



# New Opportunities for Natural Wealth Management

*A Public Private Dialogue on Green Growth  
in the Greater Mekong Subregion*

June 17-20 2013 in Bangkok, Thailand

## Dialogue Report



Offering Sustainable Land-use Options

An OSLO Consortium Initiative, in collaboration with:



GREATER MEKONG  
SUBREGION  
CORE ENVIRONMENT  
PROGRAM







Special thanks to Dr. Harald Heubaum at the School of Oriental and African Studies (SOAS), University of London, WWF Greater-Mekong, and The Global Mechanism for their leadership and assistance in drafting this report.

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## **PARTNERS**

### **Offering Sustainable Land-use Options (OSLO) Consortium**

The OSLO Consortium has been established as a partnership of leading research and academic institutions, international organizations and UN agencies, which have developed an innovative valuation methodology for land and ecosystem services. Key members include the Stockholm Environment Institute (SEI), the United Nations University (UNU), the Joint Research Centre (JRC) of the European Commission, CAB International (CABI), and the London School of Economics (LSE).

### **The Global Mechanism**

The Global Mechanism (GM) of the United Nations Convention to Combat Desertification (UNCCD) is an advisor to governments on financing for SLM. It has extensive expertise on a range of financing sources and mechanisms that can be used to channel funding to SLM activities and encourage the adoption of sustainable land use practices. Its portfolio of specializations includes, capital investment tools, microfinance, private sector investments and funding opportunities through, for example, climate change or trade-related funds.

### **WWF-Greater Mekong**

WWF-Greater Mekong (WWF-GM) is part of the The World Wide Fund for Nature (formerly World Wildlife Fund) and includes country offices in Cambodia, Laos, Thailand, Vietnam, and Myanmar.

To strengthen incentives for the restoration, maintenance, and enrichment of natural capital in the Greater Mekong subregion (GMS), WWF-GM launched the Green Economy Initiative in January 2013 with support from the MacArthur Foundation. The Initiative aims to demonstrate and capture the value of the most productive and biodiverse landscapes in the GMS for conservation, human well-being and sustainable economic development.

### **ADB Greater Mekong Subregion Environment Operation Center**

The Environment Operation Center (EOC) is the implementing office of the Core Environment Program and Biodiversity Conservation Corridors Initiative (CEP-BCI) – a government led conservation program launched in 2006 with the support of the Asian Development Bank (ADB) and development partners.

The EOC is overseen by the GMS Working Group on Environment (WGE) – one of nine sector groups under the GMS Program. The WGE is made up of senior representatives from each of the GMS Ministries of Environment.

## **Food and Agriculture Organization of the United Nations**

Achieving food security for all is at the heart of the Food and Agriculture Organization of the United Nations (FAO)'s efforts - To make sure people have regular access to enough high-quality food to lead active, healthy lives. FAO's mandate is to raise levels of nutrition, improve agricultural productivity, better the lives of rural populations and contribute to the growth of the world economy.

## **United Nations Environment Programme**

The United Nations Environment Programme, established in 1972, is the voice for the environment within the United Nations system. UNEP acts as a catalyst, advocate, educator and facilitator to promote the wise use and sustainable development of the global environment. To accomplish this, UNEP works with a wide range of partners, including United Nations entities, international organizations, national governments, non-governmental organizations, the private sector and civil society.

## **United Nations Development Programme**

The United Nations Development Programme (UNDP) partners with people at all levels of society to help build nations that can withstand crisis, and drive and sustain the kind of growth that improves the quality of life for everyone. On the ground in 177 countries and territories, UNDP offers global perspective and local insight to help empower lives and build resilient nations.

## **Norway Ministry of Foreign Affairs**

The essential task of the Ministry of Foreign Affairs is to work for Norway's interests internationally: to safeguard the country's freedom, security and prosperity. Norway's interests are determined by such factors as its geographical location in a strategically important area, its open economy, its position as a coastal state and steward of substantial marine resources, and its extensive exports of oil and gas.

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## I. BACKGROUND

**Land lies at the heart of social, political and economic life in most of Southeast Asia.** The Mekong countries - Cambodia, China, Laos, Myanmar, Thailand, Vietnam – are diverse in terms of economies, people and policies. Yet agriculture, forestry and other natural resource use and land-based activities remain key to peoples livelihoods, income and employment opportunities in all the countries. The nations also share common challenges like poorly planned infrastructure, unsustainable resource management, uncontrolled and non-transparent extractive activities, and agricultural expansion, as well as the rampant wildlife trade.<sup>1</sup> Warmer temperatures and more extreme floods, droughts, and storms as a result of climate change only exacerbate these pressures. The urgency for intervention is reinforced by the 60 million rural people in the region who depend on the continued productivity of the Mekong ecosystems.

**Management of Natural Capital – our land, forest, water, biodiversity<sup>2</sup> – directly affects economic growth and prosperity as well as the health of the environment.** At Rio+20, world leaders agreed that the green economy development agenda has the potential to ensure that natural capital is used in such a way that continues to provide the ecosystem services that sustain economic growth and prosperity today and in the future. The development path of a green economy, according to the UN Environment Programme, ‘should maintain, enhance and, where necessary, rebuild natural capital as a critical economic asset and source of public benefits.’

More and more countries in the Mekong region are setting out on just such a path, illustrated by the Green Growth Roadmap of Cambodia<sup>3</sup>, Vietnam’s newly established Green Growth Strategy (2012-2020), as well as the Green Economy Green Growth initiative in Myanmar<sup>4</sup>. To succeed in the transition from intention to action on green development in this region, the contribution of natural resources and ecosystem services to human well-being and economic gains must be made tangible within political and economic systems.

Misuse of natural endowment happens in part because **their true economic value is not recognised and the present and future impacts of natural capital depreciation are greatly underestimated.** When a country exploits its natural capital it is actually

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<sup>1</sup> WWF Report, “Extra Terrestrial: Extraordinary new species discoveries in 2011 from the Greater Mekong”, December 2012.

[http://awsassets.panda.org/downloads/greater\\_mekong\\_species\\_report\\_dec\\_2012.pdf](http://awsassets.panda.org/downloads/greater_mekong_species_report_dec_2012.pdf)

<sup>2</sup> Natural Capital comprises land, soil, water, forests, animal and plant biodiversity, mineral resources, and the flow of all benefits from the use or existence of these resources.

<sup>3</sup> Cambodia, “The National Green Growth Roadmap”, December 2009.

[www.greengrowth.org/sites/default/files/pictures/Final%20Draft%20Roadmap%2C%20Feb26-2010.pdf](http://www.greengrowth.org/sites/default/files/pictures/Final%20Draft%20Roadmap%2C%20Feb26-2010.pdf)

<sup>4</sup> <http://geggmyanmar.com/>

depleting wealth, yet this depletion is not reflected in the GDP<sup>5</sup>. As a consequence, ecosystems are exposed to excessive pressures, which inevitably lead to persistent environmental degradation and huge socio-economic impacts. The impacts of these trends are more intense in places where there are rapid and widespread changes in land use, especially where multi-purpose land management systems are replaced with large-scale interventions driven by purposes that do not protect local communities or natural assets in the long run.

The natural capital must be managed in a ways that avoid the loss of its value. Land is the common space for the natural assets and a practical unit for natural wealth management. As land resources are used for different purposes, improper land management may produce trade-offs, conflicts and competitions. On the contrary, sustainable land management (SLM) helps to generate all the benefits promised by the green economy through developing land-based resources to achieve positive outcomes for environment, economy and society. **SLM-smart investments have the potential to achieve higher returns on investments for society than business as usual.** As defined by the UN (1996) “Land management is the process by which the resources of land are put to good effect. It covers all activities concerned with the management of land as a resource both from an environmental and from an economic perspective. It can include farming, mineral extraction, property and estate management, and the physical planning of towns and the countryside.”

Converting theoretical values of the ecosystem services that land provides into concrete market opportunities would encourage the adoption of and investment in SLM. In order to make this happen, certain enabling conditions are required:

1. **Finding the total economic value (TEV) of the resources and providing clear economic evidence** of the positive impacts of better land management, such as improved agricultural productivity, environmental sustainability and social equity.
2. Devising and establishing **the right policy and economic incentives** for investments in and the adoption of SLM practices, for example, through fiscal instruments or by creating markets and payments for ecosystem services.
3. Combining the **needed financial and technical resources** from the public and private sectors in order to develop catalytic initiatives and create a conducive investment climate for land users to adopt more sustainable practices. This may require going beyond traditional funding for sustainable land management and rather exploring innovative sources of funding.

Beyond the extensive policy and scientific work that has been undertaken so far globally and in the Greater Mekong Subregion (GMS), both the public and private sectors are actively engaged in triple bottom line (TBL) investments which indicate that

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<sup>5</sup> WAVES, The World Bank, “Moving beyond GDP. How to factor natural capital into economic decision making”, June 2012.  
[www.wavespartnership.org/waves/sites/waves/files/images/Moving\\_Beyond\\_GDP.pdf](http://www.wavespartnership.org/waves/sites/waves/files/images/Moving_Beyond_GDP.pdf)

concrete opportunities from sustainable natural resource management exist and market mechanisms are emerging to convert them into viable operations.

The ‘think green now’ approach rather than ‘grow first and clean up later’ is already taking hold in some of the countries in the Mekong region and discussions are taking place on how to promote and grow national economies in a way that is sustainable, resilient, inclusive and equitable. However, a problematic perception still exists among stakeholders of a dichotomy between economic and ecological development. In many cases, technologies and opportunities for SLM exist and have been proven more socially, environmentally and economically efficient than ‘business as usual’. Shifting the prevailing mindset on economic development has been identified by experts in the field as one of the major reasons these opportunities have yet to reach their full mainstream potential.

With a view to addressing these issues, the Offering Sustainable Land-use Options (OSLO) consortium in partnership with the Asian Development Bank (ADB), the Global Mechanism (GM) of the UNCCD, the Poverty Environment Initiative (PEI) of UNDP and UNEP, the Food and Agriculture Organization (FAO) of the United Nations and the WWF Greater Mekong Programme decided to convene a public private dialogue on green growth in the GMS, supported by the Government of Norway and the Economics of Land Degradation (ELD) initiative.

## **II. OBJECTIVES OF THE DIALOGUE**

The public private dialogue was intended to create an opportunity for public, private and not-for-profit stakeholders to explore the emerging TBL opportunities in natural wealth management, share lessons and increase their knowledge on options for benefiting from the green economy, and learn how public private cooperation can create enabling conditions to encourage and mainstream the adoption of and investment into SLM, promoting green economic development in the GMS.

The overall objective of the dialogue was for participants from the public, private and not-for-profit sectors to explore emerging opportunities in natural wealth management that are arising in the context of the green economy, and in turn catalyze a dialogue on enabling conditions for sustainable natural wealth management that promotes green economic development.

More specifically, the objectives were to:

- Showcase examples of successful responsible investments in natural resource intensive operations in order for public and private stakeholders to recognise the many opportunities available from natural wealth management;
- Allow public and private stakeholders to discuss how to scale up successful operations by adopting green technologies, using innovative financial solutions and establishing a conducive investment climate;



- Launch a public private platform for continuous dialogue on investment opportunities and enabling conditions; and
- Present and discuss some of the leading approaches, methodologies and tools that can support decision-making on green economy investments with the aim to increase capacity and knowledge about these opportunities.

### **III. EXPECTED OUTCOMES OF THE DIALOGUE**

The expected outcomes of the dialogue were for participants to:

- Increase their knowledge of options for benefiting from emerging TBL opportunities in natural wealth management and the green economy;
- Have had the opportunity to link up with appropriate stakeholder groups and information and develop a better understanding of how public /private cooperation can create enabling conditions to upscale investment into SLM and promote green economic development;
- Build a better understanding of the tools, technologies, incentives and finance that are available and/or needed to upscale profitable investments in natural wealth management; and
- Lay the groundwork for future action in natural wealth management and building the green economy of the future in the GMS.

The dialogue consisted of four days of presentations, panel discussions, plenary discussions, case studies and breakout sessions, organised in two parts of two days each. It reviewed and built on existing experiences as well as internationally recognised approaches and methodologies. The programme of the workshop is included in Annex 1. All the material used during the workshop, including slides, background papers and an on-line training on economic valuation of land, as well as pictures and videos of the proceedings have been shared on the OSLO event website at <http://www.capacitybuildingoslo.com/events/natural-wealth-gms/>.

The dialogue gathered nearly 150 expert participants with over eighty percent hailing from the six countries in the Mekong region – Cambodia, China, Laos, Myanmar, Thailand and Vietnam. Participants included high level government officials, actors in the business and financing sectors, key NGOs, practitioners involved in green economy related activities, representatives from various UN Agencies, donors, cooperating partners, academia and media. The list of participants is included in Annex 2.

## IV. PRESENTATIONS AND KEY FINDINGS

### INTRODUCTION TO PART 1

The first part of the dialogue discussed options for transitioning to a green economy. High-level government officials, development partners and private investors and business leaders across all land use sectors participated. An overview of green economy in the GMS region was given, as well as examples of public and private triple bottom line investments and business practices and innovative financing opportunities and technologies. Options for scaling up success stories and investment opportunities were explored. The sessions in Part 1 presented some of the great opportunities that lie in conserving natural wealth for the private as well as the public sector, and deepened the participants' understanding of how public-private partnerships and the right enabling conditions can make it happen.

#### a. Day 1 – Setting the Scene / Green Economy in Practice

The first day began with opening remarks and keynote speeches and continued with a session on the state of play of the green economy in the GMS and the inauguration of the Green Economy Platform. In the afternoon, government representatives from the GMS countries outlined how the green economy is being utilised in the region, followed by a session featuring private sector representatives presenting examples of TBL investments in different industries. The day was moderated by **Tony Cheng** (Independent broadcast journalist, formerly with *Al-Jazeera*, *Financial Times*, and *BBC World Service*).

#### Opening Remarks

**Mr. Erik Svedahl (Embassy of Norway, Thailand)** delivered opening remarks explaining the Norwegian understanding of green growth as inclusive and pro-poor. Norway sees green growth as necessary to achieve international development and climate change goals but green growth must also promote gender equality and social and intergenerational equity, build on decent work and provide sustainable livelihoods. Poor people are disproportionately affected by environmental degradation and climate change. Thus, there is a need for pro-poor sustainable development. Mr. Svedahl argued that green growth is not more costly compared to business as usual when all costs are considered, the environmental services from natural capital are valued, and the needs and rights of future generations are taken into account. Sustainable use of natural resources and environmentally acceptable exploration of extractive industries also depends on good governance. This implies openness and access to information, clear rules, as well as open tenders and selection processes.

**Mr. Adnan Quereshi (FAO)** acknowledged the dialogue as bringing together the leading thinkers on green growth in the Sub-region. FAO has recently put special emphasis on promoting sustainable resource management itself, where earlier approaches relied heavily on production management for those resources. A shift is occurring, and natural resources are being recognised for the multiple values they

provide: A vast array of goods and services that are essential to the survival of mankind. Climate change brings home the truth that the world as we have it will change forever if the predicted events take place. Our challenge lies in ensuring economic prosperity while preserving sustainable levels of natural capital. Currently, ecosystem values are not being accounted for adequately by the users and beneficiaries of these resources. How do we deal with these market shortfalls? We need to diversify our options, from promoting green clean technology to developing new incentives for triggering green investment. Not every approach is applicable to all countries. The enthusiasm for this meeting suggests we're on the right track. The hope is that countries present will share their experiences on both successful and less successful measures for green growth. And the presence of the private sector promises to keep these discussions grounded in economic reality. Over the next four days, the collaborations that take place will help FAO shed light on sustainable natural resource management, both generally, and in particular to strengthen FAO's efforts for solid and sensible proposals for activities on the topic in the Mekong region.

In her opening remarks, **Prof. Lindsay Stringer (OSLO Consortium, University of Leeds)** introduced the OSLO Consortium as a global partnership of leading research and academic institutions, international organizations and UN agencies. OSLO's aim is to promote responsible land-use and land management by demonstrating the total economic value of land based ecosystems and generating socio-economically viable and environmentally sustainable land use options. This approach helps explore the emerging triple bottom line opportunities and responsible investments in natural wealth management, share lessons and to increase shared knowledge. The OSLO Consortium recognises that sustainable land management is vital as the world looks to advance along a green development pathway. Dr. Stringer emphasised that land is at the very centre of social, political and economic life across much of south-east Asia, with agriculture, forestry and other land based activities playing a vital role in sustaining the livelihoods of many millions of people. As the world looks to develop Sustainable Development Goals, initiatives like the public private dialogue on green growth in the GMS provide an important contribution to ensuring that investments in natural capital are more responsible and that a sustainable and resilient natural resource base is handed to future generations.

**Mr. Simone Quatrini's (Global Mechanism of the UNCCD)** opening statement emphasised that the good or bad management of land, water, minerals and biodiversity directly determines economic development, human well-being, as well as the health of the environment. At Rio+20, governments agreed that the green economy has the potential to ensure that natural capital is used in such a way that continues to provide the ecosystem services that sustain economic growth and prosperity today and in the future. Mr. Quatrini pointed out that all six nations in the GMS have committed themselves to the development of a green, inclusive, and balanced economy through the GMS Strategic Framework 2012-2022. As a result, both the public and private sectors are getting engaged in triple bottom line investments and market mechanisms are emerging to convert them into viable operations.



## **Keynote Speeches**

In his keynote speech, **Prof. Nay Htun (GEGG Myanmar)** emphasised that the fusion of traditional knowledge and wisdom on the one hand and state of the art science, technology and management practices on the other can lay the ground for a much needed transformational paradigm change in addressing natural capital. Sustained, resilient, inclusive and equitable benefits for stakeholders and shareholders can only be achieved if inter- and intra-generational concerns are addressed together with community involvement, human resource development and investments in science and technology. The world will only thrive if carbon productivity is increased aggressively (carbon revolution), resources are used in smarter, more efficient ways (resource revolution), and established patterns of human behaviour are disrupted (behavioural revolution). Drawing lessons from natural evolution can help find solutions to natural wealth management.

**Ms. Anna Brown (Rockefeller Foundation)** highlighted the particular role played by cities and urban areas as drivers of green growth. Climate change and climate variability, when overlaid with current patterns of urbanization, is affecting the lives of poor and vulnerable populations in the GMS, but it is also weakening the economic competitiveness of cities. According to Ms. Brown, the 2011 Bangkok floods gave us an idea of the types of impacts the world is likely to see more of in the future given climate change and urbanization. Green growth, which is an important agenda for the growing cities of the region, must encompass more than low carbon development to also increase the resilience to climate change and climate variability impacts. Green infrastructure and valuing ecosystem services are aspects of green growth that can help strengthen the resilience of cities to climate change impacts. Climate sensitive land use and urban planning and drainage, flood and solid waste management are other domains of action that pertain both to a green and resilient growth agenda.

**Mr. Saumil Shah (GE)** focused on the role a major multinational corporation like General Electric can play in offering solutions and helping countries in the GMS transition to a greener economy. GE is an advanced technology, services and capital company with the scale, resources and expertise to take on tough challenges. Mr. Shah pointed out that within the next two decades, the global population is expected to increase by 1 billion people and energy consumption will double. Of the 1.4 billion people who do not have electricity today, 85% live in rural areas. With its distributed power solutions, GE is committed to help address this key challenge in an environmentally friendly, sustainable way. For example, GE uses gas engine technologies to turn rice husk into energy, as piloted in Cambodia. A second example is the use of aeroderivative gas turbine solutions to replace old, inefficient power plants in Myanmar. GE welcomes the opportunity to partner with governmental and nongovernmental organizations for additional green economy solutions throughout the GMS.

After providing context on the current development challenges in the GMS, **Mr Javed Mir (ADB)** highlighted the win-win opportunities green growth will bring to the subregion, particularly with resource efficiency, economic growth and green jobs. Mr Mir pointed out that the most important question delegates must address is how to operationalise green growth in the subregion. He said the key actions required are to

promote sustainable investments in physical and natural capital; strengthen resource governance and capacity; respond to climate change; and enable people to harness new green growth economic opportunities. ADB stands ready to support GMS green growth efforts by providing finance, leverage, and knowledge support. Examples of relevant ADB work include sustainable investments in infrastructure through the \$9 billion GMS Regional Investment Framework; investments and technical assistance for the energy, transport, and urban sectors; and investments for climate change responses and biodiversity conservation through the GMS Core Environment Program, Climate Public Private Partnership Fund, and other initiatives. Mr Mir concluded by emphasizing the importance of public private partnerships in the GMS as well as a pro-poor, pro-environment 'roadmap' for pushing forward the green growth agenda.

### **State of play on green economy in the GMS**

**Dr. Louise Gallagher (WWF)** aimed her presentation at provoking the attendees' thinking as a group about some actions that the community of actors working on green economy issues in the Greater Mekong countries can take together in advancing green economies in the region. Although green economy concepts are resonating with *some* policy makers, business people and civil society in GMS countries, frameworks remain limited in terms of comprehensive policy in the GMS and producing on the ground results. Now is the time to understand the current challenges – and opportunities – and focus efforts by all the attendees in their respective fields to work better together. The challenges WWF sees are: coordinating action on achieving green growth at regional, national and subnational levels; integrating green economy approaches in the core functions of GMS governments, following through on the linkages between environment and development; and setting economic, environmental and social policy targets that allow responsible private sector to thrive. WWF's newly established Regional Green Economy Initiative aims to: use WWF's niche expertise on increasing information on the value of natural capital for a better form of development to support spreading the holistic idea of green economy; contribute to understanding what enabling conditions responsible businesses need to transform markets in this region; play a key role in convening and supporting dialogue on this particular issue in the Greater Mekong; and contribute lessons from the field in PES schemes, benefit-sharing mechanisms and innovative economic value addition in natural resources management and certification mechanisms.

**Mr. Paul Steel (UNEP)** introduced the United Nations Poverty Environment Initiative's (UN-PEI) global goals to change public and private investments, to help them integrate environmental issues from a pro poor dimension. UN-PEI currently works in three GMS countries: Lao, Thailand and Myanmar. To highlight the work being done in the region, Mr. Steel screened a short video featuring dialogue participant Mrs. Inpeng Samuntee, whose successful organic coffee farm is a prime example of "triple bottom line" gains, meaning strong returns for people, profit and planet. The video began by showing how the government of Lao is now working to ensure investments comply with national laws and policies to protect the environment and communities; and to ensure contract negotiations result in equal benefits for all parties concerned. The Poverty-Environment initiative is supporting the government's 7th National Social Economic Development Plan that aims to improve the quality of investments. A quality investment contributes to

reducing poverty, enhance development of human capital, have least impact on the environment, support a diversified economy and provide a fair distribution of benefits to the population. Mrs. Samuntee, who six years ago was supported by one of these quality investments, converted her timber company into an organic contract farming business cultivating coffee and vegetables. Surrounding communities are already benefiting from this win-win initiative. One community member attests, "Within 5-6 years, our lives got better. Now, we got better productions. The vegetables are not going bad anymore. Before, we lived in small cottages. Now we improved our houses." This example demonstrates the impact that quality investments can have on human development, environmental conservation and the economy on the whole. In particular, Laos has excellent potential to expand organic production, considering farmers are traditionally accustomed to zero chemical production systems, 75% of the labour force are engaged in agriculture related activities, not to mention the large contribution agriculture makes to GDP. On a broader scale, it was underlined that domestic and foreign investments should be the driving force behind farmers' adoption of advanced technologies, knowledge building of good agricultural practices, and providing the appropriate linkages to rapidly growing green markets.

#### **Presentations by governments outlining how green economy is being utilised in the GMS**

**Mr. Voun Vannarith (Ministry of Environment, Cambodia)** explained that the Royal Kingdom of Cambodia has made efforts in the pursuit of a green economy, culminating in its national Green Growth Initiative (GGI). Signed in October 2012, it has become the core policy decree to support green growth and poverty reduction sustainably and to develop the economy towards green growth with a focus on social cohesion, green jobs and environmental sustainability. Cambodia has set itself an ambitious goal of building a sustainably developed country at a pace of one percent/year. This incorporates developing technologies for recycling, improving environmental quality by reducing pollution and waste emissions, preserving biodiversity, improving food security, increasing energy efficiency and boosting renewable energies. Instead of relying just on the environment ministry to execute this forward-looking agenda, green growth policies are to be implemented nationwide across various sectors by all government ministries.

**Mr. Khounsamay Silapheth (Ministry of Natural Resources and Environment, Lao PDR)** highlighted Lao PDR's economic story to date, with over 6,5% annual GDP growth over the past decade and almost halving poverty rates during the past two decades. The economy is driven by high inflows of foreign direct investment (FDI) mainly into the natural resource sectors of mining, hydropower and industrial crop plantations. Natural resource based growth is putting pressures on traditional livelihoods and the valuable environmental assets. Deforestation is widespread, and non-sustainable land and water use are also rising. There are grave concerns about land security for Lao families and communities in rural areas with potentially serious implications for poverty, equity and community access to the natural resources that they heavily depend on. Financing Lao PDR's current development plans requires FDI and it is critical that institutional systems for stronger planning and management of investments are in place. Particularly private investments need to be managed carefully, from the promotion, screening to approval and monitoring, and environmental and



social safeguards have to be squarely placed within the investment process. This includes efforts on climate change which, Mr. Silapheth pointed out is a necessity for the country which relies on hydropower. Climatic changes should be a consideration in designing development of more dams and related structures to ensure proper placement. For this to be realised the country strongly needs capacity building and technical assistance, e.g. in data collection and development of database of indicators and best practices for greening the economy, technological modernization and skills training for sustainable energy, responsible mining and poverty alleviation.

**Dr. San Oo (Ministry of Environmental Conservation and Forestry, Myanmar)** reviewed Myanmar's national environment policy which aims to achieve harmony and balance between the socio-economic sphere, natural resources and the environment through the integration of environmental considerations into the development process, enhancing the quality of life of all the country's citizens. Environmental protection, Dr. Oo argued, should always be the primary objective in seeking development. The 2012 Environmental Conservation Law proposes incentive mechanisms, terms and conditions for green initiatives for sustainable development to be mainstreamed into the country's economic development agenda. The law sets out plans to create an Integrated Environmental Monitoring System, conduct an Environmental and Social Impact Assessment and create the Environmental Management Fund which is to oversee effective implementation of environmental conservation works. Existing initiatives on green economy and green growth in Myanmar address multiple goals, including reducing carbon emissions and increasing renewable energy, support private sector finance, improve resistance to disaster risks such as flooding, water and food security, forest conservation and ecotourism. Dr. Oo presented concrete examples such as a solar lighting and solar water pumping project at Auk Pyun Wa village, a wind turbine system in Chaung Tha Beach, a rice husk gasifier project in the Yangon region and the provision of energy efficient stoves across the country.

**Mr. Surachai Koomsin (NESDB, Thailand)** defined the foundations of a green growth to be those of a sufficiency economy. In a Thai context this is development that leads to economic growth, a sustainable and environmentally friendly society where any development actions utilise natural resources efficiently, minimizing waste and greenhouse gases, and control environmental impacts strictly to prevent the degradation and imbalance of ecosystem functions. Through the 11<sup>th</sup> National Economic and Social Development Plan, Thailand brings together six main goals that address economic, social and environmental benefits and are thus in line with a TBL approach to green growth and development. Mr. Koomsin acknowledged that there are challenges to green growth such as initially higher costs of green production, lack of investment and capacity of local stakeholders to manage natural resources sustainably, the continued reliance on a fossil fuel based paradigm and related to this societal unawareness of pollution impacts from production and consumption, insufficient law enforcement and policy uncertainties. However, the opportunities of transitioning to a green economy, including less use of materials and resources, new industries and jobs, safer working conditions, reduction in pollution and waste, outweigh the costs and challenges.

**Ms. Kim Thi Thuy Ngoc (Institute of Strategy and Policy on Natural Resources and Environment, Vietnam)** began her presentation with an overview of key statistics

illustrating Vietnam's economic development story over the past decade. Although there has been significant GDP growth, poverty reduction and increased industrialisation, the growth has come at the expense of the environment. The current economic growth model is still dependent on natural resource exploitation with 'brown' economic sectors occupying a large proportion of the economy. Vietnam faces key challenges such as a growing population with unsustainable consumption patterns and the impacts of climate change which are often unpredictable and increasingly severe in their impacts on both people and the environment. To counter these trends, Vietnam has begun to pursue a number of strategies, including the National Strategy for Green Growth, the National Strategy on Sustainable Development, the National Strategy on Climate Change, and the National Forest Protection and Development Plan. The National Strategy for Green Growth aims to pursue green growth as the principal direction in sustainable development, achieving a low-carbon economy and enriching natural capital. In its longer term strategy and vision, Vietnam intends to restore, regenerate and develop its natural capital. This is to be achieved through economic and financial policies, mobilizing and encouraging all economic sectors to invest in ecological services, conservation areas and restoration of degraded ecological systems. A key element of this will be to develop relevant payment mechanisms for ecosystem services. Initiatives to map and value ecosystem services and build capacity for decision-makers are currently under way.

### **Q&A**

Questions from the participants aimed to clarify the concept of 'green' employed by the countries in the GMS; whether there are developments towards tangible green growth policies in the region; and what would be a useful way for countries to collaborate, for example a regional project on valuing natural capital.

Mr. Vannarith answered that green equals sustainable. If growth is not sustainable, it affects the health of the people. Ms. Ngoc added that green is becoming more central to businesses. If products get a reputation for being polluted, customers won't buy them. On the question of regional cooperation, Ms. Ngoc and Dr. Oo agreed on the importance of ongoing cooperation through ADB's Biodiversity Corridor's Initiative (BCI). A further representative from the Ministry of Natural Resources and Environment, Lao PDR gave the example of bridge construction across the Mekong as a way of working together in the region.

### **Examples from various economic sectors and industries of triple bottom line investments**

**Mr. Lingbo Li (Hunan Weiming Chuanglin Bio-energy Co. Ltd., China)** introduced WMCL as a bio-economy system which develops sustainable energy forest industrial chains by following three principles: no competition between grain and humans, no competition between land and grain, and low cost. WMCL makes full use of wasteland, barren land, waste mountains and rocky desertification land. The process grows an energy forest base, exploiting undergrowth and guaranteeing supply of biodiesel and biology aviation fuel. This helps increase local farmer's income. The pattern has great effects on environment, society and economy. Mr. Li summarised the advantages of

WMCL's operations as (1) "fix carbon and make oxygen, clean air", improve environment while promoting economic development; (2) "conserve water and soil sources", afforest the mountains, and improve regional ecological balance; (3) new industry management model, leads farmers to the road towards better life; (4) exploit undergrowth, creating new economic growth point for farmers.

**Mr. Vitoon R. Panyakul (Green Net, Lao PDR)** presented Green Net, a Thai social enterprise, which for the last 20 years has been active in promoting green growth on the ground through organizing small scale farmers to participate in organic agriculture and fair trade value chains in Thailand and several other countries in Southeast Asia. The organic and fair trade products, e.g. rice, fruits, vegetables, are sold within Thailand as well as exported to a number of European countries and the demands continue to grow despite the recent economic downturn globally. Mr. Panyakul noted that the work of Green Net and many other social enterprises can be scaled up much further if public private partnerships are efficient and effective, despite the existence of relevant national policies and implementing strategic papers. He identified the key bottleneck as the lack of genuine commitment of public agencies responsible for implementing the development programme to work in partnership with the private sector.

**Mr. Aye Thiha (Royal Tree Services Co. Ltd., Myanmar)** argued that deforestation presents a major threat to Myanmar. To supply raw materials for wood based industries from sustainable sources without affecting quality and quantity of natural forests, forest plantations are the best solutions. As a forestry and environmental services provider, Royal Tree Services Co. Ltd. works with a range of local investors mainly in teak, eucalyptus and rubber plantations. The benefits of this work cut across the three TBL dimensions, providing local jobs and income, securing land tenure and ownership rights, preventing further loss of forest cover and avoiding an overreliance on natural resource exports. However there are also challenges ahead which need to be addressed. They include land use conflicts, lack of investment and lack of legal support.

**Mr. Mai Thanh Chung (Vietnam Fisheries Society, Vietnam)** introduced the Vietnam Fisheries Society, an organization with 800 local branches and 100,000 members, most of them producers. ICAFIS, the International Collaborating Centre for Aquaculture and Fisheries Sustainability is the sustainability arm of the society. ICAFIS' goal is to promote sustainability in aquaculture and the fisheries sector within Vietnam and sharing experiences internationally, primarily amongst developing countries in Southeast Asia, Africa and Latin America. ICAFIS has been working to support Vietnamese pangasius producers to become ASC (Aquaculture Stewardship Council) certified. ICAFIS is national coordinator of the Farmers in Transition Fund which supports farmers to implement more sustainable practices that meet buying requirements and help to improve the sector's performance along economic, social and environmental lines. The program is a co-funding mechanism between the private sector, public sector and donors to help upgrade fisheries to sustainable production. From practical experience, ICAFIS sees that sustainable production is the only way to ensure quality and quantity of productions for the years come.



## Q&A

Participants raised questions related to the financial viability of environmentally friendly business operations; whether the private sector offers more protection for the environment than the public sector; what kinds of incentives are necessary to mainstream the businesses presented; and how GM and other UN organizations could support SME's.

Presenters answered that it is possible to make money doing environmentally friendly business. Consumers do not have to be rich to buy these products but they need to be conscious of health and environmental impacts. Problems to going mainstream were seen to be the large number of separate certifications (fisheries, forests, livestock, rice) and difficulties in complying with different standards (e.g. EU and U.S.). The need for a one-stop system was emphasised.

### **b. Day 2 – Scaling Up**

The second day consisted of sessions discussing how green technologies and responsible investments can be scaled up to speed up the transition to green economies in the GMS. The afternoon's breakout sessions addressed developments in different sectors, including forestry, road transportation, financing methods and energy/climate policy. **Tony Cheng (Independent broadcast journalist, formerly with Al-Jazeera, Financial Times, and BBC World Service)** moderated the proceedings.

#### Scaling up green technologies

**Mr. Juhern Kim (Global Green Growth Institute)** asserted that innovation is the driving force for economic growth, and it is crucial to a green growth transformation, which largely depends on intervention, adaptation and diffusion of technological business solutions. To boost innovation, finance should be allocated to funding for education and capacity building, R&D grants, start-up incubators, innovation clusters, venture investment, etc. For emerging economies in the Greater Mekong Subregion, this will be a major challenge and opportunity in relation to a green growth development pathway. According to Mr. Kim, there is thus far no clear consensus on how developing countries can best support innovation to achieve the benefits of green growth. One of the interesting aspects is that private investment accounts for larger parts of finance flowing into developing countries, compared to traditional aid. However, the problem is that private finance is normally available for large scale infrastructure projects. On the flip side, there is an untapped opportunities of mobilizing private capital, including the one related to philanthropy and impact investment, to boost mid-level companies to scale-up with green technologies as long as they can properly measure social impacts generated from their activities. In relation to that, the evolving concept of Social Impact Bonds (SIB), which are payments for outcome-based multi-stakeholder partnership that seek to shift attention, incentives and accountability to results, is an option to be considered. Also, a Development Impact Bond is a potential variation of the SIB model that would provide new sources of financing to achieve improved social outcomes in developing country contexts, touching upon a social dimension, which is one of the crucial pillars of green growth.

**Mr. Prachak Ruenrith's (Stora Enso Lao Co. Ltd.)** presentation came in the form of a video. It introduces the company's green plantation projects which take a pro-active role in sustainable forest management which is achieved through: (1) productive and profitable plantations, (2) social responsibility, (3) environmental responsibility and (4) good governance. The projects aim to secure the wellbeing of people in the area by ensuring the villager's continued access to their land. Village mapping is conducted of every village and carried out together with the active participation of the villagers. The most important aspect of village mapping is that it allows the Project to identify land use types that are important to the village or that have high conservation value, which should be respected and preserved. The villagers participate in all steps of mapping and land use planning from demarcation of village borders to planning of annual plantation areas.

The plantation model is based on agro-forestry systems, allowing villagers to grow agricultural crops and increasing the production of rice and other cash crops. Continued work at plantations is ensured for the villagers in order to ensure cash income. In addition, the project has established a Village Development Fund (VDF) with the purpose to support and improve the sectors of food security, income generation, education, and water, health and sanitation, with specific focus on vulnerable groups in the village.

In his presentation, **Mr. Chen Lulin (Yunnan Shenyu New Energy Company, China)** introduced Shenyu which focuses its business on Jatropha biomass energy. In 2006, the company began planting in degraded and deserted mountainous areas of South West China. Jatropha oil can be used as biofuel for transportation purposes rather than relying on fossil fuels. With the development of Jatropha plantations and industrialization, the conservation of local water and soil has been improved, and more and more local farmers joined or became members of the company, which benefits the environment and provides income to local families. In 2011, Shenyu supplied Jatropha crude oil for China's first successful demonstration flight of biofuel, which is both a milestone for the green bioenergy industry and a new beginning for Shenyu.

**Mr. Thibodee Harnprasert (The Institute of Industrial Energy, Federation of Thai Industries, Thailand)** began his remarks by pointing out that Thailand is heavily dependent on oil imports for transportation fuel. To reduce this dependence and realise efficiency gains, the "Logistics and Transport Management Program (LTM)" aims to improve energy efficiency in the Thai transport sector. Created by the Institute of Industrial Energy (IIE) under The Federation of Thai Industries (FTI) and the Energy Policy and Planning Office (EPPO) under the Thai Ministry of Energy (MOE) the program is designed to especially help small and medium businesses by implementing methods and knowledge in four areas: (1) engineering and technologies, (2) management, (3) task force and (4) driving. In addition, the "Logistics and Transport Management Application (LTMA)" software application can help SME's manage their transport needs in systematic ways, setting up data standardization for long term planning. A well implemented strategy can lead to significant efficiency gains, increasing financial returns and reducing greenhouse gases and the environmental and social impacts of ambient air pollution.

**Mr. Andrew McConville (Syngenta)** argued that while demand for food is growing, farmers' ability to increase productivity is facing unprecedented challenges. Already faced with a scarcity of resources, farmers have to manage a complex world of decisions before, on and after the farm. The development of sustainable solutions for farmers therefore requires an integrated approach that addresses the trilogy of technology, resource efficiency and rural development. Better integrated solutions that include agronomic technology that lifts productivity and yields, responsible farming methods and more efficient use of land and water are needed to incentivise farmers to grow crops more efficiently. At the same time, partnerships must be embraced more extensively if sustainable and long term advancements for food security are to be made. Only then can the immediate barriers including inadequate R&D, poor knowledge transfer and lack of market access for growers be effectively addressed.

### **Q&A**

Participants raised questions about the Global Green Growth Institute's (GGGI) projects in Cambodia; whether companies like Syngenta are also considering impacts on people outside local farming communities; whether environmental impact assessments are conducted on degraded land before planting *Jatropha*; the potential damage done by the improper use of new technology; how government policies and regulations are supporting what entrepreneurs are doing and how they can improve to enable the scale-up of green practices; and whether or not organic agriculture or GMO can feed the world.

Mr. Kim answered that GGGI's capacity building projects started in 2011 and focus on micro-solar panels for household use. Because of the small scale the projects are not CDM. Mr. McConville emphasised that good stewardship across the value chain is important for Syngenta. The company trains 1.5 million farmers every year to store safely and manage residues. Mr. Ruenrith answered that Stora Enso always conducts impact assessments, even going beyond the requirements of Lao PDR laws. Mr. McConville said that Syngenta has rigorous tracking and follow-up systems to ensure the proper use of technology. On the question of government policy, presenters argued that adequate protection of intellectual property, science-based and predictable interventions and bottom-up approaches that incorporate local communities are needed. Organic agriculture can't feed the world – it currently only makes up two percent of total yield – but it is an important part of the mix. Likewise, GMO is an important technology but no silver bullet.

### **Scaling up responsible investments**

In his presentation, **Mr. Ivo Mulder (UNEP-FI)** introduced the Natural Capital Declaration (NCD) as a finance-led and CEO-endorsed initiative to mainstream the integration of natural capital considerations in loans, bonds, equities and insurance products as well as in accounting and reporting frameworks. Following a successful launch at Rio+20 amid significant interest from senior finance executives, media and heads of state, the NCD is currently moving into phase II, which focuses on (1) implementation of the 4 core commitments by the institutions that have signed up; (2) increase the number of signatories to further mainstream this topic in the finance industry; and (3) develop the tools and frameworks necessary to quantify the business



case of natural capital for different types of asset classes and provide financial institutions with the tools to integrate natural capital not only in project finance (e.g. through the Equator Principles) but crucially in all other lines of business. As of June 2013 the NCD has 43 signatories that signed the Declaration at CEO level and a further 28 nonfinancial organisations including accounting bodies and firms, business platforms like the World Business Council for Sustainable Development (WBCSD) and specialised firms like Trucost and nongovernmental organizations.

**Mr. Rajeev Gupta (BASIX Social Enterprise Group)** showed how BASIX provides livelihood promotion services from 6,000 outlets, through its 13 group entities, having served more than 6 million customers since inception. BASIX is involved in providing sets of inclusive financial services, agriculture livestock and enterprise development services, and institutional development services in an integrated manner. The overarching goal is to enable the rural poor to participate in green growth. On green growth related services, BASIX provides environment related credit and micro-insurance services; training youth on green skills; sustainable agriculture and allied related market linkages; technical advisory services on energy and environment; aggregation of micro carbon credits; and product installations and distribution of solar home lighting systems, clean water, biogas, improved cook stoves etc. Mr. Gupta presented examples on the renewable energy, agriculture and livestock related business development services model of BASIX, and discussed the return on investment realised by its customers.

**Mr. Orestes Anastasia (USAID)** summarised green growth initiatives of the U.S. government, including the Low Emissions Asian Development (LEAD) program on green growth, the Lowering Emissions in Asia's Forests (LEAF) program, and upcoming USAID programs to protect ecosystems in the Mekong and help secure financing for clean energy projects. In addition, he highlighted the emergence of the Asia LEDS Partnership as a premier avenue for regional collaboration and knowledge sharing on green growth. In complement to Mr. Anastasia's presentation, **Mr. John Bruce Wells (LEAD)** presented key results of a recent USAID study "Fast out of the Gate: How Developing Asian Countries Can Prepare to Access International Green Growth Financing." The study characterises the size, sources and mechanisms of green growth finance for LEDS implementation in 11 Asian countries. It further identifies preparatory actions these countries require to access financing, offering recommendations to build greater capacity.

**Mr. Sanath Ranawana (ADB)** provided a brief overview of the GMS Program, its priorities and achievements to date (after 20 years of cooperation), and the strategy behind the success of the Program. It is now guided by the new GMS Strategic Framework 2012-2022 which aims to help steer the Program through a new (third) decade full of challenges, as it comes on the heels of the global economic crisis and with the emergence of serious issues that affect the regional and global environment, e.g. climate change, energy sufficiency and food security. The new Strategic Framework was endorsed by the Fourth GMS Summit in Myanmar in December 2011. It is anchored on the corridor development approach and embodies a new generation of multi-sector project investments, with increasing emphasis on policy and institutional reforms and use of green technologies. A regional investment framework (RIF) was developed to operationalise the Strategic Framework. The key objective of the RIF

process is to identify a series of investments that respond effectively to the range of opportunities and challenges at hand. These are being subjected to multi-criteria assessment and spatial analysis undertaken by the GMS Environment Operations Center. The RIF is expected to be endorsed at the 19<sup>th</sup> GMS Ministerial Conference in Lao PDR in December 2013.

### **Breakout Sessions**

The breakout sessions were not made up of formal lectures, but rather were intended to gather leaders in specific sectors together for informal presentations and discussions on the causes and drivers of natural resource degradation in that sector, and successful natural wealth management practices.

### **Forestry/conservation**

Organised by the GMS Environment Operations Centre (EOC) of ADB, and moderated by Dr. Michael Green, Technical Program Head, ADB EOC, this session featured informal presentations by Ms. Bui Hoa Binh, National Coordinator, ADB Biodiversity Conservation Corridors Project, Vietnam (presenting *Investment in Natural Capital: the Case of Vietnam*); Mr. Suriyan Vichitlekarn, Manager, GMS Working Group on Agriculture (WGA) Secretariat (presenting *Cross-sectoral Collaboration between Forestry and Agriculture Sectors for Livelihood Development in Conservation Landscapes*); Mr. Bernhard Mohns, RECOFTC (presenting *Can Communities Benefit from Green Value Chain Opportunities ? A case in the Northern GMS Corridor*); and Sumit Pokhrel and Michael Green, GMS Core Environment Program, ADB (presenting *Promoting Investment in Transboundary Landscapes Management*)

In the past two decades, the Greater Mekong Subregion (GMS) has made significant investment in improving regional connectivity to stimulate economic growth and alleviate poverty. At the same time, the Subregion is facing a huge challenge to reduce fragmentation of forest landscapes, maintain ecosystems connectivity and strengthen biodiversity conservation.

The session, attended by over 30 participants, comprised briefings on case studies of investments in natural resource management in the GMS forestry sector, demonstrating how conservation and development can be integrated. Specifically, the studies highlighted initiatives that can leverage multi-sectoral coordination and public-private partnership in promoting biodiversity conservation, while ensuring sustainable livelihoods for forest-dependent agricultural communities.

There followed a facilitated discussion that focused on identifying how to scale up the investments, how to engage the private sector, what are the obstacles, and how to tackle them within the context of conserving biodiversity and securing local livelihoods.

Participants were divided into three groups, each having a mix of private, biodiversity and agricultural sector representatives, and groups were invited to choose one or more questions to discuss and record their findings on flip charts. Findings from each group were reported back in a plenary session and, as appropriate and with the agreement of

the group, modified with additional input from those who had not been part of that group.

The first group answered the question of what are the causes and drivers of natural resources degradation. Answers included: Population increase – poverty; economic development that penalises environmental and social interests; community livelihood; lack of awareness on value of natural resources; lack of proper land use policy (especially Myanmar); inappropriate use of natural resources (unsustainable); Invasion of invasive species. Solutions included: Change in practice of destructive and unsustainable agriculture (foregoing shifting cultivation); increased employment opportunities leading to decreased pressure on natural resources; environmental education e.g. reforestation activities (training programs awareness programs); development of industries utilizing local natural resources sustainably (environmental benefit, economic benefit).

Group two focused their discussion on the Biodiversity Conservation Corridor project in Vietnam, and were similarly asked to identify the drivers of natural resource degradation. Answers included: illegal logging; hunting of bush meat; roads / economic corridors of development; shifting cultivation; lack of livelihood options (tension with economic corridors). In terms of what was desired from private sector engagement, the group responded: demonstration projects (ex: contract farming); benefit sharing in long run (business model); project runs through 2019 – if success in stopping drivers, government to scale up to other areas.

The third group also identified drivers of natural resources degradation, on a broad scale. This group decided to dedicate all of the time to discussing weak law enforcement as a major driver of degradation. Solutions proposed included: effective law enforcement; coordination of law enforcement across countries; proper land use planning to prevent encroachment; awareness raising and advocacy at local level; Creation of a buffer zone; Valuation of natural capital.

Following the reporting back from the three groups, there was a brief discussion about the potential roles of the private sector. Some key points emerged, such a general perception that multi-nationals cannot be relied upon for their interest green growth because of limited CSR budgets, and the varied nature of diverse private businesses. The need was discussed to develop specific value chains as an aid to conservation.

## **Road Infrastructure**

Organised by WWF-Greater Mekong, and moderated by Dr. Geoffrey Blate of WWF-Greater Mekong, this session included informal presentations by Naeeda Crishna-Morgado, Carbon Footprint Specialist, Environmental Operations Center, ADB (presenting an introduction to transport and environmental impact issues in the Greater Mekong Region); Mr. Petch Manopawitr, Conservation Programme Manager WWF-Thailand (presenting a background on the Dawna Tenasserim Landscape and the “Road to Dawei” development); and Dr. Andrea Bassi, UNEP, KnowlEdge Srl (presenting a pilot socioeconomic model for road construction and land use change along the “Road to Dawei”).

The objective of the session was to discuss socioeconomic impacts of potential land use change from road transport development in the GMS using a pilot study from the Dawna Tenasserim Landscape in northwestern Thailand. The focus was stated as being: to identify what is needed to scale up good practices, what are the obstacles and how to tackle these.

WWF-GM Green Economy Initiative aims to achieve an integrated approach to development through mainstreaming natural capital in decision-making and implementing activities to green economies in the region.

Building on their on-going integrated land use planning tools and ecosystem service assessments, WWF is aiming to develop and model sustainable economy scenarios to value and account for the economic value of the Greater Mekong Subregion's natural capital and ensure these values are factored into policy/incentives design, legislation and decision-making.

A pilot of this approach to modelling land use change and its implications for biodiversity integrity and connectivity is currently underway in the DTL concerning the construction of the 'Road to Dawei'. The study focuses on the road construction project in the Thai area of the Dawna Tenasserim Landscape; but aims to anticipate how this method could be applied on the Myanmar side of Dawna Tenasserim Landscape. The breakout session demonstrated the approach being used, and asked the group participants to discuss the possibilities for applying the model in road and other infrastructure projects that can have impacts on broad land use and cover change.

Some of the key notes and outcomes included:

- Need to move beyond a focus on road construction to consider integrated planning for the lifecycle of road infrastructure. What happens when the road is built? When the road is used? Or three steps down, with deforestation and other land use changes are enabled by transport development?
- While fuel consumption is the more immediate and direct impact on carbon emissions from road transport construction, one ADB case study on transport impact on carbon emissions in Lao demonstrates that the most significant impact (x10direct emissions from fuel consumption) is secondary, indirect deforestation both during and after road construction. A study into Carbon Neutral corridors shows that investing in green freight achieves 23% of the offset required compared to 60% by investment in forestry. Some initial results have been prepared for cost effectiveness of the green freight scheme; but no comparison is available so far comparing cost effectiveness of greening freight transport versus investment in reforestation.
- Tigers are a flagship species that motivates WWF's interest in the Dawna Tenasserim Landscape (DTL); but WWF also recognises that there are social,



development dimensions to the development in the landscape that are crucially important.

- The WWF socioeconomic model presented in the breakout session – conceived as a pilot project – aims to design an integrated framework for land use planning support. It analyses the simultaneous interaction of social, economic and environmental factors in shaping future land use needs through the creation of a transparent system dynamics simulation model – in effect applying a biophysical reality to a socioeconomic planning process (road transport construction). The model generates projections up to 2035 to analyze the short, medium and longer-term consequences of road construction on society and land use. Further, being able to generate “what if” scenarios, it allows to test the multi-dimensional impact of green economy interventions aimed at improving sustainability outcomes in the area. Finally, it provides results in biophysical and economic terms, also including the valuation of natural capital (stocks, flows and ecosystem services), by making use of existing studies and valuation techniques.
- The WWF socioeconomic model is still at an initial stage of development, and it will need to be further customised to the local context, possibly through broader public participation and stakeholder involvement (e.g. through group modelling sessions), to effectively inform decision-making. Yet, this study has already helped understanding the key drivers of change in the area, identifying data collection needs, and defining their use to carry out a green economy analysis.
- The WWF socioeconomic pilot study does not define sustainability for the Greater Mekong context. Rather it looks at levelling the playing field for integrating environmental and social indicators into decision-making – in this case, into transport developments. The pilot model can be applied to other locations and with some adjustments, can be used to look at a whole range of infrastructure developments or economic investment choices at a variety of scales (e.g. from individual investment to regional scale).

## **Finance**

Organised by the Global Mechanism of the UNCCD (GM) and the UNEP Finance-Initiative (UNEP-FI), this session was moderated by Ms. Siv Øystese and Mr. Simone Quatrini of the GM, and Ivo Mulder of UNEP-FI.

The breakout session was designed to facilitate knowledge sharing between the international and regional experts on the various financing methods and models available to them. Topics included:

1. Finance availability

- Is finance easily accessible to green economy ventures/initiatives?
  - How can finance become an engine for green economic development?
2. Public Private Partnerships
- Ministries of Finance/International development aid and finance institutions/Intermediaries in the financial industry
  - Examples of effective economic policies that stimulate good practices?
3. Innovative Models

How to integrate environmental risk into business practices?  
Social impact bonds

In discussion, participants emphasised the difficulty in accessing capital for small/medium size environmental businesses. The general perception was that most public/aid funding is designated for specific causes not for start-ups. Most companies, like GE, can only invest in large-scale projects, making it more difficult for SMEs to gain financing.

### **Energy and Climate Change Policy**

This breakout session was organised by Prof. Lindsay Stringer, OSLO Consortium and University of Leeds, and Dr. Harald Heubaum, School of Oriental and African Studies (SOAS), University of London.

The session first addressed differences and overlaps between green growth, green development and sustainable development as related concepts with a view to identifying which concept best fits public and private sector interests to encourage investment in the energy sector. Several overlaps between the terms were noted and the group was not too concerned as to which term was used, although there was a general preference for green growth or 'inclusive' green growth. The session then divided participants into two groups and presented them with a scenario. Both groups were tasked with choosing one of two given options to implement a green development agenda in a fictitious country.

The scenario laid out challenges to the country in terms of increasing energy and water demands from industry and a growing population. The country's existing energy portfolio was heavily fossil fuel-based but the government had committed itself to pursuing a green development agenda. Taking on their roles as government decision-makers, each group was able to commission either one large-scale dam and hydropower plant (option 1) or several small-scale hydropower installations (option 2). Each option came with a number of benefits and drawbacks such as the amount of electricity produced, construction costs and times, carbon savings, the amount of water provided to surrounding cities, the number of people displaced, human health impacts and the flooding of areas of high biodiversity value. The exercise allowed participants to think through the various arguments and stakeholder perspectives that need to be taken into consideration when deciding about investing in energy infrastructure. In doing so it highlighted the importance of joined up thinking across government

departments and along triple bottom line dimensions. Each option had associated economic, social and environmental costs and benefits and a final decision required taking them all into account.

Following a discussion of potential costs and benefits, one group chose to commission several small-scale hydropower installations (option 2) while opinion remained divided in the other group. The session illustrated the difficulties decision-makers still face when committing a country to particular kinds of green infrastructure investments. While the amount of energy and fresh water provided understandably rank amongst the top concerns, particularly for countries in the GMS, they are by no means the only issues that matter. Green growth can take different forms and it is imperative that options are carefully weighed and evaluated.

## **INTRODUCTION TO PART 2**

Part 2 built on the insights gained in Part 1 and provided participants with a more detailed understanding of key elements of green growth in the region. **Ms. Lucy Emerton (Environment Management Group)** spelled out the objectives for days three and four of the dialogue as (1) to provide a more technical and detailed overview of the tools that can support public and private decision-making on green economy investments in the GMS and (2) to identify approaches to help in recognizing and seizing the opportunities discussed in Part 1. Participants included representatives from the business, financial, investment, and scientific communities, as well as government officials involved in the day-to-day development, application, monitoring and implementation of GE-related activities “on the ground”. Experts showcased examples of projects, tools and applications that enable and support green growth in the GMS region, as well as case studies from other regions.

### **c. Day 3 – Valuing Natural Capital**

The third day consisted of (1) a session introducing the concepts of natural capital valuation, (2) a session showcasing current approaches in the GMS and beyond and (3) a number of breakout sessions in the afternoon. Day three was moderated by **Ms. Lucy Emerton (Environment Management Group)**.

#### **Introduction to the concepts of natural capital valuation**

**Prof. John Soussan’s (OSLO Consortium)** presentation gave an introduction to the key concepts and methods for the valuation of ecosystem services and environmental resources, intended as an introduction to the key issues that would be discussed during the rest of the day. The meaning and origins of valuation were discussed, along with some of the difficulties that are associated with the valuation of non-market goods and services. The Millennium Ecosystem Assessment ecosystem services framework was then introduced and the utility of an ecosystem services approach to the assessment of environmental assets discussed.

In her presentation, **Ms. Lucy Emerton (Environment Management Group)** looked at why ecosystem undervaluation poses a barrier to achieving both conservation and sustainable development goals. It typically results in decisions being made based on

incomplete and flawed information, and runs the risk of resulting in missed economic opportunities. In contrast, factoring ecosystem costs and benefits into the economic figures that inform decisions, and the policies, prices and incentives that are used to manage the economy, can strengthen considerably economic development planning. An example is given of a recent exercise which valued the benefits of ecosystem conservation and the economic costs of ecosystem degradation and loss in Lower Mekong countries. This found that the Lower Mekong's ecosystems contribute benefits worth US\$ 13.5 billion a year to many different sectors and stakeholders, and that if current trends of ecosystem degradation continue, the loss of these services could cost the regional economy some US\$ 55 billion over the next 25 years. Such figures make a strong case for the development wisdom of investing in a green economy, and for identifying policy instruments which can help to better capture ecosystem values, compensate management costs and reward conservation actions.

### **What is being done in the GMS region**

#### **Dr. Neric Acosta (Presidential Adviser for Environmental Protection, Philippines)**

presented a case study on the Laguna de Bay, the largest freshwater lake in the Philippines, located east of Metro Manila. The lake fulfils a number of ecosystem services, including aquaculture and fisheries production, as transportation route, floodwater reservoir, for power generation, industrial cooling, irrigation and recreation. However, these services are under threat due to rapid economic development and industrialization, population growth and urbanization. In recent years, a number of public sector-led interventions tried to address challenges, including the introduction of a user fee system and a public disclosure program. The Laguna Lake Development Authority (LLDA) pursued further programs to reduce the degradation of the Laguna de Bay, including a carbon finance project to implement better waste management and reforestation, the National Greening Program to plant 1.5 billion seedlings by 2016, a river rehabilitation and a shoreland management program. Critically, the Philippines was chosen as one of the target countries for the UN Wealth Accounting and Valuation of Ecosystem Services (WAVES) program with the Laguna Lake Basin as the first area to be considered. As the program is developed, the LLDA will work with partners to collect data on production footprints for all types of land use and bio-capacity measurement. Dr. Acosta stressed that the process was only in its very early stages and more work would be required to arrive at a useful valuation of ecosystem services in the Laguna de Bay.

**Prof. John Soussan's (OSLO Consortium)** presentation outlined the origins of the Payment for Forest Environmental Services (PFES) programme in Vietnam and discussed the ADB support to the scaling up of PFES to the provincial level in Quang Nam province. The results of a valuation of land resources in the PFES area of Quang Nam were then presented, with the links to the PFES policy process discussed. In particular, the valuation will provide a basis for the expansion of PFES to include other ecosystem services such as biodiversity and carbon sequestration that have been identified in national legislation as areas for future PFES development.

**Dr. Michael Green (ADB, Environment Operations Centre)** focused his presentation on the natural capital assets of the GMS region, which features some globally important and unique biodiversity that underpins the functioning of ecosystems and accounts for



much of the region's economic growth. He explained how energy, food and water security, particularly among local communities, are being eroded by overexploitation of this capital, infrastructural development and conversion of land to arable farming. This highlights the importance of undertaking economic valuations of natural capital and ecosystem services in order to determine their true market values and better inform national strategies, policies and land use planning. Scenario planning approaches were also considered, illustrated by reference to the UK's ongoing economic services assessment. The Environment Operations Centre (EOC) is currently developing its capacity, under its Core Environment Program (CEP) and in collaboration with its partners, to shape the GMS Strategic Environment Framework (2012-2022) by challenging the status quo and subjecting the GMS Regional Investment Framework to such analyses. These approaches can be piloted within the CEP's transboundary corridors that connect biodiversity hotspots.

**Dr. Louise Gallagher (WWF Greater Mekong)** presented on InVEST – a tool used by WWF Greater Mekong to collate economic valuation data with regional biophysical ecosystem service production values. The main message of the presentation was that spatially explicit economic valuation of ecosystem services can support cover and infrastructure investment decision-making in this region as long as relative estimates of the changing values of ecosystem services are used and not absolute values. WWF aims to expand its InVEST applications in the Greater Mekong region by using estimates in a socioeconomic model currently being piloted by WWF for land use planning. This model analyses the simultaneous interaction of social, economic and environmental factors in shaping future land use needs through system dynamics simulation. Furthermore, as partners in the TEEB4Business Coalition – a global, multi-stakeholder open source platform for supporting the development of methods for natural and social capital valuation in business – WWF is exploring the possibilities for applying this tool to corporate investment contexts.

In complement to the InVEST presentation, **Ms. Susan Roxas (WWF Greater Mekong)** presented an overview of PUMA's approach to creating an environmental profit & loss account with PriceWaterhouseCoopers and TruCost, which has helped drive TEEB4Business Coalition's development of natural and social capital valuation in business. First results of PUMA's E P&L revealed that the direct ecological impact of PUMA's operations translates to the equivalent of €7.2 million of the overall impact valuation. An additional €87.2 million falls upon four tiers along the supply chain. In total, this leads to an overall environmental impact of GHG and Water Consumption of PUMA's operations and the supply chain of €94.4 million. Putting a monetary value on the environmental impacts shows that PUMA is preparing for potential future legislation such as disclosure requirements. These costs will serve as a metric for the company when aiming to mitigate the footprint of PUMA's operations and all supply chain levels.

**Dr. Herminia Francisco (Environment Program for Southeast Asia of WorldFish)** presented a summary of EEPSEA's capacity building work with support from SIDA and IDRC. The Program contributes to the collection of environmental economics research in the region, about 11% of which is on ecosystem valuation. She cited four case studies where research had facilitated improved natural resource management, some involving the private sector. The first case study focused on the 2010 research on the valuation of beachscape in Caramoan, Philippines, which was used by the Partido

Development Corporation in 2013 to design the area's tourism plan. The second was on the cross-country study that estimated the non-use value of Marine Turtle Conservation carried out in five Southeast Asian cities. The third case study presented the economic (use and non-use) value of Hon Mun Protected Area in Vietnam and how the area could be affected by a proposed large scale port infrastructure. The study was used as input in designing a user fee for visitors. The last case was a study that determined farmers' willingness to accept the implementation of a conservation contract to reduce erosion. Dr. Francisco ended her presentation with key lessons from their work in the region. She stressed that economic valuation per se is necessary but not sufficient to generate environmental reforms. What is needed are policy support and champions to advocate for the translation of economic values into mechanisms that capture economic benefits. Research benefits from collaboration between scientists and economists and a good understanding of the multiple dimensions of a problem. In conclusion, Dr. Francisco emphasised that capacity building for environmental economics research should still be considered a priority in the GMS.

### **Breakout Sessions**

The breakout sessions were not made up of formal lectures, but rather were intended to gather leaders in specific sectors together for informal presentations and discussions on the causes and drivers of natural resource degradation in that sector, and successful natural wealth management practices.

### **OSLO Consortium: Offering Sustainable Land-use Options**

The session was organised and moderated by Prof. John Soussan, OSLO Consortium; Dr. Luke Brander, Global Mechanism; and Prof. Lindsay Stringer, OSLO Consortium and University of Leeds.

The session consisted of an exercise on calculating ecosystem service values, involving the calculation of values for a set of ecosystem services for an upland area using real data from Vietnam. Participants were asked to work in teams to process information and data about different land cover types and the ecosystem services they provide. The land cover types include forest, shrub and grassland, agricultural land, and wetlands and water. The ecosystem services include provisioning services (timber, crops, non-timber forest products), watershed protection, biodiversity and carbon sequestration. The goal of this exercise was to fill in the table with economic values for ecosystem services for each of the land cover types. The exercise allowed participants to think about the different ecosystems that different land cover types provide, how these can be valued and how to make the calculations.

The exercise was then extended to introduce the idea of scenario analysis. Using the first stage of the exercise as a baseline scenario, an alternative land use scenario was introduced in which forest is converted to agricultural land. The values of different ecosystem services are then computed again. This analysis provided an example of how scenario analysis can be used to reveal the trade-offs involved in land use decisions. This second component of the exercise was introduced with a short introductory presentation on scenario analysis.

## **Scenario Development in Economic Valuation of Natural Capital Policy**

This breakout session was organised by WWF Greater-Mekong, and moderated by Dr. Louise Gallagher, WWF Greater-Mekong. It featured presentations by Dr. Andrea Bassi, UNEP, Knowledge Srl (on socioeconomic modelling of changes in ecosystem services); and Dr. Lucy Emerton, Environment Management Group (on scenarios for change in ecosystems in the GMS 2010-2035).

The objectives of the session were to introduce the concept and practice of scenario development as part of conducting economic valuation studies; critique two scenarios for 'Business as Usual' and "Green Economic Production" ecosystem service 'supply' in the GMS in 2035; and a demonstration of linking ecosystems to economic values in a socioeconomic modelling example.

Scenario analysis is important because it introduces a systematic framework to assist communities, businesses, scientists and policymakers in their choices. Scenarios reflect real alternatives being considered in policy and management decisions and are often used in decision support tools such as cost-benefit analysis, strategic environmental assessment and spatial planning frameworks.

Beliefs inform scenarios. Playing out scenarios can change beliefs. Scenarios for ecosystem services frameworks can provoke creative thinking, challenge current views about the future, inform people about the implications of uncertainty, and uncover the equity impacts of alternative futures—i.e., how different regions or communities may benefit from or be harmed by different goals for land use and development.

Comparison of alternative interventions enables decision makers to evaluate the desirability of each—based on their tradeoffs, feasibility, and cost-effectiveness—and select the option that most closely aligns with goals.

Some of the key notes and outcomes included:

- Recognising goal of economic valuation is not to produce an absolute figure for individual ecosystem services. More relevant is to use valuation as a measure of the benefits derived from ecosystems as they change from one situation to another. This change may be induced by any number of 'interventions', i.e. specific policy, a land cover or land use change, a pollution incident...etc.
- The group signalled that scenario building and analysis is a useful approach because it allows for a meaningful discussion with communities, decision-makers, investors – especially if it enables working through the impacts of different scenario outcomes temporally and spatially.
- Determining the best basis for different scenarios is challenging. Parameters for scenarios must be carefully chosen. What are assumptions based on? What are

is being compared? Some potential choices for taking an ecosystem service basis for scenario development is to look at:

- Unsustainable land use
  - Anthropocentric focused
  - Impacts of alternative policies on natural capital
  - Cost effectiveness
- In terms of conducting their own scenario mapping for Monduliri Province, Cambodia,
- a. The two groups who opted to map a green economic growth scenario faced challenges in:
  - Defining the parameters of the scenario
  - Finding the balance between “greening” and “growth”
  - The lack of economic valuation information for green economic growth decision-making
- b. The one group who opted for the Business as Usual scenario:
  - Faced challenges in making decisions without information
  - Assumed that national and regional trade would supplement their reduced ecosystem services
- Who is developing the scenario was identified an important consideration because various stakeholders have different perspectives and beliefs as to what diverse scenarios should look like. It was suggested that it is appropriate for individual organizations to conduct their own scenario building exercise – once all assumptions were made clear – to flag important relationships between the parameters of the scenario but also to be open to redoing the analysis to test for sensitivity to other stakeholder perspectives.
- At the request of participants, WWF presented a pilot green economy approach previously shown to some other participants on Day 2 of the regional dialogue. The WWF socioeconomic model is conceived as a pilot project aiming to design an integrated framework for land use planning support. It analyses the simultaneous interaction of social, economic and environmental factors in shaping future land use needs through the creation of a transparent system dynamics simulation model – in effect applying a biophysical reality to a socioeconomic planning process (in this case, road transport construction).
- The modelling approach was highlighted as being useful since many elements of change were able to be mapped and tracked simultaneously – something that was perceived as challenging in the scenario mapping exercise.



- The strength of feedback within the model may determine where key entry points are for green economy policy-making, i.e. leveraging the impact of policy.
- Also noted was that Net Present Value is of questionable value when communicating with policymakers. The systems dynamic model instead shows the potential requirement for investment over time to maintain sustained results from green economy interventions.
- Certainty was raised as being an important dimension of communicating the results of scenario analysis and modelling.

### **WAVES (Wealth Accounting and the Valuation of Ecosystem Services) Application**

Organised and moderated by Dr. Neric Acosta (Presidential Adviser for Environmental Protection, Philippines), this session was a round table discussion on the challenges and opportunities the Philippines faces in implementing natural capital accounting through the WAVES programme.

WAVES was launched by the World Bank President, Robert B. Zoellick at the Convention on Biological Diversity meeting in October 2010. The global partnership brings together a broad coalition of UN agencies, governments, international institutes, NGOs and academics to implement environmental accounting where there are internationally agreed standards, and develop standard approaches for other ecosystem service accounts.

The Philippines is among the few countries that implemented environmental and natural resources accounting during the 1990s and early 2000s, but implementation has slowed over the last 10 years due to budgetary constraints, among other issues. The new political leadership emphasises governance reforms including transparent and science-based decision-making while pursuing inclusive and sustainable growth that addresses conservation, protection, and rehabilitation of the environment and natural resources.

Recently, increasing scarcity of natural resources and recognition of the archipelago's vulnerability to natural disasters and climate change have led to increased interest in addressing poverty, environmental degradation, and the development of new sources of growth. This is particularly the case for the Laguna de Bay, the largest body of freshwater in the Philippines located east of the Metro Manila region. Dr. Acosta elaborated on his earlier presentation on de Laguna de Bay basin as the first area for WAVES in the Philippines and led a discussion among the session participants focussed on timely, effective and sustainable ways to address conflicting demands on the lake.

Ensuring key stakeholder support for the successful implementation of WAVES, from the top down and bottom up, was identified as one of the key challenges to harnessing new green growth opportunities. Enforcement of environmental regulations is a big problem in the Philippines, where the short and long term gains of preserving natural capital are not always contemplated as alternative pathways to business as usual.

When stakeholders are actively engaged at the outset and can expect a good return, they are more inclined to view the project as a valuable investment of their time and resources.

Participants emphasised the need for effective communications and a focussed public relations strategy to sell the program to stakeholders. The importance of communications was reflected in the substantial size of the projected communications team within the program.

### **Climate Resilient Green Economy in the GMS**

Organised by WWF Greater Mekong Program and moderated by Ms. Anna Brown, Associate Director, Rockefeller Foundation, this session discussed the importance of ecosystem services for climate resilience and the need to integrate ecosystem based adaptation (EBA) in the green economy agenda. The objectives of this session were to 1) identify synergies between maintaining natural capital for green economy and for building ecosystem and community resilience, and 2) identify policy and planning entry points for ecosystem based approaches to generate buy-in and high-level support in the region.

The session was attended by about 20 participants also included a facilitated discussion. The discussion reiterated the need to integrate ecosystem-based adaptation into green growth and green economy agendas. In identifying policy and planning entry points, a case was made for environmental organizations to partner with ministries other than the Ministry of Environment, especially the Ministry of Finance and Ministry of Planning and Investment. At the community level, the concept of “no regret” adaptation actions and/or consideration of “low hanging fruit” that are consistent with the EBA approach can be considered to convince local policymakers.

This session included presentations from USAID, WWG-GMP, ADB-EOC, and ISPONRE, Vietnam. Paul Hartman, Chief of Party, Mekong Adaptation and Resilience to Climate Change (Mekong ARCC) from USAID presented climate change issues and vulnerability in the GMS region. Different studies including the one done by Mekong ARCC show different impacts of climate change that may change the way GMS needs to plan for its future. Impending climate change will not only affect socio-ecological systems such as agriculture (impacts on different crops), forests (impacts on different non timber forest products) but may also lead to ecological shifts affecting the suitability of land, land use requirements and means of productions. Building resilience of the ecosystems and communities against climate change impacts will be necessary for development and green growth in the region and elsewhere.

Raji Dhital, climate change specialist and regional project manager, WWF-GMP, presented the framework for assessment and implementation of EBA and the process for its customization in Lao PDR and Vietnam. The GMS countries are beginning to realise the need for climate change adaptation in the development agenda. However, planned and likely investments on adaptation are more geared towards investment on infrastructure-such as dykes, channels for water diversion etc. and could benefit from linkages with ecosystems. The role of ecosystem services for adaptation and

development planning needs wider recognition in the GMS region. WWF is currently working in partnership with the governments of Lao PDR and Vietnam to develop a framework on assessing and implementing ecosystem based adaptation options. This framework based on participatory tools and GIS based analytical models is being field tested at site-level and customised for institutionalization and use in Laos and Vietnam. This initiative by WWF, supported by the World Bank ultimately aims to support the governments in the GMS to adopt ecosystem based adaptation measures as a part of an overall adaptation and development strategies.

Through the field-testing of the framework, case studies will be generated for a coastal area in Ben Tre, Vietnam and a forested watershed/wetland in Champasak Lao. The case studies will also include comparative analysis of cost effectiveness of hard and EBA measures to provide some evidence-based examples to the decision makers. The WWF-WB initiative is closely working with the sub national and national governments in Lao and Vietnam to help mainstream EBA in national planning and processes.

The presentation by Ms. Kim Thi Thuy Ngoc from Institute of Strategy and Policy on Natural Resources and Environment (ISPONRE) outlined the opportunities for mainstreaming EBA in Vietnam that also included National green growth strategy (2011-2020 with vision to 2050) in addition to the National target program to respond to climate change and different sectoral strategies such as energy, forestry, disaster, agriculture and rural development, transport, industry and trade etc. The recognition of ecosystem services for climate change adaptation still very low in Vietnam and climate change has not been mainstreamed at the sectoral planning level. EBA framework may contribute to mainstream climate change and adaptation issues in various sectors.

Ornsaran Pomme Manuamorn, Climate Change Coordinator from ADB-EOC made a presentation on potentials for integrating EBA in planning processes in the GMS region. At the regional level, regional investment frameworks can provide an opportunity to mainstream investment in ecosystem resilience. ADB-EOC focuses on the priority trans-boundary landscapes, where EBA measures can be integrated in management strategies. To support the assessment of EBA measures at transboundary scales, the framework developed by WWF can be customised and scaled up to regional scale. There are also possibilities of integrating EBA assessment methods into strategic environmental assessment (SEA) that are mandatory in several countries in the GMS. Under the GMS economic cooperation facilitated by ADB, there do already exist mechanisms such as working groups on environment and other sectors that could provide an entry point for mainstreaming EBA measures.

#### **d. Day 4 – Valuing Natural Capital**

The fourth day built on day three, focussing on frameworks and concrete measures to help build green economies in the region. The day consisted of three sessions: (1) incentive measures for natural capital management, (2) indicators of green growth and sustainable practises and (3) risk management and business assurance, and was moderated by **Dr. Harald Heubaum (SOAS, University of London)**.

## **Incentive measures for natural capital management**

**Ms. Siv Øystese (GM)** introduced the session on instruments that can promote green growth and discussed how values of ecosystem services can be used to establish mechanisms that can encourage private sector to adopt sustainable land management practices. If a value is given to an ecosystem service, it is possible to price and compensate efforts made by those conserving and protecting this service. Adopting sustainable practices that protect the ecosystem services may often be more expensive than business as usual and there is often a mismatch between the stakeholders paying the costs of maintaining land resources (e.g. opportunity cost of not converting a forest to cropland) and beneficiaries (e.g. downstream water users benefiting from the regulation of water flows). There are a range of mechanisms that can facilitate the payment by the beneficiaries to the stakeholders maintaining land resources. Such mechanisms can be called *incentives* and *market-based mechanisms* as they encourage companies, communities and other private land users to adopt and invest in SLM practices as well as enable the land users to cover the cost of adopting sustainable practices. Ms. Øystese gave an overview of a number of incentives and market-based mechanisms and examples on how these work.

**Dr. Luke Brander (GM)** discussed sustainability labels (or ecolabels) which certify that a product meets certain environmental and social criteria. Sustainability labels are intended to address the problem of “missing markets” for sustainably produced goods and provide an incentive for producers to undertake sustainable production. The problem of missing markets for sustainable products occurs when there is effective consumer demand for sustainably produced products but consumers are uncertain about which products are sustainable and which are not. In such a market, consumers will tend to make their purchase decisions based on other information that is certain, such as price, and therefore sustainably produced products are generally at a competitive disadvantage and will not be produced. A sustainability label addresses this problem by providing credible information to consumers, usually through third party independent verification of specified environmental and social criteria. This allows products to be differentiated and for sustainably produced products to command a price premium, which in turn provides an incentive for producers to undertake sustainable production. Dr. Brander presented the case of Grandis Timber which applied for FSC certification for a timber plantation in Cambodia. There were costs and benefits associated with certification but there is no significant price premium on FSC labelled teak. The reason for this may be due to the high supply of FSC labelled wood or due to the continuing high demand for unlabelled wood. One of the principal reasons for Grandis Timber to pursue FSC accreditation was due to demand by their main investor (a Danish pension fund). So demand for the FSC label is from the investor side as well as the consumer side. Regarding the potential for scaling up the use of the FSC label to promote sustainable timber production, and for the use of sustainability labels more generally, the lack of a positive price signal to other producers appears to be a major limitation. Instead, the effectiveness of labelling is dependent on investor demand, which is driven by their commitment to Corporate Social Responsibility and on whether they can charge a price premium on their investment products (e.g. pensions).

**Dr. Lalita Rammont (International Union for the Conservation of Nature)** focused her remarks on a specific, innovative economic instrument for natural resource



management: Payments for Ecosystem Services (PES) which are based on the internalization of environmental externalities by establishing appropriate prices and giving financial incentives. Under a PES scheme, users of land upstream may accept voluntary limitation or diversification of their activities in exchange for an economic benefit. In this way, the interests of landowners and outside beneficiaries are bridged and both 'sellers' and 'buyers' of ecosystem services can profit while helping to protect these ecosystems. Water-related PES schemes are expected to complement traditional command and control measures but might be more flexible, cost-efficient and effective. Examples of PES arrangements include compensation of farmers settled in conservation areas to shift from non-sustainable agricultural practices (e.g. coffee) to agroforestry activities. In return, they will receive technical and/or financial support. Dr. Rammont emphasised that location-specific analysis is critical for setting up payment schemes.

**Mr. Ben Vickers (FAO)** explained that Forestry Voluntary Carbon Markets (VCM) depend on a project-based approach to generating finance. They cover a wide variety of methodologies to reduce greenhouse gas emissions, and enhance removals, from the forest sector, but must not be confused with Reducing Emissions from Deforestation and forest Degradation (REDD+) under the UNFCCC. REDD+ will be part of a future international climate change agreement, which is still under negotiation. A market for REDD+ therefore does not yet exist, and will not be based on trade in 'carbon credits' as in the VCM. Financing mechanisms for REDD+ are not yet clear, but will chiefly involve country to country exchanges, based on national performance. There will be many opportunities for private sector engagement in the mechanism, including the identification of the drivers of deforestation and degradation and strategies to address them; auditing services for REDD+ activities; setting and monitoring standards of practice in the forest and land use sectors, and exploring opportunities for corporate social responsibility investments in the forest sector.

### **Q&A**

Participants criticised the use of high discount rates (10%) and the undervaluation of ecosystem services, for example in the economic analysis of dam projects in the region. Further questions centred on the lack of willingness to pay for premium products in the region; how the private sector can be persuaded to pay for ecosystem services; and how disincentives or perverse incentives (policies within the same sector that disincentivise good behaviour, for example subsidies in the agricultural sector) may be effectively tackled.

Ms. Rammont answered that high discount rates are chosen because of an underestimation of the value of natural resources. Mr. Vickers added that environmental costs are not factored into calculations. No one pays for these values because the private sector does not value them. Opportunity costs for REDD+ have been discussed extensively; cost curves were developed to show that REDD+ would be cost effective but environmental and social costs were not considered in these. Ms. Øystese highlighted the need to raise awareness to try to make people pay for these values, and/or push for more regulation so that companies have to internalise these costs. Mr. Brander added that there is an issue of who is doing the analysis: they choose the parameters against which services are valued. There is a need independent analysis

and auditing. On the question of premium prices, Mr. Brander argued that a market does exist which can be seen in Lao farmers selling organic produce to Thailand and in the successes of accredited aquaculture fish production in Vietnam. Mr. Vickers pointed out that in most cases it is not premium prices for certification; the key is market access.

Interregional exports should be targeted to increase market access and the policy environment. Ms. Øystese added that companies would certify more if they had access to finance. On disincentives, Mr. Vickers highlighted the need for inter- sectoral communication to minimise these conflicting subsidy systems. The issue is national and international and needs to be addressed at this level.

### **Indicators of green growth and sustainable practices**

**Ms. Pati Poblete (Global Footprint Network)** explained that since Global Footprint Network began its work in 2003, the organization's goal has been to make resource limits central to decision-making. There is ever more evidence that resource constraints have become an increasingly significant determinant of economic success in the 21<sup>st</sup> century. Yet, most policy and investment decisions are made as if resource limits do not exist. This is why GFN engage with countries, finance institutions and international organizations to address and reverse current trends and end ecological overshoot through use of Ecological Footprint accounting. This framework, already adopted by 11 nations, enables decision-makers to see how much nature can be provided, how much a population is using, and who is using what. Southeast Asia is a region that is facing rapid change, with an economy that is shifting from agriculture to industry and services. This shift, along with the needs of a growing population, means that countries are more dependent on bio-capacity from other countries than ever before.

In his remarks, **Dr. Andrea Bassi (UNEP, Knowledge Srl)** introduced the work done on green economy indicators by the international community and summarised ongoing research at UNEP in creating a manual and additional materials to support the identification and use of indicators specifically in green economy policy and investment analysis. Indicators are used as tools to strengthen each stage of the policymaking process, informing decision makers on policy impact within and across sectors. Dr. Bassi's presentation identified key steps to determine issues and set the agenda, choose amongst options, as well as monitor and evaluate progress within an integrated policymaking cycle. The expected use of the indicators is to support interested countries to identify priority issues and formulate and assess green economy policy options whereby the focus is on policy options with multiple dividends across environmental, social and economic dimensions. Depending on the policy issue, indicators can include R&D investment as percent of GDP, expenditure in sustainable procurement, or access to modern energy and sanitation.

**Dr. Harald Heubaum (SOAS, University of London)** argued that a core question for investors is whether there are any tangible benefits for companies that pursue sustainable practices and invest in ESG management. Recent research has shown there to be a correlation between companies performing highly in a range of sustainable and ESG indices (including FTSE for Good, Dow Jones Sustainability Index, etc.) and their overall performance. For example, a 2012 report by Harvard Business School

showed that sustainability leaders are more likely to have a better stock performance due to superior governance structures and more constructive engagement with their stakeholders. A 2013 survey by Boston College and Ernst & Young indicated that successful interventions in corporate social responsibility by large institutional shareholders increased share prices by an average of 4.4% a year. Dr. Heubaum added that green business has been found to be growing faster than any other sector in challenging economic times (UNEP, UK CBI) which means that improved environmental and social sustainability performance can help the wider economy grow stronger. This, he concluded, has important implications for responsible investment and the success of green economy initiatives globally and in the GMS more specifically.

### **Risk management and business assurance**

**Mr. Ivo Mulder (UNEP-FI)** noted that although considerable progress has been made to assess and compare the financial performance of ‘conventional’ equities with equities that embed environmental, social and governance (ESG) into financial frameworks for equity performance, to date, little progress has been made linking ESG materiality to fixed income investments, especially for sovereign bonds. This may have to do with their more ‘passive’ nature of investing. However, bonds are not shielded from systemic risks related to climate change and weather extremes, water scarcity, ecosystem degradation and availability of natural capital. At present, though, these global environmental externalities and other ESG issues are not systematically analyzed, valued or priced by capital markets). The ERISC project (Environmental Risk Integration into Sovereign Credit analysis) is the first project to quantify the environmental and natural resource risks in the context of sovereign credit risk. Although the methodology needs to be further refined, the results show that the effects are potentially significant enough to affect a sovereign credit rating and thereby its’ borrowing costs on international bond markets.

**Ms. Dureen Shahnaz (Impact Investment Exchange IIX and Shujog)** began her presentation by pointing out that since the start of the 21<sup>st</sup> century, the world is overall a better place. However, a significant growth gap still exists between developed and developing countries. In the GMS, the lives of 60 million rural people depend on its ecosystems, but poor management of the natural capital has resulted in its inequitable economic growth. Currently, an increasing number of social enterprises are tackling such pressing social and environmental concerns, but lack of financial resources inhibits implementation of innovative solutions at scale. Ms. Shahnaz showed that to overcome the issue of scale, social capital markets have been developed to facilitate impact investing which seeks to create positive social and environmental impact beyond financial return. IIX and Shujog have been playing a meaningful role of growing impact investing ecosystem and providing social enterprises with greater access to capital in Asia. It is possible to use capital markets for social and environmental good.

### **Q&A**

Participants asked Dr. Andrea Bassi about data on viability for indicators, or a system to share whether indicators have been applied in countries. In the GMS, application and monitoring of policies is very important, and it’s lacking in the region. Dr. Bassi responded that these are extremely important, but very difficult to track. It is very

important to check for data availability and coherence of data across sectors, but when it comes to green economy indicators, data aren't available in most countries. Dr. Bassi encouraged seeing the data and indicator systems in their current state as a process, rather than as completed templates.

A participant raised the question to the panel on green economy trends specific to Asian conglomerates and SMEs. How much do the trends being presented and discussed, for example in sustainability reporting and ESG management, reflect directly on businesses in the region? Dr. Heubaum acknowledged that indeed, there was still a gap in the literature, as many of the studies and methodologies presented do not focus specifically on the significant number of SMEs in Asian countries, although many of the big corporations studied are multinationals with a large presence in Asia.

## **V. CONCLUSIONS & WAY FORWARD**

### **Main conclusions**

Land lies at the heart of social, political and economic life in most of Southeast Asia. Agriculture, forestry and other natural resource use and land-based activities are key to peoples livelihoods, income and employment opportunities in the region. The rapid depletion of natural resources due to economic development and industrialization, together with population growth and urbanization as well as the onset of climate change and its impacts have created enormous challenges for all the countries in the GMS and beyond. However, there is a mismatch between the urgency for intervention and actual steps taken on the ground.

The degradation of natural capital is a detriment to long term sustainable development and comes with economic, social and environmental costs for individuals and societies at both micro and macro scales. Yet modern economic systems are slow to integrate the costs and benefits that flow from the use of natural capital. At Rio+20, world leaders agreed that the green economy development agenda has the potential to ensure that natural capital is used in such a way that continues to provide the ecosystem services that sustain economic growth and prosperity today and in the future. The development path of a green economy, according to the UN Environment Programme, 'should maintain, enhance and, where necessary, rebuild natural capital as a critical economic asset and source of public benefits.

The challenge lies in recognizing the true value of natural endowments and on the basis of this valuation manage them in ways that not only retain their value for current and future generations but that produce TBL benefits across economic, social and environmental dimensions. Full cost and benefit accounting can only happen if people, planet and profit are all taken into consideration. This is a task that can only be achieved by the public and private sector working together to build capacity and understanding and mobilise the necessary finance to scale up innovative green growth solutions.

The public private dialogue on green growth in the GMS aimed to map out these issues by bringing together high level government officials, actors in the business and financing sectors, key NGOs, practitioners involved in green economy related activities,

representatives from various UN Agencies, donors, cooperating partners, academia and media.

The dialogue began by discussing options for transitioning to a green economy. High level government officials gave an overview of public sector efforts in building green economies in the GMS region. This was complemented by discussions of practical examples of public and private triple bottom line investments and business practices and innovative financing opportunities and technologies. Options for scaling up success stories and investment opportunities were then explored.

The dialogue continued with a more detailed overview of the tools that can support public and private decision-making on green economy investments in the GMS, focusing on natural capital and ecosystem services valuation, and identified approaches to help in recognizing and seizing green growth opportunities. Examples of projects, tools and applications that enable and support green growth in the GMS region and beyond helped participants build a better understanding of the way forward.

A number of core challenges to and opportunities for green growth and effective public private cooperation in building green economies in the GMS were identified across the presentations, panel discussion and breakout sessions.

- There is a need for more data to arrive at an effective economic valuation of natural capital and ecosystem services in order to determine their true market values and better inform national strategies, policies and land use planning. Ecosystem undervaluation poses a barrier to achieving both conservation and sustainable development goals. If decisions are made based on incomplete and flawed information they may result in further environmental losses and missed social and economic opportunities. In addition, greater progress could be made in the private sector by mainstreaming the integration of natural capital considerations in loans, bonds, equities and insurance products as well as in accounting and reporting frameworks.
- Values of ecosystem services can be used to establish mechanisms that can encourage private sector actors to adopt SLM practices. If a value is given to an ecosystem service, it is possible to price and compensate efforts made by those conserving and protecting this service. Incentives and market-based mechanisms can facilitate payments from beneficiaries to stakeholders.
- More examples of how the green economy works in practice are needed to make the case for change. Policymakers and the wider public are not always aware what green growth and green development mean and how they may provide benefits across economic, social and environmental dimensions. Existing examples also need to be communicated better.
- Champions are important for making the green growth case. A number of companies have taken early action, determining the ecological footprint of their operations and looking at the sustainability of their supply chains. Putting a monetary value on environmental impacts and requiring suppliers to adhere to stringent standards are critical steps in making the case for green development



in the private sector. In addition, companies that have pursued sustainable practices and invested in ESG management tend to have a better capital market performance than their peers. The challenge now is to extend this behaviour to businesses and industries across the economy.

- The lack of financial resources prevents the scaling up of innovative solutions. The financing need is enormous and far surpasses available public funds. However, there are sufficient funds available in the private sector to fill the gap. The challenge is to identify ways to incentivise private sector investment, be it through institutional investors (e.g. pension funds) who are looking for returns on their investment or through impact investors who are looking to create positive social and environmental impact beyond financial return.
- Underlying risks to private sector investment have not yet been sufficiently addressed. More data is needed to quantify risks and make visible the costs and benefits of investing in green growth opportunities. Effective public private cooperation will then depend on the public sector finding ways to minimise these risks.
- Policies are not always consistent. If governments change their plans it is important to keep in mind that changes to policy can cause great uncertainty in the private sector as this hampers investment appetite. Therefore, the policy environment needs to be clear and reliable.
- There is a lack of integrated efforts across government to build the green economy of the future. Developments in one system (for example energy or food production) can have direct and indirect knock-on effects on other systems (for example water). TBL approaches and integrated reporting can help actors see these impacts but this requires greater linking up, sharing information and speaking with one voice. Cambodia is an example of a country that has tried to take a more integrated approach on green growth, linking up departments to pull in the same direction.

### **Way forward**

In response to the challenges of shifting the GMS to a green economy, based on a full valuation of natural capital and effective public-private cooperation, the event organisers agreed to continue a regional partnership -- named "3PL" (People, Planet, and Profit Leaders) . 3PL will facilitate green growth in the GMS through continued financial and technical assistance, dialogue and outreach; and will shortly release a 'State of Play' document, outlining current green economy work streams and trends in the GMS, as a baseline for moving forward.

At present, recommended next steps are:

- Communicate innovative and successful green growth projects and opportunities in the GMS region to scale-up through public-private partnerships.

- Hold targeted events to raise awareness amongst key stakeholders in the public, private and not-for-profit spheres.
- Document and evaluate existing projects which use payments for ecosystem services to protect, manage, and/or restore land, ecosystems and natural capital.
- Gather more data to help effectively value ecosystem services and natural capital in terms of their total economic value as well as by making visible potentially lost economic benefits.
- Work to clearly measure ecological and social alongside economic returns across existing GE projects. The ongoing monitoring of key indicators is required to demonstrate returns on investment and make the business case for action.
- Identify new green growth project opportunities which provide a clear TBL in terms of ecosystem services benefits, social gains, and economic profitability. To do so effectively will require an integrated reporting framework which aims to make visible the impact of individual actions across all three TBL dimensions and can help lead to more long-term decision-making – a key prerequisite for sustainable investment.
- Link-up efforts across government. The green growth agenda concerns all sectors of the economy and society. A shared vision and agenda should be reflected in the actions of all government departments.
- Work with champions (investors or businesses) who have taken early action in GE investment. Many businesses currently do not invest in such opportunities because they either do not see sufficient returns or because they are worried that they may be undercut by competitors who do not face the additional cost of investing in such practices. The successes of champions are important to emphasise the benefits of early action.
- Emphasise the need for clear and reliable policies and regulations that aim to establish a level playing field and create a conducive business and investment climate which in turn provides favourable conditions for GE entrepreneurs.
- Develop effective tools to address underlying risks that may threaten investment by the private sector. This includes policy and market risks but also further steps in quantifying environmental and natural resource risks in the context of sovereign credit risk.
- Expand new projects to demonstrate the effectiveness of incentives and market based mechanisms in attracting public and private investments to protect, manage, and/or restore natural capital.



# New opportunities from natural wealth management

A public private dialogue on green growth in the Greater Mekong Subregion

17-20 June 2013 in Bangkok

## Annotated Agenda

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An initiative of the Offering Sustainable Land-use Options (OSLO) Consortium



Jointly organized by the Asian Development Bank (ADB), the Global Mechanism of the UNCCD, the Poverty Environment Initiative (PEI) of UNDP and UNEP, the Food and Agriculture Organization (FAO), and WWF



With the support from the Government of Norway



## PART 1: Green growth in the Greater Mekong Subregion

This session will discuss options for transitioning to a green economy, with the contribution and perspective of high level government officials, development partners, investors and business leaders from the Greater Mekong Subregion (GMS) and beyond. They will provide an overview of green economy in the GMS region, as well as examples of public and private triple bottom line investments, business practices, innovative financing opportunities and technologies. Options for scaling up success stories and investment opportunities will be debated, including through public-private partnerships and the establishment of enabling conditions. The dialog will provide a forum for sharing lessons and experiences as well as a platform for building networks and joint ventures in the region.

### DAY 1: SESSION 1 – SETTING THE SCENE

**Moderator: Mr Tony Cheng**

09:00 – 09:45	Opening Remarks	<ul style="list-style-type: none"><li>- Mr Erik Svedahl, Norwegian Embassy, Thailand</li><li>- Mr Adnan Quereshi, Food and Agriculture Organization (FAO)</li><li>- Dr Lindsay Stringer, University of Leeds / OSLO Consortium</li><li>- Mr Simone Quatrini, Global Mechanism of the UNCCD</li></ul>
09:45 – 10:45	Keynotes	<ul style="list-style-type: none"><li>- Prof. Nay Htun, Green Economy Green Growth, Myanmar</li><li>- Ms Anna Brown, Rockefeller Foundation</li><li>- Mr Javed Mir, Asian Development Bank (ADB)</li><li>- Mr Saumil Shah, General Electric</li></ul>
10:45 – 11:15	COFFEE BREAK	
11:15 – 12:30	State of Play on Green Economy in the GMS	<p>Introduction:</p> <ul style="list-style-type: none"><li>- Ms Louise Gallagher, WWF-Greater Mekong</li><li>- Mr Paul Steel, United Nations Development Programme (UNDP)</li></ul> <p>Panel discussion – the benefits of a green economy in the GMS seen from the public and private sector perspectives</p> <p>Panel discussion:</p> <ul style="list-style-type: none"><li>- Prof. Nay Htun, Green Economy Green Growth, Myanmar</li><li>- Ms Anna Brown, Rockefeller foundation</li><li>- Mr Saumil Shah, General Electric</li><li>- Mr Javed Mir, Asian Development Bank (ADB)</li><li>- Mr Zhou Rui, Ministry of Finance, China</li><li>- Mr Pinit Lors, Ministry of Economy and Finance, Cambodia</li><li>- Mr Heaune Chanphana, Ministry of Natural Resources and Environment, Lao PDR</li><li>- Mr Duong Hung Cuong, Ministry of Planning and Investment, Vietnam</li></ul>
12:45 – 14:00	LUNCH	
DAY 1: SESSION 2 – GREEN ECONOMY IN PRACTICE		
14:00 – 15:30	Presentations by the Governments outlining how the green economy is being operationalized in the GMS, and how it contributes to sustainable development. The presentations will illustrate examples of policies and programmes that avoid depletion of natural capital and maintain ecosystem benefits	<p>Presentations followed by a dialogue:</p> <ul style="list-style-type: none"><li>- Mr Voun Vannarith, Ministry of Environment, Cambodia</li><li>- Mr Khounsamay Silapheth, Ministry of Natural Resources and Environment, Lao PDR</li><li>- Dr San Oo, Ministry of Environmental Conservation and Forestry, Myanmar</li><li>- Ms Ladawan Kumpa, Office of the National Economic and Social Development Board, Thailand</li><li>- Ms Kim Thi Thuy Ngoc, Institute of Strategy and Policy on Natural Resources and Environment, Vietnam</li></ul>
15:30 – 16:00	COFFEE BREAK	

16:00 – 17:30	Examples from various economic sectors and industries of triple bottom line operations. Costs and benefits of sustainable production and green supply chains. Social role of businesses in the GMS. Challenges and opportunities ahead	Presentations followed by a dialogue: <ul style="list-style-type: none"><li>- Mr Lingbo Li, Hunan Weiming Chuanglin Bio-energy Co. Ltd, China</li><li>- Mr Vitoon R. Panyakul, Earth Net, Lao PDR</li><li>- Mr Aye Thiha, Royal tree service, Myanmar</li><li>- Mr Mai Thanh Chung, Viet Nam Fisheries Society, Vietnam</li></ul>
17:30 – 18:00	Highlights of Day 1	Moderator
18:00	RECEPTION	
DAY 2: SESSION 3 - SCALING UP		
Moderator: Mr Tony Cheng		
09:00 – 09:30	Recap of Day 1	Moderator
09:30 – 11:00	Scaling up green technologies: challenges and opportunities  Traditional and emerging green technologies. Costs and benefits. Barriers to adoption and options in natural resource-intensive sectors. New opportunities from technological innovations and R&D. Frontier research and experimental evidence from application	Presentations followed by a dialogue: <ul style="list-style-type: none"><li>- Mr Ju Hern Kim, Global Green Growth Institute</li><li>- Mr Prachak Ruenrith, Stora Enso Lao Co. Ltd</li><li>- Mr Chen Lulin, Yunnan Shenyu New Energy Company, China</li><li>- Mr Thibodee Harnprasert, The Institute of Industrial Energy, Federation of Thai Industries, Thailand</li><li>- Mr Andrew McConville, Syngenta</li></ul>
11:00 – 11:30	COFFEE BREAK	
11:30 – 13:00	Scaling up responsible investments in natural resource management: financial challenges and opportunities  New investment opportunities from natural wealth management. Risks, costs and returns on investment. Barriers and options from the financial industry and capital markets. Innovative financing sources and mechanisms. Impact investments. Public-private partnerships.	Presentations followed by a dialogue: <ul style="list-style-type: none"><li>- Mr Ivo Mulder, United Nations Environment Programme-Finance Initiative (UNEP-FI)</li><li>- Mr Gupta Kumar Rajeev, BASIX Social Enterprise Group</li><li>- Mr John Bruce Wells, Low Emissions Asian Development (LEAD) Program and Mr Orestes Anastasia, USAID</li><li>- Mr Sanath Ranawana, Asian Development Bank (ADB)</li></ul>
13:00 – 14:00	LUNCH	
14:00 – 16:00	Breakout session  Causes and drivers of natural resource degradation and successful natural wealth management practices.  Focus: what is needed to scale up the good practices, what are the obstacles and how to tackle these.	Breakout groups: <ol style="list-style-type: none"><li>1. Forestry/conservation (Facilitated by Dr Michael Green, Asian Development Bank, (ADB))</li><li>2. Road Transportation Infrastructure (Facilitated by Mr Andrea Bassi, KnowlEdge Srl)</li><li>3. Energy and Climate change policy (Facilitated by Dr Harald Heubaum, University of London, and Dr Lindsay Stringer, University of Leeds)</li><li>4. Finance (Facilitated by Mr Simone Quatrini and Ms Siv Oystese, Global Mechanism, and Mr Ivo Mulder, UNEP-FI)</li></ol>
16:00 – 16:30	COFFEE BREAK	
16:30 – 17.30	Reporting back from breakout groups and discussion	Rapporteurs
17.30 – 17.40	Highlights of Day 2	Moderator



This session will provide a more technical and detailed overview of some of the leading approaches, methodologies and tools that can support public and private decision-making on green economy investments in the GMS. Participants will include representatives from the business, financial, investment and scientific communities, as well as government officials involved in the day-to-day development, application, monitoring and implementation of green economy activities. Experts will showcase examples of solutions that can enable and support a green growth in the GMS region, including experiences from other regions. Participants will have the opportunity to address methodological issues and participate in practical exercises to familiarize themselves with some of the leading tools and approaches that can enable effective natural wealth management.

### DAY 3: SESSION 4 – VALUING NATURAL CAPITAL

**Moderator: Ms Lucy Emerton**

09:00 – 09:30	Recap of Part 1 Objective of the Part 2	Dr Harald Heubaum, University of London Ms Lucy Emerton, Environment Management Group
09:30 – 10:30	Introduction to the concepts of natural capital valuation	Presentations followed by a dialogue: <ul style="list-style-type: none"> <li>- Ms Lucy Emerton, Environment Management Group</li> <li>- Prof. John Soussan, OSLO Consortium</li> </ul>
10:30 – 10:30	COFFEE BREAK	
11:00 – 13:00	What is being done in the GMS region and how is the information being used. Examples and findings. Valuation support initiatives and tools  Valuation models and approaches, Knowledge sharing platforms, mapping, quantification tools, etc.	Presentations followed by a dialogue: <ul style="list-style-type: none"> <li>- Mr Neric Acosta, Philippines</li> <li>- Prof. John Soussan, OSLO Consortium</li> <li>- Dr Michael Green, Asian Development Bank (ADB)</li> <li>- Ms Susan Roxas, WWF-Greater Mekong</li> <li>- Dr Louise Gallagher, WWF-Greater Mekong</li> <li>- Dr Herminia A. Francisco, Economy and Environment Program for South East Asia (EEPSEA)</li> </ul>
13:00 – 14:00	LUNCH	
14:00 – 16:00	Break out session  Methodological approaches; specific technical issues linked to the socio-economic and environmental assessment of land and ecosystem services; practical valuation exercises	Breakout groups: <ol style="list-style-type: none"> <li>1. OSLO Consortium: Offering Sustainable Land-use Options (Facilitated by Prof. John Soussan, Prof. Luke Brander and Dr Lindsay Stringer)</li> <li>2. WAVES application: Laguna Lake project, the Philippines (Facilitated by Mr Neric Acosta)</li> <li>3. The use of scenario development in economic valuation of natural capital (Facilitated by Ms Lucy Emerton)</li> <li>4. Climate resilient green economy in the GMS: the role of ecosystem-based adaptation (Facilitated by Ms Raji Dhital, WWF-Greater Mekong)</li> </ol>
16:00 – 16:30	COFFEE BREAK	
16:30 – 17:30	Reporting back from breakout groups and discussion	Rapporteurs
	Highlights of Day 3	Moderator

**DAY 4: SESSION 5 – FINANCIAL INSTRUMENTS****Moderator: Dr Harald Heubaum**

09:00 – 09:30	Introduction day 4	Moderator
09:30 – 10:30	<p>Incentive measures for natural capital management.</p> <p>Economic incentives and financial instruments that trigger investments in triple bottom line activities and practices (economic incentives, PES, economic and biodiversity corridors, etc.). Market-based mechanisms to monetize returns on investment, models for distribution of benefits, policies and institutional mechanisms.</p>	<p>Presentations followed by a dialogue:</p> <ul style="list-style-type: none"> <li>- Ms Siv Oystese and Dr Luke Brander, Global Mechanism</li> <li>- Mr Ben Vickers, Food and Agriculture Organization (FAO)</li> <li>- Dr Lalita Rammont, International Union for Conservation of Nature (IUCN)</li> </ul>
10:30-11:00	COFFEE BREAK	
11:00 – 12:00	<p>Indicators of green growth and sustainable practices</p> <p>The indicators can be used in national development, corporate accounting and M&amp;E of impact investments</p>	<p>Presentations followed by a dialogue:</p> <ul style="list-style-type: none"> <li>- Ms Pati Poblete, Global Footprint Network</li> <li>- Mr Andrea Bassi, KnowlEdge Srl</li> <li>- Dr Harald Heubaum, University of London</li> </ul>
12:00 – 13:00	<p>Risk management and business assurance</p> <p>Standards and certificates. Environmental risk integration into sovereign credit analysis. Insurance. Investment agreement templates. Ratings</p>	<p>Presentations followed by a dialogue:</p> <ul style="list-style-type: none"> <li>- Ms Durreen Shahnaz, Impact Investment Exchange (IIX) and Shujog</li> <li>- Mr. Ivo Mulder, (UNEP-FI)</li> </ul>
13:00 – 14:00	LUNCH	
14:00 – 14:30	Workshop evaluation and feedback from participants	All participants involved
14:30 – 15:00	Closing remarks	<ul style="list-style-type: none"> <li>- UNDP/UNEP</li> <li>- WWF-Greater Mekong</li> <li>- OSLO Consortium</li> </ul>
15:00 – 18:00	Market place	All participants involved

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## Participant List

	Name	Title	Institution	Country
Mr	Adnan Quereshi	Senior Administrative Officer	FAO Regional Office for Asia and the Pacific	Thailand
Dr	Andrea M. Bassi	Founder and CEO	KnowlEdge Srl	Thailand
Mr	Andrew McConville	Head of Corporate Affairs APAC	Syngenta	Singapore
Ms	Anna Brown	Associate Director	Rockefeller Foundation, Thailand	Thailand
Mr	Anujit Vansarochana	Lecturer	Naresuan University	Thailand
Ms	Anupit Supnithadnaporn	Plan and Policy Analyst	Office of the National Economic and Social Development Board	Thailand
Mr	Anusorn Chantanaroj	Deputy Director General of Land Development Department	Ministry of Agriculture and Cooperatives	Thailand
Mr	Aye Thiha	Director	Royal Tree Service	Myanmar
Mr	Barry Flaming	Regional Biodiversity Conservation Advisor	USAID Regional Development Mission for Asia	Thailand
Mr	Ben Vickers	Regional Programme Officer, UN-REDD	Food and Agriculture Organisation (FAO)	Thailand
Mr	Bernhard Mohns	Senior Program Officer	RECOFTC	
Ms	Bopha Seng		Asian Development Bank	Thailand
Mr	Bouaphanh Phanthavong	Deputy Director, Department of Forest Resources Management	Ministry of Natural Resources and Environment	Lao PDR
Mr	Bradford Philips	Regional Climate Change Adaptation Advisor	USAID	Thailand
Ms	Bui Hoa Binh	National Project Coordinator, Asian Development Bank Biodiversity Conservation Corridors Project	Ministry of Natural Resources and Environment	Vietnam
Ms	Camilla Nordheim Larsen	Programme Coordinator, Asia and Pacific	Global Mechanism	Italy
Ms	Chantana Kijkarnnont	Assistant Director	Thai Carbon Fund	Thailand
Ms	Chaveewan Pattanapong	Plan and Policy Analyst	Ministry of Agriculture and Cooperatives	Thailand
Mr	Chen Lulin	Project Supervisor	Yunnan Shenyu New Energy Company	China
Mr	Chheng Vibolrith	Deputy Director of Department of International Cooperation	Forestry Administration, Ministry of Agriculture, Forestry and Fisheries	Cambodia
Ms	Chondet Nanchira	Project Co-ordinator	Tesco Ltd.	Thailand
Ms	Christina Wollesen		Global Mechanism	Canada
Ms	Claudia Ortiz	Regional Technical Specialist	UNDP Asia-Pacific Regional Center	Thailand
Ms	Crishna-Morgado Naeeda	Carbon Footprint Specialist	Asian Development Bank	Thailand
Mr	Dachyosdee Utai		WWF- GMS	Thailand
Mr	David Morgado	Project Manager	International Institute for Energy Conservation (IIEC)	Thailand
Mr	Do Dang Teo	Biodiversity Landscapes and Livelihoods Coordinator	Environment Operations Center	
Mr	Duncan McLeod	Outreach and Communications Specialist	Asian Development Bank	Thailand
Mr	Duong Hung Cuong		Ministry of Planning and Investment of Vietnam	Vietnam
Ms	Durreen Shahnaz	Founder and Chairwoman of IIX and Founder and Managing Director of Shujog	Impact Investment Exchange (IIX)	Singapore
Mr	Erik Svedahl	Minister Counsellor and Deputy Head of Mission	Norwegian Embassy	Thailand
Mr	Fabian Noeske	Technical Advisor ForInfo Project: information for market access in community-based enterprises	RECOFTC	
Mr	Francis Cheong	Senior Manager, Operations, Regional Sustainability	Nokia	Singapore
Mr	Geoffrey Blate		WWF Thailand	Thailand
Ms	Georginia Nepomuceno	GMS Program Coordination Specialist	Asian Development Bank	
Mr	Ghai Niraj Mohinder	Country Head and General Manager	OUTSPAN BOLOVENS LTD	Lao PDR
Ms	Gou Ping	Managing Director	Yunnan Shenyu New Energy Company	China
Dr	Harald Heubaum	Lecturer (Assistant Professor) in Global Energy & Climate Policy	Centre for International Studies and Diplomacy, SOAS, University of London	UK
Mr	Hauke Broecker	Associate Advisor	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)	Philippines

Mr	Heaune Chanphana	Head of Planning and Administration-Pollution Control Dep.	Ministry of Natural Resources and Environment	Lao PDR
Dr	Herminia A. Francisco	Director	Economy and Environment Program for Southeast Asia (EEPSEA)	Philippines
Ms	Hitomi Rankine	Environmental Affairs Officer, Environment and Development Division	United Nations Economic and Social Commission for Asia and the Pacific	Thailand
Mr	Ho Manh Tuong,	Staff of VNFOREST	VNFOREST	Thailand
Ms	Hongxia Li	Finance Department	Hunan Weiming Chuanglin Bio-energy Co., Ltd	China
Mr	Ilari Sohlo	Advisor, Sustainable Land Management and Climate Change Financing	Global Mechanism	Lao PDR
Ms	Inpeng Samuntee	President	Pakxong Development Export-Import Co.,LTD	Lao PDR
Mr	Ivo Mulder	Programme Officer	UNEP-FI	Switzerland
Mr	Javed Mir	Director, Environment, Natural Resources and Agriculture Division	Asian Development Bank	Philippines
Dr	Jeffrey Weber	Team Leader, Asian Development Bank Biodiversity Conservation Corridors Project, Lao PDR and Cambodia	Asian Development Bank	
Ms	Jillian Dyszynski	Regional Technical Coordinator	ADAPT Asia Pacific	
Mr	Joel Scriven		Food and Agriculture Organisation (FAO)	Thailand
Mr	John Bruce Wells	Chief of Party of the LEAD Program & Head of the Secretariat of the Asia LEDS Partnership	LEADS	Thailand
Mr	John Soussan		Independent	Thailand
Mr	Ju Hern Kim	Project Coordinator	Global Green Growth Institute (GGGI)	Thailand
Ms	Juan Xue	General manager assistant & Director of financial department	Hunan Weiming Chuanglin Bio-energy Co., Ltd	China
Mr	Justin Foster	Project Director TREEMAPS	WWF	
Dr	Kamolsiripichaiporn Somporn	Executive Board member	International Chamber of Commerce Thailand	Thailand
Mr	Kampanart Piyathamrongchai	Lecturer	Naresuan University	Thailand
Ms	Kashmira Kakati	Dawna-Tenasserim Landscape Manager	WWF-Thailand	Thailand
Ms	Katie White	Princeton-In-Asia Fellow	WWF Greater Mekong	
Ms	Katie Yates	Hub Assistant for East & Southeast Asia Regional Environment, Science, Technology and Health Office	U.S. Embassy Thailand	Thailand
Mr	Khounsamay Silapheth	Officer of Technical Support Division	Ministry of Natural Resources and Environment	Lao PDR
Mr	Khun Bunnath	Deputy Team Leader	Biodiversity Conservation Corridors Cambodia (Asian Development Bank / LCG / MTT)	Cambodia
Mr	Kihyun Kim	Programme Officer	UNCCD Asia-Pacific Regional Coordination Unit	Thailand
Ms	Kim Thi Thuy Ngoc	Head, International Cooperation Division	ISPONRE	Vietnam
Ms	Kittisompun Bongkoch	Director of Review and Monitoring Office	THAILAND GREENHOUSE GAS MANAGEMENT ORGANIZATION	Thailand
Ms	Kumdoung Monnapat	Business Development Officer	Biodiversity-Based Economy Development Office (PO)	Thailand
Mr	Surachai Koomsin	Senior Policy and Planning Analyst	Office of the National Economic and Social Development Board	Thailand
Dr	Lalita Rammont	Program Manager, Water Program, Asia	IUCN	Thailand
Mr	Lathanongsay Chansomphou	Translator	GMS-Biodiversity Conservation Corridor Project, Lao PDR.	LAO PDR
Ms	Lei Zhang	Finance Department	Hunan Weiming Chuanglin Bio-energy Co., Ltd	China
Ms	Lindsay Stringer	Director, Sustainability Research Institute, University of Leeds	University of Leeds / OSLO consortium	UK
Mr	Lingbo Li	General manager assistant	Hunan Weiming Chuanglin Bio-energy Co., Ltd	China
Mr	Lothar Linde	Geographic Information System Specialist	Asian Development Bank, GMS Environment Operations Center	Thailand
Dr	Louise Gallagher	Technical Advisor, Green Economy	WWF-Greater Mekong	Cambodia
Dr	Lucy Emerton	Finance Director	Environment Management Group	Sri Lanka
Dr	Luke Brander	Consultant	Environmental Economics	China
Mr	Mai Thanh Chung	Aquaculture Program Officer	Viet Nam Fisheries Society (VINAFIS)	Vietnam
Ms	Maja Forslind	Second Secretary, Programme manager - Private Sector Collaboration	Embassy of Sweden	Thailand
Mr	Manopawitr Petch	Program Manager	WWF- GMS	

Ms	Maureen Jolentino	Office of the Presidential Advisor for Environmental Protection	Office of the President of the Philippines	Philippines
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Mr	Mika Korkeakoski	Junior Programme Officer	Poverty Environment Initiative - UNEP	Thailand
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	Nakorn Amornwatpong		WWF Thailand	Thailand
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Dr	Nguyen Thang	Deputy Director General	ISPONRE	Vietnam
Ms	Nguyen Xuan Thao	Deputy Director General, Debt Management and External Finance Department	Ministry of Finance	Vietnam
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Dr	Orapan Srisawalak	Senior Economist	Economy and Environment Program for Southeast Asia (EEPSEA)	Thailand
Mr	Orestes Anastasia	Senior Regional Climate Change Advisor	USAID Regional Development Mission for Asia	Thailand
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Mr	Paul Hartman	Chief of party	Mekong ARCC Project	Thailand
Mr	Paul Steel	Co-manager, the regional PEI Asia programme	Poverty Environment Initiative	Thailand
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Mr	Phayvanh Saithoummy	Natural resource and Environment of Bolikhamxay Province	Ministry of Natural Resources and Environment	Lao PDR
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Mr	Rajeev Gupta	Vice-President	BASIX Social Enterprise Group	India
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Ms	Resanond Armornwan	Deputy Chief of Party	LEADS	Thailand
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Ms	Sandra Khananusit	Regional Technical Officer, USAID Contractor	LEADS	Thailand



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Mr	Sengtaeuanghoung Oloth	Deputy director of Agricultural Land Use Planning Centre	MAF	Lao PDR
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Ms	Siv Oystese	Coordinator, Economic Instruments and Innovative Finance	Global Mechanism	Italy
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Ms	Susan Roxas	Director for Marketing and Corporate Relations	WWF Greater Mekong	Thailand
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Mr	Thibodee Harnprasert	Chairman of LTM'S Project and Executive Committee of The Institute of Industrial Energy, FTI	The Institute of Industrial Energy, The Federation of Thai Industries (FTI)	Thailand
Mr	Thomas Gray	Interim Manager for Species, Protected Areas, and Wildlife Trade	WWF- GMS	
Ms	Thornsirikul Mingkwan	Environmental, Senior Professional Level	Office of Natural Resources and Environmental Policy and Planning, Ministry of natural Resources and environment	Thailand
Mr	Tony Cheng		Independent journalist	Thailand
Ms	Ulrika Åkesson	First Secretary, Senior Programme Manager - Environment and Climate Change, SIDA	SIDA	Thailand
Mr	Ung Sam Ath	Deputy Director General of Forestry Administration	Forestry Administration, Ministry of Agriculture, Forestry and Fisheries	Cambodia
Mr	Vitoon R. Panyakul	Director of Organic Agriculture Programme	Earth Net	Lao PDR
Mr	Voun Vannarith	Director of Finance and Administration Department of General Secretariat for Green Growth, National Council of Green Growth	Ministry of Environment	Cambodia
Mr	Wandee Kanapoj	Director of Water Allocation Division	Department of Water Resources, Ministry of Natural Resources and Environment	Thailand
Mr	Xiang Zeng	General Manager	Hunan Weiming Chuanglin Bio-energy Co., Ltd	China
Mr	Zhou Rui	International Department	Ministry of Finance	China