jobs without undue time and cost burdens

The purpose is to lead the shift from the conventional urban transport system to a modern green transport system (see Table 7-3). The Outline will guide the overall urban planning, comprehensive transport planning, environmental protection planning, land use planning and state the requirements for such elements as the fiscal mechanism, regulations and required performance appraisals.

Table 7-3 Comparison between Conventional Urban Comprehensive Transport Planning and Urban Green Travel Planning

Conventional urban comprehensive transport planning	⇔	Urban green travel planning
<i>Idea:</i> focus on transportation supply	⇔	<i>Idea:</i> focus on people's needs
<i>Goal:</i> transport flow, capacity, and speed	⇔	<i>Goal:</i> accessibility and life quality
<i>Method:</i> government appoint experts to draft planning	⇔	<i>Method:</i> important stakeholders participate in planning draft
<i>Technology application:</i> mainly on transportation	⇔	<i>Technology application:</i> cross-departments and cross-field
<i>Content:</i> infrastructure	⇔	<i>Content:</i> comprehensive planning of infrastructure, market frameworks, service, mechanics, information systems and coordination of software and hardware
Focus on large scale and high cost projects	⇔	Focus on cost/benefit issues, gradually improve efficiency, service quality and system performance.
Limited impact evaluation	⇔	Strengthen impact evaluation and revise as necessary to minimise adverse environmental, social, economic harms and maximise benefits.

7.5.2 The Central Government should a) enable city governments to raise sufficient and sustainable local sources of revenue to fund local public transport companies and b) provide targeted financial support for specific projects.

China's local public transport infrastructure construction and public transport companies are severely underfinanced. Public transport fares in most Chinese cities are lower than the cost price and the government subsidies are insufficient. Consequentially the public transport companies do not receive enough funding, making it impossible to provide the high quality and stable public transport services that could attract new passengers.

Cities should be able to raise adequate funds locally through new forms of taxes, e.g. local income taxes, sales taxes and the planned land value property tax, as well as parking charges, vehicle plate auction income and possible congestion charges and other fees on road users, city maintenance and construction fees.

Box 7-2 International case—public involvement and transport congestion policy implementation

In the 1950s, Sweden proposed to collect congestion charges in the heavily congested areas in downtown of Stockholm, and actually implemented the measure in 2006. The congestion in the downtown area was greatly alleviated. A year later the city let the citizens decide, through referendum, whether to continue the charging. The result was that 52% of the voters favored the policy. Since 2007 Sweden approved laws to authorize the city government to collect congestion taxes as necessary. At present 60%-70% of the Stockholm citizens favor the measure. Other cities in Sweden that have serious congestion problem are also considering implementing congestion charges. Sweden's second city Gothenburg started congestion charging on the 1st January 2013.

Support green transport investments in cities by: 1) enhancing existing transfer payments from central to local governments, i.e. adding urban public transport related indicators to the Transportation Standard Financial Expenditure of the Ministry of Finance's annual Central to Local Government Equalization Transfer Payment Methods, 2) establishing a specific central government fund for Urban Public Transport, which should also be available to fund complementary non-motorized transport investments, and fund this with revenues from the motor fuel tax system, the annual increase of the vehicle purchase tax, and/or the increment of pollution management charges, 3) enabling cities to improve public transport systems with funds drawn from the increment of the urban public transport fuel subsidy implemented in 2009 and 4) shifting the fuel tax collection from a fixed amount of tax to an ad valorem basis, so that fuel tax income increases as fuel prices rise, and optimize the fund allocation formula for 'growth subsidy transfer payment.'

The central fund should mainly support high capacity public transport, non-motorized transport modes, comprehensive passenger transport hubs, low energy consuming transportation equipment purchase and updating, and intelligent public transport.

Strengthen central government guidance on the public transport pricing mechanism in different types of cities in China to eliminate the deficit of the urban public transport companies caused by low fares. Public transport should be incorporated into *the Fare Catalogue of NDRC* and related departments of the State Council. The Government should develop public transport fare adjustment methods and guide the city governments to ensure stable funds for public transport companies. The Central Government should furthermore encourage local governments to ‘contract out’ or franchise transport services with performance requirements, incentives and penalties to ensure the provision of stable and high quality public transport services according to the contract. The Central Government should formulate guidance linking costs to fares and subsidies which should be sensitive to service quality and income inequality.

The Ministry of Finance (MoF) should establish a management system for the central fiscal fund that promotes green travel as well as monitor and appraise the usage of the fund. The MoF should ensure that the fund is used to increase the share of urban green travel, and is linked with green travel related planning. Funding for large urban transport infrastructure construction projects should be subject to a rigorous cost-benefit analysis comparing alternative plans for meeting their green travel objectives. Central funds shall be mostly used to support the following fields: mass transit, non-motorised transport, integrated passenger transport hubs, environmental friendly transport vehicle updates and intelligent public transport construction. Infrastructure projects must be accompanied by complementary green travel supporting measures.

Box 7-3 International case—sources of the U.S. Federal Government public transport fund

The Federal Government of the United States established the Highway Trust Fund in 1956, and the Mass Transit Fund in 1982, and increased the gas tax with dedication of a portion of the revenue stream to a new Mass Transit Account that supports 50% to 80% of urban public transport construction costs, bus procurement, and other programs. The rest of the costs are covered by the state and city governments. This federal transportation funding covers less than 20% of the total spending by all levels of government on transportation. However, it provides a foundation for federal planning regulations that ensure state and metropolitan level coordination of transportation with land use plans and the conformity of transportation plans and programs with air quality plans designed to protect public health.

7.5.3 The State Council should establish policy guidelines for the ‘Rational Use of Vehicles and Road Space’ to reduce congestion and air pollution and provide access to a range of transport modes.

It is recommended that the State Council policy guidelines should require inter alia:

- i. Public transport, walking and cycling should have clear priority in the allocation of city road space.
- ii. The definition of official vehicles should be broadened to include vehicles of state owned institutes, state owned or state-holding companies and strict limitations on official vehicle numbers and rules for the use of official vehicles should be issued.
- iii. Free private parking spaces should be reduced or charged/taxed and parking charges, with differential charges to reflect local conditions, should be introduced.

- iv. Road user charges should be encouraged in congested areas during congestion hours in major cities and rational limitations on car ownership be implemented according to city circumstances.
- v. Each city must have the final say on the best mix of policy instruments to meet agreed objectives.

It is normal in many Chinese cities that private cars are given more road resources, which together with low variable costs, leads to very high usage, causes congestion and air pollution. As a consequence, green travel modes are less attractive.

Evaluation of expected policy impacts: The Analysis of Green Travel in China included an online survey on the *expected* impact of the car restraint policy. Consistent with international experience, the survey shows that more than 93% of the interviewees agree that implementing parking charges in congested areas will have an impact on car travel (see Figure 7-12). Furthermore, a survey on policies of plate number restriction and purchase restriction shows that around 80% of the interviewees think that the policies have impacts on car travel. Among the interviewees, around 25% think that plate number restriction will restrain car travel. However, around 32% think that plate number restriction will lead people to buy a second car (confirmed by international experience). It is therefore suggested that the government should be cautious about implementing number plate restriction (see Table 7-4).

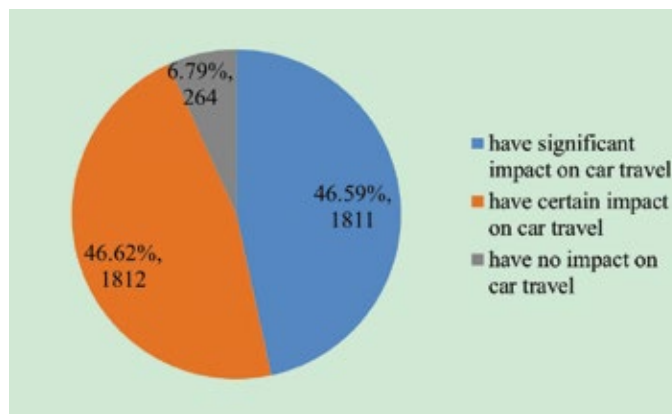


Figure 7-12 Raising Parking Charges¹³⁴

Table 7-4 Plate Number Restriction and Purchase Restriction¹³⁵

impact evaluation	Number	Proportion
plate number restriction will lead people to buy a second car	1245	32.3%
plate number restriction will restrain car increase	963	24.77%
purchase restriction has impact on car purchase	899	23.13%
plate number restriction has no impact on car purchase	539	13.87%
purchase restriction has no impact on car purchase	241	6.20%

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7.5.4 The state and city administrations should be required to ensure cross ministry/department coordination, enhance performance appraisal and management accountability, public participation should be encouraged.

There is no coordination mechanism for promoting urban green travel between agencies at neither national or city level. Furthermore, there is a lack of capacity with regards to performance monitoring and management accountability, which results in different and often inconsistent policies for urban planning, transport, environmental protection and land use.

- i. **The State Council should set up a coordinating mechanism within the Central Government to promote urban green travel, led by the Vice Premier.** This unit should be responsible for urban green travel strategy, including funding, planning and design of regulations, organisation and coordination of key practices such as congestion management, air quality improvement, accidents management, enforcement and ensure conformity between the urban transport development, land use and environmental protection goals. **Strengthen the integrated transport planning and Transport Demand Management (TDM) policy coordination of the economic zones (Yangtze River Delta, the Pearl River Delta and the Beijing-Tianjin-Hebei area etc.) and city clusters.**
- ii. **The Ministry of Transport should set up a Bureau of Urban Passenger Transport Management.** The objective of the Bureau should be to strengthen regional and municipal comprehensive transport planning, public transport planning, construction and operation and transport safety management. The proposed Bureau will also play an important role in coordinating the management of urban congestion, transport air pollution and the popularization and application of intelligent public transport and information systems. The proposed Bureau will compile, monitor and evaluate data to better understand how the benefits and burdens of transportation are distributed among the population and across the economic zones to support the development of more effective and equitable long-term policies and programs.

Box 7-4 International case—public transport management system and reform

The U.S. Federal Transit Administration (FTA) is one of the thirteen functional agencies of the U.S. Department of Transportation and comprises 500 employees. The FTA aims to establish high quality transit in the U.S, and ensure motorization for everyone and livability of communities through proper guidance of works, technical support, and financial resources. Its responsibilities cover not only transit construction and operation, but traffic demand management. Also, the FTA works to ensure the conformity between transit development and air quality management.

The European Commission has set up the Directorate-General for Mobility and Transport (DG MOVE). The main objective of the DG MOVE is to ensure that the European transport system supports the broader EU social, environmental protection, economic development policies. It drafts necessary laws and funds investments in priority transport projects.

- iii. **Local governments should set up a coordinating mechanism for promoting green travel.** With guidance from central government, following the principles of compact, integrated and efficient systems and learning from the experiences of Shenzhen and Zhuhai¹³⁶, this mechanism should stimulate the development of a comprehensive urban transport management system. The system should promote green travel, strengthen coordination capacities across such areas as road space prioritization, congestion and transport pollution management, secure transport information integration, coordinate traffic accident and transport emergency management, secure transport financing and carry out education and promotion campaigns. Other obligations should be public transport company management, ensure facilities for people with special needs,

¹³⁶ http://epaper.oeeee.com/N/html/2013-06/19/content_1877774.htm

evaluate and report publically on progress and provide opportunities for public participation in planning and decision-making.

Box 7-5 China's local transport management system reform. The case of Zhuhai.

In March, 2013, the city of Zhuhai decided to conduct a major reform and established the Municipal Transportation Commission as the coordinating organization. The initiator of the project is the municipal authority leader that is responsible for transport management and the commission members are 23 representatives from the Zhuhai Transport Bureau, Zhuhai Port Authority, Zhuhai Highway Bureau, Zhuhai Development and Reform Bureau, Zhuhai Finance Bureau, Zhuhai Human Resources and Social Security Bureau, the Land and Resources Bureau of Zhuhai, Zhuhai Bureau of Housing, Urban and Rural Planning and Construction, Zhuhai Bureau of Ocean, Agriculture, Fishery and Water.

- iv. **To strengthen performance evaluation and accountability, and encourage public involvement, the State Council should instruct the MoT to establish a National Green Travel Index Monitoring Mechanism for Central Cities.** Provincial governments should guide city governments to establish a 'Green Travel Index Monitoring and Reporting Mechanism' and the data should be publicly available. Clear, accurate and comparable data should be published and be available to citizens, on a city by city basis, covering air pollution, road injuries and deaths and public transport performance. This will improve transparency and accountability of city managers as well as encourage public interest and participation in green urban travel.

Relevant departments should be coordinated to conduct a 'Central City public transport development performance evaluation' and a 'national green travel city appraisal.' **The level and quality of green travel provision should be a criterion in the performance evaluation and promotion of city officials and mayors.** Furthermore, it should guide the local government to establish urban transport planning, Transport Demand Management, TDM, policy development (including vehicle restriction, car purchase restriction, congestion charging, low emission zone, etc.) and public involvement mechanisms.

7.5.5 The central government should amend legislation on *Urban Public Transport Regulation and Law of Air Pollution Management* to require local governments to fulfil their duties to promote green travel.

There are no public transport related laws in China. This results in a disconnect between urban transport development and environmental protection. The transport and environmental protection agencies at the state and city levels have been operating separately instead of working together. The fact that *Urban Public Transport Regulation* and the *Law of Air Pollution Management* have been included in the work plan of the State Council provides an opportunity to rectify this problem.

The Urban Public Transport Regulation should clearly emphasize the conformity of city comprehensive planning with coordinated land use and urban transport planning. It should also include a legal requirement for transport impact evaluation and include Transport Demand Management and traffic safety in urban public transport planning.

Box 7-6 International cases—laws and regulations related to promoting green travel

The US Federal-Aid Highway Act of 1973 specified the procedures and arrangements of transportation planning. It also specified the members of the Metropolitan Planning Organization (MPO), and required that the MPO develop long-term Metropolitan Transportation Plan (MTP), mid-term Metropolitan Transportation Improvement Program (MTIP) and the Unified Planning Work Program (UPWP) that are comprehensive, cooperative & continuing (the '3C') and use these programs as the preliminary conditions for applying for the federal funds. These requirements have been refined and strengthened over time through the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) and subsequent legislation. The latest US federal transportation law, MAP-21, passed in 2012, retains these important reforms from decades ago, along with new requirements for transportation system performance monitoring.

The Law of *Air Pollution Management* should contain provisions for the control of urban transport pollution and emissions, which should a) be included in urban transport planning, b) require the establishment of an urban transport pollution monitoring system, c) require that monitoring data are available to the public, d) require that the use of central fiscal funds is connected with the control of urban transport pollution and traffic safety and is in line with goals for transport development and environment and air quality management and e) allow city government to implement congestion charges, low emission zones, etc. The net income raised shall be used to develop walking, cycling and public transport.

7.5.6 The Central Government should select different types of cities to organize and implement a series of Demonstration Projects Promoting Urban Green Travel.

While the urbanization and motorization are rapidly developing, Chinese cities have little experience of how to implement green transport in an integrated and coordinated way.

The Central Government should take the lead in implementing a demonstration program showing new and improved ways of providing green urban transport by combining international experience with practices of Chinese cities promoting green travel. The State Council should appoint the Ministry of Transport as the leading department to organize related departments to select appropriate cities in which to conduct the following projects: 1) street-space reallocation to prioritize public transport, walking and bicycling, and to improve the street environment, 2) implement the Smooth Public Transport Project to attract more people to take buses, 3) select megacities like Beijing and Shanghai to set up congestion and Low Emission Zones, conducting research on implementation of such zones and drafting national principles for establishing urban congestion and Low Emission Zones and 4) establish and pilot a Transport Pollution Monitoring, Evaluation and Publishing System, in areas like Beijing, Tianjin, Heibei and the Yangtze River Delta.

Box 7-7 International case—EU CIVITAS urban mobility demonstration program

The European Union funds the CIVITAS initiative to demonstrate and improve transport measures and policies in order to create cleaner and better transport in cities. CIVITAS has helped introduce numerous innovations and 650 measures that have already made transport more eco-friendly in over 60 European 'demonstration cities.' The EU has invested well over EUR 200 millions. The UK, Germany, Stockholm and Milan have adopted policies to re-allocate road space (i.e. provide non-motorized transport and public transport with more space) and have set up congestion charging areas and low emission zones. These actions have greatly promoted green travel and alleviated congestion and air pollution. Germany started the Black Carbon Free initiative and reduced vehicle pollution through setting up low emission zones. At present there are 54 low emission zones (850 km²) in Germany alone and hundreds more throughout Europe.

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To all contributors-named or unnamed-we express our sincere thanks.

This report was submitted by the Special Policy Study on Promoting Urban Green Travel

CHAPTER 8

CCICED 2013 WORK REPORT

LI GANJIE, SECRETARY GENERAL OF CCICED

(November 13, 2013)

As a high-level policy advisory body for China's environment and development, the China Council for International Cooperation on Environment and Development (hereinafter referred to as "CCICED") has been in operation for 21 years. The Chinese government has attached great importance to and provided strong support for CCICED. Premier Li Keqiang pointed out at the CCICED 2012 Annual General Meeting (AGM) that: ***"CCICED has participated in and witnessed China's progress in environment and development, carried out many studies on practical issues in environment and development, facilitated the development of relevant activities in China and made positive achievements. I hope CCICED will give further play to the role as a bridge and tie in international environment cooperation, continue to expand research areas, attach more importance to sharing of achievements and contribute to the sustainable development of China and the world."***

2013 is the second year of Phase V. Under the leadership of the Bureau and with the support and collaboration from domestic and international donors and partners, CCICED has organized various activities successfully and made remarkable achievements in policy research, demonstration projects, institution building, extension of influence both domestically and internationally and strengthening of operational management. CCICED has successfully completed its work this year and has met expected objectives. To be more specific, the progress in 2013 is the following:

8.1 POLICY RESEARCH WAS CARRIED OUT AS PLANNED

The theme of CCICED 2013 is "Environment and Society for Green Development." Environmental and social issues are the focus of policy research within CCICED Phase V. The theme is mainly based on the fact that China is now facing a period of significant environmental accidents and high environmental risks, along with rapid economic development, the impact of environmental pollution and ecological degradation on social development has become increasingly prominent. China is now at a critical stage in its developmental transition. Improving people's livelihood, safeguarding public interests and strengthening social management and innovation will be China's strategic priorities in the coming years. It is important that research on environmental protection and social development is carried out, current and anticipated social and environmental issues are addressed and forward-looking, strategic and operational policy recommendations for China's transition process in economic and social development are proposed. These actions will significantly contribute to the promotion of an ecological civilization, the realization of a "well-off" society and the achievement of long-term stability of the society and the state.

In 2013, CCICED conducted a series of policy research projects focused on urgent and complex environmental and social issues that China is currently facing, in line with the government's policy needs for economic and social transformation. The policy research achievements provide a sound theoretical basis and empirical reference in preparing policy recommendations for the Chinese government and in preparation for the 2013 AGM.

8.1.1 Policy research tasks completed as planned

In 2013, CCICED has completed the following two task forces and three special policy studies; their research reports will be submitted to the 2013 AGM:

- i. Task Force on Environmental Protection and Social Development (2012-2013)
- ii. Task Force on Sustainable Consumption and Green Development (2012-2013)
- iii. Special Study on Media and Public Participation Policies on Promoting China's Green Development (2013)
- iv. Special Policy Study on Corporate Social Responsibility in Green Development (2013)
- v. Special Policy Study on Promoting Urban Green Travel (2013)

At the same time, as approved by the Council's 2012 Bureau meeting, the Task Force on "Evaluation and Prospects for a Green Transition Process in China" was established. They will report their findings at the 2014 AGM.

During the implementation of the Task Forces and Special Policy Studies, the Chinese and international experts devoted their time and experience, overcame language and cultural barriers, communicated and exchanged views through rounds of lively debate and finally reached their consensus on research findings and policy recommendations to the Chinese government. This process embodies the unique value and important role of CCICED as a good platform for international cooperation.

8.1.2 Contributions made by Council Members, donors and partners to policy studies

CCICED Members, donors and partners have played an important role in this year's policy research projects. Five Chinese and International Council Members served as co-chairs or core members of policy research projects, contributing their time, energy and wisdom through direct involvement. 11 donors and partners provided support for 16 senior experts and scholars in the fields of social development, economics, environment, consumption, transportation and public policy. They played an effective supporting role in improving the quality of CCICED's policy research.

8.1.3 Wisdom of domestic experts in various fields sought to promote policy research

In accordance with the 2013 Work Plan, a Symposium on "Putting People First, Reconstructing China's Environment Discourse" was held in March and a Strategic 'Salon' on "Environment and Society in the Context of Development – Issues and Strategies" was held in September. They were held with the aim of engaging domestic experts and scholars in exchanging information and ideas, seeking advice and suggestions in the field of environment and development and injecting new thinking and vitality into CCICED policy research. The participants were comprised of well-known experts and scholars in economic, social, environmental and other fields. Summary reports were produced as a reference for CCICED's policy research, through multidisciplinary, multi-dimensional and multi-angled brainstorming.

8.1.4 The direction and focus of CCICED in the next two years further clarified

Proposals for the themes of the 2014 AGM and the corresponding policy research agendas were drawn, from reviews and discussions of the policy research framework for Phase V, for consideration of CCICED Bureau. These proposals took into account such factors as evolving conditions related to global environment and development,

China's strategic objectives for economic and social development and ecological civilization and analysis and study of priority areas for the next two years, as well as comments collected from a wide range of contributors.

8.2 GREATER EFFORTS WERE MADE TO EXPAND THE INFLUENCE OF POLICY RECOMMENDATIONS BY CCICED

One of the important objectives of CCICED Phase V is to reach out both domestically and internationally, promote the adoption and application of its policy recommendations and share its policy research results with the international community. The specific work carried out in 2013 is as follows:

8.2.1 Holding CCICED 2013 Roundtable successfully

The CCICED 2013 Roundtable was held in Guiyang on July 20, in conjunction with the Guiyang International Eco-Forum, with the theme of "Regional Balance and Social Harmony in Green Development." The meeting shared the 2012 CCICED policy recommendations and emphasized the promotion of building an ecological civilization, held discussions on issues related to environmental protection and social development and laid a solid foundation for the 2013 AGM. Meeting attendees included: Zhou Shengxian, CCICED Executive Vice Chairperson and MEP Minister, Achim Steiner, CCICED Vice Chairperson and UNEP Executive Director, Li Ganjie, CCICED Secretary General and MEP Vice Minister as well as over 120 other representatives from central and local government departments, CCICED policy research project teams and relevant research institutions.

8.2.2 Implementing policy recommendations through demonstration projects and promotions

After every year's policy recommendations by CCICED were submitted to and approved by the State Council, MEP would forward them as government documents to relevant departments under the State Council and the governments of all provinces, autonomous regions and municipalities, so as to promote the recommendations' adoption and implementation. Among others, the research and policy recommendations related to green supply chain were well received and many local governments expressed interest in carrying out policy demonstration projects based on those policy recommendations.

As a result, CCICED selected Shanghai and Tianjin as sites for green supply chain policy pilot projects in 2013 to provide a reference for further application. Shanghai carried out research and demonstration activities mostly related to green supply chain management guidelines and technical specifications in the area of consumption and held a high-level seminar with the theme, "Benefit of Action - Developing Green Supply Chain Management System in China" at IKEA Pudong Store in Shanghai on May 30. The project in Tianjin conducted demonstrations on establishing and improving green product standards, setting up a trading platform for green products, developing green financing and promoting green procurements.

The project implementation bodies of the two cities jointly held an interim seminar in Tianjin on September 12, 2013, and exchanged their initial findings, achievements and lessons learned. While testing the practicality and operability of CCICED's policy recommendations, the demonstration projects effectively supported local government's efforts to build a green supply chain management system and achieved significant results.

8.2.3 Sharing CCICED's policy recommendations with other developing countries

CCICED members and donors urged the Council to reach out internationally to share CCICED's approach and achievements with other developing countries. To this end, CCICED and UNEP cohosted a high-level forum in Nairobi on October 28 during the Global South-South Development Expo. Themed, "Ecological Civilization and Green Transformation," the forum introduced CCICED's policy recommendations on promoting China's green transformation, shared the philosophy and practice of China's ecological civilization and strengthened the international community's understanding of CCICED, particularly that of developing countries. The event proved to be a useful exploration and attempt on the part of CCICED to collaborate and develop mutually beneficial networks within the framework of South-South cooperation.

8.2.4 Submitting CCICED special reports to relevant government departments

The Secretariat issued regular bulletins to relevant government decision-makers and published four special reports over the course of the year, combining major domestic and international topics with findings and recommendations flowing from CCICED policy research. These were well received. The special report, *A Study on Recent Heavy Pollution Events and Air Quality Control Policy Recommendations*, based on CCICED's Special Policy Study on "Regional Air Quality Integrated Control System Research," had a meaningful impact on the Chinese government's *Action Plan on Air Pollution Prevention and Treatment*.

8.2.5 Publicizing CCICED's achievements through publications and websites

The Secretariat successfully prepared and published *Proceedings of the 2012 AGM*, *CCICED Annual Policy Report 2012* and *CCICED Annual Report 2012*, among other publications. Additionally, the Secretariat published a special issue on the CCICED 2012 Annual General Meeting in *Environmental Protection* magazine, as well as articles in *World Environment* magazine on CCICED's history and on the CCICED Chief Advisors' interpretation of ecological civilization. With partners' support and assistance, CCICED published the English version of the *CCICED Annual Policy Report* overseas for the first time. The Secretariat also continued to improve CCICED's Chinese and English versions of the website, by enriching contents, uploading information in a timely manner, and making browsing and searching easier. Total website 'hits' reached 2.9 million, an increase of 98.7%, with a total number of visits increasing 173.7% just over the last year.

8.3 ORGANIZATIONAL STRUCTURES AND OPERATIONAL MECHANISMS FURTHER IMPROVED AND STRENGTHENED

8.3.1 Expanding partnership and conducting productive cooperation

After active communication and negotiations, CCICED established strategic partnerships with the United Nations Environment Programme (UNEP), World Wildlife Fund (WWF), Stockholm Environment Institute (SEI), World Resources Institute (WRI) and International Institute for Sustainable Development (IISD). CCICED will promote practical cooperation with these partners in such areas as special policy studies, publicity and promotion, and personnel exchanges and training. This will jointly improve CCICED's policy research activities, institutional capacity and international out-reach in ways that provide mutual benefit and support mutual development.

8.3.2 Enhancing membership

The membership composition of CCICED Phase V focuses on geographical balance and field diversification, stressing scientific, academic and policy-making influence. CCICED aimed to achieve a better balance among Chinese and international membership, in number, region and nationality. Additionally, CCICED aimed to attract representatives from businesses and think-tanks with global influence, as well as representatives from important international organizations and institutions in the field of environment and development. To achieve these two goals, CCICED invited and accepted five new international members to the Council in 2013 through careful selection from self-applications. These individuals come from Environment Canada, World Conservation Union, United Nations Industrial Development Organization, World Resources Institute, and Apple Inc.

8.3.3 Chief Advisors and their Supporting Expert Groups playing a more prominent role

The Chief Advisors and their Supporting Expert Groups provide vital quality control functions on policy research of CCICED. Their major areas of work over the past year are the following:

- Provided comprehensive advice to the Secretary General with advice on Task Forces and other policy research projects.
- Provided academic advice, guidance and assistance to the policy team's work to ensure effective collaboration within the research teams.
- Assumed some important additional duties, including drafting new project concept papers and research outlines, examining project implementation plans, strengthening monitoring and guidance and evaluating interim and final project achievements, in order to improve the quality of policy research reports.
- Proposed CCICED annual themes for 2014 - 2016 and policy research agenda for 2014 and 2015, so as to provide support for the Bureau and the Secretary General.
- Held four Joint Meeting of Secretariat and Chief Advisors and held meetings between the Chinese Chief Advisor and the Chinese members of Supporting Expert Group to ensure smooth communication between the Secretariat and Chief Advisors and their Supporting Expert Group, thus smooth implementation of policy research activities.
- Completed the drafting of the CCICED 2013 Annual General Meeting policy recommendation draft for 2013 AGM, the Issues Paper, the report on Progress on Environment and Development Policies in China (2012-2013) and CCICED Policy Recommendations Impact, as well as other documents, thereby providing a sound basis for a successful Annual General Meeting.

8.3.4 Strengthening internal management and operation

Over the past year, the Secretariat and its International Support Office have continued to be engaged in capacity development programs to enhance the skills of the Secretariat and Chinese partner personnel and activities to strengthen operational and management procedures and processes.

- i. **Strengthening policy research quality control and internal management system.** The Secretariat developed and gradually implemented *CCICED Policy Research Project Management Measures* (Draft) and, with the support and collaboration of the Chief Advisors' team, strengthened the 'whole-process' management of policy research projects and further improved the quality of policy research reports. The Secretariat also strengthened internal management. In addition, the Secretariat formulated *CCICED Finance Regulations*, *CCICED*

Information Disclosure Management Measures, CCICED Annual General Meeting Preparation Procedures, Measures on CCICED Secretariat Seal Use, and other regulations.

- ii. **Focusing on communication to improve information transparency.** The Secretariat held donors working meetings in January and September, at which the Secretariat shared information on CCICED's progress and future work plans and solicited advice and recommendations from donors and partners on policy research directions, annual themes and research priorities. A strong effort has been made to reflect donors and partners' input into the CCICED research agenda.
- iii. **International Support Office playing an important role.** The International Support Office has played an active and important role in areas including the management of donor funds, communication with and coordination of international experts, partnership expansion and publicity and promotion.

APPENDIX PHASE V (2012-2016) REPORT ON FUNDING: 2012-2013

INTRODUCTION

The Phase V of the China Council for International Cooperation on Environment and Development (CCICED) was inaugurated at the 2012 AGM held in December 2012. Due to the timing of the AGM and the availability of financial data, this report on funding covers the period from October 1, 2012, to September 30, 2013.

PHASE V CONTRIBUTIONS

The Council's operation and activities for Phase V are supported financially by the Government of China and a wide range of international donors. Details of donors' contributions or commitments as of September 30, 2013, appear in Table 1. Contributions were made in a number of currencies. The USD\$ equivalent amounts shown were calculated using rounded exchange rates valid on September 30, 2013. The real US\$ value of a contribution will vary depending on when it was made available and when it was used over time to meet Council expenses.

CORE FUNDING AND DEDICATED FUNDING

As in earlier Phases of the Council's work, funding can be categorized as Core Funding and Dedicated Funding. Generally, Core Funding can be deployed flexibly to finance the full range of the Council's operations, including the Annual General Meetings, Task Forces/Special Policy Studies, Roundtable Meetings, Chief Advisor Group and the Secretariat, and thus helps ensure that the Council can respond in an unrestricted and prompt manner to changing priorities and circumstances. Dedicated Funds are funds that are provided to the Council for a specific purpose, usually to support the work of a particular Task Force, Special Policy Study or pilot project. These Dedicated Funds are concentrated on policy studies and help ensure that high-priority policy research activities have access to sufficient resources.

MANAGEMENT OF FUNDS

Most funds are administered by the Council Secretariat (SERI) in Beijing or by the Secretariat International Support Office (SISO) situated at Simon Fraser University in Canada. SISO managed the contributions to the Council on the part of CIDA/Environment Canada, AusAID and Energy Foundation, as well as funds provided by the Secretariat from Norway's and Sweden's contributions that are allocated to meet the international costs of specific task forces. In a few instances, donors manage their contributions through their own offices.

During 2012/13, the Secretariat and SISO have continued to apply standard Guidelines on the use and management of funds used to meet international costs related to task forces. These Guidelines establish standards and limits for reimbursable costs, which were based in turn on the regulations and other conditions set by major donors on the use of their funds and are designed to ensure consistency across all task forces. In addition, a number of procedures and contract and other templates are used to facilitate task force financial management.

EXPENDITURES 1 OCTOBER 2012 – 30 SEPTEMBER 2013

Table A-2 displays expenditures from October 1, 2012, to September 30, 2013 by donor. Expenditures for this period totalled US\$ 4,557,538. A number of other costs related to this period were processed through donor financial systems either before or after the October 2012 – September 2013 period and were included in last year's data or will appear in the 2013-2014 figures.

Table A-1 CCICED Phase V – Donor Contribution as of September 2013

	Donor	Amount in original currency	Amount in USD (See Note 1)	Details
1	China	40,000,000 RMB	6,350,000	
2	Canada	7,290,000 CDN	7,290,000	
3	Norway	25,000,000 NOK	4,300,000	
5	Germany	2,000,000 EURO	2,699,500	
6	Australia	1,500,000 AUD	1,530,000	
4	Sweden	10,000,000 SEK	1,500,000	Contribution for 2012 - 2013.
7	Italy	500,000 EURO	650,000	
8	The Netherlands	500,000 EURO	650,000	
10	US EDF	650,000 USD	650,000	
13	Shell (China Limited)	600,000 USD	600,000	
21	Energy Foundation	200,000 USD	200,000	Contribution for 2012.
22	Hong Kong University	1,500,000 HKD	200,000	Contribution for 2012.
13	EU	165,214 EURO	222,998	Contribution for 2013.
14	World Resource Institute	50,000 USD	50,000	Contribution for 2013.
15	UNEP	40,000 USD	40,000	
	Total in USD		26,932,498	

Note 1: the value in US\$ of a contribution will vary depending on when it was made available and when it was used over time to meet Council expenses. To provide notional amounts based on a consistent exchange rate, rates valid on 30 Sept. 2013 were used.

Table A-2 Expenditures: CCICED Phase IV – October 2012–September 2013 (US dollars)

Category	China	Canada	Australia	Norway	Sweden	Germany	Italy	Netherlands	EDF	Shell China	EU	World Resource Institute	Energy Foundation	Total
1. Task Forces / Special Studies														
Green Development					43,922									43,922
Investment and Trade		2,746		58,740	23,496									84,982
Western China E&D			10,258	32,258	83,105									125,621
12th Five-Year Plan				30,000	56,960									86,960
Regional Air Quality										32,634				32,634
Case of Bohai Oil Spill										24,475			77,429	101,904
Green Supply Chain	97,900								150,000					247,900
Sustainable Consumption	65,267	99,438			113,414	163,229								441,348
Environment and Social Development	65,267	160,945	18,827		6,506									251,545
Media and Public Participation	72,042	32,014	27,988										122,571	254,615
Corporate Social Responsibility	89,191	2,898	960			19,966						50,000		163,015
Green Urban Transport	65,267	7,482	7,310								223,039			303,098
Green Transition Process	65,267													65,267
CCICED Strategic Salon	10,000							39,160						49,160
CCICED Project Evaluation	48,950													48,950
Subtotal	579,151	305,523	65,343	120,998	327,403	183,195	-	39,160	150,000	57,109	223,039	50,000	200,000	2,300,921
2. Council AGM														
	146,797	113,701	108,741		142,722			20,834						532,795
3. Roundtable 2013														
	63,701	2,053												65,754
4. Chief Advisor Group														
	65,268	367,951			81,583									514,802
5. Publicity and Promotion														
	61,433							37,473						98,906
6. CCICED Secretariat (SERI)														
	369,616				4,520		80,505							454,641
7. SISO Administration														
		484,632												484,632
8. Training														
		105,087												105,087
Total expenditures	1,285,966	1,378,947	174,084	120,998	556,228	183,195	80,505	97,467	150,000	57,109	223,039	50,000	200,000	4,557,538

2013

Environment and Society for Green Development



CHINA COUNCIL FOR INTERNATIONAL COOPERATION
ON ENVIRONMENT AND DEVELOPMENT

The China Council for International Cooperation on Environment and Development (CCICED) was established in 1992 with the approval of the Chinese government as a high-level advisory body consisting of senior Chinese and international experts. Its mandate is to share international successful experience on environment and development, to conduct research and to provide forward-looking, strategic and early-warning policy recommendations to the Chinese government to support and facilitate China's implementation of sustainable development strategy and to enhance the building of a resource-saving and environmentally friendly society.

CCICED has operated on the basis of five-year phases. Phase 1 (1992–1996) concentrated on exchange and dissemination of international experience and successful policies, and raising the environmental awareness of policy-makers. Phase 2 (1997–2001) focused on environmental pollution, the relationship between environment and economic development, and strengthening environmental legal and regulation systems. Phase 3 (2002–2006) addressed the integration of environmental protection into the holistic planning of China's development. Phase 4 (2007–2011) promoted the establishment of a new relationship between China's economic development and environmental protection and explored a new path for optimizing environmental protection in economic development.

Phase 5 (2012–2016) will seek to promote China's sustainable development and ecological civilization; shift policy research priorities from the relationship between environment and economy to environment and social development, with more emphasis given to regional and global environment as well as the interaction and influence between China and the world; share research findings with the international community; and play a greater role in building a beautiful China and global sustainable development.

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