



The Secretariat of the Convention on Biological Diversity (SCBD) and the ASEAN Centre for Biodiversity (ACB) signed a joint work plan to reaffirm their commitment towards attaining global and regional biodiversity conservation targets in the ASEAN region. The work plan was signed by the Executive Secretary of the Convention on Biological Diversity, Dr. Cristiana Paşca Palmer, and the Executive Director of the ACB, Dr. Theresa Mundita S. Lim, during the ACB's Press Conference at the UN Biodiversity Conference on 21 November 2018. The event carried the theme *Investing in Biodiversity for the Future: the ASEAN Way*.

ASEAN renews cooperation with SCBD

Through the renewed cooperation, the ASEAN Centre for Biodiversity (ACB) will serve as node for the Regional Implementation Support Network on the Aichi Biodiversity Targets on protected areas and endangered species.

The Secretariat of the Convention on Biological Diversity (SCBD) and the ACB will work together in the areas of capacity building; communication, education, and public awareness; exchange of information; policy development and coordination; research and development; and technical and scientific cooperation. The collaboration will also enable the ASEAN Member States (AMS) to implement relevant decisions of the Conference of the Parties (COP) to the CBD, and to coordinate and prepare for their positions for succeeding COP meetings.

“The ACB is a preferred and natural partner for the CBD and its Protocols in assessing the status and trends of biodiversity and ecosystem services, as well as the main drivers and factors for change in the sub-region, as well as in supporting Parties on communication, education, and public awareness, policy coordination, research and

development, capacity building, and technical and scientific cooperation in support of a regionally coherent process towards a post-2020 framework,” said CBD Executive Secretary Dr. Cristiana Paşca Palmer.

“This partnership with the CBD Secretariat will further strengthen the efforts of the ASEAN Member States in complying with their commitments to the CBD and its Protocols; the implementation of the Strategic Plan for Biodiversity and its Aichi Biodiversity Targets; and their contribution to the development of the post-2020 global biodiversity framework,” said Dr. Theresa Mundita S. Lim, the ACB Executive Director.

The Aichi Biodiversity Target on protected areas (Target 11) aims to have at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas well-conserved and connected with other protected areas by 2020. Meanwhile, Target 12 on endangered species intends to prevent extinction and improve and sustain the conservation status of known threatened species.

...continued on page 2

What's Inside?



ASEAN calls for integration of biodiversity conservation in development sectors
page 4



ASEAN Biodiversity Hero from Malaysia awarded with MIDORI Prize for Biodiversity
page 9

ASEAN Biodiversity Conservation Efforts Featured in COP 14 Biodiversity Innovations and Solutions Fair

Efforts on biodiversity conservation in the ASEAN region such as those on institutional development, conservation grants programme, value chain and livelihood, and protected area management were showcased by the ASEAN Centre for Biodiversity (ACB) through an exhibit and video presentation during the *Biodiversity Innovations and Solutions Fair* of the UN Conference on Biodiversity (COP 14).

Highlighted in the videos were success stories from interventions implemented under the three modules of the *Protection of Biological Diversity in the ASEAN Member States in Cooperation with the ASEAN Centre for Biodiversity Programme* with the GIZ under the ASEAN German Cooperation. Meanwhile, the *Institutional Strengthening of Biodiversity in the ASEAN Project* displayed studies and capacity development activities conducted in the ASEAN Heritage Parks.

Also displayed were products from the *Small Grants Programme* and the pilot sites of the *Biodiversity-based Products as an Economic Source for the Improvement of Livelihood and Biodiversity Protection Project*.

The exhibit also featured the *Biodiversity Conservation and Management of Protected Areas in ASEAN Project*, a five-year initiative funded by the European Union, aimed at enhancing environmental, social and economic well-being by reducing biodiversity loss in ASEAN through biodiversity conservation and effective management of protected areas.

The *Biodiversity Innovations and Solutions Fair* underlines the importance of new and successful solutions for biodiversity and presents initiatives for the environment from various parties to the Convention on Biological Diversity as well as intergovernmental, governmental, and non-government organisations. The Fair ran from 17 to 29 November 2018. Aside from the exhibit, the ACB held a press conference titled *Investing in Biodiversity for the Future: The ASEAN Way* on 21 November 2018, and a side event on *Mainstreaming of Biodiversity towards a Resilient ASEAN* on 26 November 2018.



ASEAN renews cooperation with SCBD

...continued from page 1



Dr. Cristiana Paşca Palmer, SCBD Executive Secretary, and Dr. Theresa Mundita S. Lim, the ACB Executive Director, with the heads of delegations from the ASEAN region

The ACB press conference highlighted the regional and national conservation efforts of the ASEAN Member States in combatting biodiversity loss to ensure that the wealth and resources of the region will be enjoyed by future generations. It also featured how the Centre's development partners such as the GIZ, invests in biodiversity conservation in the ASEAN region.

"Since 2010, the ACB, the GIZ, and KfW have been jointly implementing projects that support the ASEAN Member States in developing strategies that would strengthen biodiversity conservation in the region through awareness raising, capacity building measures, and livelihood programmes, among others. The German Government has already ensured its continued support to

the ACB and the ASEAN Member States through the Second Phase of the Institutional Strengthening of Biodiversity Project, which will commence in 2019," said Dr. Berthold Seibert, GIZ Programme Director.

As ASEAN's response to biodiversity loss in the region, the ACB participated in the UN Biodiversity Conference, and hosted a side event titled *Mainstreaming Biodiversity towards a Resilient ASEAN*. The event was held on 26 November 2018, and shared the results of the series of biodiversity mainstreaming workshops and dialogues conducted by the ACB; and discussed how biodiversity conservation is being integrated into other sectors, such as agriculture, business, infrastructure, and urban development.

ASEAN and India Train on Access and Benefit Sharing of Genetic Resources

“The ASEAN region and India possess vast and rich biodiversity and ecosystems. Their citizens, including indigenous peoples, have the right to have access to, and benefits from their natural heritage.” This was emphasised by Dr. Theresa Mundita S. Lim during the *Regional Training Workshop on the Development and Implementation of Legal Framework to Implement the Nagoya Protocol on Access and Benefit Sharing (ABS) and Traditional Knowledge Digital Library (TKDL)*. The workshop was held from 22 to 25 October 2018 in Chennai, India.

ABS, according to the Convention on Biological Diversity, is “how genetic resources may be accessed, and how the benefits that result from their use are shared between the people or countries using the resources (users) and the people or countries that provide them (providers).” TKDL, a database pioneered by India, stores traditional medicinal knowledge.

Dr. Lim said access and benefit sharing of genetic resources is becoming increasingly important in the ASEAN

region and India because of their rich biodiversity and ecosystems, the discovery of new medicinal plants, and the development of drugs and health supplements from these sources.

“Equally important is preserving indigenous cultural knowledge systems to support the rights of indigenous and local communities. We have yet to realise and harness the value of biological and genetic resources to develop products and substances that have medicinal, industrial, agricultural, and other applications,” explained Dr. Lim.

The workshop was part of a cooperation project between the

ACB and the National Biodiversity Authority of India which aims to leverage resources on biodiversity conservation between ASEAN and India through the implementation of collaborative activities on urban biodiversity, access and benefit sharing, and support to achieving the Aichi Biodiversity Targets.

The workshop also trained the participants in developing and setting-up of national TKDLs in ASEAN Member States to preserve, document, and protect traditional knowledge and prevent misappropriation of biodiversity and associated traditional knowledge.



Improved protected area management, key to healthier ASEAN seas — marine experts

Establishment of large scale marine protected areas (MPAs) focusing on marine debris and use of modelling schemes for coral reef protection was highlighted by local and international marine experts during a side event entitled *Healthy Coasts and Healthy ASEAN: Saving the ASEAN Seas through Effective Collaboration* held on 27 November 2018. Organised by the ASEAN Centre for Biodiversity (ACB), the said session is one of the side events during the East Asian Seas (EAS) Congress held from 27 to 30 November 2018 in Iloilo City, Philippines.

Large scale MPAs, the experts said, are for better conservation of marine and coastal biodiversity in the ASEAN region and the achievement of global development goals.

“The wealth we have in the ASEAN seas and coasts are constantly threatened by irresponsible human activities and inevitable natural occurrences, causing detrimental impacts,” said the ACB Executive Director Dr. Theresa Mundita S. Lim in her message read by Dr. Sheila G. Vergara, Director of the Biodiversity Information Management unit of the ACB.

The EAS Congress was spearheaded by the Partnerships in Environmental Management for the Seas of East Asia (PEMSEA). This year’s theme is *25 Years of Partnerships for Healthy Oceans, People and Economies: Moving as One with the Global Ocean Agenda*.

“Marine biodiversity loss such as destruction of seagrasses, and decline

on marine life populations and in fish catch are caused by various natural events and human activities such as overexploitation, pollution, ineffective governance, and collateral damage from coastal tourism and climate change,” said Dr. Lim.

“Clearly, these issues and concerns on coastal and marine environments in the ASEAN region are linked with each other, making it more necessary for the ASEAN Member States to be united in taking regional actions and partnering with various sectors in order to establish and implement harmonised and strengthened efforts in marine conservation,” she added.

Dr. Vergara presented the status of ASEAN in achieving the Aichi Biodiversity Targets and the UN
...continued on page 5

ASEAN calls for integration of biodiversity conservation in development sectors

“Biodiversity is our life source. It is where we get our food, ingredients for medicine, materials for our clothing and shelter, and raw materials for businesses and industries. Thus, biodiversity and environmental issues and concerns are interconnected with all development sectors.” This was emphasised by Dr. Theresa Mundita S. Lim, Executive Director of the ASEAN Centre for Biodiversity (ACB), during the ASEAN workshop on mainstreaming or integrating biodiversity conservation in key development sectors such as tourism, infrastructure, and banking and finance.

The ACB and the National Biodiversity Authority of India organised the *Regional Workshop on Mainstreaming Biodiversity into Development Sectors in ASEAN Member States* from 15 to 17 October 2018 at Conrad Manila, Pasay City, Philippines.

The workshop gathered stakeholders from various sectors in the ASEAN Member States (AMS) and identified approaches to mainstreaming biodiversity as well as priority actions towards implementing their National Biodiversity Strategies and Action Plans and achieving the Aichi Biodiversity Targets by 2020. The workshop also presented updates, experiences, and lessons learned on the use of the Convention on Biological Diversity (CBD) Online Reporting Tool by the AMS in preparing their Sixth National Report to the CBD.



H.E. Franz Jessen, Ambassador and Head of Delegation of the European Union (EU) to the Philippines in the opening programme of the meeting



“Biodiversity conservation is a shared responsibility. What happens in one area affects other parts of the world. We cannot say that what we throw in Manila Bay stays in the Philippines. Hence, biodiversity crisis requires regional and global solutions,” said Ambassador Franz Jessen of the European Union, as he stressed the importance of working together in combatting the worsening biodiversity loss regionally and globally.

Workshop discussions revolved around the efforts of the tourism, infrastructure, and banking sectors in mainstreaming biodiversity, including challenges and steps needed to move further in mainstreaming biodiversity.

Mainstreaming biodiversity in tourism

Ecotourism best embodies the link between economics, business and biodiversity in biodiversity conservation and protected area management. The biodiversity richness and cultural diversity of the ASEAN region makes it an attractive destination for tourists, especially those from developed countries. Ecotourism destinations are highlighted by attractions derived from environmental, cultural, and historical features. When properly packaged and managed, ecotourism can provide the much needed revenues for the protection of national parks and other natural areas to complement limited traditional funding sources.

Ms. Pattarin Tongsim, a senior environmentalist from Thailand,

highlighted the need for studying the carrying capacities of tourism sites so as to ensure that biodiversity is conserved and the ecological balance of the areas is maintained. She added that there is a need to consider the involvement of local communities in deciding the kind of tourism activities in a particular area.

Mr. Chester de la Cruz from the Philippine Green Building Council emphasised the need for strict regulations of businesses in tourist destinations. “We should learn from the case of Boracay where businesses were not strictly regulated, resulting in environmental degradation.”

Sustainable Infrastructure and biodiversity

Along with economic growth is infrastructure development. Infrastructure refers to the physical systems essential for better living conditions such as transportation, rail systems, and water and electric systems, among others.

“Biodiversity conservation should not be just an afterthought in infrastructure development. Biodiversity should be considered from the planning to financing, and construction,” said Dr. Lim.

Dr. Sentagi Sesotya Utami of Universitas Gadjah Mada, Indonesia explained that green buildings are designed, constructed, and operated to reduce or eliminate negative environmental impacts or even create positive effects to nature. “Sustainable buildings, aside from environment-

...continued on page 5

Improved protected area management, key to healthier ASEAN seas — marine experts

...continued from page 3

Sustainable Development Goal (SDG) 14 which focuses on the conservation and sustainable use of oceans, seas, and marine resources for sustainable development. She said that ASEAN Member States committed to expand their MPAs as a strategy to curb biodiversity loss by 2020.

Dr. Filiberto Pollisco, Jr., the ACB Programme Specialist for Conservation Policy and Research, said that the declaration of coastal and marine protected areas is one of the focus of the ASEAN's flagship programmes, the ASEAN Heritage Parks Programme, which aims to further contribute in the attainment of SDG 14 and Aichi Target 11.

National Scientist and ASEAN Biodiversity Hero from the Philippines Dr. Angel C. Alcala served as the keynote speaker. In his message, Dr. Alcala highlighted two main issues faced by the ASEAN seas. The first one is plastic pollution and other solid and liquid wastes, which, he said, can be solved through the cooperation among governments to stop using single-use plastics, find local substitutes, and enforce laws that ban dumping of plastic materials into the sea. The second concern, according to Dr. Alcala, is the degradation of coral reefs and their natural resources especially fisheries. To this, he said that establishing MPAs is the most



Resource persons, participants, and organisers of the ACB's session at the EAS Congress.

appropriate response.

Other presenters were Research Professor and Academician from the National Academy of Science and Technology, Dr. Porfirio Aliño; Director for the Marine Branch of the National Biodiversity Centre of Singapore's National Parks Board, Dr. Karenne Tun; and Head of the Coral Reef Unit of the UN Environment for the Asia and the Pacific Office, Dr. Jerker Tamelander.

According to the resource persons, MPAs are a proven strategy to conserve marine biodiversity and increase fish stocks, yet the region is still 10 per cent behind on its protected areas under the Aichi

Biodiversity Targets.

The session also identified collaborative actions among the national governments, civil society organisations, and other stakeholders as vital in managing and monitoring MPAs.

The session was part of the ACB's cooperation with PEMSEA which was signed by both parties and launched in September this year. Aside from the session, the ACB also displayed an exhibit during the Congress featuring the status of ASEAN's coastal and marine biodiversity.

ASEAN calls for integration of biodiversity conservation...continued from page 4

friendly designs, should also integrate elements such as energy efficiency, durability, and life cycle performance. They must support the occupants' need to live productively," she emphasised.

Investing in biodiversity

Experts from the banking and finance sectors also participated in the ASEAN workshop. They shared their countries' efforts in promoting biodiversity and environmental conservation in the finance industry.

Thailand's Bank for Agriculture and Agricultural Cooperatives, for example, has a "Tree Bank Programme," where trees can be

used as security to get low interest rate loans; and be deposited with the tree banks to earn interest on the monetary value of the trees.

Indonesia has the Green Awards, a recognition scheme for banks which provides "green financing" to conservation organisations and entities.

"If we are serious about mainstreaming biodiversity in banking and finance, then we must veer away from the 'conventional banking system' profitability is the utmost consideration. Banks should be discouraged from approving business loans that harm biodiversity and the environment," said Dr. James Alin

from the Universiti Malaysia Sabah.

The workshop also set the trend for broader initiatives of the ACB under the *Biodiversity Conservation and Management of Protected Areas in ASEAN (BCAMP)* Programme, with support from the EU through compilation of best practices surveyed from the various sectors.

Dr. Lim challenged the participants to engage more people in their respective sectors, from policy makers to decision makers, from implementers to beneficiaries, as biodiversity conservation, she stressed, is everybody's concern.

Invasive Apple Snails threaten biodiversity and livelihood in Lao PDR



(L-R) (1) Female of invasive apple snail laying eggs on the vegetation, (2) invasive apple snail infestation in a newly transplanted rice paddy with egg masses on objects above the water level, and (3) Manually-collected invasive apple snails before planting rice, Nahai Village, Hadsayfong District, Vientiane Capital. (Credits: Mr. Soubanh Keobouakham & Mr. Pany Asanavong).

Considered as a slow-moving and inconspicuous animal, the invasive apple snail threatens agricultural communities in the ASEAN region. Their presence in the natural ecosystem continue to endanger the livelihoods of farming communities especially those that rely on paddy rice production and wetland ecosystems in the changing climate. Also, these small creatures pose a host of impacts on the environment and health of communities due to activities implemented as countermeasures to eradicate and manage their effects on agriculture.

Invasive apple snails (*Pomacea* spp.), are natives of South and Central America, parts of the Caribbean, and the southeastern United States. Previously known as the golden apple snails, these compose a family of large freshwater snails—aquatic gastropod molluscs with gills, and operculum, or covers. They are “introduced” species in the ASEAN region, thus calling them exotic or invasive species.

In biodiversity terms, the invasive apple snail is an invasive alien species (IAS). According to the Convention on Biological Diversity, IAS are plants, animals, pathogens and other organisms that are non-native to an ecosystem, which may cause economic or environmental harm or adversely affect human health. In particular, they

have adverse impact on biodiversity, including decline or elimination of native species—through competition, predation, or transmission of pathogens—and the disruption of local ecosystems and ecosystem functions. The Second Edition of the ASEAN Biodiversity Outlook lists invasive apple snails as among the top five IAS in ASEAN. Common pathways include people foraging, trade, and smuggling.

In 1991, invasive apple snails were introduced to Lao PDR from Thailand, and in 1994 from Viet Nam, as a protein-rich food source. Through interconnected waterways, such as irrigation canals and rivers, they spread from three villages, namely Viengsavanh, Nahai, and Phosi, to 10 of the 17 provinces of the country.

History of invasion: The Invasive Apple Snail Saga

According to Halwart in 1994, introductions in Southeast Asia started when private entrepreneurs brought apple snails from Florida and South America to Taiwan and the Philippines. It was intended to make large financial profits through snail farming for export markets in Europe. Escargot is a delicacy in Europe which uses snail as its main component. Another is the market for snail as an aquarium collection. In addition, easy rearing methods, fast growth, and high protein content made

snails an excellent supplement in the low protein diet of the rural poor.

However, it was noted that the introductions were made without any analysis of ecological impacts. Even marketing information was apparently lacking as consumers did not like the taste of the snail, despite the mollusc being propagated as a delicacy. The initially expensive snails quickly lost its commercial value. When snails escaped or were discarded, they rapidly spread through natural waterways and irrigation canals and eventually invaded rice fields. The aquatic habitat planted with rice seedlings provided optimal conditions, as these snails are well adapted to marshland and flood plain habitats. Constrained by only a few natural enemies, population increased freely, and soon the golden snail developed into a serious pest. Now, a considerable portion of the cultivated rice land in Asia is affected which leads to significant yield losses for farmers.

Eating through the agricultural fields

One characteristic of the invasive apple snail is its voracious appetite. It is an omnivorous animal which can eat anything from plants to small animals. In the rice paddy setting, invasive apple snails eat newly transplanted rice plants, as well as newly established seedlings in direct-seeded rice production. This

redounded to significant plant loss, leading to losses in yield and income for farmers. Signs of invasive apple snails include cut leaves and missing young rice seedlings in rows, which causes reduced productivity of rice paddies.

According to Joshi et.al, 2017, the first reported damage by invasive apple snails in Lao PDR was on rice in 1992. In irrigated lowland rice fields, signs of apple snail invasion are prevalent, which prompted farmers to replant several times. With their voracious appetite and rapid reproduction, three snails in a square metre of rice can cause considerable damage.

They are pests not only of rice but also of other cash crops such as taro, morning glory, lotus, mat rush, Chinese mat grass, wild rice, Japanese parsley, water chestnut and Azolla.

Effects in Livelihood and Health

With this scenario, farmers who decide to replant incur costs in buying additional rice seedlings and labour. Those who decide not to replant experience losses in harvest and income.

Another threat brought by invasive apple snails is it being a carrier of zoonotic diseases, or those illnesses transmitted from animals to humans. One specific disease that snails carry is the rat lungworm which affects the human brain and causes eosinophilic meningitis. Though rarely life-threatening, symptoms include severe headache and stiffness of the neck, tingling or painful feelings in the skin or extremities, low-grade fever, nausea, and vomiting. Sometimes, temporary paralysis of the face may also be

present, as well as light sensitivity.

Effects in Biodiversity

In wetlands, invasive apple snails can cause a significant reduction of biodiversity and biomass of aquatic plants, high in water nutrient concentrations, and algal blooms, and therefore lower water quality.

With its being “invasive” and with its ability to reproduce rapidly, the ecosystems of Southeast Asia lack natural predators to manage the growing number of snails in rice paddies. These snails have adapted well in the rice paddy environment as they can bury themselves during dry down periods and re-establish during the wet season planting periods. This condition leads to a conducive environment for apple snails to thrive.

As an answer, farmers resort to chemical-based pesticides which also harm other species in the ecosystem. Pallewatta et al. 2009 noted that chemical pesticides for invasive apple snails will likely be transported through waterways and will enter the natural environment. This will cause negative consequences to aquatic biodiversity, and human health.

Management efforts

To protect the environment, as well as the farming communities, and safeguard rice productions, the Government of Lao PDR strongly discourages the use of synthetic pesticides. The National Agricultural Research Center and Lao-International Rice Research Institute have initiated several biological or natural controls

for invasive apple snails.

The Agricultural Extension Center also promoted the Integrated Snail Management Approach which is a combination of techniques such as protection of entrance of snails to the rice field, hand picking snails, introduction of ducks in the field before planting, transplanting with older seedlings, reduction of water level in the rice field after transplanting, using a variety of local experiences, and control actions done seasonally. Another promising venture is the introduction of invasive apple snails in poultry, duck, pig, fish, and prawn production as substitute to traditional protein source.

Regional efforts

Recognising that invasive apple snails cause massive losses in wetland agriculture production coupled with its effects on the environment, ASEAN takes the issue seriously. Invasive apple snails have magnified ecosystem pollution due to the use of chemical pesticides and poses health hazards to humans.

With this, the region came up with initiatives to safeguard its natural ecosystems from IAS. Capacity building on taxonomy and information sharing through the ASEAN Clearing-House Mechanism, crafting of National Invasive Species Strategy and Action Plan, awareness raising, and research activities are some of the recommended ways forward to assure that the ASEAN region will keep intruders out.

For more information about IAS, please visit chm.aseanbiodiversity.org.

ACBeats

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Climate change and biodiversity experts work together to keep the ASEAN region “cool”



Sweltering hot days. Increased number of typhoons. Unprecedented instances of storm surges. These have become the norm nowadays, and people are quick to blame these on one thing: climate change.

The global public’s awareness on the urgency of addressing climate change has increased over the years. In the ASEAN region alone, overall temperature has been increasing at a rate of 0.14–0.20°C per decade since the 1960s, as reported in the Second Edition of the ASEAN Biodiversity Outlook (ABO 2) of the ASEAN Centre for Biodiversity (ACB). The publication stressed that this continued warming will affect the vegetation and habitat of the numerous wildlife species in the region. Additionally, the Convention on Biological Diversity (CBD) acknowledged that warming beyond the highest recorded temperature for the past 1.8 million years will cause an abnormal level of stress to the various species and their habitats.

“The ACB is providing a venue and opportunity for the ASEAN Member States to work together in the spirit of one ASEAN Community. Today, the world, particularly the ASEAN region, is confronted by the twin threats of climate change and biodiversity loss... I’m sure you will all agree with me when I say that climate change and biodiversity loss are inseparable concerns. Climate change is a major driver of biodiversity loss, and healthy biodiversity is a major solution to climate change,” said Dr. Theresa

Mundita S. Lim, Executive Director of the ACB, during her message on the first day of the *Asia Multi-Actor Dialogue Seminar to Build Social-Ecological Resilience through the Incorporation of Ecosystem-based Solutions in Nationally Determined Contributions* in Manila, Philippines.

The dialogue-seminar, which was held from 9 to 12 October 2018, was organised by the ACB and SwedBio, in collaboration with the Secretariat of the Convention on Biological Diversity (SCBD), the Department of Environment and Natural Resources (DENR), and the Climate Change Commission of the Philippines. Participants from the ASEAN Member States (AMS) as well as delegates from Pakistan and Bangladesh joined representatives from Indigenous Peoples and Local Communities (IPLCs) and the ASEAN Secretariat in the event to exchange

experiences of developing the role for ecosystem-based approaches in climate-related work at national level; identify synergies among potential ecosystem-based approaches for delivering benefits related to multiple objectives; empower those concerned with the well-being of nature to engage with those responsible for achieving Nationally Determined Contributions; and establish the support needed by the region to advance ecosystem-based approaches to adapt to and mitigate climate change and to reduce the risk of disaster.

“Our workshop this week is the first of our efforts at mainstreaming biodiversity to make sure that climate change and biodiversity loss are not treated separately. It is not a question of turf as to who will be responsible or who will be in charge. Our concern is to mainstream biodiversity to ensure

...continued on page 11



ASEAN Biodiversity Hero from Malaysia awarded with MIDORI Prize for Biodiversity

ASEAN Biodiversity Hero from Malaysia Professor Emeritus Dr. Abdul Hamid Zakri was one of the awardees of the prestigious 2018 MIDORI Prize for Biodiversity which “honours three individuals who have made outstanding contributions to conservation and sustainable use at local and global levels, and who have influenced and strengthened various biodiversity-related efforts, as well as raised awareness about biodiversity.”

The ASEAN Biodiversity Heroes Programme of the ASEAN Centre for Biodiversity recognises outstanding achievers in biodiversity conservation in the 10 ASEAN Member States.

“My involvement with biodiversity has been a life-long preoccupation,” said Prof. Zakri in his remarks as an awardee. “Appreciation of nature and biodiversity comes naturally. The sound of birds in the morning, the soft rustling of the leaves blown by the wind and the freshness of the air are all too familiar to me since I was young. It was only later in life that I discovered that I was living in one of the greatest biology laboratories on the surface of the planet – Southeast Asia. I believe that sustainable development and the future of human civilisation hinges heavily on

biodiversity – our web of life.”

A former science adviser to the Malaysian Prime Minister, Prof. Zakri is considered a key actor in the development of biodiversity conservation governance in Malaysia and in the international arena, particularly with the UN Convention on Biological Diversity (CBD).

He was the first Asian to become the chair of the CBD’s Subsidiary Body on Scientific, Technical and Technological Advice, which is an open-ended intergovernmental scientific advisory body that provides the CBD Conference of the Parties with timely advice relating to the implementation of the Convention. He co-chaired the Board of the landmark UN Millennium Ecosystem Assessment, which is one of the world’s largest-ever scientific collaborations involving over 2,000 leading scientists in a comprehensive synthesis and analysis of the state of the Earth’s ecosystems, representing a ground-breaking scientific assessment of their services, causes of changes, and consequences to humanity.

Prof. Zakri was elected as founding chair of the UN-affiliated Intergovernmental Science-Policy Platform on Biodiversity and



2018 MIDORI Prize Awardee and ASEAN Biodiversity Hero from Malaysia Professor Emeritus Dr. Abdul Hamid Zakri (Photo from AEON Environmental Foundation).

Ecosystem Services, an independent body that bridges the gap between science and policy, and provides impartial, accurate and up-to-date data and scientific information to assist in policymaking related to biodiversity management.

One of the leading spokesmen of developing countries in the negotiating sessions in the CBD,

...continued on page 11

Shelter bags top prize in ASEAN-EU photo contest

Led by the ASEAN Centre for Biodiversity (ACB), and with the support of the EU-funded project *Biodiversity Conservation and Management of Protected Areas in ASEAN (BCAMP)*, the search for the best entries for the *Zooming In on Biodiversity* photography contest has been completed, and announced on 27 November 2018, during the four-

day East Asian Seas (EAS) Congress held in Iloilo City, Philippines.

Zooming In on Biodiversity, an ASEAN-wide photography contest, received hundreds of entries, with all photographs showcasing the richness of biodiversity in the respective countries of those who participated. This year’s staging of the competition,

which had the theme, *Capturing the richness of biological resources in the ASEAN region*, is the fourth in the series, with the prior ones held in 2009, 2013, and 2015. The themes for the previous years were *Biodiversity and Me*, *Biodiversity and Climate Change*, and *Biodiversity for Sustainable Development*, respectively.

...continued on page 12



Shelter by Daniel Ocampo of the Philippines



White-lipped Frog by Asep Ayat of Indonesia



Water for Life by Kyaw Kyaw Winn of Myanmar

Thailand hosts Workshop for Protected Area Managers of ASEAN

To improve planning and management of biodiversity-rich protected areas, managers and officers of protected areas in the ASEAN region gathered during the *Regional Workshop on Protected Area Management Planning in the ASEAN Region* from 11 to 14 December 2018 in Bangkok, Thailand.

In cooperation with the Department of National Parks, Wildlife and Plant Conservation of the Ministry of Natural Resources and Environment (MONRE) of Thailand, the workshop was organised by the ASEAN Centre for Biodiversity (ACB) through a joint sponsorship with its two ongoing projects, namely, the European Union-funded *Biodiversity Conservation and Management of Protected Areas in ASEAN Project*, and the GIZ/KfW-funded *Small Grants Programme (SGP)*.

According to the International Union for Conservation of Nature (IUCN), a protected area is “a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values.”

Protected areas are internationally-recognised by the Convention on Biological Diversity (CBD) as a fundamental tool for safeguarding biodiversity, and, according to the ACB, a “tried-and-tested approach applied by indigenous peoples and local communities for centuries, to conserve nature and associated cultural resources.”

“The ASEAN region continues to make notable progress in achieving Aichi Biodiversity Target 11 (expanding the network of protected areas, especially terrestrial protected areas). Four ASEAN Member States, namely Brunei Darussalam, Cambodia, Lao PDR, and Thailand have achieved 17 per cent coverage of terrestrial protected areas,” said the ACB Executive Director Dr. Theresa Mundita S. Lim. She said this achievement should not be limited to the quantity but also the quality of the target where effective and sustainable management comes in.

The Aichi Biodiversity Target 11 aims that, “by 2020 at least 17 per cent of terrestrial and inland water, and 10



per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.”

The Aichi Biodiversity Targets are 20 global targets under the Strategic Plan for Biodiversity 2011–2020 of the CBD.

Ms. Clarissa Arida, Director of the ACB Programme Development and Implementation Unit emphasised the importance of the protected area managers in ensuring effective management of protected areas and establishing functional protected area networks, considering the constant threats from drivers of biodiversity loss such as pollution, overexploitation, and habitat loss.

“The protected area authorities alone cannot shoulder the burden of protected area management with all its complexities, so we have to work

together with other stakeholders to take on the shared responsibility to protect the protected area together,” said Mr. Chongklai Worapongsathorn, Deputy Director-General of the Department of National Parks Wildlife and Plant Conservation of MONRE-Thailand.

“It is very important to have a consultative planning process involving various stakeholders who have an interest in the protected area. This will strengthen the management of the protected area and increase recognition of its importance to the various stakeholders. Today, participation of stakeholders in the planning process is a standard good practice,” he added.

The workshop highlighted and shared the practitioners’ experiences in the process of developing, updating, and implementing management plans. It also discussed and explored the collaborative management approach used by ASEAN Heritage Parks supported by the SGP in Myanmar and Indonesia for potential further replication.



ASEAN Heritage Park managers of Indonesia and Myanmar share their experiences on protected area management planning during the Regional Workshop on Protected Area Management Planning in the ASEAN Region.

ASEAN Biodiversity Hero from Malaysia awarded with MIDORI Prize for Biodiversity

...continued from page 9

among his numerous notable international roles were being appointed by then UN Secretary-General Ban Ki-Moon as one of the 26 eminent scientists in his inaugural Scientific Advisory Board.

The other MIDORI Prize awardees were Ms. Kathy MacKinnon, Chair of the International Union for Conservation of Nature's World Commission on Protected Areas, and Mr. Assad Serhal, Director General

of the Society for the Protection of Nature Lebanon. Each awardee received a plaque, a commemorative gift, and a monetary prize of USD 100,000 to support their work.

CBD Executive Secretary Dr. Cristiana Paşca Palmer said the works of the three awardees represent the kind of energy, action, and inspiration needed to improve the relationship between humans and nature and that they have made outstanding contributions to the

conservation and sustainable use of biodiversity and the fair and equitable sharing of its benefits.

The MIDORI Prize is co-hosted by AEON Environmental Foundation and the CBD Secretariat. The award aims to raise public awareness on the importance of biodiversity and to contribute to the objectives of the United Nations Decade on Biodiversity 2011–2020.

Climate change and biodiversity experts... continued from page 8



that all sectors, from political leaders to scientists; from the media to the general public; from civic leaders to students; will be working together to combat the twin threats to humankind," Dr. Lim declared. "Globally, everyone agrees that climate change adaptation is of utmost importance and urgency. Ironically, funding or support is very much wanting. It's always not enough. But, with working together, we will be able to maximise our efforts in addressing what is most important to us," she continued.

Also present to welcome the participants to the event was Ms. Elenida Basug, Officer-in-Charge Director of the Climate Change Service of the DENR. "Today we have come at a point where we acknowledge that the force of climate change in the region and in our respective countries is here; that climate change is no longer a floating theoretical concept, but rather a phenomenon that affects our environment and our daily lives," she said.

Mr. Tristan Tyrrell, Programme Officer on Climate Change and Ecosystems at SwedBio and one of the facilitators of the event, introduced various climate change-related concepts such as Ecosystem-based Adaptation (EbA) and Ecosystem-based Mitigation (EbM), and how these affect or can be incorporated in the upcoming projects of the participants' organisations and their individual countries' National Biodiversity Strategies and Action Plans (NBSAPs).

Discussions within the separate groups and in plenary constituted the majority of the dialogue-seminar. Projects in place to either adapt to or mitigate the effects of climate change undertaken by the bodies represented by the participants included technological solutions such as solar-powered irrigation systems; fish conservation; diversified planting; and community-based enterprises. On the other hand, activities that the participants wanted their organisations to consider doing included rainwater harvesting; private sector engagement; and urban forestry.

Part of the four-day event was a visit to the Las Piñas-Parañaque Critical Habitat and Ecotourism Area (LPPCHEA), the first critical habitat to be declared in the Philippines, and a Ramsar Site. Senator Cynthia Villar, the current chairperson of the Senate Committees on Environment and Natural Resources, welcomed the participants before they were given a tour of the area.

On the closing day of the event, short-term to long-term goals of each

represented country were shared as a means to finalise the participants' commitments.

The ASEAN Member States' Pledge in Paris

In December 2015, Parties to the United Nations Framework Convention on Climate Change (UNFCCC) met in Paris, France and agreed on actions to fight climate change. As per the UNFCCC, "The Paris Agreement's central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius." All Parties have commitments to reduce national greenhouse gas emissions, and adapt to the impacts of climate change; these are known as Nationally Determined Contributions (NDCs).

As of March 2017, all 10 AMS have ratified the Paris Agreement. Each member state's NDCs outline post-2020 climate actions that they intend to undertake under the agreement.

ABO 2 asserts that the ASEAN region is aware of its vulnerability to the effects brought about by climate change. However, it has to be emphasised that biodiversity conservation can effectively diminish the impacts of climate change. Increased collaboration, sharing of expertise, and public awareness of the interrelationship between climate change and biodiversity are crucial to addressing these twin issues.

New plant species named after ASEAN biodiversity expert

Medinilla theresae, a new edaphic-endemic species on Dinagat and Mindanao Islands, was named after Dr. Theresa Mundita S. Lim, Executive Director of the ASEAN Centre for Biodiversity and former Director of the Philippines' Department of Environment and Natural Resources Biodiversity Management Bureau (DENR-BMB).

Dr. Lim, a staunch wildlife advocate, also served as Chair of the ASEAN Wildlife Enforcement Network and Chair of the Subsidiary Body on Scientific, Technical and Technological Advice of the Convention on Biological Diversity (CBD).

The terrestrial, erect, cauliflorous shrub was first discovered by scientists from the University of the Philippines on Mt. Redondo, Dinagat Island. Subsequently, specimens earlier collected from Mount Hamiguitan, Mindanao Island were also found to belong to this species. "It is such a rare plant with beautiful, delicate flowers restricted only to soils rich in heavy metals," said Dr. Edwino Fernando, lead author of the report. The study was published in the open access science journal *PhytoKeys*.

"I am truly honored and grateful for this recognition. I would also like to take this opportunity to thank our taxonomists, scientists, and researchers who continue their hard work in discovering



new species. I believe that taxonomy is a vital step in conservation simply because you cannot conserve what you do not know," said Dr. Lim.

"The number of species awaiting discovery far outweigh those that have been studied. Millions of plants and animals have yet to be studied and may hold tremendous potential as sources of food, medicine, and other benefits to humans," she added.

"We named this beautiful new species after Director Lim for her dedication and commitment to biodiversity conservation" said Professor Perry Ong, co-author the report.

According to the CBD, in a world populated with more than 30 million species, taxonomists have identified only about 1.78 million species of

animals, plants, and microorganisms in 250 years of research. It is estimated that only 10 per cent of vertebrates remain to be described, but greater than 50 per cent of terrestrial arthropods and up to 95 per cent of protozoa are undescribed.

The sheer number of species that have yet to be discovered requires an army of scientists, each with their own area of expertise, to identify, name, classify, and study the millions of species on Earth. The issue is compounded by the unprecedented rate of global biodiversity loss due to habitat degradation, unsustainable use, pollution, climate change, and other pressures. These pressures increase the risk of extinction of vulnerable species and it is certain that some species are already lost even before they are named and described.



Shelter bags top prize in ASEAN-EU photo contest

...continued from page 9

After a thorough selection process done by representatives from the ACB and the EU delegation to the Philippines, the top three entries were: (1) *Shelter* by Mr. Daniel Ocampo of the Philippines in first place; (2) *White-lipped Frog* by Mr. Asep Ayat of Indonesia in second place; and (3) *Water for Life* by Mr. Kyaw Kyaw Winn of Myanmar in third place.

The unveiling of winners was led by Dr. Sheila Vergara, Director of the Biodiversity Information Management

of the ACB; Mr. Giovanni Serritella, Attaché, Manager for Environment and Climate Change Development Cooperation Section, Delegation of the EU to the Philippines; and Dr. Angel C. Alcala, National Scientist of the Philippines and ASEAN Biodiversity Hero from the Philippines. The unveiling took place during the session *Healthy Coasts and Healthy ASEAN: Saving the ASEAN Seas through Effective Collaboration*, a side event organised by the ACB during the EAS Congress.