



Drafted and Distributed on 20 March 2014 (18:00)
Discussed and Finalized on 21 March 2014*

OUTCOME DOCUMENT

17th ASEAN CONFERENCE ON CIVIL SERVICE MATTERS (ACCSM)
SEMINAR ON GREEN PRODUCTIVITY IMPROVEMENT
DEVELOPING GREEN ECONOMY AND IMPROVING GREEN PRODUCTIVITY

ORGANIZED BY

UNION CIVIL SERVICE BOARD,
WITH SUPPORT OF UNITED NATIONS DEVELOPMENT PROGRAMME (UNDP)

AT CENTRAL INSTITUTE OF CIVIL SERVICE (UPPER MYANMAR)
PYIN OO LWIN
17 TO 21 MARCH 2014.

1. INTRODUCTION

- Brief Background on Seminar

Green Productivity and the transition to a Green Economy present both major opportunities and challenges for the ASEAN region. The ASEAN region is well endowed with natural resources, but is facing threats to the sustainability of these resources which is affecting the region's economic growth, its poverty reduction efforts and long-term prosperity. Much work has been done but even more work is necessary to satisfactorily address national, regional and global environmental challenges. In this regard, cooperation activities today will go a long way towards creating a more sustainable and green future for the people in ASEAN.

This seminar on Green Productivity Improvement is one of the nine pilot projects proposed by the 16th ACCSM at the Preparatory Meeting held in Langkawi, Malaysia on 11-12 April, 2011. Myanmar agreed to host this seminar during the chairmanship of the 17th ACCSM. Those projects were adopted at the first ASEAN+3 Heads of Civil Service Meeting in Putrajaya, Malaysia on 4 October, 2012.

- Objective

It is of crucial importance to raise capacity in the ASEAN region in order to ensure the full participation of private sector, civil societies, local communities and all relevant stakeholders for the improvement of the green economy and green productivity. This seminar is to improve this awareness and capacity for the successful implementation of green economy and geared towards awareness and capacity building for successful implementation of green economy and improvement of green productivity towards sustainable development in the ASEAN Region.

2. SUMMARY HIGHLIGHTS OF SEMINAR

The Seminar was opened by H.E. U Kyaw Thu, Chairman of the Union Civil Service Board and participated by H.E. U Htay Aung, Union Minister of Ministry of Hotel and Tourism. Keynote Speeches by Deputy Minister H. E. Dr. Daw Thet Thet Zin, Mr. ToilyKurbanov, UNDP (Myanmar) Country Director and U Nay Htun, GEGG Myanmar (Not for profit) Association. The Seminar was Chaired by U WaiMyint , Director General , Civil Service Selection and Training Department, Union Civil Service Board with facilitation by U KyawKyawHlaing, Chairman and CEO SMART Group Company, Member , GEGG Myanmar (Not for profit) Association .

The Seminar was attended by 34 participants. Delegates from (7) ASEAN Countries, ASEAN Secretariat and Myanmar Ministries of Environmental Conservation and Forestry; Agriculture and Irrigation; Hotel and Tourism. Observers from UNDP, UNEP, UN-HABITAT (Myanmar Climate Change Alliance); Asian Disaster Preparedness Centre-Bangkok; Chulabhorn Research Institute, Bangkok, Smithsonian Institution, World Wildlife Fund-US, Cornell University, George Washington University, GEGG Myanmar (not for profit) Association.

There were (18) presentations; (3) working groups sessions convened (4) times; and 3 discussion sessions.

To strengthen and accelerate Green Productivity Improvement for developing green Economy and improving Green Growth, principles, guidelines, and actions are needed to provide the vision, direction, methodologies, tools.

The Highlights from presentations, sessions and discussions are:

2.1 Principles, Guidelines, Enabling Mechanisms for Sustainable, Resilient, Inclusive Management of Natural Resources to promote Green Productivity Improvement

2.1.1 Principles A large body of principles for sustainable management of Natural Resources, Environment, Sustainable Development are available from major international and intergovernmental conferences. For example, 1972 Stockholm UN Conference on Human Environment; 1992 RIO Earth Summit, UN Conference on Environment and Development, 2000 Millennium Development Goals Conference; 2002 Johannesburg Conference on Sustainable Development; 2012 RIO +20 Conference on Sustainable Development, UN-FCC, 2009 ASEAN Declaration on Environment, 2002 Yangon Declaration on Sustainable Development.

Some of the major principles agreed and adopted at these Forums include :

- ✓ Stockholm Principle 2: “The natural resources of the earth, including the air, water, land, flora and fauna and especially representative samples of natural ecosystems, must be safeguarded for the benefit of present and future generations through careful planning or management, as appropriate.”
- ✓ Stockholm Principle 3: “The capacity of the earth to produce vital renewable resources must be maintained and, wherever practicable, restored or improved.”
- ✓ RIO Principle 3: “The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.”
- ✓ RIO Principle 25: “Peace, Development and Environmental Protection are interdependent and indivisible.”

2.1.2 Guidelines are good practices for Green Productivity Improvement towards Green Economy Green Growth.

The many internationally and regionally adopted Plans of Actions, Platforms, etc. provide good examples. These could be clustered into:

- ✓ Enhancing and increasing education and awareness of interconnectedness of sustainable social and economic development and environmental and strengthening the capacity of the sectoral bodies on sustainable natural resource management.
- ✓ Developing tools and methodologies for integrating, economic, social and environmental pillars, and applying environmental impact assessments on extractive operations.
- ✓ Increasing awareness of governmental and non-governmental professionals, the general public, and private companies of the importance of social, economic, and environmental issues for sustainable, inclusive development through formal and informal education, traditional and social media outlets.
- ✓ Strengthening capacity for local governments, as well as economic, planning, and environmental ministries through information sharing, knowledge exchange, and training. Encourage collaboration to produce one vision taking a multi-ministerial approach to implementing green productivity and sustainable natural resource management and to create technical working groups across ministries to develop recommendations for all parties.
- ✓ Respecting traditional knowledge for natural resource management at the same time, inject new technology to improve management practices and outputs.
- ✓ Improving communication across government and non-government sectors, among policy makers and between policy makers and the general public.

2.1.3 Enabling Mechanisms Identify knowledge gaps, priorities, linkages, coordination needs, ACTIONS, include:

- ✓ Develop tools and strategies for increasing public awareness, education, and training, for example public awareness campaigns, participatory activities such as games, traditional and social media, and greening curriculum in national schools across ASEAN as a new educational component on green issues, built into existing school programmes.

- ✓ Strengthen collection of baseline and monitoring data, making it accessible and transparent to a range of stakeholders and adopt standardized methods and benchmarks of evaluating progress.
- ✓ Additional actions are in Section 3 Recommendation.

2.2 Transition to an inclusive green economy

Inclusive, green economy is the intersection of social development, economic growth and environmental sustainability. Its objective is to reduce poverty and inequality, and instill sustainable inclusive growth. However, five building blocks have been identified:

- ✓ National and sectoral policies include green economy objectives in plans & budgets: Economic policies on subsidy and environmental fiscal reforms, and social policies on resilience and improved ecosystems.
- ✓ Local rights and capacities are upheld with secure tenure rights to land and natural resources, and access to information, participation and justice, for communities and marginalized groups.
- ✓ Inclusive green markets: Companies, government and NGOs promote access by producers to sustainable supply chains, and consumers have incentives to demand them.
- ✓ Harmonised international policy and support: G20 countries aim for policy coherence to support green economy and development agencies provide harmonized support to country-led strategies.
- ✓ New metrics or holistic measures are developed by governments to calculate “well-being” with green economy targets and indicators, while the international community supports implementing the Sustainable Development Goals and Environmental-Economic Accounts.

2.3 Sustainable utilization of wood for green growth

The Myanmar Forest Policy of 1995 states that there are 6 imperatives for managing forests – protection of soil, water, wildlife, biodiversity and environment; sustainable use for present and future; meeting basic needs of people, efficient and social-environmentally friendly techniques; participation of people in conservation and utilization of forests and improving awareness of the role of forests in health and economic well-being of the nation. Within the Ministry of Environmental Conservation and Forestry the Forest Department and the Myanmar Timber Enterprise share implementation responsibilities. Challenges to management included fuel wood pressures, agricultural expansion, mining, hydroelectric

development, and urbanization, lack of technology, skilled labor, infrastructure, monitoring and enforcement. The current Forestry Master Plan calls for lower timber quotas and a ban on raw timber export by 2014. These policies should help with job creation while reducing deforestation.

There is a need to:

- ✓ Revise and implement regulations and best practices, enact new laws as needed and increase enforcement of existing laws to support sustainability of Myanmar's forests and reduce illegal logging.
- ✓ Build capacity for management, enforcement, and sustainable practices.

2.4 Environmental legislation related to green productivity in Myanmar

In the context of Global Environmental issue and trends including Green Productivity, Trade and Environment and Myanmar Agenda 21 a body of Environmental policy, strategies and Environmental Conservation laws have emerged including for example: The Myanmar Foreign Investment Law and Rules; Administrative; Forestry; Agriculture and Irrigation; Livestock and Fisheries; Mining; Health; Industry; Hotel and Tourism; Transportation; Culture; City Development; Sectors.

The Environmental Legislation related Green Productivity Improvement in Myanmar include Environmental Conservation Law; Rules; Myanmar Foreign Investment Law relating to Environmental Pollution Prevention.

2.5 Strengthening sustainable forest management for green productivity improvement in Myanmar

Climate Change is considered to have one of the most important impacts on sustainable forest management. The ASEAN Declaration of Environment, Singapore Declaration on Climate Change, Energy and Environment provide important policy framework for the sustainable forestry management. The Principles of the REDD + Five Activities eligible in developing countries are important sources for funding and compensation for verified reduction of deforestation and degradation or a verified increased of forest carving stock. However, REDD+ Guidance is still been developed. Sustainable forest management in Myanmar includes Forest Policy and Legal Aspects; Natural Forest Management (Myanmar Selection System – MSS); Selected Filling System; Reforestation; Degraded Forest; Community Forestry; Biodiversity and Environmental Conservation; Water Conservation; Mangrove Forest Conservation and Restoration.

2.6 Dry zone greening movements toward sustainable green productivity improvement in Myanmar

The problems and impacts of Degradation of Forest, Soil and Water and related Socio Economic problem in Dry Zone of Central Myanmar established the Dry Zone Greening Department (DZGD) have been recognized by the Government by taking actions since 1953 to establish the Agricultural and Rural Development Cooperation (ARDC); the Forest Department assuming the responsibility of the ARDC in 1963; establishing Nine District Greening Project and establishing the Dry Zone Greening Department (DZGD) in 1997. The Four Main Tasks of the DZGD are: Establishment of Forest Plantations, Protection of Remaining Natural Forests, Promotion on Utilization of Fuel-wood Substitutes, Water Resources Management. The 30 year Comprehensive Master Plan 2001-2002 to 2030-2031 targets for:

- ✓ Establishment of Forest Plantation 0.425 Million ha;
- ✓ Protection of Remaining Natural Forest 0.28 Million ha;
- ✓ Utilization of Fuel Substitute Efficient Stove 900, 000 units, Briquette 1.35 Million units, Utilization of Agricultural residue 450, 000 tons;
- ✓ Water Resource Development, Construction of Pond 2100 Unit; check-dam 4300 units; Sinking of Tube-well 150;
- ✓ Five year short term plans and annual plans are formulated and implemented.

2.7 Integrated water resource management in dry zone of Myanmar

Ministry of Agriculture and Livestock have Six Strategies for obtaining sufficient water for cultivation:

- ✓ Construction of new dams and reservoirs;
- ✓ Proper management for the storage and utilization of run-off watershed areas;
- ✓ Renovation of existing reservoirs for increasing storage capacity and efficient supply of irrigation water;
- ✓ Diversion and storage of water from river and streams during high water levels into adjacent ponds or depressions for storage with sluice gates;
- ✓ Provision of water from rivers and streams through pump-lift irrigation;
- ✓ Efficient utilization of ground water resources.

For the effective use of Integrated Water Resources Management (IWRM), gravity-fed irrigation will be supplied from reservoir, Spate Irrigation from weir, and Pump

Irrigation from Docketawaddy River and mini hydropower (5KW) from irrigation drop structures.

The project have resulted in the rain-fed crops production increase of 2.0 % ton per ha of cotton; 1.55% increase for paddy; 43.67% increase in crop intensity and Food Sufficiency increase 70.92%.

2.8 Integrating green productivity into sectors - Examples of ecotourism in Myanmar

Tourism is identified as one of the seven priority sectors in Myanmar. The country is a traditionally known Cultural destination, and is emerging tourist destination with significant growth.

The objective of the tourism sector is to; open up more income, enhance contribution to overall economy and poverty reduction, promote a systematic development of the sector and develop opportunity for the wider participation of the public, private and people in the industry.

The IVA to Myanmar increase from 1.06 million in 2012 to 2.05 million in 2013, a 93% growth. Similarly, during the same period, revenue increased from US\$ 534 million to US\$ 926 million.

Myanmar has formulated:

- ✓ Myanmar Responsible Tourism Policy
- ✓ Myanmar Tourism Master Plan (2013-2020)
- ✓ Policy for Community Involvement in Tourism.

“Let the journey begin” is a phrase use to promote tourism and a programme of awareness raising, and Dos and Don'ts for tourists has been launched.

There are 19 ecotourism sites in Myanmar. In 2013, ecotourism arrival was estimated to be 169, 551. Ecotourism is recognized as a mean of achieving both conservation and development goals in Myanmar. There is increased recognition among industries and government that ecotourism can only be sustain in the long term if probably managed.

The ASEAN Ecotourism Strategy Plans Study is being formulated for the Fourth Meeting of ASEAN Tourism PDWG Nature-based Tourism.

2.9 Climate Change impacts on natural resources

Based on known patterns and current predictions, key natural resource sectors are expected to be affected by climate change:

- ✓ Water: Oceans will likely become more acidic, freshwater availability may fluctuate (melting of glaciers), and changing climate conditions will cause change in runoff patterns.
- ✓ Agriculture and food security: Drought affected areas will become more widely distributed, temperature increases and drought and flood frequency will likely negatively affect crop production, so that subsequently increased numbers of people will be at risk from hunger, with greater displacement and migration.
- ✓ Ecosystems: Overall degradation could include changes in disease patterns with increases in pests, habitat changes affecting plant and animal species, degraded watersheds causing knock-on impacts.

2.10 Climate change Risks reduction, Disaster Preparedness, Mitigation, Adaptation for green economy

Climate change is unavoidable: global temperatures have risen unusually rapidly, and the sea level is rising. The global effects of climate change affect Asian countries in several distinct ways:

- ✓ Adequate fresh water availability will concern more than one billion people by the 2050s.
- ✓ Continued melting of Himalayan region glaciers is projected to increase flooding and rock avalanches, adversely affecting water resources in the next two to three decades.
- ✓ Coastal areas, especially heavily populated delta regions, will be prone to increased flooding.
- ✓ Sustainable development will be challenged.

Climate change affects disaster risks in two ways: 1) increase in weather and climate hazards; 2) increased vulnerability of communities to natural hazards. Between 1992-2012 more intense and frequent climate-related disasters globally have affected 4.4 billion people, damaged US\$ 2.0 trillion worth of properties, and killed 1.3 million people. Addressing climate change broadly involves a) adaptation, b) mitigation and c) pursuing green growth. Climate change adaptation and disaster risk reduction practices are closely linked and have many commonalities, with a variety of known good practices and strategies which can be adopted.

2.11 Environmental health and green productivity improvement

Human Health and well-being are critical important determinants for improving human productivity. Furthermore pollutants and pollution particularly toxic chemical and hazardous wastes way not only effect human health and wellbeing but also have significant impacts on air, soil , water, oceans, forests and ecosystem functioning. Infectious diseases exacerbated by climate change were also highlighted. The SAICM procedure for managing chemicals; the Stockholm Convention on Persistent Organic Pollutants (POPs); the Rotterdam Convention’s two provisions for Information Exchange and Prior Inform Consent (PIC) procedure; the EU Registration, Evaluation, Authorization of Chemicals (REACH); the Base Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal recommended for attention, implementation and enforcement.

2.12 Government institutions and systems for managing environment, climate and natural resources

Government institutions can address market “failures” related to protecting public goods, such as clean air and water, and minimizing externalities such as pollution, though interventions such as creating markets or introducing taxes and charges. Yet governments also face “failures” when policies promote environmental damage through a lack of: pro-poor focus, policy coherence, implementation and leadership and coordination. Due to their focus on elections, governments also face the challenge of short-termism. These failures require public sector reform. ASEAN cities are currently at the forefront of green economy, as climate change affects rapid urbanization and sea level rise affects the ASEAN +3 cities located along coast lines. There is a need for informed migration, promotion of remittances and transfer payments to rural populations, and capitalization on opportunities for cities to lead the low carbon revolution. At the same time, the free-rider problem of incentives to cheat in reducing pollution requires regional and global coordination, with sanctions for non-compliance and demonstrable local benefits from not cheating.

2.13 Green fiscal policy

Greening National Accounts: Over 180 ecosystem service valuation studies conducted in ASEAN nations have demonstrated that healthy, natural ecosystems provide direct and indirect goods and services that are economically valuable at local, regional, national and/or global levels. Indeed, it has been shown that such ecosystem values can exceed the financial gains of developing the resource. For

example, a series of studies in Thailand show that the loss in direct (e.g. fuel and wood) and indirect (e.g. fisheries nurseries and coastline protection) ecosystem services associated with intact mangrove forests exceed the financial returns associated with converting these forests to short-lived shrimp farms: i.e. the benefits of conversion do not exceed the costs to society. Nevertheless, standard national income accounting systems only measure the value of output from market-based production activities and do not adequately account for lost ecosystem services and wealth. As such, national income measures like Gross Domestic Product (GDP) increase with ecosystem degrading production activities, which do not pass a social benefit-cost analyses, engendering an incorrect indicator of changes in societal wellbeing. Standard National Savings measures (e.g. Net Savings) also do not account for the depletion or degradation of natural capital such as ecosystems and biodiversity. Alternative measures, called genuine or adjusted net savings have been proposed that to better reflect sustainable development and should be explored for consistent application throughout ASEAN. In cases where the comprehensive development of a green national accounting system should prove to be prohibitively costly, then, at a minimum, consistent indicators of ecosystem services and biodiversity should be used as proxies for ecosystem values, and these indicators should be presented alongside standard income and savings measures, and given appropriate weight, in order to best guide national and regional planning for sustainable development.

Incentives: With taxing authority and expenditure capacity, National governments can greatly influence the path toward achieving sustainable development. More specifically, governments can encourage or discourage activities through taxes and subsidies. Following an opening section focusing on Green Fiscal Policy: Green National Accounts (see separate summary), this presentation provides examples from across the world of: 1) “bad” subsidies; 2) “good” subsidies; 3) “bad” taxes; and 4) “good” taxes. Here the term “good” refers to incentives or disincentives promote desirable environmental or ecological outcomes while “bad” does otherwise.

2.13 .1 Natural Capital Management Tools in ASEAN

The ASEAN region has a rich endowment of highly valued natural capital that forms the foundation of its current and future sustainable economic development. If properly managed, ecosystems yield a flow of services that are vital to humanity,

including the production of goods such as food and timber, life support processes such as providing clean and ample water, protection from storms and flooding, recreational opportunities such as beautiful places to visit, and the preservation of genetic diversity. Despite their importance, ecosystem services are poorly understood, scarcely monitored, and, in many cases, undergoing rapid degradation and depletion. Taking an integrated ecosystem services approach to resource management decision making allows us to estimate how change in the health of ecosystems leads to change in a suite of benefits nature provides to people. We can use this approach to address questions such as: Where are the critical areas we need to protect to ensure delivery of benefits to people? How can we enhance resilience of communities to climate change? What are the issues/aspirations that we need to address over the long term and how shall we resolve/achieve them? Various decision support tools are now available to help resource managers and other stakeholders at all levels understand their options and make wise choices. InVEST, “Integrated valuation of environmental services and tradeoffs”, created by Stanford University, University of Minnesota, WWF and The Nature Conservancy, is one such tool. InVEST is a suite of software models used to map and value the goods and services from nature that sustain and fulfill human life. InVEST enables decision makers to assess quantified tradeoffs associated with alternative management choices and to identify areas where investment in natural capital can enhance human development and conservation. ‘Systems Dynamics’ tools, such as ‘T 21’ are customized integrated planning tools that use models to test different interventions on paper before they are applied in reality – providing detailed scenarios that illustrate consequences and opportunities and thus enable more informed decisions. These tools allow decision makers to understand how proposed policies in one sector would affect the whole system. Working collaboratively, they can make the best decisions on combinations and sequencing of policies to attain stated goals and maintain the progress over time.

2.14 Green Productivity through green purchasing and procurement

The Asia Pacific region has experienced unparalleled economic and social development, with dramatic increases in economic activity. Current economic growth across the region has put significant pressure on the environment and natural resources, and cannot be sustained with current consumption and production patterns. UNEP works to promote resource efficiency and sustainable consumption and production (SCP) to reduce the environmental impact of our economic activities while still striving to eradicate poverty and achieve the MDGs. SCP is about meeting people's needs and improving quality of life while using less resources and producing less waste and pollution. This is also referred to as

decoupling. A life cycle perspective helps reduce the environmental and social costs of goods and services at every stage of production and consumption, such as extraction, manufacturing, distribution and disposal. This will require producers to change design, production, processes and marketing activities, and require consumers to change their purchasing patterns.

A wide range of policy tools are available to governments to influence consumption and production patterns, including regulatory, economic, information and educational and voluntary agreement as policy instruments. The combined use of these tools can enhance their effectiveness. It is important for governments to harness high level political support for SCP, engaging with and establishing partnerships with businesses and civil society organisations at the onset of SCP policy development and presenting a coherent and consistent message on its commitment SCP across sectors and to all stakeholders.

Sustainable public procurement (SPP) offers a starting point for governments in Asia to influence consumption and production patterns. As procurement of goods and services by the public sector contribute to a large proportion of GDP in countries in Asia, SPP is an important tool to stimulate the supply side to produce sustainable products and services and to influence large percentage of consumption. Government leadership in SPP can serve as a demonstration of political will to SCP and act as a model for institutional purchasing by the private sector and as incentive to innovation. To support SPP, development of eco-labels and environment and social standards for goods and services is important to guide government's consumption. Government leadership towards sustainable consumption pattern can incentivize market actors such as businesses to produce goods and services that meet environment and social standards, and stimulate economies of scale that encourage individual consumers to purchase sustainable goods and services.

2.15 Ecotourism Input to Green Productivity

Ecotourism can play a meaningful role in providing enabling mechanisms for green productivity in ASEAN. It has numerous benefits that are consistent with the need for preserving natural resources and protecting the environment, such as: conservation of biodiversity; education for communities about resource protection; capacity building for protected area managers, ecotourism employees, and local communities; economic development around green business; and, market demand for sustainable products and services.

Tourism is a fast growing industry in ASEAN and provides close to 9% of all employment in the region. There will be increasing demand for tourist venues and services. At the same time, resources are being depleted and biodiversity is under threat. Ecotourism provides a great opportunity to protect natural resources while at the same time providing much needed employment opportunities and economic development.

2.16 GIS, Remote Sensing and GeoSpatial Tools for Natural Resource Management

Geospatial technologies such as Geographic Information Systems (GIS) and remote sensing analysis provide powerful tools for analyzing and monitoring changes in the environment and managing natural resources at local and landscape scale. GIS provides a means of layering any number of natural resource data sets in ways that allow analysts to detect features and patterns in the landscape that would not be possible when assessing data sets individually. Remote sensing analysis of satellite images allows us to create new data about the earth's surface such as land cover, habitat, vegetation, carbon, temperature, sea level, and to assess how these are changing through time. Spatial analysis can be invaluable for planning and decision making for areas including land use, carbon mitigation, poverty alleviation, green infrastructure, protected areas and ecosystems, disaster preparedness, and climate change adaptation. Geospatial data gives common language to multiple stakeholders with varying objectives, provides visualization of quantitative data, and increases transparency in decision making.

2.17 Biodiversity Monitoring and Assessment Program (BMAP)

Protected areas exist in a landscape mosaic consisting of human settlements, infrastructure development (roads, utilities etc.), agriculture and other land uses. Because human-driven activities occurring outside of protected areas can be more important than what occurs within them, flexible, science-based biodiversity and assessment tools are required to understand interrelationships across complex landscapes. The Biodiversity Monitoring and Assessment Program (BMAP) provides reliable, accessible and understandable data about natural resources and biodiversity at different spatial scales—from site-based to regional to national and international levels. Additionally, BMAP can be used to support adaptive management approaches that minimize the impacts of megainfrastructure development. Program success relies on cross-sectoral collaboration to improve

environmental performance, minimize impacts on biodiversity, and generate knowledge for decision-making and conservation, strengthening the capacity of private and government sector organizations. BMAP develops site-specific biodiversity action plans that incorporate mitigation strategies in management practices that favor natural resource conservation. BMAP places natural resource and biodiversity experts side-by-side with corporate sector operational personal, government representatives and donor agency personnel, and encourages innovation, leadership, and shared responsibility to work towards ensuring societal value. In summary, BMAP is a flexible biodiversity action planning tool designed for implementation at the site specific to landscape level, to: (1) assess the status, distribution, and abundance of species and habitats of conservation concern; (2) evaluate the potential influences of various land use projects; and (3) provide management recommendations to support protected area management, conservation and mitigation of impacts of mega-infrastructure development projects.

2.18 Smart Green Infrastructure Development

Many of ASEAN's majestic, living natural biodiversity resources are on the brink of being extirpated from habitat loss and fragmentation caused by poorly planned infrastructure development, including transportation, mining and hydropower projects. The public increasingly expects corporate, social, and environmental responsibility while demanding abundant, low-cost energy, and local development opportunities. Excellent opportunities exist to partner with financing agencies, governments, corporate sectors, and communities to ensure the development of Smart Green Infrastructure (SGI) approaches that are natural resource and biodiversity-friendly. A range of regulatory and fiscal policies and tax incentive programs, corridor planning and permitting programs, payments for ecosystem services, and other schemes can be deployed to encourage SGI development. Key principles of SGI include avoidance of key biodiversity areas (KBAs), critical conservation landscapes, and corridors, with simple avoidance almost always being the best and least expensive means available to governments to sustain biodiversity in the face of new development. Policy paradigms should include inviolate "no go" development zones for the most environmentally sensitive sites, and the importance of transboundary cooperation in developing standardized development policies cannot be overstated. Successful SGI requires that Strategic Environmental Assessments (SEAs) are explicitly biodiversity-inclusive, and depends

on stakeholder engagement and cross-sectoral environmental management systems. Biodiversity planning should flow throughout the lifecycle of infrastructure programs, and incorporate principles such as minimizing development-related road construction, employee settlements, and developing systematic biodiversity education and enforcement policies for employees, especially with respect to poaching. In summary, SGI necessitates biodiversity-inclusive engineering, design and construction practices, as well as community engagement and biodiversity monitoring and assessment throughout the project lifecycle to minimize ecological impacts and the loss of biodiversity.

2.19 Biodiversity data repositories—an encyclopedia of ASEAN life

The Encyclopedia of Life (EOL, eol.org)—EOL is a worldwide effort to gather scientific knowledge about all living things into a free, curated, digital resource. Now in its sixth year of operations, EOL encompasses information on 1.37 million species, with over six million data objects from 259 content partners. EOL has the capacity to leverage its extensive technology and content infrastructure to create a curated subset of EOL information focused on species of particular interest to ASEAN country governments, decision makers and citizens alike. A comprehensive biodiversity database and web portal for critical sites, ecosystems, landscapes, physical and genetic collections (e.g., information where/when they were collected and where they are stored), species traits and interaction data, articles, photos and multimedia. EOL will provide transparent, immediate access to data generated by the teams working on natural resource and biodiversity conservation projects in ASEAN priority areas. The portal can be used to share databases, methodologies and approaches that are currently being used by stakeholders and decision makers, and to establish uniform data acquisition criteria that will support inter-operability of databases to enhance web-based approaches to answering critical questions about natural resource status and management. EOL can assist colleagues and partner organizations in developing critical baseline data across all sectors of government and civil society to assist in developing more effective and sustainable land management plans and policies, monitor land use and increase transparency.

2.20 Building institutional and individual capacity to manage, use and sustain biodiversity

Training a regional, transdisciplinary workforce competent in the areas of natural resources and biodiversity, and then linking these practitioners through ongoing

mentoring and a community of practice, is key to building the capacity needed to sustain biodiversity and functioning ecosystems within ASEAN. National- and regional-scale training hubs can form the foundation of a distributed alliance designed to foster sustained, long-term communication, collaboration, knowledge and resource sharing, and mentoring within and by a community of conservation practitioners. This functioning egalitarian network will form the intellectual foundation of an ASEAN Community of Practice (CoP)—with both real and virtual components—that will focus the best minds and talent on solving pressing issues of conserving habitats and ecosystems. A successful strategy depends on the establishment and maintenance of first-person relationships and mentoring as the principal means of building conservation leadership. Ultimately, the program would identify the best and brightest future leaders, connect them with experienced mentors, and sustain their career development. Increasing and sharing knowledge—both in person and virtually—across ASEAN will facilitate engagement and participation by a broad cross-section of stakeholders. An ASEAN Community of Practice (CoP) will link trainees with alumni, as well as an international network of partners willing to share their knowledge and experience. E-learning modules adapted to meet the specific needs of our CoP stakeholders will also be made available.

3 RECOMMENDATIONS FOR GREEN PRODUCTIVITY IMPROVEMENT

3.1 Adopt Principles, Guidelines and Enabling Mechanism

3.1.1 Increase awareness of governmental and non-governmental professionals, the general public, and private companies of the importance of social, economic, and environmental issues for sustainable, inclusive development through formal and informal education, traditional and social media outlets.

3.1.2 Strengthen capacity for all levels in government, as well as economic, planning, and environmental bodies through information sharing, knowledge exchange, and training. Encourage collaboration to produce one vision taking a multi-institutional approach to implement green productivity and sustainable natural resource management and to create technical working groups across bodies to develop recommendations for all parties.

3.1.3 Respect traditional knowledge for natural resource management at the same time, inject new technology to improve management practices and outputs.

3.1.4 Improve communication across government and non-government sectors, among policy makers and between policy makers and the general public.

3.1.5 Leadership should encourage people and mandate the State to implement green productivity practices and approaches.

3.2 Implement Biodiversity Monitoring and Assessment Programme (BMAP)

3.2.1 Develop regional ASEAN BMAP standards and protocols that can be applied across the mosaic of land use, as well to support adaptive management approaches that minimize the impacts of mega-infrastructure development.

3.2.2 Undertake capacity building programs to develop core competencies in BMAP practices and protocols.

3.2.3 Integrate BMAP protocols to assist in measuring protected area management effectiveness against objective biodiversity standards, and integrate BMAP throughout the lifecycle of mega-infrastructure development projects (timber, mining, hydropower, agriculture etc.) that may impact critical species and habitats.

3.3 Develop Regional Infrastructure and Capacity Building

3.3.1 Develop a regional “green infrastructure framework” that will contribute to reposition open space protection, conservation and management from a community amenity to a community necessity as part of sustainable development.

3.3.2 Create cross-sectoral training courses for development professionals on best practices for integrating conservation (cultural and biological) into development practice, and apply this training in the context of ongoing or planned mega-development activities (e.g., timber, mining, palm plantations) that may impact critical species and habitats.

3.3.3 Develop and apply environmental impact assessments on extractive operations through the lifetime of the impacts and mitigate through adaptive management.

3.3.4 Engage multi-stakeholders in decision-making and empowering communities through providing information and soliciting their feedback .

3.3.5 Disseminate and promote best practices of green behavior through good housekeeping, reducing unnecessary resource use, reuse of materials, and green technology.

3.3.6 Develop tools and strategies for smart green infrastructure and increase connectivity of natural landscapes.

3.3.7 Provide spatial planning tools to decision makers for improved and integrated planning at all levels using participatory approaches.

3.3.8 Improve communication and knowledge sharing opportunities for adopting green productivity principles and best practices across ASEAN countries.

3.4 Establish Centre of Excellence for Education and Training for Green Economy

3.4.1 Develop a regional level Centres of Excellence with Green Economy as the focus and promote higher learning opportunities through offering specialized degrees in Green Economy at existing environmental institutes throughout ASEAN countries or work to establish these in countries where they do not yet exist.

3.4.2 Establish a pilot regional training Center of Excellence within ASEAN that will lay the groundwork of an ASEAN Community of Practice (CoP)—with both real and virtual components—that will focus the best minds and talent on solving pressing issues of conserving habitats and ecosystems.

3.4.3 Enhance capabilities of all national resource personnel by increased access to geospatial training, tools, hardware and software needed to process satellite imagery, to analyze and to maintain geospatial natural resource data.

3.4.4 Increase accessibility to geospatial data across government, non-government, academy , and private sector to ideally manage in a data sharing platform accessible to all.

3.5 Accelerating Transition to an Inclusive, Green Economy

3.5.1 ASEAN should carefully consider their implementation of the five building blocks for inclusive green economy and plan how to move towards a service economy that sustains the natural resource base, transitioning to human resource development.

3.6 Minimizing Impacts of Climate Change and Disasters on Green Economy Green Growth

3.6.1 Green Productivity policies, tools and practices at the ASEAN and national level should examine and integrate comprehensive climate change adaptation (CCA) and disaster risk reduction (DRR), based on scientific technology and local knowledge to ensure resilience and sustainable development. Nationally, CCA and DRR should be main streaming for development processes and inclusive of budgets, programmed into relevant sector projects period and local institutions should be strengthened to manage these strategies. Mitigation measures could include government policy options of regulation and compliance or voluntary carbon markets.

3.7 Strengthening Institutions at the Central and Local Levels for Green Productivity Improvement

Public sector reforms can address government failures in the following ways:

- ✓ Pro-poor institutions can be strengthened for common property natural resource management.
- ✓ The investment/policy cycle can be screened earlier and reviewed through environmental and climate assessments, for policy coherence to balance competing objectives.
- ✓ Scrutiny can improve implementation of environmental protection, reducing the incentives and potential for illegality and corruption. Certification can be a tool for third party monitoring.
- ✓ Clear leadership can address cross-cutting issues and coordinate different parts of government.
- ✓ A national vision, compensation for short term costs, reforms linked to sudden crises, public advocacy and revising the discount rate calculated for investment projects are all ways to encourage medium and long term planning.
- ✓ Research and development and public-private partnerships are requirements to promote the use of technology.

3.8 Introducing Green Fiscal Policies

3.81 With taxing authority and expenditure capacity, National governments can greatly influence the path toward achieving sustainable development. More specifically, governments can encourage or discourage activities through taxes and subsidies from examples across the world of: i) “bad” subsidies; ii) “good” subsidies; iii) “bad” taxes; and iv) “good” taxes. Here the term “good” refers to incentives or disincentives promote desirable environmental or ecological outcomes while “bad” does otherwise.

3.82 Policy makers and natural resource professionals can apply tools and methodologies that take an integrated ecosystem services approach to resource management decision making, allowing them to estimate how change in the health of ecosystems leads to change in a suite of benefits nature provides to people. Systems dynamics tools allow decision makers to then assess how policies in one area affect the broader system – at a local or even national level.

. 3.9 Support Green Purchasing and Procurement

The ASEAN Sustainable Consumption and Production Forum established in 2011 with the support of UNEP provides a platform for member states to explore opportunities to cooperate on SCP. Two concrete recommendations in preparation of the AEC are (i) to work towards harmonizing ecolabels for goods and services that can be procured by government and (ii) to use the indicators for a Resource Efficient Green Asia that were developed with the involvement of ASEAN countries by UNEP and the Asia Pacific Roundtable on SCP.

3.10 Promoting Ecotourism Investments

3.10.1 Raise awareness and promote Education and capacity building for all sectors and communities around biodiversity and resource protection green activities among investors and local community.

3.10.2 Strengthen collaboration between various ministries to focus on natural resource and environmental protection focused on a specific benign business opportunity, as well as between the public sector, private sector and NGOs to focus on natural resource and environmental protection where all can benefit and achieve their objectives.

3.10.3 Provide greater awareness of the critical need for natural resource protection using private sector promotion capabilities (aligning private and public sector goals).

3.10.4 Channel tourists to where they will have the least impact as well as educating them about resource protection.

3.10.5 Provide employment and economic development for communities while supporting resource protection and conservation.

3.10.6 Attract new investment in green industry, Developing a market for green goods and services, Creating a green supply chain for one of the largest industries in ASEAN.

3.11 Incorporate Human Health and Wellbeing Determinants in Green Economy Green Growth Policies and Plans

- ✓ Implement the Stockholm, Rotterdam and Basel Conventions for the Safe Management of chemicals and disposals of hazardous wastes.
- ✓ Increase awareness education and training on the EU Registration, Evaluation, Authorization of Chemicals (REACH).

3.12 Enhancing Human Resource Development for Leadership Roles

3.12.1 Develop economic tools such incentives for individuals and companies to promote green and sustainable behavior through tax credits and access, facilitating public-private partnerships, and implementing innovative financing.

3.12.2 Develop tools and methodologies for integrating, economic, social and environmental pillars.

3.12.3 Develop and apply environmental impact assessments on extractive operations through the lifetime of the impacts and mitigate through adaptive management.

3.12.4 Engage multi-stakeholders in decision-making and empowering communities through providing information and soliciting their feedback.

3.12.5 Disseminate and promote best practices of green behavior through good housekeeping, reducing unnecessary resource use, reuse of materials, and green technology.

3.12.6 Develop tools and strategies for smart green infrastructure and increase connectivity of natural landscapes.

3.13 Enhancing Capabilities in Information and Data Systems, Remote Sensing, GIS

3.13.1 Provide spatial planning tools to decision makers for improved and integrated planning at all levels using participatory approaches.

3.13.2 Improve communication and knowledge sharing opportunities for adopting green productivity principles and best practices across ASEAN countries.

3.13.3 Develop a regional level Centres of Excellence with Green Economy as the focus and promote higher learning opportunities through offering specialized degrees in Green Economy at existing environmental institutes throughout ASEAN countries or work to establish these in countries where they do not already exist.

3.13.4 Explore interest in developing an EOL-ASEAN biodiversity database and web portal for critical sites, ecosystems, landscapes, and species of the ASEAN region. Test the development and application of database management tools and web-based platform for select natural resource parameters (forest cover, species diversity, genetic resources etc.).

3.13.5 Strengthen collection of baseline and monitoring data, making it accessible and transparent to a range of stakeholders and adopt standardized methods and benchmarks of evaluating progress.

3.13.6 Develop tools and strategies for increasing public awareness, education, and training, for example public awareness campaigns, participatory activities such as games, traditional and social media, and greening curriculum in national schools across ASEAN as a new educational component on green issues, built into existing school programmes.

3.13.7 Develop economic tools such incentives for individuals and companies to promote green and sustainable behavior through tax credits and access, facilitating public-private partnerships, and implementing innovative financing.

3.13.8 Develop tools and methodologies for integrating, economic, social and environmental pillars.

3.13.9 Conduct a training needs assessment with key ASEAN stakeholders to drive programming across a spectrum of trainees from front line staff to advanced undergraduates to experienced practitioners.

3.13.10 Natural resource professionals across all sectors need increased access to geospatial training and tools, and the hardware and software needed to process satellite imagery and analyze and maintain geospatial natural resource data.

3.13.11 Increased access to geospatial data is needed across government, academic, non-governmental, and private sectors and would ideally be managed in a data sharing platform accessible to all.

4. NEXT STEPS FOR ACCELERATING AND DEEPENING GREEN PRODUCTIVITY IMPROVEMENT

4.1 Union Civil Service Board of Myanmar transmit the Outcome Document Seminar on Green Productivity Improvement for developing Green Economy and improving Green Productivity to the ASEAN Resource Centre Information Exchange (ARCIE).

4.2 To support the next ACCSM and ACCSM plus three workplans of ASEAN Member State in Green Productivity improvement.

Annex 1 Final Programme

Annex 2. List of Participants.

Annex 3. Seminar Presentations (In website www.ucsb.gov.mm, ASEAN Resource Centre for Information Exchange –ARCIE website www.arcie-acdsm.org)