



Top News on the Environment in Asia

2010

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2010 Top News on the Environment in Asia

Institute for Global Environmental Strategies (IGES)

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2010 Top News on the Environment in Asia — Summary

With the goal of reporting environmental issues and actions on the formation of sustainable societies in the Asia-Pacific region, since 1998 the Institute for Global Environmental Strategies (IGES) has gathered and compiled news on environmental issues and policies and released them annually as the top environmental news in the Asia-Pacific.

This edition of “2010 Top News on the Environment

in Asia” focuses on three environmental topics of “Global Warming”, “Biodiversity” and “Sustainable Consumption and Production”, which are most critical environment issues in Asia, and reports important news topics selected by environmental experts from twenty-one countries in the Asia-Pacific region as well as by international organisations.

1. Global Warming

2010 was a year of positive efforts by Asian nations in regards to their domestic policies and measures towards climate change. Following the Copenhagen Accord that was “taken note of” at the 15th Session of the Conference of the Parties (COP15) to the United Nations Framework Convention on Climate Change in December 2009, nations submitted their national emission reduction targets or mitigation actions. Held at the end of 2010, COP16 adopted the Cancun Accord calling for reduction targets from the United States and other developed countries and also for such emerging economies as China and India to make certain reductions. The Cancun Accord can be viewed as an important step taken towards the development of a comprehensive international framework to be made at COP17 in 2011.

Effects of Global Warming

- According to a joint study by the Asian Development Bank (ADB), the World Bank and the Japan International Cooperation Agency (JICA), a quarter of Metropolitan Manila will be underwater within the next 40 years if the present trend of climate change continues.
- In Bangladesh, it is estimated that the country's rice production might decrease by 8 per cent over the next 40 years, and wheat by 32 per cent, due to global warming. Prime Minister Sheikh Hasina warned at the UN General Assembly in September 2010 that the food security of the country was facing a serious threat due to global warming.
- At a Mongolian cabinet meeting on climate change held in August 2010, it was noted that the frequency of natural calamities such as

desertification and flooding by melting snow has doubled in Mongolia in the last 20 years.

- In Sri Lanka it was confirmed that temperatures around the country had increased by one degree Celsius, while cool central hills recorded a two degrees rise, and experts warned about intensification of climate-related disasters such as land slides and floods.
- Hot weather brought the highest temperatures in 10 years to Laos this year, the Mekong laid low by drought and Vientiane faced severe water shortage.
- In Pakistan heavy rains triggered floods at the end of July 2010, which affected 20 million people (10 per cent of total population).
- In Malaysia a heat wave spanning a few weeks affected rice farmers and oil palm cultivators in early 2010. In October and November heavy rainfall caused flooding and rice farmers were again affected. Heavy rain also saw crude palm oil prices rising, hence affecting biodiesel industry players.
- Thailand has encountered tough challenges due to weather chaos such as drought and heavy rainfall. The areas suffering from ill effects cause by drought were about 48% higher compared to the previous year and the total cost of the damage was estimated at more than THB 6 billion.

Measures by Asian Countries

- In Australia a Multi-Party Climate Change Committee, chaired by the Prime Minister, was established in September 2010. Work proceeded towards improving energy efficiency, with a report detailing recommendations to deliver

progressive improvement in energy efficiency by 2020. A new programme was launched, under which owners of commercial buildings would be required to disclose an energy efficiency rating when selling or leasing large commercial buildings. Additionally, the city of Newcastle became the country's first commercial-scale smart grid site.

- In New Zealand environmental regulators are seeking permission to release exogenous species of the dung beetle as a measure against global warming. Consumption of animal dung by the beetles will lead to a reduction in nitrous oxide and other greenhouse gases, and will also help to improve the condition of New Zealand's soil.
- Japan took active measures to extend support for climate change measures in developing countries and to countries vulnerable to the effects of climate change, but a draft basic law on measures to cope with global warming failed to be enacted in 2010 because of political disarray.
- In China a "Directive on low-carbon province and low-carbon city test model implementation" was issued in July 2010, which institutes low-carbon green development policies and implements greenhouse-gas emission statistical data systems and control. According to the Directive, some provinces and cities, including Guangdong province and the city of Tianjin have been selected to conduct the planned test model. In June 2010 the government launched a system of subsidies for the purchase of new-energy vehicles by individuals.
- In Singapore a National Climate Change Secretariat was set up under the Prime Minister's Office in July 2010, and its second National Communication to the UNFCCC was presented in November. The government has also announced the extension of the Green Vehicle Rebate scheme until end-2011, in order to promote green vehicles which are more fuel-efficient and emit less air pollutants than conventional vehicles.
- By the need for concerted holistic responses to climate change, Malaysia announced a national policy on climate change in October 2010.
- Cambodia saw the launch in February 2010 of the Cambodia Climate Change Alliance to strengthen comprehensive actions on climate change such as the development of national policy and administration of climate funds. The tourism sector is at the centre of efforts underway to phase out the hydrochlorofluorocarbons (HCFCs), which are mainly used in air conditioning equipment.
- The ADB announced USD 1 billion of financing for climate change projects in the Philippines,

including promotion of the use of solar energy. Also a draft executive order is being prepared to implement the decision to increase tariffs on imported ethanol by 20 per cent in order to ensure the availability of locally produced ethanol.

- Indonesian government has been active in promoting the REDD (Reducing Emissions from Deforestation and Forest Degradation) mechanism. As of 2010 there are more than 30 demonstration activities.
- Organised in cooperation with UNDP, a workshop to promote REDD was conducted in Myanmar in April 2010. In the workshop measures to integrate REDD activities with national forest policies in local communities were discussed.
- It was shown that Vietnam's forest cover has increased to 39.5% in 2010 from 27% in 1990 because of the great effort made by the government in forest protection and development.
- India launched the Jawaharlal Nehru National Solar Mission in January 2010, announcing ambitious target for solar power generation. And in May the country released an updated Greenhouse Gas Emissions Report, thereby making India the first non-Annex I country to publish such numbers.
- Night fishermen in a lagoon on the southern coast in Sri Lanka saved over 400 tonnes of carbon dioxide emission annually by replacing from kerosene lamps to solar lamps.
- Bangladesh, Bhutan, India and Nepal in April 2010 forged an alliance to tackle illegal cross-border trade in chemicals that destroy the ozone layer.

Adaptation to Climate Change

- Adaptation to climate change was one of the topics under discussion during the sixth Ministerial Conference on Environment and Development in Asia and the Pacific (MCED-6) that took place in Kazakhstan in September–October 2010. Interest in adaptation measures is growing in the Central Asian countries, and they are currently developing their national adaptation strategies.
- Asia-Pacific Climate Change Adaptation Forum met in Bangkok in October 2010, where Asian countries discussed to mainstream adaptation to climate change into developing planning.
- An adaptation blueprint "Adapting to Climate Change in Australia" was released by the Australian Government in February 2010.
- Nepal's National Adaptation Programme of Action (NAPA) started up in November 2010. This is a comprehensive adaptation programme

integrating agriculture, water, forestry and other sectors into community-level action.

- India established an indigenous Indian Network for Comprehensive Climate Change Assessment (INCCCA), comprising 127 research institutions. The Network will undertake research on the science of climate change and measure its impact on leading industrial sectors, as well

action to deal with it.

- Over 2011-13 Singapore is to conduct large-scale studies to assess its vulnerability in regard to long-term impacts such as sea level rise due to climate change and secondary impacts such as energy demand, as well as action to deal with such.

2. Biodiversity

COP10 (the 10th Meeting of the Conference of the Parties to the Convention on Biological Diversity) was held in Nagoya in October 2010. The Nagoya Protocol on access to genetic resources and the fair and equitable sharing of benefits arising from their utilisation (ABS), a new strategic plan for 2011 and after (the Aichi Target) and other agreements on such as resource mobilisation strategy were adopted. COP10 is the pivot of briskly growing international coordination among governments, international organisations, research institutes and NGOs towards biodiversity protection and the formation of sustainable societies.

Protection of Wildlife

- Together with the Rhino and Forest Fund (RFF), the Sabah Forestry Department in November 2010 launched a long-term reforestation project to save biodiversity with a special focus on the nearly-extinct Sabah rhino. Additionally, turtle landings in Kemaman were the highest in a decade. Meanwhile, the smuggling of boa constrictors by a wildlife trafficker was widely reported, and interest heightened in criminal activity involving wildlife.
- The Philippines' first database on marine mammal-stranding was established and it indicates various hotspots for stranding of dolphins or whales around Philippine archipelago.
- Sri Lanka's Central Highlands was nominated as a UNESCO Natural World Heritage site due to its high biodiversity.
- India launched an online tiger crime database which also provides authentic records on mortality of other key wildlife species across India.
- In Nepal the white-rumped vulture is now critically endangered as this species has died after eating the bodies of cattle treated with Diclofenac. Protected areas have been set up with international assistance to serve safe carcasses as food for white-rumped vultures.
- The government of Mongolia has approved an action programme for conservation of rare and endangered plants and conducted large-scale

surveys of their habitats in all parts of the country.

Discovery of New and Endangered Species

- An international survey of new species was conducted in the old-growth forest of Indonesian Papua in May 2010 and numerous new species were discovered, including a gecko, a bat and a butterfly.
- A critically endangered species of basil on the Red List of the International Union for Conservation of Nature (IUCN) was found in Thailand.
- The world's largest colony of bats was found in Samal, Davao Province in the Philippines and recognised as by Guinness World Records as home to 1.8 million bats. And a new species of fruit-eating monitor lizard (most monitor lizards are meat-eaters and scavengers) was discovered in Luzon.
- In Sri Lanka the Horton Plains slender loris which is one of the most threatened primates in the world and risks extinction soon was discovered for the first time in the history. A small endemic freshwater fish was first found in the wild in 53 years, and an endemic toad for the first time in 130 years.

Comprehensive Measures

- In Australia a new strategy for biodiversity conservation was released to last through 2030 in October 2010 and set targets to measure the nation's progress in protecting Australia's natural environment.
- New Zealand's Department of Conservation created a giant model of a flightless parrot native to the country and deployed it to schools around the country in an educational programme on ecosystem protection.
- In Japan the Cabinet adopted the National Biodiversity Strategy 2010 in March and the Law to Promote Activities for the Preservation of Biodiversity (or the "Satochi/Satoyama Act") was passed in December, whose purpose is to promote simple, accessible action in nature

conservation.

- In China the National Plan for the Protection and Use of Forest Land (2010-2020) was issued in August 2010 and the National Biodiversity Protection Strategy and Action Plan (2011-2030) adopted in September. Also in October the construction of mechanisms was approved to promote ecology protection in grassland regions of the Inner Mongolia Autonomous Region.
- The City Biodiversity Index (CBI) spearheaded by Singapore that functions as a self-assessment tool for cities to benchmark their biodiversity conservation effort was formally endorsed by the Parties to the CBD at its COP-10 City Summit in October 2010.

- In Cambodia a community-based natural resource management approach has been promoted that involve community residents and give consideration to biodiversity.
- In Laos a government-led afforestation project is underway to revegetate a large former mining area, now covering 120 hectares primarily with indigenous vegetation.
- In Mongolia an Gap analysis report was completed comparing efforts and effectiveness in ecosystem conservation in Protected areas.
- Kazakhstan established a new nature protected area in April 2010 covering over 350,000 hectares and containing primarily wild fruit forest.

3. Sustainable Consumption and Production

Key environmental trends in Asia are highly worrying. The consumption of natural resources is increasing rapidly, fuelled by population growth, urbanisation, and economic growth. A report from the Asian Development Bank in 2010 predicts that if current Asian consumption trends continue, 43% of the global consumption will take place in Asian countries by 2030.

Waste Management and Promotion of Recycling

- In May 2010 Australia's first comprehensive national assessment of trends in waste and resource recovery was released, and in July its National Waste Policy Implementation Plan was endorsed, which identifies priority initiatives and milestones for waste management.
- The Bangladeshi capital of Dhaka was presented with 100 environmentally-friendly garbage trucks from Japan International Cooperation Agency (JICA) that are expected to be used for the reduction of pollution in the capital.
- In Japan the collection campaign targeting cell phones that go unused in domestic households was conducted by the Ministry of Economy, Trade and Industry (METI) from 2009 to February 2010.
- In China the "Old for New" programme, implemented in 2009, promoting replacement purchases in cities of home appliances and automobiles with the dual aims of shoring up consumption and establishing a recycling system was expanded to include more urban areas.
- In New Zealand toilet paper went on sale that is manufactured in environmentally friendly production processes and made entirely from bamboo, straw and reed, using no trees at all.

Towards Resource Efficiency

- Malaysia developed "Green Technology Roadmap" based on its National Green Technology Policy launched in 2009 and pursued efforts towards conversion to environmental technologies in such key industrial sectors as energy, buildings, transportation and manufacturing.
- A Sustainable Product Innovation (SPIN) Project was launched in Vietnam in April 2010 working towards sustainable production in over 500 SMEs in key industrial sectors.
- Efforts continue underway in Singapore on the basis of the Sustainable Singapore Blueprint released in 2009, with concrete numerical targets for such goals as energy efficiency in public housing estates and reducing the domestic water consumption per person.
- BNI Bank, one of the biggest banks in Indonesia, focuses its business on sustainable consumption and production as a "green bank" by, for instance, implementing soft loans for environmental projects and green credit for various industries related to energy efficiency.
- The Carbon Reduction Label is spreading in the Thailand manufacturing sector, which aims to achieve at least a 10 per cent carbon reduction per unit product or service compared with the baseline data for 2002. Also, Thai Airways was certified in 2010 under the Carbon Footprint Labelling system and began "low-carbon services", such as providing carbon footprint labeling on in-flight meals.
- In June 2010 Korea started the Excellent Green-Biz Selection System assessing the energy conservation technologies and prevention of environmental pollution of SMEs.
- In the Eastern Development Region in Nepal, Cleaner Production assessment continued from

2009, in which proposals have instigated efforts that led to productivity enhancement and better working environments. Also, in the Kathmandu basin town of Thimi a project converting waste

agricultural biomass or domestic food waste into resource was implemented with UNEP and Japanese support.

4. Other News

Strengthening of Legal Frameworks

- The Supreme Court of the Philippines in April 2010 promulgated the “Rules of Procedure for Environmental Cases”, the first of their kind in the world, enabling citizen suits grounded in environmental laws.
- In India under the National Green Tribunal Bill 2010, passed in June, its legal framework was enhanced.
- The Bangladesh parliament passed a bill in October 2010 to increase the number of environmental courts and their authority to take action against polluters.

The Asia-Pacific Region

Institute for Global Environmental Strategies (IGES)

1. Global Warming: Positive Efforts by Asian Nations for Domestic Policies

2010 has been a year of positive efforts by Asian nations in regards to their domestic policies and measures towards climate change. Following the Copenhagen Accord that was “taken note of” at the 15th Session of the Conference of the Parties (COP15) to the United Nations Framework Convention on Climate Change in Copenhagen in December 2009, nations submitted their national emission reduction targets or mitigation actions. They worked on progressing their national efforts as well as international cooperation.

Japan encouraged countries to become associated with the Copenhagen Accord at the Eighth Informal Meeting on “Further Actions against Climate Change” in March. In October, progress was made in the forestry sector at the Aichi-Nagoya Ministerial Meeting of the REDD+ Partnership which was co-chaired by Japan and Papua New Guinea. In addition, Japan, as a top donor to the USD 30 billion of fast-track finance pledged in Copenhagen by the developed nations, implemented approximately USD 5.3 billion out of the 15 billion pledged under the “Hatoyama Initiative”. By the end of 2012, Japan plans to implement USD 15 billion. Funding sources are both public and private.

China continued to strengthen its climate change policies in 2010. At the end, the 11th 5-year plan and its 20% energy intensity target came to a close. It appears that a last minute push from the central leadership, the shut-down of small inefficient plants, and process changes in energy-intensive enterprises helped achieve the 20% target (though some local leaders ordered less welcomed cuts in residential energy). Attention is now focused on the 12th 5-year plan (2011-2015) and a carbon intensity target that will reportedly fall between 15% and 22%. In international negotiations, China hosted sessions of the Ad Hoc Working Group on the Kyoto Protocol and Long Term Cooperative Action (AWG-KP and AWG-LCA) in Tianjin in October. The Tianjin meeting served as prelude to the COP16 in Cancun and

featured heated debates over issues such as “measurable, reportable, and verifiable (MRV)”.

India made concrete developments on the eight missions, especially on the solar energy and energy efficiency front, of the National Action Plan on Climate Change announced in 2008. Some of local governments have also formulated Climate Change action plans giving thrust to the specific areas of mitigation and adaptation respective to the particular region or state. The nation-wide greenhouse gas (GHG) emissions of 2007 were reported for the first time in 16 years, the last announcement being made in 1996. It emerged that as of 2007, India was the fifth largest GHG emitter in the world. As a measure to address climate concerns in the agriculture and related sectors, a budget of about USD77 million was decided to promote research infrastructure, capacity building and climate change adaptation technologies.

The Republic of Korea has seen a steady increase in GHG emissions¹ even among OECD (Organisation for Economic Cooperation and Development) countries. Although the country has no legally binding targets under the Kyoto Protocol, the Republic of Korea has, however, gained international attention for its positive green growth targets. For example, it has started a “Voluntary Emissions Trading Scheme (ETS) pilot project in local government” towards the introduction in 2013 of an ETS as stipulated in the “Framework Act on Low Carbon, Green Growth” established in 2008. In November, it issued a bill on greenhouse gas emissions trading². With such moves, it can be seen that smooth and steady progress is being made in domestic policy.

COP 16 was held in Cancun, Mexico, between 29 November and 10 December 2010. It closed with the adoption of the Cancun Accord. This formally acknowledged the emissions targets and actions submitted under the Copenhagen Accord. Cancun Accord can be viewed as an important step taken

¹ Overview of the Republic of Korea's National Strategy for Green Growth (April 2010)

² “Implementation and Study on Emissions Trading in other countries” Office of Market Mechanism, Climate Change Division, Ministry of the Environment Japan (29 November 2010)

Table: Emission Targets and Mitigation Actions by Asian nations based on the Copenhagen Accord

Country	Baseline Year	Emission Targets and Mitigation Actions by 2020
Japan	1990	25% reduction in emissions of GHG (premised on the establishment of a fair and effective international framework in which all major economies participate and on agreement by those economies on ambitious targets)
China	2005	Reduction in CO ₂ emissions per unit of GDP by 40-45%
India	2005	Reduction in emissions intensity of its GDP by 20-25%
Republic of Korea	BAU ³	Reduction of national GHG emissions by 30%

towards the development of a comprehensive international framework to be made at COP17 in

Durban, South Africa in 2011.

(Written by Jusen Asuka, Nanda Kumar Janardhanan, Eric Zusman, Akiko Miyatsuka, Madoka Yoshino, IGES Climate Change Group)

2. Biodiversity: Mainstreaming Biodiversity Conservation – Policy Evolution at the International Level towards Building a Sustainable Societies

The 10th Conference of the Parties to the Convention on Biological Diversity or COP10 was held in October 2010 in Nagoya, Aichi, Japan. Many participants stayed in the conference hall late in the night on the final day anxious over the outcome of COP10. Little after three o'clock in the morning of the following day of 30th, they adopted a range of agreements reckoned by leading international environmental NGOs as crucial to the conference's success — headlined by the Nagoya Protocol and Aichi Targets as well as funding strategies, and concluded the Conference in a roar of acclamation. The leading international papers contrasted this Nagoya biodiversity conference with the Copenhagen conference on climate change of December 2009 that ended in discord, and according their reports, the COP10 has provided a gleam of hope that the international inter-governmental conference could prompt collective actions on environmental issues. With a caveat that it remains too early to celebrate the revival of UN multilateralism, some environmental NGOs asserted that the success of the Nagoya biodiversity conference had maintained the dignity of the United Nations and provided encouragement in pursuing collective actions in the field of international environmental policy. How have these COP10 achievements fared since? How have they been responded to?

The Global Environment Facility (GEF) provides funding to assist developing countries in implementing multilateral environmental agreements on biodiversity and other issues. Its Council meeting and NGO

consultations were convened in Washington, D.C. in mid-November in 2010. With the latest fifth replenishment of GEF, Ms. Monique Barbut, GEF's CEO had already announced at COP10 its plan to provide US\$ 1.2 billion for biodiversity conservation, US\$ 40 million for national level implementation of the Nagoya Protocol and US\$ 1 million for the Convention on Biological Diversity's (CBD) Secretariat to promote ratification of the Nagoya Protocol. Biodiversity has risen on the list of priority issues for GEF. NGO representatives at the NGO consultation meeting called upon GEF to support NGO involvement in biodiversity conservation activities, and Mr. Ahmed Djoghlaif, CBD Executive Secretary, called at the GEF Council meeting for support to the development of national biodiversity strategies, action plans and resource mobilisation strategies based on the COP10 agreements. He also made an appeal to give favourable consideration to the proposal put forward by developing countries to set up a "trust fund for South-South cooperation for biodiversity and development". The Japanese government representative at the Council meeting announced the establishment of a Nagoya Trust Fund within GEF and Executive Secretary Djoghlaif expressed his appreciation to it.

The latest development of GEF funding for supporting biodiversity conservation is just one example of evolving international cooperation related to the COP10 outcomes. Other supportive initiatives include the Save Our Species (SOS) biodiversity programme launched by the World Bank and

³ Business as Usual: Emissions scenario whereby supplementary measures are not taken to reduce GHG emissions

International Union for Conservation of Nature (IUCN), the International Partnership for SATOYAMA Initiative supported backed by the Japanese Government and the United Nations University Institute of Advanced Studies (UNU-IAS), the LifeWeb initiative supported by the German government, the Critical Ecosystem Partnership Fund supported by Conservation International for which Harrison Ford provides support as Vice Chair, Board of Directors, and the REDD+ agreement reached at COP16 (the 16th Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change) in Cancún, Mexico in December 2010 for reducing green house gases emissions through sustainable forest management. It is expected these initiatives will be further bolstered to support biodiversity and ecosystem conservation. In November 2010, the United Nations Development Programme (UNDP) launched together with a private consultancy firm a report on “Habitat Banking in

Latin America and the Caribbean: A Feasibility Assessment” contributing to discussions for developing market-based mechanisms for ecosystem conservation and gearing to promote investment in ecosystem conservation.

On December 20 in New York City, the UN General Assembly adopted a resolution declaring 2011-2020 the United Nations Decade on Biodiversity. UN Secretary General Ban Ki-moon released a statement calling for increasing cooperation to “continue working to ensure that life on Earth will persist in all its diversity and complexity, for the benefit of present and future generations.” The greater involvement and support of a wide range of stakeholders are required to make progress towards achieving the coexistence of biodiversity and human society.

(Written by Masanori Kobayashi, Senior Coordinator,
Programme Management Office, IGES)

3. Sustainable Consumption and Production: Asian Developing Countries – Emerging Consumption Giants

Key environmental trends in Asia are highly worrying. The consumption of natural resources is increasing rapidly, fuelled by population growth, urbanisation, and economic growth. Deforestation and forest degradation, depletion of fish stocks and fresh water reserves, loss of agricultural land, and emissions of greenhouse gases are examples of how current development patterns are impacting on the environment and rapidly eroding the Earth’s resource bases.

Some of the region’s resource consumption is related with the production of goods for export to other parts of the world. However, also the domestic consumption is growing fast in the major Asian economies. A recent report from the Asian Development Bank (ADB) predicts that “Asia’s emerging consumers are likely to assume the traditional role of the US and European middle classes as global consumers.” In quantitative terms the same study estimated that by 2030 – if current trends continue – as much as 43% of the global consumption will take place in Asian countries that are now considered as developing.

In Europe, where Sustainable Consumption and Production (SCP) is a well established policy concept, focus has so far mainly been on promoting cleaner production and green consumption, especially through energy efficiency and eco-labelling. However, there is a growing recognition that these efforts need to be complemented with stronger measures addressing high levels of consumption and especially harmful forms of consumption.

In Asia, where poverty is still widespread, SCP needs to be approached differently. Here, it is not sufficient to address only the life-styles and consumption patterns of the growing middle class – important as that might be – it is also necessary to deal with the issue of under-consumption among the poor. Sustainable development cannot be achieved unless both of these challenges are successfully tackled.

Most countries in Asia have already introduced policies addressing some aspects of SCP but these efforts are typically fragmented and not integrated into development strategies and economic planning. In order to lead society towards SCP, governments need to develop comprehensive policy frameworks including policy tools that discourage unsustainable consumption and production patterns as well as measures that encourage more sustainable options. Policies introduced need to address consumer’s awareness and behaviour, but also to modify the range of options that are available to consumers.

Following are some key elements that need to be included in policy frameworks in support of a systemic shift towards SCP:

- Education to build understanding and awareness on why changes in consumption and production patterns are necessary. This includes both formal school education and various forms of education and training targeting adults.
- Information to consumers to guide their buying decisions and life-style choices.
- Establishment of efficient physical infrastructure,

which presents consumers with realistic options to products and services with high impact. This can also include the removal of certain products and services from the market, and restrictions on advertising.

- Creation of economic incentives, which can influence consumer choices and business investment decisions into more sustainable directions.
- Development of indicators on human wellbeing

and quality of life, to be used as complements to traditional macroeconomic indicators.

- Support for individuals and organisations that try to develop and live low impacting high quality lifestyles. This includes also efforts to highlight the benefits of such activities, making them more mainstream and possible for others to be inspired from.

(Written by Magnus Bengtsson, IGES SCP Group)

The Asia-Pacific Region

Satwant Kaur

Regional Information Officer
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1. Global Warming: Regional Approaches to Tackling the Challenges

—Building Resilience to Climate Change: Asia-Pacific Climate Change Adaptation Forum, 21-22 October

Close to 600 representatives from Asia Pacific met on 21-22 October 2010 in Bangkok, Thailand to share practices, knowledge and experiences to mainstream adaptation to climate change into development planning in the region. The forum was aimed at boosting the capacity of Asian countries to adapt to climate change by providing an opportunity for participants to learn and exchange, as well as showcasing actions taken by countries in response to the challenges climate change brings.

Putting adaptation at the forefront of development planning was one of the key focuses of the forum. Discussions were focused on science and policy, the integration of cross-sectoral policies at all levels of government, and adaptation funding, with emphasis on access to adaptation funds, and the role of the public and private sector in development and planning.

The forum was organised by the Asia Pacific Adaptation Network, along with the Adaptation Knowledge Platform and other partners. The Asia Pacific Adaptation Network, part of the Global Adaptation Network, aims to build resilience of vulnerable human systems, ecosystems and economies to climate change. It does so through mobilisation of knowledge and technologies to support adaptation capacity building, policy-setting, planning and practices.

During 2010-2011, the network will focus on vulnerable ecosystems such as high mountains, mega river basins, dry lands and low-lying coasts, as well as vulnerable sectors such as water and agriculture.

—Four Asian Countries Pull Together to Combat Cross-border Illegal Trade in Ozone Depleting Chemicals

Representatives from the National Ozone Offices and Customs Offices from Bangladesh, Bhutan, India and Nepal forged an alliance to tackle illegal trade in chemicals that destroy the earth's protective ozone layer and contribute to climate change. The cooperation was initiated at The Border Dialogue on Monitoring and Controlling Trade in Ozone Depleting Substances (ODS) which took place in April 2010 in Chalsa, West Bengal, India.

The four countries have committed to reduce consumption and production of ozone depleting substances under the Montreal Protocol on Substances that Deplete the Ozone Layer, notably chlorofluorocarbons (CFC) and halons, the production of which was terminated globally on the 1st January this year. However, these chemicals exist in the region because significant amounts of CFC-dependent refrigerators, air conditioners and other equipment are still in service. Although alternatives are available to service such equipment, the cost and incompatibility of some replacements lead some users to seek out illicit supplies of the CFCs. The smuggling of these chemicals to satisfy this demand has posed significant challenges to border enforcement personnel.

Along with regional dialogue, capacity building training was held for the participating customs and enforcement officers to enhance their knowledge and skills in identifying and handling ODS.

Source: Prepared by UNEP Ozone Team

2. Biodiversity: East Asia — Sea Change Needed in Management of Crucial Marine Resources

—New UNEP Report Underlines Multiple Challenges to Nature-based Infrastructure Threatening Region's People and Economies

The economic future of East Asia and the region's

ability to overcome poverty are facing serious challenges unless urgent action is taken to manage the health and wealth of its marine environment.

A new report underlines that multiple threats face

the East Asian seas as a result of factors including insensitive development, pollution, alien invasive species and climate change.

The East Asian Seas State of the Marine Environment report says economically important coastal habitats and ecosystems are under pressure with 40% of coral reefs and half of all mangroves having already been lost.

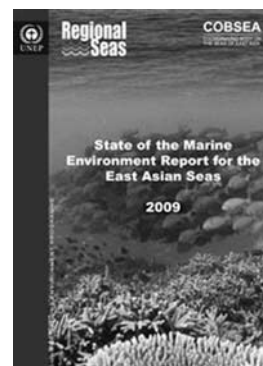
Meanwhile high levels of suspended solids are entering the marine environment via rivers, with levels having quadrupled since the late 1970s, and many fish stocks are being rapidly depleted triggering a looming fisheries and food crisis unless action is taken to better manage and regulate the industry.

The region is also seeing an increasing frequency of harmful algal blooms or red tides caused by land-based nutrients, which have significant economic repercussions. Red tides have been increasing in frequency in China, Republic of Korea, Japan, the

Philippines, Thailand, Indonesia and Australia.

The East Asian Seas are home to nearly 80% of global coral species, over 60% of mangrove species, and over 55% of sea grass species. They account for 50% of global fisheries production and 80% of global aquaculture production.

Coastal areas account for an estimated 80% of the region's economic activity, and in some of the less developed countries, almost 40% of GDP. Annually, coral reefs are estimated to generate USD112.5 billion, mangroves USD5.1 billion, wetlands USD1.2 billion and sea grass USD86 million.



Central Asia

The Regional Environmental Centre for Central Asia

1. Global Warming: Climate Change Mitigation and Adaptation in Central Asia

Climate change mitigation was one of the topics under discussion during the sixth Ministerial Conference on Environment and Development in Asia and the Pacific (MCED-6) that took place in Astana in September 2010. In particular, the International Energy Efficiency Forum, held in parallel to MCED-6, focused on ways and means of financing energy efficiency (EE) and renewable energy (RE) investments. The forum combined an assessment of EE and RE policy and legislative frameworks and presented the results of several ongoing projects in the region that are mainly aimed at improving EE in buildings in Kazakhstan, Kyrgyzstan and Uzbekistan.

Adaptation to climate change represented another important issue at MCED-6. "Low-carbon development and adaptation to climate change" became the second major policy area for cooperation within the Astana "Green Bridge" Initiative— Europe-Asia-Pacific Partnership for the Implementation of "Green Growth". Central Asia (CA) faces significant threats from climate change, with a number of the most serious risks already in evidence. Average temperature across the region has already increased by almost 1 per cent over the last century and is expected to grow in the range of 3.3-6°C by 2100 (source: Second National Communication to the UN Framework Convention on Climate Change (UNFCCC)). These

substantial temperature changes are affecting hydrology, with rapid melting of glaciers and a decrease in winter snows. In this context, all CA countries are currently developing their national adaptation strategies and Third National Communications to the UNFCCC, with support coming from the UN Development Programme, the World Health Organization, the Asian Development Bank, the European Bank for Reconstruction and Development and other international partners.

Source: CAREC

Written by M.Genina and A.Umirbekov



MCED-6 Side Event: Integrating adaptation to climate change into sustainable development of Central Asia. (Copyright: A. Madyarov – CAREC)

2. Biodiversity: Zhongar-Alatau State National Natural Park - New Protected Area Established in Kazakhstan

Pursuant to Resolution No. 370 of the Government of the Republic of Kazakhstan dated 30 April 2010, the International Year of Biodiversity was commemorated with the foundation of Zhongar-Alatau State National Natural Park with a total area of 356,022 ha. The park covers the territories of three rural districts of Almaty Oblast – Aksu, Sarkand and Alakol.

Zhongar-Alatau State National Natural Park was established for conservation of biodiversity including a gene pool of globally important wild fruit forests and ecologically, genetically, historically and aesthetically valuable natural mountain landscapes.

The flora of Zhetysu Alatau is represented by 2,168

species of plants including 76 endemic species which grow only on this mountain ridge, as well as rare and endangered species listed in the Red Book of Kazakhstan. The fauna of the park includes two bony fish species, two amphibian species, eight reptile species, not less than 238 bird species and about 52 mammal species. Zhetysu Alatau is well-known for a wide variety of wild fruit trees and berry bushes including apple trees, apricot trees, barberry, Tien Shan cherry, Albert dog-rose, Meyer currant, etc.

Today, wild fruit-tree forest conservation is no more a national, but a global problem, and the project is also expected to contribute to environmental

education, development of tourist and leisure infrastructure and job creation.

Source: UNDP/GEF In-Situ Conservation of Kazakhstan's Mountain Agrobiodiversity Project
Written by L.Valdshmit



Wild fruit forest

(Copyright: R. Vagapova - UNDP/GEF In-Situ Conservation of Kazakhstan's Mountain Agrobiodiversity Project)



Wild apples

(Copyright: R. Vagapova - UNDP/GEF In-Situ Conservation of Kazakhstan's Mountain Agrobiodiversity Project)

3. Sustainable Consumption and Production: Centre on Sustainable Consumption and Production

The Republic of Kazakhstan, being a member of the world community, has commitments to fulfill the goals of Agenda 21 of the United Nations Conference on Environment and Development (Rio de Janeiro, 1992), the United Nations Millennium Declaration (New York, 2000), and the World Summit on Sustainable Development (Johannesburg, 2002). Kazakhstan has adopted a number of strategic documents in which is stated the vision of Kazakhstan in the 21st century. In 2006 Kazakhstan adopted the "Concept of Transition of the Republic of Kazakhstan to Sustainable Development for the period 2007-2024". The country established the Sustainable Development (SD) Council in March 2004.

At the fifth SD Council meeting that took place on 3 December 2008, the Ministry of Environmental Protection and Ministry of Industry and Trade committed to developing a draft of the Kazakh Sustainable Consumption and Production (SCP) model.

Following the recommendations made at the regional and international meetings of the Marrakech Process, the United Nations Environment Programme (UNEP) has prepared the Guidelines for Developing, Implementing and Monitoring National Sustainable Consumption and Production Programmes/Action Plans. The UNEP guidelines and international experience in this field are expected to bring benefits to the process, as the SCP concept is new for Kazakhstan.

In 2009 UNEP and the Centre on Sustainable Consumption and Production (NGO, Almaty) agreed to cooperate with respect to the development of an SCP model for Kazakhstan. The bodies organised a

capacity-building and awareness-raising workshop for national stakeholders. The workshop took place in Astana, Kazakhstan, in the building of the Ministry of Industry and Trade of the Republic of Kazakhstan on 2-3 April, 2009.

The workshop was organised with the financial support of UNEP and the Organization for Security and Co-operation in Europe (OSCE) office in Astana. The bodies involved were as follows:

- Ministry of Environmental Protection of the Republic of Kazakhstan;
- Ministry of Industry and Trade of the Republic of Kazakhstan;
- Centre on Sustainable Consumption and Production (NGO, Almaty);
- UNEP;
- OSCE office in Astana

In May 2009 a working group was established to work out the draft Kazakh SCP model, applying the UNEP guidelines for developing and implementing SCP approaches. The working group included representatives from key ministries, as well as experts and NGOs.

At the present time the reason for many of the socio-economic problems in Kazakhstan is the imbalance between resource production and consumption. To overcome the existing asymmetry in the country's development, while taking into account environmental aspects, is the main goal of the Kazakh model of SCP.

Source: Centre on Sustainable Consumption and Production
Written by F. Urazayeva

1. Global Warming: A Multifaceted Approach

Australia's response to global warming and climate change involves a range of policies and programmes aimed at reducing carbon pollution, adapting to unavoidable climate change and working with other countries to find a global solution.

An adaptation blueprint, *Adapting to Climate Change in Australia*, was released by the Australian Government in February 2010. The blueprint outlines the Government's policy agenda to drive national efforts to adapt to the impacts of climate change. It identifies six national priority areas for action - water, coasts, infrastructure, natural ecosystems, natural disaster management, and agriculture.

In April 2010 the Government decided to delay the implementation of the *Carbon Pollution Reduction Scheme* (CPRS) until after the end of the current commitment period of the Kyoto Protocol in 2012 and when there is greater clarity on the actions of major economies including the US, China and India. In the interim it will boost the existing investments in clean and renewable energy and support greater energy efficiency measures in order to bring down greenhouse gas emissions in the near term.

At the Oslo Climate and Forest Conference in May, Australia joined 50 countries in agreeing a partnership for global action to reduce emissions from deforestation and forest degradation in developing countries, commonly referred to as REDD+.

In mid-2010 a Task Group on Energy Efficiency, established to advise the Australian Government on options to improve Australia's energy efficiency by 2020, finalised a report detailing recommendations

to deliver progressive improvement in energy efficiency by 2020. The report was based on advice from a wide range of government, industry, energy and environmental organisations.

Commencing in mid-2010, the city of Newcastle became Australia's first commercial-scale smart grid site as part of a \$AUD100 million *Smart Grid, Smart City* demonstration project aimed at testing smart grid technologies and ensuring their suitability for Australian conditions.

In September a new Multi-Party Climate Change Committee, chaired by the Prime Minister, was established to investigate options for implementing a carbon price and help build consensus on how Australia will tackle climate change. The Committee is advised by a panel of four independent experts and supported by the heads of departments involved in implementing climate change policy. Two consultative roundtables were also established in October 2010 for the business community and the non-government sectors.

In November a new *Commercial Building Disclosure* programme was launched to promote a more energy efficient building sector. Under the programme owners of commercial buildings will be required to disclose an energy efficiency rating when selling, leasing or sub-leasing office space with a net lettable area of 2,000 square metres or more. The commercial building sector currently accounts for about 10 per cent of Australia's total greenhouse gas emissions.

Further information: <http://www.climatechange.gov.au/>

2. Biodiversity: New Strategy Supplements Ongoing Funding

Coinciding with the United Nations International Year of Biodiversity, a new strategy for biodiversity conservation in Australia was released by the Natural Resource Management Ministerial Council in October 2010. *Australia's Biodiversity Conservation Strategy 2010–2030* sets ten targets to measure the nation's progress in protecting Australia's natural environment.

The strategy recognises the important contribution

of the many groups who have been working to improve Australia's conservation of biodiversity and management of natural resources. It highlights three priorities for action to help stop the decline in Australia's biodiversity. These priorities indicate where change is needed in the way Australians view, understand and approach biodiversity issues.

The strategy's three priorities are - *Engaging all Australians, Building ecosystem resilience in a*

changing climate, and *Getting measurable results*. Each of the priorities for action is supported by subpriorities, outcomes, measurable targets and actions.

Another initiative, *Caring for our Country*, recognises that conservation of biodiversity on private land is an important way to protect Australia's environmental assets. Farmers, indigenous communities, and other private land managers manage approximately 77 per cent of Australia's land area.

In 2010 the Australian Government approved more than \$AUD241 million in *Caring for our Country* funding to protect the Australian landscape and help ensure farmlands remain viable into the future. The funding includes:

- \$AUD181 million in base level funding for 56 regional natural resource management

organisations around Australia;

- more than \$AUD60 million for 168 projects to improve, protect and better manage natural and productive landscapes.

An additional \$AUD43.9 million was provided to support *Reef Rescue* projects to help farmers in the Great Barrier Reef catchments change their practices to reduce the nutrients and chemicals in run-off from their farms.

Over the five years 2008-2013 *Caring for our Country* will provide more than \$AUD2 billion in funding.

Further information:

<http://www.environment.gov.au/>

<http://www.environment.gov.au/biodiversity/strategy/index.html>

<http://www.nrm.gov.au/index.html>

3. Sustainable Consumption and Production: National Assessment Informs Policy Implementation

Australia's first comprehensive national assessment of trends in waste and resource recovery was released in May 2010. The *National Waste Report 2010* is a key component of the *National Waste Policy*. It details trends in waste and resource recovery and is the first step in providing baseline data to inform policy. The Australian Government's objective is to reduce the generation of waste and encourage a culture of recovery where waste becomes a valuable resource.

In July 2010 the *National Waste Policy Implementation Plan* was endorsed by the Australian Environment Protection and Heritage Council (EPHC). The implementation plan identifies priority initiatives and milestones and outlines how progress will be tracked and performance monitored. The implementation plan will be regularly updated as initiatives are scoped, consultation occurs, initiatives are completed and new work is agreed.

On 4 November 2010 the EPHC released a status report on *National Waste Policy* implementation over the last 12 months. The status report provides a snapshot of progress against the 2010 milestones set out in the *National Waste Policy Implementation Plan* (as at 14 October 2010) and an update on the remaining strategies which have longer term milestones.

Under the *National Waste Policy: Less waste, more resources*, the Australian Government agreed to develop and enact national legislation to support voluntary, co-regulatory and mandatory product stewardship and extended producer responsibility schemes. A consultation paper on the proposed design of the national product stewardship legislation was released for comment in November 2010.

Further information:

<http://www.environment.gov.au/index.html>

<http://www.environment.gov.au/settlements/waste/index.html>

4. Other News: Using Technology to Promote Sustainability

The Australian Government seeks to take a leadership role in promoting more sustainable practices, in part by improving the environmental performance of its own operations.

The *Australian Government Information and Communication Technology (ICT) Sustainability Plan 2010-2015* was approved by the Government in July 2010. The plan is intended to better align government agencies' use of ICT with the Government's overall sustainability agenda.

The plan identifies standards to be applied in government purchasing of ICT products and services,

and introduces measures to improve environmental performance of ICT, particularly in terms of energy efficiency.

Another focus of the *ICT Sustainability Plan* is the effective use of ICT by government agencies to promote more sustainable practices in government, industry and the community.

Further information:

<http://www.environment.gov.au/index.html>

<http://www.environment.gov.au/sustainability/government/ictplan/index.html>

Bangladesh

Monzurul Huq

Tokyo Bureau Chief

Prothom Alo (The leading national daily of Bangladesh)

1. Global Warming: A Call for International Assistance and Global Awakening

Bangladesh continues to endure the heat of global warming despite a number of adaptation measures taken by the government in recent years. The cabinet-approved Bangladesh Climate Change Strategy and Action Plan 2009 is proof that the country is prepared to face the challenges of climate change. However, the problems faced by Bangladesh are daunting and need to be addressed in time to avoid a greater disaster in the near future. Addressing the 65th session of the UN General Assembly in September 2010, Bangladeshi Prime Minister Sheikh Hasina warned that the food security of the country was facing a serious threat due to global warming. It is estimated that the country's rice production might decrease by eight per cent over the next 40 years, and wheat by 32 per cent, due to climate change, whereas the population could increase by up to 75 million. Focusing on this grim reality, the prime minister aptly said, "Though our share of carbon emissions is negligible, we are the worst victims".

The Bangladeshi prime minister had earlier made a plea at the Copenhagen summit in December 2009 calling for compensatory grants and easily accessible, adequate funds to be made available to countries vulnerable to climate change. It is estimated that a

mere one-metre rise in the sea level would inundate 18 per cent of the country's land mass, creating 20 million refugees and having a serious impact on the country's food production.

The prevailing mood among policy makers and the public in general is that the rich and industrialised nations must compensate countries like Bangladesh to help them cope with the adverse impact of global warming, as the advanced nations are solely responsible for the alarming situation created by climate change. Hence, there is growing demand for an adaptation and mitigation fund available to resource poor developing countries to help them fight the adversity.

A shadow climate tribunal holding hearings in Bangladesh in early November held the developed countries responsible for emitting greenhouse gases and causing suffering to the coastal people in the country. Declaring the verdict, the head of the five-member jury panel, Dr. Mizanur Rahman of Bangladesh Human Rights Commission, said, "the death of the people for your development and civilisation is absolutely intolerable and the coastal people of Bangladesh are holding you responsible".



Global warming poses threat to the pristine natural environment of Bangladesh.
(Copyright: Azharuddin, Prothom Alo)



A changing climate is making the yearly visits of migratory birds scarce and in declining numbers.
(Copyright: Shahdat Parvez, Prothom Alo)

2. Biodiversity: Need for an Effective Strategy

Bangladesh has four broad types of ecosystem that in recent years have been facing threats due to

the destruction of habitat and harvesting of resources, as well as natural calamities. Wetlands are

the most important type of natural ecosystem in Bangladesh, and are known for their rich biodiversity. The hill ecosystems cover around 12 per cent of the country's land, whereas the forest ecosystems, with many varieties of species and mangrove linings, provide a natural barrier from tidal waves and other forms of disasters.

Bangladesh signed and ratified the Convention on Biological Diversity in May 1994, and since then has taken a number of measures to protect the threatened ecosystems of the country. The 1994 Forest Policy, for example, aims to increase protected areas of reserve forest land by 10 per cent by the year 2015, whereas the Ministry of Environment and Forests has taken a number of initiatives to protect the wetlands and hill areas.

However, taking stock of the last 20 years makes it clear that mindless exploitation of natural resources resulted in massive extinction of species and thus destabilised nature's balance everywhere. Hence, Bangladesh tried to emphasise the need for crafting a new vision of biodiversity at the COP10 meeting in Nagoya, calling for establishing the practical link between biodiversity loss and poverty.

Speaking at the High Level Plenary Convention on Biological Diversity at the UN Headquarters in September 2010, Prime Minister Sheikh Hasina urged world leaders to formulate an effective strategy with a genuine commitment and more investment to conserve biodiversity on earth. Making a passionate appeal to the convention, she said, "Let us not forget that every species has a specific role to play in our world ecological system, and that they are all connected in a mysterious, miraculous chain with the sole purpose of preserving our planet."



Rivers and lakes are parts of a rich biodiversity that are now under threat.
(Copyright: Azharuddin, Prothom Alo)

3. Sustainable Consumption and Production: Focus on Recycling and Waste Management

Recycling is a big part of the ongoing battle against environmental hazards and global warming, and the concept of 3R – recycle, reduce and reuse – is playing a crucial role in making people aware of sustainable consumption. A Bangladeshi photographer, Zaid Islam, chose the World Environment Day 2010 for the inauguration of his week-long photographic exhibition focusing exclusively on recycling.

Meanwhile, the garbage cleaning system of the city of Dhaka has received a generous boost as the City Corporation was presented with 100 environmentally-friendly garbage trucks from Japan International Cooperation Agency (JICA) to be used for the reduction of pollution and carbon emissions in the capital. Prime Minister Sheikh Hasina received the vehicles from the Chief Representative of JICA in

Bangladesh. About 1,100 tons of waste, equivalent to a quarter of the total estimated waste generated in the capital, can be transported daily with the new vehicles.



JICA donated garbage collection truck in operation in Dhaka.
(Copyright: Prothom Alo)

4. Other News: New Legislation and an Ongoing Public Awareness Campaign

The Bangladeshi parliament passed a bill in October 2010 to increase the number of environmental courts and their authority to take action against polluters, making provision for establishing a trust to tackle the adverse impact of climate change.

The new legislation, which replaced the Environment Court Act of 2000, aims to expedite the trial of

environment-related offences and proposes setting up environmental courts at every district headquarters. These courts would have expanded jurisdiction to take stern action against offences and to issue orders confiscating goods and other materials as punishment. The new legislation also increased the jail term up to five years and the fine up to BDT500,000.

Meanwhile, a public awareness campaign in Bangladesh to educate young people about the importance of the preservation of natural habitats took a new dimension with the holding of a four-day exhibition featuring art works and write-ups by children. Held to coincide with the International Day of Biodiversity and World Environment Day on June 5, the exhibition, titled "Biodiversity of Life", featured winning paintings and essays from a previously held competition. Primary and secondary school students from different parts of the country took part in the competition.

In another development in the awareness campaign, awards were given to winners of a quiz competition on climate change, renewable energy and 3R issues at a ceremony held in June. The quiz competition was held in 30 different locations throughout the country for secondary level students and a total of 450 winners received cash prizes, crests and certificates. The programme was aimed at encouraging students to increase their knowledge of the environment, as well as making them conscious about climate change.

Bhutan

Dorji Penjore

Researcher

The Centre for Bhutan Studies

1. Global Warming: Bhutan Includes Climate Change on the Summit Agenda

As the host of the 16th SAARC (South Asian Association for Regional Cooperation) Summit held in Thimphu, Bhutan made climate change the main theme. The summit adopted the Thimphu Statement on Climate Change, expressing a determination to make South Asia a world leader in low-carbon technologies and renewable energy. The statement emphasised the reduction of high-carbon technologies to achieve economic growth whilst promoting both development and poverty eradication in a sustainable manner. The statement is significant as a regional response, given the dual challenges of addressing the negative impacts of climate change and pursuing economic development. The regional organisation members are Afghanistan, Bangladesh, Bhutan, Nepal, India, the Maldives and Pakistan.

Source: *Kuensel*, 30 April 2010



SAARC leaders during the summit (copyright: 2010, *Kuensel*)

2. Biodiversity:

—BBC's "Mountain Tiger Discovery"

Bhutan made an international headline in September 2010 when a BBC programme, "Lost Land of the Tiger", showed footage of "mountain tigers" filmed in Bhutan. The BBC defined the footage of two "mountain tigers", a male and a female, as a "discovery" and claimed it was the first hard evidence to prove that tigers do roam the jungles of Bhutan at altitudes as high as 4,100 m. However, the story failed to make much impact in the local or national news. What was defined as a "discovery" by the BBC was already well known to both farmers and conservationists in Bhutan.

The presence of this carnivore was the very reason for the idea of "biological corridors" and the establishment of the Nature Conservation Division (NCD) in 1992. Bhutan has also started making biological corridors under the Tiger Corridor Initiative, a scheme to help save the species from extinction. Consequently, 8.61 per cent of the country has been designated for biological corridors, which serve as migratory routes to wildlife species.

Data from reveals about 120 endangered Royal Bengal tigers in Bhutan, from 100 m above sea level to as high as 4,100 m. The last survey of 1998 shows that

there were more tigers in the south, with a density of one tiger every 50 sq km, as compared to the central Himalayan region with one tiger in every 185 sq km. Officials of the former NCD and tiger conservationists described the BBC "discovery" as being "professionally unfair" and cited the NCD as "the first hard evidence".

In the meantime, forestry officials confirmed that it was a Royal Bengal tiger (*Panthera tigris tigris*) that killed a 32-year-old man in central Bhutan.



The footage of a tiger filmed at Dolam-kencho, Thimphu, 4,046 metres above sea level (copyright: 2010, *Kuensel*)

Source: *Kuensel*, 25 September 2010

—The Punatsangchu River Development Bodes Ill for White-bellied Heron

A 40-year-old farmer from Tsekha, Punakha has been keeping an eye on the heron habitat along the Phochu river over the past five years. He says that white-bellied heron, which normally appear in

September, have not showed up this year. This highly endangered bird is losing its habitat along the Punatsangchu basin as development of the Punatsangchu River has increased human settlements near the habitat. The bird was first spotted after the flood of 1993, but unfortunately, after heron were seen at a car accident site, local people began to associate the birds with bad luck, and often chased them. Of 200 white-bellied heron around the world, 30 are found along the Punatsangchu basin. In 2009, one heron was electrocuted in Zalarongchu and another killed by a construction worker in Densari. The herons have abandoned the upper Phochu area, which was declared a protected area in 2007. Before 2007, there were about eight herons near the upper Phochu area, where an artificial fishpond was created.



White-bellied heron in Bhutan (copyright: 2010, Kuensel)

Source: *Kuensel*, 3 October 2010

—Endemic Plant Critically Endangered

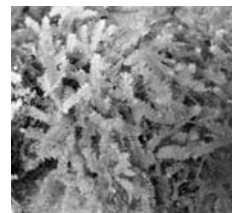
Bazzania bhutanica or liverworts, a plant endemic

to Bhutan, is critically endangered and could face extinction, according to Baboo Ram Gurung, a Bhutanese researcher working with the European Union.

The plant, found in Samtse district, in two ravines at Buduni, is believed to be found nowhere else in the world. Because of its location near a road (Samtse to Sibsoo), and the threat of cattle and human activities, the plant is facing challenges to its survival. Landslides, flood and forest degradation are other threats.

Liverworts is a small, pale olive-brown plant, which grows to a thin loosely interwoven mat, with shoots that extend to 1.2-2.0 mm wide. It grows on crumbling rock surfaces with very thin layers of soil beneath them. The small size of the plant can only be appreciated using a magnifying glass, and it has to be magnified at least ten times to see its morphological character.

The *Bazzania bhutanica* is listed as critically endangered in the IUCN (International Union for Conservation of Nature). It was first collected by Dr David Long in 1982.



The endangered *Bazzania bhutanica* (copyright: 2010, *Kuensel*)

Source: *Kuensel*, 5 September 2010

3. Other News: Philanthropist Funds Forestry Study Centre in Bhutan

UNESCO Goodwill Ambassador and founder of the South Asia Foundation (SAF), Madanjeet Singh, has committed to donate USD1 million to help start a centre for South Asia forestry studies in Thimphu, Bhutan. The centre, to be attached to the Ugyen Wangchuck Forestry Institute for Conservation (UWFIC) in Lamigoenpa, Bumthang, will be named the Madanjeet Singh Centre for South Asia Forestry Studies (MCSAFS). Over a period of five years, SAF will contribute USD500,000 to establish and operate the MCSAFS, while Mr Singh will contribute USD500,000 from his personal account.

The MCSAFS at UWFIC would offer diploma, BSc and MSc courses in forestry, in collaboration with the Centre for Natural Resources, Lobesa. It would also facilitate and conduct research in areas related to forestry with relevance to South Asia. SAF, a secular, non-profit and non-political organisation, was established in September 2000 for regional cooperation through education and sustainable development.

Source: *Kuensel*, 18 March 2010



A portrait depicting SAF founder Madanjeet Singh's vision to unite South Asia through forestry education (copyright: 2010, *Kuensel*)

Cambodia

Khieu Muth
Secretary of State
Ministry of Environment

1. Global Warming:

—Establishment of Cambodia Climate Change Alliance (CCCA)

Cambodia is highly vulnerable to climate change and there are many immediate priorities in its development aimed at alleviating poverty and promoting people's livelihoods by ensuring sustainable development in accordance with the Royal Government of Cambodia's Rectangular Strategy Phase II. Climate change has become more serious, and tackling this issue requires careful consideration as part of the national development agenda. The Royal Government of Cambodia clearly understands the emerging challenges, and as a member of the United Nations Framework Convention on Climate Change (UNFCCC) and a signatory to the Kyoto Protocol, Cambodia has been making every effort to meet its commitments under the convention, as well as taking a series of actions to tackle climate change at the national, regional and global levels.

In particular, Cambodia has affirmed its position of obligating all developed countries at the UNFCCC's COP15 to take the lead in reducing GHG emissions and providing more financial support to countries most vulnerable to climate change. The financial support would be used for capacity development and technology transfer in order for the most vulnerable countries to develop the necessary capacity and ability to adapt to devastating climate change. Cambodia is one of the first countries in the region to endorse the Copenhagen Accord.

The government has recognised the need for mainstreaming climate change into national policy, as well as national and sub-national socio-economic development plans, and sectoral plans. This reflects the fact that climate change is cross-cutting and directly relevant to ministries and agencies responsible for national development activities. Therefore, the Royal Government of Cambodia has recently integrated climate change into the updated version of the National Strategic Development Plan, covering 2009-2013. Proactive and smart action in addressing climate change makes it possible to turn the challenges of climate change into opportunities to support sustainable national development under climate change conditions.

The Cambodia Climate Change Alliance (CCCA) is another innovation that strengthens the capacity of the National Climate Change Committee (NCCC) and the Climate Change Department (CCD) of the Ministry of Environment to coordinate the development of national policy and national climate change-related strategic plans. Together, these entities also facilitate education and awareness-raising, as well as administration of climate funds in the country. At the first climate change forum in 2009, Cambodia's Premier strongly emphasised the need for innovations, to include: development of a national strategic policy and action plan on climate change; mainstreaming climate change in national policy and sectoral plans; creation of a climate change fund; mobilisation of funding for adaptation and mitigation projects; institutional and technical capacity strengthening; increasing cooperation and coordination; and strengthening the role of the private sector and civil society.

The CCCA was launched on 25 February 2010. Over the last six months remarkable achievements have been made, such as institutional and programme team establishment; plan development and approval; budgeting for programme implementation; meetings of the board; and sending staff to the COP of UNFCCC. Recently, a coastal adaptation project proposal was adopted which was the first to access CCCA's funding aimed at addressing coastal vulnerability through a demonstration with the participation of key line provincial agencies. CCCA received USD8.9 million of funding for the three-year period 2010-2012 from the EU, SIDA, DANIDA and UNDP.

—Cambodia's Implementation of HCFC Phase-out Management Plan

On 14 and 15 November 2010, the Ministry of Environment hosted a signing ceremony between the Kingdom of Cambodia and the United Nations Environment Programme (UNEP) for financial and technical assistance to eliminate the last major category of Ozone Depleting Substances under the Montreal Protocol. The signing ceremony took place in historical Siem Reap province, together with a

workshop on Cambodia's Implementation of the HCFC Phase-out Management Plan. The events were attended by H.E Dr. Mok Mareth, Senior Minister of Environment; Dr. Marco Gonzalez, Executive Secretary of the Ozone Secretariat; H.E Sou Phirin, Siem Reap Governor; Dr. Jonathan Banks of the UNEP Technology and Economic Assessment Panel; Annie Gabriel, Member of the Executive Committee of the Multilateral Fund and representative of Australia; H.E. Khieu Muth, Secretary of State; H.E Dr. Lon Heal, Director General, and Mr. Pak Sokharavuth, Senior Officer of the National Ozone Unit, both from the Ministry of Environment of Cambodia; Atul Bagai, Megumi Seki and Thanavat Junchaya of UNEP; Balaji Natarajan of UNDP; and representatives from key ministries, NGOs, the private sector and academies.

The signed agreement provides funding of USD1.6 million, approved under the Multilateral Fund of the Montreal Protocol, to the Kingdom of Cambodia to start activities in order to phase out hydrochlorofluorocarbons (HCFCs), which are mainly used in Cambodia in air conditioning equipment. This signing ceremony represented the kick-off of the activities to first meet the target of a freeze in the consumption of HCFCs, which is due by 1 January 2013.

Senior Minister of Environment Dr. Mok Mareth remarked during the opening ceremony that the tourism sector has achieved triple-digit growth in recent years. The use of air conditioning in hotels as well as resorts has shown a steep rise, while use of air conditioning in urban areas has also been increasing. Therefore, eliminating HCFCs and using substitutes would pose a challenge, he warned, but Cambodia is known for its ability to face up to challenges and would meet the targets.

Dr. Marco Gonzalez, Executive Secretary of the Montreal Protocol's Ozone Secretariat, congratulated and praised the Government of Cambodia for making rapid progress and complying with all the control measures of the Montreal Protocol, although Cambodia's ratification came only nine years ago.

On 15 November 2010, around 70 participants from key relevant agencies discussed the details of timetables for activities to be implemented immediately, such as inclusion of HCFC phase-out activities in tourism and hotel management schools, incentives for energy-efficient replacement of HCFCs and setting up policies to monitor and control imports of HCFCs and HCFC-based equipment.



2. Biodiversity: International Year of Biodiversity 2010

On 20 June 2010, Cambodia celebrated the International Day for Biological Diversity in the cultural province of Siem Reap. The event was attended by H.E. Yim Chhay Ly, Deputy Prime Minister and Chairman of the Council for Agricultural and Rural Development; H.E. Dr. Mok Mareth, Senior Minister of Environment; Mr. Ahmed Djoghla, Executive Secretary of the United Nations Convention on Biological Diversity; and H.E. Sou Phirin, Siem Reap Governor. Also present were representatives from other government agencies, NGOs and academies, as well as monks and members of local communities.



The main objective of the International Year of Biodiversity is to disseminate information and increase awareness among the public, the private sector, investors, government officers and policy- and decision-makers about how invaluable biodiversity is to humans, economics, societies and local livelihoods.

Senior Minister of Environment Mok Mareth stated in his welcoming remarks that biodiversity provided goods and valuable services to support lives, livelihoods and national economies, therefore the loss of biodiversity would impose adverse effects on human beings. He continued that it was clear to see that lives in a society depend closely on, and interact with, nature and its ecosystems, adding that it is therefore necessary to work together to achieve the implementation of targets beyond 2010 of protection and sustainability of biodiversity for future generations.

H.E. Dr. Mok Mareth also emphasised that in response to various decisions of the Conference of the Parties to the Convention on Biological Diversity, a strategic plan to be implemented beyond 2010 was

adopted at the 10th COP in Nagoya, Japan. Under the plan, the Ministry of Environment has promoted a community-based natural resource management approach in protected areas in order to empower local communities to manage their own resources. The ministry also defined priority programme activities including strengthening law enforcement, developing government official capacity, and mainstreaming biodiversity to various sectors in the national biodiversity strategic action plan.

The Deputy Prime Minister stated in his opening remarks that degradation of the ecosystem has caused many negative effects on the national economy, society, and particularly local communities' livelihoods through increasing temperatures and natural disasters, such as floods and severe droughts. He also underlined that, understanding these effects, the Government of Cambodia recognised that achieving sustainable development, environmental and natural resource protection and conservation were key priorities for policy during the second phase of the Rectangular Strategy.



(Photos are provided by MOE)

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1. Global Warming: Low-Carbon Province and City Test Models Get Underway

The National Development and Reform Commission issued its "Directive on low-carbon province and low-carbon city test model implementation" on 19 July 2010.

According to the Directive, five provinces and eight cities, including Guangdong province and the city of Tianjin, have been selected to conduct the planned test model.

The primary tasks of the model areas include drafting a low-carbon development plan, instituting low-carbon green development policies, building industrial structures with low-carbon characteristics, and implementing greenhouse-gas emission statistical data systems and control structures.

2. Biodiversity

—National Biodiversity Protection Strategy and Action Plan (2011–2030)

The Standing Committee of the State Council on 15 September 2010 adopted the National Biodiversity Protection Strategy and Action Plan (2011–2030), which was then officially issued by the Ministry of Environmental Protection on September 17.

Comprising sections on (1) biodiversity status in China, (2) outcomes of efforts for the protection of biodiversity, and issues and challenges outstanding, (3) biodiversity protection strategy, (4) priority regions for biodiversity protection, (5) priority fields and action for biodiversity protection, and (6) safeguards, the Strategy and Action Plan lays out the guiding principles, basic policies, target assignments and safeguards for the protection of biodiversity in China over the next 20 years.

—Towards Mechanisms for Grassland Ecology Protection Support and Subsidies

The Standing Committee of the State Council on 12 October 2010 approved the construction of mechanisms for grassland ecology protection support and subsidies with the objectives of protecting ecologies and improving the livelihoods of pastoral peoples in grassland regions.

Specifically, the programme includes such efforts as subsidies for residents of areas closed to pasture, encouragement to preserve the balance of grasslands and livestock, productivity support for pastoral peoples, and technical skills training for pastoral peoples in provinces and autonomous regions where eight grasslands are concentrated, including the



Herders at pasture on the Hulunbeier grassland in the Inner Mongolia Autonomous Region
(Photo: *Xinhuanet*)

Inner Mongolia, Xinjiang Uyghur and Tibet Autonomous Regions. The Committee also approved an annual allocation of 13.4 billion yuan of central government finances for grassland ecology preservation as of 2011.

—National Plan for the Protection and Use of Forest Land (2010–2020)

China's first medium- and long-term plan for the protection and use of forests, the National Plan for the Protection and Use of Forest Land (2010–2020) was issued 24 August 2010.

The plan sets 2020 targets for increasing the area of forest lands to 312.30 million hectares nationally, raising the national rate of forest coverage to 23% or greater, and expanding forest volume to 15 billion cubic meters. Among the targets for forest land use is to limit the area of drafted forest land to 1.055 million hectares over the next ten years.

3. Sustainable Consumption and Production

—Promoting New-Energy Vehicles on All Fronts

In June 2010 the Ministry of Finance and three other ministries and agencies pronounced on “execution of model programmes relating to subsidies for the purchase of new-energy vehicles by individuals” and issued associated regulations, launching a system of subsidies for the purchase of new-energy vehicles by individuals.



Launch ceremony in July 2010 for a model programme in Shenzhen subsidising new-energy vehicle purchases by individuals (Photo: Wangyi Caijing)

In addition, the central government contributed efforts on all fronts to the promotion of the introduction of new-energy vehicles, including in the expansion of the 13 new-energy vehicle model regions designated in 2009 to a current number of 20.

—“Old for New”: Subsidies Extended for Replacing Automobiles and Home Appliances

The effective term of the “Old for New” programme promoting replacement purchases that was implemented in 2009 was extended to the end of 2010 for automobiles and to the end of 2011 for home appliances by its oversight sections in the Ministry of Finance. Another 19 urban areas were added to the original nine of 2009 as areas where the “Old for New” programme is in effect.

The “Old for New” policy aims to establish a system for recycling home appliances and automobiles as well as shoring up consumption, and the extension of its term and regional expansion of its application are forecast to provide further stimulus to business concerns in these industries.

1. Global Warming: Post-Copenhagen Actions

Prior to the Copenhagen summit, the Indian Minister of Environment and Forests announced India's goal of reducing carbon intensities, or CO₂/GDP, by 25 per cent from 2005 levels, to 30 per cent by 2020. The Prime Minister's Climate Council has already announced eight National Missions for Climate Change, with other ministries also involved in these missions to support a comprehensive approach to reducing carbon intensity.

Meanwhile, a small number of errors found in the IPCC's Fourth Assessment Report (AR4) have caused political controversy and calls for review of the report's formulation process. The IPCC has acknowledged that a paragraph in the WGII report on the projected date of melting of Himalayan glaciers was incorrect, and it has also investigated other alleged mistakes. Many scientists with expertise in climate change have since stated that these issues do not undermine the conclusions of the report that recent "warming of the climate system is unequivocal" and is largely due to human activities.

The Indian Ministry of Environment and Forests (MoEF) established an indigenous Indian Network for Comprehensive Climate Change Assessment (INCCCCA), comprising 127 research institutions. The Network will undertake research on the science of climate change and measure its impact on agriculture, forests, water and health throughout India, including the eco-sensitive Himalayan and Northeast regions, the Western Ghats and coastal regions.

In May, the Indian Planning Commission released an updated Greenhouse Gas (GHG) Emissions Report, thereby making India the first non-Annex I (developing) country to publish such updated numbers. The report is to be published in a two-year cycle. According to the results, India's emissions are less than a fourth of those of USA and China, and the emissions intensity of India's GDP declined by more than 30 per cent between 1994 and 2007 due to proactive efforts and policies. Nonetheless, India has announced its intent to further reduce the emissions intensity of its GDP, even as it accelerates infrastructure development and growth of its manufacturing sector. Meanwhile, plans to launch an Indian satellite to monitor GHG emissions by 2013

are on track.

In January 2010, the Indian Prime Minister launched the Jawaharlal Nehru National Solar Mission, to be implemented in three phases: (1) 2012-13, (2) 2013-2017, and (3) 2017-2022. The mission's ambitious target is to create a 20,000MW capacity for grid-based solar energy, 2000MW of off-grid solar applications, 20 million square metres of solar thermal collector area by the year 2022, and 20 million solar lighting systems created/distributed in rural areas, thereby saving about 1 billion litres of kerosene every year.

The Government of India has set up an Expert Group on Low Carbon Strategy for Inclusive Growth to develop mitigation and adaptation technologies and policies. With representatives from industry, leading think tanks, research institutions, civil society and government, the Group's mandate is to devise a low-carbon development roadmap for the country.

India has launched a new UN-backed project to reduce emissions and develop a low-carbon transport system. In 2007, around 13 per cent of India's emissions came from the transport sector. That is expected to rise due to population growth, a rapidly rising number of privately-owned vehicles and the switch from rail to road in the freight and passenger sectors. The project is part of India's National Action Plan on Climate Change (NAPCC) and involves designing low-carbon transport plans for major Indian cities.

India has announced a carbon tax on both domestic and imported coal to fund Clean Energy. The money will go into the National Clean Energy Fund for research, innovative projects in clean energy technologies, and environmental remedial programmes.

The National Mission on Enhanced Energy Efficiency (NMEEE) has several new initiatives, the most important being the Perform, Achieve and Trade (PAT) Mechanism, which will cover facilities that account for more than 50 per cent of the fossil fuel used in India, and help reduce CO₂ emissions by 25 million tons per year by 2014-15. About 700 of the most energy-intensive industrial units and power stations in India would be mandated to reduce their

energy consumption by a specified percentage. Energy efficiency ratings have been made mandatory for four key appliances (refrigerators, air conditioners, tube-lights and transformers).

The National Mission for Sustaining the Himalayan Ecosystem focuses on evolving suitable management and policy measures to achieve its stated aim. It will establish an observational and monitoring network for the Himalayan environment to assess freshwater resources and the health of the ecosystem. This includes setting up a National Institute of Himalayan Glaciology in Dehradun (Uttarakhand) to undertake a coordinated programme of cutting-edge research to measure, model and monitor the health of all the Indian Himalayan glaciers. In addition, a major trans-boundary project – Mount Kailash Sacred Landscape Conservation Project – has been launched with support from ICIMOD and UNEP. The project involves India, Nepal and China in the conservation and sustainable development of the Greater Mount Kailash region.

Under the National Mission on Sustainable Habitat (NMSH), a comprehensive strategic plan includes creating “green standards” for making habitats sustainable, amending Municipal Laws to make them

enforceable, and promoting public transport in all major cities of India through a stimulus package. The need is to reorient city development plans to make them facilitate sustainable habitats, and to focus on waste recycling and new technologies creating energy from waste. Another complementary action dwells on capacity- building, including changes in the curriculum to create green engineering professionals.

Meanwhile, the National Water Mission was approved to popularise water conservation in India. Under the mission, a comprehensive water data base would be prepared and publicised to enable focused action on water conservation and augmentation, and to assess the impact of climate change on water – especially in vulnerable areas of overexploited ground water. It was also decided that water use efficiency should be raised by 20 per cent through the promotion of water-positive and water-neutral technologies.

Sources:

<http://www.moef.nic.in/>

<http://www.planningcommission.gov.in/>

<http://www.pmindia.nic.in/>

2. Biodiversity: The Run-up to New Delhi 2012

To mark the International Year of Biodiversity (IYB) and to raise awareness about the need for biodiversity conservation, the MoEF released a document entitled “Achieving 2010 Biodiversity Target: India’s Contributions” and a calendar on the theme “Our Rich Biodiversity”.

India also announced a number of initiatives related to REDD+: establishment of a Technical Group to develop methodologies for assessment and monitoring of REDD+ actions; approval “in principle” given for the National REDD+ Coordinating Agency; and methodologies for National Forest Carbon Accounting institutionalised.

The MoEF has initiated institutional and legislative measures to strengthen the policy and regulatory frameworks governing the country’s environment and forests, with past initiatives jacked up from conceptual to implementation stages. Some of these are described below.

Under the National Green Tribunal Bill 2010, passed in June, specialised tribunals will decide all environmental cases based on three laws: the Environment (Protection) Act 1986, the Forest (Conservation) Act 1980 and the Wildlife (Protection) Act 1972. These three flagship laws provide the MoEF with the requisite authority to undertake all manner of conservation and protection actions. Besides these laws, the National Forest Policy (1988), the National Conservation Strategy and Policy

Statement on Environment and Development (1992), and the National Environment Policy (2006) will also guide the Ministry’s work. Staffed by judicial and expert/scientific members in equal number, the Green Tribunal would have original jurisdiction as well as appellate jurisdiction over all civil environmental disputes.

Following some difficulties, the MoEF finally approved the formation of State-level Compensatory Afforestation Fund Management and Planning Authorities (CAMPA) to monitor the disbursement and use of funds received from user agencies towards compensatory afforestation. By the end of January 2010, 22 states and Union Territories operationalised their accounts.

Under Mission Clean Ganga, the Central and State governments would ensure that by the year 2020 no untreated municipal sewage and industrial effluents flow into the River Ganges (*Ganga*). New projects were approved for the affected states of Uttar Pradesh, West Bengal and Uttarakhand to construct sewer networks, sewage treatment plants and pumping stations, electric crematoria and community toilets, as well as to develop river fronts, resuscitate canals, and conduct public campaigns. These measures signify the importance attached to the River *Ganga*, which is vital to the Indian culture and central to the livelihoods of millions of its people.

Other Biodiversity News

India will be hosting the 11th Conference of Parties (COP11) to the Convention on Biological Diversity (CBD) in October 2012 in New Delhi to mark the 20th anniversary of the Rio Earth Summit.

The overarching target of the National Mission for a Green India (NMGI), one of the eight missions under the National Action Plan on Climate Change (NAPCC), is to double the area earmarked for afforestation/eco-restoration in India in the next ten years, taking the total area to 20 million hectares. This would increase the "above and below ground" biomass in 10 million hectares of forests and ecosystems, resulting in increased Carbon sequestration of 43 million tons of CO₂ annually. Forests are the main source of livelihood for over 200 million people in India and NMGI will actively try to secure the participation of local communities.

After consultations with relevant stakeholders in various coastal states, the MoEF amended the Coastal Regulation Zone (CRZ) Notification of 1991 to improve provisions for protection, and regulations for use, of the land within 500 metres of the coast and 100 metres along the tidal-influenced water bodies. At the same time, a major programme – the Integrated Coastal Zone Management Project – is being launched with the World Bank's support. Over the next five years the MoEF will map the National Coastal Hazard Line, and set up a Centre for Sustainable Coastal Zone Management in Chennai. The Project will also undertake pilot projects in coastal zone management in Gujarat, West Bengal and Orissa.

Ensuring compliance with the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006, the MoEF had instructed all states that they must observe the rights of forest dwellers when forwarding/submitting proposals for diversion of forest land for non-forest purposes, or permission for diversion would not be granted. In February, the MoEF and the Ministry of Tribal Affairs constituted a committee to look into issues concerning the implementation of the Forest Rights Act 2006.

The MoEF's Comprehensive Environmental Pollution Index (CEPI) assesses the combined effects of air, water and soil pollution and is an early warning tool for categorising industrial clusters/areas in terms of severity of overall pollution levels. Based on

this assessment, 43 industrial clusters have been identified as critically polluted and remediation action is in progress.

The MoEF released the revised National Ambient Air Quality Standards 2009, featuring the same standards for residential and industrial areas. The new standards include limits for benzene, ozone, benzopyrene, arsenic, nickel and ammonia, which were not covered in the 1994 standards.

The Genetic Engineering Approvals Committee (GEAC), established under MoEF in October 2009, assessed the case for large-scale trial and environmental release of Bt Brinjal, the first GM food crop in India. Heckled by protesting farmers and NGOs during public consultations across the country, the Minister of Environment and Forests over-ruled the GEAC green signal for Bt Brinjal "till independent scientific studies establish the safety of the product from the point of view of its long-term impact on human health and environment (including the rich genetic wealth of Brinjal existing in the country)".

Wildlife

The National Tiger Conservation Authority and TRAFFIC India have launched an online tiger crime database. The website will also provide authentic records on the mortality of tigers and other key wildlife species across India.

The MoEF is reviewing a feasibility report from a group of experts on the potential for reintroducing the cheetah, which became extinct in India in the 1960s. Three potential sites have been identified for initiating the programme. However, this will require long-term financial and administrative commitments and concurrence of the State Governments as the project would involve resettlement of families.

The MoEF is also reviewing for implementation a major report on securing the future for the elephant in India, which lays out a comprehensive action agenda for protecting elephants in the wild and in captivity, and for addressing human-elephant conflict.

Sources:

<http://www.moef.nic.in/>; <http://www.indiaenvironmentportal.org.in/>

3. Sustainable Consumption and Production: Tangible Progress Achieved

India's National Report submitted to the 18th Session of the Commission on Sustainable Development (CSD 18), held in New York in May 2010, examines India's progress in implementing the provisions of Agenda 21 and the JPOI (Johannesburg

Plan of Implementation) with respect to the CSD 18's thematic areas: Transport, Mining, Chemicals, Waste Management, and a Ten Year Framework of Programmes for Sustainable Consumption and Production.

The report documents successful efforts like the *Pradhan Mantri Gram Sadak Yojna*, launched in 2000 to provide access to unconnected rural habitations. It is recognised that efficient transport systems provide better access to economic and social services and are therefore essential for poverty eradication.

India's new policy on rehabilitation and resettlement, improved forest and environmental clearances, and various government and industry initiatives for sound management of chemicals have been significant steps forward in providing the sound governance systems needed to realise the social and economic benefits of the mining and chemical industries and to protect human health and environment from their adverse impacts.

There have also been several success stories in waste management. Environmentally sound growth patterns require that economic activities generate minimum waste, and that adequate capacity,

infrastructure and technologies are available with the local authorities to deal with the increasing quantum and complexity of waste.

The overall need to inculcate sustainable production and consumption practices in all sectors of the economy is being increasingly recognised. India has taken several measures on the production side, including initiatives in sustainable land and water use, renewable energy, municipal waste management, use of cleaner technology and industrial waste minimisation, as well as R&D incentives and support for development of green technologies. On the consumption side, various labelling systems for environment-friendly products have been developed and measures taken for increasing popular awareness of environmental concerns.

Sources:

<http://www.pib.nic.in/newsite/mainpage.aspx>; <http://www.teriin.org>

1. Global Warming: Progress of REDD Initiative in Indonesia

Indonesia has been receiving international attention over recent years due to its increasing greenhouse gas (GHG) emissions. The country has been listed as the third highest carbon dioxide emitting country in the world (1.7 Gton CO₂e, of which 1.2 Gton CO₂e was from the forestry sector), after the United States and China. Deforestation, large scale forest fires and drying out of tropical peat swamps are the main contributors to the emissions.

Indonesian government representatives have been active in promoting the REDD mechanism as it could help conserve forests in the region and reduce GHGs. Indonesia has set a target of a 26% reduction in greenhouse gas emission by 2020, and 41% if international financial support is available.

Several Annex I countries have been supporting Indonesia in developing REDD demonstration activities, including Norway, Australia, Germany, Korea, Japan, UK, and USA. There are currently more than 30 demonstration activities at varying stages of development in Indonesia. The country also already has a number of national REDD implementation policies and systems (e.g. the National Carbon

Accounting System) in place, instituted by the Ministry of Forestry. Judging from recent efforts and developments in REDD initiatives, Indonesia can be considered to be one step ahead of many other countries.



Peat swamp in Central Kalimantan, an example of demonstration activities for REDD.
(Copyright: Ani Mardiasuti)

2. Biodiversity: Discovery of New Species in Papua

In May 2010, a group of scientists announced that they had discovered several new species in one of the most remote areas in the world – the Foja Mountains wildlife sanctuary in Indonesian Papua. The Foja Mountains encompass an area of more than 300,000 hectares of undeveloped and undisturbed rainforest. The announcement was to mark the 2010 International Day for Biological Diversity. The newly discovered species were an oversized woolly rat, a gargoyle-like gecko with bent toes and yellow eyes, an imperial pigeon, and a tiny forest wallaby. They also found a blossom bat, which feeds on rainforest nectar, a small tree-mouse, a black and white butterfly, and a flowering shrub.

The recent finding of new species in virgin forests in Papua province confirmed Indonesia's wealth of biodiversity, but threats remain. The swelling population, deforestation and climate change could lead to the loss of precious biodiversity. The biggest threats to the pristine area are road-building and large-scale plantation development, which could open up the Foja Mountains to future degradation.

The expedition was conducted by international and Indonesian scientists participating in Conservation International's Rapid Assessment Program. Financial and scientific support for the expedition came from the National Geographic Society, the Smithsonian Institution and the Indonesian Institute of Sciences.

3. Sustainable Consumption and Production: Promotion of Sustainable Consumption and Production by BNI Bank

Banking institutions have moved closer to involvement in climate change issues as potential transactions through the banking system have gradually increased. Of the many banks in Indonesia, only very few banks include environmental considerations in their main policy. BNI Bank is one of the biggest banks in Indonesia, having 978 branches and 5 foreign offices (Singapore, Hong Kong, Tokyo, New York and London). BNI is the first Indonesian bank to be listed as a member of the United Nations Environment Programme Finance Initiative (UNEP FI) since 2005.

Although BNI is a profit-oriented bank, it has been declared a green bank, and focuses its business on sustainable consumption and production, as well as green credit. Some innovative green credit schemes

are recycling industries, clean production in agriculture and animal husbandry, and various industries related to efficiency. BNI also has been selected as one of four banks that implement soft loans for environmental projects from the Indonesian Ministry of Environment.

Credit on housing (green mortgage products) is also based on assessment of green environment in order to support "green living". Furthermore, in its daily operational procedures, BNI has instituted environmentally-friendly measures, including a paperless policy and electronic loan system (e-LO), as well as reusing/recycling stationery, favouring electronic memos, operating low energy buildings and reducing electricity consumption.

1. Global Warming: Political Disarray and the Fate of the Draft Basic Law on Measures to Cope with Global Warming

This year's summer was the hottest ever recorded by the Japan Meteorological Agency. Setting aside the question of scientific causal relationship between global warming and hot weather, there was little apparent progress on global warming policies even amid heightened public interest in abnormal weather.

The major reasons would be political disarray and the greater influence of industrial lobbies in a poorly performing economy. One expression of these was the failure to enact the draft basic law on measures to cope with global warming.

Riding the momentum of the 2009 transfer of power, the new Democratic Party of Japan government formulated this bill comprising such ambitious measures as an "emissions trading scheme" and "environment tax", and the numerical target of "reducing greenhouse gas emissions by 25% from 1990 levels by 2020". The bill was approved by the Cabinet in March 2010. After passing the House of Representatives in May, however, the bill stalled in deliberations in the House of Councillors with political disarray in the fallout from the resignation of Prime

Minister Hatoyama and associated developments and remained stillborn at the close of the ordinary Diet session.

Nor was the bill able to pass in the extraordinary Diet session held in autumn without the opposition's cooperation, as the ruling DPJ coalition had lost its House of Councillors majority in July elections for the House of Councillors. Against the background of an economic slump, the energy industry lobby and such allies as the Keidanren business association stepped up pressure for revisions to the bill, fearing the economic impact it might have.

The coalition parties then submitted the bill in its original form, but the Diet session ultimately closed with no progress in deliberations and with no success in enacting the law this year.

Since climate change issues are in some respects energy issues and involve numerous interests, political stability and leadership are essential to the establishment of an effective legal framework addressing them. The experience of the draft basic law on measures to cope with global warming may be reckoned a manifest demonstration that this is so.

2. Biodiversity: COP10 and Domestic Engagement

Japan this year saw numerous instances of engagement with biodiversity. This was largely due to hosting COP10 (the 10th Meeting of the Conference of the Parties to the Convention on Biological Diversity) in Nagoya 11-29 October 2010, attended by 179 countries and regions, international organisations, NGOs and other interested parties.

One major achievement at COP10 was the adoption of the Nagoya Protocol. Developing and developed countries were at loggerheads over how the protocol would treat access to genetic resources and the associated sharing of benefits, and its success was endangered even before COP10 convened. After fierce debate on such issues as whether its scope would extend to derivatives of genetic resources and whether it would apply retroactively, however, agreement was finally reached on the final day of the

conference with agreement on flexibility in its application and the incorporation of a funding mechanism for developing countries.

Another significant COP10 achievement was adoption of the "Aichi Target". In the Aichi Target the parties agreed 20 targets for biodiversity preservation to be achieved by 2020, including the protection of 17% of land areas and 10% of marine areas.

COP-MOP5, the conference on the Cartagena Protocol that preceded COP10, adopted the Nagoya-Kuala Lumpur Supplementary Protocol specifying arrangements for liability and redress should movement across national borders of genetically modified organisms cause damage to biodiversity. Also launched at COP10 was a partnership for international advancement of the Satoyama Initiative promoting the conservation of "socio-ecological

production landscapes” modelled on the Japanese instances termed *satochi* and *satoyama* and integrating the traditional and scientific knowledge intrinsic to such ecosystems throughout the world. The establishment of such international frameworks as these should be reckoned a commendable fulfilment of Japanese responsibilities as the country chairing COP10.

Domestic efforts included the Cabinet’s adoption in March of the National Biodiversity Strategy 2010, its first such based on the Basic Law on Biodiversity. In such undertakings as substantiating and bolstering domestic policy measures, defining short-term

(2020) and medium/long-term (2050) targets, and promoting international efforts, the strategy aims to demonstrate Japanese leadership as COP chair country. A further development was the passage in December of the Law to Promote Activities for the Preservation of Biodiversity (or the “Satochi/Satoyama Act”), whose purpose is to promote simple, accessible action in nature conservation.

The success of these international frameworks bearing Japanese place-names and work towards biodiversity preservation domestically will require the speedy ratification of the protocol and progress in consolidating underlying legal systems.

3. Sustainable Consumption and Production: Rare-earth Metal Recycling and Urban Mining

Concern that, with the stand-off over the Senkaku islands and other instances of deterioration in Sino-Japanese relations, China may have placed restrictions on exports of rare earth metals contributed to heightened interest in how Japan could secure the availability of rare earth metals. In addition to diversifying the sources of imports, developing substitutes and expanding the size of stockpiles, another course is to promote recycling.

Home appliances and the like discarded as waste contain a considerable volume of rare earth metals, and numerous efforts are underway to harness what

is commonly called “urban mining”, with Japan having one of the world’s largest volumes of these rare earth metals. An example is the collection campaign targeting cell phones that go unused in domestic households, conducted by METI from 2009 to February 2010. Required now are both efforts to build domestic recycling systems and promote the collection of home appliances, and pursuit of the construction of appropriate resource recycling systems together with neighbouring countries to the end of recycling our limited resources.

Republic of Korea

Seung-hwan Oh

Manager, Carbon Market Promotion Team
Korea Environment Corporation (KECO)

1. Biodiversity: MOE Master Plan Targets Integrated Management

In December 2004, the MOE (Ministry of Environment) drew up and implemented biological resource conservation and comprehensive measures to promote conservation, security of biological resources and construction of a management system. But, despite implementation of the measures, the use of biological resources, and the establishment of infrastructure for practical application of technology related to industrial use, remained undeveloped. The MOE is therefore supplementing the measures by drafting a master plan for biological resource conservation, management and use by means of an integrated management system. This will enable the Ministry to focus on and carry out biodiversity conservation, create an integrated

management system for biological resources, develop ecosystem management under climate change conditions, and develop the biomass industry.

In accordance with the country's master plan for integrated management of biodiversity, the Ministry is also planning to draft a Biological Diversity Act. MOE-designated "ecological regions" and the National Wetland Center, which will be opening its doors next year, will be developed as bases for biological resource management.

Significant results are expected with the support of the biomass industry, which will conduct systematic training to ensure efficient use of biological resources based on utility, and create high-quality "green jobs".

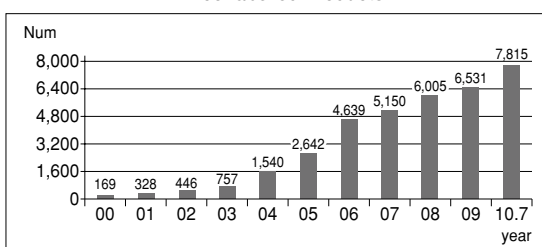
2. Sustainable Consumption: Dramatic Increase in Eco-labelled Products

In July 2005, the Korean government made an effort to maintain sustainable development by enacting the Promotion of Purchase of Environmentally Friendly Products Act, which mandates prevention of the waste of resources and environmental pollution. Under the Act, department stores or shopping centres of more than 3,000 square metres are required to have at least 10 square metres of environmentally-friendly product sales area selling eco-labelled products. In addition, about 30,000 public agencies were required to undertake mandatory purchasing of eco-labelled products. As a result, the number of eco-labelled products started to increase as shown in the graph below.

However, a recent dramatic increase in these various eco-friendly products caused flooding of the market and eventually led to consumer confusion. In addition, the increasing volume of large products, such as furniture, has led to limited space for displaying other eco-labelled products.

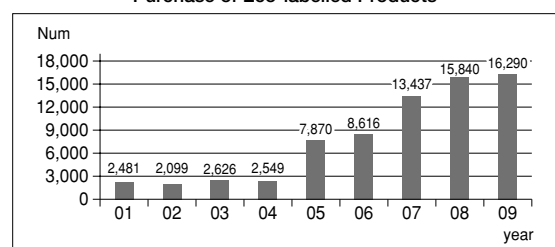
In order to solve these problems and give the right information on eco-friendly products for consumers, the government plans to introduce a "green store designation system" in 2011. Related to this, eleven stores of four companies (Lotte Department Store, E-Mart, Home Plus and Lotte Mart) have been implementing the green store designation system on a trial basis during 2010.

Eco-labelled Products



Source : Korea Environmental Industry & Technology Institute

Purchase of Eco-labelled Products



Source : Korea Environmental Industry & Technology Institute

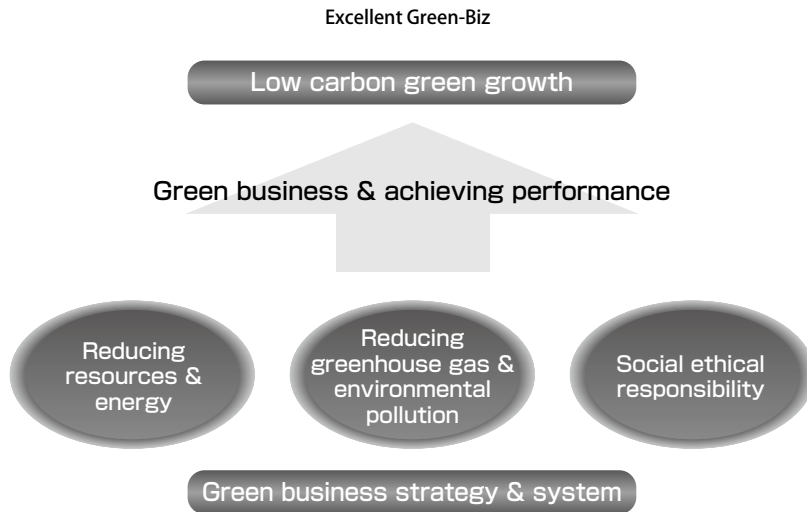
3. Sustainable Production: SMEs Set to Play Key Role

One of Korea's government agencies, the Small and Medium Business Administration (SMBA) started the Excellent Green-Biz Selection System in June this year to encourage enhanced responsiveness to international environmental regulations and voluntary efforts to reduce greenhouse gas emissions. The Excellent Green-Biz Selection System assesses the level of green business activity of a whole business according to green business evaluation standards and indices. The assessments are mainly based on how the company performs in conserving energy during the manufacturing process, on prevention of environmental pollution, of course, as well as on the type of technology used for reducing greenhouse gas emissions. After the introduction of the Excellent

Green-Biz System last September, Fursys Inc. was the first to be selected as an "Excellent Green-Biz".

In addition, to promote the greening of manufacturing sites, a "green factory" development project is also planned. The green factory is a factory which has effectively improved energy consumption and reduced greenhouse gas emission. The SMBA invested KRW32.7 billion in manufacturing sites this year for the purpose of green technology development.

With the introduction of this system, SMEs are expected to play the role of a catalyst in the development of sustainable production by promoting investment in the field of green growth.



Source : SMBA- Small and Medium Business green net(www.greenbiz.go.k)

1. Global Warming: Climate Change Affects Water Levels of Mekong River

According to the *VientianeTimes* news, we know that many people are talking about climate change. Some say that the hot season came early, bringing higher temperatures¹. Other headlines include: Mekong laid low by drought²; Shallow Mekong stops northern tourist, cargo boats³; Vientiane facing water shortage⁴; Water shortages critical at Vientiane hospitals⁵; Vientiane water tanks running dry⁶.

Regarding the issue of the hot season coming early, bringing higher temperatures, Kampong Syvongxay said that the hot weather came earlier than normal to Laos this year, and brought the highest temperatures in 10 years, according to a report from the Meteorology and Hydrology Department. The hot season usually begins at the end of March, but this year Laos started heating up in February. She said the highest temperature

recorded so far this year was 41.3 Celsius in Luang Prabang province on 14 April. This was followed by 41.1 Celsius in Xekong province and 40 Celsius in Savannakhet province and Pakxe district I Champassak province, also in April. Last year the highest temperatures were 39.5 Celsius on 24 April in Luang Prabang province, followed by 39.2 Celsius in Thakhek district, Khammuan province, and 39 Celsius in Savannakhet and Xekong provinces, she said. One reason for the higher temperatures this year has been an increase in continental winds from India traveling through Myanmar to north-eastern Laos.

References: *VientianeTimes*, 1. Thursday 29 April 2010; 2. Thursday 11 May 2010; 3. Tuesday 2 March 2010; 4. Tuesday 11 May 2010; 5. Thursday 11 March 2010; 6. Wednesday 3 March 2010.

2. Biodiversity: Some Issues of Land Management in Lao PDR

Land management in Laos has become an issue of concern in recent years after the government opened up large areas to foreign investors. Without accurate information available to them, officials could not determine suitable locations for projects such as industrial tree plantations. As a result, many local people have complained that such projects are negatively affecting their communities, by destroying natural resources and threatening traditional livelihoods. Another common complaint is that industrial plantations are encroaching into protected areas and causing loss of forests. The government has suspended the granting of large land concessions several times in the past few years in an attempt to follow better land management practices¹.

At Sepon gold mining area, after continuous mining for some years, the environmental department for

gold and copper mining in Vilabouly district, Savannakhet province needed to supply tree seedlings to revegetate the large areas that are being excavated for mining. A plantation was established in 2004 over a small area and now it has expanded to 120 hectares, which is just a small fraction of the 1,250 square kilometers of the Sepon operation project area. The department plants only indigenous trees and grasses because these species will help speed rehabilitation of the soil and land, which will take from two to ten years. Once the soil is improved and stabilised, it may be possible to plant commercial trees such as rubber trees².

References: *VientianeTimes*, 1. Tuesday 11 May 2010; 2. Tuesday 9 February 2010.

3. Sustainable Consumption and Production: Some Initiatives to Improve the Livelihoods of Lao's Rural Populations

In order to boost social-economic development and poverty alleviation for rural communities, the government of the Lao PDR is trying to develop many projects sponsored by international and national organisations as well as projects that boost community development and improve the business environment. The Rural Livelihoods Improvement Programme is jointly funded by the German Society for Technical Cooperation (GTZ) and the International Fund for Agricultural Development (IFAD). Programme activities include supporting the establishment of public-private partnership projects, generating income and improving production capacities through value chain promotion, supporting infrastructure development through irrigation and road construction, improving access to finance for poor people and focusing on market-oriented production and local economic development. Laos has plenty of natural resources including timber, minerals, water and fertile

land suitable for rice and cash crop cultivation and the supply of raw materials to local processing industries¹.

The projects' improvement of the business environment will enable Laos to attract more foreign investment, in particular in the non-resource sector, one of the main conditions for ensuring sustainable economic growth. The government has acknowledged the need to improve the business environment to boost the Domestic and Private Investment Promotion Law, which is expected to come into force in the near future. The government believes this law and the improvement of laws to meet WTO requirements will go some way towards improving the business climate².

References: *VientianeTimes*, 1. Tuesday 4 May 2010, B3; 2. Tuesday 4 May 2010, B4.

1. Global Warming: Crafting a Holistic Response

Post COP15 witnessed a series of discussions to address climate change. The Prime Minister of Malaysia announced, at COP15, that Malaysia is adopting a voluntary reduction of up to 40 per cent in terms of emissions intensity of GDP by the year 2020 compared to 2005 levels. This indicator is conditional on receiving the transfer of technology, and financing of adequate and effective levels from the Annex I Parties. The Prime Minister reiterated the concerns of other developing countries for full participation, transparency and fairness of process as well as the need for ambitious environmental aspirations. These views on ambitious targets/commitments were echoed by former climate negotiators HE Ambassador Mutsuyoshi Nishimura, the Special Adviser to the Cabinet on Climate Change, Japan, and HE Ambassador Chung Rae Kwon, former Ambassador for Climate Change for the Republic of Korea, during the 24th Asia Pacific Roundtable organised by ISIS Malaysia.

The impact of climate change transcends all levels and sectors, and Malaysia is reportedly experiencing early signs of "climate havoc". In early 2010, a heat wave spanning a few weeks affected many, especially rice farmers in northern peninsular Malaysia and oil palm cultivators throughout the country. Dams nationwide reported a drop in water levels and the Health Ministry issued a statement that the heat wave could pose health hazards if no precautions were taken.

Come late October and early November 2010, heavy rainfall following a tropical depression caused

flooding in three northern states of peninsular Malaysia as well as neighbouring Thailand. Rice farmers in the north were again affected, this time by submerged floodwater; the transportation system was down and water supply contaminated. Heavy rain will disrupt palm oil harvesting, and affect moisture content of palm oil grades. Heavy rain will also see crude palm oil (CPO) prices rising, hence affecting biodiesel industry players who will be unlikely to blend palm oil into biodiesel at a time of high CPO prices.

Thus the need for concerted holistic responses to climate change saw Malaysia taking the initiative to craft a national policy on climate change. In the formulation of the policy, broad stakeholder participation and a consultative process was adopted. Launched on 30 October 2010, the policy helps to ensure climate-resilient development to fulfil national aspirations for sustainability.

An interesting highlight for students across Asia was the First Shell Eco-Marathon Asia competition. From among the 81 teams and 10 countries, Thailand and Singapore teams emerged top, setting new fuel-efficiency records at the inaugural event, held at the Sepang F1 circuit in Kuala Lumpur. The record was a distance of 1,521.9 kilometres on a litre of fuel set by the Thai team; this distance could cover a journey from Kuala Lumpur to Bangkok. The competition thus challenged students to design, build and drive a vehicle that can travel the furthest distance on the least amount of petrol.

2. Biodiversity: From Rhinos to Boa Constrictors

Malaysia, as a mega biodiversity country, has made significant contributions in promoting the biodiversity agenda at both the national and international levels. The Bornean Biodiversity and Ecosystems Conservation (BBEC) programme in Sabah, East Malaysia, for example, is a joint endeavour of Sabah agencies, University Malaysia of Sabah, NGOs and JICA, providing technical and financial assistance. JICA's chief advisor Mr Motohiro Hasegawa has

urged oil palm companies surrounding the Kinabatangan-Segama wetlands Ramsar site to secure the site under the programme and help conserve the environment without affecting the industry's returns. Mid November also witnessed representatives of the Rhino and Forest Fund (RFF) and officials from the Sabah Forestry Department launching a long-term reforestation project to save biodiversity with a special focus on the nearly-extinct

Sabah rhino. Sime Darby Foundation has emerged as another key player, assisting in efforts to set up the Borneo Rhino Sanctuary and helping in the management of the Tabin Wildlife Reserve. In peninsular Malaysia, meanwhile, some 200,000 baby turtles were released, and turtle landings in Kemaman (east coast of West Malaysia) in 2010 were the highest in a decade.

At the Malaysian Nature Society's recent International Conference on tropical biodiversity, speakers urged placing a monetary value on ecosystem services to "open up" politicians' and policymakers' eyes to the adverse impacts on biodiversity. The Asean Centre for Biodiversity reportedly estimates ecosystem services to be valued at MYR7.26 billion (USD2 billion). Calls were

also made for existing policies and legislation in relation to biodiversity to be reviewed, to reflect contemporary realities.

In a related issue, hitting the headlines was the international wildlife trafficker from Malaysia who was jailed for six months and fined a total of MYR190,000 for smuggling 95 boa constrictors without a permit. Conservation groups have expressed disappointment over the "light" sentence in view of his previous offence for which he was prosecuted in the United States in 2001. The Natural Resources and Environment Minister indicated that the Ministry would appeal and seek a tougher penalty. He said that the Ministry is serious about keeping wildlife crime in check, with the Wildlife Conservation Act 2010 coming into force next month.

3. Sustainable Consumption and Production: Green Technology is Key

Malaysia will focus on increasing foreign and domestic direct investments into green technology over the next decade. Green technology as the country's new engine of growth is no longer an option but a must, in light of an increasingly environmentally-conscious market-place. The development of 'Green Technology Roadmap Phase 1' is a response to Malaysia's commitment to implement the National Green Technology Policy launched in 2009. The roadmap will translate the

strategies into practical activities and processes for six sectors, i.e. energy, buildings, water and waste management, transportation, manufacturing, and ICT.

During the recent International Greentech and Eco Products Exhibition and Conference Malaysia (IGEM), smart-partnerships with various stakeholders were conducted to build new opportunities and deliver low-carbon growth for the benefit of all concerned.

Mongolia

Jamsran Tsogtbaatar

Director

Geocology Institute

Mongolian Academy of Sciences

1. Global Warming: Cabinet Meeting on Climate Change

On 27 August of this year a Mongolian cabinet meeting was held in the barren desert of Gashuun Sukhait valley, Bayandalai *sum* (district) of South-Gobi *aimag* (province).

Scientists have proven that current drastic changes in the earth's climate are primarily related to the actions of humans. The main goal on this occasion was to organise a meeting in the Gobi area, where desertification is the most drastic, in order to draw public attention to this issue and to find solutions alongside the local community.

At the meeting, H.E. Mr. L.Gansukh, Mongolian Minister for Nature, Environment and Tourism, gave a statement on the theme "Climate Change and its Negative Impacts—Counter-actions to Take in Future". In his report he emphasised that climate change has been very evident in Mongolia and has brought serious consequences. Furthermore, he noted that in only 40 years the ecosystem of Mongolia has significantly changed as a result of global warming and the inappropriate actions of

humans. The frequency of *zud* (severe winter disaster) and drought has increased, while water resources and biodiversity have greatly declined. The frequency of natural calamities such as drought, *zud*, desertification, dust and snow storms and flooding by melting snow has doubled in Mongolia in the last 20 years.

At the meeting a renovated draft of the national programme on climate change was discussed and approved for submission to the Parliament of Mongolia. Also, an appeal to the world community was issued in order to attract attention to climate change and the serious problems of Mongolia and the world as a whole caused by climate change.

At the end of the meeting Prime Minister S. Batbold stressed his conviction that this cabinet meeting held in a local area, specifically in the sand desert, would significantly contribute to finding solutions for climate change.

Source: www.pmis.gov.mn



2. Biodiversity:

—Filling the Gaps to Protect the Biodiversity of Mongolia

The Gap analysis for regional biodiversity representations, ecological processes and protected areas has been completed. It is a synthesis report, building on a number of reports on protected areas produced by WWF Mongolia, the Ministry of Nature, Environment and Tourism, The Nature Conservancy and other organisations during the period between 2007-2009.

In this report, H.E. Mr. L.Gansukh, Minister for Nature, Environment and Tourism of Mongolia indicated that "The core value of biodiversity is the "provision of irreplaceable ecological service" for mankind...Not only in Mongolia, but also entire world has continuously raised the amount of funding spent for protected areas and their management, yet the biodiversity loss has not been decreased considerably. What are the problems?"

Mongolia was one of the early signatories to the

Convention on Biological Diversity and developed ambitious targets for its implementation. One of the targets was the establishment of a Protected Areas Network covering up to 30% of the country. Currently 14% is included in the national system of protected areas. Another 10% is under local protection governance. Even so, the number of species in Mongolia is declining and it is generally accepted that the current Protected Areas Network does not sufficiently protect the species included in the Mongolian heritage. Mongolia is rich in biodiversity and has many unique endemic species as part of its biological heritage. To date 143 species of mammals, 469 species of birds, 22 species of reptiles, 8 species of amphibians, 74 species of fish and 3,000 species of vascular plants have been identified in the country.

This report has concluded the analysis on its scope of Protected areas coverage (identifying to cover the representation of biodiversity) and the management of Protected areas (covering financial, human resources and legal environments) through a complete Gap analysis.

Source: WWF Mongolia



(Copyright: D.Tseveenravdan)

—Action Programme for Conservation of Rare and Endangered Plants of Mongolia

The government of Mongolia has approved an action programme for conservation and rational use

of Mongolia's rare and endangered plants. Under the framework of the programme several studies were conducted to determine the potential for conserving a gene-bank of rare plants, recognising the habitats of the endangered plants under protection, and recommending ways and methods of rehabilitation and regeneration of Mongolia's rare plants. The habitats of 127 species of rare and endangered plants were classified into 15 geographical provinces and assessment of their biological resources was carried out. It is vital to conserve and utilise rare and endangered plants based on the above-mentioned research and classifications. Under the action programme, field investigations of rare and endangered, valuable or useful plants were conducted in forest-steppe zones, steppe zones and arid-steppe zones covering the territories of 17 *aimags* of the country. Meanwhile 188 rare and endangered species and 70 very rare species of plants were identified in Mongolia's Khovd, Gobi-Altai, Bayankhongor and South-Gobi *aimags*.

In some areas of the Central *aimag*, Selenge, Orkhon, Bulgan, Zavkhan and Arkhangai, 54 species of rare and endangered plants were identified and recorded, and 41 species of very rare plants were confirmed in Eastern Gobi, Middle Gobi, Dornod, Sukhbaatar and Khentii *aimag*. Among these, 23 were registered in the Khangai region, 28 in the Mongol Altai region, 15 in the Ikh Nuur depression, 11 in the Olon Nuur valley, 28 in Gobi-Altai, 12 in southern Gobi of Altai and 12 in Zuungar Gobi.

To date, 382 species have been included in the list of plants used for pharmacy and fodder, of a total 2,800 species registered in Mongolia. Moreover, 195 of those species are identified as endangered (threatened with extinction) and guidelines and recommendations for conservation of rare plants have been designed.

Source: Newsletter *Unen*, 31 August 2010

3. Sustainable Consumption and Production: Sustainable Crop Production in Mongolia

In recent years the Mongolian government has paid a great deal of attention to intensification and ensuring a reliable supply in domestic production of crops, and in 2008 launched the national "Atar-3" (Virgin Land) programme in order to ensure sustainable production of crops and vegetables. The programme aimed to enhance the legal environment for agricultural production and create favourable conditions for farmers by rendering financial aid. Under the programme, farmers are offered the opportunity to renew their tools and equipment using

the government's support and their own resources. This is made possible by the law of exemption from custom tax and VAT on agricultural and irrigation equipment that has been ratified by the Parliament of Mongolia. On the decision of the government, 50% of the price of imported seed wheat and 80% of the price of contamination and herbicides is covered by the government. In addition, 20% of the deposit for home-grown seed wheat was allocated to over 300 agricultural economic entities. Under the campaign some additional measures were taken such as

supplying agricultural economic entities with tractors, combine-harvesters, drills for sowing seeds, cultivators, poison-sprinklers, fertilisers, poisons and herbicides, while 80% of technical equipment currently in use and 65% of combine harvesters were completely changed. As a result of successful implementation of the national “Atar-3” programme initiated by the Mongolian government, in the period 2008-2010, 1 million tons of grain, 465.7 thousand tons of potatoes, 249.3 thousand tons of vegetables and 64.3 thousand tons of fodder were yielded in our country. This supplied 100% of the domestic demand for wheat and potatoes and 52-58% of the demand for the main assortments of vegetables.

The implementation of the national “Atar-3” programme for development of crop production made a significant contribution to the increase in the number of farmers who conduct agricultural

cropping, ensuring the safety of the population's food supply through ecologically clean products, as well as an increase in jobs and the alleviation of poverty.

Source: Ministry of Agriculture and Food Industry, Mongolia



(Copyright: Author)

Myanmar

U Tin Than

Myanmar Conservation Liaison
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1. Global Warming: Conditions Necessary for REDD in Myanmar

Climate change issues are not yet familiar to many in Myanmar; only a small circle of educated people are involved in trying to decide what Myanmar can do. With reducing emissions from deforestation and forest degradation (REDD) commonly seen as the best way to reduce greenhouse gas (GHG) emissions. A workshop on climate change and REDD was conducted on 7 April 2010 in Naypyidaw, organised by the Forest Department and UNDP Myanmar. This workshop identified the conditions necessary for Myanmar to undertake REDD activities well.

Although forest cover has decreased by 0.64 percent or 220,000 ha annually, Myanmar still enjoys about 40% forest cover overall. Myanmar has been managing its natural forests sustainably by applying the Myanmar Selection System for a long time. Great effort has also been put into rehabilitating degraded lands by establishing forest plantations, with large-scale plantation ongoing since the 1980s due to rapid deforestation. Therefore, many forest conservation and restoration activities are in line with REDD activities. Moreover, Myanmar's forest-related policies and legislation have promoted sustainable forest management and involvement of local communities in biodiversity conservation through community forestry (CF) since 1995. By the end of 2009 about 102,402 acres (41,458 ha) of community forests existed country-wide.

The new forest law focuses on the balanced approach towards conservation and development issues implicit in the concept of sustainable forestry. The National Forest Management Plan primarily addresses forest degradation control and harmony with modern concepts of sustainable management. The Integrated Plan for Greening the Dry Zone of Central Myanmar has also been implemented to

resist desert-like formations, preventing desertification and mitigating climate change in the dry zone of central Myanmar.

REDD could simultaneously address climate change and rural poverty, while conserving biodiversity and sustaining vital ecosystem services. Thus, if REDD is properly integrated with community forestry, local communities would benefit from both initiatives.

The Forest Department of Myanmar has been implementing a large-scale reforestation/restoration programme since the 1980s, and currently the annual planting rate has reached over 23,000 ha (45,000 ha including dry zone plantations). These plantations can sequester a substantial amount of carbon. Thus, estimating the carbon sequestration of planted forests as well as natural forests could also contribute to mitigating climate change and global warming.

Source: Report of National Workshop on REDD in Myanmar, April 7 2010



Though the potential to reduce emissions through REDD activities is great, the greed of private timber companies is still a real danger to the natural forest in Myanmar.
(Copyright: Author in Tenasserim Mountain Range)

2. Biodiversity: Saving the Tiger in Hukaung Valley

In 2001, the Myanmar government collaborated with the US-based Wildlife Conservation Society to designate 6,475 km² of the Hukaung Valley in Kachin State as a tiger reserve. The reserve was expanded in

2004 to include the entire valley of 21,890 km², making it the largest tiger reserve in the world. The Hukaung Valley is the largest protected area in the Northern Forest Complex, which comprises more than 30,000

km². It protects some of the last expanses of closed forest in the Indo-Pacific region and is a key area for long-term conservation of large mammals. Approximately 370 bird species have been found there, and approximately 7,000 Hukaung Valley plant species occur nowhere else on earth. The UNESCO World Heritage committee called the Hukaung Valley “one of the most important protected landscapes in the world”. As such, the area supports several globally threatened species. And many ethnic groups with diverse cultures, such as Naga, Lisu, Kachin, etc. live in what is one of the least densely populated areas of Myanmar.

This valley is also the source of the country’s two most important river systems – the Irrawaddy and the Chindwin, which help to sustain the predominantly agrarian economy of Myanmar. Therefore keeping the Hukaung Valley intact is crucial to the country’s economy and natural resources, as well as to the maintenance of the diverse flora and fauna currently thriving in the reserve, and the survival of the tiger.

However, genuine conservation of such an immense ecologically unique area involves enormous practical difficulties. Currently gold mining and massive mono-crop plantations established by a big company are threatening long-term ecosystem sustainability, as well as the survival of the tiger. The presence of a 200,000-acre mono-crop plantation project inside the protected area is starkly against conservation principles. Nonetheless, the company is using chemical fertilisers and herbicides, and over two thousand imported workers, to create huge tapioca, sugarcane, and jatrophia plantations. The loss of forest and grassland areas, the decline of tigers and tiger prey, and the

transformation of a self-reliant diversified agriculture into large scale corporate mono-crop plantations are a menace to this globally-recognised biodiversity-rich ecosystem and its residents.

Recently, a bitter land struggle has been unfolding, since the local small scale farmers who have lived for generations in the valley are defying the company’s demands. Villagers in the valley have seen their crops destroyed and their lands confiscated. In February 2010, 163 families were forced into a relocation site where there was little water and few finished homes. As a result, conflicts between company employees, local authorities, and local residents have flared up into violence several times over the past few years.

For the tiger, trading is the biggest threat, since poachers can wander around the wilderness, while park management cannot handle the many socio-economic problems of the huge area. Meanwhile, tiger body parts and tiger hide are in high demand at the Myanmar-China border markets.

The integrity of local people’s livelihoods and the long-term future of the wildlife is intricately linked to the wholeness of the reserve. Residents of Hukaung Valley are thus at the frontline of protecting not only their own landscape and environment but also the rights of all the farmers living there. Meanwhile, the Myanmar National Tiger Recovery Plan, submitted at the first-ever Global Tiger Summit held this November in Saint Petersburg, Russia, proposes to double the tiger population in the Valley from 50 to 100 within 12 years.

Source: *Tyrants, Tycoons, and Tigers* published by KDNG 2010 and WCS brochure



Living and travelling is a hardship in Hukaung Valley. (Copyright: Author)



Young people from all over Myanmar have entered Hukaung Valley seeking jobs in secret gold mines. (Copyright: Author)

3. Sustainable Consumption and Production: Bio-fertiliser Use is Encouraged at Inle Lake

Inle Lake is one of Myanmar’s most spectacular highlights and a major tourist attraction. This

extremely beautiful freshwater lake covering about 116 km² is located in the central highlands of Shan

state at 900m above sea level. The lake attracts 40,000 foreign tourists a year, leading to the building of infrastructure, as well as many privately-owned hotels and tour operations during the past few years. Local shops are flooded with consumer items, both local and foreign.

Now, however, Inle Lake is suffering from the environmental effects of increased population and rapid growth in both agriculture and tourism. The open-water area of the lake has decreased and the lake itself is shrinking, as unsustainable farming techniques on the hills cause silt and nutrients to fill up the lake, encouraging weeds and algae which block out sunlight and oxygen needed for aquatic fauna and fishes. Floating garden agriculture using chemical fertiliser further diminishes the area of the lake, with the floating beds becoming solid ground over time. About 93% (nearly 21 km²) of the recent loss in open-water area of the lake is thought to be the result of this agricultural practice. Direct environmental impacts associated with these agricultural activities include sedimentation, eutrophication and pollution. In addition, sanitation in

the villages around the lake is an ongoing public health concern, due to untreated sewage and waste water flowing into the lake. The high summer temperature this year caused the water level to drop to its lowest in nearly 50 years, so that drinking water had to be fetched from elsewhere and the floating market was in danger of disappearing.

Currently, a local community group is helping to protect the environment of Inle Lake by conducting educational programmes that encourage residents to use less chemical fertiliser. Local volunteers have started educational programmes in 46 villages to educate farmers on the advantages of bio-fertiliser, which is much less harmful than chemicals and doesn't require insecticide. They also demonstrate how to use it, especially to farmers growing tomatoes on the floating gardens. The USD18,000 programme is funded through local donations. As a result, inhabitants are starting to realise that the use of bio-fertiliser in the floating gardens would help preserve the lake.

Source: *Myanmar Times*, 6 –12 September, 2010



Floating agriculture contributes to the lake shrinking. (Copyright: Ms. Leisa Burrell, Australian Youth Ambassador Volunteer)



The Inle Lake Pagoda Festival attracts thousands of local and foreign tourists every November. (Copyright: Ms. Leisa Burrell, Australian Youth Ambassador Volunteer)



Floating gardens scattered across the shallow-water area of Inle Lake. (Copyright: Dr. KyawNyeinAye, Technological University, Yangon)

4. Other News:

—Oil and Gas Pipelines are Being Built with Little Knowledge of Environmental Cost/Impact

Sale of natural gas is the single largest income earner of the Government of Myanmar. Earnings from gas in 2008-2009 totalled USD2.4 billion.

On June 16 2009, China's Vice President and Burma's Vice-Senior General signed a memorandum of understanding relating to the "Myanmar-China Crude Oil Pipeline Projects". After years of brokering deals and planning, China has cemented its place not only as the sole buyer of massive natural gas reserves, but also the creator of a new corridor across Myanmar to secure shipment of its oil imports from the Middle East and Africa. China's largest oil and gas producer, the China National Petroleum Corporation (CNPC), has started to build the planned

4,000 km-long dual oil and gas pipelines across the heartland of Myanmar. CNPC will also purchase natural gas reserves from the Shwe Gas Project, paying an estimated USD1 billion a year over the next 30 years.

The Shwe Gas Project is located near the western coast of Myanmar in the Bay of Bengal where natural gas deposits are found in the A-1 and A-3 blocks of the Arakan coast floor. The natural gas pipeline extends from Kyauk Phyu in Arakan State to Nanning in South-western China (see Map).

An oil pipeline will be built parallel to the gas pipeline across the heart of Myanmar from the port of Kyauk Phyu in Arakan/Rakhine State through to China's southwestern provinces of Yunnan and Guizhou. Also to be built are a deep-sea port for crude oil unloading



Map showing the 2,800km route of the Shwe gas pipeline (Copyright: Mr. Wun Aung, International Coordinator, Shwe Gas Movement)

and a terminal at Maday Island, oil storage facilities including an oil tank with storage capacity of 600,000 m³ and a 1,100 km oil pipeline to Kunming.

A deep-sea port and road-related infrastructure are starting to be built by Asia World Company. Army battalions and a naval base are already in place to ensure the security of construction sites. The negative consequences and social and environmental impact will be enormous in the near future, since the gas pipeline is estimated to be 2,800km long and both pipelines will cut through many communities in Arakan state, Shan state and central Myanmar.

Source: *Corridor of Power: China's Trans-Burma Oil and Gas Pipelines* published by Shwe Gas Movement and *The Colour of Money in Bangkok Post* in Sunday supplement on 21 November, 2010.

—Tavoy Deep-sea Port and Kanchanaburi-Tavoy Highway

Thailand regards the Tavoy deep-sea port in Myanmar as the new gate to transship goods and products from east to west. The construction of a four-lane Tavoy-Kanchanaburi Highway has been started and is expected to complete in 2013. The Tavoy-Kanchanaburi land bridge can link with many inland roads and railways, such as the East-West Economic Corridor and the North-South Economic Corridor.

Tavoy Port is part of a mega-investment project in the south east of Myanmar which is expected to cost more than USD10 billion. Besides the USD1.5 billion port, there will be a huge industrial zone and building complex nearby, as well as a road and railway network. This combined project incorporating the Tavoy-Kanchanaburi Highway (to be built through the Tenasserim mountain range which is WWF's priority tiger conservation landscape and SDB's biodiversity corridor and across the Thai-Myanmar border) will have a significant impact on tiger and elephant habitats, as well as existing forests.

Source: *Bangkok Post*, 9 September and 15 November 2010

—Pollution is at Danger Level in Rivers Near Yangon

Water pollution is nearing hazardous levels as waste water and chemicals from 4,388 industries and factories in 14 industrial zones across Yangon division are discharged into the rivers around Yangon. The main problem is waste water from factories, which should only be discharged after systematic cleaning at modern treatment plants. However, the factories and distilleries are just dumping the waste water directly into the Yangon river.

There are three rivers surrounding Yangon City, namely Hlaing, Pegu and Nga Moe Yeik, which collect water from 29 streams and watersheds located in nearby provinces.

Pollution in the rivers endangers people who depend on the water for drinking and cooking, as well as endangering fish and other aquatic life. Some species of fish and prawn have disappeared from the Pan Hlaing and Hlaing rivers in recent years.

Hilsas (*Hilsa ilisha*) in the lower section of the Rangoon River have been declining, and this year, none have been seen migrating to spawn upstream in the Pegu, Hlaing and Pan Hlaing rivers during their usual mating season in February and March.

Though governmental departments have been charged with managing water resources and rivers and working to reduce water pollution and the discharge of dangerous waste and chemicals, the situation is rapidly deteriorating and poses a threat to humans and wildlife. International help is needed.

Source: *Khitpyaing Magazine*, 7 January 2010

—Mangrove Forest is under Serious Threat in Post-Nargis Delta

Myanmar's Cyclone Nargis disaster alarmed the world, leading to one of the largest international humanitarian responses in recent history. The UN launched an appeal for USD482 million on 10 July 2008 to support ongoing humanitarian and early recovery works until April 2009.

Mangroves are considered important in protecting life and property against cyclone and storm surges. Mangroves proved their capacity and value in mitigating the impact of the tsunami and Nargis in Myanmar, serving as a natural barrier against massive waves and saving lives.

Yet mangrove ecosystems are rarely recommended by economists and management for rehabilitation after storms. It is still not well known that a healthy mangrove ecosystem in the Irrawaddy Delta could provide 20-times more income than rice paddies. Fish, prawn, and crab alone would exceed the income from rice. Mangrove restoration and replantation would be an effective means of sustainable development for the local people, too.

However, the slow pace of rebuilding livelihoods in the cyclone-hit Irrawaddy Delta is taking a serious toll on the region's mangrove forests, as more people turn to cutting down the forests' trees to make a living from firewood. Farming and fishing are the region's main occupations, but both industries are still reeling from the effects of Nargis. Rats have destroyed rice fields, and paddy seed available for next season is insufficient, so local farmers don't have rice to sell and they cannot pay off their debts.

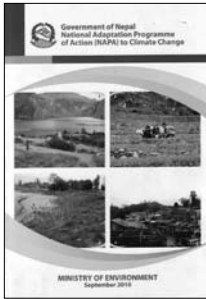
Fishermen say they are also struggling, as catch sizes—of fish, shrimp and crabs—are too small to even feed their own families. With their traditional sources of income no longer providing adequate means of survival, many have been forced to find other ways to eke out a living. But their choice of alternative employment is putting a severe strain on

already vulnerable natural ecosystems, mangrove. The pace at which some forests have been stripped has alarmed many. Coastal areas with thick mangrove forests have become open expanses within days or months. But villagers say they will die of starvation if they can't cut down the trees for sale.

The cyclone destroyed the mangrove forest. Then, after the cyclone, people increased their tree-cutting. Very few areas have been replanted, as international conservation organisations turned a blind eye to Myanmar's post-Nargis natural catastrophe. According to official statistics, there are about 450,000 ha of mangrove forest in Myanmar, of which more than 38,000 ha in Irrawaddy and Yangon Divisions were destroyed by Cyclone Nargis.

Source: *The Irrawaddy Magazine*, 24 August 2010

1. Global Warming: NAPA Launched



In its edition dated 5 November 2010, *Gorkhapatra*, the government's national daily newspaper in the Nepali language, reported that the Government of Nepal launched the National Adaptation Programme of Action (NAPA) on 4 November 2010. The government prepared the NAPA through a consultative

process, and the NAPA report is structured according to decision 29/CP.7 and guidance/ annotated guidelines developed by the Least Developed Countries' Expert Group (LEG). Out of about 250 adaptation measures proposed by the Thematic Working Groups (TWG), nine integrated projects have been identified as urgent and immediate national adaptation priorities, as listed below:

- i. Promoting Community-based Adaptation through Integrated Management of Agriculture, Water, Forest and Biodiversity Sector

- ii. Building and Enhancing Adaptive Capacity of Vulnerable Communities through Improved System and Access to Service Related to Agricultural Development
- iii. Community-based Disaster Management for Facilitating Climate Adaptation
- iv. GLOF Monitoring and Disaster Risk Reduction
- v. Forest and Ecosystem Management for Supporting Climate-led Adaptation Innovations
- vi. Adapting to Climate Challenges in Public Health
- vii. Ecosystem Management for Climate Adaptation
- viii. Empowering Vulnerable Communities through Sustainable Management of Water Resource and Clean Energy Supply
- ix. Promoting Climate Smart Urban Settlement

It has been estimated that the cost of implementing these integrated adaptation measures is about USD350 million. The Nepal Climate Change and Development Portal (www.climatenepal.org.np) was also launched on the same day.

2. Biodiversity: Protected Area for Vultur¹

The Government of Nepal is declaring Dang District a protected area for the endangered white-rumped vulture. Dang district has both the white-rumped, and other endangered species of vultures. It is the second district in Nepal after Nawalparashi district in terms of its vulture population, although the number of vultures has declined due to lack of protection measures. There are 23 species of vultures in the world and Nepal has eight species. Among them the white-rumped, slender-billed and red headed vultures are categorised as critically endangered as these vultures have died after eating the bodies of cattle treated with Diclofenac.

For the protection of vultures, two "vulture restaurants" have been opened, one each at Lalmatiya and Bijauri in Dang district. These restaurants are serving safe Diclofenac-free

carcasses as food for the vultures. The number of vultures, including some critically endangered ones, is on the rise as these restaurants provide safe food and conserve their habitat in these areas².

Early next year, the Ministry of Forest and Soil Conservation will be declaring Chitwan, Nawalparasi, Rupandehi, Kapilvastu, Palpa, Banke, Bardiya, Kailali, Kanchanpur, Kaski, Ilam and Jhapa protected areas for endangered vultures, in addition to the Dang district. In these 13 districts, the veterinary drug Diclofenac will be banned for treatment of animals. According to Bird Conservation Nepal, the protected area is being declared with the support of the Department of National Parks and Wildlife Conservation, the National Trust for Nature Conservation, the Critical Eco-system Partnership, and the UK based Royal Society for the Protection of Birds.

¹ *The Annapurna Post*, 26 November 2010

² *The Kathmandu Post*, 22 October 2010

³ Source: PACE Nepal Pvt. Ltd.

3. Sustainable Consumption and Production: CP Improves Productivity and Environment³

During 2010, detailed Cleaner Production (CP) assessment was carried out on 13 industries located in the Eastern Development Region of the country: two industries each in the districts of Morang, Sunsari, Panchthar, Ilam and Jhapa, and three more industries in the Dhankuta district. Assessment was carried out under the FINNIDA-supported project entitled Strengthening of Environmental Administration and Management at the Local Level in Nepal (SEAM-N). The industries included GI Wire, Electrical Cable, Plywood, Cement, Tea Processing, Dairy, and Lead Acid Batteries. A similar programme was also conducted by the Government of Nepal's Ministry of Environment (MOE) at Radha Structure and Engineering Works, a steel structures manufacturer with a galvanising plant in the Madhyapur Thimi Municipality in Bhaktapur District. PACE Nepal Pvt. Ltd. was the consultant for all these activities. During the assessment of these industries,

altogether 555 options were identified for waste minimisation, better working environments and productivity enhancement, with an expected saving of about NPR44.54 million annually with an investment of NPR40.71 million (the present rate of conversion is about NPR73 for a US Dollar). As of October 2010, 121 or 22 per cent of the options have been implemented. After the implementation of all identified options it is expected that the following annual savings will be made: 978 metric tons (MT) of raw materials; 125 MT of auxiliary materials; 18 MT of finished products; 53,789 m³ of water; 214,846 kWh of electricity; 102.4 m³ of liquid petroleum fuel; and 1,867 MT of solid fuel (mainly coal and firewood). At the same time, solid waste would be reduced by 561 MT, effluent by 52,761 m³ and Green House Gases (GHG) by 3,029 MT. However, actual benefits achieved have yet to be monitored. Some photographs showing implementation of options are below:

Before Implementation



Dust suction hood

After Implementation



Dust suction hood with rubber cover



Unorganised storage of patta



Systematic storage of patta



Lighting in workplace during day time



Translucent sheets for day light in workplace

4. Other News: Converting Waste Agricultural Biomass into Resource

Gorkhapatra, The Annapurna Post and Kantipur Daily dated 30 September 2010 all reported on the establishment of a model biogas plant based on waste agricultural biomass in Madhyapur Thimi Municipality (MTM) under a project entitled "Converting Waste Agricultural Biomass into Resource". The project was implemented by the Society for Environment and Economic Development Nepal (SEED Nepal) in joint collaboration with the MTM and supported by UNEP Division of Technology, Industry and Economics (DTIE) and the International Environmental Technology Center (IETC), Osaka, Japan. The compact and portable plant was manufactured by Mailhem Engineers Pvt. Ltd., Pune, India. The plant can use 200 kg per day of waste agricultural biomass or any biodegradable waste such as domestic food waste to produce biogas equivalent to 12 cylinders of LPG per month and 6.5 metric tons of bio-fertiliser per annum. The plant was

inaugurated by Dr. Sumitra Amatya, General Manager of the Solid Waste Management and Resource Mobilization Center (SWMRMC).

The main advantages of the installed technology are that it comprises a compact and portable unit, ready to be installed and easily relocated. Biodegradable waste can be quickly managed without odour or insect problems, using only small quantities of water and electricity. It can also be operated by a single operator, and is virtually maintenance-free. The plant reduces the emission of methane, which is a harmful GHG, and any methane that is emitted is used for energy.

The plant was established as a demonstration unit and such plants can be replicated in most of the municipalities for the management of agricultural waste and also to produce valuable biogas and bio-fertiliser.

New Zealand

Peter Kouwenhoven
Regional Expert

1. Global Warming: Let's Roll!

The humble dung beetle, which spends its life rolling and burying balls of poo, could become a weapon against global warming. Environmental regulators in New Zealand are seeking permission to release up to 11 exogenous species of the beetle, which hoovers up animal dung for food. The Dung Beetle Release Strategy Group - made up of farmers and other interest groups - says the introduction will lead to a reduction in nitrous oxide, a greenhouse gas and by-product of dung. Their hard work will also help to improve the condition of New Zealand's soil.

Adult dung beetles bury animal dung and lay their eggs in it. Once hatched, the grubs feed on the dung, effectively mixing the manure with the soil. The proposed introduction of the exogenous beetles from Australia, the south of France, Spain and South Africa, will bring several benefits for farmers. Among these is the beetles' ability to improve pastures and soil profile by tunnelling 30-60 cm to bury manure, aerate the soil and enable better water penetration, at the same time reducing the need for fertilisers. This also reduces greenhouse gas emissions from dung. The beetles support carbon sequestration by storing the carbon contained in the organic matter deep in the soil. Nitrous oxide emissions are

potentially reduced, while fertiliser costs are decreased: a big benefit for all of New Zealand. They are basically the ideal farm worker.

Entomologists doubt the introduction of dung beetles will cause an ecological upheaval, despite earlier animal imports such as possums, rabbits and mustelins that have become expensive problems, killing many native birds. It is unlikely that the exogenous dung beetles would compete with the 17 species of native dung beetles in indigenous forests. Caution is necessary, however.

The poo of farm animals is causing nitrification and major pollution on New Zealand farms. Therefore it would be really good to get rid of the poo. It is a serious job so why not get the experts in to do it? Still, you have to be cautious with what you import and ERMA (Environmental Risk Management Authority) will have some serious thinking to do.

If the idea were approved it could take 15 to 20 years for the beetles to become fully established and their labours to become obvious.

Source:

http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10675713

2. Biodiversity: New Zealand's Flightless Parrot Takes Off

Kiri te Kākāpō, a giant model kākāpō created for International Year of Biodiversity, departed on its maiden flight at Auckland airport on Friday 8 October. A giant model of New Zealand's flightless parrot, the kākāpō, winged its way to Japan to an international meeting on biodiversity.

The kākāpō, one of New Zealand's most endangered species, has been a flag bearer for International Year of Biodiversity celebrations during 2010. Two large models of the kākāpō have been travelling around New Zealand between June and September, gathering messages from young people and their communities about the value of biodiversity in their lives. The two giant kākāpō, one based in Auckland and one in Wellington, were created by the Department of Conservation to celebrate the International Year of

Biodiversity. As part of the Words on a Wing initiative, the birds have visited schools, museums and native species sanctuaries in the North Island collecting messages from young people about why biodiversity matters, what they want world leaders to do about its loss, and what they are doing themselves.

One of these kākāpō brought the messages, with the assistance of Air New Zealand, to the Convention on Biological Diversity's 10th meeting in Nagoya which took place from 18-29 October. At this meeting, Government leaders and officials from over 350 countries addressed the declining state of biological diversity around the world and reviewed their strategies to protect the world's fragile ecological systems. The three-metre steel and mesh kākāpō, covered with its plumage of cardboard

feather messages, was a star attraction in an exhibition at the Japan meeting. It joined other examples of International Year of Biodiversity education activities from around the world.

The birds have become celebrities in their own right, and have been in high demand for school visits, according to the Department of Conservation. The Auckland bird was named Kiri te Kākāpō by Verran Primary students, who also composed a song for her and posted it on YouTube. The birds have captured the hearts and minds of thousands of people and focused attention on the value of New Zealand's native biodiversity now that nearly 3,000 animal,

plant and fungi species in New Zealand are threatened with extinction. A selection of the messages from young New Zealanders was presented to the CBD's executive secretary Dr Ahmed Djoghlafl at a special event on 21 October.

Air New Zealand brought the kākāpō to Japan and back as part of its commitment to supporting projects that enhance New Zealand's green reputation around the world.

Source:

<http://www.voxy.co.nz/national/new-zealand039s-flightless-parrot-takes-air/5/66582>

3. Sustainable Consumption and Production: Toilet Paper Made from Bamboo

Traditional belief holds that being in a bamboo grove restores calmness and stimulates creativity. Bamboo's long life makes it a Chinese symbol of longevity, while in India it is a symbol of friendship. But does it spring to mind when you think of toilet paper? Or does the mere thought of using bamboo on your more delicate regions bring a tear to the eye?

Well, bamboo is precisely what the Saved A Tree company is using in an effort to make the humble loo roll without it costing the earth and still ensuring comfort. "People want to do the right thing by the environment, but they also do not want to use sandpaper for loo roll, which is the biggest issue with most recycled paper," Saved A Tree co-founder Damien Scarf says.

Statistics show global toilet paper consumption leads to the destruction of an estimated 27,000 trees every day. Saved A Tree uses no trees in Green Soft toilet tissue, but agricultural residues such as bamboo, straw, reed and cotton. The end result is not recycled paper but a world-first 100% renewably-sourced toilet tissue. It is nothing like its nearest rivals as its production uses no trees at all, and even boasts Forest Stewardship Council certification. But what really sets it apart from other environmental products is even more basic – how it feels. The product is 3-ply premium quality and super soft – unlike anything produced to date. It is kind to the planet and kind to your backside. Even the cotton used to make the toilet tissue soft is eco-friendly. It is not from water-dependent plantations, but is excess cotton from the textile industry, which would normally

be sent to landfill or burnt.

There is a global need for all industries to look for ways to make their supply chain and production process as sustainable and environmentally-friendly as possible. Too many industries see this as a threat, while it is actually an opportunity. Consumers are becoming increasingly picky about where their product comes from, and those who can clean up their act will benefit.

Green Soft went on sale in Australia in November last year, and was recently launched in New Zealand. Pretty soon this technology will be used to make other products including soft tissues, hand towels and coffee cups - everyday items that will always be in demand - creating a great opportunity.

Source:

http://www.btob.co.nz/cms/news_feature/2010/09/world_first_for_godzone.php



4. Other News: Exercise Tropic Twilight

Tuvalu is a group of islands, about 700 km north of Fiji. The islands are very low: the highest point is 5 meters above sea-level. Its inhabitants are completely dependent on rainwater for their water supply. With

monthly flooding of a considerable part of the islands, damaging crops and infrastructure, the islands are seen as foremost victims of climate change.

In July this year, the New Zealand Navy carried out Exercise Tropic Twilight, which involved delivering humanitarian aid following a disaster relief scenario. The exercises provided direct support to MFAT (Ministry of Foreign Affairs and Trade) and NZAID (New Zealand Aid), focussing on the deployment of engineering, construction, logistic and medical capabilities to Tuvalu, through:

- Engineering and construction projects together with medical, dental and surgical procedures.
- Exercising NZDF expeditionary capability in a demanding tropical environment.
- Enhancing cooperation and interoperability with regional partners, particularly Australia and France, in the conduct of Humanitarian Assistance / Disaster Relief operations.
- Enhancing NZDF partnership capability with other Government Agencies. And,
- Using the opportunity for deliberate planning to confirm disaster relief contingency plans and build a sound foundation for rapid planning in the event of an actual disaster.

Various teams worked on improving the local situation:

- Improving the garbage belt at the north tip of Funafuti. Garbage from the existing belt was sorted (for recyclable materials), flattened and

partly covered with soil, minimising the ongoing impacts on the communities close by. Some high-risk garbage (batteries, computer screens) was removed from the islands.

- Setting up a field-hospital, operating completely independently from the existing hospital, carrying out low-priority surgery for people of all eight islands. Numerous cases, which would not normally receive any medical help, were treated to achieve a better life-standard.
- Transporting rainwater tanks from Funafuti to the other islands. The European Union sponsored a factory able to manufacture 10,000 litre rainwater tanks. The tanks are of a type that cannot be stacked, so only 4-6 tanks at a time can be transported to the other islands. One of the navy ships carried 40 tanks at the same time to catch up on the delivery.

This implementation of Exercise Tropic Twilight proves that the goal of having marine personnel trained can be perfectly combined with providing humanitarian aid.

Other agencies involved were: NZAID, NZ Red Cross, NZ Police and the Ministry of Health.

Source: personal informal talks with Tuvalu inhabitants during a Workshop on Climate Change Adaptation in October 2010.

1. Global Warming:

—Heavy Rains Trigger Floods

At the end of July, heavy rains triggered both flash floods and riverine floods in several parts of Pakistan, resulting in the loss of life and widespread displacement and damage. The floods in Pakistan have affected more than 20 million people (more than 10 per cent of the total population). Communities have been devastated, more than 1,700 killed and nearly 1.9 million homes destroyed by the floods, which covered an area of at least 160,000 square kilometers (larger than England).

Pakistan's development prospects may be disrupted for many years. The damage to the economic infrastructure and peoples' livelihoods is immense. Irrigation, drainage and storage facilities are badly affected. Farmers who lost their crops and who are not able to plant their fields by November are likely to remain dependent on aid until well into 2012. Hundreds of thousands more lost their shops or other small businesses.

"We are seeing the equivalent of a new disaster every few days in Pakistan", said Valerie Amos, United Nations Under-Secretary-General for Humanitarian Affairs and Emergency Relief Coordinator. "Yesterday, new breaches of the embankments of Manchhar Lake in Sindh flooded more villages. Millions of people have lost everything. Our task is to give people the help they need", she added.

Source:

<http://ochaonline.un.org/OCHAHome/WhereWeWork/Pakistan/tabid/6844/language/en-US/Default.aspx>

Flood damages in figures:

- 20 million persons affected - of which over 75 percent are in Sindh and Punjab provinces
- Millions in need of urgent humanitarian aid
- An area of at least 160,000 km² ravaged by floods
- Over 2 million hectares of crops lost
- Almost 1.9 million homes destroyed or damaged
- At least 10 million people currently without shelter



Flooded power station (Copyright: Author)

—UN and Pakistan Hold Conference on Climate Change and Development

The Ministry of Environment of Pakistan, in collaboration with One UN Joint Programme on Environment, organised an International Conference on Climate Change and Development on 21-22 October 2010 in Islamabad, Pakistan, to take stock of the unfolding effects of climate change in the South Asian region, with a focus on Pakistan.

The Conference brought together over 600 participants who focused on how to ensure access to technology and adequate financing in order to mainstream climate-change-related concerns into the development process. Opening the Conference, Yousaf Raza Gillani, Prime Minister of Pakistan, described the development of a comprehensive national climate change strategy and action framework, which will facilitate appropriate responses and actions in mitigation and adaptation, allowing the mainstreaming of climate change into broader development efforts.

The main objectives of the Conference included: assisting policy makers in coherently mainstreaming climate change concerns in the overall development process; deliberating on the science and policy in managing risks and impacts of climate change and to ensure water, food and energy security; focusing on the means of implementation to ensure access to technology and adequate financing to achieve



Rising sea levels (Copyright: Author)

sustainable development in developing countries; and identifying and promoting avenues for regional and multilateral cooperation to ensure climate change-responsive development.

Toshihiro Tanaka, UN Development Programme

(UNDP) Country Director, provided information regarding key milestones set jointly with the Ministry of Environment of Pakistan and provincial governments towards building resilience and capacity to cope with climate change, including the National Policy on Climate Change followed by the National Plans of Actions for Climate Change Adaptation and Mitigation. During the closing session, Pakistani President Asif Ali Zardari stressed that climate change is not only an environmental issue but a multi-dimensional development issue. He highlighted the need to recognise “the human face of climate change.” The outcomes of the Conference will contribute to Pakistan’s development of its substantive position at the upcoming Cancun Climate Change Conference.

Source:

<http://climate-l.iisd.org/news/un-pakistan-hold-conference-on-climate-change-and-development/>

2. Sustainable Consumption and Production: Urban Sprawl in Karachi

As a mega-city, Karachi is far from being the biggest in the world but, if global habitation trends proceed as a recently released United Nations Habitat report predicts, it will expand by leaps and bounds over the next forty years.

This city of somewhere between 13 million and 18 million people, depending on which population figures one reads, has, particularly since Pakistan came in to being in 1947, grown at an alarming rate. It takes hours, depending on traffic conditions, to drive from the city centre to its far-flung outskirts. In years to come, this teeming city could first double, then triple and quadruple in size to form a habitat for an unimaginable number of urbanites.

Existing infrastructure is already stressed to breaking point: load-shedding, water shortages, dilapidated sewerage systems, traffic congestion, shortage of affordable housing, employment problems, and lack of decent healthcare and education for many are currently part and parcel of the daily grind. All of these aspects of Karachi life, along with associated levels of debilitating air and environmental pollution, will further escalate as more and more rural people relocate to the city in search of sustenance.

The UN’s Bi-Annual State of World Cities report indicates that rapid urbanisation is “unstoppable”, further stating that by 2050, a mere 40 years from now, “over 70 per cent of the world will be urban dwellers” as opposed to just over 50 per cent now. Migration to sprawling cities is viewed as an economically positive move by Eduardo Lopez

Moreno, co-author of a report launched at the World Urban Forum in Rio de Janeiro. “The top 25 cities in the world account for more than half of the world’s wealth, and the five largest cities in India and China now account for 50 per cent of those countries’ wealth” he said, adding that “most of the wealth in rural areas already comes from people in urban areas sending money back.”

This inequality is further exacerbated by rich households having an income many times greater than the average income of a ‘poor’ worker, allowing the rich to dominate on the educational and healthcare fronts. These are major challenges requiring immediate attention and remedy.

Source: Daily Dawn, 2 December 2010



Urban sprawl in Karachi (Copyright: Author)

The Philippines

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1. Global Warming: Philippines Faces High Risk of Natural Disasters

—Warning by Joint Multi-agency Study—25% of Metro Manila Underwater in Next 40 Years

If the present trend of climate change continues, at least a quarter of Metropolitan Manila will be underwater within the next 40 years. This is according to a joint regional study, entitled “Climate Risks and Adaptation in Asian Coastal Megacities”, resulting from a two-year collaboration of the Asian Development Bank, the World Bank and the Japan International Cooperation Agency. The study pertains to Bangkok, Ho Chi Minh and Manila, based on different scenarios through to 2050.

With respect to Metro Manila, the report says that “in the worst case scenario a major flood could cause damage totaling almost a quarter of the metropolitan area’s gross domestic product (GDP). The main threats to Manila are extreme rainfall, sea level rise, as well as more powerful typhoons”. It recommends to the present government to speed up redesigning of flood control infrastructures.

The key points of recommendation that the report may address to coastal megacities from Asia to Africa include the integration of climate-related risks into city and regional planning and combining infrastructure investment and zoning with ecosystem-based strategies. It recommends that governments of coastal megacities address climate risks by design as an integral part of urban planning.

Source: Ted P. Torres, “Joint multi-agency study warns 25% of Metro Manila will be underwater in next 40 years”, *Philippine Star*, 24 October 2010, p. B5.

—ADB Leads Fund-raising Drive for Climate Change Projects in the Philippines

Having identified the Philippines as one of a few countries facing the highest risk of natural disasters, the Asian Development Bank (ADB) will grant the country USD1 billion worth of loans in the medium term for the purpose of enhancing its capability to cope with climate change. Some developed countries are expected to contribute financial support for developing economies like the Philippines to implement environmental initiatives.

As part of its three-year Country Assistance Strategy (CAS), the first tranche of the ADB loan will be worth USD400 million, to be provided starting 2011, according to David McCauley, ADB principal climate-change specialist. McCauley said the first tranche is expected to promote the use of solar energy, which is one way to reduce greenhouse emissions causing climate change.

The Philippines is known to be one of the countries facing the highest risk of natural disasters resulting from climate change because of its location and archipelagic structure, although it accounts only for 0.27 per cent of the world’s total greenhouse emissions.

Source: Michelle V. Remo, “PH to get \$1-B ‘environment protection’ loans”, *Philippine Daily Inquirer*, 15 November 2011, p. B1.

2. Biodiversity: A New World Record and a Spectacular Find

—World’s Largest Bat Colony in the Philippines

As recognised by Guinness World Records, the world’s largest colony of Geoffrey’s Rousette Fruit Bats (*Rousettus amplexicaudatus*) is found in the Island Garden City of Samal. It is located inside the 24-hectare property owned by Norma Monfort in Barangay Tambo in Samal, Davao Province. Monfort heads the Monfort Bat Cave and Conservation Foundation, Inc.

Bat Conservation International (BCI), based in Texas in the United States, describes the Monfort Bat Cave as among the few known to scientists. In a report, BCI said, “If the wonder of nature still exists, then the bats at Monfort Cave are one of the very few left on Earth, particularly in the Philippines”.

In a letter to Ms. Monfort, Mariamarta Ruano-Graham, head of the records management team at Guinness World Records, said, “You have set a new

Guinness World Records... and a certificate to commemorate this is included". Guinness took note of the BCI estimate that 1.8 million bats are living in the Monfort Cave.

A BCI study of bats, according to Monfort, has disclosed the need to protect them, as it showed an alarming decline in their population on account of destructive human activities; in some areas they are still hunted for food. The BCI study found that some sanctuaries had already been deserted by bats.

Source: Jeffrey Tupas, "Samal cave hosts record bat colony", *Philippine Daily Inquirer*, 13 February 2010, p. A9.

—“Spectacular Find” of New Fruit-eating Lizard Species in the Philippines

A team of Filipino and foreign scientists described as a “spectacular find” their discovery of a new species of fruit-eating monitor lizard in the Sierra Madre mountain range in Luzon last year. Dr. Arvin Diesmos, curator of herpetology at the National Museum’s department of zoology, explained, “It’s a significant find because it’s a unique animal. It only feeds on fruit and sometimes on snails while most monitor lizards in the country and in the world are meat-eaters and scavengers”. After DNA analysis, scientists confirmed that it was a distinct species.

The report of the study on the new species was published in *Biology Letters*, an international journal of the Royal Society of London, resulting in its final verification as a new species.

Source: Alcuin Papa, "Fruit-eating lizard found in Sierra Madre", *Philippine Daily Inquirer*, 7 April 2010, p. A1.

—Dolphin-stranding in the Philippines “Unusually High”

According to the country’s first database on marine mammal-stranding, more than 500 dolphins, whales and sea cows were stranded on Philippine shores or swam into shallow waters in the last 11 years. This indicates various hotspots—places where frequent stranding incidents occur—around the Philippine archipelago. The database was established by a team of scientists and policymakers under a grant by the state-owned University of the Philippines in Quezon City. A paper summarising the contents and findings of the database was recently published by the international journal *Aquatic Mammals*.

The team, headed by Dr. Lemnuel Aragones, described the stranding incidents recorded in the database as “unusually high” compared to those in Thailand, Taiwan, South Australia and the eastern United States.

The database showed that the top five stranded species were the spinner dolphin (*Stenella longirostris*), Risso’s dolphin (*Grampus griseus*), common bottlenose dolphin (*T. truncatus*), short-finned pilot whale (*Globicephala macrorhynchus*) and melon-headed whale (*Peponocephala electra*). The average number of stranding incidents reported yearly was 15.

The team recommended creating support facilities for the rehabilitation of stranded marine mammals and increasing the response capability of communities.

Source: Tonette Orejas, "Dolphin-stranding in RP 'unusually high'", *Philippine Daily Inquirer*, 28 September 2010, p. A13.

3. Sustainable Consumption and Production: High Tariff on Imported Ethanol to Boost Local Production for Biofuels

A draft executive order is being prepared on the instructions of the Cabinet-level Committee on Tariff and Related Matters (CTRM) to implement its decision to increase duties by 20 per cent. The CTRM explained that this decision was made “to provide (a) positive signal to investors in ethanol production that the government is supportive of such initiatives and (to) ensure the availability of locally produced ethanol

to support the implementation of the Biofuels Act”.

The Biofuels Act provides for mandatory mixing of 5 per cent of ethanol in gasoline for the first four years after its enactment, and 10 per cent thereafter. It was enacted into law in 2006.

Source: Ronnel W. Domingo, "Hike in ethanol tariff readied", *Philippine Daily Inquirer*, 15 November 2010, p. B5.

4. Other News: “Rules of Procedure for Environmental Cases” Promulgated by the Supreme Court

On 13 April 2010, the Supreme Court of the Philippines promulgated the “Rules of Procedure for Environmental Cases”, the first of their kind in the world. The Rules took effect on 29 April this year; their introduction into the country’s judicial system

represents a thoroughgoing reform in the protection of the environment through the judiciary.

Based on broad consultation with stakeholders in environmental protection, the Rules derive their mandate from the principle of the Philippine

Constitution that “The State shall protect and advance the right of the people to a balanced and healthful ecology in accordance with the rhythm and harmony of nature”.

Jurisdiction of courts under the Rules governs civil, criminal and special civil actions involving “enforcement or violation of environmental and other related laws, rules and regulations”. The Rules authorise courts to provide remedy by means of “writ of *Kalikasan*” (nature) for the benefit of “persons whose constitutional right to a balanced and healthful ecology is violated, or is threatened with violation by an unlawful act... involving environmental damage of such magnitude as to prejudice the life, health or

property of inhabitants in two or more cities or provinces”.

A citizen suit is authorised under the Rules, by which any Filipino citizen “in representation of others, including minors or generations yet unborn, may file an action to enforce rights or obligations under environmental laws”. The courts may also issue an “environmental protection order”, by which they may direct or enjoin any person or government agency “to perform or desist from performing an act in order to protect, preserve or rehabilitate the environment”.

Source: *En Banc Resolution of the Supreme Court A.M. No. 09-6-8 SC*, April 13, 2010; <http://sc.judiciary.gov.ph> (visited 22 November 2010)

Singapore

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1. Global Warming: Taking a Proactive Stance

Singapore is a party to the UN Framework Convention on Climate Change, and ratified the Kyoto Protocol in 2006. It is a member of the Group of 77 (G77) as well as the Alliance of Small States and is particularly concerned about global warming as it is a low-lying island and subject to many vulnerabilities from sea level rise. It is not an Annex I country, and notwithstanding its miniscule contribution to global emissions, at less than 0.2%, it has declared willingness to reduce its emissions by 16% below Business as Usual (BAU) by 2020, contingent on a legally binding global agreement. Its first National Climate Change Strategy¹ was presented in 2008 and a National Climate Change Secretariat (NCCS) was set up on 1 July 2010 and placed under the Prime Minister's Office.² Its second National Communication to the UNFCCC was presented on 30 November 2010.³

Adaptation - the government has commissioned studies to assess Singapore's vulnerability in regard to long-term physical impacts such as sea level rise, temperature profiles and wind. Studies are also being conducted on secondary impacts such as biodiversity, energy demand and public health. In addition, a study will be conducted to map out those parts of Singapore's coastline that will be threatened by sea level rise - this will start in 2011 and end in December 2013.⁴

Mitigation - Singapore's approach to reduce emissions is primarily to improve energy efficiency in all sectors, as well as put in resources to test-bed alternative energy sources to facilitate easy and early implementation. A working group is studying

the possible impact of a carbon tax and its cost impacts on households and industries. Nuclear energy is also being considered.

The Sustainable Singapore Blueprint (SSB), which was released in April 2009 by the Inter-Ministerial Committee on Sustainable Development⁵, sets targets for reducing energy intensity and emissions in four key sectors of the economy - industry, transport, households and buildings. The aim is to reduce carbon emissions by 7-11% from the BAU scenario by 2020.⁶ The National Environment Agency (NEA) established the Energy Efficiency National Partnership (EENP) in April 2010, to engage industry.⁷

New Laws - The Environmental Protection and Management (Energy Conservation) Regulations⁸ came into effect on 1 January 2008, mandating energy labels for motor vehicles and certain electrical appliances (refrigerators, washing machines, clothes dryers). All energy inefficient appliances will be removed from the market by 2011. The government has announced plans for an *Energy Conservation Act* to come into effect in 2013. The Building Control (Environmental Sustainability) Regulations 2008, which introduced a minimum environmental sustainability standard that is equivalent to the Green Mark Certified Level for new buildings and existing buildings that undergo major retrofitting, is to be revised with effect from 1 Dec 2010.⁹ A new edition of the Code for Environmental Sustainability of Buildings was issued on August 2010 revising the minimum environmental sustainability standard.

¹ See http://app.mewr.gov.sg/data/ImgUpd/NCCS_Full_Version.pdf

² See Speech by Mr Tan Yong Soon, 26 July 2010 at http://www.thegovmonitor.com/world_news/united_states/singapore-gets-serious-about-climate-change-36127.html/print/

³ See <http://app.mewr.gov.sg/web/Contents/Contents.aspx?ContId=1439>

⁴ "Singapore to study threat of rising sea levels", *The Straits Times*, 30 November 2010.

⁵ <http://app.mewr.gov.sg/web/contents/ContentsSSS.aspx?ContId=1299>

⁶ See "The Economics of Climate Change" in http://www.mof.gov.sg/budget_2010/download/FY2010_Budget_Highlights_part4.pdf

⁷ <http://app2.nea.gov.sg/index.asp>

⁸ <http://app2.nea.gov.sg/data/cmsresource/20090316653072840750.pdf>

⁹ See http://www.bca.gov.sg/EnvSus/Legislation/Environmental_Sustainability_Legislation.html

2. Biodiversity: The City Biodiversity Index (CBI), also Known as the Singapore Index on Cities' Biodiversity

Singapore ratified the Convention on Biological Diversity on 21 December 1995. In May 2008, at the 9th Meeting of the Conference of the Parties, Singapore proposed the establishment of an index to measure biodiversity in cities. In February 2009, the First Expert Workshop was convened in Singapore¹⁰ to work on designing the City Biodiversity Index (CBI).¹¹ This Index functions as a self-assessment tool for cities to benchmark their biodiversity conservation efforts. It comprises three components (i) native biodiversity in the city, (ii) eco-system services provided by biodiversity in the city (iii) governance and management of biodiversity in the city. The

Second Expert Workshop, held in July 2010, resulted in a revised version of the *User's Manual for the CBI*.¹²

On 31 October 2010 the CBI was formally endorsed by the Parties to the CBD at its COP-10 City Summit in Nagoya, Japan.¹³ Singapore has offered to host a Cities and Biodiversity Forum for Mayors during the next World Cities Summit to be held in mid-2012, as a preparatory meeting to CBD COP-11 in India in October 2012, where cities can report on their progress in biodiversity conservation and the application of the Singapore Index.¹⁴

3. Sustainable Consumption and Production: A Comprehensive Set of Goals

There is consensus that countries need a fundamental shift in the way goods and services are produced and consumed to deal with resource crunch and respond to the need for sustainable development. In Singapore, the Sustainable Singapore Blueprint (SSB) of 2009 has elaborated plans to establish sustainable consumption and production patterns. Apart from reducing energy use, the goals include reducing the domestic water consumption per person per day from the current 156L to 140L, increasing the overall recycling rate to 70%, improving energy efficiency by 35% and "greening" 80% of the buildings by 2030. From 2013, companies that use more than 15GWh of energy a year will be

required to appoint an energy manager, report energy use and submit energy plans to NEA to improve efficiency. By 2030, energy efficiency in public housing (HDB) estates must be increased by 30% for mature estates and 20% for new estates. Solar panels will be installed in some HDB estates for test-bedding. The Government has also announced the extension of the Green Vehicle Rebate scheme for another two years, until end-2011.¹⁵ The scheme is an inter-agency effort by various Government agencies that offer incentives to promote green vehicles which are more fuel-efficient and emit less air pollutants than conventional vehicles.

¹⁰ A full report of the First Expert Workshop is available on the CBD Website (<http://www.cbd.int/doc/?meeting=EWDCBI-01>) as UNEP/CBD/EW.DCBI/1/3

¹¹ See Singapore's 4th National Report to the CBD, September 2010 – <http://www.cbd.int/doc/world/sg/sg-nr-04-en.pdf>

¹² <http://www.cbd.int/authorities/gettinginvolved/cbi.shtml>. On 27-29 April 2010, an ASEAN Workshop on the CBI was held in Singapore, organised by NParks' Centre for Urban Greenery and Ecology (CUGE) and the ASEAN Centre for Biodiversity (ACB)

¹³ http://www.thegovmonitor.com/world_news/asia/singapore-index-on-cities-biodiversity-formally-endorsed-in-nagoya-41761.html

¹⁴ <http://www.lowcarbonsg.com/tag/nea/>

¹⁵ http://app2.nea.gov.sg/topics_gvr.aspx

Sri Lanka

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1. Global Warming: Reading the Signs of Global Warming and Taking Climate Positive Action

Climate scepticism was high globally during 2010, but Sri Lankan weather gurus had read the signs of changing climatic patterns in Sri Lanka. Senior meteorologists confirmed that temperatures around the country had increased by one degree Celsius, while the cool central hills recorded a two degrees rise. Meteorology Department data also showed that between 1961 and 1983, the number of hot days per year (with the temperature reaching 35 degrees Celsius) was around 50, but since 1985 more than 100 such hot days per year had been recorded. Experts in Sri Lanka again warned about intensification of climate-related disasters such as land slides and floods, and the need to be prepared on a local level for a changing climate.

Meanwhile, many communities in Sri Lanka have taken climate positive action. One such example is replacement of carbon dioxide-emitting kerosene lamps used by a night fishing community in a lagoon on the southern coast. An individual lagoon fisherman practising night fishing burns more than one litre of

kerosene per night for lighting. There are 375 night fishermen in this lagoon, which would amount to roughly 400 litres of kerosene per night. After this fishing fleet started using the new solar powered lamp, they saved a minimum of 408 metric tonnes of carbon dioxide emission annually.

Sources:

http://sundaytimes.lk/100822/News/nws_23.html

http://www.sundaytimes.lk/100725/Plus/plus_15.html



In the photo a night fisherman is showing his new solar powered lamp. The old kerosene lamp can be seen on the side. (Copyright: Author)

2. Biodiversity: Lost and Found Biodiversity

Sri Lanka is one of the 35 key biodiversity hotspots of the world for its unique endemic fauna and flora. But many of these unique species are threatened, mainly due to habitat loss, with a number of species already extinct or not recorded for many years. However, some of them continue to reappear as the result of tireless field research, and during the year 2010 several such instances were recorded.

The Horton Plains slender loris is one of the sub-species of loris, and after spending sleepless nights in the chilly Horton Plains wilderness, researchers managed to photograph the little primate in 2010 for the first time in history. This illusive loris sub-species is among the top 25 most threatened primates in the world and risks extinction soon. The attention the little primate has attracted should help to protect the habitat it lives in, say experts.

There were also a few more rediscoveries during the year. Meinken's Fairy Rasbora, a small endemic

freshwater fish scientifically described in 1957 based on a specimen found among exported ornamental fishes, was first found in the wild after 53 years. An endemic toad which has not been recorded for 130 years has also been found in Peak Wilderness. These kinds of rediscoveries highlight the need to undertake substantial research to rescue species from oblivion.

Sources:

<http://www.telegraph.co.uk/earth/wildlife/7897057/Horton-Plains-Slender-Loris-pictured-for-first-time.html>

http://sundaytimes.lk/100725/Plus/plus_14.html

http://sundaytimes.lk/100815/Plus/plus_16.html



Fish rediscovered recently by the Wildlife Conservation Society of Galle (Copyright: Wildlife Conservation Society of Galle)

3. Sustainable Consumption and Production: Post-war Development and Unsustainable Development

The civil war fought in the northern and eastern parts of Sri Lanka ended last year, instigating large-scale resettlement and development programmes in war-affected areas. This has led to unsustainable land use in many cases, causing harm to the environment.

A road constructed across Wilpattu National Park illegally has outraged the environmentalists of Sri Lanka during 2010. Wilpattu National Park, which was closed at the height of the war, is famous for its unique natural lake or *villu* ecosystems. The road, intended to provide easy access to northern parts, will do much damage to the unique ecosystem of the park and disturb the wildlife.

Conservationists point out that development should be planned and carried out rationally, while sustaining ecological services. Sri Lanka has lost

many an ecosystem as a consequence of unplanned development, and such losses would deprive the country of clean water and clean air and many more ecological services that support human well-being and economic sustainability. Taking Wilpattu as an example, experts also urge that development should not compromise our natural heritage and our future well-being.

Several other large agricultural projects proposed for northern and eastern provinces have come under question due to their unsustainable nature.

Sources:

<http://www.thesundayleader.lk/2010/05/23/debate-over-wilpattu-road-rages-on/>

http://sundaytimes.lk/100718/Plus/plus_11.html

4. Other News: Sri Lanka's Central Highlands Declared a Natural Heritage Site

In 2010 Sri Lanka's Central Highlands was nominated as a UNESCO Natural World Heritage site due to its high biodiversity. This area has been a major catchment area for Sri Lankan rivers regulating the country's hydrology. In addition, the montane forests in the Peak Wilderness, Horton Plains National Park and the Knuckles Conservation Forest which all rise to 2,500 metres above sea-level, are home to an extraordinary range of flora and fauna. So the area is considered a "super biodiversity hotspot" and this region is also one of the few remaining hideouts for many endangered species, making it a unique world heritage site.

The tea plantations introduced by the British rulers had initially cleared many hill country forests a century ago, but even at present the rapid expansion of vegetable gardens threatens the natural forests.

Illicit gem mining and the felling of trees, etc. constitute other direct human threats, while invasion by non-endemic species and the phenomenon of some trees mysteriously dying also cause more threats.

Sri Lanka at present has eight UNESCO World Heritage sites, but had only one natural heritage site - Sinharaja Rainforest - until the Central Highlands was declared a natural heritage site. The timely declaration of the Central Highlands as a UNESCO World Heritage site will hopefully result in much needed protection and conservation, with its importance now receiving international attention.

Sources:

<http://whc.unesco.org/en/list/>

http://www.sundaytimes.lk/100808/Plus/plus_01.html



Central Highlands of Sri Lanka - the Peak Wilderness seen from Horton Plains National Park (Copyright: Author)



Sri Pada Mountain in the Central Highlands (Copyright: Author)



A Rhinoceros Horned Lizard found only in Horton Plains and surrounding areas of the hill country (Copyright: Author)

Thailand

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1. Global Warming: Thailand's Roller Coaster During 2010

Thailand has encountered tough challenges due to weather chaos since early 2010. It has been a roller coaster for Thai agriculture, from severe drought affecting the water supply to heavy rain causing floods in many provinces. Many farmers who had been waiting to harvest their crops suffered from the natural disasters. Some of them could harvest only half their crop; some could not harvest any at all, which means they will inevitably have more debts and problems afterwards, such as human or livestock epidemics. It is believed that the disasters are caused by global warming.

According to OFDA¹/CRED², the natural disasters that affect the Thai people and economic sector the most are floods, droughts and storms. The effects and costs in terms of damage from the disasters are tremendous, however, these could be reduced in terms of intensity if there was ongoing initiative and preparedness in cooperation with government, and both the private and public sectors.

Apart from the agricultural damage, the disasters also cause social disturbances involving short and

long term issues such as homelessness due to flooding and families falling apart, affecting children. As a result, children might have to live on their own or with their relations.

A report on the severe drought that occurred in Thailand in 2010, carried out by the Ministry of Interior, showed that 29 provinces, 224 districts, 1526 *tambons* (sub-districts) and 11,000 villages suffered ill effects. These figures were about 48 per cent higher compared to the previous year. The total cost of the damage was estimated at more than THB6 billion by Kasikorn Thai Research Centre. The Prime Minister, Abhisit Vejjajiva, warned that Thai people, especially those who live near rivers, canals and dams, should follow the latest weather forecast updates continually every day in order to get ready in time.

Sources:

Naewna Newspaper, www.naewna.com

Matichon, www.matichon.com

Manager, www.manager.co.th

2. Biodiversity: New Species of Basil Found

Recently, a new species of Thai herb was found by an expert, Somran Suddee and his team, from the Department of National Parks, Wildlife and Plant Conservation. It took the team around three years of searching, sampling and exploring to be sure that no one had seen or discovered it before. Details of this new herb, called "*Platostoma tridechii* Suddee", will be published in the internationally-recognised Thai Forest Bulletin (Botany) Journal, edition 38. There is already a Thai herb named "holy basil". However, the study found different characteristics in the new herb: it is an aromatic plant which smells when the fresh leaves are crushed, and dies down at the end of the growing season. It grows well in dry dipterocarp forest, open areas and at no more than 300 m above sea level.

The new basil's flowering and fruiting period is from October until December. In the first year, a rhizome grows underground. After it finishes flowering, its stem dries out in the hot season. When the rainy season comes, a new stem grows from the original rhizome. This new herb is different from Thai holy basil used for cooking. Fresh leaves from the new herb have little odour, while cooking basil has more leaves and a stronger odour. Thai holy basil has the scientific name "*Ocimum tenuiflorum* L.", which is classified into two varieties: green leaved and red leaved. This new herb, however, falls under the category of the *Platostoma* species. Cooking basil could be used for medical purposes, such as boiling water with its root to treat malaria patients by

¹ OFDA = the Office of U.S. Foreign Disaster Assistance

² CRED = the Centre for Research on the Epidemiology of Disasters

stimulating sweat, or its seed is believed to be used for curing urinary tract problems. The new herb, on the other hand, requires more research before it could be consumed as a medication.

It is fortunate that the new herb was found early because it is an example of a critically endangered species referred to in the IUCN Red List. No matter whether plant species are old or new, they are all

significant and useful as Thai natural resources. If a new species is discovered, it will definitely be lost over time without continuing conservation and research. Therefore, Thai people should be aware of, and concerned about, Thailand's unique species for the sake of the younger generation.

Source: *Dailynews*, www.dailynews.co.th

3. Sustainable Consumption and Production: Carbon Labelling Helps the Environment

Everywhere we go these days, we see many encouraging messages about contributing to the mitigation of global warming by using environmentally-friendly products or services. Thailand has been actively engaging with this worldwide issue for some time. Many projects relating to reducing global warming and greenhouse gas emissions have been launched and continued in cooperation with the public, private and non-profit sectors. According to statistics, Thailand is aiming to reduce CO₂ emissions by 42 million tons per annum.

The Carbon Reduction Label is one of the certifications that supports the manufacturing sector in committing to reduce the carbon footprint of their products. The aim is to achieve at least a 10 per cent carbon reduction per unit product or service compared with the baseline data for 2002. Another example is the Green Label, which identifies products with a lower environmental impact than other similar products available in the market.

In the case of "low carbon services", Thai Airways

International Public Company Limited is a great leader within the service sector. Early this year, Thai Airways was certified under the Carbon Footprint Labelling system, which indicates low greenhouse gas emission over a product's life cycle. Thai Airways is also the first airline in the world to provide carbon footprint labelling on in-flight meals, starting with Thai dishes such as mussaman curry (yellow curry) and green curry with chicken served with Thai jasmine rice.

Thailand has been trying to develop a database for consumers in order to clarify how to correctly read labels such as Carbon Reduction Labels displayed on products. Thailand is also preparing its industrial sector to enable it to compete in overseas markets.

Sources:

The Nation, www.nationmultimedia.com

www.thai-ab6.com

Global Carbon Project, www.gcp-urcm.org

Viet Nam

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1. Global Warming: Vietnam Commits Itself to Forest Protection and Development

“Vietnam’s forest area has increased by more than 12% and the Government of Vietnam strongly commits to further forest protection and development in years to come”, said Cao Duc Phat, Minister of Agriculture and Rural Development, and head of the Vietnamese delegation to the United Nations Conference on Climate Change held in Cancun, Mexico, on 9 December 2010.

Over the last 20 years, Vietnam’s forest cover has increased to 39.5% in 2010 from 27% in 1990, and this is because of due consideration given by the Government of Vietnam, he stated in his address at the UN Forum on Forests session entitled “*Forests for all: Focusing on global cooperation for landscape improvement*”.

Vietnam’s forest area amounts to approximately 13.4 million hectares, of which natural forests amount to 11 million hectares, and the remainder is plantation. “This figure is very impressive if compared to that of the 1980s and clearly reflects great effort made by the Government of Vietnam in forest protection and development”, observed a representative of USA-based Forest Trends.

Additionally, Vietnam has made local people’s living conditions central to its forest programmes in order to help local people—particularly ethnic minorities—to secure food and escape from poverty. Recently, a pilot project on payment for environmental services (PES) was conducted in Vietnam and Decree 99, which relates to PES and was issued by the

Government of Vietnam, will come into effect on the first day of January 2011.

The Government of Vietnam also takes steps to ensure that measures to reduce emissions from deforestation and forest degradation (REDD+) are implemented effectively through the Vietnam UN-REDD programme that is going to start its second phase with a USD100 million pledge of support from the Government of Norway.

It is expected that there will be more opportunities for forest-dependent people—especially the poor—to improve their livelihoods through involvement in sustainable forest management.

Source: Excerpted from ThienNhiem.Net, Vietnam UN-REDD Programme



Vietnam’s forests (Photo by ThienNhiem.Net)

2. Biodiversity: International Cooperation to Strengthen Vietnam’s Wildlife Trade Enforcement

Representatives from international and national organisations met in Hanoi on 2 December 2010 to strengthen cooperation on tackling illegal trans-boundary wildlife trade. The organisations included INTERPOL, the United Nations Office on Drugs and Crime, the CITES Secretariat, the World Customs Organization, ASEAN Wildlife Enforcement Network, the South Africa National Wildlife Crime Reaction Unit, TRAFFIC Southeast Asia, the Wildlife

Conservation Society and Vietnamese enforcement agencies.

The two-day workshop aimed at sharing challenges and best methods among international and national enforcement agencies in combating illegal wildlife trade, with the particular goal of enhancing existing mechanisms in controlling the illegal cross-border trade. The workshop also focused on the illegal tiger trade. In 2010, this iconic species received a great

deal of international attention, culminating in the International Tiger Forum held in St Petersburg, Russia in November. At the forum, delegates from tiger range states, including Vietnam, signed commitments to protect tigers, tiger prey and tiger habitat, in order to increase the world's tiger population by the year 2022 to 7,000 from the current 3,200 individual tigers remaining.

"This workshop is a unique opportunity for key enforcement agencies from Vietnam and international organisations to learn from each other and coordinate efforts against international wildlife crimes in the ASEAN-WEN and CITES frameworks", said Dr. Ha Cong Tuan, Deputy Director of the Directorate of Forestry.

Despite an increase in enforcement efforts by international organisations and governments to control illegal wildlife trade at the national, regional and global level, this trade continues in many countries, threatening species such as the tiger, rhinoceros and elephant with extinction. Complex routes involving organised trans-boundary crimes connect illegal wildlife to consumers around the world. Southeast Asia, including Vietnam, has become both a consumer of wildlife and a conduit of products destined for other countries. Of late, Vietnam has increasingly become a destination for rhinoceros horns smuggled from South Africa. Representatives from South African and Vietnamese enforcement agencies therefore joined forces last October in

Vietnam to strengthen cooperation in controlling this smuggling connection.

Commenting on December's workshop, Dr. William Schaedla, Director of TRAFFIC Southeast Asia, the wildlife trade monitoring organisation providing technical support for the event, said, "The hope is that discussions such as these, which draw on the expertise of both international and local agencies, will aid in the global fight against illegal trade in key species such as the tiger".

Source: Excerpted from ThienNhiem.Net, CITES Management Authority of Vietnam



The five rhinoceros horns captured at Tan Son Nhat International Airport in 2008. (Photo by the **Tuổi Trẻ**)

3. Sustainable Consumption and Production: Design for Sustainability Initiative Started in Vietnam, Laos and Cambodia

A Sustainable Product Innovation (SPIN) Project for Vietnam, Laos and Cambodia was formally launched in Hanoi in April 2010. This was as a direct result of promising outcomes produced from the first Project on Cleaner Production for Better Products, implemented from 2007 to 2009. The earlier project was co-sponsored by the EU Asia-Invest Programme and hosted by the Vietnam Cleaner Production Centre (VNCPC). The SPIN Project is hosted by the Delft University of Technology (TUD), the Netherlands, with the VNCPC serving as a key partner, along with the United Nations Environment Program (UNEP), the Asian Institute of Technology in Vietnam (AITVN), the Lao National Chamber of Commerce and Industry (LNCCI), and the Cambodia Cleaner Production Office (CCPO).

SPIN aims to achieve Design for Sustainability by applying SPIN methodologies on a large scale to promote potential innovations in the industrial sector, particularly SMEs. The overarching goal is to increase the social and environmental quality of industrial products in all three countries. Upon its completion,

SPIN is expected to be deployed for at least 500 SMEs in five targeted sub-sectors (i.e. food processing, textiles, footwear, handicrafts and furniture). The intention is to enhance their competitiveness by designing and producing more sustainable and advanced products for their domestic, regional and European markets. This in turn should contribute significantly to the sustainable social and environmental development of industry in these countries.

To achieve the SPIN Project's objectives, a large number of activities are to be implemented. These include:

- Establishment of National Green Offices that technically support national SPIN capacity development;
- Production of more than 1,000 products;
- Development of a toolkit for SPIN techniques and practices;
- Promotion of research and training in SPIN, branding and marketing, including training of 100 SPIN experts;

- Support for sustainable product-related policies, including sustainable public procurement; and
- Marketing of the products developed at national and international exhibitions and trade fairs.

During the months since its inception, SPIN has been working intensively to promote the product and production innovations in targeted sectors through the sectors' entire supply and value chains. In the tea industry, for instance, various issues were identified during fact-finding visits to five SMEs in Yen Bai province and one in Hanoi. These issues included inefficient energy use, overuse of agrochemicals, poor working conditions and weak cross-sectional links, which serve as the basis for developing relevant interventions by the Project to help local tea producers to adopt clean technologies and design new products made of naturally organic raw materials.

SPIN has also cooperated closely with the Sustainable Rattan Production project, funded by the EC through the SWITCH programme, to contribute to the production of more added-value products, better utilisation of raw materials and more efficient packaging. In the bamboo sector, SPIN has worked with the French NGO GRET and Tre Vang bamboo company to design and promote new products such

as bamboo partitions used in “green offices”, and bamboo-based educational tools, as well as to develop other environmentally-friendly products.

SPIN now plans a series of assessments to further explore the range of potential for taking full advantage of rice and coffee husks to produce organic rice and coffee, and shrimp shells to produce natural food for the pangasius (catfish).

Source: Vietnam Cleaner Production Centre, Hanoi, December 2010



Delegates from TUD, VNCPC, UNEP, LNCCI and CCPO participated in the SPIN project monitoring meeting on September 2010. (Photo by the VNCPC)

Epilogue

We have harnessed our research network to release “Top News on the Environment in Asia” annually since IGES was established in 1998. Featuring items from 21 countries and international organisations in the Asia-Pacific region, the 2010 edition focuses three environmental topics of significance for Asia under the section headings Global Warming, Biodiversity and Sustainable Consumption and Production.

2010 was a year of continued efforts by Asian countries on bold domestic measures and one to present their reduction targets and action plans in accordance with the Copenhagen Accord that was “taken note of” at COP15 the previous year. As well as progress evident in domestic action in the major countries of Japan, China, India and Republic of Korea, a succession of countries such as Australia, Singapore and Cambodia established organisations reporting directly to heads of government to undertake comprehensive studies of action on climate change. Meanwhile, numerous accounts — from Mongolia, Sri Lanka, Laos, Pakistan, Malaysia and Thailand — reported damage from heat waves, heavy rains, flooding, water shortages and other instances of abnormal weather that also had a severe impact on crops and economies.

In biodiversity, October 2010 brought COP10 (the 10th Meeting of the Conference of the Parties to the Convention on Biological Diversity) in Nagoya, which adopted the Nagoya Protocol on access to genetic resources and the fair and equitable sharing of benefits arising from their utilisation (ABS), a new strategic plan for 2011 and after (the Aichi Targets), and other agreements on such as resource

mobilisation strategy. The period before and after COP10 saw several countries (Japan, Australia, China, Singapore) move to determine and proclaim national strategies and action plans on biodiversity. International cooperation among governments, international organisations and NGOs was also vigorous on protecting ecosystems and biodiversity.

Consumption of natural resources is surging in Asia with population growth, urbanisation and economic growth, and the Asian Development Bank (ADB) released a report forecasting that on current trends total consumption expenditure by Asian developing countries would account for some 43% of the world total by 2030. As the achievement of sustainable consumption and production (SCP) becomes a pressing task, individual Asian countries have seen both the introduction of government policies on SCP and ambitious action working towards SCP in the private sector, such as the launch of a “green bank” financing programme for industries contributing to resource efficiency by one of Indonesia’s largest banks and the introduction by Thai Airways of carbon footprint labelling for in-flight meals.

In a shake-up of “Top News on the Environment in Asia”, which now has a publishing history of 13 years, as of January 2011 we launch a new project of publishing monthly on the IGES website the latest environmental news and topics of significance in Asia. Through this work we hope to make even greater use of the IGES research network that reaches throughout Asia to disseminate the latest information on Asian environmental issues and policy in timely fashion.

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