



Contents

COORDINATOR'S NOTE	2
TRANSITION TOWARDS A GREEN ECONOMY: THE SOUTH ASIAN CONTEXT	3
GMS = A GREENER, MORE INCLUSIVE, AND SUSTAINABLE ECONOMY?	5
POSTERS FROM THE ASIA-PACIFIC YOUTH FORUM 'CLIMATE ACTION AND MOUNTAIN ISSUES'	9
The tree of opportunity	
Realise the changes: act now!	
Clear vision for a clear future	
Green e-cow-nomy	
Sustainability circle	
EVENTS	14
Virtual discussions in preparation for the Rio+20 processes	
Media Workshop on Adaptation to Climate Change	
Asia-Pacific youth forum on mountain issues concluded with adoption of 'Declaration' and 'Position Paper' on climate change and Rio+20	
Regional sharing workshop on assessment of challenges and opportunities in the Asia Pacific region for Rio+20	
Regional Media Workshop on Green Economy and Climate Change Adaptation	
ICIMOD at UNFCCC COP17, Durban, South Africa	
'Youth Engagement on Climate Change and Rio+20 Processes' at UNFCCC COP17	
11 December 2011: Celebrating International Mountain Day and launch of the World Mountain Forum	
Children's painting competition, 'Why We Love Our Mountains'	
UPCOMING EVENTS	20

Highlighting the Mountain Agenda for Rio+20 Preparations

With the backdrop of the upcoming United Nations Conference on Sustainable Development in 2012 (also known as Rio+20) and as one of the founding members of the Mountain Partnership Consortium, ICIMOD is working closely with key institutions around the globe to ensure that the issues and positions of mountainous countries and regions are clear and will be noticed by the Rio+20 Preparatory Committee as well as the concerned major groups. ICIMOD is working closely with major groups on children and youth, non-governmental organisations (NGOs), local authorities, the scientific and technological community, and women, while maintaining regular interaction with others. These activities are focused on the two themes of Rio+20: Green Economy in the Context of Poverty Eradication and Sustainable Development, and Institutional Framework for Sustainable Development.

ICIMOD's Asia Pacific Mountain Network (APMN) is leading implementation of Rio+20 preparatory activities through improved engagement of youth and enhanced communication, knowledge sharing, and civil society dialogues. A detailed list of activities and documents can be accessed online at www.icimod.org/rio20. In this issue of the Asia-Pacific Mountain Courier, we offer to our readers how Asia Pacific youth are responding to Rio+20, with a thematic focus on green economy.

Coordinator's Note

The main focus of the Asia Pacific Mountain Network (APMN) work plan in 2011 was the planning and organisation of knowledge development and knowledge sharing activities contributing to the sustainable mountain agenda and in particular to bringing this agenda to Rio+20. Activities to this end included regional consultations, media workshops, and activities engaging and mobilising youth to capture their views on mountain development in the global agenda.

In early 2011, the Mountain Partnership Consortium drafted an action plan and a time plan to harmonise global efforts to prepare for Rio+20. The preparatory process in the Asia Pacific region was managed by ICIMOD together with local and other regional partner organisations and individual experts engaged in the mountain agenda. We organised three virtual debates through email and with web support – one focused on the Hindu Kush Himalayan region, one for Southeast Asia, and the South and Central Asia Regional Virtual Consultation on Youth Perspectives on Rio+20. We were thrilled with the commitment expressed by APMN participants in the three discussions, with active dialogue and exchange about what to do and how to do it. The virtual forum not only delivered input to the draft reports but above all connected members from various countries with sometimes shared and sometimes opposing views. It was however always constructive in improving understanding and elucidating national contexts. We really appreciated the contributions from our valuable members and I would like to thank them very much for their involvement.

The virtual consultations culminated in the organisation of two key workshops in Kathmandu, Nepal targeted at youth and civil society, namely the Asia-Pacific Youth Forum on Climate Actions and Mountain Issues, 8–12 August 2011, and the Regional Sharing Workshop on Assessment of Challenges and Opportunities in the Asia Pacific Region for Rio +20, 23–25 August 2011. Each workshop developed key policy recommendations for the following UNFCCC processes and the Rio+20 conference.

We also organised two media workshops. The first was aimed at media representatives from South Asia and was organised in collaboration with the Regional Climate Change Adaptation Knowledge Platform for Asia (Adaptation Knowledge Platform) and the Asia Pacific Adaptation Network (APAN). We welcomed 24 media specialists who were briefed by climate experts on the science behind climate change and on increased attention to adaptation to climate change. The second workshop was framed around the topic of the green economy. Both workshops were commended for their relevance and substance, and we were glad to see that the learning from them was reflected in various media publications in the region.

The virtual activities and the subsequent media workshops have resulted in an effective regional participant network. Members of this network receive regular updates on activities and news summaries concerning sustainable mountain development. If you are not yet a member please register at the APMN website. In our engagement with youth we have also established a social media platform on Facebook which complements our email and web services. Please register or 'like' the APMN activities in Facebook to stay connected. Sharing of APMN's activities through email and Facebook have helped strengthen and expand youth networks in the region significantly, and have helped promote the culture of knowledge sharing and ideas, while seeding activities that are leading to the development of collective views and the setting of common goals. We hope that young people will be able to apply the knowledge gained from this networking in their work with local mountain communities and in advocacy work in schools, universities, and the media.

The past three issues of the Asia-Pacific Mountain Courier have focused on youth and climate change adaptation. These special issues have presented youth perspectives on climate change problems and potential solutions and explored solutions to climate change through artistic means (art, photo stories, and multimedia products). We hope that this issue on youth perspectives on the green economy and adaptation to climate change will add to your reading pleasure.

Daan Boom



Transition Towards a Green Economy: The South Asian Context

Mofiz Rahman, mofiz.sunshine@gmail.com, **Sonia Grover**, sonavgrover@gmail.com, and **Helina Jolly**, helinajolly@gmail.com

One of the main challenges to all societies is how to improve people's wellbeing in an inclusive way, and at the same time to respect planetary boundaries. Unlike many other regions, South Asia is currently undergoing rapid industrialisation and urbanisation, generating significant demand for raw materials and consequently exerting pressure on the local, regional, and global environment. It is expected that the demand and pressures will increase markedly in future.

Rapid global changes such as climate change and consequent loss of biodiversity, rising sea levels, economic crises, and food shortages will further trigger the demand for resources. In this context, the emerging concept of a 'green economy' is particularly relevant for South Asian development because it offers insights and policy measures for sustainable transformation of socioeconomic systems.

The concept of a green economy not only includes important aspects of economic efficiency and economic policy reforms (taxes, economic incentives, and investment in green technologies); it also promotes a holistic view embracing social concerns of equity, inclusiveness, and the compatibility of changes with social, cultural, and political values.

The June 2012 United Nations Conference on Sustainable Development (UNCSD), also known as the Rio+20 Earth Summit, will focus on 'Green Economy within the Context of Sustainable Development and Poverty Reduction' as one of its major themes. This essay examines important aspects of this theme for India and Bangladesh.

Economic growth in South Asia

Economic growth in Asia, especially in the newly industrialising countries of South Asia, has been built on a process associated with structural changes in the economy marked by a shift from agricultural to industrial production followed by rapid improvements in productivity which have triggered growth in new industrial sectors and in services. Between 1971 and 2002, the industrial value added in South Asia was 5.4% (Berkout et al. 2008).

In Bangladesh, industrial growth grew from 6.5 to 8.2% from 2009 to 2010, accounting for almost a 30% share of the total economy. In the same year, manufacturing increased from 6.5 to 9.1%, reaching a share in the total economy of almost 17%.

In Bangladesh, the preliminary findings of the Household Income and Expenditure Survey of 2010 indicated that poverty declined from 40 to 31.5% from 2005 to 2010 (World Bank 2011). New consumption patterns are emerging, affecting demand not only for industrial goods, but also for food, energy, transport, housing, and other services.

All of these changes have an impact on the natural resource base and the environment (Bernardini and Galli 1993). Some scholars argue that economic growth indicators alone are an insufficient measure of human wellbeing and environmental sustainability; growth must encompass not only technological advances but also environmental quality. Herein rests the importance of promoting the concept of a 'green economy'.

Towards a 'green' economy

By decoupling the natural resource base from economic growth and working towards a circular economic model fed by green energy technologies, jobs in the green sector, and substantial investments in environmental conservation, the economy can have a supporting role for the environment. Developing countries such as India and Bangladesh do not need to follow the pattern of resource use intensity and excessive pollution trajectories followed in previous economic transformations (Moomav and Tullis 1994). Traditional growth models have caused deterioration in environmental quality which, at local levels, is associated with direct impacts on health and amenities (the so-called 'brown' problems).

South Asia is among the richest regions on Earth in terms of bio-cultural diversity, but this is now under threat. The region carries a heavy burden in terms of the global ecological crisis manifest in climate change and species' extinction. The melting of the Himalayan glaciers, rising



sea levels, and the intensification of droughts, floods, and cyclones aggravate the serious ecological stresses already present in the region. Despite the differences and diversity within the region, there is a common sharing of and dependency on one geographical space. During periods of catastrophe and uncertainty, the entire region needs to recognise a plurality of perspectives that will offer multiple solutions. Promotion of a pathway for green economic development on a collective basis is essential for the region.

To achieve a green economy, developing nations such as India, Bangladesh, Nepal, and others will need a green workforce to sustain it. Greening the economy in the South Asian region is going to be a protracted process involving creation of green jobs in fields such as, but not limited to, the renewable energy sector, building and construction, transport, basic industries, water, agriculture, and forests. Universities and institutes that can impart the requisite capacities and skills in young leaders are essential. In India, The Energy and Resources Institute (TERI) University is one such institute, offering interdisciplinary and multidisciplinary courses for a green brigade of young leaders.

It is expected that such leaders will bring about a 'new' green revolution in terms of sustainable development with a 'green' or low carbon economy as one of its pillars. In order to accelerate a transition from a 'brown' to a 'green economy', policy makers must establish a framework with sufficient regulatory measures and financial inputs. With the unique challenges and opportunities bestowed upon each nation, the green economy should be bolstered by an effective mix of public-private (e.g., bureaucracy and academia) partnerships in order to arrive at the mutually accepted goal of sustainable development.

Inputs from United Nations' sources indicate that the global economic crisis has exposed the flaws existing in

current economic models and assumptions throughout the world. The focus currently is on the 'new' green economy which is a concept of sustainable economic growth. India is the world's fourth largest emitter of greenhouse gases – 40% of Indian households don't have access to electricity and 56% of these are in rural areas. The costs to human health of environmental degradation in India are estimated to be US\$ 7 billion a year. Nearly three out of four rural households rely almost entirely on traditional sources of energy (animal dung and crop residues) for cooking and heating. India is both the third biggest consumer and third biggest producer of coal in the world. India's projected economic growth depends on extensive infrastructural development on both sides of the energy equation: on the supply side through production of renewable energy and fossil fuel and on the demand side through manufacturing, commercial building, IT data centres, and transportation. Availability and access to energy are considered catalysts for economic growth. A key challenge facing India is how to improve the reliability and adequacy of energy supplies while making modern energy services accessible to and affordable for the entire population.

"India is on the highway to economic growth but a green economy that does not generate 8–10 million green jobs each year is not sustainable," said Jairam Ramesh, Honourable Minister of Environment, and Forests, in June 2011. "At stake is the sustainable future of 400 million people that will be added to India's population in 30 years' time," he added (UNEP 2011). Policies and programmes promoting adoption and deployment of low-carbon technologies should play a central role in global efforts to address climate change as well as policies for reduction of greenhouse gas (GHG) emissions.

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GMS = A Greener, More Inclusive, and Sustainable Economy?

Nguyen Thi Tam Trinh, tnnguyen@isponre.gov.vn and Jutamane Martchamadol, st108004@ait.ac.th

The Greater Mekong Subregion (GMS) includes six countries: Cambodia, China (Yunnan Province and Guangxi Zhuang Autonomous Region), Laos, Myanmar, Thailand, and Vietnam (Figure 1). The subregion has rich natural resources and abundant biodiversity. Its recent economic and social progress is characterised by robust economic growth (an average annual growth in GDP of over 9.5%) and human development. (All countries apart from Myanmar were classified as achieving 'medium' human development in 2010.) Nevertheless, these countries are classified as developing and emerging economies, and they face many ongoing challenges such as poverty and socioeconomic disparity. Vulnerability to climate change and resource scarcity add to these ongoing challenges.

This article discusses the subregional perspective of transition to a green economy, in the context of emerging global aspirations for such a transition. In light of the discussions to take place at Rio+20 in 2012, the relevance of such an approach is examined for the countries of the Greater Mekong Subregion. This article focuses on how the concept of a green economy is understood in the GMS and summarises some achievements already made in greening the subregion's economy, with examples of some country-level measures from Thailand and Vietnam.

A green economy in the context of GMS

The concept of a 'green economy' is new and there has been no consensus on a common definition. Here the definition of the United Nations Environment Programme (UNEP) is taken as a benchmark:

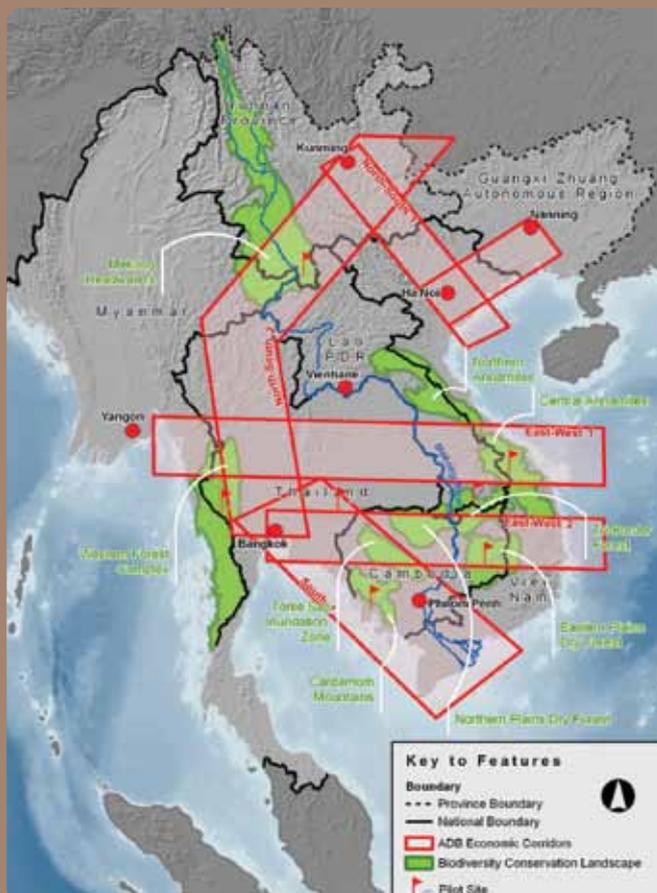
"[A] green economy is one that results in "improved human wellbeing and social equity, while significantly reducing environmental risks and ecological scarcities." (UNEP 2011, p 1)

UNEP's concept promotes the use of investments to reduce carbon emissions and pollution; to improve the efficiency of energy and resource use; and to prevent the loss of biodiversity and ecosystem services.

National 'green growth'

In the Asia-Pacific Region, the term 'green growth' is used more widely than 'green economy' because it is more in tune with the current stage in the region's development. Green growth is considered to be a pivotal factor in poverty eradication and environmental sustainability. Green growth is defined as a strategy that delinks economic growth and environmental degradation, improves eco-efficiency of production and consumption, and promotes effective decision-making (UNESCAP 2006). In the GMS, green growth has been incorporated into development planning; for example, in 2009 Cambodia published a National Green Growth Roadmap.

Figure 1: Economic corridors and biodiversity conservation landscapes in the Greater Mekong Subregion



The GMS has not yet endorsed the green economy concept as a subregional approach, but has been extremely committed to strategies for sustainable development, both nationally and subregionally; to achieving the Millennium Development Goals (MDGs); and to the Johannesburg Plan of Implementation. Some principles of a pro-green economy have been incorporated into the planning and strategies of the GMS and its members. These principles can be found in a number of plans and programmes.

The GMS Sustainable Development Strategy (UNEP 2007), for instance, argues that the strategic approach to sustainable development is based on integrated and equitable economic growth and sustainable management of shared natural resources.

The GMS Economic Cooperation Programme (ECP) Strategic Framework 2012–2022 recognises the need for balanced economic development with environmental protection throughout all sectors. For instance, in the transport sector, the concept of carbon neutral transport corridors is introduced to reduce and offset carbon emissions. In the energy sector, planning for environmentally sustainable power trading, energy efficiency, and clean technologies is promoted.

The GMS Core Environment Programme and Biodiversity Conservation Corridors' Initiative (CEP-BCI) has been implemented in parallel with the ECP since 1995. In the second phase (2012–2016), CEP-BCI intends to bring climate-related and environmental management measures of the ECP into the mainstream to bring about positive impacts through "improved climate-resilience, environmental quality, and sustainable livelihoods in the GMS".

The subregion's coordinated efforts towards a pro-green economy

The CEP-BCI is the response of GMS countries to subregional environmental problems. The vision of the programme is "a poverty-free and ecologically rich GMS". The programme aims to integrate sound environmental management into key sectors through three specialised components: strategic environmental assessments, environmental performance assessments, and biodiversity conservation corridor initiatives. The programme also includes two cross-cutting components, capacity development and sustainable financing.

A working group on environment was founded in 1995 with a view to capacity development. In addition, eight sector-based working groups were formed to act as focal

points between national administration agencies and the CEP-BCI Secretariat–Environment Operations Centre (EOC). In the course of the transition to the second phase, the EOC established national support units in 2011 (in Laos, Cambodia, and Vietnam) as a means of handing over ownership to national staff.

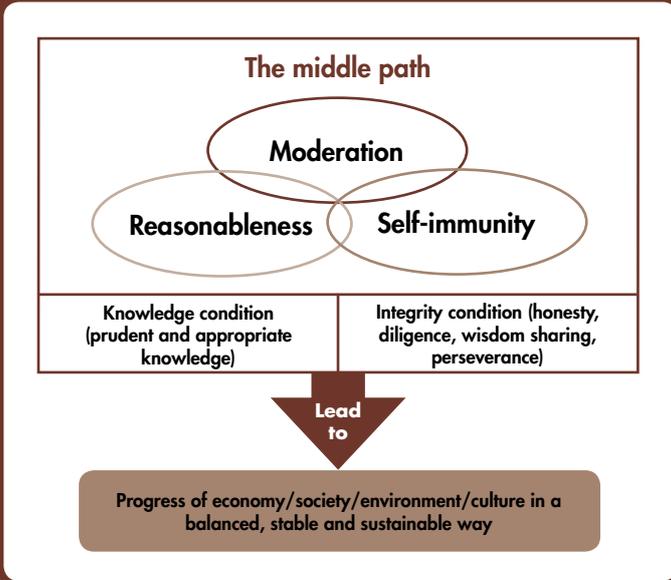
Progress in pro-green growth is reflected in the establishment of eight biodiversity conservation corridors covering a total of 2 million hectares. Cambodia, Laos, and Vietnam together have received US\$ 69 million in loans or grants from the Asian Development Bank (ADB), whereas Thailand and China are mobilising their own public and private investments to upscale BCI activities. Promotion of payment for ecosystem services (PES) has been increasing, and enabling conditions and exchange of knowledge and experience will be supported to facilitate implementation. A strategic environmental assessment carried out for power planning in Vietnam in 2010 recommended improvements in energy efficiency and increased use of renewable energy to reduce dependency on coal-fired power plants. It also recommended increased scrutiny in the use of large-scale hydropower plants. A strategic environmental assessment of the North South Economic Corridor identified the main environmental issues and gave recommendations.

Thailand: the concept of a 'sufficiency' economy

Thailand's 11th national development plan (2012–2016) emphasises the philosophy of a 'sufficiency economy' (Figure 2). This concept has been the guiding light of the country's development since the Ninth Plan in 2002. The relevant section is reproduced below.

"[A] Sufficiency Economy stresses the middle path as an overriding principle for appropriate conduct by Thai people at all levels, from family to community to country. (...) 'Sufficiency' means moderation, reasonableness, and the need of self-immunity for sufficient protection from impact arising from internal and external changes. To achieve this, the application of knowledge with due consideration and prudence is essential. (...) At the same time, it is necessary to strengthen the moral fibre of the nation, so that everyone, particularly public officials, academics, and businessmen, adhere first and foremost to the principle of honesty and integrity. In addition, a way of life based on patience, perseverance, diligence, wisdom and prudence is indispensable to create balance and be able to cope appropriately with critical challenges,

Figure 2: Thailand's philosophy of a sufficiency economy



Source: NESDB 2007

arising from extensive and rapid socioeconomic, environmental, and cultural changes in the world." (NESDB 2007)

Green economy is then a specific mechanism under the umbrella of 'sufficiency economy' (NESDB 2010).

Thailand has applied the concept of a green economy in many sectors such as 'green industry', 'green city', 'green energy policy', 'green tourism', 'green transportation system', 'green community', and 'green labelling'. This is substantial evidence that Thailand is not only aware of but also and emphasises the role of a green economy in sustainable development.

The outcome of the sufficiency economy was seen when Thailand suffered less than other countries and rallied swiftly from the global economic crisis in 2008 (Vilmosiri 2011). This is not to say that Thailand is without problems, but it is moving towards increased self sufficiency in order to protect itself from the impacts of internal and external changes.

Vietnam

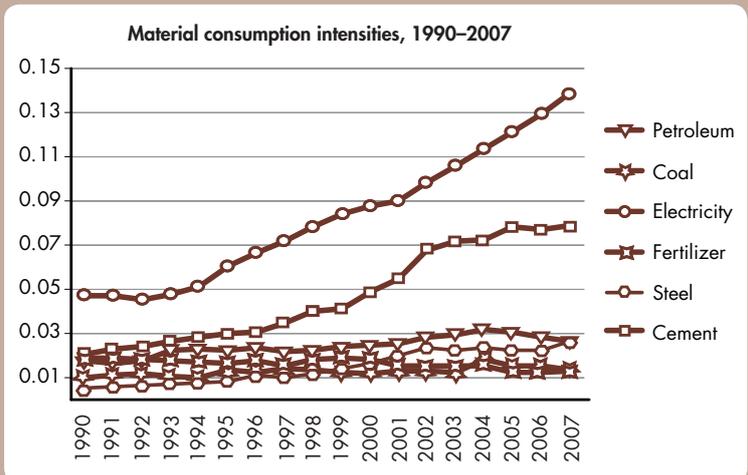
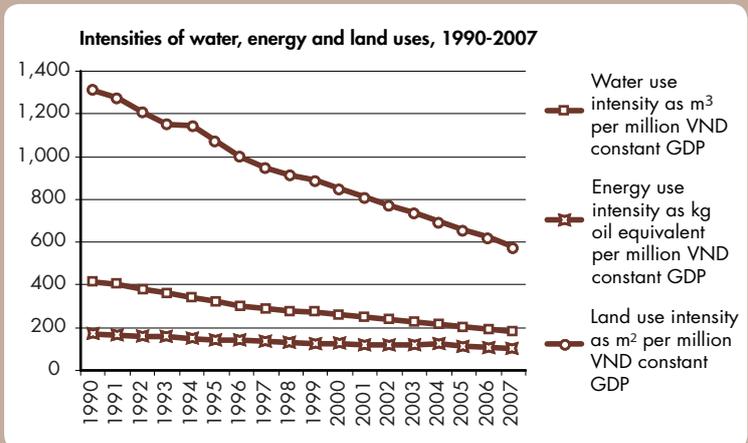
Apart from the achievements made within the framework of the ECP and the CEP-BCI, Vietnam has taken independent steps to embrace the concept of green growth (Vietnews 2010). Internationally, Vietnam hosted the ASEM (Asia-Europe Meeting) Green Growth Forum in October 2011 in Hanoi, jointly promoted with Germany,

the Netherlands, the Republic of Korea, and the United Kingdom at the ASEM Summit in Brussels in 2010. The main objectives of the forum were to raise awareness among member governments and the public and to exchange experience.

In March 2011, Vietnam's Ministry of Planning and Investment was assigned to develop a green growth strategy for Vietnam in tandem with the National Target Programme to Respond to Climate Change.

A study funded by the UN Economic and Social Commission for Asia and the Pacific (UNESCAP) on eco-efficiency indicators (an element of green growth according to the UNESCAP concept) found that over the past 20 years the use of basic resources, such as water, energy, and land use, for economic growth in Vietnam decreased, while the use of key materials such as electricity and cement increased (Figure 3) (CIEM 2009; UNESCAP 2009). This indicates a need to shift to more efficient patterns of production.

Figure 3: Trends in intensity of resource use, Vietnam



Note: VND = Vietnamese Dong
Source: UNESCAP 2009

Conclusion

Progress has been made towards achieving a green economy or green growth in the Greater Mekong Subregion, but challenges lie ahead. The subregion faces in particular a number of transboundary challenges, among which are Mekong watershed management, biodiversity conservation, pollution, and associated problems such as the pressure of rapid economic development and risk of resource depletion. International experts and organisations have introduced many ideas to face these challenges, but they often fail to reflect the real regional aspirations and potentials. Most countries in the subregion have common weaknesses in capacity development and financial planning and management.

The broad scope of the green economy concept allows each country or group of countries to pursue its own particular strategies according to its assets, resources, and comparative advantages. Continuing commitment will be needed to implement the green economy concept in the GMS successfully.

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Posters from the Asia-Pacific Youth Forum 'Climate Action and Mountain Issues'

8–12 August 2011

Participants at the Asia-Pacific Youth Forum presented posters related to sustainability, green economy, and green jobs. The participants included 43 youths from ICIMOD's eight regional member countries (Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal and Pakistan) and nine other countries from the Asia-Pacific region.

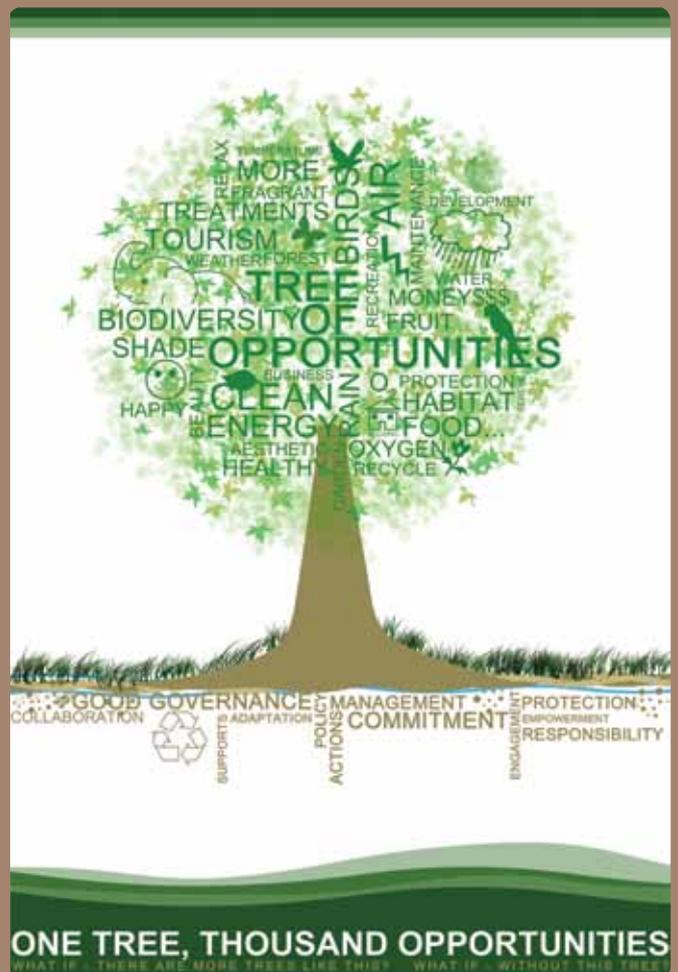
The tree of opportunity

Tith Chandara, Cambodia

As you may know the nature of the tree is that its growth is governed by its roots and the soil. Have a look at the roots of the tree. These roots signify the activities and commitments of stakeholders working on environmental issues and climate change. These activities help the tree grow.

If you are interested in this poster, please take the time to read the cloud of words inside the tree. There are thousands of opportunities you can receive when the tree grows. What if there are more trees like this in your community, your country, and throughout the world? How would you feel? In contrast, how would you feel without this kind of tree?

The green effect behind the caption 'One tree, thousands of opportunities' represents a mountain range. It looks like this when we commence as individuals to plant a tree, or trees. At least, plant one tree in your life. If you have done so already, plant more because it is worthwhile. Take the lead in your community.



Tith Chandara works as an assistant lecturer at the Department of Media and Communication in Cambodia where he was pursuing his Bachelor's degree under a scholarship programme. He works in collaboration with media and is responsible for public relations and outreach. This young Cambodian media practitioner has been working as a freelance reporter for a local English newspaper, the Phnom Penh Post. In 2010, he got a grant to intern in the press office of Care Germany. Since then, he has produced an environmental film about the impacts of plastic bags which was selected for the Southeast Asian Student Documentary Award in Thailand. He has produced several films on different topics, mostly on environment and education. He is now organising a webzine for his department. He can be reached at titchandara@gmail.com.

Realise the changes: act now!

Aastha Shrestha, Nepal

Although there are several natural causes influencing the temperature on our planet, many climate scientists attribute the global warming phenomenon observed recently to anthropogenic activities. Over recent decades, deforestation and the burning of fossil fuel have become serious causes of greenhouse gas emissions (GHGs) and, therefore, leading contributors to global warming.

Climate change is among the most critical global environmental challenges of our time. Recent events have demonstrated emphatically mankind's growing vulnerability to climate change. Increasing concentration of GHGs in the atmosphere, particularly carbon dioxide, is the primary cause of global warming. Rapid increases in the atmospheric concentration of carbon dioxide since the onset of the industrial revolution have caused the Earth to warm more than previously, leading to a rise in sea levels (as a result of thermal expansion and melting polar ice caps and glaciers) and causing various impacts on the global climate.

Retreat of glaciers and ice sheets has two major impacts. First, the high rate of meltdown causes increased runoff leading to floods and landslides. Secondly, areas relying on the runoff from melting glaciers are likely to experience severe water shortages as glaciers disappear. A decrease in runoff will lead to a reduction in water to irrigate crops as freshwater dams and reservoirs become dry. As the volume of runoff decreases, then energy, urban, and agricultural infrastructure will be placed under stress.

In order to cope with these changes, adaptation strategies – such as expansion of rainwater harvesting; water storage and conservation techniques; recycling and reuse of water resources; desalination; and efficient use of water and irrigation facilities – can be adopted. These strategies should be accompanied by inputs such as afforestation, reforestation, management of forest harvesting, improvements in tree species to increase biomass production and carbon sequestration, and land-use changes as these could mitigate the impacts of change.

We must realise what is happening and act now!



Aastha Shrestha, a Nepalese citizen, is currently an undergraduate student in Environmental Science at the College of Applied Sciences, affiliated to Tribhuvan University, Nepal. She has been leading various extracurricular activities at her college to raise awareness about climate change and publishes 'Flourish', a college magazine focusing on youth and environmental issues. Ms Shrestha serves as the editor of this magazine which focuses on environmental awareness and sustainable consumption. She plans to pursue a career in the environmental sector. She seeks to share her ideas on different environmental issues in a global forum and can be reached at aastha_debonaire@yahoo.com.

Clear vision for a clear future

Serik Dossayev

My poster shows that the community (the shadows of people on the poster) faces a choice (two tunnels) of whether to continue in their old ways or to choose sustainable development. As they are surrounded by darkness (two ways only are shown and people are confused, they are in a fog (black background), and they are frustrated. Inside the tunnel are two labels, they indicate which direction people can decide to follow. The tunnels are identical, only differing in the colour of the labels. I want to show through this poster that people do not sense differences but that, depending upon the choices they make, the end results differ in every aspect. People lack the motivation and knowledge to choose one path over another and tend to choose one that is easy and familiar.



Serik Dossayev, a Kazakh national, joined Executive Consulting in 2008 as a Consultant for Strategic and Service Management. In 2010 Serik became a Deputy Director and he is responsible now for development of the company's new business direction which includes establishment of partnerships with local universities for collaborative research in strategic management, service management, organisational change, and sustainable development as well as creation of a national internet platform for implementing online market research. Serik completed his Master's degree in Economics and Social Studies as a scholar of 'Deutscher Akademischer Austauschdienst' or German Academic Exchange Service (DAAD) at Trier University, Germany. Serik received his first diploma in agro-industrial economy at T. Ryskulow Kazakh Economic University, Kazakhstan. While studying for a Bachelor's degree, Serik spent a year as an exchange student at the University of Applied Science at Osnabrueck in Germany where he studied intensive marketing. Serik is a member of Youth Encounter on Sustainability (YES) Alumni Association, an organisation that aims to connect the new generation of leaders to establish sustainable development. He can be reached at seka_dos2004@yahoo.de.

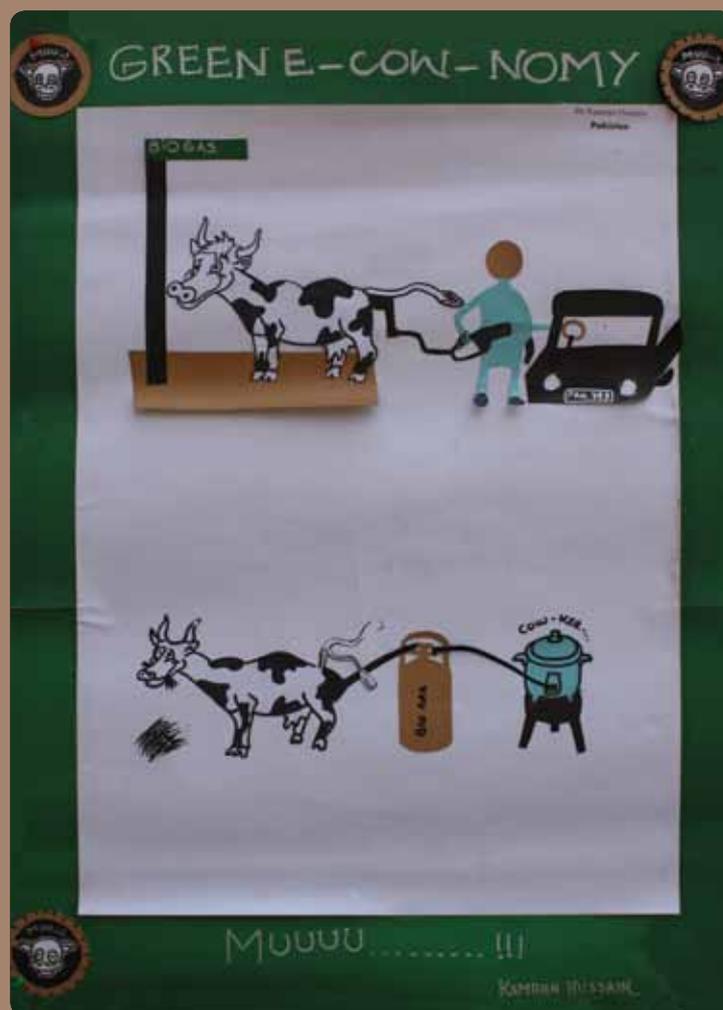


Green e-cow-nomy

Kamran Hussain, Pakistan

Production of biogas (a mixture of approximately 60% methane and 40% carbon dioxide) is becoming more favourable as the prices of oil and fertiliser rise. Furthermore, biogas production units provide a decentralised fuel supply and waste management system, both of which are sought out increasingly, particularly in rural areas of developing countries. The majority of work carried out on biogas has used animal waste as raw material.

Gas derived from cows is 55–65% methane and 30–35% carbon dioxide with some hydrogen, nitrogen, and other traces. Its heating value is around 600 British thermal units (Btu) per cubic foot. Natural gas consists of around 80% methane, yielding a Btu value of about 1,000. Biogas can be improved by filtering it through lime water to remove carbon dioxide; iron filings to absorb corrosive hydrogen sulphide; and calcium chloride to extract water vapour after completing the two other processes. Cow dung slurry is composed of 1.8–2.4% nitrogen (N_2), 1.0–1.2% phosphorus (P_2O_5), 0.6–0.8% potassium (K_2O), and 50–75% organic humus. About one cubic foot of gas can be generated from one pound of cow manure at around 28°C. This is enough gas to cook a day's meals for a family of four to six people in India. About 1.7 cubic metres of biogas is equivalent to one litre of gasoline. The manure produced by one cow in one year can be converted to methane and is equivalent to over 200 litres of gasoline. Gas engines require about 0.5 m³ of methane per unit of horsepower per hour.



Kamran Hussain is a graduate in forestry from the Pakistan Forest Institute (PFI). He studied forestry under a scholarship programme from IUCN (International Union for the Conservation of Nature)-Pakistan in 2005. From 2006 he served for two years at the State Forestry Department as a forest officer and was subsequently nominated by the Forestry Department for post-graduate studies in Mountain Conservation and Watershed Management at the University of Punjab, Lahore. He graduated in 2009. Mr Hussain received a gold medal from the university in 2011 for securing first position in mountain research. He worked as a lecturer at the Centre for Integrated Mountain Research (CIMR), University of Punjab, Lahore, on deputation for a six-month period following graduation. His main areas of interest are capacity building and training of youth, communities, and government officials on issues related to the environment, specifically natural resource management (NRM), reducing emissions from deforestation and degradation (REDD/REDD+), wetlands' management, and watershed management. In three bureaucratic training courses held by him, Kamran trained

over 250 government/NGO officials, youth, and community representatives on environmental issues. He has represented his country at international forums: for example Youth Encounter on Sustainability (YES) – Switzerland; International Youth Forum on Benefiting Youth from Earth Observation Information for Climate Action in Nepal in 2010, and an International Post-graduate School for Mountains' (IPROMO) course on Natural Hazards on Disaster Risk Management in Mountains in Ormea, Italy, in July 2011. Recently he received a scholarship from Pakistan Wetlands' Programme to study for an MS in Environmental Management in Malaysia. This commenced in September 2011. He can be reached at kam_asif@yahoo.com.

Events

Virtual discussions in preparation for the Rio+20 processes

Started in early 2011 in the Asia Pacific region, ICIMOD together with partner organisations and individual experts initiated a preparatory process towards the Rio+20 processes. A Mountain Partnership Consortium (MPC) meeting in February 2011 outlined the structure of the global as well as regional assessment reports, identified lead partners, and defined the process. Following guiding documents and inputs received from MPC, ICIMOD together with the partners organised three virtual debates (email and web based), focused on the HKH (April 2011, 200 contributions, 296 participants), on South and Central Asia (May 2011, 550 participants, 400 contributions), and on Southeast Asia (June 2011, more than 160 participants), which were warmly welcomed by SMD communities across the region with an exceptionally high number of participants and extremely valuable contributions.

Media Workshop on Adaptation to Climate Change

APMN, together with the Regional Climate Change Adaptation Knowledge Platform for Asia and the Asia Pacific Adaptation Network (APAN) organised a Media Workshop on Adaptation to Climate Change from 18 to 20 May 2011 in Dhulikhel, Nepal. The objective of the workshop was to provide updated scientific information on environmental issues, particularly with regard to increasing impacts and vulnerability due to growing climate and socioeconomic changes and the adaptation needs of the people in South Asia. Twenty-four media representatives from the South Asian countries of Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka attended the programme.



Asia-Pacific youth forum on mountain issues concluded with adoption of 'Declaration' and 'Position Paper' on climate change and Rio+20

APMN organised the largest ever Asia-Pacific regional youth gathering on climate change and mountain issues in the context of upcoming Rio+20. The gathering, entitled 'Asia-Pacific Youth Forum on Climate Actions and Mountain Issues', took place from 8 to 12 August 2011 and was attended by 43 youths from 17 countries in the Asia Pacific region representing a diverse geography, a rich cultural background and a variety of issues. Participation was done through a pool of 1050 applicants representing almost half of the countries in the region. At the Forum participants adopted two important documents prepared in the context of ongoing debates on climate change adaptation and Rio +20 preparation. The 'Asia Pacific Youth Declaration on Climate Change and Sustainable Development' and the 'Asia Pacific Youth Position paper on Rio +20' both were launched on 12 August amid a special function organised to mark International Youth Day (IYD), the conclusion of the International Year of Youth





(IYY 2010/2011) and a 'key message communication' session of the Youth Forum.

The event was supported by more than a dozen global and Asia Pacific regional initiatives promoting climate and sustainability actions. These included Rio+ twenties; Road to Rio +20; UN CSD Youth Caucus; 350.Org; Activating Talent in Sustainability (ACTIS); Adaptation Knowledge Platform (AKP); Asia and the Pacific Adaptation Network (APAN); Eco-Singapore; Peace Child International; Schumacher College UK; Sustainability Asia; and UNEP TUNZA. The event was widely covered by national, regional, and global media and Rio+20 stakeholders,

including the UNCSD Secretariat and IISD, among others. The Position Paper will be submitted to the UNCSD Secretariat and the Declaration will be widely distributed during relevant events, including UNFCCC COP 17, Rio+20 and during preparatory consultations etc.

Details can be found at: www.icimod.org/apyf2011

Regional sharing workshop on assessment of challenges and opportunities in the Asia Pacific region for Rio+20

ICIMOD, as a member of the Mountain Partnership Consortium, organised a three-day workshop on 'Regional Sharing of Experiences, Challenges, and Opportunities' in promoting sustainable mountain development in the context of the upcoming Rio+20 conferences. The workshop was held from 23 to 25 August 2011 in Kathmandu. The meeting brought together more than 40 experts from the Hindu Kush-Himalayan (HKH) countries (Afghanistan, Bangladesh, China, India, Myanmar, Nepal, and Pakistan) as well as from the Southeast Asian and Pacific countries (Indonesia, the Philippines, and Papua New Guinea) to share the progress made since the Rio Earth Summit in 1992, and to deliberate on the environmental, economic, and social challenges that people living in fragile hilly and mountain ecosystems face in meeting the goals of sustainable development.

The workshop came up with key messages and recommendations based on the 15 case studies on diverse mountain themes; on the findings of the e-conferences in the HKH, South East Asia and the Pacific, and South and Central Asia; on key informants' presentations from other countries; as well as based on discussions conducted in various sessions. These are expected to contribute to a regional assessment report on the challenges and opportunities for Rio+20 in the HKH as well as the Asia Pacific Region. The report was presented at a global conference on sustainable mountain development in Lucerne, Switzerland in October 2011. The Lucerne conference is expected to prepare a global report on the same theme to feed into the preparatory process for the Rio+20 conferences to be held by the United Nations in June 2012.



Regional Media Workshop on Green Economy and Climate Change Adaptation

APMN organised a Regional Media Workshop on Green Economy and Climate Change Adaptation from 2 to 4 November 2011 as a follow-up activity of the South Asia Media Workshop on adaptation to climate change organised in May 2011. The objective of the workshop was to familiarise media professionals with the different issues, challenges, options and opportunities with regard to the promotion of the Green Economy and Climate Change Adaptation in the region, including raising awareness of the International Mountain Day celebrations in December 2011, and Rio+20 meeting in 2012 among others. Twenty-six media representatives from seven of ICIMOD's regional member countries (Afghanistan, Bangladesh, Bhutan, China, India, Nepal, and Pakistan) attended the programme.

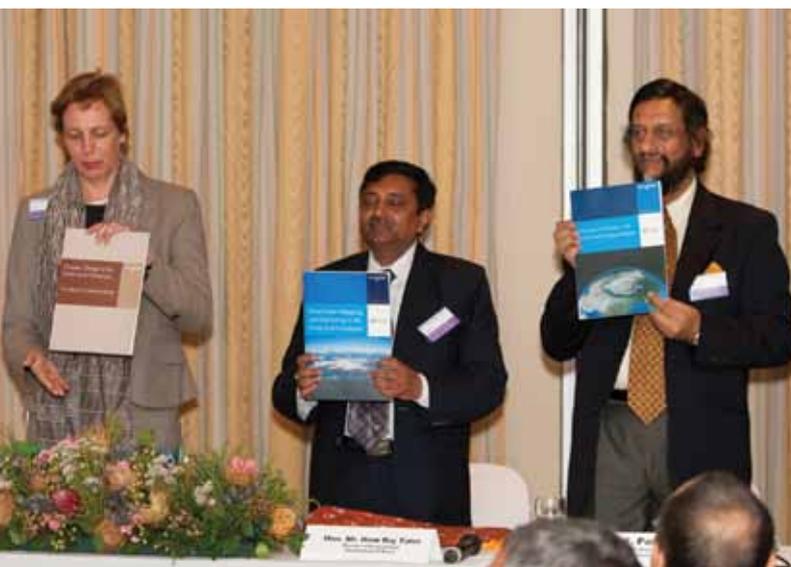


ICIMOD at UNFCCC COP17, Durban, South Africa

ICIMOD participated in the recently concluded COP17, Durban, in a substantive way, leading an international team in organising the first ever Mountain Day on the sidelines of COP17. The rationale and objectives of the event were to highlight the urgent need to raise awareness and sensitise UNFCCC COP17 delegates on the implications of climate change in the mountain regions; to share the emergence of stronger scientific evidence and implications; and to stress the need for policy actions to ensure the critical contribution of mountain ecosystems in climate change adaptation, mitigation, and sustainable development. In this regard, ICIMOD joined hands with its global partners particularly GIZ, the World Bank (WB), The Mountain Partnership Secretariat, and UNEP.

Dr Rajendra K Pachauri, IPCC Chair, gave the keynote speech and Dr Pema Gyamtsho, Agriculture, Environment, Forest Minister, Bhutan; Dr René Castro Salazar, Minister of Environment, Energy and Telecommunication, Costa Rica; and Mr Hem Raj Tater, Minister of Environment, Nepal, participated in the panel discussion. Dr David Molden, Director General of ICIMOD, welcomed the participants and shared the Call for Action. A number of top policy makers from ICIMOD's regional member countries and global development partners including the WB, UNDP, and UNEP also participated in the discussions. Also taking part were COP17 delegates from more than 14 mountain countries – including 6 of ICIMOD's Regional Member Countries.

Mountain Day concluded by issuing a draft call for action which made a strong plea to mainstream the role of mountains in global processes, including the UNFCCC COP, and to support adaptation in mountains for improved livelihoods and sustainability by introducing appropriate policies and creating specific financing windows. ICIMOD took this opportunity to release three publications – *The Status of Glaciers in the Hindu Kush-Himalayan Region*; *Snow-Cover Mapping and Monitoring in the Hindu Kush-Himalayas*; and *Climate Change in the Hindu Kush-Himalayas* – which have broken scientific ground in the understanding of climate change in the region.



The second event jointly organised by GIZ/ICIMOD was 'The Meeting of Minds – International Conference on Sharing of Experiences in the Design and Implementation of Adaptation Strategies and Programmes in Asian Mountain Regions'. This brought together climate change experts and policy and decision makers from China, Nepal, Pakistan, and Tajikistan together with experts from ICIMOD and GIZ to discuss climate change adaptation in mountain countries in Asia. They prioritised capacity building, knowledge management, and regional and cross

border sharing and networking as priority activities and expressed great interest in mainstreaming their erstwhile InWEnt-ICIMOD activities with ICIMOD's overall programmes.

ICIMOD joined hands with the Center for International Climate and Environmental Research (CICERO) and UNEP's GRID-Arendal, and organised a side event on 'Adaptation in the Himalayan Region: Lessons from an Integrated, Policy-relevant Research Programme'. This provided a good opportunity to debate the gender aspect of climate change adaptation in the Himalayas. All the ICIMOD activities can be accessed online at www.icimod.org/cop17.

'Youth Engagement on Climate Change and Rio+20 Processes' at UNFCCC COP17

The United Nations Conference on Sustainable Development – Major Group on Children and Youth (UNCSD-MGCY) and British Council International Climate Champions – Sri Lanka, together with other climate activists, UNCSD heads and youth climate ambassadors organised a side event on Youth Engagement on Climate Change and Rio+20 Processes in Durban on 8 December 2011 as part of the 17th Conference of the Parties (COP17) to the United Nations Framework Convention on Climate Change (UNFCCC). The side event was useful in bringing together global youth attending the COP17 meeting to debate a future course of action in preparation for the Rio+20 meeting next year and the ongoing climate discourse. The event was moderated by Mr Tek Jung Mahat, APMN Node Manager from ICIMOD. The side event panellists included Dr Henry de Cazotte, Special Advisor to the Executive Director of UNCSD (Rio+20);

Mr Brice Lalonde and Ms Kiara Worth, representatives of the MGCY/Youth Caucus; Mr Nimo Bassey, Nigerian environmental activist; Mr Jamie Peterf, YOUNGO Bottom Lining Tem/UK Youth Climate Coalition; Mr Sikander Sabeer, British Council Climate Champion – Sri Lanka; and Mr Hemantha Withanage, a leading Sri Lankan climate activist.



11 December 2011: Celebrating International Mountain Day and launch of the World Mountain Forum

ICIMOD celebrated International Mountain Day (IMD) by holding a joint programme with the Swiss Agency for Development and Cooperation (SDC). The event saw the launch of the World Mountain Forum for Sustainable Development (WMF-for-SD). This is a joint public-private partnership that aims to connect communities with the private sector and which is keen on launching a strong public relations campaign on mountain issues in civil society.

With the theme 'conserve, construct and celebrate' a video conference was linked to IMD Day celebrations in Verbier, Switzerland. Gregory Greenwood, Director, the Mountain Research Initiative, introduced the programme in Switzerland. This was followed by an opening address by Peter Brabeck-Letmathe, Chairman, Nestlé Group in Switzerland. At ICIMOD, Mr Daan Boom, Programme Manager, Integrated Knowledge Management, introduced the keynote speaker, Mr Rajesh Hamal, a noted cine artist from the Nepalese film industry, panellist to the joint discussion panel, which included Mr Dawa Steven Sherpa,





noted mountaineer and environmental activist, and Dr Rajan Kotru, Watershed Management Specialist, ICIMOD.

In his keynote address, Mr Hamal stated that mountain people are essentially poor and marginalised and that mountain people are the right people to bring to the world's attention the importance and relevance of the mountains. In the context of globalisation and the changing climate, he stated that ICIMOD as a regional institution can play an important role in the conservation of mountain ecosystems and the general well-being of mountain people.

Mr Sherpa said that mountain people are perceptive about the problems they face and are aware of the solutions to such problems, but lack the requisite resources and the technical know-how. They need to be heard and empowered to help themselves. Dr Rajan Kotru noted that the development paradigms in the last few decades have been economically driven and have not been able to address the needs of the mountain people adequately. There is a need for proper institutional mechanisms for the effective and equitable sharing of resources in the Himalayas. Dr David Molden, who moderated the panel discussion, summarised the significant role that actors and public figures could play in bringing the message of the mountains to the general public.

Dr Madhav Karki, Deputy Director General and Chair, Mountain Partnership Consortium, thanked the speakers for their participation and highlighted the public-private partnership of WMF-for-SD. He indicated that plans are underway to involve schools in the initiative in the near future.

Due to a technical issue ICIMOD was forced to disconnect with Verbier, Switzerland but continued with its own programme.

Street Drama 'Prakriti Prem'

As a soft opening to the International Mountain Day 2011 celebration, a street drama entitled 'Prakriti Prem' by the Mandapika Art Group was held at ICIMOD Headquarters. The street drama enacted the conflict between humankind and nature by putting Hindu mythological symbols in a twenty-first century setting. Lord Shiva, the ocean, mountains, ozone, clouds, and greenhouse gases were characters dwelling on problems such as temperature rise and loss of snow cover in the mountains, eventually realising that anthropogenic activities are behind the problems. The drama stressed the need to conserve forests and mountains and was attended by school children and invited guests including Mr Rajesh Hamal, the well-known cine artist from Nepal.



Children's painting competition, 'Why We Love Our Mountains'

ICIMOD, in partnership with the Swiss Agency for Development and Cooperation (SDC) and the arts organisation, Kakhara, organised a painting competition on the theme, 'Why We Love Our Mountains' among school children aged 5-7 and 8-12 on 26 November 2011. About 85 children from 24 schools in Kathmandu participated in the event at the Valley View School. They were briefed on the importance of mountains by a resource person from ICIMOD, and fine artists and illustrators helped children work on their paintings.

The painting competition was organised in the framework of the launch of the World Mountain Forum for Sustainable Development (WMF-for-SD) and was organised concurrently by partners across Venezuela, Ecuador and Peru in the Andes, and by ICIMOD/APMN in Kathmandu, Nepal.

The three best entries in each age category were awarded prizes at the ceremony at ICIMOD marking International Mountain Day on 11 December 2011.

Age group 5-7

- Winner: Sushan Rai, Sagarmatha Educational Academy
- 1st Runner Up: Ishan Karkee, Cambridge Public School
- 2nd Runner Up: Neema Shrestha, Global Public School

Age group 8-12

- Winner: Achyut Nakarmi, Amenity English School
- 1st Runner Up: Aman Gupta, Steiner Academy
- 2nd Runner Up: Kabiraj Rai, Bagmati Boarding School

The winner in each age group receives a desktop computer and a year's Internet access for his or her school. While adding to the school's existing facilities, the computer and Internet access will also facilitate access to the World Mountain Forum for Sustainable Development (WMF-for-SD) communication platform.



Upcoming Events

01–13 April 2012

PhD Conference 'Knowledge Gaps in Climate Change Research – How are you tackling it?', Norwich, UK

Call for Abstracts

The overarching purpose of this conference is to facilitate discussions regarding what gaps exist in climate change research, and how PhDs, the Postdocs and Professors of the future, aim to address them.

Deadline: 1 March 2012

Contact: Co-ordinating Committee, knowledge_gaps@uea.ac.uk.
www.tyndall.ac.uk/knowledge-gaps-conference

29–31 May 2012

Mountain Resource Management in a Changing Environment
Kathmandu, Nepal

Call for Participation

The symposium represents the culmination of the second phase of NUFU supported project Education, Research and Training for Sustainable Management of Himalayan Watersheds (HIMUNET), which has been a network project among five universities.

Deadline: 31 January 2012

Contact: Dr Roshan M Bajracharya, kuhimal@ku.edu.np
www.himUNET.com/downloads/international-symposium-may-2012.pdf

11–12 July 2012

Malaysia International Biological Symposium 2012

Kuala Lumpur, Malaysia

Call for Abstracts

Malaysia International Biological Symposium 2012 (i-SIMBIOMAS 2012) aims to bridge researchers from various disciplines of Biology, and serves as a platform to foray researches in biological sciences into knowledge, skills and bioproducts.

Deadline for abstracts/proposals: 29 February 2012

Contact: Dr Meenakshii Nallappan, simbiomas@science.upm.edu.my
www.science.upm.edu.my/biology/i-simbiomas2012

7–10 August 2012

Biodiversity Asia 2012

Bangalore (Bengaluru), India

Call for Abstracts

Biodiversity Asia 2012 will include important updates on conservation research in Asia in lectures, workshops, plenary sessions, symposia and poster sessions by leading scientists and students.

Deadline for abstracts/proposals: 30 April 2012

Contact: Secretary, Scbasiasecretariat@atree.org
www.scbasia2012.org/

13– 14 September 2012

Tourism, Climate Change and Sustainability

Bournemouth, United Kingdom

Call for Abstracts

The International Centre for Tourism and Hospitality Research (ICTHR), Bournemouth University, is pleased to announce this important conference with an aim to debate the broader conceptual ideas and contested relationships between climate change, sustainability and tourism as well as to examine worldwide responses and exchange cutting-edge research.

Abstract submission last date: 30 April 2012

Contact: Mrs Karen Ward, kward@bournemouth.ac.uk
www.bournemouth.ac.uk/tourism/news-and-events/events/conferences/climate-change-2012.html

14–18 November 2012

International Conference on Advances in Plant Sciences

Chiang Mai, Thailand, C, Thailand

Call for Abstracts

The main objective of the International Conference on Advances in Plant Sciences (ICAPS) is to showcase advances in botanical research and conservation of plants across the globe.

Deadline: Rolling

Contact: Dr. V. Sivaram, info@plants2012.com
<http://plants2012.com/>

Browse the entire calendar of events at
www.mountainpartnership.org/events

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Editorial and layout team

Tek Jung Mahat, Utsav Maden, Daan Boom, Basudev Upadhyay, Andrea Perlis, Greta Pennington Rana, Punam Pradhan, Asha K Thaku

Photos: Abhishek Shrestha - p 17; Alex Treadway - p 8; Kakhara - p 19; Nabin Baral - cover, pp 2, 14, 15, 16, 17, 18; Ocean Driven Media and Photography - p 16; Parth Ghosh* - p 3

* Entry from the digital photo contest 'Mountains and People' organised by ICIMOD and APMN/Mountain Forum in 2008. Details of the competition can be found at www.icimod.org/photocontest2008

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If you have any information on sustainable mountain development in Asia and the Pacific that you would like to share with other mountain communities, please send it to:

Tek Jung Mahat, Node Manager

Asia Pacific Mountain Network (APMN)
International Centre for Integrated Mountain Development
GPO Box 3226, Kathmandu, Nepal
email: apmn@mtforum.org

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