

## NATIONAL AFFAIRS

## China

## Promoting Green GDP for More Balanced Development

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### The Green GDP Concept in China

Environmental issues have been high on the agenda at recent sessions of the National People's Congress (NPC) and the Chinese People's Political Consultative Conference (CPPCC), especially in 2005 and 2006. China's latest Five-Year Plan (FYP, 2006) includes a pledge to reduce energy consumption per unit of output in the next five years (2006–2010). Accordingly, the Chinese government has begun to design mechanisms which are expected to prevent government officials from continuing the single-minded pursuit of gross domestic product (GDP) growth and help them to realise the government's environmental goals.

On the 18th January 2005, the State Environmental Protection Administration of China (SEPA) suspended 30 large-scale construction projects, with combined investment of over RMB 100 billion (approximately USD 12.5 billion), which violated rules governing their environmental impact as required by the "Environmental Assessment Law" enacted on 1st September, 2003. During the 2005 NPC and CPPCC sessions, SEPA, together with the National Bureau of Statistics of China (NBS), launched a pilot programme for a green GDP accounting system in ten provinces and municipalities.<sup>1</sup> Those moves were acclaimed by their supporters and the media as an "environmental storm" blowing away some long-existing obstacles to improving the environment.

On the 7th September 2006 SEPA and NBS together published the "China Green National Accounting Study Report 2004"<sup>2</sup> and announced the first green GDP, a GDP index with environmental losses taken into account, and claimed that it was the first time that any nation's government had succeeded in such a project. [1]

Green GDP is usually defined as an aggregate accounting index measuring real domestic wealth, which is conventional GDP less the natural resource losses. It uses the conventional GDP index and deduces the economic costs of environmental pollution, natural resource depletion, inefficiency of education, overcrowding and ineffective administration. [2] The green GDP tries to take into account some important determinants of human welfare and

therefore is believed to be a better indicator of a country's welfare than the traditional GDP. However, a standardised model of green GDP accounting has not yet been achieved, despite many attempts by researchers, governments and international organisations. [3] In China, scholars started to research green GDP nearly two decades ago. They have played an important role in introducing environmental issues and green GDP into the mainstream of public discussion on China's development.

In practice, a green GDP accounting method usually includes five natural resource consumption costs, including arable land, mineral resources, forest, water and fishery resources, and two environmental depletion costs, environmental pollution and ecological degradation. [1] In the "China Green National Accounting Study Report 2004", the green GDP index actually takes only some of these environmental indices into account. Expressed as a simplified calculation it is:

$$\text{Green GDP} = \text{GDP} - \text{the costs of natural resource consumption} - \text{the costs of environmental depletion}$$

Furthermore, out of the usual twenty categories of environmental pollution, SEPA and NBS only managed to include the costs of ten, and included no ecological degradation costs at all, due to the difficulty of obtaining data and the limited techniques. [1] It is clear that green GDP, both as a concept and a practice, is still at an early stage in China. Why, then, is the concept employed so frequently by the government? To answer this question, we have to examine the concept in the context of the Chinese political environment.

### Green GDP in the Context of Chinese Politics

After 28 years of rapid economic growth at the 9.5% average annual rate that the Chinese government has been so proud of, cumulative environmental problems have begun to exert considerable influence on the calculation of the benefits and costs of China's development. According to SEPA's research, on average as much as 18% of China's GDP growth is attained through "overdrawing" on resources and the environment. [4]

The single-minded pursuit of GDP growth by local governments has had dramatic consequences of environ-

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mental degradation, amplifying resource constraints<sup>3</sup> and resulting in recent economic overheating. The last few decades have witnessed environmental destruction in China on an unprecedented scale. According to the "China Green National Accounting Study Report 2004", environmental pollution cost China RMB 511.8 billion (about USD 64 billion) in economic losses, accounting for 3.05% of the year's GDP. The environmental costs of water pollution, air pollution and solid wastes and pollution accidents accounted for 55.9%, 42.9% and 1.2% of the total costs respectively. The Report also estimated that to treat this pollution, China would have had to spend as much as RMB 287.4 billion, equivalent to about 1.8% of the GDP in 2004. [1] However, in 2004 the actual investment in waste and pollution treatment was only about RMB 190 billion. [5] The gap between these figures cannot be ignored.

As the economy develops and living standards improve, the environmental awareness of Chinese citizens increases, especially in the eastern coastal regions and major cities. They are unwilling to pay the environmental costs of economic prosperity, which has led to a rise in popularity of environmental movements in those areas. For example, the strong public appeals against the heavy environmental pollution of Taizhou, Zhejiang province, finally resulted in the total closure of all the small private smelting businesses in the region in June 2005 by government forces.<sup>4</sup> In the international realm, China aspires to be a responsible big power and does not want its environment to be the focus of international criticism. The Hu Jintao leadership has made great efforts to move away from the single-minded pursuit of GDP growth towards "scientific development" which focuses on "sustainability" and the "recycling economy".

The traditional GDP calculates any production activities that contribute to the economy. However, when these production activities are associated with environmental pollution and harm human welfare, it is necessary to take these negative effects into account when calculating the contribution of the production activities. The drawbacks of traditional GDP calculation have been magnified in China by the speed of the country's economic growth. The ruthless pursuit of high GDP growth has meant that the main benchmark for evaluating the performance of local government officials is local GDP growth. As long as the economy is expanding, officials are likely to be promoted even if their localities are suffering from a deteriorating environment.

Academic researchers in the West have been working on the theory of green GDP for a long time, but there have not yet been any substantial breakthroughs. Despite the undeveloped nature of green GDP, the Chinese government decided to use the concept to justify its efforts to reorient China's development. SEPA and NBS formally started their collaboration on the green GDP project two years ago and published the green national accounting report recently as the world's first national index of its kind. The rationale behind China's unprecedented efforts in the field of green GDP is that it is hoped by the Chinese leadership that the country's future economic development

will be restricted and regulated by the green GDP index and will follow a more sustainable and environmentally friendly path.

Another reason for the focus on green GDP is that it could potentially curb the overheated economy of recent years. Despite the steady decline in the size of the state-owned sector in recent decades and wide-spread industrial privatisation in China, over half of the investment in fixed assets in 2004 was still undertaken by investors affiliated with the government in various ways, as in the case of the state owned enterprises (SOEs). [3] Since late 2003, the Chinese central government has been fighting economic overheating, caused mainly by heavy fixed assets investment. Much of the damage to the environment and the overuse and squandering of natural resources is linked to the economic activities of local governments, which further contribute towards the overheated economy. Therefore, the introduction of green GDP to China is expected to influence the behaviour of local governments and SOEs, and act as a regulatory tool to curb periodical economic overheating. The task will definitely be more complicated than the usual monetary policy methods used to smooth periodical fluctuations in western market economies.

The "green environmental storm" is being driven primarily by President Hu Jintao's new policy initiative to build a "people-centred" development model. At the Third Plenum of the eleventh Party Congress in 2003, this model was proposed and expanded with additional clauses promoting a "scientific view of development", a "recycling economy" and a "harmonious society". President Hu explained "harmonious society" as consisting of balanced development between the economy and society and between people and nature.

China's environmental concerns also have their root in Chinese politics, especially in the narrow view of development in past decades. The Chinese government has long equated economic growth with development, believing that economic growth would bring the material resources needed to address various political, social and environmental problems. Pan Yue, the Deputy Director of SEPA, believes that environmental issues in China are political in nature, and that they should therefore be addressed through political means. [4] The Chinese government hopes the green GDP index will become a better indicator of the state of the nation's development, as it takes into account the value of the environment and natural resources. The green GDP index will be an important part of the implementation of the "scientific view of development", and is expected to play a major role in the changes to China's development model.

### Efforts to Promote Green GDP

Improving energy efficiency to promote China's economic development was first introduced by China's eleventh Five-Year Plan (FYP) of 2006, which was proposed by the Fifth Plenum of the Chinese Communist Party last October.<sup>5</sup> This FYP showed that the Chinese government was beginning to make serious efforts to move towards green GDP growth. During the NPC and CPPCC confer-

ences in March 2006, which approved the FYP, the Chinese Premier Wen Jiabao re-emphasised in his government work report that while China needs to maintain a minimum annual growth rate of 8%, it should also try to reduce its energy consumption per unit GDP by 4%. [6] This was the first time that the government introduced energy consumption as an index to measure progress at a macro-economic level, meaning that China is starting to incorporate environmental elements into its national accounting system.

To make the country's development model more environmentally friendly, the first thing the Chinese government is attempting to do is to loosen its strict economic growth targets and add environmental issues into its planning system. Therefore, in the eleventh FYP, China dropped most of its numerical economic targets as part of an effort to resolve the country's concern about growth at the expense of harmonious society and the environment. The Chinese National Development and Reform Commission (NDRC), the chief planning agency, includes only two economic targets in the new plan: a promise to double per capita GDP in the period from 2000 to 2010; and a pledge to reduce energy consumption per unit of output in the next five years. [7] The new planning system is designed to reinforce the government's pledge to stop pursuing GDP for its own sake, without regard to the environment. The changes to the FYP were part of the process of reorienting incentives in the system. As Ma Kai, the NDRC chairman, suggested, the government's role now is to "create favourable conditions" [7] instead of taking complete control of the country's complex economy as it has in past decades.

However, it will undoubtedly be a difficult policy to enforce at local levels, if the central government continues to rate local officials according to economic growth in their localities. Therefore, to solve China's environmental problems, Pan Yue believes that the government should change its approach to development and introduce the green GDP index into its evaluation system when the performance of local government officials is measured. [4] Over the years, a consensus has been nurtured among the Chinese leadership that a new set of performance indicators needs to be put in place.

On February 28, 2005, after considerable preparatory work, the pilot programme of green GDP accounting was officially launched in ten provinces and municipalities. As early as 2004, NBS experts proposed two important frameworks for green GDP accounting, including "The Framework for the Economic Accounting of the Environment and Natural Resources of China" and "The Framework for the Environment-Based Accounting System of Green GDP". [8] On the basis of these two national frameworks, one of the main tasks of the ten selected provinces and municipalities was to develop their own green GDP models adapted to local conditions and make suggestions to improve the national model. They surveyed natural resources and pollution, collected data and calculated the environment-related economic costs in their own regions by referring to the national model. [9]

The pilot programme in the ten provinces and municipi-

palities is expected to be completed by the end of 2006. These provinces and municipalities have established their own systems to promote green development in their regions. For example, in 2005, Guangdong province produced "The Estimation of Green GDP of the Territory of Guangdong in 2003". [10] Both the cities of Zhuhai and Shenzhen in Guangdong have established guidelines to improve their industrial structures and encourage a recycling economy with low energy consumption and pollution. Zhuhai City's eleventh FYP, consistent with the national plan, sets the targets for reducing energy consumption per unit GDP by 2% by the end of 2006 and by 15% by 2010, even though its current figure is already considerably lower than the national average. It has also added the energy consumption per unit GDP index into its evaluation system for officials. [10] Shenzhen focuses on promoting the recycling economy in the city using the green GDP accounting methods to assess the effects. The Shenzhen Environmental Protection Bureau uses the national framework to set up its own green GDP accounts and manage the development of the recycling economy. [11]

Jiangsu province has been working on its local green GDP accounting and trying to "develop the economy with an improved environment" since May 2005, when it became an additional province to host the green GDP experiment. [12] According to the "Green GDP Research Report of Jiangsu Province" released in September 2006, Jiangsu's total GDP in 2002 decreased by 8% when the green GDP accounting methods were applied. Its economic losses caused by water, air and soil pollution totalled RMB 600 billion (approximately USD 75 billion) in 2002. The results of this research, led by the Agriculture University of Nanjing, have been recognised by the Jiangsu government. It is reported that the provincial authorities will adjust their economic development policies and environmental management policies based on these research findings. [12] However, Professor Qu Futian, the leader of the research project, cautioned that the research on green GDP is still in the initial stages and traditional GDP cannot yet be replaced as the main accounting index. [12]

Conditions throughout the provinces and municipalities which have been chosen to host the green GDP pilot programme vary greatly, so each locality is required to adjust its accounting methods to its own situation. The central government wants local policy makers to develop a long-term view and make efforts to improve overall resource allocation in their localities. The key message promoted by the green GDP concept is sustainable development.

Policy implementation in the provinces has always proved a difficult task for the Chinese central government. They have to provide sufficient incentives for the local governments to induce them to follow central policies. As repeatedly emphasised by Pan Yue, there is a need for the central government to introduce a new system for evaluating the performance of local governments, which would provide an incentive for government officials to change their behaviour. The old evaluation system consists of three parts with 17 items, of which only one concerns the envi-

ronment. [3] This is not sufficient to induce local government officials to take the environment into account in their decision making. In August 2004 the Ministry of Personnel issued a research report on "The Assessment of the Chinese Government's Efficiency", and released an evaluation system. [13] This system contains three parts and 11 items, each of which has three indices (see Appendix 1).<sup>6</sup> It aims to improve government efficiency and states that its goal is public satisfaction. The environment still comprises only one item, but its relative importance seems higher, since it is now one out of 11 items, rather than one among 17.

Following the central government's move, local governments now also work on a more efficient governing system. For example, Beijing completed its "Evaluation System for the Efficiency of a Harmonious Economic and Social Development for Greater Beijing" in October 2005. [14] Beijing municipality's system consisted of five parts with 39 indices. "Resources and the environment" was one of the five parts (see Appendix 2).<sup>7</sup> Clearly, environmental concerns are being given more and more weight by the Chinese government.

NBS and SEPA have been working with the Chinese Central Organisation Department, which is in charge of personnel in China's ruling party, on a new official evaluation system. An experimental version of the new system is being carried out in three provinces: Inner Mongolia (North China), Sichuan (Central China), and Zhejiang (East China). The new system is expected to give substantially more weight to environmental concerns and relate them to officials' performance in several ways: 1) a local citizens' assessment of the quality of the environment; 2) measurement of changes in quality of air and drinking water; 3) forest coverage rate in the local area; 4) local government expenditure on environmental protection; 5) the number of environment-related complaints and lawsuits; and 6) the enforcement of the environmental laws. [3]

### Challenges Ahead

As a long-term strategy for the Chinese government, the green GDP movement in China is certainly gaining momentum. However, when it comes to enforcement, the central government will surely face daunting obstacles from local governments or even from different departments at the central level due to the divergence of their interests. For example, during the two-year period of research leading up to the publication of the "China Green National Accounting Study Report 2004", several provinces were extremely reluctant to cooperate with SEPA to carry out the work, or employed various "strategies" to make the green GDP index factually meaningless. [15] In May 2005, Li Deshui, then the Director of NBS, questioned the necessity of calculating the green GDP for China in May 2005, two months after the start of the national programme. [16] Li's suspicion showed a degree of inconsistency between NBS and SEPA.

Environmental issues in China are becoming increasingly political, and the country is entering an era of environmental politics like many other countries before it. Its

rapid and extensive economic growth with comparatively insignificant technological advances has resulted in cumulative environmental damage. Demands for a healthier environment from the prosperous eastern coastal regions have become increasingly difficult to ignore. The initial driving force for the green GDP was the need to improve China's development model by emphasising the necessity for balance and harmony between the economy and the environment. In the light of the overheated state of the economy since 2003, green GDP is also considered to be a way of controlling local officials' economic activities. The green GDP concept is also in line with the essential political objective of using the "scientific development" model to build a "harmonious society". Therefore, as one observer has pointed out, the combination of social trends, macro-economic overheating and political factors has created the conditions under which green GDP has become fashionable. [3]

On the one hand, the Chinese leadership has realised that China needs to move away from rapid economic development towards sustained development which takes into account environmental and social problems. On the other hand, they do not wish to see a significant decline in China's real GDP growth, since it would have disadvantageous effects on the country's employment conditions and stability. Vast numbers of rural immigrants to urban areas and increasing numbers of urban residents are desperately in need of jobs, which can only be created by a relatively high rate of sustained growth. In this sense, China is not exempt from the classic controversy of employment versus environmental politics that is experienced by every industrialised country. [3]

When put into practice, green GDP accounting methods meet tough technical difficulties. It is very complicated, for example, to calculate the cost of pollution or the value of natural resources lost. This is one of the main reasons why a standardised green GDP accounting method has not yet been developed anywhere in the world. The technical loopholes would leave space for bureaucratic infighting in China, which would further make the future of green GDP in the country ambiguous. Seeing the technical problems, the NBS, which previously questioned the necessity of the green GDP, further argued that allowing zero or even negative GDP growth for some regions could be more practical than implementing green GDP, for the sake of preventing environmental damage by short-term behaviour. [17]

The green GDP is actually used as a political method by the Chinese central government to "correct" local governments' behaviour. Local governments, especially in the western and central areas, rely on economic expansion to generate their income and relieve poverty for rural residents. It is inevitable that local governments will prefer to expand the economy by investment and promote low-technology and labour intensive industries in order to quickly create low-end jobs for the poorly educated peasants and low-skilled workers, which are, in most cases, the types of industry causing industrial pollution.

In general, people in China are still lacking awareness of environmental problems. A well-functioning system of green



GDP accounting for the entire country is out of reach for the foreseeable future. The central government most likely would not sacrifice economic growth purely for the sake of the environment, since they do not wish to see a lowering of employment opportunities causing social instability. According to the Environmental Kuznets Curve hypothesis, [18] economic growth brings an initial phase of environmental deterioration followed by a subsequent phase of improvement. It indicates that during the early development stage an economy could grow at the cost of the environment, but when the economy reaches a certain level it would gain from an improved environment. In this context, for the prosperous coastal provinces in the east, the green GDP system might be feasible since they are in some ways already at this later stage where the economy and the environment could improve simultaneously. Still, for the majority central and western provinces, the green GDP concept may not be much more than a propaganda slogan.

Nevertheless, some key elements and the general prin-

ciple of green GDP may certainly be useful for promoting sustainable development in China. The green GDP campaign will undoubtedly generate positive effects for the public's environmental awareness. It is also a method by which the central government can encourage the provinces to develop initiatives which take local idiosyncrasies into consideration, and adopt local feedback to improve central policy. Green GDP is allowing the Chinese leadership to gradually shift the development of the economy from a basic growth-oriented model to a healthier and more sophisticated one.

China's efforts with the green GDP campaign shed some light on the direction of China's economic development for the future. However, most importantly, economic development remains the "hard truth" at the most fundamental level. How will green GDP as a concept evolve in China? Will the leadership be able to enforce it? To what degree will it improve China's worsening environment? All these questions are yet to be answered.

#### Appendix 1. China's Evaluation System of Government Efficiency 2004

	Level One Indices	Level Two Indices
<b>Government Efficiency</b>	Effect Indices	Economy Society Population and environment
	Function Indices	Economic regulation Market supervision Social administration Public services State-owned assets administration
	Potential Indices	Human resource conditions Honesty and cleanness Administrative efficiency

Source: *China Youth Daily*, 02/08/2004, "The Assessment System of Chinese Government Efficiency has been Published, 33 Indices Will be Used to Evaluate Government Efficiency", <http://www.zbjw.gov.cn/2004/8-5/10650.html>, accessed on 24 November 2006.

#### Appendix 2. Greater Beijing's Evaluation System for the Efficiency of a Harmonious Economic and Social Development 2005

Five parts of the system (39 indices in total):


- 1) Economic Development (four indices)
- 2) Social Development (six indices)
- 3) Resources and Environment (three indices)
- 4) Administrative Efficiency (two indices)
- 5) Regional Disparity (24 indices)

Source: *China News*, 14/10/2005, "Beijing Published Its Evaluation System, Party and Government Officials' Performance will be Assessed Comprehensively" <http://www.chinanews.com.cn/news/2005/2005-10-14/8/638136.shtml>, accessed on 24 November 2006.

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## Notes

- 1 The ten provinces and municipalities selected are Anhui, Beijing, Chongqing, Guangdong, Hainan, Hebei, Liaoning, Sichuan, Tianjin and Zhenjiang.
- 2 "China Green National Accounting Study Report 2004-Public Version" published by the SEPA/NBS, available in full online: <http://www.sepa.gov.cn/plan/gongwen/200609/P020060908545859361774.pdf>, accessed on 26 October 2006.
- 3 China is experiencing a serious shortage of key raw materials such as crude oil, iron ore, natural gas, copper etc.
- 4 Certainly, decisions on environmental issues are based on the government's calculation of the economic benefits against environmental costs. For example, small smelting enterprises only made a marginal economic contribution but caused extremely heavy pollution, particularly, to the air, water and soil. Therefore, local governments decided to treat the environmental problem and social unease as a priority by closing these enterprises.
- 5 For an analysis of the eleventh Five Year Plan, see, Zheng, Yongnian, 2005, *The New Policy Initiatives in China's 11th 5-Year Plan, Briefing Series*, Issue 1, China Policy Institute, University of Nottingham, November 2005.
- 6 Please refer to the appendix for brief details of the 2004 government officials' evaluation system.
- 7 Please refer to the appendix for brief details of Beijing's 2005 system. 

USA

## EPA Facing Challenges Again for Failure to Exercise its Climate Change Mandate

After the US Supreme Court's 2006 decision recognising that the US Environmental Protection Agency (EPA) has sufficient authority and mandate to address greenhouse-gas (GHG) emissions questions, many environmental organisations and others believed that EPA's further decision-making processes would be guided by climate-change concerns. Recently, however, EPA permit decisions in the state of Utah have again stirred up the climate-change controversy, when EPA approved the issuance of a permit to increase the size of a coal-fired electrical plant on tribal lands, without addressing the significant additional GHG emissions that will result from the enlargement.

The EPA's decision demonstrates the significant gap



between what the Supreme Court actually decided, and how the decision was perceived by the American activist and environmentalist sectors. In fact (as reported in EPL 37/1 at 53, and 37/4, at 352), the Supreme Court's decision was focused on a narrower question – whether GHGs could be considered a "pollutant" for the purposes of a particular rule-making regarding motor vehicle emissions. In answering that EPA could and should consider these issues in federal rule-making under the Clean Air Act, the Supreme Court did not say in fact that EPA was required to regulate GHGs from auto emissions. Rather, it called for the commencement (or recommencement) of a federal regulatory process to determine whether GHG controls should be required for

motor vehicles and what standards, technologies and parameters should be applied.

Such a process will not be swiftly completed, however. The federal rule-making processes are relatively lengthy, and this one may be lengthened by the number and scope of public comments which the agency must receive and address prior to adopting and publishing the final rule. In the meantime, the Utah permit decision suggests that EPA may continue to operate under prior rules and standards.

The decision provides further fuel to the efforts of state governments and others to adopt their own climate-change rules, targets and indicators. Thus, for example, a California-led initiative has joined five western states in a sub-regional agreement to cut GHG emissions by 15% by 2020. Such actions have occurred with increasing frequency, as states conclude that the federal government is refusing to take the actions necessary, and that the public does support such actions. (TRY)



## Japan

### Symposium: “Biodiversity and Climate Change”

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The United Nations University Institute of Advanced Studies (UNU-IAS), the Global Environmental Information Centre (GEIC) and the Ministry of the Environment, Japan (MOEJ)<sup>1</sup> held a symposium to commemorate the International Day for Biological Diversity (IDB) on the theme “Biodiversity and Climate Change”. As the Millennium Ecosystem Assessment has noted, climate change is likely to become the dominant direct driver of biodiversity loss by the end of the century. Participants at the Symposium discussed the links between the conservation of biological diversity and the challenges posed by global climate change. Discussions focused, in particular, on Japan’s role and responsibilities in dealing with issues of conservation of biological diversity in a manner that mitigates climate change and provides adaptation options for both Japan and the world at large.<sup>2</sup> The symposium also aimed to contribute to planning and agenda-setting for the Tenth Meeting of the Conference of the Parties to the Convention on Biological Diversity (COP-10), which the Japanese Government hopes will be held in 2010 in Nagoya, Japan. Additionally, it aimed to showcase conservation and climate change and future planning activities in Japan.

Participants in the symposium included Toshiro Kojima, Vice-Minister for Global Environment Affairs, Ministry of the Environment, Japan; Dr Ahmed Djoghlaif, Executive Secretary, Convention on Biological Diversity (via pre-recorded video); Yvo de Boer, Executive Secretary, United Nations Framework Convention on Climate Change (via satellite link from Montreal, Canada); representatives of the Japanese Ministry of the Environment; academics from UNU-IAS and several Japanese universities; NGOs and civil society and the media.

The morning session involved presentations from a number of keynote speakers on the links between the loss

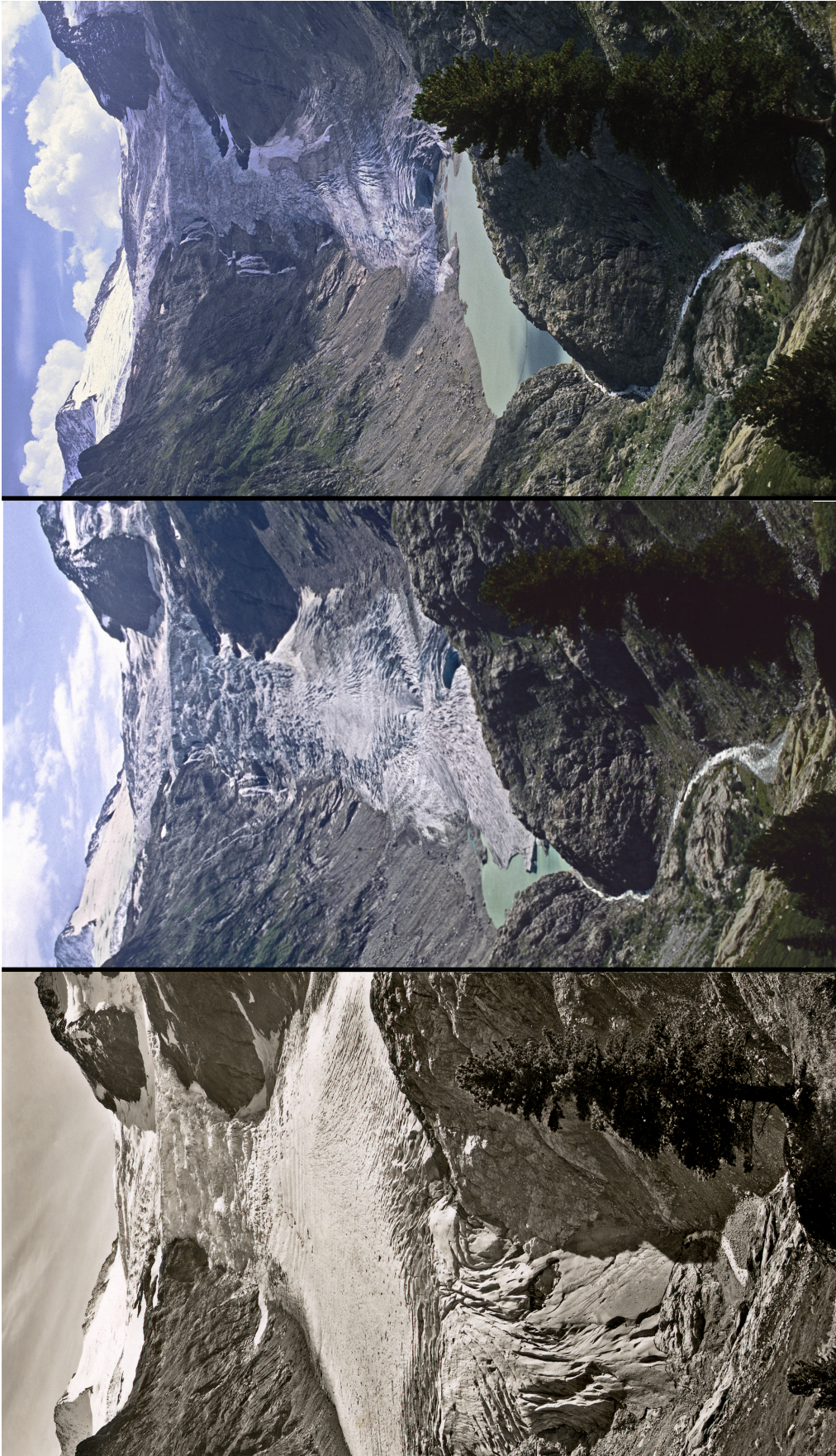
of biodiversity and climate change including those mentioned above. Toshiro Kojima Vice-Minister for Global Environment Affairs, Ministry of the Environment, Japan stressed that as host of the G8 meeting in Hokkaido next year Japan views climate change and biodiversity loss as two of the most important issues to be considered at the G8 meeting. T. Kojima also announced that the Japanese cabinet had agreed to offer to host COP-10 of the CBD in 2010 in Nagoya and that it was likely that this offer would be accepted by the international community at COP-9. In the lead-up to this meeting, Japan is revising its biodiversity strategy with a concentration on campaigns to bring these issues to the attention of the public, business and academic communities. These activities include supporting this symposium and a parallel symposium in Nagoya.

In his message to the symposium, Dr Djoghlaif emphasised that climate change and biodiversity loss were real and noted that the recently released report of the IPCC, prepared by 2,500 experts from 130 countries, demonstrated that the present concentration of CO<sub>2</sub> emissions in the atmosphere had not been seen for the last 150,000 years. The report of the Millennium Ecosystem Assessment has also made it crystal clear that the loss of biodiversity on our planet is unprecedented and that up to two-thirds of our ecosystems are being damaged and the loss of biodiversity is increasing. Dr Djoghlaif stressed that biodiversity loss is not only an environmental issue, it is also an economic, financial and an energy issue but significantly it is now also emerging as a security issue. He noted that in April 2007, for the first time in its history, the United Nations Security Council had examined the issue of climate change as part of Chapter VII of the United Nations Charter and had considered climate change as an issue of relevance to peace and security. He noted that we therefore needed to make the linkages between climate change and biodiversity.

Dr Djoghlaif also noted that Japan was to chair the G8 next year and expressed his hope that Japan would con-

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The World Glacier Monitoring Service has released the new glacier mass balances for the year 2004–2005. The statistics are calculated based on 30 glaciers (27 in 2005) in nine mountain ranges around the world. The WGMS's tentative findings, based on the average change in these mass balances, indicate that glacier thickness has been reduced on average by 0.7 m during 2004 and 0.6 m during 2005, continuing the trend of accelerated ice loss over the last 25 years. The total loss of glacier thickness since 1980 is estimated at 9.6 m ([http://www. geo.unizh.ch/wgms/](http://www.geo.unizh.ch/wgms/)).

Courtesy: Sammlung Gesellschaft für ökologische Forschung/Greenpeace



tinue to lead efforts in making the relationship between climate change and biodiversity loss clear. Japan's offer to host COP-10 of the CBD in Nagoya in 2010 was also applauded. He noted that this would be a historic meeting because it would coincide with the 2010 biodiversity targets aimed at stopping the loss of biodiversity endorsed at the World Summit on Sustainable Development in Johannesburg 2002. The



Courtesy: CBD

United Nations General Assembly had also decided to declare 2010 as the International Year on Biodiversity. By 2010 it is hoped negotiations on an international regime on access and benefit sharing will have been finalised and that progress may be made on an international agreement linking climate change and biodiversity. Dr Djoghlaif paid tribute to the leadership of Japan on the issue of climate change and biodiversity loss and looked forward to working together with the people of Japan and its government, as well as other partners such as UNU-IAS in the lead up to COP-10.

Yvo de Boer, Executive Secretary, United Nations Framework Convention on Climate Change in his message highlighted the close link between threats to biodiversity and climate change. He noted that these issues are very closely linked to food security, especially as increased desertification associated with climate change and biodiversity loss will reduce the amount of arable land that is available for cultivation of food crops. Yvo de Boer also noted that this year was a critical year for advancing international negotiations on a climate-change regime post-Kyoto because by

2012, current climate-change policies would have expired and countries needed to reach agreement on new measures soon. In this regard the Executive Secretary noted the importance of the upcoming Bali negotiations later this year for a regime beyond 2012.

After the key-note speakers the morning session concluded with discussions covering a wide range of issues including the sufficiency of monitoring of climate change in Japan. These discussions highlighted that more still needs to be done not only in Japan, but also in developing countries. Questions were raised on the role of biofuels in addressing climate change and its impact on food security, as well as the potential impact of genetically modified food crops. The afternoon session of the IDB was organised as a roundtable, where participants from different sectors, including NGOs, government and private sectors, the media, and academia, actively deliberated on effective ways of communicating and enhancing public understanding of issues related to biodiversity and climate change.

While the day-long symposium heard presentations from a range of perspectives two key themes emerged from the presentations and subsequent discussions. The close links between climate change and loss of biodiversity was one theme highlighted by nearly all speakers. But perhaps the most significant message was the way climate change and biodiversity loss were both linked to unsustainable levels of economic growth and over-consumption. Until recently the sustainability of Japan's consumption of natural resources had been largely unquestioned within Japan. But the attitude of some of the participants at the symposium may evidence the emergence of a new vocal environmental consciousness in Japan. Many of the participants at the symposium were outspoken in their criticism of the patterns of consumption of Japanese society, stating that Japanese consumers and importers have knowingly or unknowingly contributed to the destruction of biodiversity in several regions of the world. The fact that Japanese citizens are now questioning their own contribution to climate change and biodiversity loss is a significant development that should be noted by other countries. The critical issue now will be what actions individual citizens, corporations and the Japanese government take in response to this growing awareness.

As a follow-up to the Symposium, GEIC and MOEJ are now fostering efforts to encourage greater collaboration and participation by NGOs, the media and the private sector in promoting awareness of biodiversity loss and climate-change issues in Japan. In addition UNU-IAS, MOEJ, GEIC, UNEP and other UN agencies have established a planning committee for future events to mark the International Day for Biological Diversity and to assist with planning for COP-10.

## Notes

1 In partnership with United Nations Information Centre (UNIC), Asia/Pacific Cultural Centre for UNESCO, UNEP International Environmental Technology Centre (IETC), United Nations Industrial Development Organization Investment and Technology Promotion Office (UNIDO ITPO) Tokyo, Statistical Institute for Asia and the Pacific (SIAP), World Health Organization (WHO) Centre for Health Development.

2 A detailed report of the International Day for Biological Diversity Symposium summarising all of the presentations and discussions is available from [http://www.ias.unu.edu/sub\\_page.aspx?catID=8&ddIID=308](http://www.ias.unu.edu/sub_page.aspx?catID=8&ddIID=308).

