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Newsletter

The Virtual 59th SEAMEO BIOTROP Governing Board Meeting

International Workshop on "Indonesia Sea as Global Climate Engine: Climate Change and Coastal Resilience"

SMARTS-BE Program: Workshop on the Development of SMK as the Model for Agro Eco Edutourism

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Director's Message

Dear Valued Readers,

At the end of the year 2021, I am proud to say that SEAMEO BIOTROP has performed very well in achieving its goals, despite the still ongoing pandemic.

The Center's 59th Governing Board Meeting was carried out virtually. The highlighted issues were the 11th Five-Year Development Plan (11th FYDP), the proposed change of organizational structure as well as research and training plans for the year 2022.

In strengthening collaboration with multi-stakeholders, SEAMEO BIOTROP, as one of the SEAMEO Centers in Indonesia, signed a Memorandum of Understanding and a Memorandum of Agreement with the District Government of Ogan Ilir and the District Government of Ogan Komering Ulu which aimed at increasing teacher's capacity from early childhood to high school levels, by collaborating with the SEAMEO Centers in Indonesia. Another collaborative event was also held with the Mindanao State University in the aspects of training courses, publications as well as research and development.

Several webinars and exhibition were also performed both in the Center and at other institutions. SEAMEO BIOTROP joined the Seaweed Fest 2021 aimed to increase collaboration between the Center and the Ministry of Marine Affairs and Fisheries in procuring seaweed seedlings by using tissue culture technique.

I do hope that this year's achievements become the foundation of more fruitful accomplishments in the upcoming year.

Happy New Year! Stay optimists, stay healthy, stay positive !

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The Virtual 59th SEAMEO BIOTROP Governing Board Meeting

The Director of SEAMEO BIOTROP, Dr Zulhamsyah Imran, delivers his welcome remarks during the Opening Ceremony of the 59th SEAMEO BIOTROP Governing Board Meeting

SEAMEO BIOTROP Governing Board Meeting is held annually to evaluate the Centre's programs implementation and seek the Board's recommendations as references to conduct future activities in the next fiscal year. Due to the pandemic, SEAMEO BIOTROP still held its 59th Governing Board Meeting using an online platform on 5-6 October 2021.

Eleven (11) Governing Board (GB) members from Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor-Leste and Vietnam; SEAMEO Secretariat Director, SEAMEO Secretariat Deputy Director for Programme attended the meeting virtually through ZOOM platform. As virtual attending observers were the Program Officer of the SEAMEO Secretariat, the Director of International Center for Collaboration Office of Institut Pertanian Bogor, while two observers from the Bureau of Cooperation and Public Relations of the Ministry of Education, Culture, Research and Technology of the Republic of Indonesia (MoECRT), the Board of Directors, managers and staff of SEAMEO BIOTROP attended the meeting in person at the IPB International Convention Center in Bogor.

The SEAMEO BIOTROP 59th Governing Board Meeting was virtually opened by HE Secretary-General of the Ministry of Education, Culture, Research and Technology of the Republic of Indonesia, while the Vice Mayor of Bogor City delivered his remarks in person.

In his remarks during the Opening Ceremony, SEAMEO BIOTROP Director, Dr Zulhamsyah Imran, highlighted that the 59th GBM is his first GBM in his directorship. He invited and embraced the MoEC, SEAMEO Secretariat, SEAMEO BIOTROP Governing Board members, SEAMEO member countries, SEAMEO Centres and Network for the opportunities, continuous support, collaborations, guidance and warm relationships. Videos of the latest SEAMEO BIOTROP Profile, SEAMEO BIOTROP Virtual Tour and SEAMEO BIOTROP's Accomplishments for the Fiscal Year 2020/2021 were also presented during his remarks.

The Centre submitted nine (9) Working Papers and five (5) Information Papers to the Board. The highlighted issues were the 11th Five-Year Development Plan (11th FYDP), the proposed change of organizational structure as well as research and training plans for the year 2022. The Board Member from Indonesia, Prof Dr Arif Satria and the Board Member from Lao PDR, Mr Vongvilay Vongkhamsao, were unanimously elected as the Chair and Vice-Chair of the 59th SEAMEO BIOTROP Governing Board Meeting, respectively. (sis).

Tackling Fish Feed Issues, SEAMEO BIOTROP Held Technical Guidance on Fish Feed Formulation

Feed is among the three factors affecting the production increase of cultivated fish, besides water quality and seed quality. Feed is also the largest portion of production cost in fish cultivation. Among strategic issues in the development of fish cultivation is the high cost of fish feed leading to the high production cost in fish cultivation.

To overcome the fish feed issues, SEAMEO BIOTROP held technical guidance on fish feed formulation starting from 29 November 2021 to 1 December 2021 at the Centre's headquarter. In her opening speech, the Acting Manager of the Research Hub and Innovation Department of SEAMEO BIOTROP, Ms. Sri Widayanti, MSi stated that among efforts to reduce the production cost from the feed component are by encouraging the household-scale fish feed industry (independent feed) and the procurement of fish feed raw materials in Indonesia.

Topics presented in the technical guidance were determining the quality of raw materials and feed formulations, held in classroom and practicum sessions. Resource persons of this technical guidance were Dr Ichsan Achmad Fauzi, SEAMEO BIOTROP's affiliate scientist from the Faculty of Fisheries and Marine Science, Institut Pertanian Bogor (IPB) and Ms. Shella Marlinda, MSi, research assistant of the Aquatic Laboratory of SEAMEO BIOTROP. The technical guidance was intended for cultivators, fishery instructors, students, researchers, and the general public. A total of 30 participants from various regions in Indonesia actively joined in this technical guidance. (pn/sis).

Dr Ichsan Ahmad Fauzi, SPi, MSc, delivers his presentation on fish feed production

Ms Shella Marlinda, MSi shows the participants about fish pellets fed to the fish

Technical Guidance on Artificial Reef (Fish Apartment)

To increase the capacity of teachers at the fishery vocational schools, SEAMEO BIOTROP held virtual technical guidance on Reef Conservation (Fish Apartment) on 6 - 8 December 2021. The technical guidance aimed to increase the capacity of educators at the fishery vocational schools, which knowledge then be transferred to students for realizing reef conservation or fish apartments as sustainable fishing tools. The expected output of this technical guidance was to provide sustainable benefits in optimizing aquaculture in Indonesia.

In his opening remarks, the Director of SEAMEO BIOTROP, Dr Zulhamsyah Imran, emphasized the need to increase human resource capacity and benefit fishermen in sustainably utilizing aquatic resources. "SEAMEO BIOTROP initiated to revive the lives of coastal communities by creating artificial reefs or fish apa rtments in shallow waters. With the establishment of this artificial reef, the fishermen will have certain fishing grounds which will develop the fishermen's awareness about the principle of sustainable fishing," he elaborated. Furthermore, Dr Zulhamsyah stated that the fish apartment would be designed based on the rules of fish population dynamics, physics and fisheries oceanography, carrying capacity and stock enhancement.

Dr Ir Fredinan Yulianda, MSc, the Dean of the Faculty of Fisheries and Marine Sciences of Institut Pertanian Bogor stated that competent human resources are essential for managing aquatic resources. "Indonesia has a wider water area compared to land. Therefore, it is necessary to have human resources who can manage these water resources optimally and sustainably," he said.

Resource persons featured in this technical guidance were Dr Syamsul Bahri Agus; Moh. Trihartanto SPi MSi; Prof Dr Mulyono S Baskoro; Totok Hestirianoto; Moh. Iqbal Alwi, SPi, MSi; Dr Hawis Maduppa; Prof Dr Sulistiono; and Dr Ayi Rachmat (from Institut Pertanian Bogor); Ir Zarochman, MS Dr Suparman (from Semarang Fishing Center); and Ir Siti Kamarijah, MSi (from the Ministry of Maritime Affairs and Fisheries of the Republic of Indonesia).

The technical guidance activity is in line with the SDG's goal number fourteen, namely protecting marine ecosystems. The seventy-four participants were educators of fishery vocational schools from various provinces in Indonesia, also from universities, government agencies, private sectors and NGOs. (day).

Dr Totok Hestirianoto delivers his presentation during the Technical Guidance on Fish Apartment

The participants of the Technical Guidance on Fish Apartment

SEAMEO BIOTROP Takes Part in Strengthening the International Cooperation of Higher Education

SEAMEO BIOTROP and six other SEAMEO Centres in Indonesia presented the Centre's highlighted programs, activities, linkages, and networks in the Centres during the 1st International Office Conference (IOC) held in Hotel Tentrem, Yogyakarta on 3 - 5 December 2021. The event was collaboratively organized by Universitas Padjadjaran (UNPAD), Universitas Islam Indonesia (UII), the Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia, and Forum KUI Indonesia, on hybrid mechanism.

The global Covid-19 pandemic brings huge impacts on human life. The pandemic has been going on for more than a year and affecting all aspects of life, including the higher education sector. The pandemic has forced all management in higher education institutions to redesign the operational activities such as lecturing, administrative activities, and all business processes into online activities. The impacts have also challenged the management of the international office that is responsible for initiating and implementing international cooperation. Despite the limitations caused by the pandemic, it is important to keep strengthening the cooperation between national higher education institutions in Indonesia and partner universities overseas.

The conference comprised of workshop, parallel discussions, seminar, and networking sessions. Dr Gatot Hari Priowirjanto as the Coordinator of SEAMEO Centres in Indonesia presented his insights on the Potential Synergy with SEAMEO. The conference featured presenters from Universitas Islam Indonesia, Universitas Gadjah Mada, Universitas Padjadjaran (Indonesia), University of Malaya (Malaysia), National University of Singapore (Singapore), Duy Tan University (Vietnam), and National University of Tsing Hua (China) to share their best practices in conducting learning activities during the Covid-19 Pandemic. (rf).

Dr Perdinan, Deputy Director for Administration of SEAMEO BIOTROP, delivers his presentation on the Center's programs

MOMI CLOUDIA

MOMI CLOUDIA SERIES 10 and 11

As a continuing efforts to share ideas and motivations, SEAMEO BIOTROP held its 10th and 11th MOMI CLOUDIA SERIES, as follows:

Seri 10: Even More Productive during the Covid-19 Pandemic
This MOMI CLOUDIA Seri 10 was held on 25 October 2021 featuring Mr. Jamil Azzaini, MBA, the CEO and the Founder of the Trainer Academy as well as the Founder of Kubik Leadership, as the resource person. This event was participated by 200 participants through blended system.

Mr Jamil Azzaini shared his tips and tricks in elevating work productivity and in managing emotional conditions in facing challenges during the pandemic. The presentation was followed by discussion from participants. (pn)

Seri 11: Leaders in the Millenial Era

This seri of MOMI CLOUDIA was held on 29 November 2021. On this occasion, SEAMEO BIOTROP invited a Member of Commission VII of the House of Representatives of the Republic of Indonesia, Ms. Dyah Roro Esti Widya Putri, BA. MSc and the Secretary General of the Association of LPDP Scholarship Recipients, Mr. Satya Hangga Yudha WP, BA (Hons), MSc. The two resource persons shared their experiences in taking on a leader's position in the Millenial Era. The conclusion of their presentations is that to be a leader in the millenial era, it is important to maximize our self-potential across generations to achieve excellence and contribute in the globalization and digitalization era. (as).

SEAMEO BIOTROP, the Ministry of Marine Affairs and Fisheries Strengthen Collaboration in Procuring Superior Seaweed Seedlings

Indonesia is the second-largest seaweed producer worldwide after China, with an export volume of 195,574 tonnes valued at USD 278.58 million in 2020 (https://kkp.go.id/djpb/artikel/32618-tingkatkan-pertumbuhan-ekonomi-kkp-komitmen-genjot-produksi-rumput-laut). Therefore, the Ministry of Marine Affairs and Fisheries of the Republic of Indonesia (KKP) is committed to focusing on increasing the productivity of seaweed as a superior export commodity.

In realizing the commitment, KKP held the Seaweed Fest 2021 on 20 December 2021, collaborating with the Tropical Seaweed Innovation Network (TSIN). This event was officially opened by the Ministry of Marine Affairs and Fisheries, Mr. Sakti Wahyu Trenggono, MM. "Indonesia has great potential in exporting seaweed. For that purpose, we need to focus on developing technology for seaweed seeds procurement, supported by multi-stakeholders", said Mr. Sakti.

SEAMEO BIOTROP participated in the Seaweed Fest 2021 by displaying the existing achievements and way forward programs in increasing seaweed productivity in Indonesia. When visiting the booth of SEAMEO BIOTROP, the Minister of Marine Affairs and Fisheries uttered his directions to strengthen collaboration with SEAMEO BIOTROP. In response to the Minister's direction, the Director of Production of the Directorate General of Aquaculture, Mr. Arif Wibowo, shared that the collaboration between KKP and SEAMEO BIOTROP has been going on since 2014 with the collaboration scopes as follows: 1. Technology transfer on tissue culture; 2. Micropropagule procurement; 3. Distribution of seaweed seedlings propagated by using tissue culture techniques; 4. Technology assistance. As the results of the collaboration, KKP has 6 established tissue culture laboratories located at 6 different fisheries agencies in Indonesia, i.e., Balai Besar Pengembangan Budidaya Laut Lampung, Balai Pengembangan Budidaya Laut Lombok, Balai Pengembangan Budidaya Laut Ambon, Balai Pengembangan Budidaya Air Payau Takalar, Balai Besar Pengembangan Budidaya Air Payau Jepara and Balai Pengembangan Budidaya Air Payau Situbondo.

SEAMEO BIOTROP's way forward programs in seaweed are:

1. Enhance the capacity of SEAMEO BIOTROP tissue culture laboratory for scaling up the production of seaweed seedlings propagated by using the tissue culture technique.

2. Establish the Standard Operating Procedure (SOP) for propagating Cottoni seaweed by using the tissue culture technique. The SOP will then be disseminated to various institutions having roles in developing seaweed cultivation and industry. Therefore, more stakeholders will use the technology for seaweed research and development of seaweed seedlings procurement.

3. Expand network with various stakeholders, such as ministries, local governments, universities, research institutions, private companies, to apply tissue culture technology for seaweed seedlings procurement.

4. Conduct further studies to collect superior seaweed from various parts of Indonesia to be mass propagated for producing superior seaweed seedlings. The studies aim to enrich seaweed genetic diversity propagated by using tissue culture techniques to withstand any environmental conditions in the cultivation location.

These way forward programs are designed to further develop seaweed propagation by using tissue culture technique and to continuously mass-produce seaweed seedlings in fulfilling the demand from seaweed fishermen. (sis, hcn, es).

Dr Erina Sulistiani (right) explains about the process of tissue culture technique

Mr Samsul A. Yani (left) shows the callus of seaweed in culture media

Talkshow and Discussion on Elevating Awareness on the Health of Employees and their Families

The World Health Organization (WHO) has warned about the coming of the third wave of Covid-19 pandemic. Several countries have suffered from the third wave of the pandemic such as Malaysia and Japan. In Indonesia, there are already indications of increasing number of positive cases nowadays.

In anticipating the third wave of Covid-19 pandemic, SEAMEO BIOTROP and its Covid-19 Task Force held a talkshow titled "Talkshow and Discussion on Elevating Awareness on the Health of Employees and Their Families" on 25 November 2021. The talkshow was carried out using offline and online platforms, with a total of 150 participants enthusiastically attended this event. Prior to the talkshow, SEAMEO BIOTROP carried out free antigen swab test for the Centre's employees.

The Director of SEAMEO BIOTROP, Dr Zulhamsyah Imran, in his opening remarks stated that it is important for us to be vigilant in preventing the third wave of Covid-19 from attacking us personally, our families, and our country. The prevention efforts of SEAMEO BIOTROP are in line with the Ministrial Instructions of the Ministry of Home Affairs No. 53 of Year 2021 about the Enforcement of Restrictions on Community Activities Level 3, Level 2 and Level 1 for Covid-19 Prevention in Java and Bali.

This event featured three outstanding resource persons who are professional specialist physicians in pulmonary and internal medical diseases, i.e., dr Andika Chandra Putra, PhD, SpP (Specialist of Pulmonologist and Respiratory Medicine), dr Nerina Mayakartifa, MSc, SpPD FINASIM of the UMMI Hospital Bogor (Specialis of Internal Medicine), and Prof dr Taruna Ikrar, MD, MBiomed, PhD (Physician and Biomedical scientist; the Director of IAMRA (International Association of Medical Regulatory Authorities; and the Chairman of the Indonesian Medical Council (Ketua Konsil Kedokteran Indonesia/KKI)). (sis).

dr Nerina Mayakartifa, MSc, SPD FINASIM shares her experiences in treating the patients during the Covid-19 Pandemic

Mr Asim delivers his questions to the resource person

The participants are registering for the Talkshow and Discussion on Elevating Awareness on the Health of Employees and their Families

Increasing Visibility, SEAMEO BIOTROP Initiates Collaboration with Mindanao State University (MSU) of the Philippines

An Orientation Webinar between SEAMEO BIOTROP and the Mindanao State University (MSU) of the Philippines with the theme "Strengthening Collaborative Ties between BIOTROP and MSU and Increasing Regional Visibility: What BIOTROP and MSU Can Both Do Together" was held on 19 October 2021. The Webinar was aimed at increasing collaboration between SEAMEO BIOTROP and the Mindanao State University through training, publications, research and development of tissue culture technology. The webinar was attended by 102 participants consisting of researchers, lecturers, and associate professors from MSU, SEAMEO BIOTROP, and Institut Pertanian Bogor (IPB).

The webinar was officially opened by the Director of SEAMEO BIOTROP, Dr. Zulhamsyah Imran. In his opening remarks, Dr. Zulhamsyah Imran stated that it is important to increase the visibility of SEAMEO BIOTROP by embracing all opportunities in this digital era. He further stated that there are three major disruptions that we need to adapt to during this digital era, namely digital disruption, the Covid-19 pandemic, and climate change. "Because of these challenges, SEAMEO BIOTROP is reformulated its new vision to become a reputable center for saving biodiversity from mountains to oceans by 2050", Dr Zulhamsyah stated. "The changes of SEAMEO BIOTROP's vision, mission, flagship programs, and strategic programs are aimed to deal with dynamic changes, threats, and opportunities in the national, regional and international regions", he added.

The webinar was divided into 2 sessions. The first session presented resource persons and topics from SEAMEO BIOTROP, i.e., 1. Ms. Sri Widayanti, MSi (Research); 2. Ms. Dewi Suryani, MM (Training and Other Learning Activities); 3. Dr Erina Sulistiani (Manufacturing Products); 4. Ms. Rima Febriana, SE (Publication and Information Dissemination).

The second session was divided into three breakout rooms. Resource persons and topics in breakout room 1 were: 1. Dr Erina Sulistiani (Tissue Culture on Agricultural Plants, Ornamental Plants and Seaweed); 2. Dr Ulfah J. Siregar (Biotechnology for Tropical Agriculture and Forest Products); and 3. Ms. Risa Rosita, MSi (Restoration of Ex-Coal Mining Land using Phytoremediation). In breakout room 2, there were 4 speakers and topics, i.e., 1. Dr Soekisman Tjitrosemito, MSc (The New Concept of Weeds and Their Management); 2. Ms. Indah Wahyuni, MSi (Herbarium of SEAMEO BIOTROP); 3. Ms. Ina Retnowati (Spoilage Fungi and Mycotoxins in Foodstuff); and 4. Dr Idham Sakti Harahap (Stored Product Pest Management). Resource persons and topics in breakout room 3 were: 1. Dr Supriyanto (Indonesian Essential Oils); 2. Mr. Harry Imantho, MSc (Remote Sensing and Geographic Information System to Support Precision Agriculture Practices); 3. Dr Ayi Rahmat (Production and Development of Organic Liquid Fertilizer, Hybrid Solar System and IOT for Hydroponic System); and 4. Ms. Shella Marlinda, MSi (Development Cultivation of Crayfish, Ornamental Fish, Aquaponic, and Fish Feed Production). (day).

SEAMEO BIOTROP Joins the FGD on Merdeka Belajar Camp, in Lombok, West Nusa Tenggara Province

In collaboration with the Institute of Education Quality Assurance (Lembaga Penjaminan Mutu Pendidikan/LPMP) of the West Nusa Tenggara Province, the SEAMEO Centers in Indonesia organized an FGD on Merdeka Belajar Camp. The FGD aimed to synergize education strategies to support the Merdeka Belajar Program of the Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia. The event was held on 28-30 September 2021 and was participated by 40 participants from the SEAMEO Centers in Indonesia, LPMP of West Nusa Tenggara Province, Universitas Mataram, Universitas Muhammadiyah Mataram, the Provincial Education Office West Nusa Tenggara Province, and the Municipal Education Office Mataram. (sis)

The Director of SEAMEO BIOTROP (left) and the Rector of the Institute of Education Quality Assurance of West Nusa Tenggara Province (right)

The Director of SEAMEO BIOTROP (left) and the Rector of the Institute of Education Quality Assurance of West Nusa Tenggara Province (right)

International Workshop on "Indonesia Sea as Global Climate Engine: Climate Change and Coastal Resilience"

In response to the pressing issue of global climate change, SEAMEO BIOTROP held a blended International Workshop on Climate Change (IWCC) with the theme "Indonesia Sea as Global Climate Engine: Climate Change and Coastal Resilience". The workshop held on 7-8 October 2021 was aimed to share knowledge and information on climate change and coastal resilience, to increase public attention and understanding about the importance of coastal resilience as well as to strengthen the interaction among the government, universities, practitioners and stakeholders to manage coastal disaster into coastal resilience.

The International Workshop was officically opened by Prof Arif Satria, Rector of Institut Pertanian Bogor and also SEAMEO BIOTROP Governing Board from Indonesia. In his opening remarks, Prof Arif mentioned that Indonesia's biodiversity is a foundation for developing Agro-Maritime concept. The Agro-Maritime 4.0 is needed to guard Indonesia's biodiversity from mountain to ocean that may have been destroyed due to climate change. "I do hope that this international workshop resulted in the solutive concept to overcome various disturbances on biodiversity caused by climate change", Prof Arif added. He further said that working papers resulting from this workshop should be disseminated to increase the understanding of climate change.

The workshop was divided into 4 parts, i.e., the morning speech, the plenary session, the parallel sessions and a talkshow. Resource persons and presentations for the morning speech were Prof Danielle Wood, Director of Space Enabled Research Group, MIT Media Lab (Decision Support Model & Visualization for Assessing Environmental Phenomena, Ecosystem Services, and Policy Consequences for sustainable Indonesia Seas"); Prof David Lagomasino, Department of Coastal Studies, East Carolina University ("Mangrove Planning for Urban Areas as The Way To Reduce The Impact Of Disaster Due To Climate Change"); Prof Dr Julie Winkler, Michigan State University ("Climate Scenario for Non-Scientist"); and Prof. Rajagopalan Balaji, Colorado University ("Extreme weather and climate over coastal areas").

The plenary session was enriched by 5 resource persons and presentations from the Government Institutions, i.e., Dr Nani Hendiarti, Deputy of Environment and Forestry Coordination of the Coordinating Ministry for Marine Affairs and Investment ("Development Strategy on Coastal Management in Combating Climate Change Impact"); Dr Ir Arifin Rudiyanto, MSc, Deputy for Maritime Affairs and Natural Resources, the Ministry of National Development ("Development Planning on Climate Change and Coastal Resilience"); Ir Laksmi Dhewanthi, MA, Director General of Climate Change Control, the Ministry of Environment and Forestry ("Connecting International Frameworks and National Determined Contribution on Climate Change and Coastal Resilience"); Dr Paradhika Galih Satria, Fiscal Policy Agency, the Ministry of Finance ("Financial Support on Climate Change and Coastal Resilience"); and Prof Dr Ir Rokhmin Dahuri, MS, Minister of Maritime Affairs and Fisheries period 2001-2004 ("Governance Biodiversity on Academic Point of View").

The parallel sessions were divided into 3 session i.e., 1. Implementation and Participation; 2. Impact Action; and 3. Solution. The Implementation and Participation session featured 4 speakers and presentations i.e., Dr Ir Dodo Gunawan, DEA, Head of the Climate Change Information Center, Meteorology, Climatology and Geophysics Agency ("Climate Change Information Services for Coastal Areas"); Chris McCowen, PhD, Lead Marine Scientiest of UNEP-WCMC ("The Role of the Natural Environment in Adaptation"); Ir Sri Tantri Arundhati, MSc, Director of Climate Change Adaptation, Ministry of Environment and Forestry ("Vulnerability of Mangroves Ecosystems in Confronting Climate Change"); Ir Anita Heru Kusumorini, MSc, Head of BAPPEDA Pekalongan City ("Efforts to Develop the Coastal Area of Pekalongan in Overcoming Climate Change Disasters"). The Impact Action session featured 5 resource persons and presentations i.e., Prof Yangfan Li, College of the Environment and Ecology from Xiamen University, ("Coastal Resilience, Climate Change and Urbanization"); Ir Afrail Rosya, MA, MSi, Director of Early Warning, National Disaster Management Agency ("Early Warning for Disaster Risk Prevention"); Dr Eng Nita Yuanita, ST, MT, Institut Teknologi Bandung ("Coastal Impact Assessment"); Mr Joga Dharma Setiawan, BSc, MSc, PhD, Universitas Diponegoro ("Nano-Satellites for Marine Coastal Monitoring"); Dr Zulhamsyah Imran, Director of SEAMEO BIOTROP ("A Coastal Communities Resilience: A Case Study on Recovery of Fisheries Livelihood Aftermath Disaster"). The Solution session was enriched by 4 resource persons and presentations i.e., Dr Muhammad Helmi, Ssi, MSi, Universitas Diponegoro ("Coastal Risk and Adaptaion Option"); Dr Ing Widodo S. Pranowo, Marine Research Center, Ministry of Marine Affairs and Fisheries ("Coastal Governance"); and M. Taswin Munier, SPi, MSc, Environmental Policy Advisor for GGGI ("Contribution Action of Non-State Actors in Coastal Sustainable Management").

The talkshow featured Dr Mego Pinandito, MEng, Acting Deputy for the Use Research and Innovation Agency ("Collaborative Research on Climate Change and Coastal Resilience") and Ir Wisnu Sardjono Soenarso, MEng, Director of Research Facilities, LPDP ("Funding Opportunities for Research on Climate Change and Coastal Resilience").

The workshop was attended by 411 participants consisted of researchers, lecturers, government agencies, and general public from Indonesia and abroad. (sis).

SEAMEO Centers Indonesia Strengthen Collaboration in Sumatera

SEAMEO Centers Indonesia (SCI) inked Memorandum of Understanding (MoU) and Memorandum of Agreement (MoA) with the District Government of Ogan Ilir (OI) and the District Government of Ogan Komering Ulu (OKU) on 9 - 10 December 2012 In Jakarta. The signing of the MoU and MoA was held as a follow-up action from the meeting between SEAMEO Center Indonesia with the Provincial Government of South Sumatera last October 2021.

"Collaboration between SEAMEO and the Provincial Government of South Sumatera has been going on for a long time with SEAMOLEC in the Ogan Ilir District. We do hope that in the future, all of SEAMEO Centers can join and work together with us in increasing teachers' capacity in South Sumatera Province", said Dra. Poniyem, the Head of Provincial Educational Office of South Sumatera, in her welcome remarks representing the Provincial Government of South Sumatera.

The signing of MoU and MoA was initiated by identifying potentials to strengthen SCI programs in South Sumatera Province, especially in the Ogan Ilir (OI) and Ogan Komering Ulu (OKU) District. The District Governments of OI and OKU welcomed the idea of working together with SCI in increasing teachers' capacity from early childhood to high school levels.

In strengthening the stunting convergence program, the OI and OKU District Governments welcomed the support in conducting sensitive nutrition intervention, language learning, long-distance learning, strengthening local food, and environmental sanitation program. "The collaboration between SEAMEO Center Indonesia and the Provincial Government of South Sumatera is sustained by prioritization and supports from the local government", said Dr Gatot Hari Prijowirjanto, the SCI Coordinator.

The event was participated by the Directors of the 7 SEAMEO Centers in Indonesia and 23 participants from the BAPPEDA (Provincial Development Planning Agency of South Sumatera), Provincial Educational Office of South Sumatera, Provincial Health Office of South Sumatera, and other regional offices from the South Sumatera Province, Ogan Ilir District and Ogan Komering Ulu District. (Source: SEAMEO Centers Indonesia; translated by Sri Ismawati Soerianegara, SEAMEO BIOTROP).

The Directors of the Seven SEAMEO Centers in Indonesia show the signed MoU and MoA with the District Government of Ogan Ilir and the District Government of Ogan Komering Ulu

SMARTS-BE Program: Workshop on the Development of SMK as the Model for Agro Eco Edutourism

Among SMARTS-BE Program is developing SMK (Vocational High School) as the Model for Agro Eco Edutourism. The Agro Eco Edutourism is a segment of tourism offering agricultural products, promoting environmental conservation and educational materials to elevate the community's skills and welfare.

In determining the potential of each SMK to become the Model for Agro Eco Edutourism, a series of webinars have been carried out since 2018 to assess the potential of each SMK in becoming a model for Agro Eco Edutourism. Several technical guidance activities were held in several SMKs, such as UPT SMKN 2 Muara Enim, SMKN 1 Kelapa, SMKN 63 Jakarta, SMK PPN Saree, dan SMKN 1 Petang (Bali). The technical guidance activities were also participated by other surrounding SMKs.

As the follow-up activity of the technical guidance activities, SMARTS-BE Program held a Workshop on the Development of SMK as the Model for Agro Eco Edutourism on 1-3 November 2021. The workshop aimed to seek inputs for developing the Model of SMK to become Agro Eco Edutourism, based on potential in the respective SMKs and the determined criteria, indicators, parameters, and verifiers. The workshop also aimed to develop a guideline for developing SMK as the Model for Agro Eco Eductourism.

In his remarks, the Director of PSMK of the Ministry of Education, Culture, Research and Technology of the Republic of Indonesia (Kemendikbudristek), Dr Drs Wardani Sugiyanto, MPd stated that the SMK partners of the SMARTS-BE Program of SEAMEO BIOTROP are ready and able to realize the concept of Agro Eco Edutourism, especially with the mentoring program from SEAMEO BIOTROP. The Acting Head of the Bureau of Cooperation and Public Relation of Kemendikbudristek, Mr Anang Ristanto, SE, MA shared his gratitude to SEAMEO BIOTROP for having committed in continuously mentoring the SMKs in this program.

He also shared his expectation that SEAMEO BIOTROP would provide mentoring program toward other levels of education. The Director of SEAMEO BIOTROP, Dr Zulhamsyah Imran, stated that SEAMEO BIOTROP would oversee the Agro Eco Edutourism Program of SMARTS-BE for Agriculture SMK.

Topics and resource persons presented in this workshop were:

1. The management development of agro eco edutourism (Dr Ricky Avenzora);
2. Integrated sustainable development in developing agro eco edutourism in SMK (Dr Zulhamsyah Imran);
3. The landscape of agro eco edutourism (Mr. Surapati SP);
4. Searching for students' interests and talents (Dr Supriyanto);
5. The Concept of developing the model of SMK to become agro eco edutourism at the 10 SMKs, i.e., SMKN 1 Tulungagung, SMKN 2 Slawi, SMKN 1 Petang, SMK PPN Saree, SMKN 2 Metro, SMKN 1 Kelapa, SMKN 1 Cibadak, SMKN 1 Pacet, SMKN 2 Subang, SMKN 63 Jakarta; and 6. The making of proposals for developing the model of SMK to become agro eco edutourism and the offered featured products.

The 170 participants were teachers and facilitators from 33 SMK partners of the SMARTS-BE Program. The outputs of the workshop were: 1. The Agro Eco Edutourism will be called the Agro Eco Edutourism Nusantara. The name is chosen due to the fact that each SMK has its uniqueness in agriculture potential, social, culture and economics; 2. The criteria, indicators, parameters and verifiers can be applied to all SMKs that are willing to implement the Agro Eco Edutourism Nusantara Program; and 3. SEAMEO BIOTROP will develop a policy brief in regards to Agro Eco Edutourism Nusantara Program to be presented to the interested stakeholders. (sis/mf).

Implementation of SMARTS-BE program focused on 3 aspects, namely production, processing and marketing. The SMARTS-BE program is oriented to STEM-MaMa principle, i.e., Science, Technology, Engineering, Mathematics, Manufacturing and Management) so that the technology and products resulting from the SMARTS-BE program are readily adopted by the business and industry worlds. Long term objectives of the SMARTS-BE program are:

1. Increase the competence, creativity and innovative skills of teachers and students in agricultural fields in Indonesia and Southeast Asia.

2. Produce various products based on creativity and alternative technology innovation.

The monitoring and evaluation activities are among the essential activities in implementing the SMARTS-BE Program and aim to: 1. assess the conducted activities is in compliance with SMARTS-BE Program and 2. identify problems to be immediately solved.

The most recent monitoring and evaluation activities conducted by the SMARTS-BE team are as follows:

1. SMKN 2 Subang

   SMARTS-BE Program in SMKN 2 Subang has been going on since 2018 by planting 150 Siam Pontianak Orange trees in the 5,000 m2 school's yard and 100 Keprok Terigas Orange trees as tabulampot (potted fruit trees) in the 2,000 m2 school's yard. "Students actively maintain the trees and we have had several successful harvest times", said Ms. Eti Rohayati SP, the SMARTS-BE Field Coordinator at the SMKN 2 Subang. She also stated that the oranges are available all year round. SMKN 2 Subang is among SMKs that implements geospatial monitoring system for commodity maintenance. Aside from oranges, SMKN 2 Subang also processes agricultural products, such as guava juice, pineapple juice and pineapple soft candy.

   Looking at the vast school's yard as well as the advanced level of maintaining agricultural commodities and processing agricultural products, Ms. Sri Widayanti, MSi from SEAMEO BIOTROP suggested that SMKN 2 Subang develops Agro-Eco-Edutourim program in the near future. Mr. Deden Suryanto, SPd, MPd, the principal of SMKN 2 Subang, agreed with the suggestion and elaborated that the school has had several tracks leading to several sightseeing spots such as a harvesting area, a picture taking area and a gift shop.

2. SMK 2 SLAWI

   SMKN 2 Slawi has an area of 1.4 ha for learning and informational activities and 14.6 ha for agricultural practices. The school has Nursery and Germplasm Conservation Center, which has 150 rare and unique plant species, such as Baobab (Adansonia digitata) and Synsephalum dulcificum. Baobab is originated from Madagaskar, Africa and Australia. Baobab's tree diameter can reach 15 m and can reserve 120,000 liters of water. Baobab is used as food and cosmetics ingredients. *Synsephalum dulcificum* can change any taste in the tongue to become a sweet taste. The Conservation Center collects germplasm and is a learning center for grafting and cutting propagation techniques.

   Of the 14.6 ha school area, the 1.5 ha is used for implementing the SMARTS-BE program by planting 210 trees of Dekopon oranges, 80 longan trees, durian, watermelon and melon. Plant maintenance is carried out by students and hired gardeners, especially during the pandemic. Generally, one tree produces 4-5 oranges or 1.5 kg per tree. Only 10% of the planted orange trees have produced oranges.

   SMKN 2 Slawi has a teaching factory unit called "Sari Jeruk Vista", led by Ms Junjun Jubaedah, SP. The oranges are processed using the Good Manufacturing Procedure (GMP) and Hazard Analysis Critical Control Point (HACCP) methods. The orange juice products are marketed internally to teachers and students and externally via digital marketing, such as Shopee. The fresh fruits products, such as watermelon, melon, mango and Cavendish banana, are marketed to teachers, students, and communities in Tegal and Brebes Districts.

   Looking at the facilities and capabilities of SMKN 2 Slawi, Ms. Sri Widayanti, MSi from SEAMEO BIOTROP suggested that SMKN 2 Slawi starts the Agro-Eco-Edutourism program in the near future, which is agreed upon by Drs. AR Hartono, M. MPd, the principal of SMKN 2 Slawi.

3. SMKN 63 Jakarta

   SMKN 63 Jakarta has become a Center of Excellence school and reached the status of Badan Layanan Umum Daerah (BLUD/Public Service). The school has already implemented the Agro-Eco-Edutourism program.

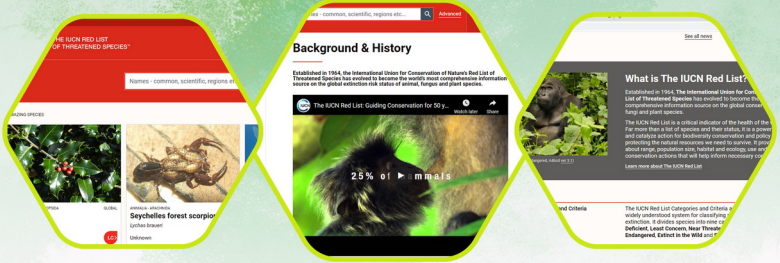
   SMARTS-BE Program is implemented by SMKN 63 Jakarta by planting and producing oranges, crystal guava, orchid and ornamental plants. The agricultural derivative products manufactured by the school are bir pletok (traditional beverage), orange juice and marmalade.

   The school has 4 competence that can be applied to the Agro-Eco-Edutourism program. The 4 competence are: 1. Food crops and horticulture agribusiness; 2. Post-harvest and agricultural derivative products; 3. Landscape design; and 4. Plant breeding and propagation. These 4 competences are developed into excellence which brings SMKN 63 Jakarta to reach the status of Badan Layanan Umum Daerah (BLUD). Currently, the school has owned superior products developed from the 4 competence, i.e., 1. Food crops and horticulture agribusiness which produces fresh vegetables; 2. Post-harvest which produces flour, bread, powdered and liquid bir pletok (traditional beverage); 3. Landscape design which produces ornamental plants and garden maintenance; and 4. Plant breeding and propagation which produces orchid and ornamental plants propagated using tissue culture technique. (sis/mf).

Useful Website

IUCN Red List

Source: https://www.iucnredlist.org/



Background & History

Established in 1964, the International Union for Conservation of Nature's Red List of Threatened Species has evolved to become the world's most comprehensive information source on the global extinction risk status of animal, fungus and plant species

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The IUCN Red List is a critical indicator of the health of the world's biodiversity. Far more than a list of species and their status, it is a powerful tool to inform and catalyze action for biodiversity conservation and policy change, critical to protecting the natural resources we need to survive. It provides information about a range, population size, habitat and ecology, use and/or trade, threats, and conservation actions that will help inform necessary conservation decisions.

The IUCN Red List is used by government agencies, wildlife departments, conservation-related non-governmental organizations (NGOs), natural resource planners, educational organizations, students, and the business community. The Red List process has become a massive enterprise involving the IUCN Global Species Program staff, partner organizations and experts in the IUCN Species Survival Commission and partner networks who compile the species information to make The IUCN Red List the indispensable product it is today.

To date, many species groups including mammals, amphibians, birds, reef-building corals and conifers have been comprehensively assessed. As well as assessing newly recognized species, the IUCN Red List also re-assesses the status of some existing species, sometimes with positive stories to tell. For example, good news such as the downlisting (i.e., improvement) of a number of species on the IUCN Red List categories scale, due to conservation efforts. The bad news, however, is that biodiversity is declining. Currently, there are more than 142,500 species on The IUCN Red List, with more than 40,000 species threatened with extinction, including 41% of amphibians, 37% of sharks and rays, 34% of conifers, 33% of reef-building corals, 26% of mammals and 13% of birds.

Despite the high proportions of threatened species, we are working to reverse, or at least halt, the decline in biodiversity. Increased assessments will help to build The IUCN Red List into a more complete 'Barometer of Life'. To do this, we need to increase the number of species assessed to at least 160,000. This will improve the global taxonomic coverage and thus provide a stronger base to enable better conservation and policy decisions. The IUCN Red List is crucial not only for helping to identify those species in need of targeted recovery efforts but also for focusing the conservation agenda by identifying the key sites and habitats that need to be protected. Ultimately, The IUCN Red List helps to guide and inform future conservation and funding priorities.

Barometer of Life

In much the same way as a barometer measures atmospheric pressure to help us prepare for adverse weather conditions, The IUCN Red List measures the pressures acting on species, which guides and informs conservation actions to help prevent extinctions. This is why The IUCN Red List is often referred to as a Barometer of Life.

To date, more than 142,500 species have been assessed for the Red List. This is an incredible achievement. However, our work is not complete. We need to increase the number of assessments for animal, fungi and plant species to ensure that The IUCN Red List continues to serve as a powerful conservation tool.

The Goal: 160,000 species

Our goal is to assess at least 160,000 species. Achieving this will further improve the ability of The IUCN Red List to provide the most up-to-date information on the health of the world's biodiversity, and thereby guide critical conservation actions.

To reach 160,000 species, we need to do two things:

1. Increase the number of experts trained to carry out IUCN Red List assessments.
2. Significantly increase the number of species being assessed each year.

Progress So Far

Currently, the IUCN Global Species Programme is managing data for over 142,500 species, and this number is set to increase substantially in the next few years. Over 134,400 species are well documented, with supporting information on ecology, population size, threats, conservation actions and utilization.

There are also over 115,300 species with distribution maps. The data held on The IUCN Red List includes non-threatened as well as threatened species, and some taxonomic groups have been completely, or almost completely assessed, including mammals, birds, amphibians, freshwater crabs, warm-water reef-building corals, sharks and rays, groupers, wrasses, lobsters, conifers and cycads.

The IUCN Red List grows larger with each update as newly described species and species from less well-known groups are assessed for the first time (Figure 1). IUCN and its partners are working to expand the number of taxonomic groups that have full and complete Red List assessments in order to improve our knowledge of the status of the world's biodiversity.

Limitations of the Current Data

There are some important limitations to the current dataset that needs to be fully understood before any analysis based on Red List data can be undertaken. The species groups covered so far are biased towards terrestrial, and in a particular forest, ecosystems. Among the better-documented species, there is also a strong bias towards animals, rather than plants or fungi; but steps are underway to rectify these biases.

Not all taxonomic groups have been completely assessed. It is im portant to consider this when looking at the numbers of species in each Red List Category; although The IUCN Red List gives a good snapshot of the current status of species, it should not be interpreted as a full and complete assessment of the world's biodiversity. Extinction risk assessments have been completed for around 6% of the world's described species, therefore IUCN cannot provide an overall estimate for how many of the planet's species are threatened.

Potential to Fill Current Gaps

Currently, the main gaps in coverage that IUCN and the Red List Partners are working on are plants, invertebrates, fungi, and freshwater and marine species. To guide this work, the IUCN Red List Committee has agreed and adopted a Strategic Plan for the Red List for the period 2017–2020. Result 1 of the Strategic Plan addresses the taxonomic and geographic expansion of The IUCN Red List. Under this Result, a number of Global Species Assessment Projects to address these biases have been agreed. In addition, a number of targets have been identified and agreed in collaboration with the IUCN SSC's Invertebrate Conservation, Marine Conservation and Plant Conservation Sub-Committees. However, both the pace and the extent of further developing the biodiversity assessments work is hugely constrained by the limited availability of financial resources.

Taxonomic Gaps

Plants – The IUCN Red List includes over 58,000 plant species, however, this still represents a small proportion of the world's known plants. To help address this gap, IUCN is pursuing a range of assessment projects and engaging with national Red List efforts. Examples include:

1. The Plants for People initiative focuses on assessing priority plant species in each of the following groups: crop wild relatives; medicinal plants; timber trees; and palms.
2. The Global Tree Assessment aims to assess the conservation status of every known tree species.

For further information about plant assessment projects, follow the links on the IUCN SSC Plant Specialist Group page.

Freshwater species – The freshwater system represents the most threatened of all ecosystems, and many species relying on these habitats have a very high livelihood value for local human communities. IUCN's freshwater focus is on the following taxonomic groups: fish; molluscs; crabs and crayfish; and dragonflies. The IUCN Freshwater Biodiversity Unit (FBU) aims to raise awareness of the unprecedented levels of threat to freshwater biodiversity. Through The River Bank initiative, the FBU is working towards increasing the number of freshwater species assessments on The IUCN Red List.

Marine species – The marine realm is still poorly covered in The IUCN Red List, comprising less than 15% of the species assessed. IUCN has identified priority taxonomic groups of marine fish, invertebrates, plants (mangroves and seagrasses) and macro-algae (seaweeds). If these priority groups can be assessed, the number of marine species on the IUCN Red List will be increased more than six-fold. For further details about the Global Marine Species Assessment, see the IUCN Marine Conservation Committee and Global Marine Species Assessment websites.

Reptiles – With the severe degradation of land across the globe exacerbated by the impacts of global climate change, arid and semi-arid systems are expanding. At present, arid ecosystems are very poorly covered by the species groups assessed so far and are also increasingly becoming degraded in most parts of the world. A complete assessment of all the world's 11,000+ reptile species is helping to fill this gap; this is also helping to complete the assessment of all terrestrial vertebrates. The reptile assessment is being initiated through a series of regional projects and good progress has been made with over 10,100 species now assessed (87% of all reptiles).

Invertebrates – The largest taxonomic group in the animal kingdom, it is estimated that around 97% of all animals are invertebrates. But invertebrates currently form only 32% of all animal assessments on The IUCN Red List. To improve the representation of this important group, IUCN has prioritized specific taxonomic groups for assessment, including comprehensive assessments for bumblebees, monarch butterflies, swallowtail butterflies, freshwater crustaceans, dragonflies, velvet worms, giant clams, abalones, sea urchins, and selected families of spiders, scorpions, and grasshoppers.

Fungi – Although fungi are one of the world's most biodiverse groups, they are also the most under-represented taxa on The IUCN Red List with fewer than 600 species assessments currently published. Fungi are vital components of ecosystems, are essential for nutrient recycling, and bring a wide range of benefits to human lives. To improve the representation of fungi on the Red List, IUCN is currently focusing on assessing a range of fungi groups, including selected groups of lichens, mushrooms, rusts, smuts, truffles, chytrids, slime molds, and mildews. For further information on fungi assessments, see The Global Fungal Red List Initiative website.

As more species are included on the Red List and the biases in the data are reduced, The IUCN Red List will provide a more solid basis for conducting global and regional analyses. In addition, these data will provide the basis for the indicators needed to measure progress towards the achievement of the Convention on Biological Diversity (CBD) 2020 Aichi Biodiversity Targets and beyond, as well as the United Nations Sustainable Development Goals (SDGs), particularly Goal 15 (Life on Land).