

2009 Top News on the Environment in Asia

Provisional Version



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Institute for Global Environmental Strategies (IGES)

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The Asia-Pacific Region

Institute for Global Environmental Strategies

(IGES)

1. Global Warming: The United Nations Climate Change Conference (COP15)

The 15th Conference of the Parties (COP15) to the United Nations Framework Convention on Climate Change (UNFCCC) was held in Copenhagen, Denmark in December 2009. The Conference of Parties “took note” of an agreement on a future climate regime, the “Copenhagen Accord”.

This Accord clearly stated the necessity for drastic reductions in global emissions to hold the increase in global temperature below 2 degrees Celsius, and a concrete amount of funds to be contributed to support climate change mitigation in developing countries. Meanwhile, no references were made to concrete numerical targets for mid-term and long-term reductions for either developed or developing nations, and no tangible progress was made on REDD (Reducing Emissions from Deforestation and Forest Degradation in developing countries). Thus, decisions on highly disputed issues were delayed and entrusted to future negotiations.

The above issues and the appropriate design of institutions in a climate regime will wield considerable influence on sustainable development in Asia. IGES intends to continue to actively carry out policy input to contribute to the creation of a future climate regime that maintains harmony between the priority matters of Asia and global-scale interests.

(Written by Kentaro Tamura, Climate Policy Project, IGES)

2. Biodiversity Crisis: Far from Meeting the 2010 Target

The world continues to fail halting biodiversity loss that has been taking place at an increasingly alarming pace. In the report entitled “Wildlife in a Changing World” released in July 2009, the International Union for the Conservation of Nature (IUCN) stated that a minimum of 16,928 species are threatened with extinction. In November 2009, IUCN raised the number of species threatened with extinction to 17,291.

In 2002, government leaders of the world adopted an international strategy in the Hague, Netherlands, to achieve by 2010 a significant reduction of the current rate of biodiversity loss. The target was endorsed at the World Summit held at the UN Headquarters in New York in 2005 and thereafter incorporated in the Millennium Development Goal as its Goal 7. However, the aforementioned IUCN report states that “we are facing the stark conclusion that the target will not be met” warning, for instance, that a third of amphibians, a quarter of mammals and one-in-eight birds are threatened with extinction.

European countries already announced in December 2008 that Europe would not meet the 2010 target, and such a conclusion was restated at the European Ministers Meeting held in Strömstad, Sweden in September 2009. At the ASEAN Conference on Biodiversity held in Singapore in October 2009, Mr. Ahmed Djoghlaif, Executive Secretary of the Convention on Biological Diversity stated that about 80 countries have indicated in their national reports that they expect to fail to meet the target. Mr. Rodrigo Fuentes, Executive Director of the ASEAN Center for Biodiversity, raising a grave concern over the unprecedented loss of rich biodiversity in Southeast Asia, said “a biodiversity loss is beyond losing plants and animals. It’s an issue of human survival, with the greatest impact on the poor”.

At the tenth session of the Conference of the Parties to the Convention on Biological Diversity (CBD/COP10) in Nagoya, Aichi, Japan in October 2010, it is expected that government leaders will assess the progress made on the 2010 biodiversity target, and adopt new biodiversity targets for 2020 and 2050 as part of a new Strategic Plan of the Convention for 2011-2020. The United Nations has declared 2010 to be the International Year of Biodiversity.

(Written by Masanori Kobayashi and Emiko Doi, Programme Management Office, IGES)

3. Sustainable Consumption and Production: Asian Leaders Establish 3R Regional Collaboration Forum

As the economies of Asia continue to grow rapidly, barely slowing down amidst the global economic recession, questions arise on the ability to sustain such a resource-thirsty direction of economic growth. China, for example, is the largest global importer of steel; Malaysia and Indonesia are facing problems of deforestation. Meanwhile, most countries can hardly cope with the amount of waste being generated, especially in cities. To this end, the recent establishment of a forum on the concept of *reduce, reuse, recycle* presents a fertile ground for collaborative efforts to seek pathways to low-carbon and sound material cycle society in the region.

The inaugural meeting of the Asia Regional 3R Forum, on 11 and 12 November in Tokyo, was organised by the Ministry of the Environment of Japan and the United Nations Centre for Regional Development (UNCRD) with support from the Institute for Global Environmental Strategies (IGES). It brought together high-level representatives from 15 Asian countries, international organisations and aid agencies, as well as experts in the area of the 3Rs. Among others, countries discussed the dwindling of natural resources, the challenges of environmentally-sound waste management, and the lack of urgency in addressing these issues. It was recognised that a proactive approach was to address upstream drivers of resource use, emphasising how sustainable resource management can be achieved through the 3Rs, and not only focusing downstream on waste collection and disposal. A low-carbon and sound material cycle society in Asia can be achieved by shifting to patterns of sustainable consumption and production.

Agreeing on the importance of regional cooperation, represented countries at the meeting signed the “Tokyo 3R Statement: Towards the Establishment of the Regional 3R Forum in Asia”, a good will and non-legally binding statement. Among others, countries agreed, through the Forum, to work in close collaboration with donor agencies to facilitate implementation, replication, and scaling up of 3R-related pilot projects and good practices; to promote public-private partnerships; and to develop capacity building for government officials.

A subsidiary Expert Group will provide technical input to the Forum, and IGES will coordinate collaborative research to support its objectives. A report of the Forum shall be presented to the 18th Annual

Meeting of The United Nations Commission on Sustainable Development in 2010. The next annual meeting shall be held in Kuala Lumpur, Malaysia in 2010.

(Written by Lewis Akenji)

The Asia-Pacific Region

Satwant Kaur
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1. Global Warming: National and Local Level Climate Change Assessments Inform Policies and Actions on Climate Change

To strengthen the ability of countries to integrate climate change responses into their national development processes, UNEP supported climate change assessments for Bangkok, Thailand, Mongolia and Viet Nam, and for Ha Thin Province in Viet Nam.

The *Mongolia Assessment Report* found significant decreases in surface water, grassland and forest areas, by 19%, 7% and 26%, respectively, that barren land (without grass) has almost tripled from 52 thousand square kilometers to 149 thousand square kilometers, almost 10% of the total land area. The size of the snowcap on major mountains has been reduced by 30% since the 1940s. The increase in frequency of heavy rain has led to a twofold increase in climate related disasters, including flashfloods, with high social and economic costs.

The report further reveals that changes in climate and land conditions have significantly affected livestock productivity and related economic sectors. Over the last two decades sheep, goat and cattle shearing times have moved ahead by about a week due to the change in climate. For Mongolia and similar countries, adaptation to climate change remains the most urgent priority. The report outlines a number of adaptation options, including pastureland management and livestock production systems, and early warning systems for extreme weather events to prevent related disasters

The assessment for Viet Nam concluded that the potential impacts of climate change are likely to be most serious in the agriculture and water sectors. The Red River Delta and Quang Ninh province, the North Central and South Central Coasts, and the Mekong River Delta were identified as the most vulnerable areas to potential effects of climate change

For Bangkok, the assessment identified the urgent need for development of adaptation strategies in infrastructure management, and monitoring and prevention of tropical diseases. It also elaborated action options for adaptation and mitigation in sectors of electricity generation, transportation, and waste and wastewaters management to make Bangkok a climate-proof city.

2. Biodiversity: Governments and Local People Unite to Protect Endangered Bird Habitats

Governments, local scientists and communities in China, Kazakhstan, Iran and Russia have stepped up efforts to conserve habitats essential for the survival of the critically endangered Siberian Crane and migratory water birds.

The countries have been working together through the Siberian Crane Wetland project to conserve wetlands and protected areas that traverse the 5,100 km migratory route of the crane extending from northern Siberia, via Northeast China, to Poyang Lake in Southeast China where most cranes spend the winter months.

The project has increased the security of key wetlands used by the remaining 3,000 – 3,500 Siberian Cranes and millions of other water birds. National wetland legislation and regional conservation plans were strengthened, local community partnerships developed, and national bird and water monitoring systems put in place. A large project success was establishing understanding and conflict resolution on water allocations to secure long-term benefit to people, wetlands and birds.

The project has also addressed some characteristic threats such as removal of an exploratory oil well inside a protected area in Western Siberia, re-established former water supplies to several Chinese wetlands key to the cranes by buying the water rights through a specially established government fund, and re-routing power lines and use of scaring devices to reduce bird mortality from collisions in Yakutia.

The Siberian Crane Wetland Project, which is supported by UNEP's Division of Global Environment Facility and implemented by the International Crane Foundation, is confident in having established the national and international capacity and commitment to continue its efforts towards better management of the 16 key wetland sites along the western and eastern flyways of the Siberian Crane.

3. Sustainable Consumption and Production: International Conference Shapes Path to Resource-Efficient Industry in Asia

A Declaration and Action Plan for Green Industry was adopted by 20 Asian countries participating in the International Conference on Green Industries that was held from 9-11 September 2009 in Manila, Philippines. The Declaration and Action Plan outlined steps needed to reduce the resource intensity and carbon emissions of industries in Asia as well as measures to monitor national efforts.

Opportunities and challenges on moving towards resource efficient industries and sustainable consumption and production patterns were the focus of the Conference, which was organised by UNIDO, UNEP and UNESCAP and hosted by the government of the Philippines.

The use of knowledge, technology and finance to move towards greater resource efficiency and low-carbon pathways, and for eco-friendly products and environmental services were also discussed, along with ways in which Asian firms can become more competitive in international trade with increased resource efficiency and how they can participate in the new global value chains in the environmental services sector.

In the closing session of the conference, the Chief of UNEP's Sustainable Consumption and Production Branch, Arab Hoballah, emphasised the need for urgent action on behalf of the industry and underlined UNEP's capacity and willingness on supporting Asian countries to implement the Ministerial Declaration and Plan of Action for Green Industry in Asia.

Countries that participated in the conference included Bangladesh, Bhutan, Cambodia, China, India, Indonesia, Iran, Japan, Lao PDR, Maldives, Myanmar, Nepal, Pakistan, Philippines, ROK, Russian Federation, Sri Lanka, Thailand, and Viet Nam.

4. Other News:

-Bangkok Plan of Action Charts Fresh Course for Strengthened Transboundary Freshwater Governance

The 'Bangkok Plan of Action', recommending actions to improve governance of cross-border freshwater resources, was today adopted at the 'Strengthening Transboundary Freshwater Conference – The Environmental Sustainability Challenge', held in Bangkok on 22 May 2009.

Nearly 100 participants, including Governments, heads of water bodies and leading experts and scholars from around the globe participated in the conference, organised by the United Nations Environment Programme (UNEP) and the Government of Thailand.

The protection of the environment, and its importance as a natural infrastructure for climate change adaptation, as well as the need for a higher political profile for the environmental dimension of transboundary governance

were among highlights of the recommendations.

The recommendations included calls on Governments to work with UNEP and other relevant partners to carry out recommendations and to seriously review and consider the UN Convention on Non-Navigational Uses of International Watercourses and the Draft Articles on the Law of Transboundary Aquifers.

Emphasis was also placed on existing UNEP initiatives like the International Network of Basin Organization. UNEP was also requested to organise regular forums and undertake a global inventory of transboundary basins. The importance of efficient and strong policy, legal and institutional mechanisms and integration of both surface and groundwater resources in transboundary governance was also stressed.

-Efficient Use and Improved Cooperation Critical to Meet Future Water Needs of Northeast Asia

A new UN Environment Programme report, *Freshwater Under Threat – Northeast Asia*, has found that countries in Northeast Asia must take immediate steps to use their scarce water resources more effectively.

The report studied five major freshwater river basins in the Northeast Asia subregion: the Chiangjiang (Yangtze), Huanghe (Yellow), and Songliao River Basins in China, and the Orkhon and Tuul River Basins in Mongolia.

It found that each basin suffered from scarce water resources, poor water use efficiency, weak basin management and coordination, and a lack of safe drinking water, particularly in rural areas.

The statistics identified in the report are stark. Northeast Asia has a quarter of the world's population, but only 0.3% of the world's freshwater resources. Of the water taken for human use, as much as 70% – the equivalent of 191.6 million Olympic-sized swimming pools – is lost during transportation. About 335 million people still don't have adequate access to safe drinking water, while more than 750 million people lack access to improved sanitation.

As part of the analysis, the report calculated a vulnerability index for the five selected river basins. The basins were found to have vulnerability indexes ranging from moderate to high, indicating that urgent intervention is needed to improve the state of water resources in the region.

The report also found that global climate change is already greatly affecting freshwater supplies in North East Asia and temperatures in the region. The report makes four recommendations:

1. Improve water use efficiency by revisiting how water is being used for agriculture and introduce economic incentives in water pricing policies.
2. Decentralise river basin management and involve local government and communities that rely on the waters that basins provide. A coordinated mechanism for water resources allocation should also be put in place;
3. Tougher environmental protection and pollution control, including restoring ecological flows to reduce the degradation identified in four of the five selected river basins These are the Changjiang, Huanghue, Songliao and Tuul River Basins;
4. Establish management priorities to ensure adequate access to safe drinking water for poorer populations so they can meet their basic everyday needs.

Central Asia

Information and Capacity Building Programme The Regional Environmental Centre for Central Asia (CAREC)

1. Global Warming: Adapting to Climate Change in Central Asia

The evidence of climate change is already noticeable in Central Asia. Increasing temperatures cause the rapid melting of glaciers in the region. The glacial coverage in various parts of the Central Asian mountains is currently shrinking by 1% annually¹. According to scientific forecasts, by 2050 this will lead to ultimate reduction of surface water discharge in the Amu-Darya and Syr-Darya rivers by 10-15% and 6-10%, respectively². These impacts on water resources will significantly affect agriculture and hydropower production, the key economic activities of Central Asia. Closer attention also needs to be given to adverse climate change impacts on biodiversity and ecosystems.

To cope with the negative impacts of climate change, adaptation policies need to be incorporated into economic development strategies. This was one of the main recommendations of a sub-regional working meeting of the *Central Asian Initiative on Sustainable Development* (CAI SD) organised by CAREC in October 2009. The meeting aimed at strengthening cooperation and creation of a dialogue among Central Asian countries to prepare a joint position on post-Kyoto at COP-15 in Copenhagen.

Central Asia will host two major environmental conferences in 2010 and 2011, bringing the Ministers of Environment of all Asian and Pacific states in 2010 and the European Ministers in 2011 to Central Asia. Both conferences will take place in Astana, the capital of Kazakhstan, thus providing a unique chance for Central Asia to address global environmental policy issues in a post Copenhagen world and to act as a bridge between policy approaches being formulated in Asia and Europe. CAREC stands ready to support this historic endeavour.



Setting of the solar heating collector
(Copyright: A. Nehaenko, PF "EcoIDEA")

2. Biodiversity: The Agrobiodiversity Treasure of Central Asia

Central Asia is one of the eight centres of diversity originally described by the Russian scientist Vasilov; areas that have a high degree of genetic variation for a particular species or genus of plants that can also be the centre of origin for that species.

An important priority of the Government of Kazakhstan is the conservation of local flora species. In the South and Southeast of Kazakhstan a wild apple-tree *Malus sieversii* (Ledeb.) M. Roem and an apricot *Prunus armeniaca* are of great significance.

¹ Second National Communication of the Kyrgyz Republic to the UN Framework Convention on Climate Change, Bishkek, 2008

² Presentation "Climate Change Impact on Water Resources of Central Asia", Eurasian Development Bank, Almaty, 2009

The *Malus sieversii* is a primogenitor of the overwhelming majority of apple cultivars around the world. Wild orchards in Central Asia contain genetic resources valuable for selection research and food security. More poignantly, *Malus sieversii* germplasm collected in the 1990s from Kazakhstan is currently being used to improve disease resistance in current apple cultivars around the world. During recent years the area of these orchards has reduced greatly due to anthropogenic and natural factors.

The GEF/UNDP Project "Conservation in situ of Kazakhstani mountain agrobiodiversity" started in 2006. The project aims to create the conditions that will allow the preservation and restoration of national orchards. The priority project goals include: mountainous orchards management improvement, creation of effective legislative frameworks, assistance to alternative economic activities development for local population, and a public awareness campaign. The expected project outcome in 2010 is to create a new Zhongar-Alatau State National Natural Park, with an area of 356,000 hectares, to protect the best species of *Malus sieversii*. Work has started on creating a genetic bank of a crab apple and an apricot intra-species diversity.



Wild apple trees
(Copyright: A. Mishenko)

3. Sustainable Consumption and Production: Raising the Issue of Municipal Wastes in Central Asia

In Central Asia the problem of municipal wastes is acknowledged as one of the most urgent and important. Rapidly growing volume of household waste, the lack of well-organised recycling system, and the irresponsible attitude of people towards waste threatens the state of public health and the environment. To illustrate the situation, every urban citizen in Kazakhstan annually produces around 300 kg of municipal wastes, 97% of which go to landfills.

The international experience proved that public awareness and the involvement of the population are prerequisites for addressing this issue. The CAREC project entitled «Environmental Awareness Raising Campaign in CA», financially supported by the European Union, aims to raise awareness on municipal wastes issues and showcase possible solutions. The project has developed and compiled films, video-clips, brochures, and teaching manuals on this issue. The project involved various stakeholder groups: children of different ages participated in drawing contests and demo lessons at schools, journalists had journalist contests and media events, artists held a festival «Waste as an Art», as well as the participation of the general population via media.

Awareness-raising activities are a key element of integrated waste management. International experience shows that the introduction of waste separation systems ensures a continuous flow of secondary raw materials to waste recycling plants, thus significantly improving the environment.



Aktobe Landfill, Kazakhstan
(Copyright: I. Aldauyev)

4. Other News : Local Multi-Stakeholder Efforts for Better Regional Water Management

Water is an extremely valuable resource in Central Asia. On the territory with an arid and semi-arid climate irrigated agriculture accounts for 85–90% of total water use. Today Central Asia faces challenges of increasing water deficits (constrained by problems of transboundary resource distribution and inefficient use of the resource), water quality deterioration, and degradation of aquatic ecosystems. These problems are results of ineffective water resource management, predetermined by the lack of regional cooperation, limited administrative capacities and inadequate cooperation between governmental agencies

To address the issues mentioned above one of the primary goals of CAREC activities is to provide a platform for the multi-sectoral water resources management in Central Asia at the local, national and regional levels. One of the key CAREC projects is “Local Multisectoral Efforts for Central Asian Initiative (CAI) Water Dialogue” (2008-2009), financially supported by the European Union. At the sub-regional working meeting on CAI in October 2009, the key stakeholders of five countries reconciled the small trans-boundary river basins, where the pilot projects will be implemented.

Importantly, sustainable water management and the related water ecosystems will be one of the two topics at the 7th Ministerial “Environment for Europe” Conference in Astana in 2011. CAREC was entrusted from Central Asian governments to support countries in thematic conference preparation through Multi-Stakeholder Advisory Council.



Ters River, South Kazakhstan
(Copyright: I. Mirkhashimov)

Australia

Peter Woods
Chief Information Officer
Australian Government
Department of the Environment, Water, Heritage and the Arts

1. Global Warming: Progress in Reducing Emissions, Increasing Renewable Energy and Investing in Climate Change Adaptation

Australia is tackling climate change by reducing carbon pollution, adapting to unavoidable climate change, and working with other countries to find a global solution.

In May 2009 the Australian Government announced a new, ambitious target to reduce Australia's emissions by 25% by 2020. Australia made major progress in 2009 towards the development of a Carbon Pollution Reduction Scheme to help achieve this end, including a cap and trade emissions trading scheme covering around 75% of Australia's emissions.

Legislation was passed in 2009 to increase Australia's renewable energy by four times over the next decade, so that 20% of the country's electricity will come from renewable sources by 2020. Australia is also investing billions of dollars directly in new, low-carbon energy technology, ranging from solar, wind and wave to geothermal and clean coal. A Global Carbon Capture and Storage Institute has been established, serving as a 'one-stop shop' to help realise the goal of 20 large-scale carbon capture and storage projects in operation by 2020.

Other climate change work includes continuing and comprehensive assessments of the likely impact of climate change on Australia's oceans, biodiversity, infrastructure and coastal areas to help inform planning and risk management into the future.

Under Australia's biggest climate change adaptation programme, the AUD12.9 billion *Water for the Future* initiative, the Australian Government has taken responsibility for planning in the drought-affected Murray Darling Basin – known as Australia's food bowl because of the importance of its irrigated agricultural production. The Australian Minister for Climate Change and Water, Ms Penny Wong, has set up an independent authority to develop the first-ever national plan for the basin, putting a new, lower, scientifically-based limit on its water use. Investment of AUD56 million in a new National Water Market System will improve interstate water trade within a flexible, efficient and effective water market. Of this, AUD1.5 billion will help Australia's cities, towns and households reduce their reliance on traditional potable water sources. This means investing in desalination, water recycling, stormwater harvesting, rainwater tanks and household grey water systems.

The Australian Government is buying back water to help restore health to Australia's rivers, purchasing 612 gigalitres of water entitlements by 30 September 2009. So far, AUD4.45 billion has been committed to upgrading and modernising water and irrigation infrastructure in the basin to help Australian farmers and regional communities and protect food security.

Further information: www.climatechange.gov.au
www.environment.gov.au/water/index.html



Solar panels (Copyright: Jeff Knowles and DEWHA)

2. Biodiversity: Protecting Unique Biodiversity, Developing Strategic Assessments

Australia reviewed its National Biodiversity Strategy throughout 2009, which included consultation with groups and individuals across the country. Following the release of major scientific reports on biodiversity loss and the vulnerability of Australia's biodiversity to climate change, Environment Minister Mr Peter Garrett foreshadowed a new approach to protecting Australia's unique biodiversity, calling on scientists, policy-makers and governments to contribute to a new, holistic approach to protecting ecosystems and building their resilience to the full array of threats and challenges.

Australia's key national environment law, the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) was subject to independent review in 2009, and the government will respond to its recommendations during the International Year for Biodiversity in 2010.

A major initiative that was well under way in 2009 was the development of strategic assessments under the EPBC Act which look at a whole area before development begins, rather than at individual projects as they arise. This aims to ensure landscape-scale, long-term environmental protection, and reduces the administrative burden, while giving certainty to developers, industry, communities, and governments for long-term growth.

Australia added to its extensive network of national parks under its cornerstone program *Caring for our Country*, which aims to increase the size of our reserve estate by one quarter by 2013.

The *Reef Rescue* programme, a AUD200 million five year commitment to improve water quality in the Great Barrier Reef region is helping farmers in the reef catchments change their practices to reduce the nutrients and chemicals in run-off from their farms.

In Australia's oceans, marine bioregional plans are being developed for all Australian waters to meet an international commitment to a national representative system of marine protected areas by 2012.

Further information: www.environment.gov.au/biodiversity/index.html
www.environment.gov.au/coasts/mbp/index.html



Butterfly on blossom (Copyright: Trevor Preston and DEWHA)

3. Sustainable Production and Consumption: Reforms and Strategies in Energy Efficiency and Waste Management

There was major reform in the areas of energy efficiency and waste management in 2009, with all levels of government, industry and community organisations working closely together on a range of national initiatives.

Central to Australia's response to the global financial crisis was the Energy Efficient Homes Package, which saw AUD4 billion committed to making homes more energy efficient with a comprehensive package including rebates for home insulation and solar panels, low-interest loans and 'smart meters'.

Australian governments agreed to a new 10-year National Strategy on Energy Efficiency aimed at increasing minimum energy efficiency standards for commercial and residential buildings. It will

reform the way standards, ratings and assessments are conducted for buildings, setting a platform for continuous improvement.

Led by Federal Environment Minister Mr Peter Garrett, environment ministers have also agreed to a landmark National Waste Policy, a national framework charting a 10-year vision for resource recovery and waste management. The policy includes a product stewardship scheme that should see 80% of all TVs and computers recycled by 2021. It sets out a comprehensive agenda for national coordinated action on waste across six key areas - Taking Responsibility; Improving the Market; Pursuing Sustainability; Reducing Hazard and Risk; Tailoring Solutions and Providing the Evidence.

Further information: www.environment.gov.au/energyefficiency/index.html
www.environment.gov.au/sustainability/index.html
www.environment.gov.au/wastepolicy/index.html
www.livinggreener.gov.au/



Bottle recycling (Copyright: DEWHA)

Bangladesh
Monzurul Huq
Tokyo Bureau Chief
Prothom Alo
The leading national daily of Bangladesh

1. Global Warming: Coastal Areas Suffer Most from Flooding and Cyclone Damage

Bangladeshi scientists believe that because of sea level rises, coastal areas of the country are already experiencing the worst impacts of inundation and erosion, saline intrusion, loss of bio-diversity and agriculture, and migration. A huge tract of arable land has been affected by varying degrees of salinity. The temperature and rainfall projection for Bangladesh over the next decades show a significant increase in temperature for both monsoon and winter periods, making the country vulnerable to further negative impact. Much of the future vulnerability due to such changes in climatic conditions would not necessarily add any new climate havoc to the already well-known ones like flood, draught and cyclone, but it would enhance the frequency as well as intensity of such disasters. In recent years, periodic cyclonic activity in the Bay of Bengal has become more frequent, as has been reflected in the devastations caused by the very recent cyclones, Sidr and Aila.

As Bangladesh now suffers such ravages with alarming frequency due to global warming, the country needs to have its own disaster preparedness and adaptation plans. The first prerogative, as has been stated recently by Prime Minister Sheikh Hasina, is to conducting dredging of the rivers, along with a massive tree-planting programme throughout the country, especially in coastal zones.

2. Biodiversity: Depletion of Biodiversity and Government Regulations on Conservation

Like many other regions of the world, Bangladesh too is facing the problem of depletion of country's rich biodiversity due to increased human development intervention. Ever-increasing demand for timber and fuel-wood as well as encroachment for other purposes are aggravating factors in the annual rate of deforestation and degradation. Unplanned rapid urbanisation and industrialisation are leading to waste and pollution problems that affect the natural ecosystem. As the land and water-based ecosystems are seriously compromised, the biodiversity of the country is increasingly facing the worst possible impact.

The new elected government of Bangladesh, which was formed after the December 2008 general election, is now taking measures to update and revise conservation regulations in the country. The two recent cyclones served as a renewed reminder for the government of the need to increase public awareness on this crucial issue, and public policy these days is increasingly being supported by the greater involvement of non-governmental organisations focusing on environment issues.

3. Sustainable Consumption and Production: A Disaster Management System Leading to Stable Sustainable Consumption and Production

To address the adverse impacts of climate change, the government of Bangladesh introduced the National Adaptation Program of Action in 2005, which was later enhanced further with the adaptation of Bangladesh Climate Change Strategy and Action Plan in 2008. The action plan calls for the creation of a comprehensive disaster management system that would incorporate among other components a research and knowledge based management strategy.

As a result, sustainable consumption and production no longer remains a distant goal for the country to achieve. This had been rightfully reflected in the concern expressed by the State Minister for Environment and Forest of the government of Bangladesh, Dr. Hasan Mahmud, during his participation at the Asia-Pacific 3R regional ministerial meeting in Tokyo in November 2009. At a meeting with the environment minister of Japan on the sideline of the conference, the state minister of Bangladesh stated that the Environment Directorate of the government of Bangladesh would soon open a wing to deal with issues related to 3R. The main task of the new wing would be to take initiatives for raising the awareness of the people to abide by the rules and regulations enacted within the existing laws of Bangladesh, which the minister termed as pertinent for materialising the 3R programme in Bangladesh.

4. Other News: Campaign Breakthrough, and International Recognition for Local Environmental Activist

An awareness campaign on global warming and climate change is gradually making a breakthrough in Bangladesh and 2009 has been a relatively successful year in this important aspect. In an effort to move to address the adverse impact of climate change, lawmakers from coastal constituencies of the country formed “Bangladesh Climate Change Action Group” in early November. The group is expected to have around 50 members, all elected from the southern region. The members of the parliamentary group intend to make their voice heard in local and international conferences on climate change.

Time magazine in its 2009 annual guide to the men and women who are working to help the planet has listed Chief Executive of the Bangladesh Environmental Lawyer Association (BELA), Syeda Rizwana Hasan, among the leading activists around the world who are trying to ease the burden of the planet from the hazards of global warming. A lawyer by profession, Rizwana Hasan has struggled to bring a better environment and labour regulations to Bangladesh’s 36 ship-breaking yards.

Bhutan

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1. Global Warming: Glacial Lakes Outburst will Threaten Bhutan's Survival

Global warming is a threat not only to low-lying countries, but to high altitude countries as well. Studies have revealed that Bhutan's glaciers are melting by 30 to 35 metres a year. One of the direct consequences of this was a sudden gush of water from the 13-km long Tshojo glacier, which swelled the Phochhu River this year, requiring a mass excavation of Punakha towns.

The survival of Bhutan depends on the stability of the lakes, since hydropower generated by these glacial-fed rivers constitutes about 40% of Bhutan's export. Northern Bhutan has nearly 3,000 lakes of which 24 have been identified as potentially dangerous, meaning they may burst in the not-too-distant future. Global warming has accelerated the melting of glaciers.

The government is making efforts to drain Lake Thorthormi which has been found to be on the brink of breaching its walls. Geologists say that the natural dam wall between Lake Thorthormi and Lake Rapstreng is only 32.5 m thick at the crest and is getting thinner every year. If the wall separating the lakes gave way, Thorthormi, being on higher ground, would flow into Raptstreng and cause about 53 million cubic metres of water to rush down the valleys of Punakha, Wangduephodrang, Tsirang and Dagana.



A woman with her children and household property after being evacuated from her home, fearing flooding from Lake Tshojo outburst

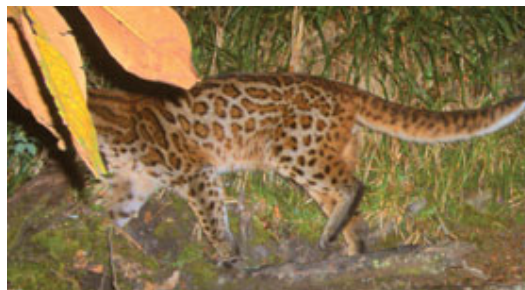
(Photo copyright by Kuensel, 2009)

2. Biodiversity: Bhutan's Biodiversity Becomes Richer

New species continue to be added to the already rich biodiversity of Bhutan. There have been 21 new species of amphibian, insects and an equal mixture of both flowering and non-flowering plants discovered this year. A total of 353 new species have been discovered in the eastern Himalayas which includes the whole of Bhutan, parts of India and Nepal from 1998 to 2008, and that amounts to an average of 35 new species every year. The list includes 244 plants, 16 amphibians, 16 reptiles, 14 fish, two birds, two mammals and about 60 new invertebrates. However, these species are being threatened by forest destruction, shifting cultivation, illegal poaching, pollution and poorly-planned infrastructure. The ecosystems necessary for the survival of species in Bhutan are still intact despite emerging development pressures, and Bhutan still provides east-west and north-south connectivity for the eastern Himalayas and its diverse species to thrive and evolve. But the region is faced with many threats and challenges which are trans-border and regional in nature and scale. Climate change and poaching are the two main challenges. The eastern Himalaya is one of the last biological frontiers of Asia, with 47.4% of its area under protection. It is home to 10,000 plant species, 300 mammal species, 977 bird species, 176 reptiles, 105 amphibians and 269 types of freshwater fish.



A frog species, *Scutigera bhutanensis* is one the newly discovered species (Photo copyright by Kuensel, 2009)



The rare Ocelot sighted in Sephu, Southern Bhutan (Photo copyright by Kuensel, 2009)

3. Sustainable Production and Consumption: The ‘Green’ Guardians of JD National Park

The legalisation of cordycep gathering in 2004 has brought cash income to the Layaps. From April to June every year what Layaps call the ‘golden year’, people are out in the field picking whatever cordycep they can, thus raising the issue of sustainable harvesting. Without any regulation, the cordycep (the medicinal fungi locally known as yartsa goenbub) could be over-harvested. One forester, Sangay, is out to ensure that the ‘goose’ which is laying golden eggs yearly for Layaps is not killed as in the proverbial fable. Sangay is one of six foresters looking out for illegal cordycep gatherers and musk deer poachers in the 4,349 square km Jigme Dorji national park (JDNP). He spends eight months in the park, and descends down to the range office during winter. He has spotted the royal Bengal tiger, the snow leopard and the blue sheep on his annual eight-month outpost duty in Laya. Between 2001 and 2008 Sangay and his colleagues have caught poachers: 2,434 Tibetans and 398 Bhutanese. The presence of non-biodegradable waste like cigarette butts, bottles, tin cans and plastic left behind by poachers is one of the problems in the park. Over the years, Sangay has observed a substantive disturbance to the wildlife habitat due to the presence of too many people and excessive picking of cordyceps in the same area.



Sangay, the protector of Laya’s ‘golden goose’

(Photo copyright by Kuensel, 2009)

4. Other News: The Prayer Flag and the Forest

Visitors to Bhutan will be greeted by thousands of Buddhist prayer flags, fluttering in the cold Himalayan winds, spreading their benefits as far the wind can travel, the eyes can see, and the mind can fathom. However, it has to be said that they have environmental implication.

In Bhutan, Buddhism and environment conservation may agree on many things but not on all things and one typical example is the Buddhist prayer flag culture. In its middle path approach of balancing conservation and development, this culture of raising prayers flags is very sensitive to people's religious sentiment as well as the conservation effort.

Bhutanese raise prayers flags for various reasons: as part of funeral rites, to heal the sick, to prolong life, and to increase the power and prosperity of the living.

Thousands of trees are felled for flag posts every year for this purpose. Between June 2007 to June 2008, 60,178 trees were felled or about 165 trees every day to meet the demand for poles, most of which are used for flag posts. This excludes the 550 trees felled daily for other uses.

Most of the permits granted for poles also used for makeshift huts, cattle sheds and construction, are used for flag poles.

The forestry department is caught in a dilemma. Even though immense pressure is being put on forests, to stop the granting of permit is to hurt people's sentiments. Prayer flags are part of the death rituals, and 108 prayer flags is the ideal number. Since only young and tall trees make ideal flags, trees for flag posts are getting scarce. To ease the pressure, the residents of Thimphu, the capital, are given permits for 29 trees only.

Alternatives like bamboo and steel posts were not taken up by the people, even though a bamboo plantation has been started. In the meantime, environment conservation and promotion of culture are considered two of the nine domains of Gross National Happiness.

Cambodia

Khieu Muth
Secretary of State
Ministry of Environment

1. Global Warming: Implementation of Multilateral Agreements on Climate Change

The First National Forum on Climate Change was organised on 19-21 October 2009, honorably opened by Samdech Hun Sen, Prime Minister of the Royal Government of Cambodia, and participation from representatives of various government ministries/institutions, foreign embassies in Phnom Penh, development partners, NGOs, and academicians. The presence of the Prime Minister in this forum is an important indication of support from the Government to address climate change issues. As clearly indicated in his opening speech, as a signatory to UNFCCC and the Kyoto Protocol, the Prime Minister stated that the Government has made its best effort to implement these multilateral agreements under the framework of its Rectangular Strategies. For instance, to contribute to the mitigation of green house gas emissions, the Government has implemented various win-win solutions such as CDM projects, energy saving and efficiency, forest conservation within protected areas and forest reserves, private sector's voluntary consumption of energy from agricultural waste and biogases, and avoiding deforestation projects. The Government also adopted a national adoption programme of action (NAPA) with 39 projects in late 2006 in order to immediately respond to the needs of local communities to adapt the climate change. In addition, the Government has established a national committee for the management of climate change, of which the Prime Minister is the honorable chairperson, to administer policies, and coordinate and strengthen cooperation in climate change-related actions.



Distinguished Participants in the First National Forum on Climate Change
(Copyright: Ministry of Environment)

2. Biodiversity: Biodiversity Corridor Conservation

Amidst the ongoing debate on how to best address challenges associated with biodiversity losses, the Cambodian Ministry of Environment hosted a “National Biodiversity Steering Committee Meeting on GMS/CEP-Biodiversity Corridor Conservation Initiative Pilot Projects” on 21 May, 2009 at Raffles Hotel Le Royal, Phnom Penh. The meeting was honorably chaired by H.E. Dr. MOK Mareth, Senior Minister, Minister of Environment and Chairman of the National Biodiversity Steering Committee (NBSC), and attended by 40 experts including NBSC's Vice Chairman and members, representatives from ADB-GMS Environmental Centre, and partners in implementing the biodiversity corridor conservation pilot project in Cardamom and Northeast highland area in Mondulkiri province, including WA, CI, FFI, WWF, and WCS. The meeting's

objectives were to: (i) give feedback on the project implementation and up-to-date progress; (ii) identify needs for building and enhancing basic capacity for sustainable use of natural resources and biodiversity conservation; (iii) dialogue on key challenges and measures to overcome them; and collect ideas from relevant stakeholders for preparing future work plans.

During the meeting, Dr. MOK clearly indicated that the implementation of the biodiversity corridor conservation pilot project has demonstrated the strong commitment of the Royal Government of Cambodia in sustainable use of natural resources, ecosystem restoration, and biodiversity conservation and protection for future generations. The indication proved to all of the participants that Cambodia has actively participated in the joint effort among all nations in the region to tackle environmental concerns and to integrate environmental sustainability into the poverty alleviation and socio-economic development agenda.

3. Sustainable Consumption and Production: Low Carbon Green Growth

Cambodia has been rapidly developing its economy in favour of poverty reduction. This has resulted in the gradual destruction of natural resources, depletion of ecosystems, water scarcities, and increased climate vulnerability. In response to the accelerating climate vulnerability, the Ministry of Environment (MoE) requested the UNESCAP to develop a pilot project on Green Growth Policy Tools Pilot Project to turn the challenges of today into opportunities so that our country can make headway towards sustainable development.

MoE has initiated the establishment of the Inter-ministerial Working Group on Green Growth to assist the National Green Growth Secretariat for the process of development of the Green Growth Roadmap, development of a framework of eco-efficiency indicators (EEI), Development of Environmental Sound Technologies (ESTs) and Information Technology (IT).

The Green Growth Roadmap aims to unify development and environment objectives by means of implementing policies tailored to address the needs of all, including the most disadvantaged, to create jobs, to increase the resilience of the environment and of the population to adverse impacts, thus sustaining economic growth and human and environmental well-being through setting it short-term (2-5 years), medium term (5-10 years) and long term (10-20 years). Furthermore, the Green Growth Roadmap has highlighted the following important concerns to ensure environmentally-sound development: (i) clean water and sanitation, (ii) sustainable energy, (iii) sustainable agriculture, (iv) eco-village/eco-city, (v) information and knowledge, (vi) sustainable transportation, and (vii) financial investment in green industry.

China

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1. Global Warming:

-Proactive Climate Change Measures

On 27 August 2009 the Standing Committee of the National People's Congress adopted a resolution on climate change. Reaffirming and underscoring Chinese principles and action on climate change, the resolution also upgrades energy conservation, greenhouse gas reductions, and adaptive capability; promotes the development of a green, low-carbon economy through science and technology; consolidates legal frameworks; and specifically incorporates climate change action into national economic and social development planning. It also contains language strengthening international cooperation and reaffirming the United Nations Framework Convention on Climate Change and the Kyoto Protocol.



(Photo: Xinhua)

In September 2009 President Hu Jintao addressed the United Nations Climate Change Summit at UN headquarters in New York on the subject of tackling climate change. In this speech President Hu reaffirmed China's proactive stance on climate change issues and stated concrete numerical targets for such areas as energy conservation, development of renewable energy resources, and growth in carbon-sink volumes.

In November 2009, China announced a target to reduce its CO₂ emissions per unit of GDP by 40-45% (from 2005 levels) by 2020. It was the first time that China had announced this kind of numerical target. In setting this target, the Chinese government emphasised that this voluntary action revealed its positive efforts towards global warming policies.

-Subsidies for Solar Power Generation

In March and July 2009 the Chinese government launched a pair of subsidy programmes, one for buildings performing solar power generation and the other, called Golden Sun, targeting model projects promoting the greater use of solar power generation.

Financial support mechanisms for corporate projects implementing or furthering solar power generation, these subsidy programmes are expected to lead to the growth of solar power generation projects.

2. Biodiversity:

-Towards Promulgation of the Sea Islands Protection Law

China's Sea Islands Protection Law is expected to be promulgated at the end of 2009. Policies relating to promotion of island development are known to be awaiting review and approval by the State Council.

The Sea Islands Protection Law will be the first legislation protecting island ecosystems initiated at the national level by China's supreme legislative body. Presented in June 2009, the draft of the PRC Sea Islands Protection Law includes language lodging ownership of uninhabited islands with the state and initiating the construction of an islands protection planning system, the classification of island protective measures, and programmes for protecting and patrolling island ecosystems and those in surrounding sea areas.

The draft legislation has already been submitted to the Standing Committee of the National People's Congress and is expected to complete final review and be promulgated by the end of 2009.



The Nanji Islands National Nature Reserve (Photo: Zhongguo Guojia Dili)

-13th World Lake Conference Adopts Wuhan Declaration

Held in the central Chinese city of Wuhan 1-5 November 2009 and attended by over 1,000 delegates from 40 countries, the 13th World Lake Conference took up the theme "Rehabilitate the Lake Ecosystem: Global Challenges and the Chinese Innovations — Resource Conservation and the

Formation of Environmentally-Friendly Societies".



(Photo: Chang Jiang Foundation)

The conference adopted the Wuhan Declaration recommending Integrated Lake Basin Management (ILBM) for managing lakes and their watersheds together and sharing ILBM experience.

The declaration calls for close cooperation among all countries on the basis of their own ILBM experience and also that they implement comprehensive strategies that look beyond single-factor water quality projects, and enhance partnerships involving communities, industries and NGOs.

3. Sustainable Consumption and Production: Subsidies for Replacing Automobiles and Home Appliances

On 18 May 2009 the State Council announced its "Old for New" policy for urban areas to promote the replacement of home appliances and automobiles with new purchases and decided on investments in the form of over seven billion yuan in total subsidies. The policy aims both to shore up consumption and to establish recycling systems for home appliances and automobiles.

Provincial agencies have announced specific schemes for implementing "Old for New" programmes, and since July various of these have been coming online in locations around China.

4. Other News: State Council Announces "Planning Environmental Impact Assessment Ordinance"

On 12 August 2009 the 76th executive meeting of the State Council released a Planning Environmental Impact Assessment Ordinance, effective 1 October 2009.

Based on the Environmental Impact Assessment Law, the ordinance mandates the conduct of environmental impact assessments at land-use and development planning stages, the identification of problems and the performance of scientific assessments. This is expected to move China's environmental impact assessment system well forward.

Fiji

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1. Global Warming: Causing Sea-Level Rise and Floods

Global warming and climate change impacts continue to cause unrest at all levels of the community in Fiji. With its urban and rural population centres generally very near to sea level, any sea level rise will have significant impacts, environmentally, socially and economically. Global warming is also causing dramatic changes in weather, especially rainfall patterns, wet and dry seasons, drought etc. Sea level rise will cause displacement of settlements and large populations, as well as rendering arable land unusable due to seawater inundation and salinisation.

These gradual changes also put pressure on marine and aquatic ecosystems, with temperature variations that cause coral bleaching, and can possible drive biodiversity extinction. Changing rainfall patterns cause flash flooding more frequently and with devastating impact, which in turn causes loss of production, resources and social economic ills. Climate change also impacts the agricultural production cycles and yields, leading to increased importation of basic food supplies.

Of late, coastal erosion, fresh and marine water resource depletion, contamination of water resources through human-induced pollution, loss of agricultural land, destructive cyclones and floods, and coral bleaching can all be attributed to global warming.



Devastating Flood Effects: Photo courtesy Fiji Times 13 January 2009



Devastating Flood Effects: Photo courtesy Fiji Times 13 January 2009

2. Biodiversity: Impacted by Deforestation and Depletion of Coastal and Marine Resources

The protection of its vast biodiversity continues to be discussed on national forums and is always on the forefront of environment agenda's. Biodiversity encompasses an unfathomable extent of issues and some of the immediate concerns for Fiji include deforestation, land degradation, inland water pollution and depletion or loss of coastal and marine resources. There is also the danger of loss of arable land.

Whilst all of these issues are equally impacting, deforestation, land degradation, depletion of coastal and marine resources continue to be lead issues in Fiji. It is generally accepted that these directly impact the livelihood of people who populate the coastal areas.

Uncontrolled deforestation and logging continues in an unsustainable manner, and very often acceptable practices in the industry are not adhered to with uncontrolled and in many instances illegal logging continue unabated.

3. Sustainable Consumption and Production: Principles of Sustainable Practices Seldom Adhered to

Sustainability in the use of resources and energy has been in the forefront of national agenda year around. In the areas of logging, agriculture, marine resource harvesting, natural resources usage, principles of sustainable practices are seldom adhered to. The major concerns are outlined as follows:

- Many important marine resources are being exploited unsustainably by both communities and by commercial enterprises.
- The major issues are over-fishing, use of destructive fishing practices, coral reef degradation, coral harvesting.
- Poor agricultural practices, bad land management, unplanned developments, human negligence and weak coastal planning are degrading coastal waters and marine life.

Fiji's apparent lack of research in areas of sustainable and alternate energy resources is a cause of concern. Fiji has exceptional waterways and river systems with desirable terrains and topography, for an integrated hydro-power and freshwater water resource integrated scheme. With rising cost of fossil fuels and its associated climatic impact, it would be prudent for Fiji to venture into sustainable hydro-electricity scheme for its energy needs.

4. Other News: Litter Promulgation Decree (2008)

Various news reports from daily locals, has revealed further environmental issues including heavy metal concentration from mining activities, and disposal of sewerage waste. There have also been reports of oil spills and unsustainable population growth.

In Fiji, solid and liquid waste disposal has become a difficult task due to lack of adequate lands for disposal sites and a lack of technical know how to improve collection efficiency. There are also problems of industrial activities yielding non-cycling industrial wastes, as well as high population shifts/growth resulting in the discharge of large scale domestic waste products

After implementation logistics were sorted with various stakeholders, the Litter Promulgation Decree came into full implementation in 2009. This is basically a formal step taken by the interim Government to create a cleaner or litter-free environment and contribute towards a structured solid waste disposal scheme.

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India

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1. Global Warming: Bold New Responsibilities-Curbs on Carbon Emissions

India has thus far rejected emissions cuts, declaring that they would compromise the populous nation's economic growth. Having won the 2009 electoral victory, however, the Government has been wielding the olive branch as India prepares for the Copenhagen climate conference. India's emerging economic might and global ambitions are nudging Prime Minister Manmohan Singh, an Oxford-educated economist, to be more mindful of the nation's image, and he wants India to engage with the world in a way that befits its aspiration to be a permanent member of the United Nations Security Council and have greater say in the running of the International Monetary Fund and the World Bank.

In December 2009, the Indian Government announced a target to reduce India's emissions by 20-25% by 2020 (from 2005 levels) to meet a certain level of GDP.

India has set, in its 11th Five Year Plan, an economy-wide target of 20% energy efficiency by 2016-17. It is also finalising an incentive-based market mechanism in the form of trading of energy saving certificates in energy intensive sectors. Its national mission on energy efficiency will, by 2015, help save about 5% of India's annual energy consumption, and nearly 100 million tons of carbon dioxide every year. It is popularising the use of Compact Fluorescent Lamps (CFLs), which are 80% more efficient in energy saving than incandescent lamps, and it has announced a roadmap for fuel economy norms for all vehicles, which will be fully operational within the next two years. India is also in the process of setting up energy efficiency norms for buildings, and implementing a standards and labelling system for all appliances, which is expected to lead to savings of 11,689 million kWh annually in the first five years of its operation.

India's has one of the largest renewable energy programmes in the world under implementation since 1980s. In 2009, renewable energy power accounted for 8% of total power generation capacity in the country and will exceed its target of 10% by 2012 through strong incentives for enhancing the renewable energy production capacity and renewable power generation. Its National Solar Mission has an ambitious target of 20,000MW solar power by 2020 being accepted.

Increasing Forest Tree Cover (FTC) in the country is an important way forward in the battle against climate change as it will lead to better provision of goods and ecological services, and also provide livelihood to 300 million disadvantaged people. Moreover, the higher forest cover will also act as a carbon sink. The national goal is to achieve 33% of land mass under FTC which was 23.4% in 2005 – a gap of some 31 million hectares. India is promoting afforestation on an unprecedented scale. India, which has a fifth of its area under forests, is one of the few developing countries in the world where the forest cover is increasing, by 0.8 million hectares a year, despite the pressures of population growth and rapid economic development. This is neutralising 11% of India's annual GHG emissions.

India is also an active participant in the Clean Development Mechanism (CDM) under the Kyoto Protocol, with the second highest number of projects registered for any country and estimated to offset almost 10% of India's total emissions per year by 2012.

India is supporting and facilitating major research programmes to assess various aspects related to climate change – viz. a comprehensive scientific climate change programme involving over 120 research institutions and over 220 of the best scientists in the country. A special focus area is the study of the Himalayan glaciers and their link to climate change. India is also on the path to launching its

own satellite to monitor greenhouse gases in the atmosphere. It has also released the results of a range of rigorous studies that estimate the GHG emissions profile of India for the next two decades.

Source: Websites <http://climateprogram.org>, <http://planningcommission.gov.in>

2. Biodiversity: Path-breaking Measures on Environment, Forests and Wildlife

Inaugurating the National Conference of State Ministers of Environment and Forests in August 2009, Prime Minister Manmohan Singh, seeking cooperation in making a success of the eight National Missions and other key components of the National Action Plan on Climate Change (NAPCC), asked each state government to create their own state level action plans consistent with the strategies in the National Action Plan. The high-point of the conference was the announcement of several such measures on environment, forests and wildlife which give teeth to the laws and the implementing agencies; e.g. establishment of National Green Tribunal; constitution of Environmental Protection Authority; strengthening of Pollution Control Boards and crisis management groups; capacity building of state authorities in Environmental Impact Assessment (EIA) and Coastal Zone Management (CZM); constitution of State Biodiversity Boards and Committees; operationalisation of Compensatory Afforestation Management and Planning Authority (CAMPA) to increase the country's green cover; promoting Centre-State synergy; modernisation of Forest Department; strengthening of wildlife institutions; Wildlife Crime Control Bureau, and National Tiger Conservation Authority.

The conference also dwelt on the National River Conservation Plan (NRCP), which began in 1985 with the cleaning of river Ganges (Ganga Action Plan) and was subsequently expanded to NRCP and it now covers polluted stretches of 37 rivers in 167 towns in 20 states of India. The collective endeavour of the central and state governments is on a 70:30 cost sharing basis, and the focus is on the interception, diversion, and treatment of sewage. The major drawbacks are the exponential increase in population, inadequate O&M, under-utilisation of assets, and slow implementation. There are also other future challenges to be met such as the increasing demand for power and industries, for irrigation in agriculture, demographic pressures, climate change impacts, fluctuating flows, weak compliance and enforcement, and lack of mass awareness.

The Central Government has signed tripartite agreements with the National Tiger Conservation Authority (NTCA) and state governments like Rajasthan, Madhya Pradesh, Andhra Pradesh, Uttar Pradesh and Arunachal Pradesh for the conservation of tigers in various tiger reserves. The budgetary allocation for the Tiger Project has been doubled in 2009-10 and substantial funds have been allocated in the 11th Plan for Project Tiger. A "Social Tiger Protection Force" comprising local communities has been set up to protect tiger population from further damage. The Government is planning to strengthen legislation to curb poaching and other illegal activities in forest reserves by creating a National Green Tribunal. The government also plans to "restore" the Cheetah, which is extinct in India, by bringing the animal from abroad.

Source: Website of Ministry of Environment and Forests, Government of India

(<http://www.moef.nic.in/index.php>)

3. Sustainable Consumption and Production: Developments in ICT and Waste Management

The Government of India has opted for Public-Private-Partnerships (PPP) to establish IT infrastructure and IT training in schools. Approximately USD 18 billion has been set aside solely for Sarva Shiksha Abhiyan (Education For All), a plan for advancing computer literacy, in the 11th Five Year Plan period, which is four times more than in the Tenth Plan period.

In order to facilitate rural transformation, the Government has taken ICT to rural India which includes better quality education and skill development. The National Rural Employment Guarantee Act (NREGA) by the Ministry of Rural Development & Panchayati Raj widely uses ICT for transparency and enforcing workers' rights under NREGA.

The Energy and Resources Institute (TERI) is engaged in the development and promotion of technologies for efficient utilization of energy, sustainable exploitation of renewable energy, reduction in pollution, and effective treatment of waste. TERI has carried out work on promotion of energy efficiency in industries, thermal power plants and commercial buildings through comprehensive energy audits and associated services. It is also engaged in development and promotion of energy-efficient and environment-friendly technologies in small and micro enterprises. While working on energy efficiency, a major goal is also to achieve climate benefits through GHG emission reductions. With the focus on various alternatives to fossil based economy, researchers have been focusing on development of clean fuels, particularly hydrogen.

The environmental impacts of crude oil are well known. With support from the Department of Biotechnology (DBT), Government of India, TERI has developed a bacterial product known as 'Oilzapper', and this technology is being used by all the oil companies in India to clean up oil spills and treat hazardous oily sludge generated unavoidably by the oil industry. With its application, more than 1,550,000 tons of oily sludge and oil-soaked soil has been treated and 50,000 acres of farmers' land spoiled due to oil spills cleaned.

A five-year cooperation agreement between India and UNIDO was signed in 2008 to strengthen competitiveness and productivity of industrial enterprises in India, with focus on small and medium scale enterprises (SMEs). One of the aims of this technical cooperation programme is to develop a clean-green industry with increased productivity, quality management, energy efficiency and water conservation practices, occupational health and safety, and environmental sustainability. A four-year project of the All India Artisans & Craft-workers Welfare Association (AIACA) seeks to promote sustainable production (i.e. development of less polluting and more resource efficient products, processes and services) and sustainable consumption patterns in the crafts and textile sector in India. Another project implemented by TERI and the Ministry of Environment and Forests aims to help improve the technology used for brick-making in India to make it more resource-efficient.

In pursuit of its environmentally-friendly programme and continuing commitment to preserve the environment for future generations, Toshiba India is promoting the 3Rs – Reduce, Reuse and Recycle – by launching a facility where customers can recycle their Toshiba Notebook PCs with no obligation to purchase a new computer.

With its new, more comprehensive solid waste management plan in place, the Municipal Corporation of Delhi (MCD) plans to generate 28 mega watts (MW) of power from treated solid waste. It has announced that it will implement two ambitious projects on a public-private partnership. In the North East Region of India, a solid waste processing project was inaugurated by Oil India Ltd. with the focus to convert waste into useful products and by-products, thereby bringing into reality the "Zero Waste" philosophy.

Source: <http://www.ciol.com>, and <http://www.pib.nic.in/>
<http://www.teriin.org>, <http://ec.europa.eu/>
<http://www.aiacaonline.org>

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Indonesia

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1. Global Warming: The First World Ocean Congress: Setting Up a Policy to Cope with Global Warming

Scientists, policy-makers, non-governmental organisations and practitioners from around the world gathered in Manado (North Sulawesi) on 11-15 May 2009 for the World Ocean Conference (WOC), which was held back-to-back with the Coral Triangle Initiative Summit. The Manado Conference was the first of its kind.

WOC 2009 was a forum for the world community to discuss current issues in the marine field which are related to climate change, and how the world can wisely utilise the ocean to overcome the current crisis. The participants discussed the role of oceans in mitigating climate change and how climate change affects the world's seas, but their efforts are hampered by a lack of knowledge about the oceans.

This Conference was expected to create a more aligned global vision and commitments from participating governments and institutions to work together to improve marine resource management. The Conference participants are looking forward to another event: the United Nations Framework Convention on Climate Change in Copenhagen in December 2009. The delegates to that meeting hope to lay the foundation for an agreement to replace the Kyoto Protocol on reducing carbon emissions and coping with climate change. Manado is seen as the first step toward taking oceans into account in the fight against climate change.

2. Biodiversity: Reintroduction of Rote Island Snake-necked Turtle

Among the 26 species of Indonesian freshwater turtles, the Rote Island Snake-necked Turtle *Chelodina mccordi* has been considered the most endangered species. Population of the highly endemic turtle in the wild has been extirpated due to excessive hunting for the international pet trade in the past. The rareness and uniqueness of the snake-necked turtles had made this species highly sought by international collectors and hobbyists.

Rote is a small island at the southernmost point of Indonesia, part of Nusa Tenggara Island chain. After a thorough field assessment and following the IUCN's guidelines for reintroduction, Peto Lake was selected for the reintroduction programme. On 16 July 2009 the Ministry of Forestry, accompanied by local people and local government authority, released 50 turtles to the Peto Lake. The turtles were donated by a breeding company, PT Alam Nusa Jayatama, operated in Jakarta. Another 50 turtles will be released at the end of the year, after ensuring the survival of the released turtles. A traditional regulation, called 'papadak' was revived to safely guard the turtles from poaching.



Rote Island Snake-necked Turtle *Chelodina mccordi* (left). Rotenese girl and boy, wearing their traditional costumes, participated in the turtle release (right).

(Copyright: Author)

3. Sustainable Consumption and Production: Sustainable Farming of Corals

All Indonesian hard corals are listed in the CITES Appendix II, and thus the number of coral harvested from the wild are regulated by a quota system. Various species of Indonesian corals originated from the wild have been traded in the international market for several decades, mostly to the US and European countries. The corals are used for ornamental fish and reef tanks.

To ensure the sustainability of the corals harvested from the wild, the government of Indonesia intends to gradually decrease the quota of the wild corals and promote coral farming at the same time. In previous years, research and field trials to transplant corals have been conducted in several sites in Indonesia. The results are very satisfying.

Currently the coral 'farming' by using transplantation method has been successfully produced in various sites in Java and Bali. At least 70 species of hard corals have been farmed successfully. The farmed corals are given a special tag to distinguish them from corals harvested from the wild. Further research on farming soft corals and single polyp corals is still in progress.



Preparation of coral farming (left). Farmed corals in their marine habitat (right).
(Copyright: Author)

4. Other News: A Series of Earthquakes Shook Indonesia

In 2009, a series of major earthquakes rattled Indonesia. A massive earthquake (7.6 on the Richter scale) struck Padang and its surroundings (West Sumatra Province) on 30 September 2009. About 180,000 houses were damaged and more than 1,100 people died. An estimated 250,000 families (1,250,000 people) were affected by the earthquake. The earthquake revived fears of a repeat of the 26 December 2004 tsunami disaster in Aceh. The tsunami killed about 300,000 people in a dozen countries, with two-thirds of the deaths occurring in Indonesia.

Less than a month before, on 2 September 2009, a stronger earthquake (7.3 on the Richter scale) struck off the Tasikmalaya district, West Java Province. About 4,500 houses were damaged and the death toll was 39. On 4 January 2009, Manokwari (West Papua Province) was also hit by a strong earthquake measuring 7.6 on the Richter scale, cutting off power lines, killing at least five people and injuring dozens of others.

Indonesia, the world's largest archipelago, sits on the Pacific "Ring of Fire," the edge of a tectonic plate prone to seismic upheaval. Scientists have warned that the Indian Ocean fault-line could deliver another major earthquake after the 8.9 Richter scale earthquake that unleashed the tsunami in Aceh five years ago.

Japan

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1. Global Warming: Changes in Policy Measures against Global Warming due to the Political Power Shift

In 2009, the Japanese economy was in a slowdown due to the worldwide financial crisis. In such circumstances, the Democratic Party of Japan (DPJ) took over power from the Liberal Democratic Party (LDP), as a result of the general election in August 2009. It was a revolutionary change in Japanese politics. In the DPJ's manifesto (its vision of government), it committed to strongly promote policy measures against global warming and also to reduce CO₂ emissions by 25% (from 1990 levels) by 2020 as a mid-term goal. This mid-term goal was more ambitious than that announced under the LDP rule (8% from 1990 levels). In addition, the DPJ suggested the establishment of a domestic emissions trading market using the cap-and-trade formula, and to initiate a study on global warming taxes. Prime Minister Yukio Hatoyama under the DPJ rule announced the mid-term goal of CO₂ emission reductions in his speech at the United Nations Summit on Climate Change held in September 2009. His speech created a sensation at home and abroad. Whilst domestic public opinion appeared to be very positive, some raised questions about the feasibility of the mid-term goal. The business community feared the diminishing international competitiveness of Japanese industries due to promoting such measures.

Detailed information on the DPJ's manifesto is available at:

<http://www.dpj.or.jp/english/manifesto/manifesto.html>

2. Biodiversity: The Need to Raise Awareness about Biological Diversity

The 10th Conference of the Parties to the Convention on Biological Diversity (COP10) will be held in October 2010 in Japan. In 2009, there were growing preparatory activities to make a contribution to success of COP10. Among the various issues of biological diversity, the issue of invasive alien species was of particular interest to the public. Television programmes often reported cases which had adverse impacts on home life and business through the introduction of alien species such as the raccoon and black bass. On the other hand, the government of Japan placed emphasis on the so-called "SATOYAMAⁱ Initiative" ahead of COP10. This initiative aimed to promote the rebuilding of sustainable ties between humans and the natural environment through optimised use

and management of land and natural resources. Nevertheless, the level of public awareness about biological diversity was still low in Japan. According to the results from public opinion polls on the environment carried out by the Cabinet Office in June 2009, there was growing public awareness in Japan about the natural environment. Unfortunately, the degree of understanding about the phrase “biological diversity” was very low. Only 12.8% of respondents answered that they “know the meaning of the word”, compared to 61.5% of respondents answered that they “have never heard of the word”. When asked about COP10, 84.2% of respondents answered that they did “not know” about it. This shows that there needs to be more awareness-raising about biological diversity in Japan in the future.

On 22 December 2009 at a vice ministers’ meeting of eight related ministries, the Government of Japan adopted a decision to propose setting a new international target for the post-2010 period of the Convention on Biological Diversity. The government aims to have this target, which is “to further enrich the current state of biodiversity by 2050”, adopted at the 10th Conference of the Parties to the convention (CBD/COP10) to be held in Nagoya in October 2010. The government plans to submit this proposal to the CBD Secretariat by the end of the month. The said proposal lists 34 methodologies, including propagation of ecologically sound agricultural technologies, and 19 numerical indicators, including numbers of endangered species. Further, land area of conserved forests and rehabilitated coral reefs, as well as green urban areas, are included as benchmarks for achieving the mid-term targets for 2050.

Detailed information on the public opinion polls by the Cabinet Office is available at:

<http://www8.cao.go.jp/survey/h21/h21-kankyuu/index.html> (Japanese Only)

3. Sustainable Consumption and Production: The Eco-Points System and Tax Breaks for Eco-Cars

In 2009, the government of Japan carried out various economic stimulation programmes. Two of them, the "Eco-Point System" and the "Tax Breaks for Eco-Cars", were simultaneously intended to encourage sustainable consumption and production. They drew large attention from the public. Under the Eco-Point System, people who bought environment-friendly home appliances, such as energy-saving refrigerators and air conditioners, received so-called “eco-points”. These eco-points could be exchange for various goods and services. At the same time, the government of Japan significantly cut taxes on eco-cars. Specially, hybrid cars were accorded special treatment, because they were exempt from both car acquisition tax and car weight tax. In addition, people who replaced an old-model car with eco-car could receive a government subsidy. Through these programmes, both environment-friendly home appliances and eco-cars proved to be good sellers in 2009.

4. Other News: Review of Dam Construction Projects

There are more than 2,700 dams in Japan now. Dams supported Japan's economic development through their various functions, such as flood control, water utilisation and power generation. However, it has been impossible to overlook the adverse impacts of dam construction on the natural environment. The Democratic Party of Japan (DPJ), who became the ruling party after the general election in August 2009, committed in its manifesto to eliminate non-essential and non-urgent public work projects in order to end wasteful governmental spending. In actual terms, the DPJ suggested that that two projects of the Kawabe River dam (Kumamoto Prefecture) and Yamba dam (Gunma Prefecture) should be cancelled, and also that the other anachronistic large-scale projects under direct governmental control be reviewed. Mr. Seiji Maehara, Minister of land, infrastructure and transportation, then in fact decided to cancel these two projects. In addition, he said that he wanted to review another 143 dam projects under construction or under planning around the nation. The cancellation of projects created controversy. In particular, many local residents at Yamba dam construction site protested against the cancellation of projects. The mass media treated this as big news. A long time will be needed to terminate the controversy. However, Japan's dam policy is facing a significant turning point.

ⁱ SATOYAMA is the general term for a traditional Japanese socio-ecological production system.

Republic of Korea

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1. Global Warming: Republic of Korea Set Carbon Emission Target for 2020

The Korean government announced on 17 November that it will voluntarily cut its greenhouse gas emissions by 30% from the business-as usual (BAU) level by 2020.

This ambitious target represents the highest level recommended by the IPCC for developing and emerging countries. Korea's annual emissions may rise to 813 million tons by 2020, a 37% increase from the 2005 level at 594 million tons in the absence of preventative measures.

The government had launched a national consensus-building process on 1 August to decide Korea's 2020 midterm greenhouse gas mitigation target. It announced three mitigation scenario options: scenario 1 was 21% reduction from BAU, scenario 2 was 27% reduction from BAU, and the final scenario was 30% reduction from BAU. In the end, the Korea government chose the boldest option among these three alternative scenarios.

According to the International Energy Agency (IEA), the Republic of Korea was the ninth largest greenhouse gas emitter in the world and the sixth largest among the member countries of Organisation for Economic Cooperation and Development (OECD) in 2007.

South Korea, which is considered a developing country, is not bound by the UN's Kyoto protocol.

However, as the host country of the G20 Summit to be held in November next year, Korea hopes that it can play an active role in reducing world's GHG emissions and set an example for other developing countries to follow.

Korea's greenhouse gas emission reduction target can be evaluated as a paradigm shift toward becoming an advanced country.

Korea has set up a Five-Year Plan for Green Growth, such as promotion of the use of bio and renewable energy and development of energy efficient technologies. Therefore, Korea will not only transform economic and industrial structures, but also change the nation's lifestyles to become more future-oriented. Under this plan, Korea will annually invest about 2% of its GDP in the field of green growth during the next years.

Resource : <http://english.president.go.kr>, <http://www.greengrowth.go.kr>

2. Biodiversity: Korean DMZ -Thesaurus of Nature

The Korean DMZ (Demilitarized Zone) is an area of land, running across the central part of the Korean peninsula, about 4km wide and 248km long, serving as a buffer belt between South and North Korea.

The DMZ was created as a result of a fratricidal war between the North and South, and is the last remnant of the Cold War. The zone has been a forbidden land since it was set up at the end of the 1950~53 Korea War.

According to the result of wildlife survey conducted by Korea, the DMZ is serving as a habitat for 2,716 species including 146 rare species and 67 endangered species, many of which cannot be found in any other part of the world. In particular, the DMZ ecosystems provide wintering habitats to migratory birds, such as white-naped cranes and red-crowned cranes, two of the most endangered bird species. The zone has become a treasured ecological site and wildlife sanctuary. Therefore, this area has been drawing much attention not only in Korea but also from ecologists around the world.

The Korean government plans to map out measures to preserve the ecosystem in the area. Officials are also seeking to have the DMZ designated a biosphere belt by the United Nations Educational, Scientific and Cultural Organization (UNESCO). For this, continued research is required to better preserve the Korean DMZ historically, culturally and ecologically important.



Around Hantan-river in DMZ

Photo by division of ecosystem assessment, National institute of Environmental Research (NIER)



Around Kum-sung stream in DMZ

Photo by division of ecosystem assessment, National institute of Environmental Research (NIER)

Source : <http://www.koreatimes.co.kr> <http://www.koreaherald.co.kr> <http://www.me.go.kr>

3. Sustainable Consumption and Production: Korea's Four-river Restoration Project

Water shortage and pollution are critical issues that need to be urgently addressed in Korea as well other countries in the world.

To revive rivers long abandoned and resolve water-related risks in the future, a more aggressive approach for water resources management needs to be developed.

The Four Major Rivers Restoration Project is a comprehensive undertaking aimed to enhance the quality of the environment around rivers, which has been ignored up to now, and resolving water-related problems stemming from climate change, as well as promoting cultural and historic tourism.

The government announced that it will spend a total of KRW22.2 trillion (USD17.8 billion) on the "Four-River Restoration Project" by 2012, designed to develop the Han, Nakdong, Geum and Yeongsan Rivers, which flow through the country's major urban, industrial and farming areas.

This project is a key part of the country's "Green New Deal" aimed at laying the groundwork for Korea's green growth. As the Korean version of new deal projects of advanced countries, the project aims at creating 340,000 new jobs through the restoration of river routes, construction of ecological parks, creation of tourism belts and promotion of local festivals.

The country's state-of-the-art construction methods will make the scientific management of the rivers possible. As a future-oriented strategic project, the restoration project will mobilise a variety of advanced IT technologies, involving robots, ubiquitous networks and sensors, helping manage the

facilities of the four major rivers and taking measures of the concentration of water pollution on a real-time basis, which in turn will lead to swift and accurate water management.



The situation of four rivers

[Before restoration]



[After restoration]



Photo by http://4rivers.go.kr/ebook/four_major_rivers_eng/EBook.htm

The Han River will become an attractive feature of Seoul and the capital area's cityscape where people and nature can live in harmony.

Further information: http://4rivers.go.kr/ebook/four_major_rivers_eng/EBook.htm

<http://www.korea.net>

Lao PDR

Gnophanxay Somsy
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1. Global Warming: Ketsana Storm as Indicator of Climate Change in Lao PDR

This year(2009) has had less rainfall compared with last year, which experienced very heavy rain fall and flooding in many flat areas of Laos. However, very unusually this year, the south territory of Laos was flooded, affecting towns and many villages such as Xekong and Attapu due to the Ketsana typhoons moving in from the China Sea and passing over the Mid and Southern territories of Viet Nam into the south of Lao and Cambodia. That was a very strong storm with heavy rain, causing flooding which has never happened before. The storm hit the four southern provinces of Savannakhet, Saravan, Attapeu and Xekong, affecting 18 districts of 360 villages. Widespread flooding has left thousands of people homeless, with hundreds losing all of their belongings. “The flooding is the worst we have ever experienced in the south of Laos,” reported a local resident, Mr. Phongsavath . The damage would have long-term socio-economic consequences, including failure to meet the Millennium Development Goals in the affected provinces.

Listing the damage, Mr. Phongsavath said more than 1,750 households were affected in Xekong province, with 76 others partially demolished and 5,777 people left homeless. Some 72,850 people in 12,142 households have been affected in Attapu province. In Salavan province, 393 houses were damaged, with 250 families losing all of their belongings. Some 13,088 people from 2,488 households were reported affected in Savannakhet province, with seven houses carried away by flood. In Attapu, Xekong and Salavan provinces, 19,159 hectares of agricultural land, including paddy fields and slash and burn farmland, were destroyed. Hundreds more hectares were affected and thousands of animals perished. In Xekong province, 14 schools, three hospitals, five hotels and 54 irrigation systems were reported damaged. Damage to infrastructure also occurred.

These problems may one indicator of the impact by climate change on the world.

Source of data: Vientiane times, 12 October 2009

2. Biodiversity: How to Stabilise Slash and Burn Cultivation

Lao farmers are taking advantage of symbiotic cropping techniques to increase their incomes. Symbiotic techniques involve the planting of different crops together to increase soil quality and yields.

The many farmers who have switched over to the new methods have found them to be much better than traditional slash and burn techniques. In Namor district, Udomxay province, The Swedish Upland Research Capacity and Development Programme has been promoting the planting of fruit trees on the same land as short-term yields. The fruit trees include pineapple, pomelo, longan and plum. The programme supplied new fruit varieties and agricultural equipment, and advised on planting, crop care and marketing of produce, helping prevent soil erosion and landslides in upland areas. The new techniques for growing fruit trees together with short-term crops have given farmers higher incomes. Families following the new techniques use short-term crops to bring in money while waiting for the fruit trees to mature.

Before the programme began, the farmers made less money from wet season rice and from slash and burn cultivation, so now farmers use the new techniques of cultivation by using employing a crew of people, and then use jam beans to feed their pigs which produce dung that is used to make manure for the fruit trees.

The another model farmer in the same village stopped using slash and burn techniques and began growing pomelo, longan and lychee trees mixed in with short-term yield crops and could increase income much more than slash and burn. Other farming techniques promoted in the district include the planting of different rice varieties and livestock breeding. These activities will continue to help farmers increase their yields, reduce poverty and benefit the environment by decreasing the number of families engaged in slash and burn cultivation.

Source of data: Vientiane time, February, 2009

3. Sustainable Production and Consumption: Consumer Price Index Rises Amid High Consumer Demand in Lao PDR

According to the news by Ekaphone Phouthonesy at the Vientiane Times, the Lao consumer price index (CPI) rose 0.2% in January compared to the previous month, due to increasing consumer demand over the new year period(Lao Department of Statistics).

The CPI of alcoholic beverages and cigarettes rose 1.85% percent, of precious metals 0.9%, clothes and shoes 0.84%, and household goods 0.55%.

The CPI of the transport&communication group and the food group also increased 0.15% and 0.01% respectively.

The price of pork, beef, chicken and fish all saw a minor increase. The price of some vegetables and fruit, such as oranges, rose more than 5%. Apple prices in the north and central areas of Laos increased more than 10% due to increasing demand for the fruit which is commonly eaten and used in religious ceremonies at this time of the year.

Gold and precious metals prices rose about 1.5% despite consumer demand dropping 2.1% during this period, compared to the same time last year. The increase in gold prices was mainly due to price fluctuations in valuable commodities in Thailand and global markets.

Transport and communication sector prices increased in January for the first time in five months as a result of increasing fuel prices. The price of regular and premium petrol increased by 2.99% and 3.27% respectively.

The major cause of downward pressure on inflation in Laos was falling petrol prices in local and on the global market, according to the Department of Statistics.

However, there have been fewer fluctuations in the rural economic price of goods because there are efficiency resources by nature and there is a low demand from rural consumers.

Source of data: Vientiane Times. February, 2009

Malaysia

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1. **Global Warming: Climate Linkages with Energy, Security and Transboundary Haze**

2009 began with rising tides in East Malaysia, albeit with no casualties reported, and with the Haze which was felt as early as February in Penang. In a symbolic gesture, the Worldwide Fund for Nature (WWF) Malaysia organised a 'switching- off' of non-essential lights for an hour from 8.30pm on 28 March, when Malaysia joined 74 other countries to observe "Earth Hour" resulting in a reduction of 550 MW electricity consumed locally.

The Council for Security Cooperation in the Asia-Pacific (CSCAP) convened its Second Study Group Meeting on Security Implications of Climate Change (CC), 30-31 May in Kuala Lumpur, and the subsequent 23rd AP Round-table in June featured a concurrent session on "The endangered earth - what the AP can do about CC". In early August, the five-year HSBC Malaysia Rainforest Carbon Project /study in the Danum Valley Conservation Area to mitigate the impact of global warming was launched, and late September saw some 33 AP city-members of the Tourism Promotion Organisation for AP sign a four-point joint declaration in Kota Kinabalu, pledging, *inter alia*, to promote the use of buses with limited carbon dioxide emission.

On 5 October, ISIS Malaysia and the Singapore Institute of International Affairs (SIIA) co-organised the Third Dialogue on Transboundary Haze Pollution which saw representatives from the two countries plus Brunei, Indonesia and Thailand drawing up recommendations which included calling for climate change to be linked to problems of deforestation and fires.



Third Dialogue on Transboundary Haze Pollution, 5 October, KL

Seated left to right, 6th & 7th places-Assoc. Prof Simon Tay, Chairman, SIIA & Tan Sri Mohamed Jawhar Hassan, CEO & Chairman, ISIS Malaysia

(pic: ISIS Malaysia)

2. **Biological Diversity: UNESCO Recognition and Activities for Conservation**

In mid-February, the Sabah island of Sipadan was nominated to be placed on UNESCO's list of the world's seven wonders of nature, and early March saw wildlife poachers and traders poised to face stiffer penalties, via amendments to the Wildlife Protection Act 1972, to be approved in June.

March also reported studies by Universiti Malaysia Terengganu (UMT)'s scientists on the viability of the Horseshoe Crab's blood as component of the endotoxin test, a standard used by laboratories and hospitals worldwide to detect harmful bacteria and endotoxins. In late September Kinta Nature Park, Perak was gazetted as a wildlife sanctuary and all conventional logging operations near the Maliau Basin, Sabah to be ceased by year's end. In October, Malaysia pledged its support for the Heart of Borneo (HoB) Initiative, a voluntary transboundary cooperation

involving three nations (Brunei, Indonesia & Malaysia) and entailing funding of various biodiversity projects and activities.

Forest protection received a Royal boost in October when the Raja Muda of Perak recommended that special laws be enacted to conserve the Belum-Temenggor tropical rainforest amid plans to promote it as a tourism product. In early November, the Deputy Prime Minister called for heightening of joint enforcement among state governments, wildlife and forestry authorities to ensure sound management and conservation of biodiversity.

3. Sustainable Consumption and Production: Waste Recycling and Green Technologies

August saw the launching of a solid-waste separation pilot project jointly conducted by the National Solid Waste Management Department, Universiti Teknologi Mara and the private sector, whereby Putrajaya residents would serve as a model for increasing recycled waste nationwide from about 5% currently to 22% by the year 2020.

Various ‘plastic phase-out’ campaigns were conducted throughout the year, including the Penang Government’s ‘Say no to plastic bags’ drive involving retail outlets. A local company announced its plans for a pilot plant in Shah Alam to convert fuel from plastic waste; and Penang’s Universiti Sains Malaysia revealed in June its newly invented durable and degradable EnviroPLAST plastic. The Universiti Malaysia Pahang’s biodegradable films made from natural waste won awards at the British Invention Show in London, held on 14-17 October. Calls for conserving water and storing rainwater were regularly made by state governments, including Negri Sembilan, Selangor and Penang, the latter considering a penalty on those failing to reduce consumption by 10%. Sarawak also began water rationing during its dry spell beginning August.

Meanwhile the Energy, Green Technology and Water (EGTW) Ministry announced a requirement on all new government buildings to have at least one green feature such as dual-flush toilets. This is in line with the Ministry of Works’ Green Building Index (GBI), introduced early in 2009. The EGTW Ministry also declared its intention to launch a nationwide campaign to promote the government’s green technology fund, which would ‘fast-track’ efforts by green-centric companies.

Nepal
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(SEED Nepal)

1. Global Warming: Effect of and Preparation for Climate Change

Effects of Climate Change have been noticeable in Nepal.

Annapurna Post, a Nepali National Daily newspaper dated 31 August 2009 reported that the scientists have concluded that six glacial lakes namely Imja of Solukhumbu, Chhorolpa of Dolakha, Thulagi of Marsyangdi, Lumding of Sagarmatha, Lober Barun of Barun Area and one from Panch Pokhari are under the risk of outburst. This was confirmed by a study undertaken by International Center for Integrated Mountain Development (ICIMOD) involving international scientists.

Kantipur, another National Daily newspaper dated 4 September 2009 reported that the youths of South Asian Association for Regional Cooperation (SAARC) decided to pressurise their respective Government Heads to take the issues of climate change seriously during the first conference of the SAARC youths in Dhulikhel.

Annapurna Post dated 10 September 2009 reported that the world's highest peak snow capped Mount Everest (Sagarmatha) will lose all its snow in 50 years if the snow keeps melting as seen now. This has been confirmed also by mountaineers returning from the peak. Previously they had to melt the snow for water but now they are able to locate small lakes.

According to "Kantipur" dated 22 October 2009, there was no rain in the required season, the farmers were not able to plant the crops and this resulted in the food shortage in the remote district of Mugu. Usually grains such as paddy and millet that are planted in the months of June / July were only planted towards the end of August. The grains are not yet ripe and are in the process of decay due to cold. 90% of the agricultural land in this district does not have irrigation facilities. This has affected 6,500 households and driven them to starvation. The farmers are saying that even the wild fruits like peach and wild berries, which are usually ripe in the month of June, are only ripe in the month of October.

Kantipur dated 1 November has reported that the national status paper for COP15 has been ready. The report has emphasised that the vulnerable mountain system countries must form joint organisation for drawing attention of the developed countries on the impacts of climate change. Nepal takes the position as sixth most vulnerable nation.

The Annapurna Post National daily dated 3 November 2009 that the Nepalese Government decided to conduct a meeting of the Cabinet Ministers at the Base Camp of Mt. Everest to draw the attention of the international community to the melting of snow in the Himalayas. According to the Minister of Forest and Soil Conservation Mr. Deepak Bohra, Nepal will be organising "Mountain Day" during the COP15 in Denmark and it will be participated by the former President of United States Bill Clinton and Nobel laureate and former vice president Al Gore. On 11 December a march pass will be organised with a slogan "Save the Himalayas" and summiteers of Mt. Everest will also join the event.

An interaction programme on the status paper of Nepal to be presented in the COP15 was organised by the Ministry of Environment on 20 November 2009 at the Hotel Everest. The Minister of Environment had

inaugurated the programme. Stakeholders from a wide variety of organisations had participated and such interaction for refining of the status paper is scheduled to be held also in other areas of the country, namely Pokhara and Nepalgunj.

2. Biodiversity:

-Red Panda to be Protected

According to a news article published in the Nepali National Daily "Gorkhapatra" dated 22 November 2009, The East Foundation (TEF) working in the Sankhuwasabha District has initiated activities to conserve the endangered Red Panda outside the two conservation areas namely the Barun National Park and the Kanchanjunga Conservation Area. The Red Panda resides in areas between 1500 to 3000 meters and since there is no agency working for the protection of the species outside the conservation areas, poaching has increased and TEF has initiated activities to protect the animals. According to the existing laws in Nepal, anyone killing a Red Panda is penalised with a fine of NPR 150,000 and imprisonment for a period of 10 years.

-Modern Crop Varieties Can Increase Local Genetic Diversity

In the early 1990s, Bhuwon Sthapit, now a senior scientist at Biodiversity International, conducted a breeding programme on rice varieties suitable for upland rice farms in Nepal. The varieties selected were from crosses of Chhomrong Dhan (paddy), a local landrace of Nepal with another two, more productive materials from the international breeding programme, namely Fuji 102 & IR 36.

By 2004 about 60% of land in the study villages was sown to one of the client oriented breeding (COB) varieties, while traditional varieties occupied the remaining 40%. An international team of researchers from Bangor and Nepal analysed DNA from the COB and landraces varieties which reflected that overall genetic diversity was greatest in the landraces and least in the COB varieties.

The COB programme was clearly a success. This not only improved the livelihood of farm families but also helped to increase the overall genetic diversity as well as to preserve traditional varieties. From this experiment, it can be concluded that the statement "introduction of high-yielding crop varieties threatens agricultural diversity" is not always true.

Source: http://libird.org/index.php?option=com_content&task=view&id=354&Itemid=2: an article written by LI-BIRD on 20 May 2009

3. Sustainable Consumption and Production: Cleaner Production and Sustainable Consumption

Cleaner Production assessment has been carried out in 10 industries of Sunsari District and 11 industries of Dhankuta District in the Eastern Development Region of the Country under the FINNIDA supported project on Strengthening of Environmental Administration and Management at Local Level in Nepal (SEAM-N). The consultant involved is the PACE Nepal Pvt. Ltd. The monitoring of these industries has shown that a total of 280 options have been recommended with an expected saving of about NPR 6.8 million with an investment of NPR 1.96 million. As of August 2009, 137 or 47% of the options have been found to be implemented with actual saving of NPR 486,000 and 82 options are in the process of implementation. This has also resulted in the saving of 20,158 kWh of electrical energy, 58 MT of solid fuel, 81 cu. m. of water, and 13.96 MT of raw materials. It has also reduced the solid waste generation by 1.55 MT and the effluent reduction by 85.16 cu. m. Some photographs showing implementation of options are given below:

Before



After



Hand loom with hanging juwa



Hand loom with wooden juwa



Heaters of extruder machine without heat insulation

Heaters of extruder machine with heat insulation



Use of traditional cook stove

Use of improved cook stove

Source: PACE Nepal Pvt. Ltd.

4. Other News: Tourism Sector Affected due to Environmental Degradation

Government National Nepali Daily Newspaper "Gorkhapatra" dated 22 November 2009 has reported that forest depletion has resulted in environmental degradation which in turn has started to have adverse impacts on tourism activities. Dharan, Barahakshetra and Koshi Tappu in Sunsari; Bhendetar, Hile and Pakhribas of Dhankuta; Maidhar of Jhapa; Phical, Illam and Pathibhara of Illam district; and Haleshi of Khotang in the Eastern Nepal attract a significant number of tourists from India. Indian newspapers have

started to report on the degradation of the environment due to forest depletion and increase in dust and smoke. Due to this, the flow of tourists has decreased.

New Zealand

**Peter Kouwenhoven
International Global Change Institute
University of Waikato**

1. Global Warming: New Zealand's 2020 Emissions Reduction Target

New Zealand is prepared to take on a responsibility target for the reduction of greenhouse gas emissions of 10-20% below 1990 levels by 2020, if the following conditions are met:

- a global agreement sets the world on a pathway to limit temperature rise to less than 2°C;
- developed countries make comparable efforts to those of New Zealand;
- advanced and major emitting developing countries take action fully corresponding with their respective capabilities;
- there is an effective set of rules for land use, land-use change and forestry (LULUCF); and
- there is a clear path to a broad, efficient international carbon market.

Announcing a target range gives New Zealand flexibility to adjust its target depending on progress in the international negotiations. Where the final target will lie will depend on the overall ambition of the agreement, what other countries are prepared to do, and the effectiveness of the rules.

New Zealand is seeking a number of international rule changes, related to forestry and land use, and to the international carbon market. These are important because they impact the ability to meet the target.

The 2020 target forms part of a step towards ensuring that New Zealand's long-term target to reduce emissions by 50% below 1990 levels by 2050 ("50 by 50") is achieved.

Because of the projected 35% population growth over the period 1990 to 2020, the target reductions are more stringent when considered on a per capita basis: 35-42% per capita reduction in emissions from 1990 to 2020.

The target was decided following consultation with New Zealand businesses, farmers, environmental groups, Māori, scientists, academics and other stakeholders. The public was invited to submit ideas on the reduction target and a total of 317 written submissions were received, including submissions from 16 stakeholder organisations.

The three most common reasons cited for pursuing an ambitious target of 20-40% were: acting now will be cheaper than acting later; target should be based on what the science indicates is necessary; and doing so will protect New Zealand's "pure" image.

The main reasons given for pursuing a more cautious emissions target policy (lower than 20% or an increase over 1990 levels) were: New Zealand has low mitigation potential, especially in relation to agriculture; higher targets have higher economic costs; New Zealand should align with its main trading partners, especially Australia; New Zealand should set targets that are achievable domestically; New Zealand makes a small contribution overall to global emissions (<0.2%).

source: <http://www.mfe.govt.nz/issues/climate/emissions-target-2020/questions-answers.html>

2. Biodiversity: Pest Control Brings Back the Birds

Native birds are coming back to Northland's Motatau Forest thanks to a pest control programme initiated by Te Runanga o Ngati Hine.

The forest is home to many native species, some unique to the area. Trees like Rata, Rotara, Kahikatea, Taraire and Kohokohe can be found. Birds such as Kiwi and Tui also make their home in the forest.

Before the pest control programme began, locals had watched the forest's health decline. "Rata trees were dying", explains the environmental coordinator for Te Runanga o Ngati Hine. "Plant life was being ravaged by pests like possums, rats and goats."

Concerned about what was happening, the Runanga set to work. They established a pest-control scheme, training a team of workers under a Department of Labour training programme.

"Our trainees successfully eradicated the pests at Motatau and the surrounding area and later went from there up to the Puketi Forest near Watangi to assist with pest-control".

Very soon, birds were coming back to the forest and trees were beginning to regenerate.

Runanga has been working with the Department of Conservation and Landcare Research to develop strategies to manage the biodiversity of Motatau Forest.

"Landcare Research has provided us with research and data and DOC has worked with us on pest-control".

Pest-control has also been extended to surrounding properties, creating buffer zones around the forest. The conservation benefits have been seen in the breeding successes of native birds.

"With the Keruru, the native wood pigeon, we went from a 100% nest failure in the breeding season before pest-control, to a 100% success in the breeding season after pest-control was introduced".

With the forest regenerating and bird numbers on the rise, locals can point to Motatau Forest as a successful example of how communities can work together to protect indigenous biodiversity.



New Zealand wood pigeon (Keruru or Kukupa), *Hemipahga novaeseelandiae*

source: <http://www.biodiversity.govt.nz/picture/biodiversity/index.html>

3. Sustainable Consumption and Production: Computer and E-waste Recycling

Electronic waste (e-waste) is one of the fastest growing waste streams around the world. Rapid technological advances mean that the average computer has a life span of less than 5 years. The problem arises at the end of its useful life and is compounded by the hazardous nature of the waste. Computers contain an array of substances such as lead, mercury, cadmium, hexavalent chromium or brominated flame retardants. These have all been shown to be harmful to humans and damaging to the environment.

In New Zealand most redundant electronic equipment is being landfilled. There is no legislation or industry-related body coordinating an effort to deal with e-waste, although the Waste Minimisation Bill will help. The lack of available data on the amount of e-waste generated makes it hard to determine the extent of the problem. However, according to the Computer Access NZ Trust, approximately 830,000 new computers were sold on the New Zealand market last year.

Two Auckland companies have solved the problem of hazardous waste in the disposal of old televisions and computer monitors.

In true Kiwi-do-it-yourself style, RCN & Associates Ltd and Rose Engineering have teamed up to develop a process, and have locally designed and built equipment for the environmental disposal of end-of-life cathode ray tubes and TVs.

It has been estimated that there are ten million cathode ray tubes currently in use or stored awaiting a disposal option in New Zealand.

Millions of cathode ray tubes (CRTs) exist in New Zealand as they still make up the display device in most computers and televisions. They contain within them many toxic materials such as barium, cadmium, mercury, lead and arsenic.

During the Cathode Ray Tube Disposal Process both partners play a part. The Monitors or TVs are dismantled and broken down into their component parts. This process results in plastic, copper, aluminium and steel all being recycled. The printed circuit boards are further processed environmentally at an ISO Certified Disposal Centre which deals with dangerous wastes environmentally.

The tube then goes through a number of processes including the separation of the lead bearing glass. This glass is consolidated and exported to a lead smelter and used as flux in the smelting of lead.

Waste equals lost profits:

- Waste disposal in Auckland costs NZD75 per tonne (landfill charge) plus transport and handling, NZD50 in Wellington
- When cardboard is mixed with other materials and sent to landfill it ends up costing a business about NZD400/tonne, but when it is recycled it will only cost the business NZD40/tonne
- It costs around NZD1,000 to dump a tonne of screwed up paper (in rubbish bags), compared to NZD 40-60 per tonne to recycle flat paper (and high waste paper producers can earn NZD 60 - NZD 100/tonne through recycling)
- It is estimated that 30,000 tonnes of office paper still goes to landfill each year at a cost of approximately NZD 9 million to Auckland businesses!

source: <http://nzbcscd.org.nz/zerowaste/>, <http://www.zerowaste.co.nz/>

Pakistan

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1. Global Warming: Climate Change Effects to Hit Pakistan Hard

Pakistan is among the countries which will be hit hardest by the effects of climate change even though it contributes only a fraction to global warming. This and other worrying findings were revealed at a regional conference on climate change: challenges and opportunities for South Asia. Addressing the conference, Dr Rajendra Kumar Pachauri, chairman of the Intergovernmental Panel on Climate Change (IPCC), said Pakistan was witnessing severe pressures on natural resources and environment. He said climatic changes are likely to exacerbate this trend. Water supply, already a serious concern in many parts of the country, will decline dramatically, affecting food production. Export industries such as fisheries will also be affected, while coastal areas risk being inundated, flooding the homes of millions of people living in low-lying areas.

The two-day conference brought together experts from the South Asia region to share knowledge and explore measures to combat the threat posed by the climate change. The conference has been organised by the Ministry of Environment and the International Union for Conservation of Nature (IUCN), Pakistan, and supported by the UK Department for International Development and the Norwegian Embassy. Droughts in 1999 and 2000 are one example that caused sharp declines in water tables and dried up wetlands, severely degrading ecosystems. Although Pakistan contributes least to global warming only by 35th of the world average of carbon dioxide emissions, temperatures in the country's coastal areas have risen since the early 1900s from 0.6 to 1 degree centigrade. Precipitation has decreased 10 to 15% in the coastal belt and hyper arid plains over the last 40 years while there is an increase in summer and winter rains in northern Pakistan.

The fact that global warming was unequivocal and there is no scope for scientific questioning, Pakistan faces potential environmental catastrophe, said Dr Pachauri. Describing the effects of climate change in many parts of the world, he discussed the impact such changes were likely to have on a country like Pakistan and on the lives of its people. He said that health of millions would also be affected with diarrhoeal diseases associated with floods and drought becoming more prevalent. Intensifying rural poverty is likely to increase internal migration as well as migration to other countries. Given the enormity of the impact, adaptation and mitigation measures are critically important.

Prime Minister Yousuf Raza Gilani, who attended the Tuesday session of the conference as chief guest, was alarmed by a recent report that described Pakistan as the 12th most vulnerable country, and that environmental degradation would cost 5% of GDP every year. Climate change is an economic and developmental problem as well as environmental. The government will make concerted efforts to achieve desired outcome to mitigate climate change, the prime minister said.

Source: Daily Dawn 14 January 2009

2. Biodiversity: Kinjhar Lake and Water Pollution

Sindh province is the location of Lakes Manchar and Kinjhar which are well known through out the Asia and World due to their large water reserves, rich aquatic life, seasonal visits of European birds and historical cultural background. Especially Lake Kinjhar has the remarkable cultural status in Sindhi literature because of the legendary romance of Noori and Jam Tamachi of the poetry of Shah Latif and Shaikh Ayaz. Kinjhar's source of water starts its journey from Kotri Barrage which was built

on Indus in 1955. Kinjhar Lake is situated in district Thatta, Sindh, Pakistan adjacent to the National highway on the right bank of river Indus. It is about 122 km from Karachi and 86 km from Hyderabad with the length of 20 miles (32 km), width of 6.8 miles (11 km) and capacity of 0.53 Million acre-ft.

Pakistan is predominantly arid, with low rainfall and humidity and high solar radiation over much of the country, therefore most of its regions receive less than 200 mm annual rainfall. In these circumstances the only source of feeding for Lake Kinjhar is the Indus river, Water pollution in the Indus occurs from three sources: municipal wastewater, industrial wastewater, and agricultural drainage effluent. Most of the cities and towns of Punjab and Sindh discharge their municipal & industrial wastewater into the Indus river. Treatment plants are not available, or they are not maintained properly, so the wastewater does not receive the desired degree of treatment. Lakes are especially vulnerable to water pollution, and one major problem, eutrophication, occurs when lake water becomes artificially enriched with nutrients, causing abnormal plant growth. Run-off of chemical fertiliser from cultivated fields may trigger this. Facing all these threats Lake Kinjhar has become more endangered because of Kotri industrial area and tourism. On the one hand local industries of Kotri dispose off their wastes in Kalri Baghar Feeder which is the feeding source of Lake Kinjhar, and on the other hand more than 15000 people of Karachi visit this lake weekly and usually they throw garbage into Lake Kinjhar. Therefore, aquatic life are facing grave threats of water-borne diseases like malaria, typhoid, cholera & dysentery, depletion of skin immune system, elimination of animal life due to eutrophication, ground water pollution which endangers adjacent villages and agricultural lands and under threat ecology of migratory birds. (Indus delta falls in the Siberia-Kazakhstan-Indus delta migratory route, Known as flyway-4).

The best way to eliminate hazardous wastes is not to generate them in the first place, if it is not possible then at least wastes may be made less hazardous by physical, chemical, or biological treatment. Dissemination of community health information and awareness and incentives for local villagers for the use of chlorinated, settled and boiled water, proper maintenance of Kinjhar's 23 km long dyke by the irrigation department, removal of aquatic algae for countering eutrophication and proper treatment of lake water.

Edited version of an article published in the Daily Dawn – available in full at <http://www.atsindh.com/induspak/KLWP.htm>

3. Sustainable Consumption and Production: Management of Mercury and Mercury Containing Waste Project

Mercury is a highly toxic chemical and used all over the world including Pakistan in many products and processes such as thermometers, electrical switches, lamps, dental amalgams, batteries, chlor-alkali plants and some pharmaceuticals. Since the danger of mercury is a global environmental issue, UNEP has taken initiatives to mitigate this problem. In this regard, UNEP selected three countries in the Asia-Pacific region including Pakistan to identify and quantify the mercury releases in Pakistan.

Mercury is highly toxic, especially to the developing nervous system. Some populations are especially susceptible, most notably unborn and young children. Yet mercury continues to be used in many products and processes all over the world. The most significant mercury releases to the environment are emissions to air, but mercury is also released from sources directly to water and land.

Major consumers of mercury in Pakistan are chlor-alkali industries, hospitals, research labs, tube lights, barometers, catalysts and pigments, cells for caustic soda and chlorine production, dental amalgams, electrical instruments casting, laboratory reagent, manometers, medicines, mercury vapor lamps, metal plating, photography, synthetic silk, solder tanning and dyeing textile production, thermometers and is used in boilers/turbines for electricity generation. Chief chemical species in use

of these industries include elemental mercury, mercurous chloride, mercuric chloride and mercuric sulfate.

Major sources of mercury risk exposure to population of Pakistan are mining and extraction of copper, gold, coal, cement crude steel and iron. The country's total production capacity is 14.7 Mt/yr of clinker and 15.4 Mt/yr of cement. State Cement Corp. of Pakistan is the largest cement manufacturer in the country with a capacity of 1.85 Mt/yr.

Hospitals also serve as a potential source for mercury risk to population. Hospitals produce various types of wastes ranging from ordinary to toxic and hazardous waste. In Pakistan around 250,000 tons of medical waste is produced annually from all health care facilities, imparting a bad impact on the environment by contaminating land, air, and water. Mercury has also traditionally been used in elemental form as insecticide for wheat grain storage in rural areas of Pakistan, and is still practiced in some areas due to lack of awareness of risks associated to its ingestion. Mercury, its compounds and substances containing mercury are disposed of either in wastewater or sent to landfills. There is no environmentally-sound management of mercury regarding its use and disposal. Extensive research work is needed to assess the status and reduce the exposure risk of mercury in Pakistan.

Source: Electronic Government Directorate, Ministry of IT & Telecom, Government of Pakistan, 30 June 2009

The Philippines

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1. Global Warming:

Climate Change Act of 2009 Signed into Law

On 23 October 2009, President Gloria Macapagal-Arroyo signed into law Republic Act No. 9729, known as the “Climate Change Act of 2009”. In defining the State policy on climate change and global warming, the new law enjoins the participation of national and local governments, businesses, non-government organisations, local communities and the public to prevent and reduce the adverse impacts of climate change. It aims to integrate and institutionalise government initiatives to achieve the implementation of this law. It defines the term “global warming” as the “increase in the average temperature of the Earth’s near-surface air and oceans that is associated with the increased concentration of greenhouse gases in the atmosphere”.

The Climate Change Act creates a Climate Change Commission as “the sole policy-making body of the government in matters pertaining to climate change”. The President of the Republic is the chairperson of the Commission.

Sources: The Senate Bill Division; Philippine Daily Inquirer, 24 October 2009, 25 October 2009.

Philippines Among the Most Vulnerable to Climate Change

Secretary of Agriculture Arthur Yap of the Philippines told the press that the Philippines is among the countries in Asia that are most vulnerable to climate change. He cited studies made by National Statistical Coordination Board of the Philippines, the Economy and Environment Program for Southeast Asia (EEPSA), the Australian Weather and Climate Research and Greenpeace Southeast Asia.

The EEP study indicates the Philippines as the only country where the entire nation is placed in the range of vulnerability. The Australian study predicts that a one meter rise in the sea level may affect 64 out of 81 provinces of the Philippines. Higher sea levels would cover 703 of the 1,610 towns of the country.

In a report issued on 12 November this year, the World Wildlife Fund (WWF) warned that low-lying and impoverished Asian coastal cities, such as Manila, are vulnerable to climate change disasters. Kim Carstensen, head of WWF’s Global Climate Initiative, said that “Climate change is already shattering cities across developing Asia and will be even more brutal in the future”. WWF reported that on a vulnerability scale going up to 10, Manila rated 8 points.

Sources: Philippine Daily Inquirer, 13 April 2009; 13 November 2009.

2. Biodiversity:

North Negros Natural Park a Wealth of Biodiversity

A biodiversity assessment expedition of two weeks to the interior of the North Negros Natural Park found it an area of critical biological worth. With a land area of 80,454 hectares, the Park is described by expedition leader James Sawyer, a veteran of biological expeditions to 25 countries, as the home to many rare and endangered species endemic to the Philippines. Expedition team member Craig Turner, an expert in environmental management, referred to the Park's interior as "very exciting", a place incomparable to any other the team had seen before. "This is definitely a unique environment — the center of this park has the most pristine rainforest we have ever seen anywhere in the world", Turner said.

Sawyer informed the *Philippine Daily Inquirer* that the expedition team found a "cloud forest" in the Park's interior, the dictionary meaning of which corresponds generally to a wet tropical mountain forest found at an altitude of between 1,000 and 2,500 meters, characterised by a profusion of epiphytes and the presence of clouds even in the dry season. He said that the team found insects and frogs which proved to be unidentifiable because they are not in standard field guidebook. According to Sawyer, the team would be coming back with more specialists to prove to the scientific world that there are undiscovered species in the Park.

But the most significant discovery of the expedition, composed of British and Filipino environmentalists, is the finding that the "most endangered deer species in the world" — the Visayan spotted deer (*cervus alfredi*) — still roams in the interior of the North Negros Natural Park. The team members found fresh deer droppings, deer tracks and significant evidence of feeding activity of this rare species. According to the British Embassy in Manila, the expedition team would present their findings to the renowned Royal Geographical Society in London. British Ambassador Peter Beckingham said, "This is an exciting discovery", which makes the Philippines' biodiversity truly enviable."

Source: Philippine Daily Inquirer, 24 May 2009; 21 April 2009.

Rare Species of Quail Rescued from the Market

Ornithologists from the Wild Bird Club of the Philippines rescued a Worcester's buttonquail (*Turnix worcesteri*) from the poultry market, destined for the cooking pot. It was caught by hunters in the Caraballo mountain range of the main island of Luzon, in January this year. Considered to have been extinct, this bird has been known only through drawings of dead museum specimens collected decades ago. "Once you don't see a bird species in a generation, you start to wonder if it's extinct, and for this bird species, we simply do not know it's status at all," said Danish ornithologist Arne Jensen of the Wild Bird Club.

Source: Philippine Daily Inquirer, 18 February 2009; Daily Tribune, 18 February 2009.

Smallest Fish in the World Is Gone

Confirmed by the Guinness Book of World Records as the world's smallest edible fish, measuring 2.1 to 2.4 millimeters in length, *sinarapan* (*Mistithys Luzonensis*) is reported by the local lake management office to have disappeared from its natural habit in Lake Buhi in the town of Buhi, province of Camarines Sur. The process of its disappearance in the last two decades was due to the expansion of fish cages with feeds described as "trigger for a fish kill", fishing by motor boats equipped with fine mesh nets and increase of predatory population including its use of detergents for laundry around Lake Buhi and the subsidiary lakes.

Source: Philippine Daily Inquirer, 11 February 2009.

3. Sustainable Consumption and Production:

Renewable Energy Law Takes Effect

A new law “promoting the development, utilization and commercialization of renewable energy resources”, which was signed by President Gloria Macapagal-Arroyo on 10 December 2008 as Republic Act No. 9513, became effective on 30 January 2009. Under the “Renewable Energy Act of 2008”, as the new law is called, it is the policy of the State to “accelerate the exploration and development of renewable energy resources such as, . . . biomass, solar, wind, hydro, geothermal and ocean energy sources . . . to reduce the country’s dependence on fossil fuels”. It also aims to achieve this policy “to effectively prevent or reduce harmful emissions and thereby balance the goals of economic growth and development with the protection of health and the environment”. The new law provides for fiscal and non-fiscal incentives for its implementation, including the income tax holiday, and duty-free importation of machinery and materials. The Government’s Department of Energy is charged with the main burden of implementing this law.

Source: The Senate Bills Division; Philippine Daily Inquirer, 15 January 2009.

Government Approves Renewable Energy Projects

The Department of Energy awarded service contracts in renewable energy resources last September, involving USD983.5 million in investments projected to generate more than 379 megawatts in additional capacity. Receiving the awards are four companies: Energy Development Corporation for its proposed 86-MW wind farms in Burgos, Ilocos Norte; Northern Luzon UPC Asia Corporation for its 50-MW wind project in Pagudpud, Ilocos Norte; and Petro Energy Resources Corporation in regard to its wind energy projects in the provinces of Pangasinan and Aklan. Service contracts for hydroenergy were awarded to Oriental Energy and Power General Corporation for Aklan. Two contracts for biomass gasification projects were awarded to Mariwasa Siam Ceramics, Inc.

Assistant Energy Secretary Mario Maragin said, “the Department of Energy is swamped with pending applications for renewable energy projects, including for 50 wind power projects and 20 hydropower projects,” apparently in response to the new law on renewable energy resources.

Source: Philippine Daily Inquirer, 15 September 2009.

4. Other News: Special Law Requires Environmental Courses in All Levels of Education

Signed into law by President Gloria Macapagal-Arroyo recently, Republic Act No. 9512 requires the integration of “environmental education” into the national educational system. Known as the “Environmental Awareness and Education Act”, the new law provides that courses in environment concepts, principles and programmes shall be incorporated in the curriculum of schools “at all levels, whether public or private”, including preschool, non-formal, technical, vocational and professional levels. Environmental education under the law covers the state of international and local environment; responsibility of citizens to the environment; and conservation, protection and rehabilitation of natural resources in the context of sustainable development.

The Department of Environment and Natural Resources will serve as primary source of information for updating the relevant agencies as to environmental issues “for national action and providing strategic advice on the environmental education activities.

Sources: The Senate Bills Division; Daily Inquirer, 7 January 2009.

Russian Federation

**Tsydenova Oyuna
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1. Global Warming: Russia and COP15

The United Nations Climate Change Conference, which is due to take place in Copenhagen on 7-18 December, is set to bring together 192 countries in an effort to negotiate a new global warming agreement for the period after 2012. But diplomats say it is unlikely that a legally binding treaty can be agreed given divisions among the participants, notably between rich and developing countries over who should bear the main burden for emission cuts.

In November, Prime Minister Vladimir Putin said that a global warming pact to be agreed in Copenhagen must take into account the carbon dioxide absorption potential of Russia's sprawling forests. The demand spells out a position previously adopted by Russia under the Kyoto Protocol, whose current pledges expire at the end of 2012. Russia and other countries demanded big concessions on forestry in 2001 when Kyoto's complex rulebook was being negotiated.

In Russia, the climate change issue is perceived with skepticism. At a preliminary round of climate talks in Copenhagen in late October, the head of the country's delegation, Mikhail Zelikhanov, a parliamentary deputy for Prime Minister Vladimir Putin's United Russia Party, questioned the basic premise of the fight against climate change. "Scientific circles in Russia and elsewhere still do not have a united opinion on the causes of global warming," Zelikhanov told the group of lawmakers from 16 countries in the hall of the Danish parliament.

There is also a widespread opinion that Europe and U.S. went through the industrial development stage without thinking over the environmental issues, climate change in particular, achieved prosperity and now are trying to limit the growth of other countries. "We will not cut our development potential," President Dmitri Medvedev said in June, while announcing the country's emissions targets.

Thus far Russia has been more or less invisible in the discussions preceding the Copenhagen talks. "It will not be possible to finalise an agreement without the participation of Russia," says Danish Prime Minister Lars Rasmussen, who is spearheading the negotiations. It remains to be seen what position Russia will adopt at the climate-change summit.

Source: AFP, Time Magazine

2. Biodiversity: "Russian Arctic" – a New National Park

A new national park named "Russian Arctic" has been established in Russia. Prime Minister Vladimir Putin signed the resolution on 15 June. The objective of creating the national park is to meet Russia's obligations under the Convention on Biological Diversity and its international obligations to conserve the Arctic.

The total area of the newly established national park is 1,426,000 hectares, including 632,090 hectares of land and 793,910 hectares of the adjacent marine waters. The territory of the park covers the northern-most part of the archipelago Novaya Zemlya. The area is unique due to its geological,

geomorphological, glaciological, botanical and zoological characteristics. It is one of the important breeding grounds for polar bears (*Ursus maritimus*) and walrus (*Odobenus rosmarus*). Throughout the year two very rare marine mammal species, narwhal (*Monodon monoceros*) and bowhead whale (*Balaena mysticetus*), are found in the area. The area also includes one of the largest bird colonies in the Northern Hemisphere, e.g. the ivory gull (*Pagophila eburnean*) listed in the Russian Red Data Book of the Rare and Endangered Species.

The national park is also an important cultural heritage with its historical sites and objects related to the history of discovery and colonisation of the vast Arctic territories starting from the sixteenth century. The islands are known as one of the northern-most places of settlements of pomors, the first Russian explorers and settlers of the Arctic. There are historical sites associated with the memories of the outstanding Russian Arctic explorers of the early twentieth century, Vladimir A. Rusanov and Georgiy Y. Sedov, and the Dutch explorer Willem Barentsz, one the most famous figures of the Age of Great Geographical Discoveries. It is hoped that the cultural and historical significance of the park together with its unique nature will make the park attractive to Russian as well as foreign tourists.

Source: Press Service of the Ministry of Natural Resources and Ecology

3. Sustainable Consumption and Production: New Federal Law on Energy Saving and Increasing Energy Efficiency

On 11 November, the Russian Parliament (State Duma) passed the Federal Law on Energy Saving and Increasing Energy Efficiency aimed at the creation of a legal, economic and organisational basis for stimulating efficient energy use. The law provides stimulus for the further development of the national legislation in this area.

The law outlined a set of priority measures that would give to consumers the right and opportunity to choose the most energy efficient products and services. The measures include informing consumers about energy efficiency of electrical devices, equipment of all buildings with energy measuring devices, introduction of energy efficiency requirements for new buildings, introduction of energy efficiency grades for buildings, and creation of a state system for disseminating information and raising public awareness about the issue.

Another set of measures are the instruments stimulating energy saving at the state level. For example, state-run organisations are obliged to cut energy consumption by no less than 3% of their 2009 level per year during 5 years. The organisations are allowed to use the state funds saved as a result of enhancing their energy efficiency. All state organisations are obliged to develop and follow energy saving programmes. The third set of measures is aimed at the private sector. In order to stimulate energy efficient performance of private companies, the law introduced economic incentives in the form of tax breaks and special energy prices depending on the energy efficiency of the company. Compulsory energy audits are proposed for organizations and businesses whose annual energy consumption expenses exceed 10 million rubles.

To harmonise the law with the existing legislation, changes will be introduced into Town-Planning Code, Housing Code, Tax Code, Administrative Offences Code, as well as Federal laws “On Protection of Consumer Rights”, “On Electroenergetics” and others. It is expected that the law will enter into full force from 1 January 2010.

Source: Press Service of the State Duma

4. Other News: Uncertain Future of Baikal'sk Pulp and Paper Mill

Baikal'sk pulp and paper mill (BPPM) is located directly on the shoreline of Lake Baikal, the unique lake recognised as a World Heritage Site by UNESCO. Since its construction in 1966 and until last year, the BPPM used a chlorine bleaching process for the production of bleached pulp, and discharged its wastewaters into Lake Baikal.

It has long been recognised that BPPM should be stopped or at least up-graded to a closed loop water circulation system. Finally last year, the factory switched to a closed loop water circulation and gave up the chlorine bleaching process. It seemed that the long awaited technological changes would finally bring peace to the controversial factory.

However, without producing the profitable bleached pulp, BPPM turned out to be on the brink of bankruptcy. Since October last year, the BPPM has stopped operating and now is facing an uncertain future. The situation is aggravated by the fact that BPPM is the major industrial enterprise of the town of Baikal'sk. The majority of the local population depends directly or indirectly on the BPPM. Thus, closure of the BPPM could bring about social tensions. At the same time, renewing the production of chlorine bleached pulp is unfavorable from an environmental point of view.

Thus, the tragedy of the BPPM and Baikal'sk is continuing. BPPM's outdated and environmentally risky technologies seemed to have brought the factory's existence to its logical end. However, there have been rumors that negotiations are going on and the factory may resume its operations from next year.

Source: BABR.RU

Singapore

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1. Global Warming: Emission Cuts and Developing a Sustainable Singapore

Global warming brought about by climate change is one of the greatest environmental threats facing the world, including Singapore. Singapore ratified the Kyoto Protocol in April 2006. Although Singapore is not an Annex I country and is therefore not required to make specific cuts in greenhouse gas emission levels, it has, nonetheless, made a voluntary commitment to reduce its carbon intensity by 25% from 1990 levels by the year 2012 by adopting a number of legislative and other measures. For example, the Building Control (Environmental Sustainability) Regulations 2008 of Singapore introduced a new minimum environmental standard for buildings by reducing the emission of greenhouse gases.

The Sustainable Singapore Blueprint (SSB), which was released in April 2009 by the Inter-Ministerial Committee on Sustainable Development, has provided a map for all governmental bodies to follow and a strong signal for the private sector about the government's commitment towards developing a sustainable Singapore. It calls for long-term carbon emissions cuts in households, businesses and industries. It sets a target to reduce the island's energy intensity (per dollar GDP) by 20% from 2005 levels by 2020 and by 35% from 2005 levels by 2030.

As pointed out by Singapore's Prime Minister Lee Hsien Loong on 25 October 2009 at the launch of the Energy Efficiency National Partnership programme to help companies be more energy-efficient, "achieving these targets will require changes in lifestyles, consumption habits and industry practices." Having identified climate change as one of the biggest challenges ahead for Singapore, he pointed out that in addition to the SSB the government is studying whether more can be done to tackle climate change.

2. Biodiversity: Greening the Urban Environment and "the Singapore Index"

In April 2009, the Inter – Ministerial Committee for Sustainable Development (IMCSD) unveiled the Sustainable Singapore Blueprint (SSB) 2009 for Singapore's sustainable development for the next 10 to 20 years. Pursuant to the SSB, the National Parks Board (NParks) formulated *Singapore's National Biodiversity Strategy and Action Plan* (NBSAP) to conserve its biodiversity pursuant to the Convention on Biological Diversity (CBD), which Singapore ratified in 1995. It provides a framework for an urban biodiversity conservation model and adopts three main principles for its implementation including mainstreaming considerations on biodiversity and ecosystems into the national planning process, and balancing national priorities on the one hand, and international and regional obligations on the other. There are five "Strategies & Actions" under the NBSAP. It is significant that more than ever in the past, Singapore is strengthening the role of stakeholders including private, public and the people sectors, and promoting partnerships with regional and international organisations, in particular the ASEAN Centre for Biodiversity.

At the ninth COP meeting of CBD held on 27 May 2008 in Bonn, the role of cities and biodiversity was recognised. At this meeting, Mr. Mah Bow Tan, Singapore's Minister of National Development proposed the establishment of an index to measure biodiversity in cities for the implementation and /or management of biodiversity in an urban context. Pursuant to this proposal, a workshop on the development of the Singapore City Biodiversity Index (CBI) was held from 10 – 12 February 2009 in

Singapore, with technical experts. The main objectives of the workshop were to develop the Singapore City Biodiversity Index to assist national governments and local authorities in benchmarking biodiversity efforts in urban settings, and to evaluate progress in reducing the rate of biodiversity loss in urban ecosystems. Subsequent to this workshop, a Draft User's Manual for the Singapore Index on Cities' Biodiversity was formulated in June 2009. This was formally named by the secretariat of the CBD as "The Singapore Index" of the "CBI". It will be tabled at the CBD COP 10 meeting to be held in October 2010 in Nagoya, for endorsement by the Parties to the CBD as a self-assessment evaluation tool for post-2010 monitoring purposes. This is also an initiative of the SSB.

3. Sustainable Consumption and Production: Developing Energy Efficiency and Alternative Energies

The Sustainable Singapore Blueprint (SSB) of 2009, among other things, elaborates on plans to establish sustainable consumption and production patterns to build new capabilities in sustainable development. The goals that have been set by SSB towards achieving sustainable consumption include achieving 35% reduction in energy intensity (consumption per dollar GDP) from 2005 levels; reducing the domestic water consumption per person per day from the current 156L to 140L; increasing the overall recycling rate to 70%; and increasing public transport modal share to 70% by increasing the rail network and developing a more integrated and seamless public transport system.

The other planned initiatives in the SSB include the development of Singapore into an international knowledge hub in sustainable development solutions, introduction of a SGD100 million Green Mark (GM) Incentive Scheme for existing buildings to undergo energy efficiency retrofitting and improve the current minimum GM certificate requirement for new buildings and renovation of existing buildings to Green Mark GoldPlus and Platinum ratings; Piloting Solar technology at 30 public housing precincts nationwide.

The SSB also calls for long-term carbon emission cuts in households, businesses and industries. This would promote sustainable production as green product usage and manufacturing becomes popular. In addition to this initiative, the government also launched a new Energy Efficiency National Partnership programme in October 2009 to help companies be more energy-efficient. In addition, with the support of the government, the Agency for Science, Technology and Research (A*STAR), the National University of Singapore (NUS) and the Nanyang Technological University (NTU) are currently engaged in several research projects working on developing alternative energies and other green technologies.

Thailand

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1. Global Warming: New Climate-Friendly Labeling Schemes in Thailand

- **Carbon Label**

Carbon Label is a label that exhibits the amount of greenhouse gases emission of products and services or portrays the low greenhouse gases emission products and services. The Carbon Label is established under the cooperation between the Thailand Greenhouse Gas Management Organization (Public Organization) and Thailand Environment Institute. The label allows consumers to be a part of reducing greenhouse gas emissions and creating awareness on climate change.

Due to the incomplete data of greenhouse gases emissions based upon life cycle perspective in Thailand, the label in this initial stage concerns only the emissions of six greenhouse gases under the Kyoto Protocol at the production stage. As of September 2009, there are 38 products from 12 producers certified with Carbon Label.



Carbon Label in Thailand

(Picture is a contribution from Thailand Environment Institute)



A sample of Carbon Label displayed on product (Floor and wall tile)

(Picture is a contribution from Thailand Environment Institute)



A sample of Carbon Label displayed on product (Cement)

(Picture is a contribution from Thailand Environment Institute)

Reference: *Manager*, www.manager.co.th

Thansettakij Newspaper, issue: 2434, date: 11-13 June 2009, page 23-26

- **High Energy Efficiency Label**

Following the implementation of the most successful demand-side management programme - Energy Label No.5, the Ministry of Energy initiated a pilot project on High Energy Efficiency Label (unofficial translation for the label title). This is a voluntary programme aiming to increase the use of high energy efficiency energy equipment and to disseminate information on the equipment.

The pilot programme was formally launched to the public in July 2009 with four pilot product types (household stove, variable speed drive, insulator and energy-saving glass) available on the market.

By July 2009, there were eight product types that passed the energy efficiency criteria of the Ministry and were ready to be certified. The Ministry of Energy set a target to have 54 certified product types by 2011.

Reference: Manager, www.manager.co.th

2. Biodiversity: Thai Scholars Support the Access and Benefit Sharing of Biological Resources

The Office of Natural Resources and Environmental Policy and Planning arranged a workshop on “Access and Benefits-Sharing of Genetic Resources: World’s Direction and Thailand’s Implementation” in October 2009.

The workshop pointed out that countries owning natural resources did not gain the benefits from their resources. At an international level, there are efforts to draft the International Regime on Access and Benefit-Sharing in order to equally share the benefits between resources owner and users. Under the draft regime, there are many points regarding benefits-sharing. These include the requirement to state the source of origin for biological resources and to pay for the resource owners.

The ASEAN region is one of the most important biological resources in the world and is facing problems with accessing biological resources without permission. Some countries have laws and regulations in place to protect resources, but other countries do not. As a result, it is essential to pay serious attention to this issue. Additionally, ASEAN countries need to be united on the standpoint of access and benefits-sharing issues in order to create negotiating power at the international level.

Reference: Manager, www.manager.co.th

3. Sustainable Production and Consumption: New Theme: Green Production and Consumption in Thailand

Besides the official announcement on adopting green purchasing for all governmental agencies in 2008 aiming to create “green demand” in the country, the Thai government’s Ministry of Natural Resources and Environment also looked at “green product” by assisting producers to manufacture green products. The Department of Environmental Quality Promotion, Ministry of Natural Resources and Environment established a project on green production to assist producers by training, auditing and certifying (with G logo).

The key considerations taken into account for the green production project are using environmental-friendly raw materials, using raw materials effectively, reduction/avoidance of chemical and hazardous substances, having energy efficiency/using clean energy, recycling, and having a pollution management system for the production stage. At present, six criteria to certify

for green productions are in place- mulberry paper, liquor, small textile, frozen vegetables and fruits, wood furniture and sugar. In addition, there is a plan to establish more criteria to certify green products.

Regarding the number of certified green producers, from the beginning of this project (2006) to 2008, more than 300 producers have joined the project and there are around 60 producers who have been able to get G logo certification.

Reference: Manager, www.manager.co.th

4. Other News: Green Tourism – Seven Greens Concept

The World Tourism Organization (UNWTO) estimated that the tourism industry around the world emitted the equivalent of 1,307 million tones CO₂ of greenhouse gases in 2006, which was accountable for 5% of the world's GHG emissions. The emission originated from air transportation (40%), ground transportation (32%), other transportations (3%), accommodation (21%) and other tourism activities (4%).

In general, the tourism sector is perceived as a polluter and a victim of global warming. Thus, in June 2009, the Tourism Authority of Thailand took action by launching a project on “Environmental Conservation Declaration for Sustainable Tourism” aiming to declare the Thai tourism standpoint on global warming and to raise awareness among entrepreneurs and travelers on global warming.

These following seven greens concept will be promoted for entrepreneurs and travelers:

- Green Heart: Involving person/sector with concern for environment and global warming
- Green Logistics: Focusing on energy efficiency and green energy for transportation
- Green Attraction: Having sustainable management for travel destinations
- Green Community: Having environmental conservation and management in a suitable manner at the community level
- Green Activity: Creating environmental friendly and enriching tourism experiences
- Green Service: Providing impressive standard services in line with environmental care
- Green Plus: Being responsible for the planet by returning something through voluntary activities



Logo of 7 Greens Project

(Picture is a contribution from the Tourism Authority of Thailand)



Press release and signing agreement between key partners of Seven Greens Project

(Picture is a contribution from Tourism Authority of Thailand)

Reference: *Manager*, www.manager.co.th
Posttoday, www.posttoday.com

Viet Nam

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1. Global Warming: Climate Change and Sea Level Rise Scenarios for Viet Nam

The Ministry of Natural Resources and Environment (MONRE), Viet Nam officially announced climate change and sea level rise scenarios for the country.

MONRE has applied three of the six global climate change scenarios (IPCC's Fourth Assessment, 2007) to seven local climatic zones, and the use of the B2 medium emissions scenario has been accepted as a basis for national climate change projections and planning.

The B2 scenario will lead to an average annual temperature rise in Viet Nam especially in the northern parts by 2100 of about 2.3°C compared to the last decades of the 20th century, and would be as much as 3.6°C in the north-central coastal region according to the A2 high emissions scenario.

According to the A2 scenario rainfall is estimated to increase by an average of 6.6% in the whole country in the 21st century, and by as much as 10% in the Red River Delta, especially in the wetter months (June to November), but in the dry months (December to May), especially in the southern regions including the Mekong Delta, this average will decrease by about 20%.

Rising sea levels will strongly affect the Mekong Delta and Ho Chi Minh City, parts of the Red River Delta and also a significant coastal strip. The official Vietnamese prediction is 75cm, based on 'downscaling' of the IPCC models to the local level (B2 scenario) and accounting for some melting of land ice. Viet Nam's own planning parameter is a one meter rise in sea levels by 2100, which is consistent with predictions according to the A2 scenario. Without major action, a one meter rise in mean sea levels along the coast of Viet Nam would cause as much as 30,945 km², 9.3% of the total land to be inundated.

Sources: Adapted from UNDP Hanoi, Climate Change Fact Sheet, Oct.2009; MONRE, Climate Change and Sea Level Rise Scenarios for Viet Nam, Hanoi Sept. 2009



Flooding in Hue in September 2009

Source: Vietnam News Agency (VNA)

2. Biodiversity: Viet Nam Joins UN-REDD Programme

Vietnam became one of the first nine countries for the United Nations Programme on Reduced Emissions from Deforestation and Forest Degradation (UN-REDD) in March 2009. The UN-REDD

Viet Nam Programme aims at reducing GHG emissions from deforestation and forest degradation in Viet Nam, which is one of the priority activities within the National Target Program to Respond to Climate Change. To achieve this overall goal, the programme has developed its long term and specific objectives to assist the Government of Viet Nam in developing an effective REDD regime in Viet Nam and to strengthen institutional and technical capacity of relevant organisations of the Ministry of Agriculture and Rural Development at central and local levels to ensure that by the end of 2012 Viet Nam is REDD-ready and able to contribute to reducing emissions from deforestation and forest degradation.

The programme started its estimated implementing duration of 20 months by analysing the requirements for a REDD+-compliant Benefit Distribution System. The study identified legal, policy and institutional constraints that need to be addressed in order to create such a system, and generated options to address these constraints. One of initial conclusions from an analysis of currently-available data indicates that REDD+ could generate up to USD80-100 million/year to support reducing emissions from deforestation and forest degradation in Viet Nam. However, such potential can only be realised if Viet Nam takes steps to ensure that REDD+ is implemented effectively. It is also noted that REDD+ is subject to the UNFCCC negotiations in Copenhagen in December 2009.

Lam Dong province in Central Highlands, Viet Nam, was selected as the programme site. It is one of the provinces with the largest natural forest area in the country and is the place where complex forest loss and degradation have occurred over the last years.

The UN-REDD Viet Nam Programme costs approximately USD 4.5 million and most of this ODA grant is provided by the Government of Norway through the Quick Start Initiatives of the United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries.

Source: Adapted from UNDP Hanoi, UN-REDD Detailed Program Outline, Nov. 2009



Farmer participating in activities for forest fire prevention
Source: VNA

3. Sustainable Production and Consumption: Cleaner Production Promotion towards Sustainable Production and Consumption

The Prime Minister of Viet Nam approved the Industrial Cleaner Production Strategy (ICPS) up to 2020, aiming at achieving the sustainability of industrial sector by applying cleaner production sector-wide to improve efficiencies of natural resources use, pollution mitigation, and human health security. It focuses on four major priorities including: (1) CP education and awareness amongst different targeted industries at all levels; (2) enabling legal and policy frameworks for CP promotion; (3) CP capacity improvement amongst industrial consulting and management institutions and industries; and (4) networking of industrial CP supportive service providers.

The ICPS with its objectives and proposed projects designed for periods until 2015 and 2020, was presented at the Fourth National Sustainable Production and Consumption Roundtable that was attended by 170 representatives organised in Hue City last October by Viet Nam Environment Administration, Ministry of Industry and Trade; and Viet Nam Cleaner Production Centre. At the conference, sharing of experiences and lessons learnt in four thematic workshops focused on CP application and promotion; sustainable urban and industrial park development; energy savings and efficiencies; and financial mechanism.

Impressively and persuasively, co-benefits were gained from significant reductions in waste generation and GHGs emissions by more than 600 local industries through the Government and international donor-funded CP or EE demonstration programmes. The co-benefits prove CP assessments and energy audits as effective tools for responding climate change by local industries, and serve as a scientifically and practically win-win approach to ICPS implementation in Viet Nam.

Source: Adapted from 4th National Sustainable Production and Consumption Conference Proceedings, Hue, 8 – 9 October 2009



National Roundtable on Sustainable Consumption and Production
Source Vietnam Cleaner Production Centre (VNCPC)