

AGM Summary Record

Beijing Hotel, Beijing
November 10 – 12 2010

I Introduction

1. The China Council for International Cooperation on Environment and Development ("the Council" or CCICED) was established in 1992 by the State Council of the Government of China (GOC) in order to foster cooperation in the areas of environment and development between China and the international community.

2. The Council is a high-level advisory body that puts forth recommendations on environment and sustainable development for the Chinese Government's consideration. It has so far convened five annual meetings in each of the First, Second and Third Phases, and held four meetings in the Fourth Phase.

3. The Council supports the development of a comprehensive approach to sustainable development and environment through the close cooperation between China and other countries. The Council is a non-governmental organization, but it benefits from strong government involvement. At present the Council is composed of 24 Chinese Members and 22 International Members who were chosen for their experience, expertise and influence.

4. The Council is chaired by Mr Li Keqiang, Vice Premier of China's State Council and a member of the Political Bureau Standing Committee. It was at his invitation that the Members of the Council attended the Fourth Meeting of the Fourth Phase.

5. The Council's host institution is the Ministry of Environmental Protection (MEP). Previously known as the State Environmental Protection Agency (SEPA), MEP is responsible for the Council and for ensuring inter-ministerial coordination. It has established a Secretariat (SERI) to support international and domestic contacts. The Secretariat supports follow-up in China to CCICED recommendations, and deals with routine matters when the Council is not in session. The Secretariat is assisted by the Secretariat International Support Office (SISO), directed by Mr Christopher Dagg. SISO is located at Simon Fraser University

in Burnaby, Canada, and is funded by the Canadian International Development Agency (CIDA).

6. The Summary Record of the CCICED's Fourth Meeting of the Fourth Phase was prepared by Ms Lucie McNeill for SISO, based on detailed notes recorded during the Annual General Meeting (AGM). Representing SISO's interpretation of the discussions, the Summary Record does not necessarily reflect the views of all participants. To encourage frank and direct discussion, the Summary Record of the Meeting presents an overview of the points made without attribution to individual speakers.

II Agenda Items

Item 1. Adoption of the Agenda

7. The Fourth Meeting of the Fourth Phase was called to order by Executive Vice-Chair Zhou Shengxian. He marked the presence of Council Chair, Vice Premier Li Keqiang and introduced the International Executive Vice-Chair and CIDA President Margaret Biggs, Vice-Chairs Børge Brende and Klaus Töpfer, and the CCICED Secretary General Zhu Guangyao. He welcomed guests, Council members and observers to the 2010 AGM, focusing on the theme of China's New Path for Environmental Protection: Addressing Ecology and Economy. The agenda was adopted by the Council and the 2010 AGM of the CCICED was declared in session.

Item 2. Opening Ceremony

8. Vice-Chair Zhou Shengxian introduced CIDA President and Council Vice-Chair Margaret Biggs who highlighted the following points as she addressed the Council.

1) Environment and sustainable development are of heightened importance in China, given current priorities and the preparations for the next Five Year Plan (FYP). While substantial progress has been achieved, sizeable challenges remain that will require holistic, cross-sectoral approaches encompassing areas that range from the mountains to the seas.

2) For the first time at this AGM, the Council is addressing the issues facing China's ocean and coastal areas, as well as its soils. Recommended approaches and frameworks to address these issues are of relevance to other countries that face expensive remediation measures.

3) The Council will be guided by three considerations: the interconnectedness of ecosystems, the direct link between ecology and economy, and the importance of inclusive development. Forests and grasslands protect watersheds that in turn protect coastal



ecosystems. The economy and ecology are interdependent and the markets for ecological goods and services can make both mutually supportive. One outcome of environmental protection and sustainable development must be to support livelihoods, health and quality of life for the people of China.

9. Chair Zhou Shengxian introduced Council Chair and China's Vice Premier Li Keqiang. Vice Premier Li focused on the AGM's theme of ecosystem management and green development in his address.

1) The 12th FYP will explore new paths for environment and development, allowing China to become more resource efficient and environmentally friendly. Despite the world financial crisis, China has been able to maintain stable yet rapid growth; it is expected that in this final year of the 11th FYP, the average per capital gross domestic product (GDP) in the country will reach US \$4 000. At the same time, China has achieved results in resource conservation and environmental protection; between 2006 and 2007, chemical oxygen demand (COD) and carbon dioxide (CO₂) have respectively decreased by 9.7% and 13.1%. In the first half of this year, the emissions of main pollutants have continued to decrease. These were hard won successes and demonstrate China's determination to promote green development.

2) Development has been extremely uneven; the sustainability of rapid growth is questionable because of environmental costs. China is in the midst of a major push to modernize, urbanize and industrialize in a short period of time. Much pollution has been created; resource scarcity is already experienced as a bottleneck to socio-economic development. The last Communist Party of China (CPC) Congress approved the targets for the coming five years, emphasizing the quality as well as the quantity of growth; this growth needs to also protect the environment and provide sustainable livelihoods for the people. The transformation required of China is systemic, strategic and comprehensive. Protection of the environment and resource conservation are indicators of the success of this transformation.

3) China sees a new path in the promotion of green development, with the conservation of resources and the reduction of pollution using a full range of measures; the promotion of green and more rational consumption, with broader awareness and participation of the public in environmental protection; the improvement in people's standards of living and quality of life.

4) In China, 35% of the landmass is supporting 1 billion people, putting great stress on the existing resources and on ecosystems. Improvements must be made in environmental management, legislation, regulations, implementation and integrated development. Environmental remediation and restoration work is a priority. Ecological zones need to be

protected, and damaged areas must be given time in order to regenerate naturally. China plans to improve its environmental protection laws and regulations, as well as its assessment and monitoring system. Resource pricing must be improved to fully reflect costs. New markets are having impacts; China will put innovation and cooperation at the forefront, adopting new energy and low carbon technologies.

5) To face climate change and to protect the planet, China needs to step up international cooperation. Countries must join hands and respecting the principle of differentiated responsibility, implement the international agreements signed. Developing countries need funding and technology transfers to support adherence to the commitments made. This will be critical at the Conference of the Parties (COP) in Cancun.

6) The CCICED has made a significant contribution to environment and development in China. Recommendations made on a range of issues are of great value to the GOC.

Item 3. Special Remarks and General Debate

a) CCICED vice-chairs' opening statements

10. With Vice-Chair Margaret Biggs presiding, Co-Chairs Klaus Töpfer and Børge Brende addressed the Council, emphasizing the following issues.

1) The CCICED will soon be 20 years old, yet it seems to be getting more vital and relevant as the years go by. Preparation documents include a report on how past recommendations have been taken into account by the GOC; Council members can be proud of the impact they have made. Eco-taxation and carbon trading are now both the subject of pilot programs.

2) Despite the financial crisis, China fought to maintain growth and has been key to global economic stability. Its stimulus package contained green components, indicating China did not want to revert to business as usual. It is timely to address the natural capital in China, particularly its ecosystems. Ecocompensation was discussed last year, and we learned it faces significant challenges still. Yet this could be a mechanism to stabilize rural economies and improve the terms of trade they have with more developed areas.

3) Oceans and soils are at the core of environmental considerations; their production capacity needs to be maintained, otherwise China faces dire consequences.

4) Despite numerous challenges including natural disasters, China's economy and influence continue to grow. China is now a necessary partner to tackle the crucial task of decoupling economic growth from environmental impacts. Much can be learned from China in the areas where it is leading. China is a required partner at international tables charged

with addressing global problems. As China grows in strength, it remains open about the challenges ahead and willing to take counsel from its partners.

b) Special report to the CCICED by the Minister of Environmental Protection

11. Vice-Chair Margaret Biggs invited Executive Vice-Chair and Minister of Environmental Protection Zhou Shengxian to brief the Council on progress over the past year. In his report, Minister Zhou underscored the following themes.

1) Over the past five years in the course of the 11th FYP, China has linked and better coordinated environment, economy and livelihoods; key concepts such as the *Three Transformations*, *Ecological Civilization*, and the rehabilitation of rivers and lakes have taken root. The approach to environmental protection has become more strategic; firm targets were achieved ahead of schedule for the reduction of COD and sulphur dioxide (SO₂) by 10% and 13% respectively. The rehabilitation of priority rivers and lakes has produced results. A mechanism for the prevention and treatment of regional air pollution was demonstrated during the Beijing Olympic Games, the Shanghai Expo and the Guangzhou Asian Games. Desulfurization equipment is now found in over 70% of coal fire plants, as opposed to 12% in 2005.

2) MEP is continuing its work to encourage green development and discourage polluting, wasteful, inefficient and obsolete equipment, plants and production processes. China has adopted a cohesive approach and framework to deal with heavy metal pollution. An environmental protection plan for potable water in urban areas has been adopted. A number of initiatives and national funding are now supporting the health of our ecosystems. Over 14% of China's total land area is now under ecological protection; conservation plans have been drawn up and other measures taken to protect biodiversity. All major environmental indicators in the FYP either met or exceeded the targets set.

3) The 12th FYP adopted at the last session of the CPC Congress puts the spotlight on the strategic opportunities open to China in the next five years. There will be a focus on resource conservation and on solving environmental problems affecting public health such as unsafe drinking water and pollution of air and soil. An increased number of pollutants will be put under total emission control.

4) China is still facing increasing environmental pressures. In the course of urbanization and industrialization, environmental costs and resource waste are still too high. China must actively seek a new, made-to-measure path to development, which the GOC calls *Ecological Civilization*. The concept embodies harmony between human beings and nature. Humans depend on nature for their evolution, while their growth also affects nature.

Conquering nature as in the old industrial model leads to unsustainable development. This does not mean going back to an agrarian society, but rather embracing technological progress and supporting healthy lives and livelihoods.

5) By adopting a green, sustainable and low carbon development path, China can become more innovative and competitive on the global scale. This will be a long, arduous task where persistence will be required. Environmental protection and economic development are in a strategic relationship and must be considered holistically. China needs to optimize economic, social and environmental benefits. China's system of incentives and disincentives should be improved to deal with emissions. Environmental considerations need to be mainstreamed in all economic and social aspects.

6) The 12th FYP lays out five main tasks in this area. First, China will strengthen the controls of environmental pollutants and set up an emission accountability system; it will implement set emissions targets for COD, ammonia nitrogen, SO₂ and nitrogen oxide (NO_x); focus on the rehabilitation of key rivers and lakes; and target urban air pollution, including automobile exhaust.

7) Secondly, China will continue to support the development of a circular economy, with a focus on recycling, clean energy, reduced carbon intensity and reduced emissions. There will be continued efforts to adopt greener technologies and to support the development of a green industry.

8) Third, China will tackle environmental issues that threaten public health, protecting potable water sources, controlling the sources of heavy metal contamination, cleaning up rivers and lakes, and controlling urban noise pollution.

9) Fourth, China will work on the restoration of damaged environments, focusing on protection and relying on natural recovery. Ecological reserves, the conservation of key ecosystems and of biodiversity are key elements of this plan.

10) Finally, China will strengthen its legal and regulatory system, including Environmental Impact Assessments (EIA) and market mechanisms such as environmental taxes, subsidies, prices, and ecocompensation mechanisms.

c) Special invited speech by the Executive Director of UNEP

12. Council member and United Nations Environment Program (UNEP) Executive Director Mr Achim Steiner was invited to address Council. During his remarks, Mr Steiner insisted on these points.

1) It is important to set this meeting in the context of the global and Chinese economic situations. On the eve of the G20 meeting in Korea, many countries have yet to recover from



the crisis while others have seen a jobless recovery. China has chosen a different path; it is not returning to business as usual but rather embracing transformation to a green economy and investing in new technologies and pathways to growth. This approach needs more exposure in the global economic policy fora.

2) This is the *International Year of Biodiversity* and the Nagoya meeting concluded successfully – a breakthrough where multilateralism resulted in a common framework and direction. The outcomes of the Nagoya meeting are relevant to this year's AGM and its theme, not only in terms of biodiversity and ecosystem conservation but also in terms of the function of ecosystems and their role in the development and wealth of nations, regions, communities and households. A new strategic plan was adopted by all signatories to the Convention on Biodiversity; by 2020, 17% of the planet will be under protection. Another target focuses on the world's marine environments; 10% of world's oceans should be under protection, compared to 1.3% at present. China's efforts on coastal urban sewage treatment and on protected areas are noted. Nagoya also saw the adoption of an access and benefit sharing protocol on biodiversity which was 18 years in the making.

3) Nagoya was successful because a rapidly evolving science is allowing the world to understand the consequences of loss of biodiversity, the threat represented by the loss of ecosystem functions, and the economic implications of such scenarios. The services of nature that are largely invisible in our national accounts are now more visible thanks to improved valuation methods and the realization that the natural capital in ecosystems represents the wealth of nations. This is the wealth which underpins development and which is now being squandered by unsustainable practices.

4) One example is the mining of soils, threatening future agriculture and food security. Similarly, the world's fisheries are in jeopardy with a predicted collapse of most commercial fisheries by 2050. The Global Biodiversity Outlook was published earlier this year, with some 170 countries reporting by the time the Nagoya meeting was held. Not a single country could demonstrate it had reversed its rate of biodiversity loss.

5) The 12th FYP demonstrates China has changed the way it sees the relationship between environment and development. China now acknowledges harmonious development requires equity among regions. It is often the poorest regions and the poorest people that rely most on nature, its products and services. While ecosystems can be seen as unattractive investment propositions, their sound functions and productivity are central to balanced and inclusive development.

6) The notion of a green economy encompasses the complementary, mutually reinforcing issues of climate change, biodiversity and pollution. The investment in forests to combat

climate change also represents a significant flow of international capital. MEP is key in ensuring these linkages become more explicit.

7) The international scene for environmental conservation is fractured with hundreds of instruments, agreements, treaties, platforms and institutions. Their maintenance, implementation and supervision represents a challenge for the international community, particularly given the perceptions of national interest that prevail in such fora. The G20 will be addressing the development agenda; is this where global discussions on development are now to take place, as opposed to multilateral organizations that represent most countries? China has a role to play in the lead up to the Rio+20 in discussing this issue and green development. China's experience and views will be germane to countries that are looking for transformations that are systemic, strategic and have been scaled up.

8) Central to the CCICED is the commitment to international cooperation. The last centuries have seen the world focus on political and economic diplomacy, but environmental diplomacy is emerging as an increasingly important issue. Given the progress demonstrated by China, the Council could prove a useful bridge to help the world understand China's potential role in environmental diplomacy.

d) Presentation of the CCICED issues paper

13. Vice-Chair Margaret Biggs introduced CCICED Chief Advisors Arthur Hanson and Shen Guofang who outlined the 2010 Issues Paper to Council. During their presentation, the Chief Advisors focused on the following key findings.

14. This was a difficult Issues Paper to craft because of the complexity of the issues, as well as the need to see this through largely undefined concepts such as green development. The starting point is to see the planet and its ecosystems as home. Green development is a term that has been appropriated by some industries and can be viewed with suspicion. Qinghua University academic Hu Angang defines it as the unified and harmonious development of the economy and environment, a positive path of people-centred sustainable development. Natural capital is in a state of decline in China – a matter of serious concern implying the country's overall strategy must mainstream environmental issues such as biodiversity, ecological services and ecosystem management.

15. China has made tremendous progress in designating nature reserves. In Western China, a large network of reserves has been set up to protect the headwaters of China's and much of Asia's great rivers. However, several challenges remain. Of four charismatic, iconic species in China that are seriously endangered, the panda and the crested ibis are making it while the Yangtse dolphin and the southern tiger are gone. Soil arthropods are essential to



healthy soils; if destroyed by pollution, the whole soil geo-biological cycle is interrupted and soils die. The honey bee is in trouble around the world, with serious consequences for pollination; in some areas of China, hand pollination is now necessary. Such ecological services should not be taken for granted.

16. The chief advisors have adopted the theme of “from the mountains to the seas” this year. In spite of excellent work done on watersheds in the past, critical linkages are still missing. Marine ecosystem problems are largely generated by land-based pollution travelling down major rivers. This issue is of greater concern in China given its population and the intensity of economic development along its rivers and coasts. To deal with water scarcity in the west, China is considering large water transfers of seawater inland at tremendous expense; this is the antithesis of letting nature do the work.

17. China is making progress in protecting and restoring wetlands. How much fresh water needs to be conserved for ecological needs is as yet unknown. Migratory birds use the eastern China coast flyway and their populations have been affected. Water disasters in China tend to be localized, be it flooding or drought.

18. A key issue in thinking about ‘mountains to seas’ is non-point pollution or the high rate of fertilizer and pesticide use in China. Agriculture pollution and unsustainable water use are key ecological problems since their impacts are felt along waterways and to the coast. Soil pollution has not yet drawn much attention in China, yet it is critical to future food security and human health. Cleaning up contaminated soils can be prohibitively expensive.

19. China has done a great deal in increasing its forest cover, yet the quality of the forests and their capacity to render ecological services are also important. Forested slopes have been shown to stabilize soils in the event of geological tremors. China’s grassland restoration successes have been more limited; grasslands occupy more than 40% of the land mass and are largely overstocked to unprecedented levels. Fencing is proving a detriment. There are now areas where desertification is severe, wildlife conflicts are rife and whole ecosystems are destabilized because keystone species are threatened.

20. Public participation, as well as the engagement of communities in co-management and other mechanisms are essential to increasing awareness. Gender considerations are important in rural areas, as is the respect for traditional knowledge among ethnic groups.

21. China has one ocean and several seas; some areas are key such as Bohai Bay. The health of China’s marine ecosystems is not good and getting worse. This is partly due to China’s long rivers, carrying the sediment and pollutants that generate dead zones around the estuaries. Sustainable fisheries and aquaculture remain a challenge for China. Rising aquaculture pressures represent the meeting point of economic opportunity and environmental

costs. A systemic approach to large oil spills and other pollution emergencies is still lacking. Algal blooms have become more serious due to land-based sources of nutrients. In addition, land reclamation along China's coastlines has proven hard to control and is having impacts on species that depend on marine ecosystems and their services.

22. Integrated ecosystem management approaches are needed, particularly in the Bohai Sea, which is seriously threatened and supports hundreds of millions of people. This is the most serious ocean challenge faced by China.

23. China's ecological footprint has exceeded the country's boundary, while still relatively low on a per capita basis. The big challenge for China will be to stop the degradation of its ecosystems and restore them, while getting more provisioning and ecological services out of all ecosystems. This effort will need collaboration from all levels of government and support from the international community. China is showing the world it can become a showcase for green development.

e) General debate and comments

24. A leitmotiv of the papers and speeches so far is the relationship between environment, economy and development, and the need for tighter interlinkages. China is demonstrating leadership in this area, as illustrated by the 11th FYP and the outlook for the 12th FYP.

25. The International Union for the Conservation of Nature (IUCN) in 1981 recommended a Convention on Biodiversity; in hindsight, a single, integrated Convention for climate, biodiversity and other issues might have been preferable to the numerous disparate agreements now in existence. The agreement reached in Nagoya finally completes the Convention on Biodiversity. Concrete action and the full participation of the community are now needed. The participation of diverse stakeholders in Nagoya was important and illustrated the need for the multilateral system to be more inclusive.

26. We need to communicate success stories in order to mainstream ecosystem biodiversity and the services we get from nature. A recent IUCN article in '*Nature*' magazine stated that 20% more species would have been lost without conservation measures.

27. There are linkages between the themes found in the Issues Paper of inclusive growth, ecological civilization and the importance of public participation. At the interface between the food systems and ecosystems, people meet primary industry and the natural environment. Whether upstream in watersheds or downstream, people involved in food systems determine ecosystem outcomes. There are opportunities for managing towards

green economy. These areas need to be incorporated in the curricula of universities and business schools.

34. China operates in a much bigger economic ecosystem; its ecological footprint is growing in concentric circles. Recommendations should acknowledge the potential for greater south-south cooperation in managing China's ecosystem footprint. Resource efficiencies need to be realized given the rising demand for China's industries. The countries of Africa want to see their ecosystems protected and China can provide the needed leadership.

35. China might consider setting numerical ecosystem targets similar to its emissions intensity targets of the 11th FYP – a technique that has proven effective already. Enforcement might prove challenging, but simple targets could be powerful in setting the needed direction.

Item 4. Task Force and Policy Research Reports

a) Task force on ecosystem service and management strategy

36. CCICED member and MEP Vice Minister Li Ganjie chaired the presentation of this Task Force report. In presenting their findings, Co-Chairs Beate Jessel and Chen Yiyu underlined the following main points.

37. The Task Force (TF) focused its work on forests, grasslands and wetlands, assessing the economic and ecological benefits of these ecosystem services, identifying best practices and recommending appropriate policy actions. Since the CCICED had already done considerable work in this field, the TF evaluated progress achieved and identified gaps using a science-based approach that involved scenario analysis, case studies and collaboration with a range of Chinese institutions.

38. The Millennium Ecosystem Assessment defines ecosystem services as the benefits people obtain from ecosystems, including provisioning, regulating, cultural and supporting services. Biodiversity is not defined as a single service, but rather underpins the generation of other ecosystem services. There is a close relationship between ecosystem services and land use; trade-offs must be taken into account, for example between increasing the supply of one ecosystem service against the generation of other services. In particular, there is a tension between provisioning and regulating services; increasing food production can lead to a decline in flood mitigation. Hence decisions related to one ecosystem service must take into account impacts on other services.

39. Since 1998, China has increased its support for the conservation and restoration of



forests, grasslands and wetlands. Forest cover is now 20.4% of China's landmass; deterioration of grasslands and wetlands has slowed. China has focused narrowly on services such as food production, water retention and erosion prevention, neglecting services such as biodiversity or carbon storage. There is still a decline in natural and semi-natural forests, with a resulting decline in average forest productivity. Grasslands are deteriorating due to overgrazing and conversion to other uses. There is ongoing decline of wetland ecosystems.

40. With China's determination to quadruple its economy between 2000 and 2020, there are sizeable challenges in balancing ecosystem conservation and socio-economic development. Legal and institutional systems continue to hinder the integrated and sustainable management of ecosystems. There is a lack of institutional capacity to handle problems originating in one ecosystem but having impacts on others; ecosystem management responsibilities are scattered and overlapping. Solutions include reforming sectoral laws and establishing cross-sectoral coordination management mechanisms within government.

41. The project carried out scenario analysis using remote sensing techniques; three main scenarios were considered, integrating the effects of climate change on ecosystem services. The scenarios were 'business as usual', a current plan scenario assessing the impact of ecoservices management, and an optimal scenario based on a land use model. With a prediction horizon to 2050, the 'business as usual' scenario predicts major losses of ecosystem services; the current plans scenario shows a modest expansion of planted forests, grasslands and wetlands; the optimal scenario indicates the conservation of more diverse ecosystem services. China's sectoral plans could perform better if they were better coordinated; a reduction in planted forest areas is needed to ensure more depths to ecosystem services. Some areas are at greater risk and require more investments in restoration and conservation, especially in northwest China's grasslands. The focus needs to shift from simply expanding the area of ecosystem services, to increasing the quality of these services.

42. Case studies drew on Chinese experience, from county to national scale, and covered a range of services and ecosystems. The case studies revealed there is a need to achieve a balance of interrelations among ecosystems, bringing in a diversity of stakeholders and leveraging scientific support such as long term monitoring. In reviewing relevant international studies, the TF drew lessons such as market instruments to support the provision of ecosystem services, reforming perverse subsidies that harm ecosystems, and regulating against the loss of ecosystem services.

43. The TF finds that advances have been made in ecosystem restoration and conservation, but the capacity of China's ecosystems to generate multiple services is still insufficient and there is still poor awareness of the value of ecosystem services and their management. Because there is little land remaining for the expansion of forests, grasslands and wetlands, China needs to enhance the quality of the ecosystems and their capacity to generate a range of services. Cross-sectoral coordination and public participation are crucial for improving ecosystem management. Scientific support and capacity building need to be strengthened for better ecosystem management. Financial compensation mechanisms need to be established to deal with services whose value cannot be determined by conventional markets; better linkages are necessary between urban and rural areas, remunerating one for generating the services that the other enjoys.

44. Recommendations include the adoption of a new National Plan on Ecological Conservation and Development to guide and integrate sectoral and regional measures and set hard targets. The generation of ecosystem services from forests, grasslands and wetlands can be improved through sustainable management in priority regions, allowing for multiple and balanced services from one ecosystem.

45. The establishment of ecocompensation mechanisms should be promoted, including long-term investment in ecosystem conservation and management; existing mechanisms may suit most areas, but additional measures may be required for priority areas such as northwest China. New financing mechanisms may be required to further support the conservation of ecosystem services.

46. The TF also recommends strengthening ecosystem monitoring, long-term research and training, in order to increase the knowledge base to support ecosystem management. A national ecosystem inventory should be carried out to better understand current changes. The concept of ecosystem services needs to be better disseminated, through the education system and elsewhere, in order to support a broader understanding of the value of ecosystems.

b) Task force on ecosystem issues and policy options addressing sustainable development of china's ocean and coast

47. Co-Chairs Peter Harrison and Su Jilan outlined the main findings of the TF on Ecosystem Issues and Policy Options Addressing Sustainable Development of China's Oceans and Coast. They focused on the following issues during their presentation to Council.

48. The ocean economy of China is growing rapidly, as is the coastal economy which is



an engine of China's overall economy. The coast covers 13% of the territory, but is inhabited by 42% of the population and generates over 60% of China's GDP—although only 6% of the GDP is generated directly by ocean-based activities such as tourism, transport and fisheries.

49. The challenges for the sustainable development of China's ocean and coasts are eutrophication, land reclamation, overfishing, the increasing pace of coastal development, and management issues such as a lack of coordinated regulation and management for these areas.

50. Eutrophication is spreading and generating harmful algal blooms (HAB); there is a sharp rise in the frequency of HAB since 2000. Species are changing, from diatoms to dinoflagellates, which are more toxic and damaging to coastal industries such as fisheries and aquaculture. Large scale macro algae blooms are also spreading along major coastline areas. Large jellyfish population bursts see the waters completely depleted of zooplankton, fish larvae and other organisms. Ocean dead zones are increasing significantly in areas surrounding river estuaries.

51. Large areas of coast are enclosed and reclaimed. This is an ancient practice, but it is now happening at a rapid pace, changing the character of the wetlands with new ports, cities and industries. In the Bohai Bay, much of the coastline is subject to wetland reclamation. In addition, areas under aquaculture are expanding rapidly at the expense of wetlands, increasing the amount of waste in the waters. The decrease in wetlands is directly related to loss of biodiversity.

52. There is overexploitation of coastal fisheries, with a sharp drop in the important commercial fish stocks, as well as a reduction in lower value fish and prey fish biomass.

53. A growing population is attracted to coastal zones by good living conditions, employment and the pleasant surroundings. Most of these benefits are the result of ecosystem services. But these are threatened by pollution and loss of habitat. The stock of one species of shrimp dropped dramatically in the 1990s; the shrimp goes through a 2 000 km migration during its life cycle and stocks have been affected by overfishing, exposure to environmental stressors such as eutrophication, pollution of estuary waters, decreasing river water discharge, and disappearing wetlands.

54. Ecosystem changes lead to undesirable changes in ecosystem services. Eliminating wetlands and increasing the nutrient load of water flowing into a lake will favour algal blooms; it is a costly and lengthy process to reverse the degradation. Large investments have been poured into Yunnan's Taihu to restore its waters, with little improvement to date. Parallels can also be found in ocean environments where algal blooms are hard to eliminate. Ocean ecosystem protection is key to avoiding irreversible damage.

55. International experience shows an ecosystem approach is needed for coastal governance and that areas from watersheds to oceans need to be managed in an integrated fashion. The GOC insists that China is still a developing country which needs to support green development, and that its environment needs to be protected. However at the local level, there is little to slow down coastal development; the areas are besieged with industrialization, large scale reclamation and the acceleration of urbanization. Coastal zones in China require urgent protection.

56. The TF recommends strengthening ecosystem protection, guaranteeing healthy growth of tourism and fisheries, adopting a watersheds to oceans ecosystem management approach, imposing more stringent EIA on reclamation projects, reducing the capacity of the fishing fleet and banning bottom trawling. Development should continue along the coast, guided by regional and local environmental strategies.

57. Policies, management and enforcement all need to become more consistent and robust. There is as yet no integrated strategic plan for oceans, coasts and rivers; there is no 'whole of government' approach when tackling issues. The TF therefore recommends the development of a national strategy for the sustainable development of China's ocean and coasts. This would require the creation of a National Ocean Council that would be led by a Vice Premier of the State Council; the development of a legal framework for ocean management that would be integrated and systems-based; and the development of a plan to minimize damage to the coasts. Other recommendations deal with monitoring, early warning systems and public awareness.

58. The TF emphasizes that what happens upstream and on land ends in the sea, bringing about severe cumulative effects. Exacerbating those effects is the decreased amount of water flowing out to sea from rivers, because of heavy water usage upstream. All coastal states in the world are facing similar issues, endangering the 'blue planet'.

c) Report on the ecological footprint of china for 2010

59. With CCICED Member and MEP Vice Minister Li Ganjie chairing, project team leader James Leape presented findings on the ecological footprint of China. During his remarks, Mr Leape emphasized the following issues.

60. The report was supported by a number of partners including the China Council, the Global Footprint Network, as well as the Institute of Geological Sciences and Natural Resources Research of the Chinese Academy of Sciences.

61. The Living Planet Report for 2010 reveals global biodiversity has declined by 30% over the past 40 years. This average masks a more dire situation in the tropics, where



biodiversity has dropped by 60% over the same period. The figure is 58% for the world's poorest countries. The crisis has been generated by a doubling of humanity's footprint on the planet's living resources since 1966. As a result, we now need one and a half planets to keep up with our resource demand.

62. The ecological footprint sums up ecological impacts into one metric, the global hectare, which reflects population, the amount of resources used per capita, and the intensity of the technologies producing those resources. The other side of the equation is the planet's biocapacity which reflects the total area and the biological productivity of that area.

63. China's ecological footprint is in the middle of the group of nations. On a per capita basis, China's footprint is lower than many; but this masks serious concerns. China's footprint is now more than twice the biocapacity of the country, exceeding the capacity of the earth to support it. Carbon emissions are more than 50% of China's footprint, and its fastest growing component. Population has doubled as has consumption per capita over the past 50 years; China's footprint has increased four-fold.

64. Shanghai, Beijing, Tianjin, Guangdong and Zhejiang have become more urbanized, and urban areas tend to have larger footprints than rural ones. A second driver is increasing prosperity; as provinces surpass 30 000 renminbi yuan in per capita income, their footprint expands. It remains a challenge anywhere in the world to develop and urbanize without increasing the ecological footprint.

65. The ramifications of China's growing footprint are felt around the world. China's economy is supported by drawing on the global biocapacity, imported in the form of forest products, soy, palm oil and other commodities.

66. There is one caveat – the ecological footprint concept does not include impacts on water. The report does include an estimate of China's water footprint; China fares better here, although there are looming water crises, particularly in the more arid areas of northwest China.

67. The report recommends a number of policies. The indicators of ecological footprint and biological capacity can complement the way growth and progress are captured and be a useful measure of China's progress towards a harmonious society. The ecological productivity of any given area should be enhanced; healthy forests, coral reefs, wetlands and other ecosystems provide more biocapacity to support human activity than degraded ones. Carbon represents 54% of the footprint; it must be tackled. It will be necessary to better align economic and ecological values, and internalize environmental costs. China could support this and other schemes such as eco-labelling, ensuring China's imports of overseas products contribute to the conservation of biological resources and the ecosystems upon

which they depend.

d) Research on the policy framework for improving service functions of aquatic ecosystems in China

68. CCICED member and MEP Vice Minister Li Ganjie introduced Wang Hao, team leader of the Task Force on the Policy Framework for Improving Service Functions of Aquatic Ecosystems. During his remarks, professor Wang highlighted the following points.

69. China has the 6th most abundant water resources in the world, but because of its population China has only one fourth the world average on a per capita basis. Water resources are spread unevenly around the country and from year to year.

70. Action required to improve the service functions of aquatic systems includes research on water demand, protection and restoration of critical ecosystems of China's major lakes and rivers, and institutional and legislative improvements.

71. The study team examined the main service functions of aquatic ecosystems which include hydro power generation, recreation, culture, ethics, inland navigation and others. Most important are the natural ecological service functions including flood regulation and water storage, biodiversity, environmental purification and sediment transportation. Of concern is the fact that all of China's aquatic ecosystems have degraded; only determined action can reverse the trend. Humans are affecting the flow of water in all major river systems; the area occupied by lakes and wetlands is shrinking; groundwater has been overdrawn. This is in turn leading to a decline in aquatic systems' major service functions.

72. Several factors have led to the present situation: population increase has generated an increase in water consumption; land has been reclaimed; water resource exploitation has been irrational; there has been a proliferation of hydro projects; and river pollution exceeds aquatic systems' carrying capacity. The team studied the impact of reservoir and dam construction and found 86 000 reservoirs had been build, with some 4 800 dams surpassing 30 meters in height. Dams and reservoirs have improved the country's water and power security – in particular the supply of clean energy – but there has been a corresponding decrease in natural biodiversity.

73. As a result, the research team recommends the adoption of a law to protect the Yangtze and Yellow river systems, while strengthening the management of these water resources. A shift in mindset is required, from one that values the socio-economic benefits of water systems, to one that prizes their natural ecoservice functions. China needs to expand its hydro power generation, but it needs to develop a "green" hydropower certification system.



e) Research on developing policies for soil environmental protection in China

74. Research team leader Li Fasheng presented the findings of his group. With MEP Vice Minister and Council member Li Ganjie chairing, professor Li outlined the following key points.

75. Much work has been done in past years by China in this area. Yet in spite of existing laws, regulations, standards, management systems and remediation technologies in place, China has trouble dealing effectively with soil environmental protection. Work in this area is not the sole domain of the MEP; collaboration from the Ministry of Agriculture and the Ministry of Land and Resources among others is necessary. Relevant experts from these ministries were involved in the study.

76. Vegetation cover in China is less than other Asian countries, presenting added challenges to soil environmental protection. In addition, the vast territory comprises a large variety of soil types, further challenging supervision and conservation efforts. Much of China's agricultural soils are affected by heavy metal, pesticide and fertilizer pollution, adding pressure on arable lands as well as on food safety, quantity and quality. Over the past 50 years, MEP and the Ministry of Land and Resources have conducted an extensive survey of soil environments; data collection is still ongoing.

77. The research team also focused on urban soils. Data show that urban centres have expanded rapidly; heavy industry and factories have relocated to the periphery. Impacts have been serious on both groundwater and peri-urban farmland. The negative effects of soil pollution cause losses in agricultural productivity and human health among others. China has gone through a number of stages in terms of soil protection, until the most recent rapid economic growth period when the focus was put on risk management. The GOC has initiated a number of actions and conducted research focusing on soil pollution.

78. The research team determined there are several main issues regarding soil pollution. There are no special laws or regulations focusing on soil pollution; there is weak supervision and managerial ability to deal with soils; China has not catalogued all its soil resources; there are few funding sources for soil remediation.

79. The research team drew up a number of policy recommendations. Key to this process would be the determination of pollution sources and assigning responsibility, setting standards and indicators, and determining penalties. China has the resources to put these measures in place, but there is as yet no funding mechanism established.

80. China needs to develop a legal and regulatory system dealing with soil protection, ensuring a sound basis for environmental monitoring; such frameworks exist for other

pollutants or systems. Surveillance is needed for agricultural non-point pollution and industrial pollution. China needs to adopt the internationally accepted practices of risk-based soil management. Developed countries have demonstrated that dealing strongly with soil polluters is effective.

81. A national soil standards system should be established gradually, encouraging provinces and municipal areas to formulate their own soil quality and pollution remediation standards. China's vast territory implies much of the local implementation depends on lower levels of government. MEP should implement pilot projects to test soil remediation approaches and funding mechanisms. Studies also need to be conducted to determine if foreign technologies for soil remediation are applicable and viable in China. There is also a need to catalogue soil pollutants and set up a management system for polluted sites.

82. There are now favourable conditions for putting in place the necessary framework for soil environmental protection in China; there are sufficient human and financial resources, as well as the attention of the central and regional governments, and heightened public awareness. International cooperation in this area is also providing support for progress.

Item 5. Draft AGM Recommendations and Discussion

83. With MEP Vice Minister and Council member Li Ganjie chairing, Chief Advisors Shen Guofang and Arthur Hanson introduced the draft 2010 CCICED AGM Recommendations. During their presentation, they highlighted a number of ideas.

84. The recommendations were drafted based on task force and research reports submitted this year. Comments made by members will be integrated in the final draft. The recommendations are in line with the Council AGM's theme and with the main directives from the CPC Central Committee roadmap to green transformation and a people-centred plan for the next five years. Development is to be inclusive and science-based; it needs to expedite growth, be transformative and improve livelihoods.

85. The GOC has identified the building of a resource conserving and environmentally-friendly society as key to transforming the economic management mode, allowing China to continue rapid industrialization and urbanization. This is the new pathway to environmental protection that China is exploring. Green development is now more widely accepted as a concept. It means the harmonious relationship between humanity and nature, underpinned by sound ecosystems and the services they provide.

86. China has achieved progress in ecological protection and restoration in its forest, grasslands and wetlands ecosystems, laying a foundation for socio-economic development



and environmental security. However, some challenges remain, including the conflict between resource scarcity and ecological capacity, and the increasing economic and social demand on natural ecosystems. The results have been environmental degradation and pollution, weakening ecosystem functions and services, thereby undermining the foundation of green development. The natural disasters that hit China have been a wake-up call, bringing attention to the fragility of our ecosystems and to the need for enhancing ecoservices. It is expected climate change will exacerbate present imbalances.

87. Attention is paid to ecoservices that involve provisioning, but others are often neglected or undervalued. Regulating agencies' authorities are fractured along sectoral lines. Implementation of environmental measures is mostly top down and does not involve local populations. There are overlapping mandates among regulating authorities.

88. The Council therefore recommends China change its thinking on natural capital and recognize the need for functional ecosystems, adopting a holistic management approach. National medium and long-term strategic guidelines on environmental and ecological protection are needed; the establishment of a coordinated action plan is also identified as essential. China needs an overarching institutional framework for environmental protection, and it needs to improve the participation of organizations and the public in this effort.

89. Environmental management needs to be strengthened and important affected terrestrial ecosystems need to be given time to rehabilitate. In China, 96% of the population lives on 45% of the territory. Continuous and rapid growth have placed heavy pressures on the services of wetland, grassland, forest and aquatic ecosystems. The Council recommends China consider the specific characteristics of ecosystems, and amend or draft protection and restoration plans accordingly. Ecosystem management legislation needs to be strengthened. China needs to clarify accountabilities among various authorities and administrative levels. A coordination cross-sectoral and trans-regional authority for ecosystem management needs to be established. Scientific innovation and capacity building for ecosystem protection and management are essential.

90. China should set up and improve a verifiable and reportable national monitoring and evaluation system on ecosystems. Scientific research and training needs additional support. A national observation research network should be set up to allow for regular status checks on China's ecosystems, their services and functions. Additional support will be required for soil pollution management.

91. A higher priority should be put on marine ecosystem protection, management and restoration; sustainable marine development needs to be promoted. A strategy for the Bohai Sea is required. The legal and management systems for the protection of marine ecosystems

must be strengthened. A national strategy and plan for marine ecological protection should be drawn. A terrestrial-marine coordination mechanism is required. And an ecosystem-based approach is needed for marine management. An early warning and emergency response system for serious marine pollution and an integrated land a sea management and analysis system should be set up.

92. China needs to pay attention to the weak links of ecosystem management in order to promote green transition into the 12th FYP. This period will be critical for China's efforts to build an inclusive, sustainable society. It will also bring strategic opportunities to build on green initiatives. China will face heavy economic and environmental pressures over the coming five years, including the challenges presented by climate change. The Council advises China to integrate green development as China transforms its growth and development mode. It will be essential to protect both rural and urban environments, bridging the gap between the two. Setting up a legal framework to underpin ecological compensation is required.

Discussion

93. Mention has been made of natural disasters; yet some impacts seem to have been exacerbated by environmental degradation. The link should be more explicit. The Council could consider exploring this area of study, supporting increased resiliency in the face of such disasters. In addition, the linkages between terrestrial environmental impacts and marine impacts should be emphasized.

94. A strong recommendation is made for the creation of a super ministry responsible for ecological conservation and development in order to properly address ecosystem services. Australia has found a more useful path in identifying specific key priority ecosystems and building coordinating mechanisms around those ecosystems. An example of this approach is the Great Barrier Reef Marine Park Authority controlling a multi-use zone for fishing, shipping, recreation, tourism and other functions. This approach is backed by a shared meta database on natural resources.

95. Soil degradation is caused by point source pollution generated by mining and similar uses; this requires critical and focused remediation, polluter-pay laws and tight controls over the use of the these areas for human habitation or food production. The broader problem is wide scale soil degradation caused by non-point pollution caused by farming, tillage, irrigation or fertilization practices. This requires a different set of solutions, associated with building the capacity of farmers and removing perverse incentives that lead to destructive practices.



96. Mining needs to be more explicitly addressed in the recommendations; there is pressure to develop new mines in Inner Mongolia, Ningxia and other provinces in order to generate power. Impacts on these fragile areas' ecosystems and groundwater systems can be severe and lasting. The recommendations need to be more prescriptive on protection measures for new mining developments. One of the recommendations deals with ecocompensation; mining needs to be specifically included.

97. The notion of ecological footprint could be misleading in areas where there is an identified 'ecological surplus' such as in the Xinjiang and Tibet Autonomous Regions. This could be misunderstood as a license to develop and needs to be clarified.

98. The gravest threat to ecosystem vitality in the decades ahead will be global warming and climate change. While this is implicit in the recommendations, it needs to be underlined. Carbon is already 54% of China's ecological footprint. It will only continue to grow unless China and the world move with greater urgency on creating low carbon prosperity, abating global warming and mitigating climate change.

99. There has been emphasis put on ecocompensation for ecoservices, including fiscal measures to promote the more efficient use of these services. But China is in a better position than other countries to develop market mechanisms to alter demand for ecoservices. China's rapid development and the rise of entrepreneurship create a fertile environment for this approach. More work could be done on market mechanisms links to ecoservice payments.

100. The recommendations refer several times to the importance of public participation. Countries where there is an impressive record of environmental surveillance and action are countries where there is high public awareness. Public mobilization, public education and the involvement of people in protecting their own environment are key to success.

101. While it is important to focus on China's responsibility to protect its own ocean and coasts, the Council should not omit to mention the lack of adequate global governance and legal mechanisms to protect the oceans. This is an area where international cooperation is key.

102. Given high levels of soil pollution, especially in agricultural systems, a strong recommendation is needed in the area of food safety. China has had several incidents of contamination of food, feed, toys and other products. During crises, the debate focuses on health issues, but in fact the problem is systemic. China needs stringent quality inspection of its food supply and it needs the capacity to trace the origin of products and ingredients. The United Nations Industrial Development Organization (UNIDO) has assisted China before in related projects.

103. The recommendations rightly deal with the kind of pressures natural disasters and future climate change will exert on fragile ecosystems. One aspect should be added, namely the need for research on the impacts of future climate change on ecosystems and the environment. China needs to look ahead to extreme events in order to plan for mitigation.

104. More attention should be paid to the socio-economic impacts of the acidification of oceans. The destruction of coral reefs and the subsequent decline in marine productivity will impact the businesses and jobs that depend on these ecosystem services.

105. The recommendations present a framework for far-reaching transformation. Comprehensive elements are to be commended, but more reflection is needed on the process that will support this. The criteria that are used to prioritize, and the priorities themselves should be highlighted clearly. Pilots and evaluation approaches that would allow for rapid knowledge transfer and eventual scaling up must be identified. Attention to education at all levels is also required in order to deal with the paradigm shift to a green economy. Dealing in holistic ways with interconnected issues requires institutional innovation. This does not exist anywhere at present, and its study could be a rich area for the Council.

106. Regarding soils, it would be useful to mention other aspects of soil degradation such as erosion, salination, loss of volcanic matter and others. Soils will play a critical role in climate change adaptation and mitigation. There has been a debate around soil policy in Europe for some time, due to the large costs associated with remediation of soil degradation. The approach emerging is based on establishing policies against soil function losses. Seven soil functions have been identified and policies are in development to prevent loss of function. China could find this approach productive in that it focuses on prevention rather than remediation.

107. China's total marine revenues represent 10% of GDP. When there is discussion around prevention and restoration of ecosystems, the focus is on the cost of taking action, as opposed to the costs associated with inaction. A recent World Bank report shows that if marine resources are protected and used sustainably, the fishing industry could add US \$ 50 billion to its current value of US \$ 86 billion. This needs to be strongly highlighted. The world has not yet taken full account of the value of ecosystem services, and this should be the concern of finance ministers as well as environment ministers.

108. With the present rapid urbanization, cities are one of the most important factors affecting ecosystems. Roughly half of China's population is now living in cities; these 600 million people are altering their environments. Urbanization is a feature of the 12th FYP and should be addressed more explicitly in the Council's work.

109. It is important to recognize that operating in an ecological deficit carries hefty

economic risks. At a time of growing scarcity, access to resources at reasonable prices will become more difficult. There is great opportunity in finding a way to reduce that deficit and live within the means that ecosystems can support. The economies that manage this will have a competitive advantage. Natural capital, ecosystem services and values need to be brought into the economy; this means building these values into the national accounts and their indicators. Markets need to be harnessed in support of more sustainable uses of resources; certification and other measures can promote green consumption and send the right market signals.

110. There is a growing NGO community in China. It can be an important source of new ideas, innovation, and a vehicle to build greater public awareness. Council recommendations could further highlight this.

111. There could be stronger linkages drawn between ecosystem management and poverty reduction, as well as between rural and urban areas' growth and development. This would align well with China's stated development objectives.

Item 6. Parallel Sessions

a) Open forum 1: China's new path for environmental protection: addressing ecology and economy

112. CCICED member and MEP Vice Minister Li Ganjie and Council Vice-Chair Børge Brende presided over the first parallel session. They addressed the group and then invited several speakers to comment on the Forum theme before opening the discussion more widely. During their remarks, the Co-Chairs and their invited speakers made several key points.

113. This year, the Council's challenge is to address the integration of the protection of ecosystems into the GOC's general development plans. It is hoped that finding sustainable ways to develop will translate into lower costs. This requires the right economic and environmental policies. In a global age, these are interlocked. A nation cannot deplete the ecosystems upon which its economy depends – yet over the past 30 years, a large proportion of ecosystems have seriously degraded. Sustained growth has come at a high cost.

114. Recent natural disasters and social problems have been triggered by climate change, attracting widespread attention. China has dealt with the financial crisis while maintaining its focus on green development. This indicates the greater involvement with concepts of green development, low carbon economy and circular economy. Conservation and responsible consumption are central concepts of the circular economy; optimizing

resource use and minimizing costs is central to the circular economy. The low carbon economy focuses on low energy consumption, low pollution and low emissions; system innovation and energy efficiency are critical. As for the green economy, inclusive development is at its core; this concept embodies elements of the circular economy, energy efficiency and social equity.

115. There are linkages and dependencies among all three concepts; they all involve coordination among ecology and economy, as well as the sustainable use of resources. A rational allocation among present and future generations requires conscious allocation of resources among people, regions and sectors. Also required is changing the present growth model of mass production, mass consumption and massive waste of resources.

116. It is encouraging to see environment and economy discussed simultaneously in one location; the interdependence of these concepts has now been mainstreamed. These discussions at the Council are timely, coming on the heels of the 10th COP of the Biodiversity Convention in Nairobi, Kenya where a renewed commitment to save our planet was made. There is a greater realization of the impacts of biodiversity loss.

117. China is a megadiverse country, blessed with the wealth of some 30 000 species of higher plants, one third of the world's total. Healthy ecosystems are needed to ensure a healthy population. Maintaining species and ecosystems must be a key pillar of green development. However, China has not met its target to reduce biodiversity loss by 2010. Urban sprawl, rapid development and accelerating climate change are leading to irreversible loss of biodiversity and the degradation of key ecosystems and their critical services. Greater efforts are needed to ensure biodiversity and ecosystem conservation are part of the green economy.

118. Food security is an area of focus for all nations; China's efforts to feed itself have had a negative impact on ecosystems that remain unaccounted for. Studies have documented the value of ecosystem services delivered by honey bees, for example. Conservation means the global recognition of their value and of the well-being of the people depending on them.

119. Fisheries provide an important source of protein, but many important fisheries are close to collapse because of chemical runoff, invasive species and other harms. Part of the solution is to ease fishing pressure, by creating 'no take' zones. A few years' moratorium could yield important long term benefits. An important target agreed to in Nagoya is for the world to increase the globe's main protected areas 10-fold by 2020. China's wetlands and the Qinghai Tibet plateau, source of many of Asia's great rivers, provide similar illustrations.

120. Reforestation has been one of China's major investments; its value for conservation purposes outweighs that of timber production in terms of ecosystem services.



Those involved in China's forest sector need a broader understanding of ecosystem services. Natural forests with genetic biodiversity are key to climate change mitigation and adaptation; they store more carbon than planted forests, and are more resilient to the impacts of climate change. Nature's ecosystems, services and functions are cheaper and more sustainable than engineered ones.

121. More needs to be done to protect the environment while dealing with poverty reduction. China has gone through various stages in deepening its understanding of green development, from ecological agriculture to the concept of ecological provinces, counties, towns and villages. These concepts encompass rational development of natural resources. Since the 1990s, hundreds of administrative areas have been bestowed an 'ecological' designation, thereby strengthening China's prized concept of ecological civilization. This experience has led to guidelines for development that encompass recycling, clean production and low carbon processes. China has achieved good linkages between theory and practice in this area; more emphasis will now be put on implementation and scaling up.

122. In China as elsewhere, people fail to realize the severity of the ecological catastrophe that looms. Present approaches to curbing negative impacts of economic growth will not suffice to preserve the ecosystem services that have been central to the survival of our societies.

123. Illustrating the crisis with one ecosystem, the Tibetan-Qinghai Plateau underlines the urgency of the situation. Ice and snow on the plateau were a vast heat energy reflector and the simple most significant loss of energy from our planet to outer space. Over the past 10 000 years, the situation has reversed. Only a few glaciers remain on the high mountains and will melt in the next decade. The area is now the biggest heat receptor with profound consequences to the Asian climate. Half of the population of the globe is fed by the farm systems of Asia which are dependent on the monsoon system; that predictability is now ending.

124. Change on the Plateau is accelerating, with rapidly rising mean temperatures, melting of permafrost, buildup of greenhouse gases, changes in the distribution of plants and ecosystems as well as grazing patterns. China suffers every year from atypical droughts, floods, cold spells, snowstorms – and consequent landslides, loss of crops and death of domestic herds. The process is exacerbated by the loss of vegetation cover on the plateau – and by the campaign to eradicate the pika from grasslands. A key ecosystem species, the pika is essential to Plateau biodiversity. Biodiversity conservation is an essential component of the restoration of ecosystem performance and adaptability.

125. Most presentations emphasize the key importance of ecosystem thinking; this

needs to be shared with those who don't already have this point of view. There is also a need to move from pilots to scaled up efforts and mainstreamed approaches. While countries are all facing different challenges, they can learn from each other and some of the tailor-made solutions that have been developed. Part of the solution is to deal with built environments, retrofitting them to greener standards. Governments can play an important role with green procurement, supporting energy conservation and more sustainable farming practices.

126. While there is apparent progress in increased understanding of the interdependence of the environment and the economy, there are still important swaths of private and public sector decision makers who do not understand these issues. The most compelling message is the success of scaled up pilots. Perhaps this needs to happen along ecological lines, such as scaling up to a whole watershed. The Yangtze Forum created by the World Wildlife Fund brought together key stakeholders and could be a useful model.

127. While ecology is a western concept, China has known about the harmony between man and nature for millennia. The natural evolution of earth and the impact of humans on that evolution need to be taken into consideration. Humans need to learn to co-exist with natural disasters which are part of the earth's evolution. The landslides in Gansu's Zhouqu county following an earthquake were more serious because the slopes had been deforested. It is important for China to learn how to minimize the consequences of inevitable natural disasters.

128. Legal aspects of issues raised in the discussions need to be considered. Much of what is recommended involves strengthening legal statutes. Basic to this is the amendment of the now dated Environmental Law, which will need to encompass much of these new approaches and concepts such as ecocompensation. The laws in China are evolving rapidly and the main issue remains their enforcement. The Council needs to pay attention to the implementation of the laws and regulations it recommends. Many industries have been built along rivers without the required EIA; China has rules, but they are not enforced.

129. The drivers for scaling up successful approaches, law and economics, provide a direction for enforcement; this is the use of economic instruments. China's use of targets can also be a powerful driver. A promising area could be the development of an ecological or biodiversity indicator that could then be used as a target to guide change, especially in areas where targets tend to become policy.

130. China is increasingly looking at the determination of ecofunction zones as a means to better manage the environment. This demonstrates the country's commitment to ecosystem conservation. Government provides investment in the environmental protection infrastructure. It leads the restoration work for main ecoservice functions, such as the



restoration of water systems. Time lines are set, and responsibilities are clearly delineated. Evaluation of performance in terms of ecosystem restoration can then be conducted. Implementation assessments are based on the goals determined at the outset.

131. As the 12th FYP is taking shape, inclusive development is emerging as a core concept. This needs to be taken into consideration in the identification of policies and instruments.

132. In advising governments, it is key to determine priorities based on urgency, readiness and feasibility. Interdependence of many issues has been highlighted, but making progress on cross-cutting issues could yield benefits in many areas. One such issue is the overuse of chemical fertilizers in farming. Taking action would have repercussions on farms, rivers, wetlands and oceans. Similarly, wetland restoration could have broad impacts on a variety of ecoservices. Also powerful is the idea of area-based approaches such as the Yangtze Basin and the Bohai Sea.

133. Progress will require breaking out of scientific and institutional silos. Working on conventions requires cross-system thinking and collaboration. While Council discussion is useful, it would be advisable to manage ambitions. The recommendation to form a super ministry for environment and economy has not been implemented in other countries. Area-based approaches could prove more productive.

134. The natural environment can accomplish more at a lower cost than man-made efforts. Good examples are found in forestry and fisheries. The increased culture of mussels and seaweed could yield economic benefits while sequestering carbon and improving water quality. This indicates low carbon development is possible.

135. The potential of demonstration sites that can be scaled up is not only valuable for the environmental community, but also for the broader society. Visible, tangible results can become powerful messages if there is public outreach and communication. This applies to the CCICED where there is potential to spread information about this powerful model and the results it has achieved.

136. The discussion has highlighted the need for tailor-made solutions. It is not 'one size fits all', a thorny problem in China at present. When promoting green development, there is a need to tailor the solutions to local conditions.

b) Open forum 2: China's 12th Five Year Plan: energy conservation, emission reduction and green development

137. With Council member Roger Beale and Secretary-General Zhu Guangyao presiding over the session, a number of speakers were invited to open the discussion. They

were followed by interventions from participants. During the discussions, the following points were made.

138. During the 12th FYP, China will give priority to the optimization of its energy mix, reducing the growth rate of fossil fuels and the share of coal consumption, while increasing non-fossil fuels. In order to achieve this, the GOC will control total energy demand and reform energy pricing. Private car ownership will have to be tackled during this period.

139. There will be additional binding emissions reduction and total control targets for additional pollutants, namely nitrous oxides and ammonium nitrogen. Binding targets are also being set for non-point source pollution from agriculture and for automobile emissions.

140. China's overarching challenge is to find the tools that will enable the decoupling of economic growth from environmental degradation. Europe has been able to decrease total GHG emissions on per capita and GDP bases. Sweden succeeded in this goal by using energy-related taxation such as the carbon tax on fossil fuels, the energy tax on fuels, the sulphur tax, a special energy tax on electricity and the value added tax (VAT). Between 1990 and 2007, Sweden's economy grew by 48%, while CO₂ emissions fell by 9%.

141. The global energy system needed in order to avoid serious climate change should be 15% fossil-fuel and 85% non-fossil fuels; the situation is the reverse at present. Action towards low-carbon development is needed on three fronts: the low-carbon transformation of the present high-carbon regime (policies, subsidies, mental maps, industrial base); fostering pilots and pioneers (cities, entrepreneurs, investors, urban planners) to push our economies towards low-carbon development; working on long-term trends which either facilitate or hinder low-carbon development.

142. CO₂ concentration has already reached 393 ppm; the upper limit should not exceed 450ppm. Taking into account an annual increase of approximately 2 ppm, this level could be reached by 2040. Long-term emission objectives and targets therefore need to be established, which will put heavy constraints on developing countries.

143. China needs to assess the environmental impacts of all alternative fuel sources: wind, solar, biodiversity and hydropower. A TF should be established to look at this issue; its membership should represent a broad range of viewpoints. When assessing the environmental impacts of different energy solutions, the lesser of two evils should be recommended.

144. The 12th FYP should impose binding total coal consumption targets for the eastern part of China, particularly in Zhejiang, Jiangsu and Shandong provinces, where per capita installed capacity is already equivalent to that of the UK and Germany. The Plan should call for these richer regions to actively promote the adoption of clean energy.



145. Having ruled out further development of coal-fired power stations, South Africa's future energy development scenario is focusing on large-scale nuclear development, while also planning major renewable energy initiatives.

146. The 12th FYP should actively promote biowaste capture and bioenergy development. It is estimated that the capture of gas emissions from Beijing's 13 landfill sites alone could supply power for half of Beijing's public transit. Potential exists for turning agricultural and industrial biowaste into energy, in particular in the sugar, vinegar and alcohol industries. Agricultural biowaste conversion to biogas would be instrumental in improving indoor air quality in rural areas, while reducing pressure in terms of commercial energy use.

147. China should evaluate its reserves of unconventional gas (coal-bed methane and shale gas), estimated to be as important as North American reserves. Also in need of assessment are their environmental impacts and potential role in the transition to a lower carbon energy system. The degasification of underground coal mines through drilling before mining contributes to the reduction of fugitive methane, thereby generating power, promoting mine safety, and reducing energy consumption for ventilation in mines.

148. The global primary energy demand being unsustainable, it is important not to focus strictly on reducing GHG emissions and improving energy efficiency in production. Even under the ideal conditions of a fully renewable energy supply system, energy savings should remain a priority.

149. The 12th FYP should specify that China will not pursue excessively high growth targets and that local governments' growth targets will be monitored. Some municipalities are now pushing for growth targets of 10% while lobbying for a lowering of emissions and conservation standards. It is crucial to recognize the leading role of government in formulating energy conservation and emissions reduction policies and targets. Markets cannot be fully relied upon to deliver energy conservation and emissions reduction.

150. Not much will be achieved in terms of energy conservation unless utilities play an active role. In this respect, China can learn much from developments in smart grids and smart metering, a sector in which abundant innovation is presently taking place. End-use appliance standards need also to be further developed and implemented.

151. Resource efficiency needs to be emphasized. Over the last twenty years, the rest of the world has enjoyed two decades of non-inflationary expansion in consumer products, thanks to China's manufacturing. The world needs China to conserve energy and become more efficient in resource use. Importers of Chinese goods also need to change their behaviour.

152. Efforts in promoting green buildings often overlook the need to improve

architectural design, in particular for public buildings; these tend to be large, ostentatious, extravagant, non-functional and energy-intensive.

153. The transportation sector contributes 25% of global CO₂ emissions; the growth of this sector's emissions has grown by 25%, compared to 15% for total emissions. During 12th FYP and beyond, this is likely to continue to grow, peak and then decrease. Comprehensive policies and measures need to be adopted.

154. The 12th FYP should control the increase of private cars in China. Car production and consumption have doubled since 2006, causing important environmental pollution in urban areas and exerting major pressures on energy and fuel supply. As long as China's electricity continues to be generated mainly through coal combustion, electric vehicles by themselves will not contribute to emissions reduction.

155. The CCICED needs to focus on areas where it can impact policy formulation. Changing agricultural practices needs to be a priority, with tremendous potential in terms of mitigating impacts on ecosystems, reducing emissions and improving rural revenues. Other important areas are supporting proposed ecological management guidelines, contributing to a robust biodiversity database through the use of remote sensing in three areas: coastal, grassland and wetland. A taskforce could be set up to test the approach, with initial guidelines and a supporting database.

156. New business models need to be developed for the payment of ecosystem services. Policies need to be closely linked to the interests of the people living in the protected ecosystems. The Council's policy research should focus on bottom-up approaches identifying areas where traction can be gained within communities living in protected areas, aligning those with urban areas and the business community which can readily provide funding.

157. The great challenge for renewable energy sources is the concept of 'discounted cash-flow' – the conventional method of evaluating investment. Other techniques support the development of "legacy projects". Simple indicators can be used and counteract the discounted cash-flow.

158. Necessary tipping points in innovation, technology, policy and economics will not be achieved without the participation of the public. One key tool in mobilizing the public is civil society including NGOs, which can be an intermediary and an important partner.

Item 7. Discussion and Adoption of AGM Policy Recommendations

a) Briefing on the parallel sessions

159. Co-Chair Klaus Töpfer presided over the briefing on the parallel sessions. The



rapporteur for the first session on “China’s New Path for Environmental Protection: Addressing Ecology and Economy,” summarized the discussion for Council and emphasized the following points.

160. The theme of the parallel session is already a mainstream concept globally, as indicated by the recent Nagoya meeting, and China’s own recent CPC Congress and the GOC’s roadmap towards a green economy. Blazing a new path implies new thinking and new approaches to generating economic growth, approaches which are truly transformative and embody the goal that China aspires to, which is *Ecological Civilization*.

161. The participants addressed three critical issues, namely the current environmental pressures on marine environments, the contamination of soils, and the loss of biodiversity; climate change is exacerbating these issues, and they need to be addressed comprehensively through a lens which has been described as “from the mountains to the sea.” In addition, participants emphasized China’s determination that green growth be inclusive. Key to this will be the protection of the environment, and the enhancement of ecosystem services.

162. Participants commented on the need for scaling up present pilot approaches, truly involving the public in these efforts, and securing the needed green transformation by adopting measures which are consistent with both the circular economy and the low carbon economy. There was discussion on incentives as well as restrictions to support this shift to a green economy; also required is a solid legal, regulatory and administrative framework. Ecocompensation is one mechanism that has been tested and could prove effective. China’s existing program for the selection of ecological provinces and other administrative areas could be leveraged to support the transformation.

163. Finally, the need for solutions to be tailor-made to local conditions was underlined. It was recognized that this shift is a long-term effort but there was confidence in China’s ability to reach its stated goals because of the clear need for this shift, because of the present consensus around effective approaches, and because of successful examples and pilots.

164. The Rapporteur for the 2nd session on “China’s 12th Five Year Plan: Energy Conservation, Emission Reduction and Green Development” summarized the discussions for Council by focusing on the following main points.

165. The achievements represented by the 11th FYP were noted, but participants emphasized the 12th FYP will be critical for China and the world because the Plan includes challenging targets on the intensity of greenhouse gas (GHG) and other key pollutants. Also noted was the increasing contradiction in China between the growth imperative and conservation goals. Achieving the stated targets of the 12th FYP will require broad coordination among China’s key economic players. Changing the energy mix and increasing

efficiency will be critical; a shift to greater reliance on nuclear and renewable energy sources, as well as non conventional hydrocarbons will be essential. Also key will be rebalancing the Chinese economy to reduce dependence on energy intensive, polluting export industries.

166. Participants linked these issues with agriculture and ecosystem management. Improved soil and fertilizer management, tillage, husbandry and stocking rates can offer significant payoffs in terms of soil conservation, GHG emissions, soil carbon protection and uptake, as well as ground and surface water protection. Positive impacts are also possible downstream through major watersheds to the sea. There are also benefits for rural areas, thereby promoting inclusive growth and greater equity.

167. There are important challenges posed by the growth of global transport and urbanization. The group discussed the electrification of cars but indicated impacts on GHG emissions would depend on the type of energy used to generate electricity.

168. For the 12th FYP and beyond, China will be challenged to deal with the diffused sources of pollution. This will require different institutions, instruments and incentives; mechanisms will have to be developed to engage the private sector in this effort.

169. The world is approaching critical environmental tipping points; there is a need to think in terms of accelerating the development and application of technologies, assessing their applications for ecological and social impacts.

170. Achieving international agreements is difficult, but countries can focus on what can be done domestically in the meantime, ensuring our economies remain healthy in the process. There is better likelihood of achieving global agreements through domestic action; regional and sectoral exploration of common instruments and establishing markets could also prove productive. This approach would create a mosaic of cooperation as the world moves towards a common framework.

b) Presentation and discussion of the revised CCICED recommendations

171. With Vice-Chair Klaus Töpfer presiding, Chief Advisors Shen Guofang and Arthur Hanson briefed Council members on the revised 2010 CCICED Recommendations. They outlined the following key points during their remarks.

172. The report's structure has remained largely intact but the text has undergone edits during the revisions. The order of the sections has been changed to ensure greater coherence. Themes have been drawn out, strategic points have been clarified and underlined; the technical details have been left to the background documents. The remarks made by Premier Wen Jiabao and by Vice Premier Li Keqiang have been taken into account in this revision to ensure greater alignment.

173. More emphasis has been put on climate change given the need to underscore the comprehensive impacts this is having on all issues under consideration. More explicit linkages have been made between the issues of economy and poverty. The previous strong recommendation on the creation of a super-ministry has been brought into more context by including this in a series of recommendations dealing with administration and management. The link has also been made between maintenance of ecosystem services and the resilience needed to withstand natural disasters. Recommendations on the marine ecosystem protection have been strengthened. Finally, urgency has been added to the section dealing with the 12th FYP.

174. The present recommendations are submitted to Council for review and approval. Further necessary edits will be made before the report is submitted to the GOC.

Discussion

175. A repeated theme is the need to mainstream ecosystem values and natural capital into national accounts and economic reasoning. The inadequacy of GDP as an economic indicator should be addressed. China's leadership could be critical to champion a green national accounts system. Similarly, social dimensions need to be reflected in the more comprehensive economic indicators.

176. Evaluation and assessment criteria for responsible growth should be imposed; this would support improved performance on the part of regional governments.

177. In the 12th FYP, China will be targeting nitrogen as a pollutant, given its key role in environmental problems and in human health impacts. This is a sharp departure for China, given nitrogen's importance.

178. Responsibility for soils will be required in order to move forward on soil conservation and ecology programs. Tailor-made solutions have been discussed, and perhaps an area-based approach could be advocated. China's soil security is under threat given current farming and husbandry practices; unsustainable practices also have impacts on water systems along river courses to the sea. This link needs to be strengthened in the text.

179. Council members adopted the Recommendations by acclamation.

Item 8. Closing Session

a) Secretary general's report and 2011 workplan

180. Vice-Chair Margaret Biggs introduced CCICED Secretary General Zhu Guangyao who presented to Council his Report and the CCICED's 2011 Workplan. Secretary General

Zhu underlined the following issues during his speech.

181. During the past year, the Council received strong support from the GOC, donors and partners, as well as MEP; 19 funding agencies now support the CCICED. Planned targets were achieved. The work of the Council has been praised by the GOC. Relations among all CCICED partners have grown stronger.

182. The Council's recommendations for 2009 attracted the attention of key leaders at various levels of government; some of the Council's recommendations are reflected in a number of policies implemented by China.

183. SERI and SISO are cooperating well with the Chief Advisors and their team. Preparation work has started on Phase V since Phase IV is entering its final year; new policy papers and task forces need to be commissioned to ensure a seamless transition. The workplan for 2011 has been approved by the Bureau. Two new TFs have been approved and will report to Council in 2012; the first will focus on the 12th FYP and policy mechanisms, while the second will consider the environment and development strategy for Western China.

184. April 2011 will see the Council celebrate its 20th anniversary. The Bureau has decided the AGM will take place in Beijing in November 2011 and focus on economic development and green transformation; specific dates and plans will be communicated to members in due time. Given Premier Wen Jiabao's intention to attend the AGM, the 20th anniversary celebrations will take place during the session. Council members from previous Phases, representatives from Embassies and other dignitaries will be invited to take part. The 20th anniversary will also provide an important opportunity to further publicize and celebrate the work of the Council.

185. Preparations for Phase V will continue with the establishment of a leadership group, the selection of new members, the drafting of a charter, the establishment of a budget and other necessary procedures.

b) Closing remarks

186. At the invitation of Vice-Chair Margaret Biggs, Council Vice-Chair and National Development and Reform Commission Vice-Chair Xie Zhenhua addressed the assembly and made the following comments.

187. Nineteen years after its launch, the CCICED continues to play a significant role, proving it is indeed a robust model of cooperation. It will be productive to sum up the experience next year. China is the largest of the developing countries and it is committed to transforming itself in a green economy. The excellent recommendations of the Council for the 12th FYP will be brought back to the NDRC as it finetunes the Plan.

188. Preparations for the Cancun conference are going apace and expectations are realistic in terms of the world's ability to reach a binding agreement. Results are needed to lay a solid foundation for the coming meeting in South Africa. The most controversial issue is mitigation and how to fulfill the commitments made in the second phase of the Kyoto Protocol.

189. China has determined its action plan regarding climate change; the 12th FYP is key but this planning window extends to 2020. The GOC has a dual goal of environmental protection and improving the quality of life for Chinese people. The green economy is the only path to these goals, and the CCICED has an important supportive role to play in this regard.

190. Vice-Chair Margaret Biggs invited MEP minister Zhou Shengxian and Council Executive Vice-Chair to address the Council with some final remarks. During the course of his talk, Minister Zhou emphasized the following points.

191. The discussions were productive and the AGM's goals have been reached. Premier Wen Jiabao met with Council members spoke highly of the CCICED and shared with them his views on the key issues of this year's deliberations. He also indicated his desire to take part in the 20th Anniversary celebration. Vice Premier Li Keqiang took part in the opening ceremony, enlightening members on the relationships between environment and economy. China's efforts to build an ecological civilization through environmental protection and sustainable development were at the core of these remarks. The focus on environmental protection is now evident in China, including in the news media.

192. The Council's agenda was rich in presentations and discussions. It is agreed that as the Fourth Phase draws to an end, an evaluation of the Council is called for so its key learnings can be shared. The CCICED is still relevant because it is rooted in the needs of China, and it responds to shifting priorities.

193. The first word of the CCICED is China – indicating this Council is not the sole property of MEP, but rather of the whole of government as a united front. Leaders will study the submitted policy recommendations and MEP will ensure they will be delivered to the right groups for consideration.

194. The coming years will be of key strategic importance for the green economy and for environmental protection. There will be great opportunities for Council members and experts to bring forward important ideas. China's present transformation calls for improved environmental protection, hence the critical role that the Council is called to play.

195. Among the areas of consensus during this AGM, members have agreed that nature must be given time to regenerate. The Chinese term for this is difficult to translate in English

and was coined by an ancient philosopher. When President Hu Jintao visited one river project, he stated that rivers and lakes should be left alone in order to let nature restore their health. This has been adopted by environmental scientists in China. The term embodies concepts of humanistic concern and compassion – very fitting for the care that must be shown to the environment.

196. It is useful to estimate China's ecological footprint. Because China is exporting so much steel, it is also exporting its clean environment. This report is sounding the alarm for China because it shows China is exceeding the planet's capacity to sustain its people. Details could be disputed, but the general trend is incontrovertible. China clearly requires a way to consider environmental issues holistically, "from the mountains to the sea."

197. CCICED members are now explorers and practitioners on this new path of development with China. The support shown by members and experts is acknowledged. The 20th Anniversary will give the GOC and CCICED members an opportunity to reflect and draw lessons.

198. The Fourth Meeting of the Fourth Phase of the CCICED was adjourned.

III Meeting with Premier Wen Jiabao

The following text is based on hand-written notes taken during the meeting between Premier Wen Jiabao and CCICED international members. They are as close to verbatim as possible.

200. **Premier Wen Jiabao:** It is a great pleasure to meet with the delegates and friends of this 19th annual general meeting of the CCICED. Over these 19 years, the Council has witnessed China's reforms and development. This is the 14th time that I am involved and I recall many wonderful conversations over the past years. As I've said before, the CCICED is still operating because our foreign guests have faith and support the green development, the sustainable development of China. The recommendations put forward in your meetings are very useful in helping us plan our future development. Thank you for your input.

201. **Ms Margaret Biggs:** Mr. Premier, we are meeting with you at a particularly interesting and important moment, just after the very successful Shanghai Expo, and as your government is finalizing the details of the 12th FYP. The China Council has noted the substantial progress made by China on many fronts. Your success in addressing the Millennium Development Goals was recognized at the United Nations in September. At the Nagoya Biodiversity Summit, China's achievement in setting aside nature reserves was well received. We are also pleased to see the widespread support emerging within China for the low carbon economy.



202. It has been a year of economic uncertainty, and of further ecological degradation in the world. This demonstrates the fragility of progress—both economic and ecological. It is clear that the relationship between the economy and the natural world is challenged more than ever. Certainly China has been affected. The theme of our Annual General Meeting is *Ecosystem Management and Green Development*. We chose this theme because we believe healthy ecosystems are essential for guaranteeing China's future prosperity, for protecting the health of China's people and communities, and for opening new economic growth opportunities.

203. Green development and improved ecosystem management will provide benefits for all China's people—with the double benefit of raising prosperity and quality of life in China's countryside. Nature provides many services but the work of our task forces suggests that these services are under considerable stress. The problems are becoming more wide-ranging and affecting ecosystems in a more systemic way—from the mountains to the seas. Restoring ecosystems to good ecological health, and increasing their resilience in the face of factors such as climate change and intensive use is critical to China's development.

204. China has certainly made progress, especially with your very successful reforestation effort. But the problems of ecological sustainability remain acute. We have noted that China's Ecological Footprint now exceeds its biological capacity. What is required is a fundamental shift in thinking about the relationship between ecology and economy. Our study teams have examined how to bring about this shift, drawing on China's extensive experience with forests, grassland and wetland restoration, and biodiversity conservation. This year we have also examined two subjects never before considered by the China Council: sustainable use of China's coastal zones and ocean; and a difficult but important topic, soil pollution.

205. Many of China's marine and coastal ecosystems are under extreme stress. China's seas are severely damaged from land-based sources, especially coastal land reclamation, agricultural pollution, urbanization and industrial development. The Bohai Sea is the foremost example. If the situation of China's seas continues to worsen, it is hard to imagine how the target of doubling the marine economy can be achieved sustainably. The Bohai Sea will be a source of growing ecological problems and calls for immediate attention. Such problems can only be addressed through a comprehensive integrated management effort linking land and sea development. We are particularly concerned about non-point source pollution, especially agricultural pollution, which appears to be responsible for a significant part of the ecological damage to China's marine environment. A sustainable development

strategy for China's ocean, and a modern national ocean law are urgently needed. We propose that marine ecosystem management be placed high on the policy agenda. In some other countries this has been accomplished through mechanisms such as a National Ocean Commission.

206. Mr. Premier, our examination of soil pollution reveals that it is an urgent issue for China to address. This is a topic of great practical significance—as other nations that have faced expensive cleanups can attest. The legacy issues of old industrial sites, mines, and dump sites are a cost for government to address. New and emerging problems need to be remedied by the polluter pays principle; or, better, be prevented. If left unchecked, these problems will be a burden for both present and future generations. The impacts are spreading via ground and surface waters and threaten ecological health, food security, and human health. A complete system for soil pollution prevention, mitigation and supervision is essential. This should include a law on soil environmental protection and pollution treatment, with national and local standards. A new financial mechanism for soil remediation, and possibly for ecocompensation, are needed.

207. Premier Wen, the China Council suggests a fundamental shift in philosophy and methods for managing ecosystems. The shift is to move beyond sectoral management into a more holistic and integrated approach. This will require us to think systematically about interconnectedness—how to manage ecosystems from the mountains to the seas. A focus on the quality of ecological services will optimize the benefits of integrated ecosystem management. This shift will also require inclusive development that supports livelihoods, health and quality of life, especially in rural areas. Central to this approach is the role of the Chinese people as informed, engaged participants. These are some of the elements that should be built into a new Medium to Long-term National Strategy and Guidelines for Ecological Protection and Development. The Strategy should emphasize protection and restoration of natural capital at a level far beyond what has been achieved so far in China. And one more vital point. The need for improved monitoring of implementation. This will improve the return on investments for green development in China.

208. The China Council is now approaching its twentieth anniversary. Over this time period China and the participating partners have produced a wealth of recommendations and knowledge as input to China's policy reforms. The dynamic nature of environment and development issues continues to both surprise and challenge us. We have tried to assess how we can ensure our work will be of the highest value, and look forward to any suggestions you may have about the impact of The China Council's efforts. We appreciate your commitment to environment and development, and China's remarkable efforts in becoming



an inclusive, environmentally-friendly society. We sincerely hope that our contributions will continue to be valuable as you proceed with the 12th FYP.

209. **Wen Jiabao:** Thank you very much for your comments. Just now, you have mentioned ecosystem management and green development, showing us where we must go in the future. All the issues you have raised are to the point and I fully endorse your views. I know that to achieve the goals described will require efforts at all levels. We will need to change our philosophy, complete our system of laws and improve our management and assessment systems. As well, this will require a complete change in Chinese people's sense of their personal responsibility for environmental monitoring. I don't want to talk about our achievements but rather about the problems we face – they won't go away on their own. Let me address two issues you have raised.

210. The first is soil pollution or what we call surface pollution. China has vast tracks of arable land but our farming and fertilization approaches are still primitive. Land is often over-fertilized, with poor efficiency in the use of these resources. This results in excessive fertilizer entering our groundwater and having negative impacts on human health. The impacts are felt in our rivers, lakes and eventually in the ocean. These past few years, we have made tremendous efforts to address this issue but to be frank, we have not achieved substantial results. Another aspect of soil pollution is heavy metal contamination, which is directly related to the mining industry. Some of this pollution goes back hundreds of years, while some is more recent. Heavy metal contamination directly harms human health, generating insecurity among people. It has been a factor contributing to social disharmony. Just consider the blue algal blooms affecting some of our lakes such as Tai Lake and Dianchi Lake. This indicates how serious this surface pollution really is.

211. China is a country with a very long coastline and we face numerous challenges in the protection of the marine environment. The disappearance of the mangroves and the re-emergence of red and blue algal blooms indicate how serious these issues are. Oil and gas development is another source of ocean pollution. We still lack a holistic plan, a comprehensive management system and a legal framework to address this issue. A country such as China with a long coastline should put this issue high on the national agenda.

212. The two issues you have raised, soil and ocean pollution, including monitoring, restoration and reparation of marine pollution, will be included in the 12th FYP. All of this will require time but you can rest assured that there has been a change in the mindset of the Chinese leadership. We pursue green development, low carbon development and sustainable development as well as what you mentioned – inclusive economic development and the harmony between humans and nature.

213. The GDP is not the only measure to assess the state of a country. The best measure in my mind is the living standards and the quality of life of the people. Quality of life is directly related to the environment. China is a huge country and for hundreds and perhaps a thousand years, we have been falling behind others. We have a lot of unpaid debts on the environmental front. If we do not show firm determination, resolve and unremitting efforts, we will not see fundamental change in our environmental situation.

214. Over the past 19 years, every time the Council meets, it has examined issues that are correct, to the point and penetrating. As a Premier, I don't want to hear much praise of China but rather, I want to hear about the problems we face now. My responsibility is to face and resolve these problems. Next year will mark the 20th anniversary of the CCICED. The most fitting way to mark this is to gather and review the recommendations that have led to progress, those that have yet to have an impact, and those that have never come into play. In order to mark this milestone, I will take part in the proceedings and go directly to each session to hear your recommendations and views. Together, we can put in place a full-fledged plan for ecosystem management and environmental protection.

215. **Margaret Biggs:** The International members are encouraged by the commitment of your government and the Chinese people to green development. We know how challenging the problems are and in our countries, we know how hard it is to find solutions. But we are encouraged by the resolve you show in tackling these issues.

216. **WJB:** Perhaps I was born to face challenges!

217. **MB:** We are grateful you are in a position to take leadership in addressing these issues. We welcome your invitation to use the 20th anniversary as an opportunity to take stock of the progress made, the challenges that remain and the work that has yet to be done.

218. **WJB:** You can be sure that we will not hide anything from our own people nor from the international community. I think that facing issues head on is the correct attitude to take. We have to make up our minds to tackle problems and resolve them.

219. **MB:** All of us have already commented on the quality of the reports and policy recommendations. The quality of the cooperation among international and Chinese experts is a source of strength for the China Council.

220. **WJB:** The reason the China Council has lasted is because of the sincerity and good cooperation from both sides. For so many years, international experts and friends have sacrificed their free time to study China's problems and put forth recommendations. This has been of great help to China. From a broader perspective, I get the sense this is also your own commitment to Mother Earth, the only home we have

221. **MB:** I agree with your views and would like to invite other Council colleagues to



share their thoughts, starting with Klaus Töpfer regarding the work that is now starting on soil contamination by mercury.

222. **Klaus Töpfer:** An important aspect of soil pollution is heavy metals and as we try to be consistent over the years, we have decided to take mercury as a starting point. We know this is a challenge for China since mercury contamination is caused in part by coal fired plant emissions. We also know on the global level that this is important, as the head of UNEP, Mr Steiner, can attest. We also agree with you that celebrating the Council's past twenty years would be to assess the impact of its recommendations. I am so happy that over the past few years, we have started to assess these recommendations and see where they have been implemented.

223. **WJB:** I agree with your idea to start with mercury contamination. Another important source of soil pollution is lead. I am a geologist by profession so I can tell you with my eyes closed where the sources of heavy metal pollution are in China.

224. **KT:** So we can invite you to take part and share your wisdom with our group.

225. **Børge Brende:** I am happy to hear that despite the great economic development of China, you are not complacent but want to deal with environmental issues the country is facing. Politicians in other countries would do well to emulate you. This year has been striking for its natural disasters, starting with the Haiti earthquake and later the Pakistan floods. We have also seen many people suffering from this in China. I observed the Premier himself visiting the victims in the field. From this experience, could you share your views on the relationship between the deterioration of ecosystems and natural disasters?

226. **WJB:** They are related to be sure. This year, aside from events caused by extreme weather, mudslides and landslides have caused over 90% of the casualties from natural disasters. For example, the mudslide in Zhouqu County, Gansu Province caused 1 500 deaths. This disaster originated in 1979 when the faultline started to appear in the slope. Risk management was not done on the areas where construction took place so the disaster was not averted. Similar situations exist in many of our mountainous areas. This disaster is also related to afforestation efforts. These past few years, we have made efforts to sum up the reasons behind these natural disasters, their root causes, especially when it comes to environment and ecology.

227. **Achim Steiner:** We know that the value of ecosystem services is rarely captured in a country's national accounts. Would this be possible in the 12th FYP? This would represent great progress.

228. **WJB:** We are establishing two systems that you will recognize: ecofunction zones and ecocompensation mechanisms. In the 12th FYP, we will make clear the rules for these

ecofunction zones, identify the areas where economic development is allowed and the areas where restrictions are imposed and what are the rules to follow. For the main protected areas, ecocompensation must be carried out, such as the large area protecting the source of the Yangtze, Yellow and Mekong rivers. We also adhere to the main principle of “polluter pays”. These measures integrate ecological protection into economic development.

229. **AS:** ‘International’ features prominently in the name of the CCICED. An important emerging area is environmental diplomacy, complementing economic diplomacy. China as a major country plays an important role in international forums and will be in position to conduct environmental diplomacy. The Council could help China consider this.

230. **WJB:** Environmental diplomacy is a key feature of the CCICED distinguishing it from other international meetings. Partners here are on an equal footing and show mutual respect. All recommendations put forward to date are embedded in my mind. I have attended many other meetings and I see them as forums for contention and recrimination. For example on climate change, I attended the Copenhagen conference last year and frankly, the meeting was mired in polemic. I even have my doubts about the Cancun conference later this year. But the way we conduct our discussions here means we are not discussing issues in vain and that your recommendations influence me and my government. Thank you very much.

231. **MB:** Thank you again for welcoming us. The China Council appreciates the opportunity to work with China, focusing not only on the problems but also on the solutions. Thank you.

232. **WJB:** Again, thank you for coming and we will work together to prepare for next year. We can present our successful model to the world by presenting what we have done over the past 20 years.