SEAMEO BIOTROP
Southeast Asian Regional Centre for Tropical Biology

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Annual Report
FY 2021 - 2022

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SEAMEO BIOTROP
ANNUAL REPORT FY 2021 - 2022

Southeast Asian Regional Centre for Tropical Biology
Jalan Raya Tajur Km. 6
Bogor 16134, Indonesia

SEAMEO BIOTROP Annual Report FY 2021 - 2022

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Vision:

To become a reputable center for sustainable biodiversity management in Southeast Asia

Missions:

- To deliver innovative products and technologies in science-education for saving biodiversity in transforming best practices for the betterment of Southeast Asia societies.
- To promote applied science education on sustainable use of biodiversity for the well-being of society in Southeast Asia.
- To build highly competent human resources for managing sustainable biodiversity in Southeast Asia.

MESSAGE FROM THE CHAIRMAN OF SEAMEO BIOTROP GOVERNING BOARD

Serious challenges on environmental problems are currently happening worldwide, such as biodiversity loss, climate change and land degradation. These are cross-cutting issues affecting the lives of people worldwide. Within this fiscal year in review, I see that SEAMEO BIOTROP has taken up a position as a connector among multi-stakeholder's initiatives that shorten the gaps between science and policy in responding to the regional demand across Southeast Asia. SEAMEO BIOTROP also has embraced these global and regional issues into the Center's program and activities.

During its journey, SEAMEO BIOTROP has been acknowledged by many stakeholders as a center that accommodates and serves many researchers as well as communities and vocational schools in the forms of internships, mentoring and partnerships. Many Memoranda of Understanding and Memoranda of Agreement have been signed between SEAMEO BIOTROP and research institutions, universities, vocational schools, and communities from Indonesia and abroad. Regular webinars and online talk-shows are presented by SEAMEO BIOTROP to deliver the designed programs and activities in articulating "Save Biodiversity" with the encapsulated vision "BIODIVERSITY ENRICHMENT FROM MOUNTAINS TO OCEANS FOR SUSTAINABLE HUMAN WELFARE".

It is great to see that SEAMEO BIOTROP has transformed the challenges into opportunities for sharing knowledge and practices, while at the same time reaching audiences globally without any borders across space and time. The digital technologies and platforms have made it possible for us to organize online meetings to discuss important issues attended by national leaders, prominent academicians, and famous persons worldwide. I can see that this digital platform has been utilized efficiently by SEAMEO BIOTROP so the Center can deliver products and services related to the Center's core subject in accommodating the international conventions and national interests across Southeast Asia countries.

As the Chairman of SEAMEO BIOTROP Governing Board, I congratulate the Director of SEAMEO BIOTROP and his staff for the commitments and excellent work for the Center. In this era of globalization and competition, the creativity, innovation and hard work are the key factors for survival. Save Biodiversity!

Prof Arif Satria
The Chairman of SEAMEO BIOTROP Governing Board

MESSAGE FROM THE DIRECTOR OF SEAMEO BIOTROP

Being established in 1968, SEAMEO BIOTROP that is located in Bogor, Indonesia, is among the oldest SEAMEO Centers in Southeast Asian region. With tropical biology as its main focus, SEAMEO BIOTROP has three mandates: research, capacity building, and knowledge and information dissemination in conserving and managing tropical biology sustainably for the well-being of communities and the environment of Southeast Asia.

The 2021/2022 fiscal year marks the end of SEAMEO BIOTROP's 10th five-year development plan. The 10th FYDP of SEAMEO BIOTROP envisioned the Center to become "a leading Center in enriching and promoting the real value of tropical biology in Southeast Asia", and has established clear impact pathways of its research, capacity building, and information dissemination activities in conserving and sustainably managing tropical biodiversity for the well-being of Southeast Asian communities and their environment.

In recognizing the national and regional demands, the Center undertakes profound changes in its approach and to reorient itself to a different level of organizational effectiveness and efficiency in strengthening its role in saving biodiversity. Thus, the Center develops concept notes on "Strengthening SEAMEO BIOTROP's Role in Saving Biodiversity" and redefines its program thrusts, as follows: 1) Restoration and conservation of unique and degraded ecosystems; 2) Sustainable of management and wise utilization of biodiversity, bioenergy, biotechnology, and food security; and 3) Strengthening ecosystem resilience to global climate change.

In the Framework of the 11th SEAMEO BIOTROP Five-Year Development Plan (2022-2027), the Center reformulates its vision to become a reputable Center for sustainable biodiversity management in Southeast Asia. Based on its three program thrusts, the Center also formulates its SEABID strategies to achieve its goals, as well as defining its 7 + 1 flagship programs and its activities to ensure SMART (Specific, Measurable, Achievable, Relevant and Timebound) goals and milestones.

I would like to thank the Ministry of Education, Culture, Research and Technology of the Republic of Indonesia, SEAMEO Member Countries, SEAMEO Council, SEAMEO Secretariat, SEAMEO BIOTROP Governing Board Members, the Board of Directors of the SEAMEO Centers, Managers, Researchers and all staffs at SEAMEO BIOTROP for working together in realizing the vision, missions and mandates of SEAMEO BIOTROP.

Thank you very much! Stay safe and healthy!

Wassalamualaikum wr wb.

Dr Zulhamsyah Imran
Director of SEAMEO BIOTROP

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Executive Summary

This Annual Report presents the achievements of SEAMEO BIOTROP during the Fiscal Year (FY) of 2021/2022, which are still within the Center's 10th Five-Year Development Plan. During the 10th FYDP, SEAMEO BIOTROP continuously improves from year to year to deliver excellent services in implementing the Center's main mandates, namely: Research, Training and Other Learning Activities, and Knowledge and Information Dissemination according to the Center's 10th FYDP. The Center stipulated the mandates into programs and activities to serve the targeted beneficiaries across the Southeast Asia region with reference to the Center's vision "to be a leading Center in promoting and enriching the real values of tropical biology in the Southeast Asia".

Some adaptations to the Center's programs, activities and outputs were made due to Covid-19 pandemic in accordance with the government's regulations, national situation as well as national budget revision. Nevertheless, the Center endeavored to implement programs to achieve its targets as planned.

The Center's accomplishments included in the Annual Report for FY 2021/2022 are classified into 4 Strategic Themes of SEAMEO Integrated Operational Plan 2021 - 2025 and its Key Results Area (KRA). The highlighted achievements for the period of July 2021 to June 2022 per KRA are as follows:

Strategic Theme 1: Regional Leadership and International and Global Visibility

KRA: Leading and Participating in Regional and Global Project, Programs, and Events for Better Visibility

Trainings & Learning Events

In the fiscal year in review, SEAMEO BIOTROP conducted a total of 35 trainings and other learning events. The activities consisted of 2 international workshops and 1 international conference, 10 national training courses, 4 regional and 11 national webinars, 1 talk show, 5 national workshops and focus group discussions and 1 in-house training. A total of 5,342 individuals from government institutions, schools, universities, research centers, and private sectors, benefited from these activities. SEAMEO BIOTROP conducted these events through online platform, face to face in the campus of SEAMEO BIOTROP, and through hybrid mode (online and offline platforms).

The Center conducted an international workshop on Climate Change with the theme "Indonesia Sea as Global Climate Engine: Climate Change and Coastal Resilience", and Regional Webinar titled "What does the Peatland Ecosystem Face in the Future". These workshops and regional training courses invited highly ranked officials from the Government of Indonesia (the Coordinating Ministry for Maritime and Investment Affairs; the Meteorology, Climatology and Geophysics Agency; the Ministry of Environment and Forestry; the Development and Planning Agency of Pekalongan City) and well-known professors, scientists, and practitioners from Indonesia, USA, China, and UK. The International Workshop on Climate Change was participated by 411 participants consisting of researchers, lecturers, government agencies, and general public from Indonesia and abroad.

KRA: Building SEAMEO Image as Regional Organization of Choice for Implementing SDG Relevant Work and Other Relevant Programs

Internship and On-the-job Trainings

To support the Merdeka Belajar Kampus Merdeka program of the Ministry of Education, Culture, Research and Technology of the Republic of Indonesia (MoECRT), the Center facilitated 5 students from the Agrotechnology Department, Faculty of Agriculture of the Universitas Pembangunan Nasional Veteran East Java to conduct their internship at SEAMEO BIOTROP. The students learned about the management of the Invasive Species and Modern Biotechnology Program which translated to 20 credits for their study subject.

At the beginning of 2022, the Center formulated its offered curriculum through workshops and Focused Group Discussions on "Potential for Implementation of the MBKM Program for Higher Education in Indonesia".

The Center accommodated a total of 197 students to conduct On-the-job Training at the Center's laboratories as well as other supporting departments. The Center also facilitated 18 students from universities in Indonesia to conduct their research.

Scientific Visits

During the fiscal year of July 2021-June 2022, the Center re-opened its scientific visit program. The Center accommodated 1,174 visitors from 45 schools, universities, government agencies, private companies, communities as well as regional/international institutions by implementing the mandatory health protocols regulated by the Government of Indonesia (GoI).

The designation of the Center as the venue for capacity buildings through the internship and on-the-job training programs and activities as well as scientific visits is in line with SDG No. 4 on Quality Education.

Strategic Theme 2: Program Excellence and SDG Relevance

KRA: Strengthening Research and Development

Research

For the fiscal year under review, the Center allocated the budgets from the Government of Indonesia (GoI) to fund 35 research projects, including 23 national research projects, 7 SMARTS-BE (School Fruit Garden for Education, Production, Genetic Conservation and Entrepreneurship in Agriculture Vocational Senior High Schools in Indonesia) Research projects, 1 PhD Thesis support grantee program, and 4 research projects from school garden teacher.

In 2022, SEAMEO BIOTROP has been focusing its research on supporting 6 Excellent programs, namely:

- Save Biodiversity for Future Generations.
- Biodiversity Ranking and Database from Mountains to Oceans.
- Agro-Eco-Edu Tourism.
- School of Ecology, Biodiversity, and Aquatic.
- Climate, Energy, and Environment Literacy on Biodiversity.
- Educational Model of Nature and Human-Made Biodiversity: In- and Out-Class Teaching Learning.

The research team in cooperation with the stakeholders of the GoI and educational institutions, private sectors, and national and international organizations, conducted research, disseminated knowledge, information, research findings, as well as research results. Under the coordination of MoECRT, the research team initiated cooperation or collaboration to conduct the work with government institutions (MoECRT, BRIN, MoEF), universities (IPB University, Universitas Indonesia, Universiti Brunei Darussalam, Universitas Mataram), and international partners (University of Wellington, Universiti Kuala Lumpur, Bangor University, and Google Indonesia).

The working mechanism was also changing by restructuring a research team for each key program. Each research team is guided by a principal researcher who hold a PhD degree, coordinated by the head of section assigned by the Center, and team members. The team is also encouraged to partner with relevant academicians, scientists, and professionals. The Center initiated a new program called BIOTROP Affiliates and Associates in the mid-2022 to systematically connect the Center's programs and its networks.

KRA: Enhancing Innovative Programs under SEAMEO Priority Areas

BIODIVERS, Bio-science General Magazine

In December 2021, the Center launched the first issue of BIODIVERS magazine, a scientific publication to increase awareness on issues related to Tropical Biodiversity from the Mountains to the Oceans (MOTO) and increase biodiversity literacy.

BIODIVERS is a bi-annual publication with International Standard Serial Number (ISSN) and is published every January and July. The magazine focuses on: 1) Restoration and conservation of unique and degraded ecosystems; 2) Sustainable of management and wise utilization of biodiversity, bioenergy, biotechnology, and food security; and 3) Strengthening ecosystem resilience to global climate change.

Articles published in BIODIVERS cover the results of research, short communication in which significant advances in knowledge are briefly announced, and reviews on specific topics.

Seaweed Seedlings Produced using Tissue Culture Technology

The Center in collaboration with the Ministry of Marine Affairs and Fisheries of the Republic of Indonesia conducted projects since 2014 to increase the productivity of high-quality seaweed seedlings through: 1) Technology transfer on tissue culture; 2) Micropropagule procurement; 3) Distribution of seaweed seedlings propagated using tissue culture technology; and 4) Technology assistance. As the results, the Ministry has since established 6 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.

Strategic Theme 3: Strategic Partnership Stakeholder Engagement and Linkages

KRA: Improving Stakeholders' Engagement to Ensure that Each Individual is Equipped with Relevant Skills to Deal with Rapidly Changing World of Work

Publication

In 2021, the Center's international scientific journal, BIOTROPIA, reached Q3 ranking based on Scimago Journal Rank (SJR) for agricultural and biological sciences, and ecology categories.

The Center published 3 issues of BIOTROPIA Journal, 4 monographs and/or technical guides on the Center's research activities and expertise. The Center also disseminated knowledge and information on the Center's activities and products through quarterly BIOCourier newsletter (previously BIOTROP Courier), brochures, official website, mass media, and social media. In support of training and other learning activities, the Center produced 4 series of technical guidance videos, 6 infographics, and 9 BIOSync podcast series. These products can be accessed at no cost by the users and general public via the Center's website and social media.

KRA: Expanding SEAMEO Membership and Partners, Optimizing Linkages from the Regional and Global Coalition and Alliances

Partnership and Linkages

In the fiscal year in review the Center signed 7 regional and 29 national Memoranda of Understanding, including the MoU with Mindanao State University on 28 July 2022. The Center also initiated regional and international collaboration with Pangasinan State University, Universitas Maritim Raja Ali Haji, Riau, Sumatera, and two private companies in Indonesia on the development of tissue culture technology for seaweed seedlings provision.

Strategic Theme 4: Digital Transformation and Rapid Changes Adoption

KRA: Removing Barriers to Digitalization and Education Innovation and Support to 21st Century Skills Development for Teachers, Education Personnel, and Learners

The Center's key program on Educational Model of Nature and Human-Made Biodiversity titled "In- and Out-Class Teaching Learning" is undergoing. Practically, the prototype of Agro-Eco-Edu Tourism at the Center's Campus is also formulated to provide new learning experience to teachers, education personnel, and learners. The engagement of these two initiatives with the stakeholders was started from several workshops and focus group discussion activities such as: 1) Workshop on Developing Multi-Stakeholders Collaboration on SEAMEO BIOTROP Agro-Eco-Edu Tourism Program in Supporting Education for Biodiversity Conservation that was conducted on 25 May 2022; 2) Workshop and Focus Group Discussion on Identification of Vocational School Needs in the Field of Tropical Biology; as well as 3) Workshop and Focus Group Discussion on Potential for Implementation of the MBKM Program for Higher Education in Indonesia on 9 March 2022.

KRA: Supporting Responsive Reform to Effectively Transform and Respond to the Changing Global Context in the Region, including Quality Management

Administration and Management

The Center has been implementing the new Organizational Management and Structure since the beginning of 2022, after the approval from the 59th Governing Board Meeting in 2021. The changes were made in respond to the national and international issues. With the new management and organization structure, the Center is expected to implement the management system more efficiently and effectively.

The Center already issued at least two director's memos and three director's decision letters equipped with guidance to effectively measure staff performance, manage individual travels, prepare financial reports, develop and conduct cooperation with partners, and disseminate highlighted external issues which affect the Center's business process, to staff members through management meetings. In line with the new Organizational Management and Structure, the Center continues to adopt the ISO 9001:2015.

The Center's 10th Five Year Development Plan (FYDP) ended on 30 June 2022. Therefore, the Center shall formulate its 11th FYDP for FY 2022-2027 and shall take considerations from the evaluation of the previous FYDP. In its 11th FYDP, to increase the Center's contributions and enhance the organization's visibility, the Center launched 8 excellent programs namely: Save Biodiversity for Future Generations; Biodiversity Ranking and Database from Mountains to Oceans; Agro-Eco-Edu Tourism; School of Ecology, Biodiversity, and Aquatic; Climate, Energy, and Environment Literacy

on Biodiversity; Educational Model of Nature and Human-Made Biodiversity: In- and Out-Class Teaching and Learning Processes; Development of Biological Engineering for Sustainable Use of Biodiversity; Institutional Governance and Human Resources Development.

Facility Management

The Center also made preparations for Pandemic-to-Endemic Transition by renovating facilities to support researches, trainings and other learning activities.

In 2022, the Center launched the new Studio to support podcast and other video materials productions. The Center also made preparations for Pandemic-to-Endemic Transition by renovating facilities to support researches, trainings and other learning activities.

Financial Viability

For the fiscal year of July 2021 to June 2022 the Center received a total of USD 1,055,945 from Government of Indonesia to support national researches, trainings, information dissemination and operational activities, and USD 71,000 from SEAMEO to support regional researches, trainings, international conferences, Governing Board Meetings and personnel exchange program.

The funds were utilized according to the standard procedure established by the Center in accordance with the GoI and Financial Operating Manual (FOM) guidelines. The funds from cooperation with partners, i.e., mostly at the national level, were also received and disbursed following the standard procedures. The Center is also currently establishing impact-based measures for funds' utilization per researcher or staff and unit or department corresponding with the deliverables in the forms of publications, services, and products.

DESIGN AND ELEMENT

The **Design**

Since its establishment on 6 February 1968, SEAMEO BIOTROP has continuously improved to deliver excellent services in implementing the Center's main mandates, research, capacity building, and information dissemination in the field of tropical biology. Currently, SEAMEO BIOTROP is hosted by the Government of Indonesia under the Secretary General of the Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia with a home base at IPB University, Bogor, Indonesia.

Based on the Center's mandates, the international challenges on environmental treaties on Climate Change (UNFCCC), Biodiversity (UNCBD), and Land Degradation (UNCCD) adopted by the ASEAN and the host country, Indonesia. The Center promotes the focal theme of "Tropical Biodiversity Enrichment" to advocate program actions from laboratory to field works. This focus helps the Center to define management strategies and indicators in order to enhance the Center's leadership, visibility, and solid resource base as the Key Resource Areas of the SEAMEO Strategic Plan 2021-2030 and the 9th SEAMEO Integrated Operational Plan. The Center formulates strategic actions for restructuring the functions of management units (i.e., department, laboratory, service and business units) and the main indicators toward institutional recognition and infrastructure sustainability (Figure 1)

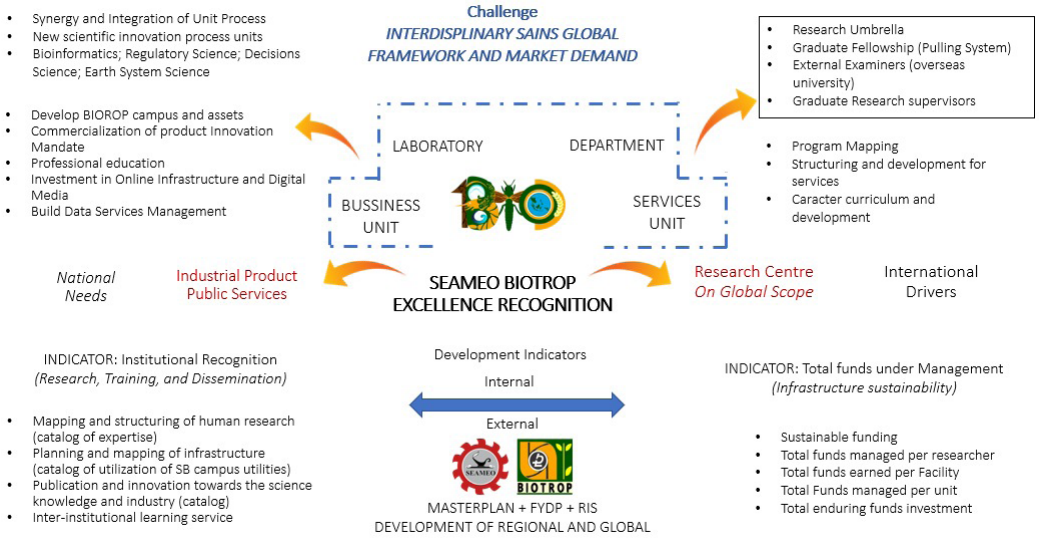


Figure 1. The Strategic Actions for Restructuring the Functions of Management Units and the Formulation of Main Indicators of Institutional Recognition and Infrastructure Sustainability toward SEAMEO BIOTROP Excellence Recognition

SEAMEO BIOTROP believes that FYDP is an important tool for institutionalizing, guiding and implementing SEAMEO BIOTROP's program in order to achieve the Center's vision, missions and objectives. The year of 2022 marks the end of SEAMEO BIOTROP's 10th Five-Year Development Plan (FYDP) that is effective for Fiscal Year 2017 - 2022. Therefore, the evaluation results and better practices conducted in the 10th FYDP were considered and analyzed to provide the basic data and information for developing the new vision, missions, program thrusts, flagship programs, strategic plans, priority programs as well as activities and budget plans in the period of 2022-2027.

The Center's 11th FYDP document was produced through various participatory consultation and discussion processes conducted from July 2021 to June 2022. Multiple studies and data analyses were conducted to define development strategies, flagship programs, projects and activities such as Desk research, SWOT analysis (Strengths, Weaknesses, Opportunities, Threats), GAPs, and theoretical analysis of change.

Those analyses were also supported by Strategic Mapping and ensuring SMART (Specific, Measurable, Attainable, Reasonable, Time Bond) Goals to formulate Key Performance Indicators (KPI) and budget plans. All processes in establishing the 11th FYDP supported

the achieved agreements in defining the roles and responsibilities in achieving SEAMEO BIOTROP's goals and vision. Series of workshops and focus group discussions were carried out to formulate programs, projects, activities and budget plans in the period 2022-2027.

In formulating program priorities for the 11th FYDP, several factors were considered: 1) Programs are designed to support the achievements of the Program Thrusts and the Flagship Programs; (2) Programs should be aligned and supportive of the SEAMEO Strategic Plan 2021-2030; (3) Programs should be aligned with the SEAMEO 7 Priority areas in science and education; and (4) Programs should be supportive of the achievement of SDGs and ASEAN 2030 (Figure 2).

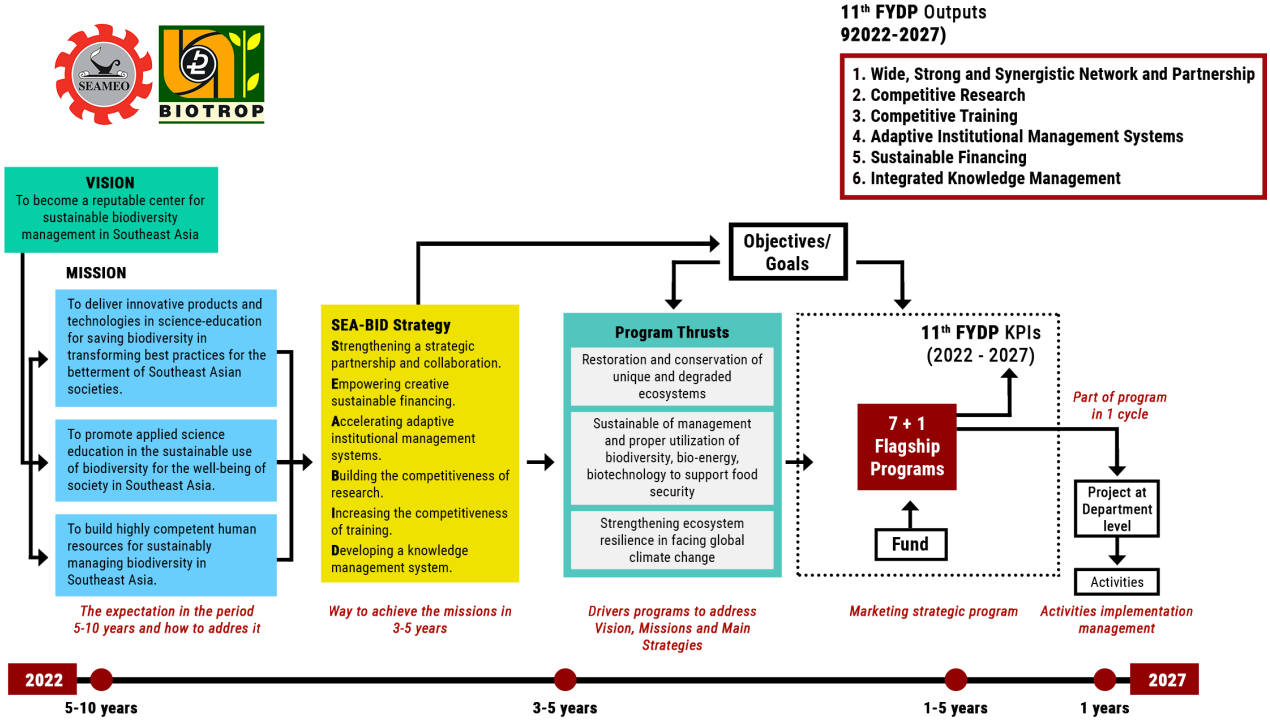


Figure 2. SEAMEO BIOTROP 11th FYDP Strategic Actions

Based on regional strategic issues and SWOT analysis, SEAMEO BIOTROP needs to adjust its Vision and Missions. SEAMEO BIOTROP's new vision is to become a reputable center for sustainable biodiversity management in Southeast Asia. This new vision was generated through a series of participatory workshop and shared commitment among stakeholders.

Being a reputable center in Southeast Asia refers to the capability of SEAMEO BIOTROP to fulfill or achieve its mandates, namely:

- SEAMEO BIOTROP takes the lead in science-education on Biodiversity, Biotechnology, Bioprospecting and Bioproducts (science-education).
- SEAMEO BIOTROP manages innovative and creative human capacity building based on customer/market needs (human capacity building).
- SEAMEO BIOTROP connects science and the learning system based on Applied Digital Science Technology (information dissemination).

SEAMEO BIOTROP has set a target for its flagship subprogram, namely research and development of a model in the field of tropical biology in the Southeast Asian region. SEAMEO BIOTROP's program thrusts are in line with SEAMEO Priority Area 3 (prioritizing resilience in the face of emergencies), 4 (promoting TVET), and 6 (harmonization higher education and research). The featured program thrusts consist of:

- Restoration and conservation of unique and degraded ecosystems;
- Sustainable of management and wise utilization of biodiversity, bioenergy, biotechnology, and food security; and
- Strengthening ecosystem resilience to global climate change.

Elements

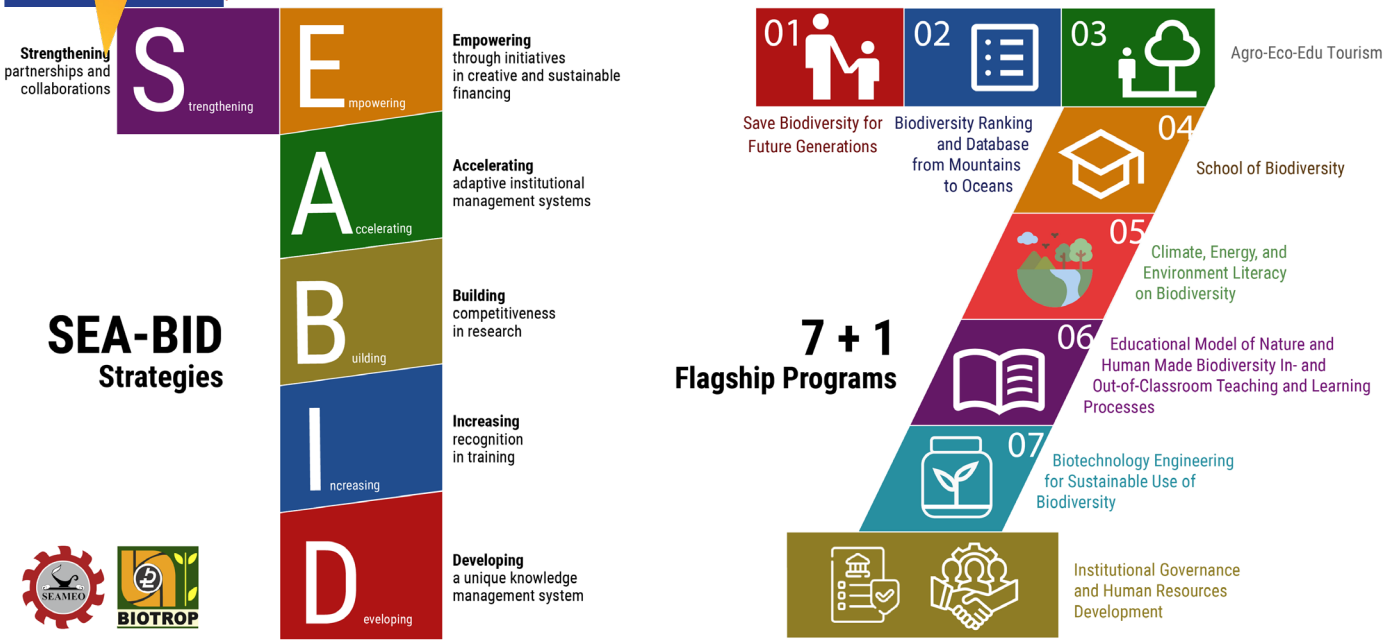


Figure 3. SEAMEO BIOTROP's SEA-BID Strategies and 7+1 Flagship Programs

SEAMEO BIOTROP's realizes that the key component to reach its vision and recognition as a reputable center for sustainable biodiversity management in Southeast Asia, relies on the Center's contribution to produce competent human resources through the development of creative biodiversity learning models that can be adopted and implemented by schools and human resources for education staff in Indonesia.

SEAMEO BIOTROP will implement strategies in the 11th FYDP to optimize program achievements and impact. Furthermore, these strategies need to adjust with progressive strategy approaches. The tagline "SEA-BID Strategy" has been compiled to reflect the progressive strategy approaches used in the 11th FYDP 2022-2027 of SEAMEO BIOTROP. The SEA-BID strategy includes strengthening, empowering, accelerating, building, increasing and developing efforts toward biodiversity conservation.

SEAMEO BIOTROP Flagship program is a series of programs and activities formulated by translating SEAMEO BIOTROP program thrust in order to realize its 11th FYDP output targets. The flagship programs consisted of 7 programs and 1 institutional governance and human resources development. The flagship programs are: 1) Save Biodiversity for Future Generations; 2) Biodiversity Ranking and Database from Mountains to Oceans; 3) Agro-Eco-Edu Tourism; 4) School of Biodiversity; 5) Climate, Energy, and Environment Literacy on Biodiversity; 6) Educational Model of Nature and Human Made Biodiversity: In-and Out-of-Classroom Teaching and Learning Processes; 7) Biotechnology Engineering for Sustainable Use of Biodiversity; and 8) Institutional Governance and Human Resources Development.

In the 11th FYDP, SEAMEO BIOTROP internalizes and formulates its core values referring to SEAMEO's core values. The new core value of SEAMEO BIOTROP is called SCIENCE: Sustainability, Creativity, Integrity, Equality, Naturality, Connectivity and Egality.

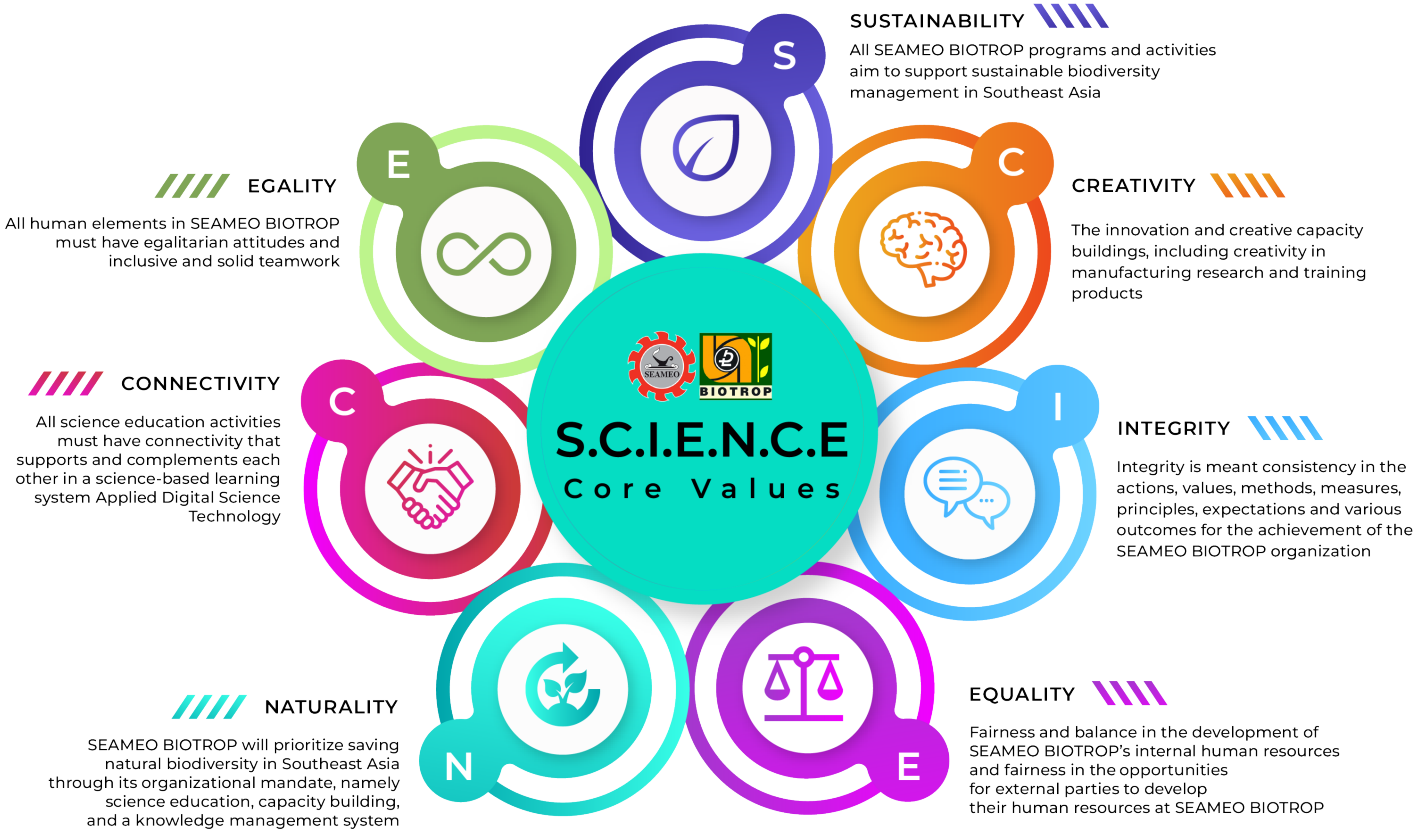


Figure 4. SCIENCE Core Values of SEAMEO BIOTROP

SEAMEO BIOTROP strives to realize the stakeholders and values through the implementation of good corporate governance (SOTK). With the implementation of SOTK, organizations acquire balance both internally and externally, while also maintaining transparent business ethics in accordance with applicable regulations. Implementation of the New SOTK can help SEAMEO BIOTROP to enhance the management of its business operations while maintaining the Center's reputation that complies with the applicable laws and regulations. The implementations of SOTK refer to the following five principles:

- **Transparency**; the principle of transparency prioritizes the decisions making process and discloses materials and relevant information regarding the company's business activities.
- **Accountability**; the principle of accountability provides clarity on the functions and responsibilities of each department in the institution as well as the effective implementation of functions and responsibilities.
- **Responsibility**; SEAMEO BIOTROP continuously upholds the principle of responsibility in making business activities in accordance with the applicable laws and regulations in Indonesia, sound corporate principle and the implementation of corporate social responsibility commitment.
- **Fairness**; the principle of fairness and equality in fulfilling the stakeholder in accordance with the applicable laws and regulations.
- **Independency**; the principle of independency puts forward justice in managing the company professionally without dominations, conflict of interest, or intimidation from various parties that is contrary to the law and sound corporate principles.

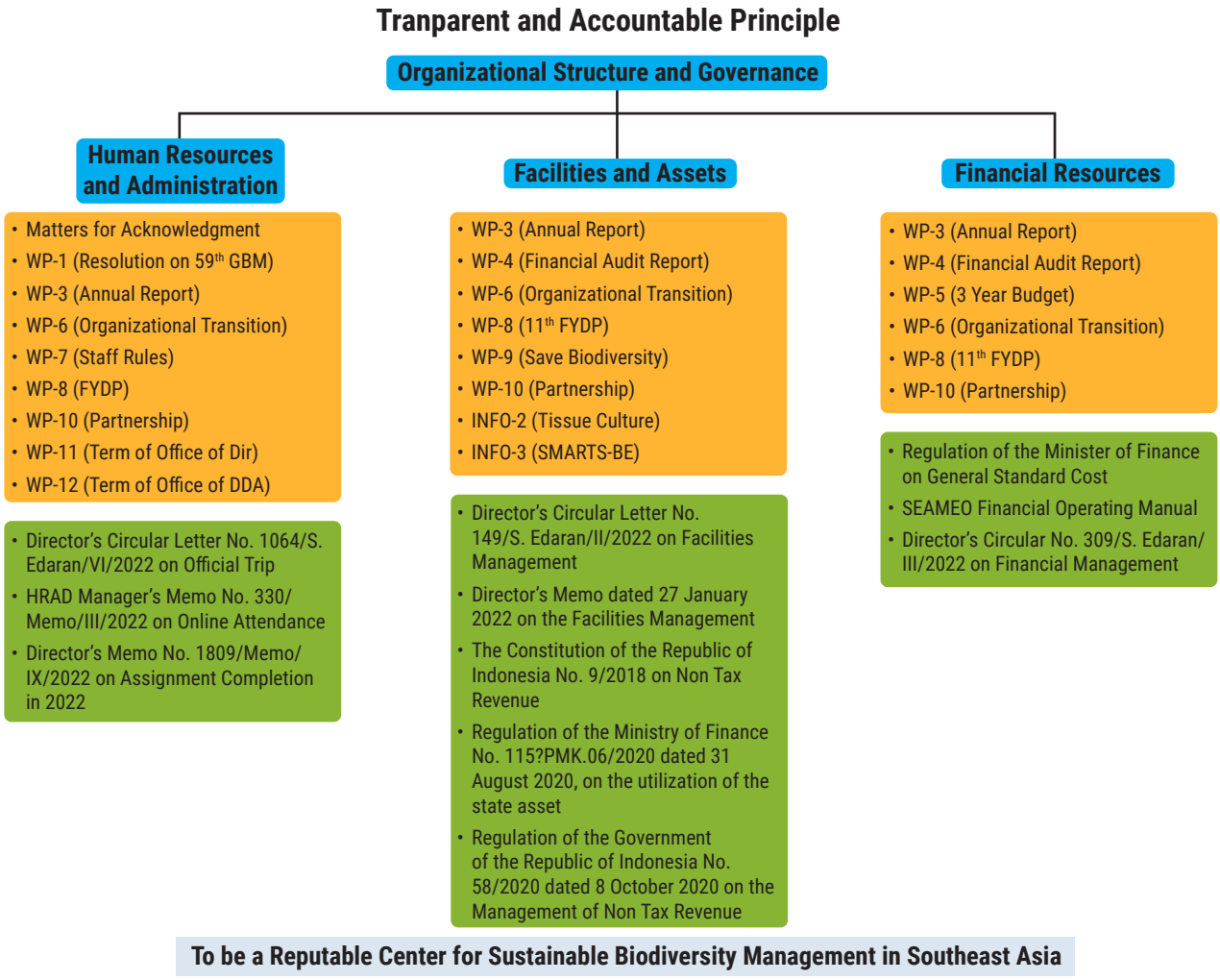


Figure 5. Transparent and Accountable Principle

Challenges

Today, SEAMEO BIOTROP faces diverse challenges in national, regional and global levels in the new normal era. The world is changing dynamically along with digital transformation, industry 4.0 approach and Covid-19 Pandemic. Those factors pose significant challenges for Southeast Asia and the rest of the world. As a commitment to its function as a reputable center in the field of tropical biology in Southeast Asia, SEAMEO BIOTROP needs to develop and elevate innovative strategies to address these strategic issues and challenges by maximizing its resources and uniqueness for increasing regional understanding and collaboration in science and education.

In 2022, the GoI changed the limit of GoI fund requests and payments for operating activities. The changes affected cash-on-hand availability and the Center's programs implementation. In the middle of the uncertain economic situation, GoI also increases the value added tax rate from 10% to 11% and entity income tax from 2% to 4% on April and May 2022, respectively. The tax increase affects the activities budget plan significantly. The increase of gasoline price also has a significant impact on the Center's operating expenses since the Center has four official vehicles. All regulation changes and development by the GoI are conducted to enable the GoI in monitoring and assure the funds are utilized and managed in appropriate manners and in accordance to the rules.

Table 1. Challenges and Opportunities

Component	Challenges	Opportunities
Man	Employee Status	• Government Employee with Contract Agreement • IPB University Employee
Money	Fund resources	• DIPA • SEDF • Projects Grant
Machine	Existing Facilities and Assets	• Procurement from Collaboration • Grants
Governance	Project Based Mechanism	• Integrated with PTNBH (State University with Legal Entity) • Management System

The Structure of the Annual Report

SEAMEO BIOTROP annual report is structured into four strategic themes consisting of several Key Results Area (KRA). The format changes from the previous Annual Report are meant to synchronize the report structure of SEAMEO BIOTROP with the SEAMEO Strategic Plan 2021-2030, and the 9th SEAMEO Integrated Operational Plan (SIOP) 2021-2025.

A summary of the activities and achievements is presented in Table 2. The details for each group and/or component are explained in the Detailed Activities section. The discussion for each group will cover essential elements composed of: 1) Raising Issues at the National to Global; 2) The Center's Solutions; and 3) The Impacts of the Center's activities. The Annual Report is also completed, whenever is available, with data on the Center's program and activities for the last four years and results' evaluation of the targets set in the 10th Five-Year Development Plan.

Table 2. Summary of the Activities and Achievements of SEAMEO BIOTROP FY 2021/2022

Components	Activities	Deliverables/Products	SDG & SSP	Budgets	Beneficiaries (with number of any)
Research	23 national research projects 7 SMARTS-BE Research projects 1 PhD Thesis support grantee program 4 research projects from school garden teachers	Publication/journal, prototype distillation equipment, database of ant and cockroach in residential areas in Bogor, database of Baseline parameter model, Superior Seedlings of Cottonii Seaweed, Database of molecular profiles of toxigenic and non-toxigenic *Aspergillus flavus*, dynamic model of rice monitoring, biofertilizer (BIORISA), website of butterfly database in urban areas, Clove database posted in the website, platform "Rumah Digital Kita", expert system for pest and diseases monitoring on lemon orchard, Puree technology.	SDG: 4, 12, 13, 14,15, 17; SSP Science: 2, 3, 4, 5, 6	FY 21-22 USD 233,806 10th FYDP (2017–2022) USD 679,441 (1 USD approximately IDR 14,600)	Vocational High Schools, Senior High Schools, Undergraduate Students, Government Agencies, communities, general public, staff of SEAMEO BIOTROP, teachers, stakeholders, travel agents, seaweed farmers, collectors, exporters, scientific communities, national parks, NGOs, pest control companies, households, mining companies, private companies, SMARTS-BE partner vocational high schools, Provincial Education Office

Table 2. (Continued)

Components	Activities	Deliverables/Products	SDG & SSP	Budgets	Beneficiaries (with number of any)
Trainings and Workshops	2 International Workshops, 1 International Conference 10 National Trainings 5 National Workshops 11 National Webinars, 4 Regional Webinars 1 In-house Training, 1 Talkshow National	4 Modules; 1) Determining the Quality of Raw Materials, 2) Integrated Control of Plant Pest Organisms (OPT) in Oil Palm Plants, 3) Arrange Fumigation Treatment Tools and Materials, 4) Making Collection of Weed Seeds, Policy Brief on Low Level Presence Information Sharing Forum in Asia Pacific (APAC) Region, Draft of Guide Book of Strategic Environmental Assessment, Draft of Policy Brief on "Strengthening the Independent Learning Program System for the Independent Campus (MBKM): toward a Better Quality of Student Graduates in the Era of Industry 4.0 and Society 5.0", 48 students from 21 universities in Sumatra, Java-Bali, and Sulawesi participated in a certified internship (MSIB) at SEAMEO BIOTROP.	SDGs No. 4, 8, 12, 13, 14, 15 SSP Education Priority 3, 4, 6	FY 21-22 USD 92,546 10th FYDP (2017–2022) USD 501,480 (1 USD approximately IDR 14,600)	5,342 beneficiaries from government institutions, schools, universities, research centers, private sectors, and others (scientific communities)
Partnerships	Promoting collaboration and partnership between various institutions and organizations in Southeast Asia and Beyond in the fields of Tropical Biology and Biodiversity Conservation	7 regional and 29 national Memoranda of Understanding were signed	SDGs No. 4, 8, 12, 13, 14, 15 SSP Science Priority 2,3,4,5,6 SSP Education 4, 6	FY 21-22 USD 13,341 10th FYDP (2017–2022) USD 41,738 (1 USD approximately IDR 14,600)	Government institutions, organizations, schools, universities, private sectors, and communities

Table 2. (Continued)

Components	Activities	Deliverables/Products	SDG & SSP	Budgets	Beneficiaries (with number of any)
Publications and Information Dissemination	Disseminating scientific papers: journals, monographs and/or technical guidance, and proceedings in the field of tropical biology issues	3 issues of BIOTROPIA Journal, 4 monographs, and 35 research reports	SDG 4, 13, 14, 15, 17 SSP Edu 4,6 SSP Science 2,3,4,5,6	FY 21-22 USD 114,689 10th FYDP (2017–2022) USD 387,119 (1 USD approximately IDR 14,600)	808 beneficiaries consisting of students, teachers, lecturers, private sectors, and scientific communities
	Disseminating information on other media	4 BIOTROP's newsletter, 4 series of practicum videos, 15 infographics, 13 BIOSync podcast series, 7 Biodiversity talk series, 205 social media contents, 150 articles on Center's activities			22,272 website visitors, 3,848 Facebook likes, 8,200 Instagram followers, and 5,870 Youtube subscribers
	Promotions and Media Coverage	2 exhibitions activities, 3 coverage by Radio Republik Indonesia, 58 articles published in various online reputable national media, and 10 articles published in MoECRT Webstie			Schools, universities, scientific communities, general public
Internships	Internship program to promote	197 students conducted on-the-job training in various departments, laboratories, and units in SEAMEO BIOTROP	SDG 4, 13, 14, 15, 17 SSP Edu 4,6 SSP Science 2,3,4,5,6	-	Students of vocational high schools and university students
	Facilitating university students to conduct their research in SEAMEO BIOTROP	18 university students conducted research in SEAMEO BIOTROP		-	
Scientific Visits	Conducting physical and virtual scientific visits which showcase the expertise, products, and activities of SEAMEO BIOTROP	43 scientific visits during the FY 2021/2022, including visits to hydroponics unit, tissue culture and natural products laboratories, edible mushrooms cultivation unit, etc.	SDG 4, 13, 14, 15, 17 SSP Edu 4,6 SSP Science 2,3,4,5,6	-	950 visitors from 31 schools, universities, government agencies, private companies, communities, and general public at the national, regional and international levels

Table 2. (Continued)

Components	Activities	Deliverables/Products	SDG & SSP	Budgets	Beneficiaries (with number of any)
Administration Management	Forming a new unit, Quality Assurance and Risk Management Unit (QRMU) and establishing a new position, Center Secretary to ensure proper implementation of the management system of SEAMEO BIOTROP	The management system of SEAMEO BIOTROP is certified with ISO 9001:2015, while the Services Laboratory of SEAMEO BIOTROP is accredited with ISO 17025:2017		-	
Staff Development	Scientific training courses, workshops, conferences, and symposia attended by the staff of SEAMEO BIOTROP	More than 100 staff of SEAMEO BIOTROP actively participated as resource persons, facilitators, moderators, instructors, and assessors in 445 scientific activities, such as seminars, workshops, conferences at the national and regional levels.	SDG 4, 13, 14, 15, 17 SSP Edu 4,6 SSP Science 2,3,4,5,6		Students, teachers, lecturers, researchers, professionals from various educational institutions, government agencies, organizations and communities
Facility Improvements	Managing the facilities and equipment of SEAMEO BIOTROP, including improvement, refinement, and maintenance. Facilities are utilized efficiently and effectively to support the implementations of the Center's programs and activities	Renovations: 1) An idle room becomes a podcast studio and a functional room; 2) convention hall; 3) dormitories; 4) laboratories; and 5) restrooms as supporting facilities. Changing the names of 8 land certificates from the Indonesian Ministry of Education and Culture into the Government of the Republic of Indonesia	SDG 4, 13, 14, 15, 17 SSP Edu 4,6 SSP Science 2,3,4,5,6	USD 29,109 (1 USD approximately IDR 14,600)	
Financial Viability	Adjusting the flow of financial management, coordinating intensively with related parties, centralizing the bank account of SEAMEO BIOTROP, planning and reporting the monthly activities of the financial and facilities management	Agreement from the Government of Indonesia to provide a total amount of USD 1,453,034 (1 USD is approximately IDR 14,600) in accordance with the SEAMEO Translation Rates FY 2022/2023 (as attached) to support SEAMEO BIOTROP's programs, activities, and operational costs for the fiscal year 2021	SDG 4, 7, 17	-	

STRATEGIC THEME 1
REGIONAL LEADERSHIP AND INTERNATIONAL AND GLOBAL VISIBILITY

Key Results Area: Leading and Participating in Regional and Global Projects, Programs, and Events for Better Visibility

Nowadays, SEAMEO BIOTROP faces diverse challenges at national, regional, and global levels in the new normal era. The world is changing dynamically along with digital transformation, the industry 4.0 approach, and Covid-19 Pandemic. For these purposes, SEAMEO BIOTROP prepares the 11th FYDP 2022-2027 as a central direction in designing and implementing its programs. The pandemic situation has changed global education and learning systems and methods, such as using online platforms to carry out various meeting activities, including training activities. The advantage of online training activities is the flexibility in terms of time and location. However, online training also has limitations such as nonoptimal delivery and absorption of training materials, difficulties in controlling participants, lack of sharing activities due to passive participants, lack of seriousness of the participants, distractions, and difficulties in evaluation. Evaluation by the Human Center Innovation Department of SEAMEO BIOTROP showed that from 38 online training activities during the pandemic, the satisfaction level of participants decreased significantlyly, especially in training activities requiring practice and motoric skills.

In the future, training activities must have four main criteria namely, adaptive, high resilience, interactive and innovative. Some of these criteria cover all components of training activities such as topics, curriculum, materials, methods, environment, tools, and evaluations. The development of training in the transition period from the pandemic era to the endemic era has not yet focused on mechanisms to deliver training activities. However, improvement must focus on developing integrated and comprehensive learning activities (Figure 6).

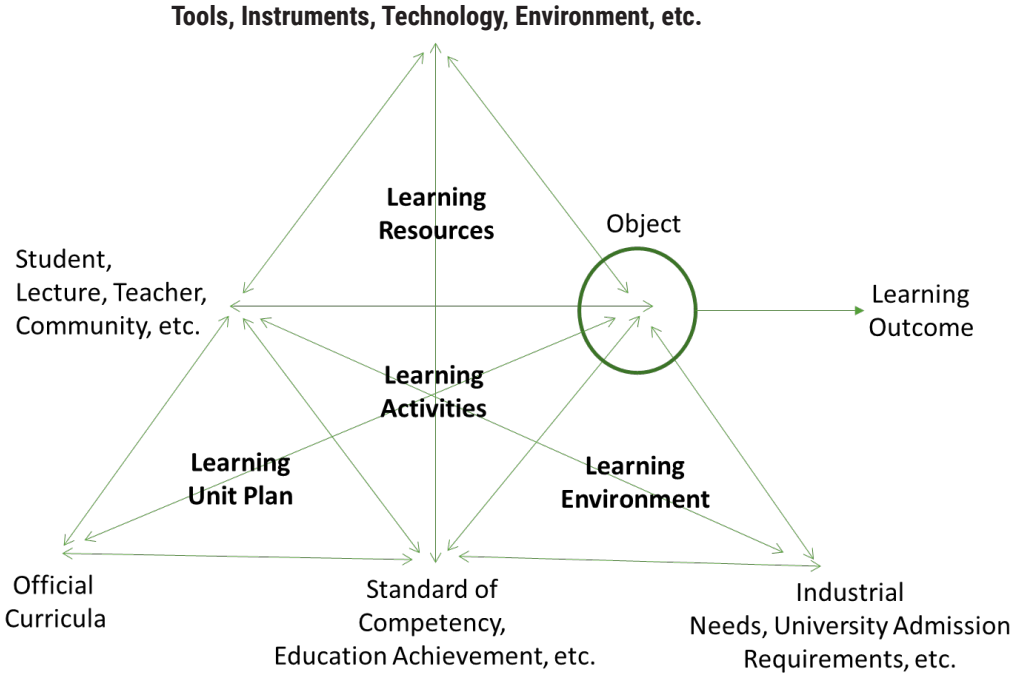


Figure 6. In-Com learning ecosystem model

Along with the shifting of the Covid-19 pandemic situation to an endemic situation, the online training method is also changed into the hybrid training method, which integrates the online and offline training programs. The identified challenges of this situation are: 1) ensuring the results and impacts of the hybrid training activities; 2) providing more competency-based training activities; 3) having powerful training platforms and resources; 4) providing personalized synchronous interaction; 5) enhancing participant engagement; and 6) enhancing collaboration possibilities.

To achieve its mandate on science education, SEAMEO BIOTROP needs to improve the competence of its human resources. Trainer certification is one proof of the competencies of the trainers in the Center. Competency-based training certified by BNSP (National Agency for Professional Certification) provides knowledge for the trainers to refer to the Indonesian National Work Competency Standards (SKKNI). Therefore, the BNSP certification stated the competence of the participant as a competent instructor/trainer. This certified competency-based training has been attended by 12 SEAMEO BIOTROP Staff. After the certification, SEAMEO BIOTROP implemented competency-based training on fish feed production on 29 November 2021 to 1 December 2021. As a result of this training, the participants can prepare raw materials according to standards, physical, biological, and chemical tests, and produce quality raw materials. The training was attended by cultivators, fishery instructors, students, researchers, and the general public.

Solutions

SEAMEO BIOTROP in collaboration with Universitas Pembangunan Nasional (UPN) Veteran, East Java has implemented the student internship program through the Merdeka Belajar Kampus Merdeka program (MBKM-Freedom to Learn-Independent Campus). This program was conducted between the UPN Veteran, East Java, and the Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia (MoECRT) to facilitate students with the rights to study for one semester outside their study programs and autonomy to establish study programs for qualified universities. The MBKM program is intended to grant freedom to Higher Education Institutions (HEIs) to be more autonomous, independent, less bureaucratic, and innovative. The internship was followed by five (5) students and held offline in the new normal era. During the internship at SEAMEO BIOTROP, the 5 students of UPN Veteran, East Java could improve their hard skills and soft skills, especially in the field of Tropical Biodiversity Management. With these results, SEAMEO BIOTROP is proposed as an official partner of the MBKM program in the future (2022) together with universities and MoECRT to shape the future of Indonesian leaders.

As a regional institution, SEAMEO BIOTROP has a tagline "Save Biodiversity, from Mountains to Oceans" launched by the School of Biodiversity program. The program is the development of a learning model based on science literacy by integrating the concept of saving biodiversity method into the learning and educating about ecosystem. The model will adopt the concept of the Principles of Environmental Education (UNESCO 1977) and be translated into several activities consisting of: 1) Development of a learning model consisting of the development of the concept of a natural library and the concept of a natural laboratory; 2) Development of a micro-learning module; and (3) Development of the thematic learning cycle.

The School of Biodiversity program will be focused on optimizing biodiversity component as nature, biodiversity as natural resources, and biodiversity as indexes. The component would be translated into the object of learning activities which covers:

- Education on environment with aims to develop knowledge and understanding values and attitudes.
- Education for environment with aims to encourage students in exploring personal responses and relationships with the environment and problems related to the environment. This is related to attitude development and values, including elements of human understanding and behaviors necessary for sustainable development and care environmental use.
- Education in or through the environment with aims to improve the skills and competencies of learners by utilizing the environment as a source of learning and information. It is a resource that enables the development of a wealth of knowledge and understanding through research and communication skills.

This program is expected to be held for several years with the target of replicating and adopting the model at the national and regional levels as part of global education diplomacy.

In supporting training activities, the Center produced one module in 2021. Until now, there are still several modules that can be adapted and implemented in practice for participants. Therefore, the Center will develop training modules that can be applied to the participants. The module will be developed by the competency-based training approach. A competency-based approach is used as a reference in curriculum development, development of teaching materials, implementation of learning models, and assessment in the modules. Some of the training topics that can be developed into the modules are integrated pest management, management of stored products, household-scale fish feed manufacturing, and sustainable agricultural spatial planning. Some of these topics can be adapted and in line with the needs of competence in the industry in the field of tropical biology.

SEAMEO BIOTROP has the mandate to carry out training activities related to tropical biology. To continue developing training and other scientific learning activities, SEAMEO BIOTROP needs to review every training activity that has the potential to be developed. Referring to the previous training trend, the interest of participants in joining trainings related to tropical biology organized by SEAMEO BIOTROP tends to increase every year in various Southeast Asian countries. A total of 1,864 participants are beneficiaries of the implementation of training for the fiscal year July 2021 - June 2022. The direct beneficiaries of this technical guidance activity are researchers, teachers, students, practitioners, governments and non-government organizations, and other professionals.

Trend and Analysis

Since the start of the pandemic, the Government of Indonesia has taken some timely steps to support learning from home. In response, SEAMEO BIOTROP has implemented several training courses and technical guidance activities both at the national and international levels through online or blended learning models. It is an outcome-based approach in education to ensure participants' proficiency in learning through demonstration of knowledge, skills, values, and attitudes required for dealing with real-life pandemic situations. Online learning enables us to reach out to participants worldwide through chat groups, video meetings, and document sharing, during the pandemic. We believe traditional offline learning and e-learning can go hand-in-hand. However, the biggest obstacle for participants learning from home, especially those who live in a low income situation and live the in remote areas, is the lack of internet access and electronic devices.

To support high-quality internship programs, SEAMEO BIOTROP has been officially approved as a partner of the MBKM program batch 3 by the MoECRT in June 2022. On this occasion, SEAMEO BIOTROP is acknowledged as an organization to hold the "Magang Bersertifikat Kampus Merdeka " or "Certified Kampus Merdeka Internship" program. The program will only be acknowledged as a Certified Kampus Merdeka Internship if it successfully meets the MoECRT criteria through an evaluation. This program will be conducted offline (face-to-face) at SEAMEO BIOTROP from August to December 2022. In this internship acceleration program, SEAMEO BIOTROP offers 5 (five) topics of the internship including: 1) Environmental Quality Parameter Test; 2) Seedling Production using Tissue Culture Techniques; 3) Management of Suboptimal Land Use System in the Tropics; 4) Tropical Biodiversity Management; and 5) Sustainable Urban Agriculture. This program is the active contribution of SEAMEO BIOTROP to close the gap between required skills needed by industries and the existing higher education curriculum. In the next batch, we hope that the program will also be acknowledged as "Studi Independent Bersertifikat Kampus Merdeka " or "Certified Kampus Merdeka Independent Study Program ". This program can facilitate students' interests and talents to learn innovative and applicable multi/interdisciplinary independent projects. The expected output of this program is to create innovative products that can be adapted and implemented in the problem-solving of biodiversity management.

The Center has carried out various training, workshops, and other learning activities both funded by the Government of Indonesia and through partnerships and SEDF. From 2017-2022, SEAMEO BIOTROP has served more than 14,000 alumni from various institutions as their direct beneficiaries of trainings, workshops, and other learning activities. These beneficiaries include researchers, teachers, students, practitioners, stakeholders, and other professionals from Southeast Asia and beyond. The decrease in the number of beneficiaries in 2021-2022 is due to several program activities that have not been implemented at the beginning of the year 2022 (quarterly). The decrease is due to the changing of the New Organizational Structure which led to changes in program activity plans in 2022. Therefore, the implementation of the new program began to be effective at the end of March 2022 (Figure 7).

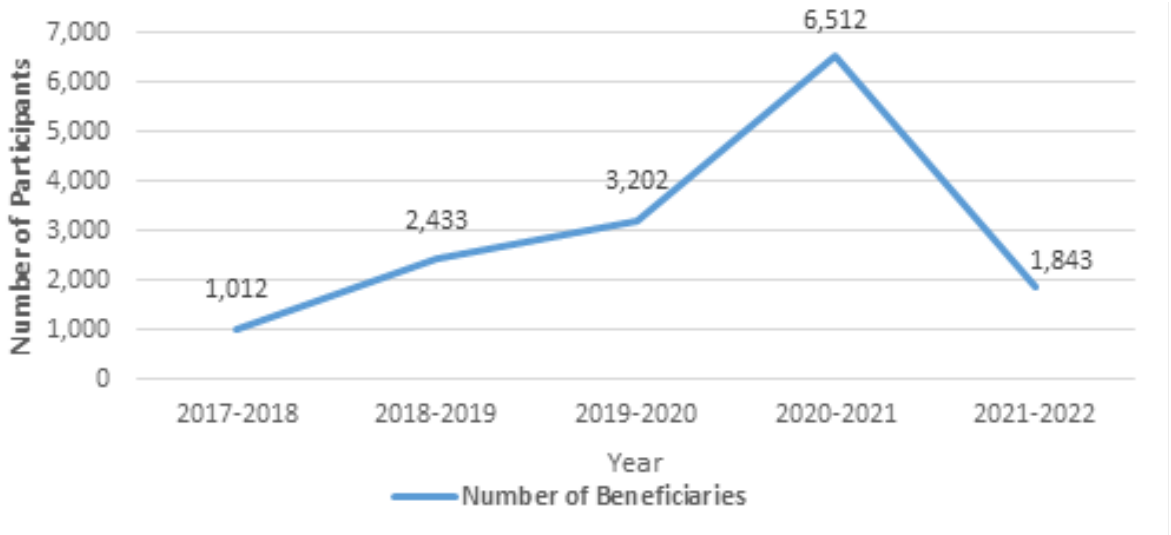


Figure 7. Total number of trained participants

Furthermore, SEAMEO BIOTROP training activities are generally designed for the acquisition of basic knowledge and skills which can then be readily implemented by participants after completion of the training, such as the Training of Trainers (ToT) through offline, online, or blended learning models. Over the past five years, SEAMEO BIOTROP has carried out various ToT activities, both at national and regional levels, namely, ToT on Invasive Plant Species Control specifically for Agricultural Vocational Schools, ToT on Fumigation, ToT on Utilization of Geospatial Information Data (GIS), and ToT on Urban Agriculture in Supporting Food Security. In 2022, the training and technical guidance are packaged with the theme of Saving Biodiversity from Mountains to Oceans. After ToT completion, the participants immediately practice their knowledge gained from the Training of Trainers (ToT) and complete all the final assignments given by the coordinator/facilitators.

Training and Other Scientific Learning (Highlight)

For the fiscal year July 2021 - June 2022, SEAMEO BIOTROP has implemented 35 training courses and other learning events related to tropical biology. The activities consisted of two international workshops and one international conference, ten national training courses, four regional and eleven national webinars, one talk show, five national workshops and focus group discussions, and one in-house training. A total of 5,342 individuals from government institutions, schools, universities, research centers, and private sectors, benefited from these activities (Figure 8). SEAMEO BIOTROP conducted these events in hybrid (online and offline) platform.

The ten national training activities conducted by SEAMEO BIOTROP from July 2021 to June 2022, were as follows: Fumigation, Tissue Culture, Aquaponics, Hydroponics, Isolation and Identification of Mycotoxin Producing Fungi, Oyster Mushroom and Ear Mushroom Cultivation and Processing, "Save Biodiversity" in the context of the Independent Learning (MBKM) Camp, and Independent Fish Feed Making and Fish Apartment for teachers/head of marine fisheries vocational school.

The ten training activities were actively participated by 1,864 participants from university lecturers, school teachers, graduate students, government institutions, NGOs, and research centers to private sectors, from 34 provinces in Indonesia.

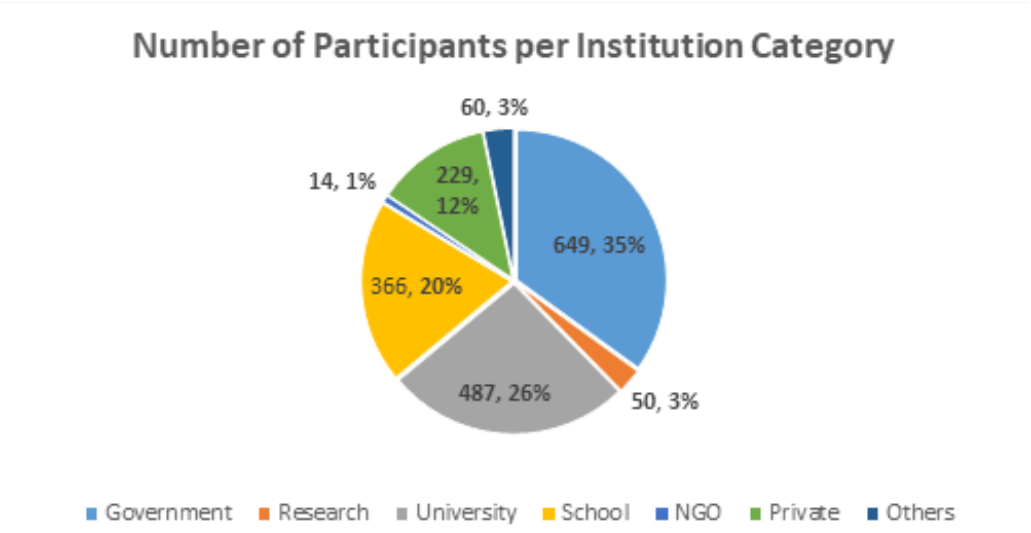


Figure 8. Training participants per institution (July 2021 - June 2022)

At the international and regional levels, other scientific learning activities were two international workshops and one regional webinar. At the national level, SEAMEO BIOTROP conducted ten webinars, three workshops and focus group discussions, one talk show, and one in-house training. A total of 3,478 individuals from universities, schools, research centers, government institutions, NGOs, and private sectors benefited from these activities (Figure 9). Due to the Covid-19 pandemic, most of the events were only carried out online. However, the positive effect was that it enabled participants from various regions in Indonesia and abroad to join the events online, thereby expanding the number of participants or beneficiaries (Figure 10).

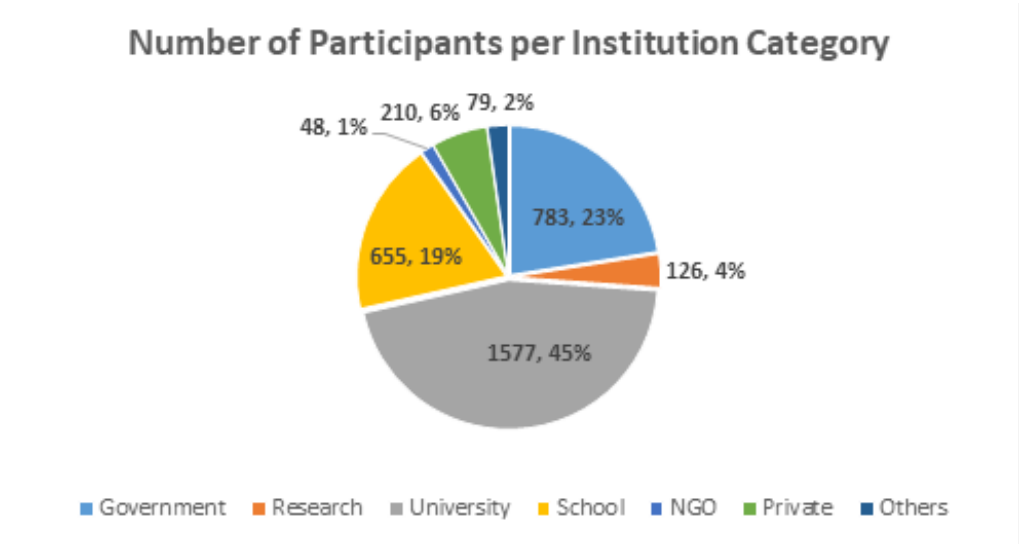


Figure 9. Other learning participants per institution

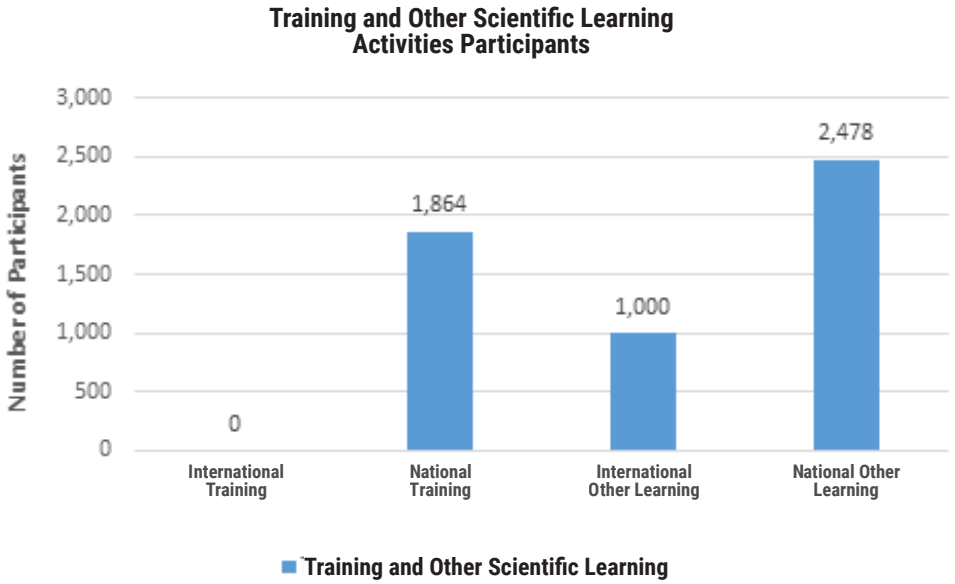


Figure 10. Number of participants of training and other learning activities

In 2021, SEAMEO BIOTROP has officially launched two new programs called BIOTROP to School (BtS) and Talk of Affiliate Scientist (TAS) webinar series that are still active until 2022. The BtS program aims to disseminate knowledge and build the capacities of students in high schools and universities through a series of webinars. Meanwhile, the TAS program aims to communicate research results as well as exchange information and field experiences with various stakeholders. The TAS resource persons are researchers who conduct research in broad fields of tropical biology. From January to June 2022, SEAMEO BIOTROP has conducted 3 (three) BtS and 3 (three) TAS webinar series.

SEAMEO BIOTROP also hosted an interactive talk show on 11 March 2022 with the theme "Indonesian Scholar's Voice Talk Show Save Nature (SCISA) Series 1: Examine the Environmental Impacts and Risks of Nusantara IKN Development". This event aimed to disseminate and thoroughly analyze the initial baseline, environmental impacts and risks, and the vulnerability index of the coastal area for the development of the Nusantara IKN and also to provide recommendations for the management of impacts and risks to the government in the development of IKN Nusantara. The 175 active participants were mostly from universities and the government institutions. This talk show featured three speakers from various backgrounds, namely Dr Ir Arifin Rudiyanto, MSc, Dr Ir Bambang Hendroyono, MM, and Dra Masnellyarti Hilman, MSc.

At the regional and international level, other scientific learning events were actively participated by 1,000 participants from government institutions, universities, schools, research centers, private sectors, and non-government agencies from the SEAMEO member countries and other regions. Participants came from Indonesia, Malaysia, the Philippines, Myanmar, Cambodia, Brunei, Timor Leste, and the Netherlands (Figure 11).

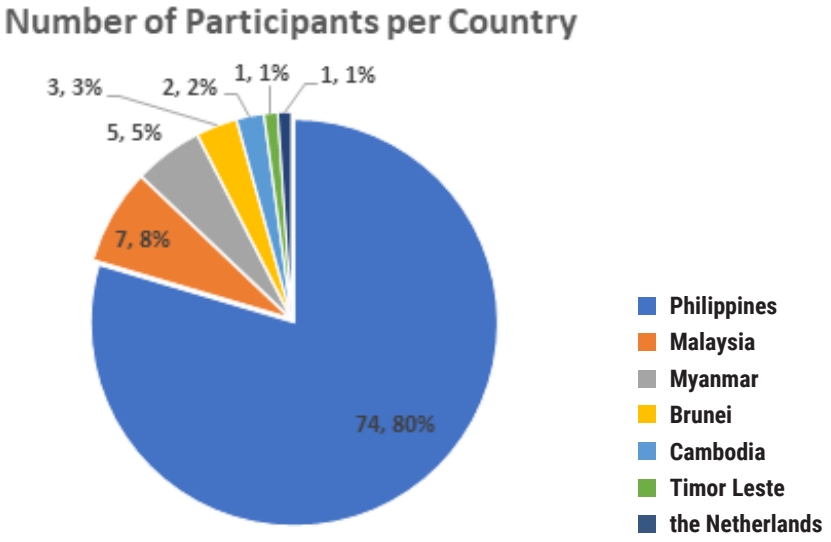


Figure 11. Number of participants of other learning activities per country (July 2021-June 2022)

At the national level, the training was attended by 2,478 individuals from 34 provinces of Indonesia. Active participants ranged from university lecturers, school teachers, and graduate students, to the staff of government institutions, NGOs, research centers, and private sectors. As mentioned above, the expanded number of participants was due to the online platform which enabled participants to access the events remotely from their places.

Highlighted Activities

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

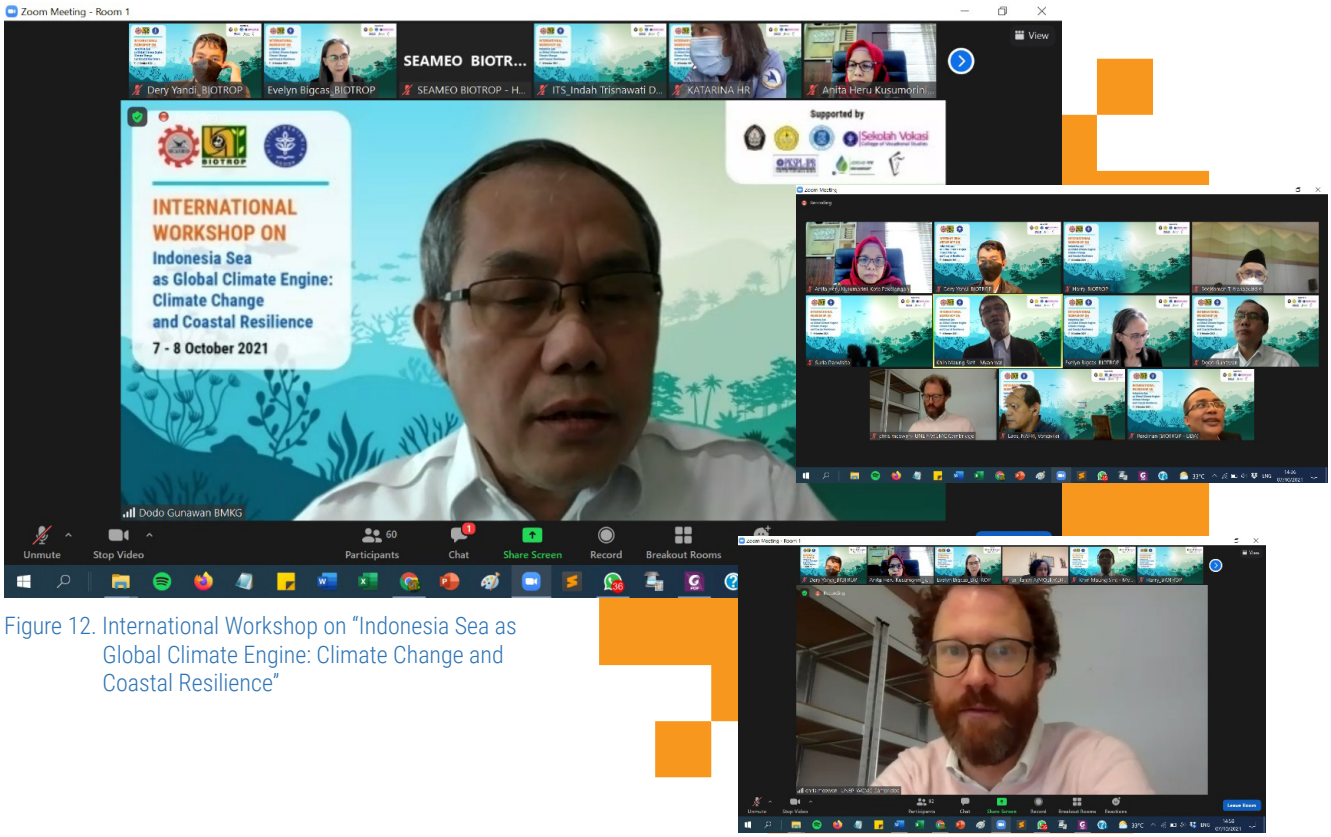


Figure 12. International Workshop on "Indonesia Sea as Global Climate Engine: Climate Change and Coastal Resilience"

In the 2021/2022 Fiscal Year in review, SEAMEO BIOTROP held an "International Workshop on "Indonesia Sea as Global Climate Engine: Climate Change and Coastal Resilience" on 7 - 8 October 2021 (Figure 12).

Materials of the international workshop was presented by many experts, namely Prof Danielle Woods (Space Enabled Research Group, MIT), Prof David Lagomasino (East Carolina University), Prof Dr Julie Winkler (Michigan State University), Prof Rajagopalan Balaji (Colorado University), Dr Nani Hendiarti (Coordinating Ministry of Maritime and Investment Affairs), Dr Ir Arifin Rudiyanto, MSc, (Ministry of National Development), Dr Laksmi Dhewanthi (Ministry of Environment and Forestry), Dr Paradhika Galih Satria (Ministry of Finance), Prof Dr Ir Rokhmin Dahuri, MS (Former Minister of Marine Affairs and Fisheries), Dr Ir Dodo Gunawan, DEA (the Climate Change Information Center, Meteorology, Climatology and Geophysics Agency), Chris McOwen PhD (UNEP-WCMC), Ir Sri Tantri Arundhati, MSc (Ministry of Environment and Forestry), Ir Anita Heru Kusumorini, MSc (BAPPEDA), Ir Afrial Rosya, MA, MSi (National Disaster Management Agency), Prof Yang Fan Li (Xiamen University), Dr Eng Nita Yuanita, ST, MT (Institut Teknologi Bandung), Mr. Joga Dharma Setiawan, BSc, MSc, PhD (Universitas Diponegoro), Dr Zulhamsyah Imran (SEAMEO BIOTROP), Dr Muhammad Helmi, SSi, MSi (Universitas Diponegoro), Dr Ing Widodo S. Pranowo (Marine Research Center), Dr Yanto (Universitas Jenderal Soedirman), and M. Taswin Munier, SPi, MSc (Environmental Policy Advisor GGGI). The 421 participants who joined the workshops came from Indonesia, Brunei, Myanmar, Cambodia, the Philippines, Laos, Malaysia, Timor Leste, and the Netherlands.

Two national workshops and focus group discussions was also held during the fiscal year in review. The first national workshop and focus group discussion was held on 23 February 2022 with the theme "Workshop and Focus Group Discussion: Identification of Vocational High School Development Needs in Tropical Biology" (Figure 13). This event focused on the identification of problems, potentials, and needs for capacity building of vocational schools, and formulating the capacity building activities and cooperation with vocational schools. The second workshop and focus group discussion was held on 9 March 2022 with the theme "Workshop and Focus Group Discussions: Potential Implementation of the Independent Learning Program-Independent Campus". These workshops were designed for vocational schools and universities (Figure 14). The 291 participants who joined came from vocational schools and universities across Indonesia.

Figure 13. Workshop and Focus Group Discussion on "Identification of Vocational High School Development Needs in Tropical Biology"

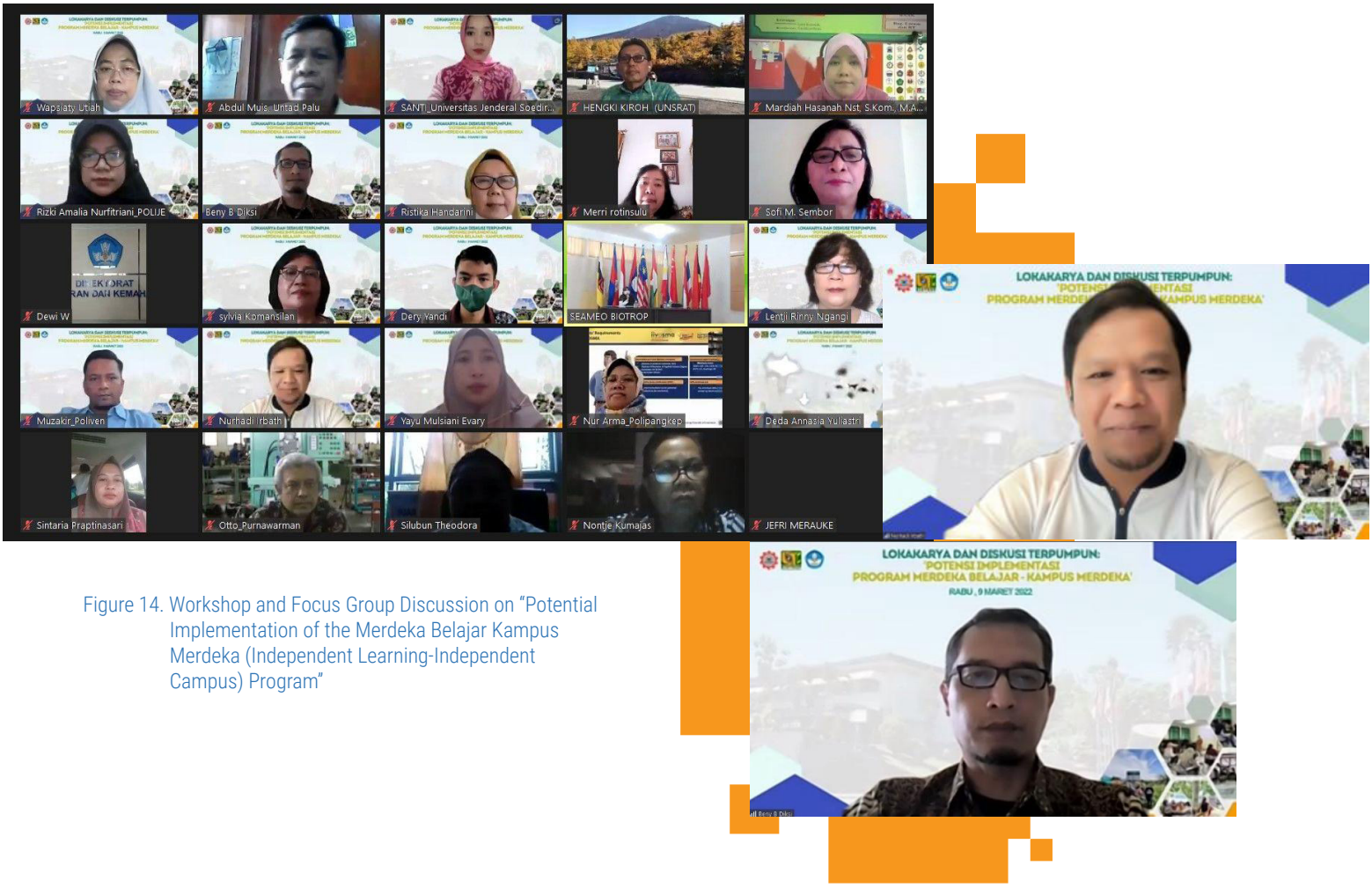


Figure 14. Workshop and Focus Group Discussion on "Potential Implementation of the Merdeka Belajar Kampus Merdeka (Independent Learning-Independent Campus) Program"

Service Provider for Developing Proposal Document "Strengthening Capacities for Management of Invasive Alien Species (SMIAS) in Indonesia"

From July 2021 - March 2022, SEAMEO BIOTROP collaborated with the Food and Agriculture Organization of the United Nations (FAO), in which the Center assumed the role of partner or the service provider to help with the drafting of a project proposal document titled "Strengthening Capacities for Management of Invasive Alien Species (SMIAS) in Indonesia". The Project activities were undertaken to strengthen national and sub-national policy, legal, regulatory, institutional and financing frameworks for IAS management; create awareness of the threats posed by IAS; build capacity in order to enhance the management of IAS; and develop and implement best practices for the management of IAS at a landscape-level, including through the highly participatory engagement of local stakeholders.

The objective of this project is to safeguard globally significant biodiversity and ecosystem services through improved management of IAS and to emphasize the need for improved prevention and surveillance, in addition to the development and implementation of safe and effective control interventions for some of the most ecologically destructive IAS in Indonesia.

In carrying out these duties and functions, SEAMEO BIOTROP provides related information to:

- Analyze policy, regulatory and institutional frameworks and relevant information on policies, law and institutions about IAS management di Indonesia.
- Identify and characterize institutional stakeholders, including mapping of their relevance to the project and proposal of their roles in project implementation.
- Identify the capacity development and other needs and strategies for strengthening the capacities of institutional stakeholders to ensure the sustainability of project results.
- Carry out the Environmental and Social Impact Assessment (ESIA) on the project site.
- Organize Indonesian Invasive and Alien Species (IAS) stakeholder consultations, group meetings and workshops at national and sub-national levels.
- Review previous IAS projects - successes and failures and recommendations for improvement.
- Prepare a list of all peer-reviewed publications on IAS in Indonesia. Identify major invasive insect pests and pathogens and invasive mammals and weeds which are affecting forest landscapes. Update on all (integrated pest management) IPM methods (prevention to control including chemical and biological) used in the management of forest invasive species in Indonesia. Additionally, list of all native and exotic, but non-invasive, agro-forestry species that can be used as alternatives for tree species that are used for fuelwood, charcoal production, building materials, nitrogen fixation, hedging, etc.

Some activities carried out by SEAMEO BIOTROP were:

- The National Inception Workshop "Strengthening Capacities for Management of Invasive Alien Species (SMIAS) in Indonesia", held in SEAMEO BIOTROP, Bogor on 12 - 13 July 2021.
- Meeting and discussion about invasive plant management in Bromo Tengger Semeru National Park and Bantimurung-Bulusaraung National Park, held in SEAMEO BIOTROP on 19 August 2021.
- Webinar dan FGD "Sustainable and Innovative Financing in Invasive Alien Species (IAS) Management in Indonesia", held in SEAMEO BIOTROP on 3 September 2021.
- The National Validation Workshop "Strengthening Capacities for Management of Invasive Alien Species (SMIAS) in Indonesia", held in SEAMEO BIOTROP on 4 March 2022.
- Field visit to Bromo Tengger Semeru National Park and Bantimurung-Bulusaraung National Park to carry out Environmental and Social Impact Assessment (ESIA).
- Several stakeholders' meetings with the Ministry of Environment and Forestry (MoEF) of Indonesia, Quarantine Agency from the Ministry of Agriculture of Indonesia and experts' meetings to provide detailed information in meeting the principal aspects for developing the project document.

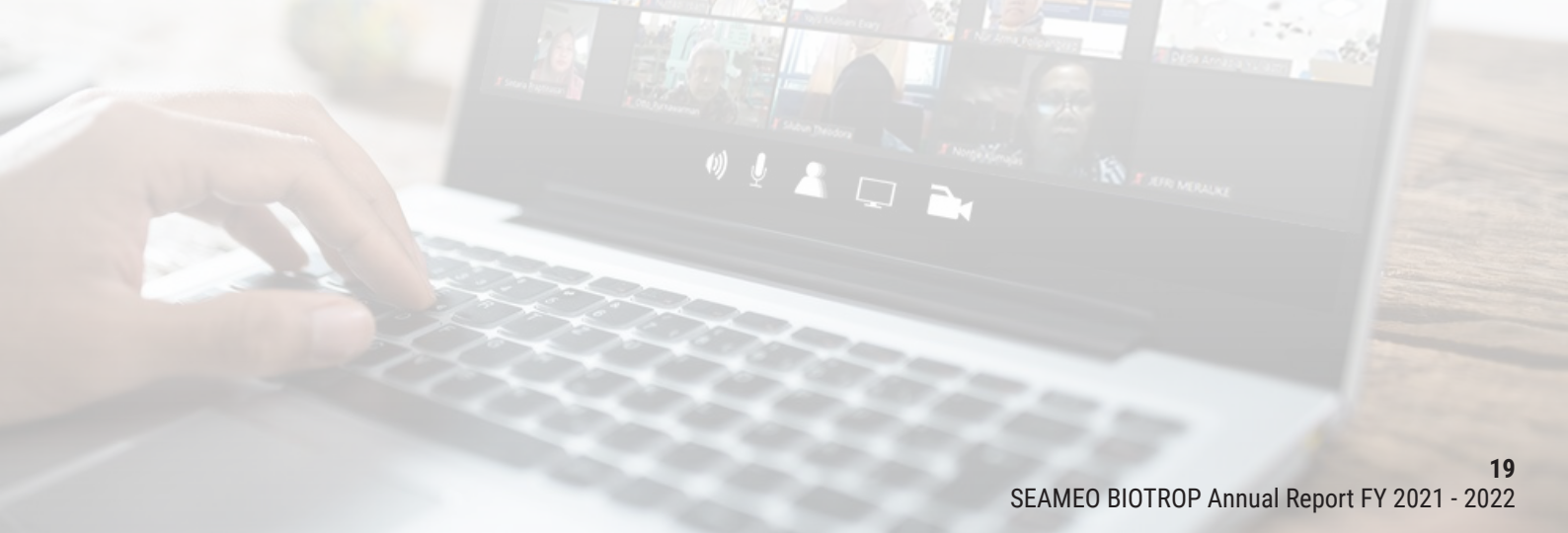


Figure 15. Workshop on "Gender Sensitive Diversification in Smallholder Cocoa Systems in Lampung, Indonesia"

International Project Collaboration on Gender Sensitive Diversification of Smallholder Cocoa Systems in Lampung, Indonesia

Indonesia has achieved rapid economic growth, powered in part by agricultural expansion, particularly in lowland forest systems. A key driver has been the expansion of plantations including oil palm, coffee and increasingly cocoa.

Cocoa farming is currently the principal income for an estimated 1 million Indonesian families but is continuing to expand. Cocoa expansion has been driven by an emergent market in Southeast Asia. However, cocoa production faces challenges associated with poor yields, declining soil fertility, poor planting material, and attacks from pests and diseases. Many cocoa smallholders have complex livelihood strategies and rely on multiple products alongside cocoa.

In order to get some input for project outputs and programs, SEAMEO BIOTROP collaborated with Bangor University, IPB University, Universitas Lampung (UNILA) and Barry Callebaut (private company) and associated farmers in four regencies in Lampung. SEAMEO BIOTROP led the activity on biodiversity assessments; IPB and Universitas Lampung jointly led the livelihood analysis and local knowledge work. SEAMEO BIOTROP and IPB University also led on capacity building in protected forests, whereas Bangor University led the project and provide expertise to support project activity (Figure 15).

The workshop took some inputs from an intra-household perspective to capture gender issues and analyze variation in local knowledge around tree biodiversity values to highlight knowledge gaps. The broader impact is to support Indonesian policy goals for sustainable carbon and forest-positive cocoa production that supports local livelihood systems. Gender is a core concern of this project. At present, gender inequality is a significant issue in Lampung with extension activity only reaching 5% of women involved in cocoa production. Local women often perceive themselves as not having access to the same knowledge and skills as men and diversification options are often not developed around their needs. In addition, these areas are subject to both in and out migration (often involving women) and there is evidence of ongoing use of child labor. This study will highlight opportunities for women and seek to redirect extension activity to address these inequalities.

Project activity is focused on four regencies where Barry Callebaut has established cocoa production areas in Lampung (namely Tanggamus, Pringsewu, Pesawaran, and East Lampung). Barry Callebaut is working with approximately 10,000 cocoa farming families in these four regencies. Tanggamus has the highest intensity production currently (and is a focus for extension activity), followed by East Lampung. Pringsewu and Pesawaran are emergent areas for cocoa production with Pesawaran having limited accessibility and offering new opportunities. On the landscape scale, this presents a diverse set of biodiversity opportunities and livelihood challenges requiring context sensitive proscriptions which currently do not exist. All of the regencies have areas of protected forest with differing levels of associated cocoa production.

The proposed project would contribute directly to meeting Indonesia's commitments to the CBD and the UNFCCC through biodiversity and adaptation management. At the wider scale, the project aligns with the SDGs, both broadly in terms of linking development and environmental protection, and directly through objectives that will contribute directly to SDGs 1 & 2 (through agricultural development), 5 (through developing representative community management bodies), 13 (through the development of increasingly ecologically complex cocoa agroecosystems) and 15 (through the integration of biodiversity conservation measures). The project will also contribute directly to achieving many of the Aichi Biodiversity Targets, most particularly 2 (through integrating community management into policy), 5 (through reducing deforestation), 7 (through agroforestry development compatible with conservation), 11 (through implementing forest management), 14 (through the landscape management approach protecting ecosystem services), and 18 (through promoting community management and use of local knowledge).

Key Results Area: Building SEAMEO Image as Regional Organization of Choice for Implementing SDG Relevant Work and Other Relevant Programs

SEAMEO BIOTROP is committed to establish its image as "A Reputable Center for Tropical Biology" through the implementation of Sustainable Development Goals. The implementation of the Sustainable Development Goals is integrated into the Center's main mandates, such as science-education, capacity building, and information dissemination in the fields of tropical biology, namely SDG 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all; SDG 7: Ensure access to affordable, reliable, sustainable and modern energy for all; SDG 11: Make cities and human settlements inclusive, safe, resilient and sustainable; SDG 12: Ensure sustainable consumption and production patterns; SDG 13: Take urgent action to combat climate change and its impacts; SDG 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development; SDG 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss; and SDG 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development.

In its 10th Five-Year Development Plan, SEAMEO BIOTROP has launched its community learning park since 2017. The program was launched by the Mayor of Bogor City, Dr Bima Arya. Through this program, the Center facilitates the capacity building activities through a scientific visit program, as well as an internship and student research program at SEAMEO BIOTROP.

However, since the Covid-19 pandemic in early 2020 until 2021, there is a decline in the number of students/teachers/others doing internships and research at SEAMEO BIOTROP, due to health protocol regulations from the government related to the pandemic prevention efforts.

One of the determining factors for the success of a program is the full support from competent human resources whose role is to increase business results and anticipate competition in the business. To improve the capabilities and professionalism of its human resources, it is essential to build the capacity of human resources by appropriately and efficiently establishing a work culture to align with industrial developments in Indonesia and Southeast Asia.

Competency-based human resources development is carried out in order to provide results in accordance with organizational goals and objectives with established performance standards. Therefore, individual performance in the organization is a way to increase the productivity of the organization itself.

Re-opening Internship and Scientific Visit Program

To anticipate conditions that become obstacles in the implementation of the internship and research program, SEAMEO BIOTROP has taken several steps, such as preparing internship and research guidelines for students, preparing budget for the procurement and repair of facilities and equipment in several laboratories to support the betterment of the internships implementation.

In supporting SDG no. 4 on quality education, the Center provides an opportunity for students to enhance their knowledge and skills by conducting research and joint internship and on-the-job training program at SEAMEO BIOTROP.

During the fiscal year in review, the number of internship participants increased by 20% compared to FY 2021/2022 due to normal condition post the Covid-19 pandemic.

From the period of July 2021 to June 2022, the Center accommodated a total of 232 students from 55 learning institutions to conduct internships as well as on-the-job trainings in various fields: biotechnology; aquaculture; silviculture; essential oil; entomology; GIS and Remote Sensing; pest and disease management; waste management; analyses of water, food and feed, and soil and plant; hydroponics; mushroom cultivation; phytopathology; biosystem and landscape management; invasive alien species and weed management; and office administration; and finance management.

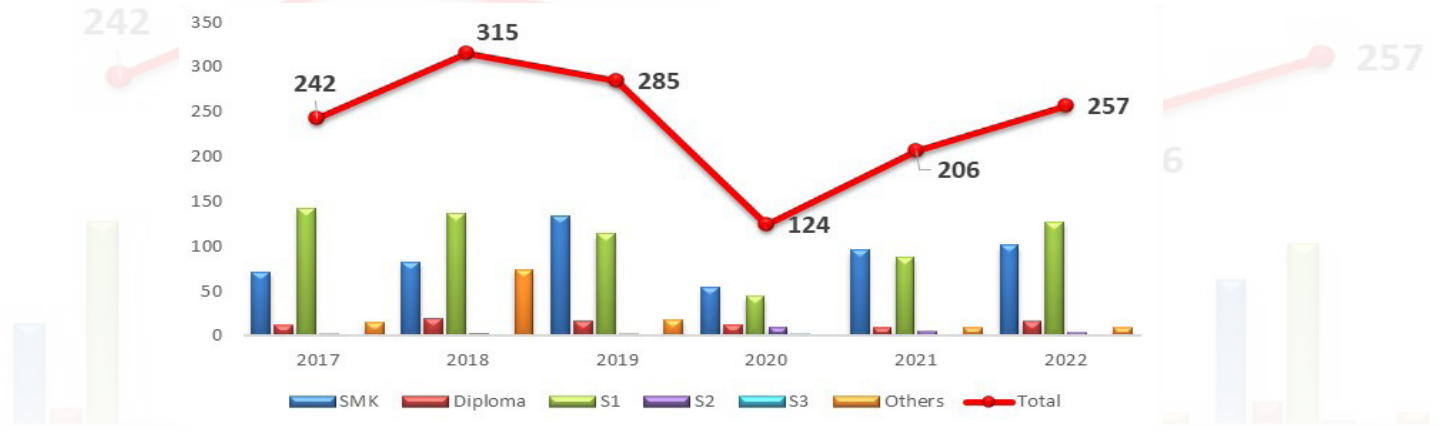


Figure 16. Recapitulation of apprentices, research, and on-the-job training

Scientific Visit

In Fiscal Year 2021/2022 SEAMEO BIOTROP accommodated 1,174 visitors from 45 visits. The visitors came from various institutions, provinces and countries. Fifty-eight percent visitors were students from various elementary schools, junior high schools, high schools and vocational high schools. The scientific visit aims to enhance students' knowledge on the implementation of biological science in the real world, which will lead to developing students' interest and enriching students' knowledge.

During the fiscal year 2017-2022, SEAMEO BIOTROP accommodated 353 visits consisting of 17,397 people from various schools, universities, government agencies, private companies as well as regional/international institutions. Through these visits, the Center established working relationships with most of these organization, especially from the ministries and embassies in Southeast Asia.

Table 3. Details of Scientific Visit Program

FY 2017/2018	3,348 visitors from 58 visits
FY 2018/2019	5,431 visitors from 98 visits. This number significantly increased by 59% from the previous fiscal year.
FY 2019/2020	3,605 visitors from 76 visits
FY 2020/2021	160 Visitors from 11 visits
FY 2021/2022	1,174 visitors form 45 visits

Staff Training and Development

SEAMEO BIOTROP realizes that human resource is one of the biggest and most important assets to maintain the sustainability of the company's business. Therefore, the institution continually strives to develop various training programs to improve the competence for achieving excellent human resources. The Center continues to facilitate employees with various training and development programs on an ongoing basis to improve skills related to their work and discipline. The Center also provides training and education programs to improve employees' skills and knowledge in various fields of work and position levels.

During the period July 2021- June 2022, more than 100 staff became resource persons, facilitators, moderators, instructors, and assessors, in various seminars, conferences, and workshops at the national and regional levels.

There were 445 recorded activities attended by the staff of SEAMEO BIOTROP as participants, resource persons, instructors, moderators, and others (Figure 17).

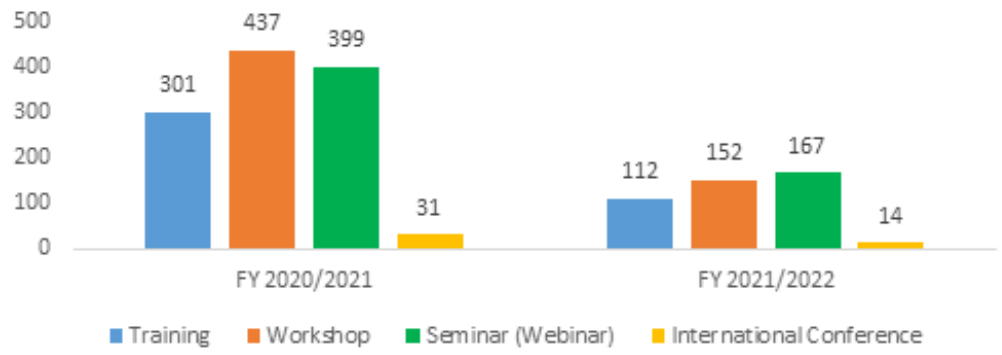


Figure 17. Number of human resource capacity building activities attended by SEAMEO BIOTROP Staff

Figure 18. A delegation of the Coordinating Ministry of Maritime and Investment Affairs, the Regent of Southeast Maluku and directors of private companies in seaweed industries visits SEAMEO BIOTROP

Strengthening the Provision of Seaweed Seedlings in the Southeast Maluku Regency

The Director of SEAMEO BIOTROP accompanied by the Deputy Director for Administration, the managers and unit head warmly welcomed the visit of the Assistant Deputy for Maritime Resources and Downstreaming, Assistant Deputy for Aquaculture Development and Professional Experts from the Coordinating Ministry of Maritime and Investment Affairs, the Regent of Southeast Maluku and the directors of private companies in seaweed industries. The visit held on 14 January 2022 aimed to strengthen the provision of seaweed seedlings in supporting seaweed cultivation in the Regency of Southeast Maluku.

This promising export potential of seaweed has urged the Government of Indonesia to strengthen the seaweed as an export commodity. Among efforts is to develop promising locations for seaweed cultivation. Southeast Maluku Regency is among the potential locations for seaweed cultivation. Along with its scenic and beautiful sites, the Regency has quite an amount of seaweed fishermen and several seaweed industries. The seaweed cultivation areas are already mapped in accordance with environmental zoning areas based on the survey conducted by the Southeast Maluku Regency Office of Environment and Forestry.

The main constraint of seaweed cultivation in the Southeast Maluku Regency is the provision sustainability of superior seaweed seedlings. Based on the long search within research institutions, it is finally found that SEAMEO BIOTROP has a long experience in seaweed propagation by using tissue culture techniques for producing superior and sustainable seaweed seedlings.

The discussion during this visit led to focused planning that a laboratory for superior and sustainable seaweed seedlings should be established in the area nearby the seaweed cultivation areas in the Southeast Maluku Regency. SEAMEO BIOTROP involves in this planning as a resource to conduct technology transfer on seaweed propagation by using tissue culture techniques for producing superior and sustainable seaweed seedlings.

Figure 19. Internship program for SMKN 1 Tolikara, Papua Province

Internship Program for SMKN 1 Tolikara, Papua Province

Tolikara Regency is among regencies in Papua Province having rich natural resources from the agricultural, forestry, agro-industrial, mining and tourism sectors. The natural forest of Tolikara is known for having many tree species that produce essential oils, such as Masoi (*Cryptocarya massoia* (Oken) Kosterm.), Cinnamon/Akar Lawang (*Cinnamomum* spp), Ylang-Ylang/Cananga (*Cananga odorata*) and Spiked Pepper/Sirih Hutan (*Piper aduncum* L.).

SEAMEO BIOTROP Natural Products Laboratory held an internship program for the SMKN 1 Tolikara from January - February 2022. Six students of SMKN 1 Tolikara actively participated in this 2-month event. The internship materials were the distillation of essential oil of Masoi tree barks and the making of the perfume, as well as aromatherapy soap bars and liquid soap by using the essential oil extracted from the Masoi tree barks.

Masoi was chosen as the primary commodity in this internship program for SMKN 1 Tolikara because Tolikara Regency is rich with Masoi tree barks. David, an internship student of SMKN 1 Tolikara, mentioned that people in his village sell around 10 tonnes of Masoi tree barks monthly. The Masoi tree barks are sold in Jayapura City. It needs a 24-hour road trip from David's village to Jayapura City, causing the high transportation cost of selling Masoi tree barks which leads to the expensive price of Masoi tree barks.

The internship program for SMKN 1 Tolikara was held to increase the capacity of human resources in the Tolikara Regency. It is expected that the technology learned by the students at SEAMEO BIOTROP can be directly implemented in the school and the Tolikara Regency. Agriva, an internship student of SMKN 1 Tolikara stated that in the internship program at SEAMEO BIOTROP, she learned a lot about the technology of essential oil distillation from Masoi tree barks, along with the technology for making perfume, soap bars and liquid soap by using Masoi essential oil. She further mentioned that she will convey her knowledge to her school and communities in her home village.

Overall, the capacity building of human resources in the Tolikara Regency is expected to develop the utilization of natural resources toward the production of semi-finished goods or finished goods as merchandise for improving the livelihood of communities in the Tolikara Regency. This effort should be supported by appropriate technology of handling, manufacturing, packaging, storing, marketing and distributing.

STRATEGIC THEME 2
PROGRAM EXCELLENCE AND SDG RELEVANCE

Key Results Area: Strengthening Research and Development Programs

Biodiversity is very important for human life and other living things. Biodiversity is influenced by climate change, human lifestyle, life cycles of living things, and socio-cultural. Therefore, we should capture the issues, conduct the research and apply the solution for each issue. Additionally, we need information on the potency of biodiversity from mountains to oceans and the sustainable management of biodiversity.

Biodiversity in Southeast Asia is under a serious threat caused by deforestation, hunting and wildlife trade, wildlife-human conflicts, invasive alien species, forest clearing, landuse shifting, pollution and disease. The threat has caused the loss of 14.5% of forests, which are the prime and endemic animal habitats, across Southeast Asia for the last 15 years.

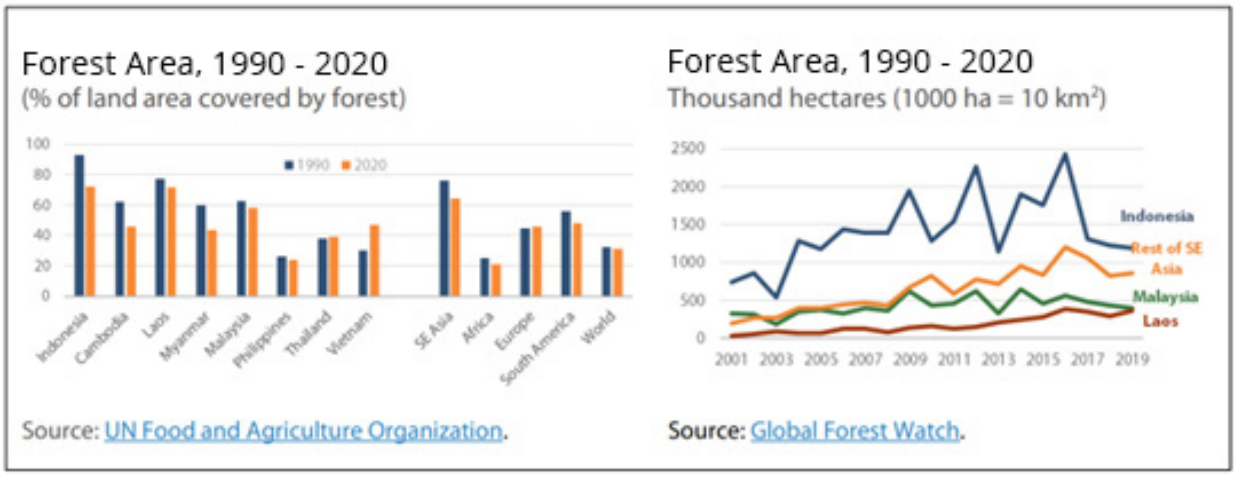


Figure 20. Deforestation trends in Southeast Asia in 2001-2019

International commitments are taken as action toward climate change by reducing forest degradation and fragmentation and restoring degraded forests significantly. Research on biodiversity and developing the protection and sustainable use of biodiversity become the strategy in the master plan of respective countries in Southeast Asia. Forest extraction moratorium, research, and protection of biodiversity, developing community-based conservation, developing ecosystem services including Non-Timber Forest Products (NTFP), reducing invasive alien species, genetic and metapopulation research and conservation, ecosystem restoration, carbon and climate change mitigation, and conservation engineering are research and policy actions to minimize biodiversity problem in Southeast Asia.

Saving biodiversity means taking steps to protect genes, species, habitats, or ecosystems. Therefore, conserving biodiversity means effectively protecting the main natural ecosystems and protecting them effectively. Indonesia is an archipelagic country with a very diverse flora, fauna, and microbes. Based on the division of biogeographic areas, Indonesia has an important and strategic position regarding the richness and diversity of plant species and their ecosystems. Biodiversity loss has posed serious environmental impacts. Recent environmental issues include the following: 1) Environmental degradation; 2) Climate change that disrupts food security; 3) Increased human demand for food; 4) Reduced land for agriculture and forest area due to land clearing; and 5) Occurrence of new diseases. These conditions are triggered by human behavior that is less concerned about the deteriorating state of the natural environment.

Moreover, the environmental quality is decreasing due to nature excessive exploitation with no regard to the carrying capacity and ecological functions. For example, excessive deforestation has resulted in catastrophic floods and landslides, while using dynamites to catch fish has damaged the coral reefs. These issues are being addressed in the formulation of the UN Sustainable Development Goals (SDGs) at the global and regional strategic planning levels, with more than 150 state leaders attended at the UN General Assembly in New York on 25 September 2015, in which the agreed SDGs consisted of 17 goals including the 4th SDG (Quality Education), 13th (Climate Action), and 15th (Life on Education).

In harmonizing economic and community welfare with suppressing environmental damage, Agenda 21 and SDGs use the science perspective for sustainable development. Agenda 21 states that sustainable development's scientific and technological community is the main issue. The science is important, especially in integrating environment and development at the policy-making, planning, and management, as well as generating and strengthening knowledge about the ecology and sustainable development of the ecosystem level, increasing the availability of food, feed, and renewable raw materials, improving human health and mitigating landscape, seascape and marine. Agenda 21 also focuses on the socio-economic dimension of conservation and management of resources for sustainable development, strengthening the role of major groups, including gender issues (women, children, and youth), financial resources, and the mechanism and transfer of science and technologies.

As a regional biodiversity research center in Southeast Asia, a transformation of Program Thrusts and the Flagship Programs is a matter of responding to the developing biodiversity issues at the national and regional levels. The goal is to be a Platinum Research Center to improve biodiversity-ecosystem management and human resources innovation development and adapt to new normal conditions. It transforms the center to become a hub for knowledge and science connectivity. To strengthen research and development and optimize the achievements and impact of the programs, SEAMEO BIOTROP expands the strategy in research, innovation, and products development by building the competitiveness of science-education research products at national, regional, and international levels through optimizing existing resources and strengthening adaptive information technology in tropical biology to support the industry 4.0 and digital marketing 5.0.

Solutions

The transformation of SEAMEO BIOTROP's program thrusts in responding to various challenges related to biodiversity has led to five SEAMEO BIOTROP'S Priority programs, namely, 1) Save Biodiversity for Future Generations; 2) Biodiversity Ranking and Database from Mountains to Oceans; 3) Agro-Eco-Edu Tourism Development in Promoting Biodiversity Conservation; 4) School of Ecology, Biodiversity, and Aquatic; and 5) Climate, Energy, and Environment Literacy on Biodiversity.

Knowledge related to biodiversity for the younger generation is important in minimizing the decline or loss of biodiversity caused by natural and human factors. One of the implemented activities related to this program is Designing and Developing Learning Prototype Design through the Production of Organic Pesticide Prototypes in School Garden Commodity Conservation Efforts through the Participation of Schools. Related to the biodiversity program for the young generation, SEAMEO BIOTROP also launches the School of Ecology, Biodiversity, and Aquatic Program. The development model of learning ecosystem science literacy-based which integrated the concept of biodiversity management into the ecosystem of learning and education will be conducted through this program. In general, the focus of this program is optimizing biodiversity components as nature/artificial nature, biodiversity as natural resources, and biodiversity as indexes.

In addition, a commitment from SEAMEO BIOTROP to strengthen visibility, contribution, and role in saving biodiversity is realized in the Biodiversity Ranking and Database from Mountains to Oceans, which implementaion is designed systematically and sustainably through activities that support each other and strengthen the achievement of program objectives to "Save Biodiversity". As a regional research institution, SEAMEO BIOTROP is also required to promote tropical biological values in supporting resilience to climate change and tropical biodiversity conservation. The implementation of this program is in the form of designing and conceiving the Agro-eco-Edu Tourism program development in SEAMEO BIOTROP, as well as the Study on Implementing Criteria and Indicators for the Archipelagic Agro-Eco-Edu Tourism Program toward SMARTS-BE goes to Southeast Asia Program. Through the Agro-Eco-Edu Tourism program, it is hoped that there will be an increase in competence and the participation of the academic and general public communities in the action of resilience in facing climate change within the "save biodiversity" scheme.

Another important aspect of saving biodiversity is the existence of good literacy about biodiversity in all circles. Therefore, to improve scientific literacy in Indonesia and to preserve Indonesia's biodiversity, especially in the fields of climate change, energy, and the environment, SEAMEO BIOTROP developes a program called climate, energy, and environmental literacy on biodiversity. The implementation of this program is Environmental Risk Management Studies related to Risk Communication Strategies in Biotechnology Products. Those studies are detailed into various activities that support the outputs achieved every year, such as workshops, focused group discussions, and dissemination of information, and support SEAMEO BIOTROP in achieving the "Literacy on Tropical Biology" in 2030. SEAMEO BIOTROP also conducts In-House Collaborative Research in the implementation of program activities.

A total of 44 research projects were carried out during the 2021/2022 fiscal year for projects sourced from the Government of Indonesia (GoI) and Non-GoI funds. Research activities sourced from DIPA funds in 2021 were 33 titles, consisting of 28 regular GoI research titles, 1 completed research project title from PhD Thesis Support Grantees, and 4 Completed Research Projects titles from School Garden Program. Meanwhile, for Non-GoI research, there were 2 research titles. In addition, in 2022, 10 research titles funded by GoI and SEDF will be completed at the end of 2022. The list of ongoing and completed research projects is presented in Appendix 1.

Highlighted Programs

SEAMEO BIOTROP conducts various research activities based on the Program Thrusts through multiple schemes, including GoI research, PhD Thesis Support Grantees, Youth Environmental Outreach (YEO) program, and School Garden Program. During the implementation of the 10th FYDP Program Thrusts, SEAMEO BIOTROP funded 125 research titles with a total funding from the GoI of around 10 billion rupiahs to support research of: 1) Affiliate Scientists of SEAMEO BIOTROP as many as 36 studies; 2) Partner institutions as many as 30 studies; 3) SEAMEO BIOTROP internal researchers as many as 20 studies; 4) Regional joint research outside Indonesia, as many as 5 studies; 5) School teachers as many as 15 studies; 6) PhD Students as many as 13 studies; and 7) YEO program as many as 3 studies.

In addition, 2 research titles were funded by Non-GoI, and 3 research titles by SEDF funds. Those research projects had already been implemented by the existing Program Thrusts and Priority Programs. Research grouping based on the Program Thrusts is enclosed in Figure 21.

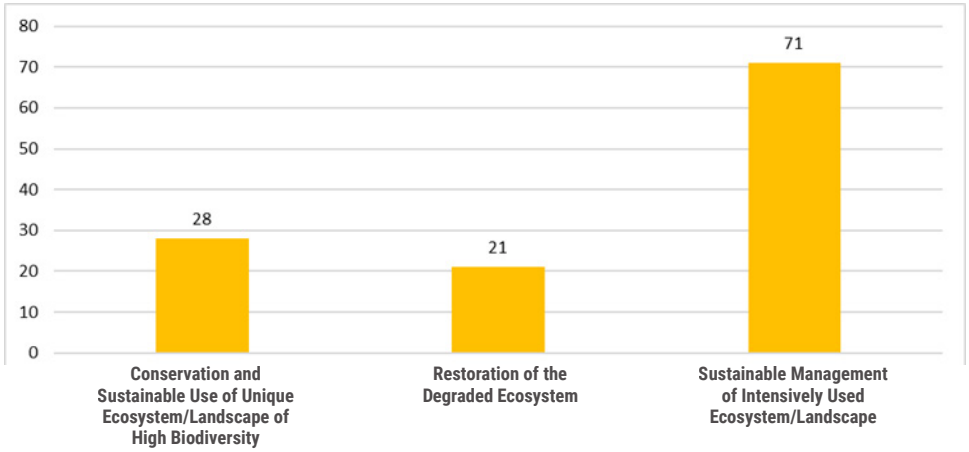


Figure 21. Number of research conducted in accordance with the implementation of Program Thrusts during the 10th FYDP (2017 - 2022)

The output generated from various research activities during the 10th FYDP period were consisted of publications and prototypes. A total of 67 publications were produced, consisting of 39 journals, 19 proceedings and conferences, 1 e-book, 4 monographs, 1 copyright, 2 technical papers, and 1 policy brief that can be used by various stakeholders in supporting policies in Indonesia (Figure 22).

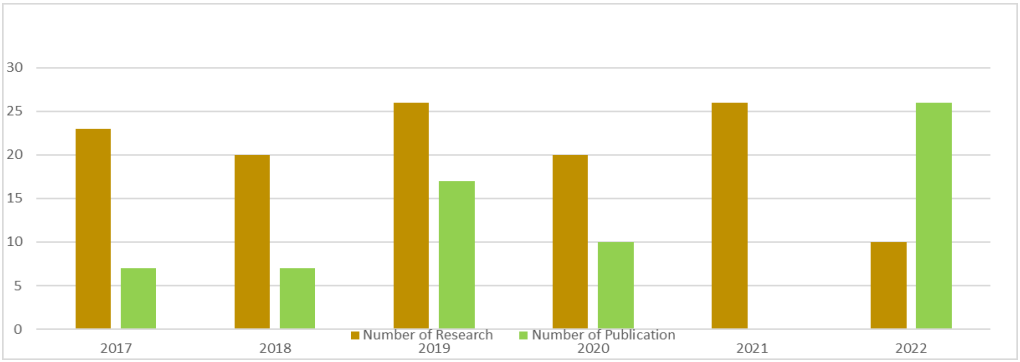


Figure 22. Number of research and publication produced during the 10th FYDP (2017-2022)

Prototypes of BIORISA fertilizer, kupukita.org website, and Spatial Dynamics Model for Rice Monitoring were also produced to support learning activities in the field of biodiversity. The description below are the three subjects representing SEAMEO BIOTROP Regular DIPA (biology tropical research) during the 10th FYDP:

Improving the Quality of Mycorrhiza Inoculum in SEAMEO BIOTROP: Development of Biomass Production Techniques, Formulation, Storage, Packaging, Infectivity and Effectiveness Test

by Risa Rosita MSi, Dr Irdika Mansur MForSc, Deden Dewantara Eris SSi, MSi, Armaiki Yusmur MSi, Aan Darwati, Panju Dwi Anggoro, and Sunardi Ikay

The research aimed to: 1) study hydroponic mycorrhizal spore propagation techniques and comparing the technique against conventional methods; 2) obtain quality AMF inoculum formulations; 3) obtain appropriate storage techniques for AMF inoculum; and 4) study plant growth responses to AMF inoculum and measure the infectivity and effectiveness of mycorrhizal-based biofertilizers. The research was conducted from March to November 2021 at the Biosystem Landscape and Management (BLM) Laboratory and the SEAMEO BIOTROP Greenhouse. The study used a Factorial Completely Randomized Design (CRD) with three factors. The first factor was the type of formulation (F1 and F2), the best storage temperature (40 °C and 60 °C), and the type of mycorrhizal host plants used (*Sorghum bicolor*, *Pueraria javanica*, and *Zea mays*). The total experimental units were 180 experimental units. The data were statistically analyzed with SAS software version 9.0 and further tested using Duncan's Multiple Range Test (DMRT) at an alpha level (α) of 5%. The results showed that both conventional and hydroponic techniques could be used to produce AMF spores. The amount of spore production depended on the ability of AMF infection. *Glomus etunicatum* has better root infection ability than *Glomus fasciculatum*. Hydroponic techniques showed better vegetative plant growth than that using conventional techniques. The P3E_NFT treatment resulted in the highest increase in height (221.8 cm), the number of leaves (13), stem diameter (3 cm),

and canopy dry biomass (9.54 g). PP plastic (Polypropylen) showed the ability to maintain the viability of spore density of 150/10 g BIORISA after being stored for one month, compared to HDPE plastic (High-Density Polyethylene), which showed ability to only maintain spore density of 101/10 g BIORISA. The analysis of variance showed that the prototype mycorrhizal fertilizer BIORISA code TZ60F1, TZ60F2, TZ40F1, and TZ40F2 had a significant effect on all plant growth parameters (height, number of leaves, and stem diameter) after four weeks after being planted in the soil medium. The application of BIORISA on sand media is not optimal, so further research is needed to increase the effectiveness of BIORISA, especially when applied to degraded land.

Urbanized Ecosystem Resilience through the Flight of Butterflies

by Dr Nurul L. Winarni, Ir Sri Widayanti MSi, Dr Aslan, Bhisma Gusti Anugra SSi, and Nuruliawati SSi

The increasing numbers of residential and industrial areas in urban areas, including Jabodetabek (Jakarta-Bogor- Depok-Tangerang-Bekasi), consequently reduces green open space and the ecosystem services for the urban environment, such as decreased air quality, increased noise, increased temperature, and decreased recreation and cultural services. Meanwhile, the presence of butterflies which often correlates with other taxa and the butterflies' sensitivity to environmental changes make the butterfly a good indicator for ecosystem changes. This study aimed to describe the ecological resilience of Greater Jakarta through the butterfly community using a citizen science approach. The results can be used to evaluate the ecological network of butterfly distribution in urban environments. During March-November 2021, the butterfly monitoring was carried out in Jabodetabek area with an online citizen science approach, which can be seen in real-time on kupukita.org. The study managed to record as many as 50 species of butterflies consisting of 3 families, such as Nymphalidae, Papilionidae, and Pieridae. The most widely recorded species were *Leptosia nina, Appias olferna, Eurema* sp., and *Hympolimnas bolina*. Until November 2021, 140 people participated in independent butterfly monitoring, resulting in 564 data entries. A total of 50 types of butterflies were spread in 6 clusters based on their Encounter Rate (ER), which illustrates the level of ecological response of the Jabodetabek butterflies. Cluster 1 is the species with the highest ER in all habitat types, cluster 2 is the species with a higher ER in green open spaces, cluster 3 is the species with the higher ER on roadsides, cluster 4 is the species with a similar ER in four habitat types, cluster 5 is a rare roadside species but is still frequently found in the other three habitat types, and lastly, cluster 6 is the group with the rarest species. Overall, this study suggested that yards offerring food and host plants can support the urban habitat of butterflies in cities.

Development of Spatial Decision Support System for Village-Based National Rice Production (Phase 2: Developing Spatially-Explicit Dynamics Model of Rice)

by Dr Impron MAgrSc, Harry Imantho,MSc, Slamet Widodo Sugiarto, MSi, Dr Yudi Setiawan, Oxa Aspera Endiviana, ST, and Taufiq Yuliawan, MSc

It is necessary that the main food needs (especially staple foods) continue to increase along with the increase in population and in people's welfare and income. On the other hand, the uncertainty of food supply is growing due to global climate change, which affects the availability and supply of water and the development and change of biological enemies of plants. The adoption of information technology and precision agriculture within the framework of environmental/climate-based smart agriculture must be carried out so that agricultural activities can be managed appropriately, adjusting to plant growth and development, soil conditions, and the environment/climate. Smart agriculture technology is one of the efforts to increase agricultural productivity, resilience, and sustainability. The development of instruments and tools based on information technology, remote sensing, and geographic information systems is needed by agricultural business actors in climate-smart agriculture applications. This urgency underlies the research, designed to combine spatial and non-spatial data on the potential of rice farming and environmental conditions (weather and climate). The spatial and non-spatial data were integrated through a spatially explicit dynamics model of rice growth and development approach. It is very important to know the spatial and temporal variability of a paddy field (landscape) to be managed using precision agriculture approaches, strategies, and techniques oriented to increase productivity and profits by means of improving agricultural input management, minimizing the impact on the environment toward a sustainable agricultural system. The efforts to understand plants' physical and chemical characteristics and their interactions with soil and the environment were approached by plot design, treatment, periodic measurements, and Spatio-temporal observations using Sentinel-2A satellite imagery. Analysis and testing of the parameters needed in developing a spatially explicit dynamics model were conducted in March-November 2021. The research proved that the enhanced vegetation index (EVI) based on Sentinel-2A imagery was the most sensitive vegetation index which can distinguish varieties, fertilizers, and planting methods compared to NDVI, ARVI, and SAVI. The vegetation indices methods using Sentinel-2A imagery were able to detect differences due to fertilizer treatments applied to rice plants.

Meanwhile, the leaf area index (LAI) measurement and analysis showed that LAI was highly depended on the variety, planting techniques, and fertilization rates. In addition, the study also showed that LAI were estimated very well using NDVI based on Sentinel-2A imagery, 12 compared to ARVI, EVI, and SAVI methods. The study also found out that the absolute age of plants expressed by thermal heat unit (THU) had a high correlation with the greenness index of plants, and ARVI was the best method for estimating the absolute age of plants (THU) compared to the other three indices. Thus, the empirical formula for the relationship between the absolute age of rice plants (THU) and the vegetation index can be used to estimate the greenness index of plants (NDVI) in cloud-covered areas. The spatially explicit dynamics model of rice growth and development has significant urgency for farmers in managing paddy fields based on near-real-time information. Further improvement of the results of this study (SIPANAS) can be used by stakeholders starting from the government level up to the farmer group level as a tool for more optimally managing and utilizing spatial agricultural resources.

Impact and Recommendations

The completed research in 2021 paved the way for the formation of networks and collaboration with partners, while the form of research dissemination was carried out through training activities and information dissemination. On the other hand, SEAMEO BIOTROP has succeeded in building knowledge and facilitating learning for high school and vocational schools in understanding various issues and solutions related to environment. Research results shall be disseminated in the form of regional and international trainings and publications to the beneficiaries.

Key Results Area: Enhancing Innovative Programs under SEAMEO Priority Areas

Entering the 21st century, the need for broader educational goals has been increasingly defined in terms of well-being. Well-being means more than access to material resources, such as income and wealth, jobs and income, and housing. Well-being is also related to quality of life, including health, community involvement, social connections, education, security, life satisfaction and the environment. However, to date, within the equitable access to all of these supports, the concept of inclusive growth has not materialized. One indispensable indicator of welfare is education and literacy. Inclusion and equality in and through education are the cornerstones of a transformative education agenda. Therefore, a shared commitment is needed to address all forms of exclusion and marginalization, disparities and inequalities in access, participation and learning outcomes. No educational target is considered fulfilled unless it is met by all elements of education including students, teachers, education personnel and the community. Education has an important role in developing the knowledge, skills, attitudes and values that enable people to contribute to and benefit from an inclusive and sustainable future. Learning to set clear and purposeful goals, work with others with different perspectives, discover untapped opportunities and identify various solutions to big problems will be crucial in the years to come. Education should aim to do more than prepare young people for the world of work. Education needs to equip students with the skills they need to become active, responsible and engaged citizens.

Biodiversity Literacy

Biodiversity is critical for the sustainable development of human society. However, the quality and quantity of biodiversity continues to decline due to various pressures such as over exploitation and utilization, waste pollution, air pollution, climate change, as well as forest and land fires. Ecosystem diversity has been disturbed by various human actions so that various animal species are no longer existed and various plant varieties are lost. The extinction of biodiverse is a serious threat especially caused by the use of both legal and illegal, and radical climate change. Nature conservation is an urgent matter to be carried out. Nature conservation involves humans so that human knowledge and awareness in conservation becomes necessary. To achieve adequate knowledge and awareness requires variations and learning methods, especially in inspiring people to be active and participatory. Specifically, the combination of active, participatory, and collaborative learning methods and activities in the field can enhance biodiversity knowledge and skills. Learning biodiversity needs to accommodate human's daily experiences with varied learning methods so that people can comprehensively define the meaning and characteristics of the biodiversity. The existing study not only emphasizes the physical aspects of conservation, but also pays less attention to the methodological aspects that guarantee the transfer of knowledge and the formation of public awareness in biodiversity conservation. Teaching concepts in biodiversity and ecosystems in science learning activities should be done by analyzing real natural phenomena, especially concerning biodiversity that exists in everyday life. However, in its implementation,

most learning activities related to ecosystems and biodiversity are mostly carried out with traditional and classical approaches.

Considerable gaps in biodiversity literacy are found between research institutions, scientists, and the public. Communication and dissemination of knowledge and research results on biodiversity through scientific journal publications can only be understood by a few people. A publication media with a popular and friendly language is needed to bridge communication and downstream research results with the wider community/audience.

Resilience to Climate-Related Disasters

There are at least 3 negative impacts of climate change on biodiversity. First, climate change causes temperature increases that are detrimental to a number of organisms, especially those in sensitive habitats such as coral reefs and rainforests. Second, the stresses posed by climate change cause a range of responses from organisms including its phenology, range and physiology, and often lead to changes in the life cycle, loss of productivity or even death. Occasionally, the survival of some very sensitive species may be threatened. Third, the impacts of climate change on biodiversity are expected to be felt in the short term in some species and ecosystems, but also in the medium and long term in many biomes. Without mitigation and adaptation as early as possible, it will result in irreversible changes.

Natural disasters due to climate change are occurring more frequently, resulting in the increased vulnerability of rural and coastal communities and the resulting internal and cross-border displacement, can leave entire generations traumatized, uneducated and unprepared to contribute to the social and economic recovery of communities. Efforts to strengthen resilience and adaptive capacity to the impacts of climate change and natural disasters must be carried out through increasing education, awareness, and human and institutional capacity on climate change mitigation, adaptation, impact reduction, and early warning. In addition, research and application of biotechnology must be encouraged to support the conservation and saving of endangered flagship species. The mainstreaming of research and development on bio-based energy, particularly biomass and biogas energy, should be encouraged to provide environmentally friendly and affordable energy for the community.

Industry 4.0 and Disruptive Technologies

Industry 4.0 refers to the technological evolution from embedded systems to cyber-physical systems. It connects embedded system production technologies and smart production processes to pave the way to a new technological age which will radically transform industry and production value chains and business models. Industry 4.0 will lead to potential deep changes in several domains that go beyond the industrial sector and allow the creation of new business models. The most challenging aspects for the organizations that wish to adopt this new approach are touch skills and qualifications of human resources and digital readiness level concerning problem-solving skills, failure analysis, and the ability to deal with constant changes and completely new tasks.

Food Security and Safety

Food security is defined as a condition that exists when "all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their food preferences and food needs for an active and healthy life". This definition suggests four components of food security, namely: accessibility, availability, utilization, and stability. Thus, food insecurity occurs when one of these components is not met. The Sustainable Development Goals (SDGs), in particular Goal 1 (end poverty in all its forms everywhere) and Goal 2 (end hunger, achieve food security, improve nutrition, and promote sustainable agriculture), underscore the need to address food insecurity to achieve human rights by 2030.

SEAMEO BIOTROP DIPA completed projects in 2021 has contributed to food security and safety, including how to handle post-harvest food items that are not appropriate due to fungal contamination in 2021. This research produced baseline data about optimum growth of *Aspergillus flavus* and aflatoxin production in peanuts to be at 35 ^{o}C. Aflatoxin production in peanuts increased with increasing water activity at 35 ^{o}C. *A. flavus* growth and aflatoxin production are positively correlated with peanut moisture content. The highest water content of peanuts is at a temperature of 35 ^{o}C, the water content increases with increasing water activity. This research was further deepened by molecular profile characterization of toxigenicity of *A. flavus*. Molecular characterization of *A. flavus* strains from Indonesia using 29 genes involved in aflatoxin biosynthesis has been able to provide an overview of the molecular profiles of toxigenic and non-toxigenic *A. flavus*. This study also succeeded in characterizing 2 non-toxigenic candidates of *A. flavus* which lost most of the aflatoxin biosynthetic genes. These characteristics are very useful to be used as biocontrol agents in the field against toxigenic *A. flavus*.

The ongoing SEAMEO BIOTROP DIPA project in 2022 study are to improve and address problems in urban communities, particularly in Indonesia and the Philippines regarding food security and concerns during the pandemic to generate policy recommendations. This research is a collaborative study involving SEAMEO RECFON as the lead project, SEAMEO BIOTROP, and SEARCA. The research aimed to: 1) determine the status of food security among urban households in Indonesia and the Philippines during the pandemic; (2) find out the key determinants of the food security of urban households in Indonesia and the Philippines during the pandemic; (3) identify the range and most common coping strategies adopted by urban households in Indonesia and the Philippines to provide for the daily food needs

of their members during the pandemic; (4) determine the social aids sought and received by urban households in Indonesia and the Philippines from government institutions during the pandemic; (5) determine which of the food security components are the most challenging for the urban households in Indonesia and the Philippines to cope up with during the pandemic; (6) generate policy recommendations on addressing food security of urban households in Indonesia and the Philippines during a pandemic.

Solutions

It is necessary to plan and implement the programs in promoting the Technical and Vocational Education and Training (TVET) in terms of the improvement of skills, knowledge, and competencies of students, teachers, and educational staff. Related to that, SEAMEO BIOTROP implements the program by engaging the Vocational High Schools (VHS) in Indonesia, which were SMARTS-BE programs and research grants for teachers in VHS. Since 2018, SEAMEO BIOTROP has been focusing on developing vocational high schools by implementing the SMARTS-BE program. This program was aimed to support the learning process, and improve the knowledge and skills of teachers and students on fruit and proper fruit tree cultivation in schools. Within this program, it was expected to be a tool to facilitate teaching factories in vocational high schools by involving teachers and students. This program developed intensive cultivation of fruit plants which considers three fundamental principles, such as genetics, environmental input, and pests and diseases management. Furthermore, the modalities that SMARTS-BE owns would be developed to become the Agro-Eco-Edu Tourism program in vocational high schools. Agro-Eco-Edu Tourism is tourism activities to promote agricultural products, environmental products, and learning (educational) packages to improve skills and welfare of communities. This program can be developed as a tool to conserve biodiversity and tackle climate action, and also a tool to educate general public regarding biodiversity and climate change.

Southeast Asia is known to have 20% of the overall biodiversity in the world. Three countries in Southeast Asia are known as megabiodiversity countries, such as Indonesia, Malaysia, and the Philippines. This potency is really necessary to be disseminated to the public as a strategy to increase biodiversity literacy. However, the information about biodiversity has been delivered mainly to the scientific communities and is not publicly understood by the general public. Therefore, it is necessary to disseminate information about biodiversity in an easier and more understandable way to the general public. Hence, SEAMEO BIOTROP publishes a scientific magazine to increase interest and awareness on biodiversity issues in an attractive and easy-to-understand presentation to the public, i.e., the BIODIVERS popular scientific magazine.

Biodiversity is indispensable for Indonesia's future sustainable development. However, the challenges that will be faced in the effort to empower biodiversity are owned. Therefore, several strategies are needed to take future challenges related to biodiversity. One of the efforts to overcome this problem is through the dissemination of BIODIVERS magazines. This magazine is a media that can increase public interest and awareness on biodiversity issues in an attractive and easy-to-understand presentation. The contents of the BIODIVERS magazine come from various experts through workshops, FGDs, and interviews to get the latest information related to biodiversity issues. In addition, this magazine disseminates the latest information related to biodiversity which is packaged interestingly as reading materials. BIODIVERS magazine brand has been registered with ISSN to increase public's trust.

Besides disseminating information regarding biodiversity, it is also crucial to properly utilize biodiversity by employing biotechnology to support food security. The technology must be environmentally friendly and free of chemical residue that potentially harm the environment and humans. Therefore, SEAMEO BIOTROP developes a prototype of biopesticide by utilizing organic sources, waste, and chemical-free which supports the circular economy (zero-waste). SEAMEO BIOTROP also investigates the potential natural resources to be utilized for food security and nutrition.

SMARTS-BE/TVET: The Effect of Cultivation Conditions on Sacha Inchi (*Plukenetia volubilis* L.) Seed Production and Oil Quality (Omega 3, 6, 9)

by Supriyanto, Zulhamsyah Imran, Rhomi Ardiansyah, Brian Auliyai, Aditya Pratama, and Faustinus Kadha

Sacha Inchi (*Plukenetia volubilis* Linneo, Euphorbiaceae) is known as a Peruvian seed containing a high level of unsaturated fatty acids, such as alpha-linolenic acid (Omega-3), linoleic acid (Omega-6), and oleic acid (Omega-9). These essential fatty acids are important functional foods due to their benefits for human health. Considering its benefits, it is necessary to find the right cultivation conditions to develop Sacha Inchi in Indonesia, where it has not been widely cultivated. This study aimed to determine the adaptability of Sacha Inchi to different cultivation conditions and the effects of these conditions on seed production and oil quality. Sacha Inchi plants were cultivated under three different cultivation conditions (open area, mixed cultures, and agroforestry) and the seeds were harvested monthly to determine the seed production and oil quality. The results showed that seed production in the open area was higher than the production in other conditions. The highest oil yield from monthly harvesting was found in mixed cultures. Interestingly, the level of Omega-3 content in the agroforestry condition was higher compared to the content in other conditions. The level of Omega-6 and Omega-9 contents in the open area was higher than those in mixed cultures and agroforestry. However, the content of unsaturated fatty acids in the three different cultivation conditions was not significantly different, i.e., 91.88% in the open area, 92.53% in mixed cultures, and 92.97% for agroforestry. In conclusion, the cultivation of Sacha Inchi under open areas is recommended due to its seed productivity which will affect the total oil production. On March 2022, this research has been published in Agronomy, a Q1 rank journal of Multidisciplinary

Digital Publishing Institute (MDPI) indexed by Scopus and Web of Science (SCIE) with the impact factor 3.949 and citation score 3.9.

SMARTS-BE program has developed 37 Vocational High Schools (VHS) across 19 provinces, as well as 818 teachers and 8,300 students. During its development, the SMARTS-BE program also developed its partners to the Senior High Schools, Islamic Senior High Schools, and Islamic Boarding Schools in a total of 32 schools and 96 teachers. SMARTS-BE program has been focusing on the development of intensive fruit gardens in 37 VHS of SMARTS-BE partners, covering 38.8 ha. The program has planted 16,824 plants with 78.8% survival rates (13,246 plants). In total, 46 plant varieties were planted in VHS areas, and 92% of them has produced fruit in 2021. The development of intensive fruit gardens has also produced 54 standard operational procedures (SOP) for its establishment, and 94 SOP for derivative products that has been produced by VHS.

In 2021, the SMARTS BE program conducted two technical guidance activities related to derivative product development and Internet of Things for Smart Hydroponic-Aquaponic which was attended by 36 schools and 190 teachers. This program has also conducted a Workshop on the development of Model Agro-Eco-Edu Tourism program in VHS. This workshop produced criteria and indicators for Nusantara Agro-Eco-Edu Tourism program in VHS, containing 6 criteria, 16 indicators, and 45 parameters and has been agreed upon by the participants of the Workshop. The SMARTS-BE partners also conducted the training of trainers related to the Agro-Eco-Edu Tourism program which was attended by 37 schools and 183 teachers. In the same year, the SMARTS-BE program is also implemented in Indonesian schools of Kinabalu in Sabah, Malaysia, and Davao, in the Philippines. This program has collaborated with the Institute Brunei for Technology and Engineering (IBTE) to develop avocado, orange, banana, and passion fruit. The implementation of the SMARTS-BE program in the Indonesian Schools of Malaysia and the Philippines, as well as, the collaboration with the IBTE was the initiation of SMARTS-BE goes to Southeast Asia.

Besides activities carried out in the vocational high schools, the SMARTS-BE program also developed the experimental farm in SEAMEO BIOTROP as a genetic conservation area for superior plant species, such as several varieties of lemon and orange, and Sacha Inchi nut. In 2022, the SMARTS-BE program targeted to spread the program to Southeast Asia countries and implement the Agro-Eco-Edu Tourism program in the selected VHS in Indonesia, especially in Jakarta and West Java regions. The implementation of the SMARTS-BE program in Southeast Asia will be continued to be implemented by translating the guideline of the SMARTS-BE program into English.

BIOPesticide Prototype: Production of Organic Pesticide Prototypes in School Garden Commodity Conservation Efforts (supporting BIONIK activities) through School Participation

by Risa Rosita, Zulhamsyah Imran, Dewi Rahmawati, Nijma Nurfadila, Sunardi Ikay

One of SEAMEO BIOTROP's priority programs is "Save Biodiversity for Future Generations", which emphasizes the need to carry out the transfer of knowledge on biodiversity conservation in the young minds of high school or vocational school students in Indonesia and ASEAN.

The target of this activity is to achieve Sustainable Development Goals (SDGs), namely SDG 4: Quality Education, SDG 11: Make Cities and Human Settlements Inclusive, Safe, Resilient and Sustainable, SDG 15: Life on Land and SDG 17: Partnerships for the Goals. The activity provides and supports SEAMEO Seven Priority Areas in science: 1) natural resources and environmental management: circular economy; 2) food security and nutrition and precision agriculture, as well as in education: 1) promoting technical and vocational education and training; and 2) promoting harmonization in higher education and research.

Transfer of knowledge and guidance related to organic pesticides to secondary schools need to be carried out from an early age as an effort to conserve biodiversity in school gardens from disturbance of Plant Pest Organisms (PPO). Additionally, organic pesticides are also considered chemical-free, so it is safe for schools. Organic pesticide in the form of Liquid Smoke "Liqcoris TM" is a liquid organic pesticide that is formulated from environmentally friendly organic materials with the basic ingredients of Indonesian native plants. Most of the plant material used is plant waste. Liqcoris TM Liquid Smoke can inhibit the development of plant pathogens from most groups of bacteria and fungi. By using Liqcoris TM Liquid Smoke, it means that we are participating in protecting the environment, because the organic pesticide is non-toxic and not persistent for the environment. The use of synthetic chemical pesticides is harmful to the environment. The chemical pesticide is also persistent and have the potential to cause resistance and resurgence of plant pathogens. The implementation of the production of organic pesticide prototypes involved 3 school models in West Java, i.e., SMKN 1 Rongga, SMKN PP Cianjur and SMKN 1 Rongga.

Initiation of Smart Agriculture: The Development of a Village-Based National Spatial Decision Support System for Rice Production (Sistem Pendukung Keputusan Spasial Untuk Produksi Beras Nasional Berbasis Desa/SIPANAS)

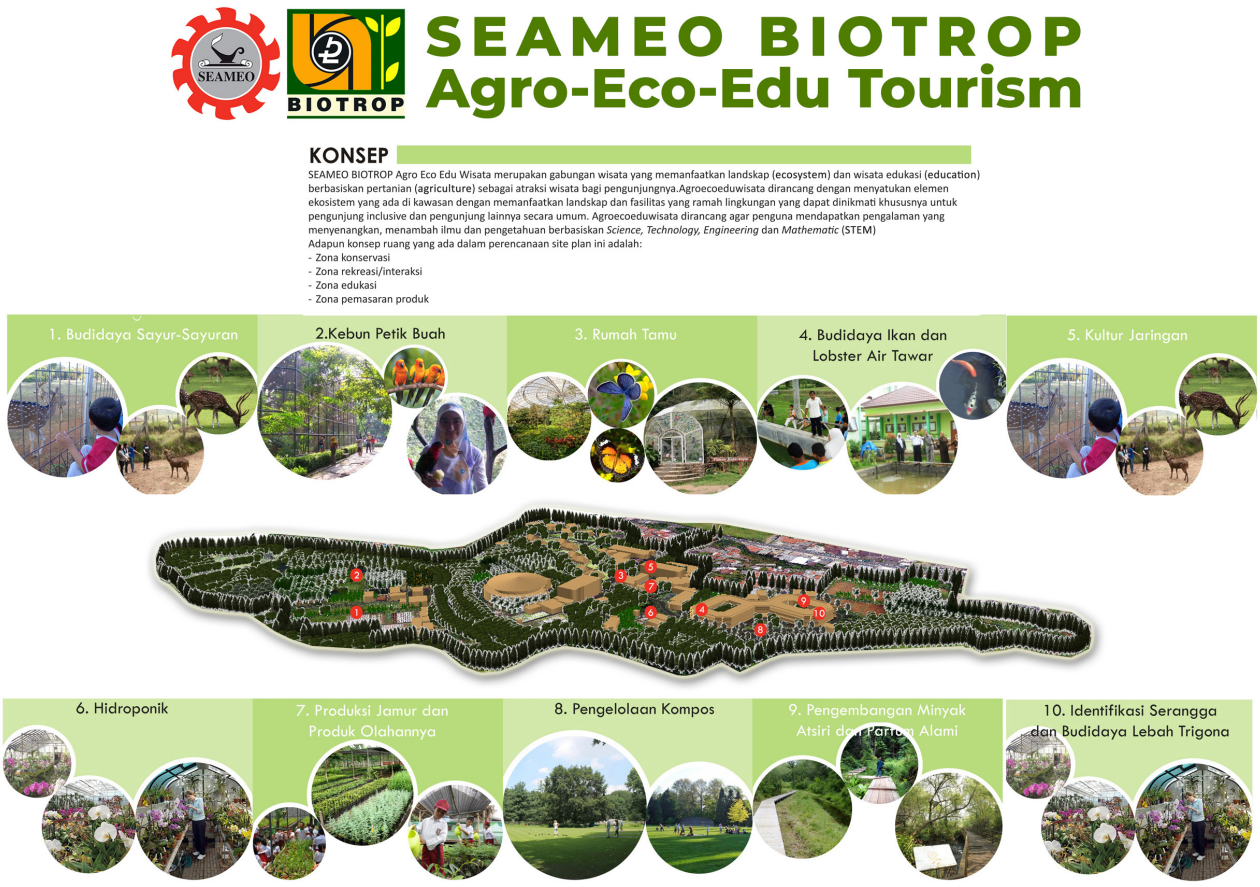
Since 2020, SEAMEO BIOTROP has been developing instruments and tools based on information technology through its program called "Development of a Village-Based National Spatial Decision Support System for Rice Production". The adoption of information technology and precision agriculture within the framework of environmental/climate-based smart agriculture has been carried out to improve and manage agricultural activities appropriately. The system is designed to assist beneficiaries in combining spatial and non-spatial data about the potential of rice farming and environmental conditions through the interaction of the spatial dynamics model of the approach and development of rice to understand the physical and chemical characteristics of plants and their interactions with the soil and the environment by means of periodic measurements and spatial-temporal observations using Sentinel-2A satellite imagery.

The smart agriculture system has been utilized by stakeholders from the government level to the farmer group level as a more optimal tool in managing and utilizing the spatial layout of agricultural resources in the form of SIPANAS.

Agro-Eco-Edu Tourism: The Development of Agro-Eco-Edu Tourism Program in Supporting Biodiversity Conservation

by Perdinan, Supriyanto, Rhomi Ardiansyah, Armaiki Yusmur, and Shella Marlinda

SEAMEO BIOTROP has an important role to promote the real values of tropical biodiversity in supporting resilience to climate change. Agro-Eco-Edu Tourism is among programs to advance tropical biodiversity conservation in Southeast Asia (SEA) countries, as initiated by SEAMEO BIOTROP. This program includes tourism activities to publicize agricultural products, environmental products, and learning packages to improve skills and welfare of the Southeast Asian communities. In the context of developing the Agro-Eco-EduTourism model for SEA, SEAMEO BIOTROP plans to develop the concept and design of the on-site Agro-Eco-Edu Tourism based on SEAMEO BIOTROP's potential of facilities, innovative products, as well as its strategic location as shown by the high number of visitors per year (up to 5,000) in SEAMEO BIOTROP. Within these modalities, SEAMEO BIOTROP aims to develop the Agro-Eco-Edu Tourism Program to become a model in supporting Biodiversity Conservation for Southeast Asia.



Through this program we expect to enhance genetic conservation for endemic and superior species for fruit plants and ornamental fish, create the entrepreneurship and improve productivity of smallholder farmers in food production system, and improve ecosystem services function.

The general objective of this program is to enhance the continuation of tropical biodiversity conservation program in Southeast Asia through agricultural and ecosystem-based education and tourism activities. The specific objectives include:

1. Designing and conceptualizing the Development of Agro-Eco-Edu Tourism at SEAMEO BIOTROP;
2. Disseminating and promoting product innovation and knowledge development of SEAMEO BIOTROP;
3. Enhancing cooperation between SEAMEO BIOTROP and other parties in the development of Agro-Eco-Edu Tourism;
4. Developing the Center for Conservation of Tropical Fruit Plants and Ornamental Fish Biodiversity through Agro-Eco-Edu Tourism

In the implementation of this program, there are several activities that will be conducted in this program, as detailed in Figure 23.

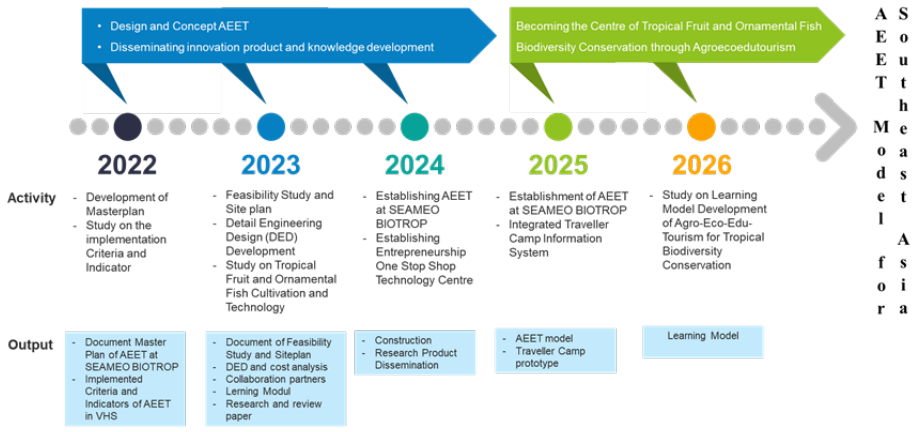


Figure 23. Detail Timeline of the Agro-Eco-Edu Tourism Program in SEAMEO BIOTROP

BIODIVERS: BIOTROP Science Magazine

Figure 24. Cover of BIODIVERS: SEAMEO BIOTROP popular scientific magazine, Vol. 1 No. 1 and Vol. 1 No. 2

SEAMEO BIOTROP's target, namely "Literacy on Tropical Biology," that is targeted to be achieved in 2030 requires the effort of SEAMEO BIOTROP to continue the implementation and improve its main mandates as a regional center focusing on science, competency improvement/capacity building, and information dissemination. In this regard, SEAMEO BIOTROP developes a popular scientific magazine in 2022 called BIODIVERS. The presence of BIODIVERS as a popular scientific magazine is expected to increase public understanding and awareness of biodiversity. BIODIVERS is a bi-annual publication with an International Standard Serial Number (ISSN) and is published every January and July. The focus themes of BIODIVERS magazine include: 1) Restoration and Conservation of Unique and Degraded Ecosystems; 2) Sustainable Biodiversity Management; 3) Utilization of Bioenergy, Biotechnology to Support Sustainability; 4) Strengthening Ecosystem Resilience; 5) Ecotourism Development in Promoting Biodiversity Conservation; and 6) Initiatives Against Potential Risks of Biodiversity Loss.

This magazine also envisions in becoming a popular scientific magazine for promoting and publishing scientists' research findings from SEAMEO BIOTROP and overseas. All articles submitted for publication in BIODIVERS are evaluated by subject matter experts and through editorial revision. The articles come from writers worldwide. Articles published in BIODIVERS cover research results, short communication in which advances in knowledge of significance are briefly announced, and reviews on specific topics. Besides conducting the call for BIODIVERS magazine articles, some activities were undertaken to produce engaging articles related to popular biodiversity issues, such as Workshop on BIODIVERS Scientific Magazine Publishing, Workshop on Popular Scientific Article Writing, and Interviewing the Expert. The workshop activity aims to share knowledge on the procedures for writing popular scientific articles, building partnerships, and initiating collaborations with resource persons and among participants.

BIODIVERS magazine has been published twice during 2022, namely Volume 1 No. 1 with the highlighted title "Climate Change and Coastal Resilience" and Volume 1 No. 2 with the highlighted title "Save Biodiversity for Sustainable Wellbeing". Each issue of BIODIVERS magazine consists of Director's messages, remarks from SEAMEO BIOTROP

Governing Board Chair, Editorial Messages, articles, and advertisements. Articles contained in Volume 1 No. 1 BIODIVERS Magazine were: 1) Environment Vulnerability Decision Technology (EVDT): Mangrove Management; 2) Spatial Planning Based Ecosystem Adaptations in Indonesia; 3) GoI Initiatives Against Potential Risk of Climate Change Impact in Indonesia; 4) Extreme Climates in Coastal Cities, 5) Marine and Coastal Monitoring: Nanosatellite Technology. BIODIVERS Magazine Volume 1 No. 2 consists of 7 articles, namely 1) Biomass Sources for Sustainable Bioenergy Production in Indonesia; 2) Effectivity of Signal Grass (*Brachiaria decumbens*) Enriched with Microorganisms to Absorb Heavy Metals (Pb); 3) Re-establishing Natural Habitats Program: A Catalyst for Biodiversity Restoration in Myanmar; 4) Biotechnology for Tropical Plant Breeding in SEAMEO BIOTROP; 5) The Role of Black Soldier Fly Larvae in Conserving Biodiversity; 6) How Can We Get the Healthy Chocolate Products?; and 7) Crayfish as Food in Indonesia. In the magazine Volume 1 No. 2, there are also a news on interview with Ir. Laksmi Dhewanthi, M.A. IPU, Director General of Climate Change Control, the Ministry of Environment and Forestry of the Republic of Indonesia.

BIODIVers is being published through the Center website, which can be accessed through https://biotrop.org/biodivers and through printed copies. The online edition of the first 2 volume of Biodivers have been accessed 2,089 times, and 200 printed copies have been disseminated to stakeholders, including universities, lecturers, governing board members, and others.

BIOTROP Heritage Collection

The Southeast Asian regions are blessed with a considerable biodiversity, where four out of twenty-five hotspots of the world are located, i.e., Indo-Burma, Sundaland, Wallacea, and the Philippines. The Indo-Burma hotspot, which is 2,373,000 km^2 in extent and includes Vietnam and Cambodia, has 7,000 endemic vascular plant species, 520 reptile species of which 200 species are endemic, and the highest diversity of freshwater turtles in the world with 53 species. Sundaland hotspot, with its core in Indonesia, has about 25,000 vascular plant species, of which 15,000 are endemic; approximately 770 bird species of which nearly 150 are endemic; more than 170 endemic mammal species; and over 450 species of reptiles of which roughly 250 are endemic.

Established in 1968 SEAMEO BIOTROP has three program thrusts, namely Tropical Forest Biology, Tropical Pest Biology, and Tropical Aquatic Biology. The survey of botanical exploration and conservation of biological diversity was an activity that was widely carried out from the Tropical Forest Biology and Tropical Pest Biology programs, to the collection of thousands of herbarium specimens from natural forests and plantations. Herbarium specimens from these two activities are then stored in the Forest Herbarium and Weed Herbarium. The Tropical Forest Biology program at that time collaborated with the Research Team from France and carried out intensive mapping of Sumatra and West Kalimantan vegetation. From the Tropical Pest Biology Program, the biodiversity exploration and conservation activities were also published in the form of the book titled "Aquatic Weeds of Southeast Asia" and "Weeds of Rice in Indonesia", as well as leaflets and other scientific publications.

In 2000, the collection of herbarium specimens became one management and until now is maintained in the herbarium SEAMEO BIOTROP. Herbarium SEAMEO BIOTROP itself has been listed in the Herbariorum Index with the acronym BIOT since 1990.

Since 2001, the collection of herbarium specimens is supplemented with the collection of Bryophytes and Lichens because SEAMEO BIOTROP conducted regional training on Bryophytes and Lichens in 2001-2005.

Seaweed Tissue Culture Technology

Research on tissue culture of Cottonii seaweed has been carried out at SEAMEO BIOTROP from 2010 to 2012. The research has produced a tissue culture protocol that has the potential to be used for the production of superior seedlings of Cottonii seaweed on a large scale. Since 2013, SEAMEO BIOTROP, has implemented a program to further develop this technology so that it can be applied to overcome the problem of providing superior Cottonii seaweed seedlings. The results of the multilocation tests conducted in 2012-2013 showed that seaweed seedlings produced by tissue culture technology grew faster with higher carrageenan content than those produced by conventional technology. In 2014 the SEAMEO BIOTROP seaweed tissue culture technology was adopted by the Indonesian Ministry of Marine Affairs and Fisheries (MMAF), to overcome the problem of lack of Cottonii seaweed seedlings for seaweed farmers. The use of SEAMEO BIOTROP's tissue culture technology for providing Cottonii seaweed seedlings nationally is stated in the Presidential Regulation of the Republic of Indonesia No. 33 of 2019 concerning the Road Map for the Development of the National Seaweed Industry for 2018-2021 and the Strategy for Increasing Production of Seaweed Cultivation in 2021-2024, Ministry of Maritime Affairs and Fisheries of Indonesia.

Coastal waters in Indonesia are very diverse in environmental conditions, seaweed seedlings propagated using tissue culture technology using the broodstocks from the South Sulawesi Province sometimes cannot grow well in several provinces, such as the East Nusa Tenggara and West Nusa Tenggara Provinces. Therefore, another effort needed to meet the national target of providing seaweed seedlings using tissue culture technology is the diversification of Cottonii seaweed broodstocks that are propagated using tissue culture technology. Provision of seaweed seedlings using tissue culture with broodstocks originating from cultivation sites is expected to increase the survival rate and yields of seaweed when cultivated at the origin sites.

In 2014 to 2020, SEAMEO BIOTROP had succeeded in producing seaweed seedlings using tissue culture technology with broodstocks originating from various regions in Indonesia, i.e., Natuna, Takalar, South Konawe, and Lombok Island. In 2021 to 2022, with the funding from UNIDO GQSP, SEAMEO BIOTROP optimizes the method of propagating Cottonii seaweed using tissue culture technolgy with superior broodstock originating from the Bantaeng Regency, which is one of the centers for Cottonii seaweed production. Seaweed broodstocks originating from the Bantaeng Regency is proven to be genetically adaptable to be cultivated in the area, and thus increasing the survival rate and yields.

In 2021 to 2022, SEAMEO BIOTROP carried out research to optimize the method of Cottonii seaweed propagation using tissue culture technology with broodstocks originating from the Bantaeng Regency (South Sulawesi Province), Biak (Papua Province), Pesawaran (Lampung Province) and Sumbawa Island (West Nusa Tenggara Province). The seedlings are now currently being tested in the coastal waters of Bantaeng Regency.

Cottonii seaweed, which is widely cultivated in the provinces of East and West Nusa Tenggara, has a different species from other provinces in Indonesia, namely *Kappaphycus striatum* or known as saccol seaweed. The East and West Nusa Tenggara provinces are also the centers of high seaweed production in Indonesia. Only a few coastal waters in these two provinces are suitable for the cultivation of *K. alvarezii*. Therefore, it is necessary to conduct research to obtain a method of propagating seaweed *K. striatum* using tissue culture technology, so that the problem of providing seaweed seedlings in this area can be overcome. The progress of study on propagating seaweed *K. striatum* using tissue culture technology has now reached the callus induction stage. Further study needs to be done until the formation of micropropagules and plantlets.

During the Covid-19 pandemic, the demand for ornamental plants is greatly increased. Many people explore native Indonesian ornamental plants directly into natural forests, because the price of these native ornamental plants increases and there is a lot of demand for exports. SEAMEO BIOTROP conducts research on tissue culture technology to propagate native Indonesian ornamental plants, such as Alocasia, Aglaonema, Anubias and Bucephalandra ornamental plants. With the existence of tissue culture technology, the community does not need to explore natural forests, thereby preventing damages to the natural forest ecosystem.

In 2022, in a collaborative study with UNIDO's Global Quality Standard Procedure (GQSP) SmartFish 2, SEAMEO BIOTROP optimizes Cottonii seaweed propagation using tissue culture technology. The collaborative study developes a standard operating procedure (SOP) for the provision of Cottonii seaweed seedlings using tissue culture technology. The SOP is socialized and disseminated through offline training. The participants came from universities, research institutes, private companies, seaweed associations, local governments and related ministries.

SEAMEO BIOTROP produces tissue culture protocols for native Indonesian ornamental plants such as Alocasia, Anubias, Bucephalandra and Aglaonema. The protocol has been disseminated to students through internship programs and to general public through webinars.

STRATEGIC THEME 3
STRATEGIC PARTNERSHIP, STAKEHOLDER ENGAGEMENT, AND LINKAGES

Key Results Area: Improving Stakeholders' Engagement to Ensure that Each Individual is Equipped with Relevant Skills to Deal with the Rapidly Changing World of Work

ASEAN is home to 20 percent of all known species in the world and is the center of the world's marine biodiversity. All these rich natural resources, however, are confronted with immense environmental challenges and stresses. Increasing population, rapid urbanization, and progressive economic development have led to an increase in the demand and consumption of food, water, and energy. ASEAN region has also been facing a rise in average and extreme temperatures, an increase in wet months due to rainfall, rainfall intensity, and duration, as well as greater frequencies of extreme events, such as droughts, floods, land and/or forest fires.

The diverse ASEAN environment has to be sustainably maintained. Various efforts have been carried out, but still with minimal results. Deforestation, mining, and any land utilization changes due to anthropogenic and economic reasons are still happening at an increasing rate. The impacts are quite clear before our own eyes. Droughts and extreme temperature rises have been going on worldwide, which have claimed fatalities in some areas worldwide.

Lack of biodiversity awareness is one of the main factors hindering people from engaging in biodiversity issues. Lack of awareness will lead to the disastrous environmental and conservation impact, as well as to the negligence of biodiversity importance to the welfare of human beings and the earth.

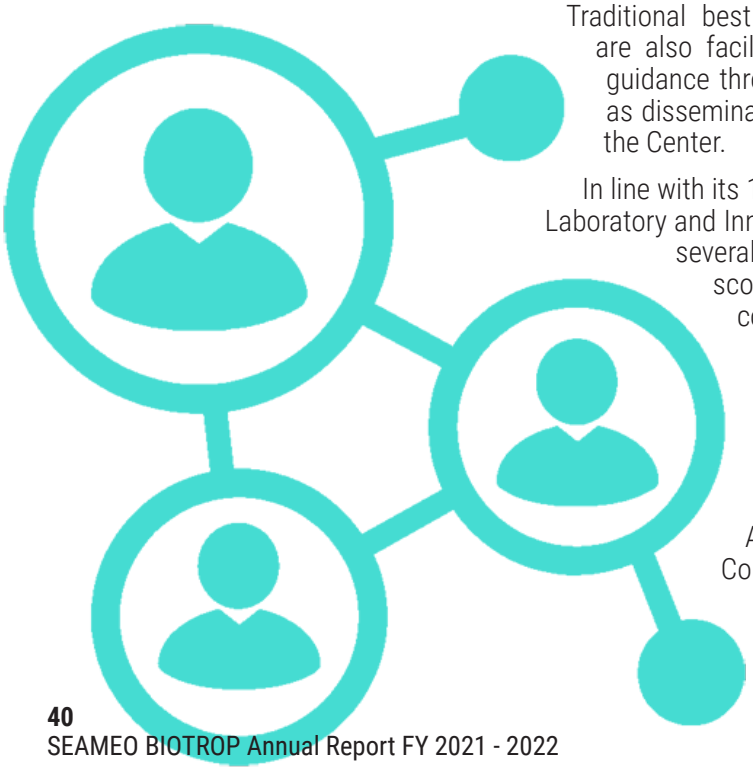
Despite the lack of awareness, each country has been doing its best efforts to overcome the adverse effect of the unwise use of our natural resources. Nonetheless, it seems that collaborative efforts from all countries should be implemented. SEAMEO BIOTROP, as one of SEAMEO Centers in the Southeast Asian region, has the expertise and human resources in initiating collaborations for sustainably overcoming those adverse impacts.

Solutions and Highlights

The dissemination of knowledge and information produced by SEAMEO BIOTROP is the strong key to supporting the efforts in tackling environmental issues. In the 54 years of its establishment, SEAMEO BIOTROP has produced several applicable technologies in line with the efforts, such as tissue culture technologies, smart and precision agriculture, the usage of mycorrhiza for bettering soil quality, and many more. The Center's products are in accordance with the vision, missions, mandates, and program thrusts of the Center.

All of those technologies are presented in several of the Center's publications products, such as educational videos, podcasts, monographs and special publications, BIOTROPIA Journal, BIODIVERSE popular scientific magazine, BIOCourier Newsletter, infographics, postings in social media, leaflets and brochures. Other dissemination in the forms of Talk of Affiliate Scientists, BIOTROP to Schools, Monday Mind Cloud Ideas (MOMI Cloudia), as well as international seminars and workshops are among the Center's vehicles for disseminating knowledge and information produced by the Center's scientists.

SEAMEO BIOTROP also initiates programs for improving climate literacy, strengthening local capacity, improving knowledge management, implementing convergent policy on climate change adaptation and disaster risk reduction, as well as implementing the application of adaptive technology. The Center also aims at strengthening understanding of biodiversity through adaptation to school curricula and increasing on-the-job training for students on biodiversity and monitoring of environmental quality.



Traditional best practices in resource and environmental management are also facilitated by SEAMEO BIOTROP. Dissemination of technical guidance through monographs publication, educational videos, as well as dissemination of simple and adaptive innovations are carried out by the Center.

In line with its 11th Five-Year Development Plan (2022 - 2027), the Services Laboratory and Innovation Department (SLID) of SEAMEO BIOTROP conducts several analytical service activities which are summarized in the scope of testing supported by funds from institutions and collaboration with other institutions. SLID has provided benefits to partners including researchers, teachers, students, educators, practitioners, decision-makers and other professionals from academic, government, and private institutions involved in the field of tropical biology. Most of the scope of testing/analysis services that have been carried out are in accordance with the Scope of the Accreditation Certificate from the National Accreditation Committee.

The summary of the engagement across all SEAMEO BIOTROP's platforms is presented in Table 4.

Table 4. Summary of SEAMEO BIOTROP Engagement across All Platforms and Methods in FY 2021/2022

No	Platform/Methods	Offline reach	Online reach
1	Special Publication	292 printed publication request were facilitated through the Center's publication system	707 digital copies of SEAMEO BIOTROP's publication were downloaded through the Center's website
2	BIOTROPIA	600 copies were printed and distributed to universities in Indonesia	31,658 abstract views
3	BIODIVERS	180 physical copies printed and distributed to stakeholders and visitors	BIODIVERS Vol 1 No 1 and 2 were accessed online 2,089 times
4	BIOCourier	700 printed copies were distributed to visitors	BIOTROP Courier (former name) and BIOCourier (current name) of the Center's newsletter were accessed 2,584 times
5	Facebook	-	174,042 post reach
6	Instagram	-	26,113 post reach
7	Youtube	-	57,742 total video views
8	Official Website	-	22,272 unique visitors from 144 countries
9	Media Coverage	-	58 articles on the Center's activities and programs were published in national printed and online media; 10 articles were published in MoECRT website
10	Exhibition	The Center participated in 4 offline exhibition activities attended by hundreds of visitors	SEAMEO BIOTROP Virtual expo is available and accessible through the Center's website
11	Scientific Visit	The Center facilitated 1,174 offline visitors through its scientific visit program	170 students of Regina Pacis virtually visited SEAMEO BIOTROP

Highlighted Activities

BIOTROPIA Journal Publication

The scope of BIOTROPIA Journal is broad areas of tropical ecosystems and environmental impacts, biodiversity conservation and sustainable development, and environmental and forest biotechnology. Starting from 2012, BIOTROPIA has been successfully indexed by SciVerse SCOPUS (Elsevier), CrossRef, and DOAJ. During the Fiscal Year under review, the BIOTROPIA Journal attains the Quartile 3 status from the Scimago Journal and Country Rank for its Agricultural and Biological Sciences and Ecology subjects. The journal attains a 0.21 SJR score with an H-Index of 10. The Center distributed approximately 100 printed copies to research institutions, universities, libraries, and private companies inside and outside Indonesia.

From July 2021 to June 2022, SEAMEO BIOTROP has published three issues of BIOTROPIA Journal, i.e., Vol. 28 No. 2 August 2021, Vol 28 No. 3 December 2021 and Vol. 29 No. 1 April 2022. The authors were from Indonesia, Philippines, Malaysia, Thailand, Australia, and Brazil. The list of articles from the three issues of BIOTROPIA Journal published in

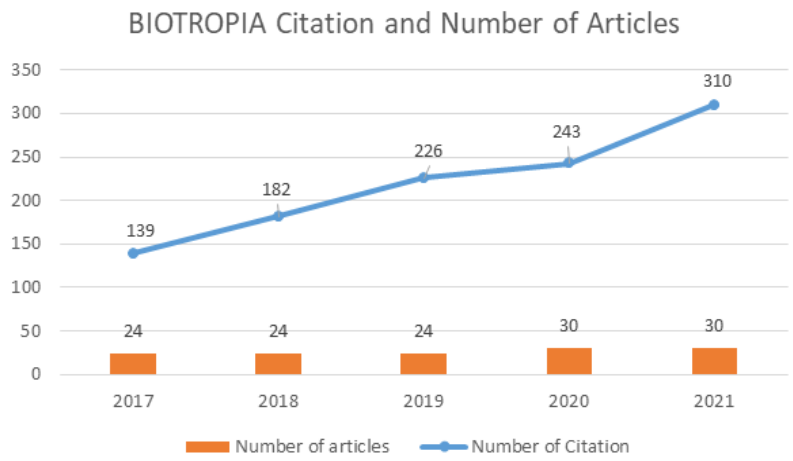


Figure 25. BIOTROPIA citations and number of articles

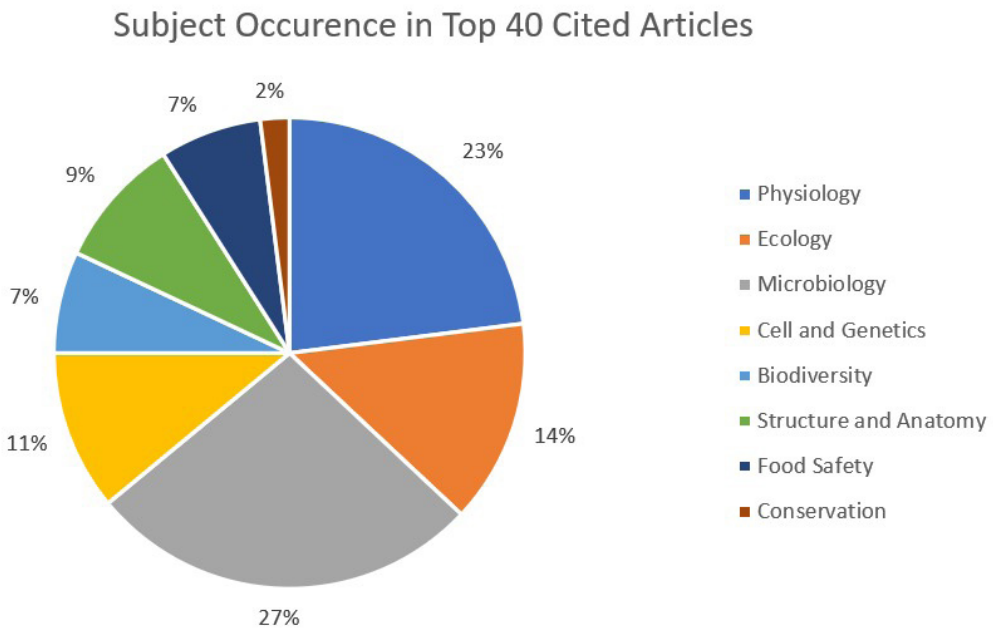


Figure 26. Top cited manuscript categories of BIOTROPIA

the fiscal year under review is shown in Appendix 5 (publication). The list contains the title of each article categorized into respective science subjects. The list also informs us about the country of origin of each article.

This fiscal year 2021/2022 marked the end of SEAMEO BIOTROP's 10th Five Year Development Plan (FYDP) 2017 - 2022. Through this period, the Center has successfully accommodated its Projects on the Expansion of the subject matter coverage, frequency of publication, and readership of the Center's BIOTROPIA journal. From 2017 to 2022, a total of 31 articles by foreign authors and 111 articles by Indonesian authors were published in the BIOTROPIA journal.

To accommodate the need for scientific information in the fields of tropical biology, BIOTROPIA has increased its frequency of publication to 3 issues per year in 2017, and increased its number of articles from 8 to 10 articles per issue in 2020. Currently, 30 issues of research articles, short communication, and review articles are published every year through BIOTROPIA.

To increase its regional visibility, SEAMEO BIOTROP has invited prominent experts from Southeast Asia to serve as the Journal Editorial Board Members. Currently, 16 experts from Indonesia, Malaysia, Myanmar, Philippines, and Singapore with the task of giving a recommendation of well-written quality papers for publication in the Journal, helping the dissemination of the journal articles acquaintances, and functioning as reviewers, and suggesting the decision for the editorial team on acceptance, revisions, or rejection of the manuscripts.

To promote and advertise BIOTROPIA Journal for citation invitations and call for papers, the Center engages the use of social media platforms and scientific community platforms, such as Research Gate, Instagram, and Facebook.

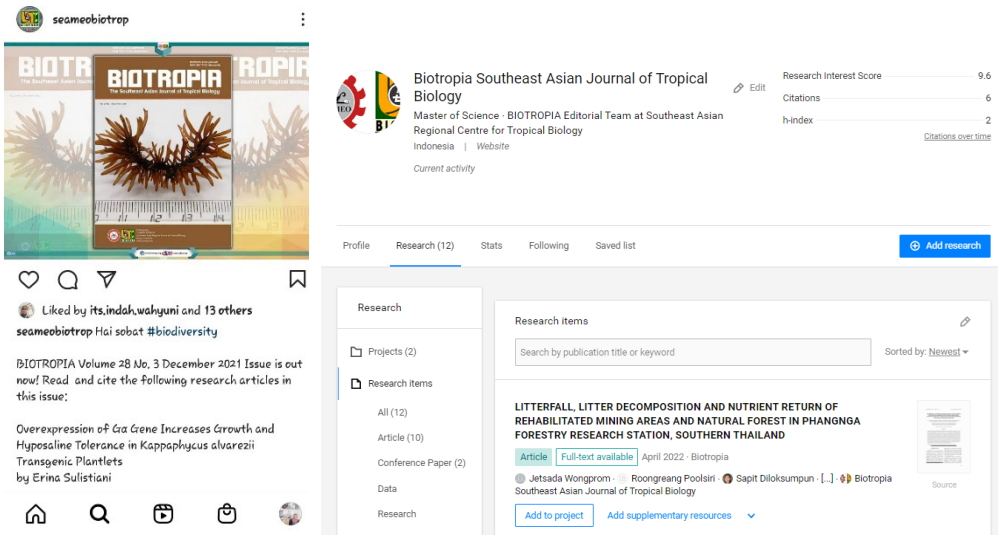


Figure 27. BIOTROPIA's account in Instagram and Research Gate

BIOTROPIA Article Highlights

Growth of Black Soldier Fly Larvae (*Hermetia illucens*) fed with Pak Choi (*Brassica chinensis*) and Carp (*Cyprinus carpio*) Residues

by Agus Dana Permana, Ramadhani Eka Putra, Auliya Nurulfah, Mia Rosmiati, Ida Kinasih and Dian Anggria Sari

One main drawback of the local animal industry is the unavailability of affordable and sustainable protein supply for the livestock. Insect larvae, such as the Black Soldier Fly (*Hermetia illucens*) larvae (BSFL), are considered a protein source that can be produced at a large scale using low-cost organic wastes as feeding material.

A diet combination consisting of a higher proportion of protein and lipid has resulted in a higher weight of harvested prepupae and the lowest mortality of the black soldier fly which was probably due to a higher consumption rate and approximately higher digestibility. To improve the sustainable production of the feed, further studies are suggested on the rearing environment of larvae, particularly on reducing the mortality rate of pupae brought about by the bioconverted waste that is high in protein and lipid; on the effect of various waste materials to biomass production and sustainability; and on the composition of biomass.

This article is published in BIOTROPIA Vol 28 No. 2 August 2021

Understanding Natural Regeneration in Burned Tropical Peatland: A Strategy to Accelerate the Forest Recovery Process

by Dwi Puji Lestari, Taryono Darusman, Fransiskus Harsanto, Desra Arriyadi, Ginanjar

The 2015's massive forest fires have left large areas of burned peatlands that need to be restored, demanding a substantial number of resources. To understand natural regeneration on burned peatland and how planting might accelerate its recovery process, we measured recruitment on burned peatland with different fire frequencies. Three transects were established, each consisting of five 20 x 20 m^2 plots developed at a 30 m interval.

The finding suggests that the absence of remnant trees due to frequent or severe fires does not always impede the emergence of new recruitments, although the diversity of forest regrowth is likely to be affected by its proximity to forest remnants. The floristic composition also showed the domination of pioneer species, giving evidence that forest recovery is initiated.

The article concludes that to support the recovery process through planting activity, the successional stage of the designated sites should be determined first. During the early phase of succession, stand initiation should be addressed first by the colonization of rapidly recruiting species to ensure continuous regeneration.

Therefore, the common planting method in large areas with mixed climax-high valuable trees is unbeneficial unless the restoration sites have reached the later stages of succession.

This article is published in BIOTROPIA Vol 28 No. 3 December 2021

Incorporation of Sodium Hyaluronate and Nyamplung (*Calophylum inophyllum*) Cake Extract to Improve Bioplastic Characteristic

by Rini Umiyati, Chusnul Hidayat, Ria Millati and Teguh Ariyanto

The cross-linking agent plays an important role in bioplastic mechanical properties. This study aimed to determine the effect of Sodium Hyaluronate (SoHA) as a synthetic cross-linking agent and the addition of Nyamplung Cake Extract (NCE) as an antimicrobial agent in the manufacture of bioplastic with hydroxypropyl starch (HPS) as based ingredient using the thermo-compression method. The novelty of the study was thiocyanate (SCN) formation in zone 3 (2,161.66-2,162.02/cm) and cyanate (C-N=O) in zone 6 (1,411.57-1,412.61/cm) of (1, 2 and 3%) SoHA bioplastic and cyanate formation in zone 6 and 7 (1,411.37-1,558.59/cm) of (1, 2 and 3%) SoHA-20% NCE combined bioplastic originating from acetanilide group in SoHA and amide group in NCE. The study concludes that the addition of (1, 2, and 3%) SoHA as crosslinking agent and combination of (1, 2, and 3%) SoHA-20% NCE had significant effects on mechanical properties and antimicrobial activity of HPS bioplastic.

This article is published in BIOTROPIA Vol 29 No. 1 April 2022

Special Publication

In line with the Center's mission to provide scientific knowledge and build capacities of institutions and communities, the Center published books and technical guidance on the Center's expertise as well as proceedings that are categorized as the Center's Special Publication. These publications are released in printed and digital versions, at least two publications each year.

During the Fiscal Year 2021/2022, SEAMEO BIOTROP publishes 4 Special Publication, as follows:

Buku Panduan Praktik Teknologi Kultur Jaringan di Laboratorium Bioteknologi (Technical Guidance on the Practice of Tissue Culture Technology in Biotechnology Laboratory)

by Dewi Rahmawati (SEAMEO BIOTROP, Biotechnology Laboratory) and Edhi Sandra (Faculty of Forestry, IPB University)

This book presents the implementation of tissue culture technology to propagate plant seedlings. The content of this technical guidance is Introduction to Tissue Culture Equipment; Sanitizing of A Laboratory; the Making of Hand Sanitizer; Procedure on Using and Maintaining Laminar Air Flow; Sterilizing Glasswares, Dissecting Tools, Distilled Water, and Culture Media; Explant Preparation; Sterilizing Explant; Preparing Stock Solution and Tissue Culture Media; Multiplication Induction of Explant; Explant Elongation; Induction of Explant Root; Maintaining Explant in A Laboratory; Contamination Handling; Acclimatization; and Utilization of Tissue Culture Technology.

The demand for this book is quite high. Of the 200 hard copies, 142 books have been ordered and delivered to those who ordered the books, mainly from universities and high schools, research institutions, government agencies, and private companies.

Serangan Cendawan dan Kontaminasi Mikotoksin pada Kacang Tanah, Jagung dan Sorgum, serta Pencegahan dan Pengendaliannya (Fungal Attack and Mycotoxin Contamination in Peanuts, Maize, and Sorghum: The Prevention and Control)

by Okky Setyawati Dharmaputra, Nijma Nurfadila, Santi Ambarwati, and Ina Retnowati (SEAMEO BIOTROP Phytopathology Laboratory)

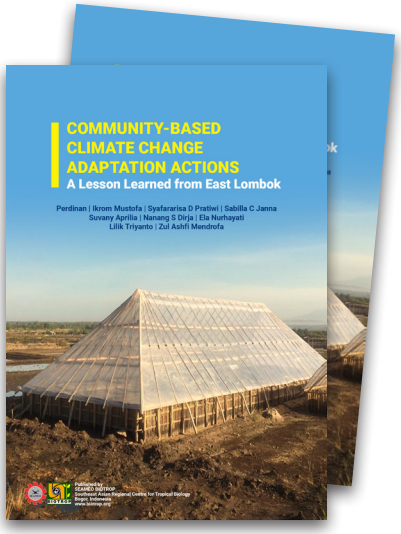
Many incidents of fungal attack and mycotoxin contamination happen in our daily lives, and yet, very few publications discuss these issues including prevention and control.

This book explains the circumstances and environment that encourage fungal attack and mycotoxin contamination and also the regulation, prevention, and control.

The content of this book is Introduction to fungi, mycotoxin, food safety, factors influencing the existence of fungi and mycotoxin on food; fungi and aflatoxin on food; government regulation on the maximum tolerable limit of mycotoxin on food; prevention and control of fungal attack and mycotoxin contamination.

Of the 200 hard copies, 150 books have been ordered and delivered to those ordering the books, mainly from universities, government agencies, research institutions, and private sectors.

Community-Based Climate Change Adaptation Actions: A Lesson Learned from East Lombok



by Perdinan, Ikrom Mustofa, Syafararisa Dian Pratiwi, Sabilla Cahyaning Janna, Suvany Aprilia, Nanang S. Dirja, Ela Nurhayati, Lilik Triyanto and Zul Ashfi Mendrofa

This e-book thoroughly describes the community-based climate change adaptation action as an approach to allowing the local community involved in the practices and planning activities. This book provides lessons learned from community-based CCA in East Lombok Regency, Nusa Tenggara Barat Province. The intervention program in East Lombok was conducted for 15 months and supported by the Islamic Relief Indonesia and implemented by KONSEPSI. The successful intervention program showed good impacts on farmers, namely most farmers have access to climate data and information, and the existence of "Sekolah Lapang Iklim" to increase the knowledge of the communities regarding the influence of climate on each sector. The CCA intervention program succeeded in increasing females' participation in agricultural activities as well as in product sales and decision-making activities.

Since 2017, the Center has published a total of 18 monographs, 6 proceedings in Indonesian and English, and 2 policy briefs. Through its digital publication services that have been operating since 2020, the Center has facilitated 808 beneficiaries with over 7,500 printed copies of the Center's publication distributed. Besides physical copies, the digital version of the Center's publication has been downloaded 2,175 times.

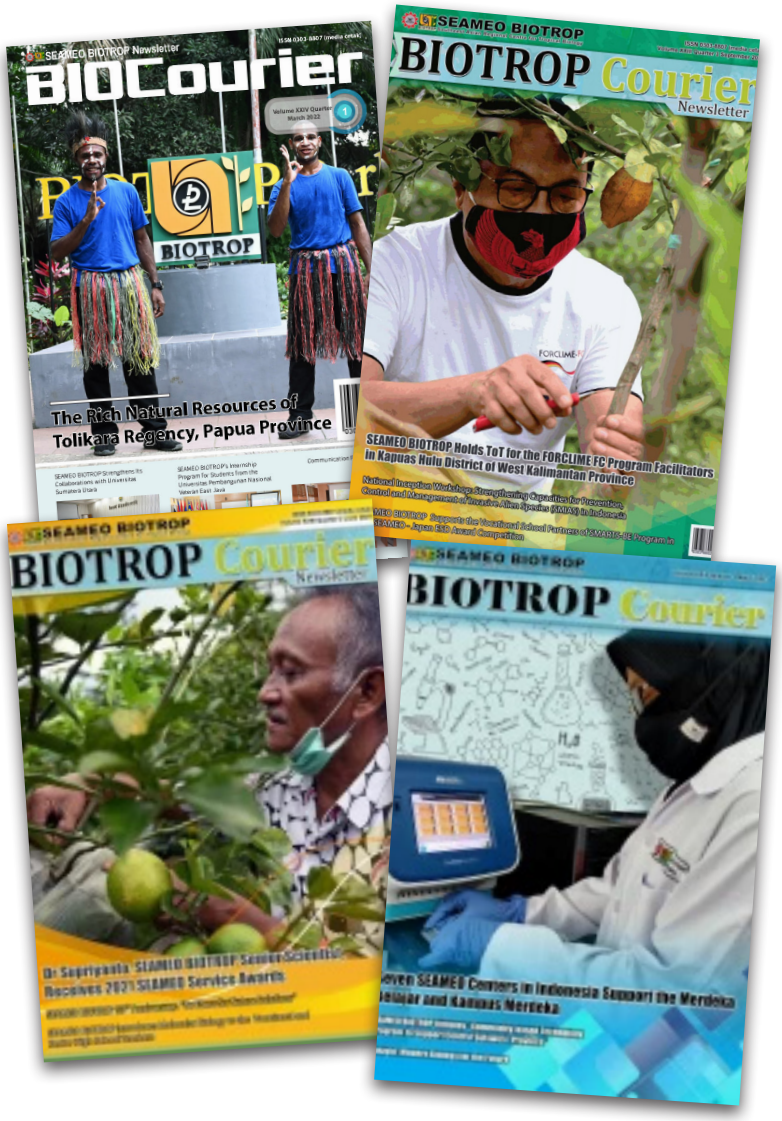
BIOCourier and Other Promotional Materials

BioCourier is the Center's newsletter that is quarterly published. The newsletter has been one of the Center's vehicles for outreach regarding its activities, programs, and achievements. The newsletter has undergone several changes since its first publication. Since 2022 the Center decides to present refreshing looks and concepts to make the newsletter more elegant, eye-catching, and appalling to our readers.

In this FY in review, the Center has published 3 BIOTROP Courier Vol. 23 No.2 (Apr - Jun 2021), Vol. 23 No. 3 (Jul - Sep 2021), and Vol. 23 No. 4 (Oct - Dec 2021). The Center also publishes its new rebranded version of BioCourier Vol. 24 No. 1 (Jan - Mar 2022).

Since 2017, the Center has published 20 editions of BIOTROP Courier newsletter, covering the Center's programs, activities, achievements, as well as popular articles from its scientists and researchers.

Other promotional materials, such as brochures, flyers, brief profiles, calendars, and merchandise are produced to help improve the Center's visibility and the Center's excellence programs and activities. These promotional materials are distributed to visitors of SEAMEO BIOTROP through its scientific visit programs, exhibitions, workshops, seminars, and other learning events.



Social Media and Website Maintenance

The Center acknowledges the role of its social media for informing, educating, raising awareness of science-related topics (science communication), connecting with its beneficiaries, as well as encouraging interactions, and promoting the Center's branding.

In June 2022, the Center's Facebook page (@biotrop) has 3,848 likes, Instagram (@seameobiotrop) with 8.2K followers, and Youtube channel (@seameobiotropchannel) with 5.87K subscribers. The Center also expands its social media networks to Linkedin and Research Gate to accommodate the digital scientific visibility of the Center's research results and scientists.

SEAMEO BIOTROP has established its content pillar on social media updates, including Information (General information on SEAMEO BIOTROP's activities, programs, and events); Education (General information on Biodiversity and Tropical Biology, infographics); Entertainment (quizzes, fun games, trivia), and Content Reels (Educational video, short reports, and highlights of SEAMEO BIOTROP's activities).

In this FY in review, SEAMEO BIOTROP has published 205 social media content, consisting of 123 informational content, 22 educational content, 21 entertainment content, and 44 reels.

The Center's website (https://www.biotrop.org) is an important medium for articles and announcements on the Center's research and capacity-building activities, services, and other development initiatives. During the fiscal year in review, 150 articles were uploaded to SEAMEO BIOTROP's website consisting of 70 articles on the Center's activities, 2 highlights of research results, 12 articles on events of SEAMEO Secretariat and other SEAMEO Centers and partner institutions, and 66 photo gallery updates. On the other hand, 18 information updates were also uploaded to the new Center's publication section including BIOTROPIA journal, proceedings, monographs, research reports, training/ seminar reports, newsletters, and annual reports.

In this fiscal year, SEAMEO BIOTROP website was visited by 22,272 visitors from 144 countries. Through its social media, the Center has been able to gain 174,042 post-reaches through its Facebook page; 26,113 post-reaches through its Instagram, and 57,700 views on its Youtube videos.

Promotions and Exhibitions

Advertising the Center's events and activities in the local media, distributing promotional brochures and flyers to prospective clients, wider circulation of the Center's publications, hosting regional and national seminars, as well as display banners and posters at regional events outside SEAMEO BIOTROP and official visits by officers and scientists had helped to widely promote the Center's programs and facilities.

During the pandemic, gatherings of large crowds are forbidden, resulting in cancellations and delays of all offline exhibitions. To address this, in FY 2021/2022, SEAMEO BIOTROP developed a virtual tour video as well as a virtual exhibition application, which can still be accessed at http://biotrop.org/virtualexpo. The Center has also participated in several online exhibitions.

In the FY 2021/2022, as the pandemic has slowly subsided, the Center has taken part in several exhibition activities, such as Panen Raya Nusantara, abbreviated as PARARA, an annual creative event that aims to share information on the importance of various local products created by local communities. This event is among highlighted programs of the Coordinating Ministry for Economic Affairs of the Republic of Indonesia. The Kick-Off Event of PARARA was held on 22 June 2022 in Lapangan Banteng, Jakarta.

In supporting the 2022 PARARA, SEAMEO BIOTROP carried agricultural commodities produced by tissue culture techniques. When visiting the booth of SEAMEO BIOTROP, the Coordinating Minister of Economy Affairs, Dr Airlangga Hartarto suggested collaborations between the Coordinating Ministry and SEAMEO BIOTROP to develop agribusiness commodities having export values. The Minister was very impressed with the achievement of SEAMEO BIOTROP's Tissue Culture Laboratory for producing seedlings of food commodities using the tissue culture technique.

Figure 28. Visit by Coordinating Minister of Economic Affairs, Dr Airlangga Hartarto to the booth of SEAMEO BIOTROP at the PARARA exhibition event

Figure 29. The Minister of Marine Affairs and Fisheries of Indonesia visits the booth of SEAMEO BIOTROP at the Seaweed Fest 2021 event

In December 2021, SEAMEO BIOTROP also received an invitation to participate in the Seaweed Fest 2021 organized by the Ministry of Marine Affairs and Fisheries. In this exhibition, SEAMEO BIOTROP displayed the existing achievements in its seaweed tissue culture technology, and way forward programs in increasing seaweed productivity in Indonesia. We were honored to welcome the Minister of Marine Affairs and Fisheries (KKP) in the Center's booth. On this occasion, the Ministry stated 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.

Media Coverage

In the FY in review, the Center has increased its visibility through collaboration with online and offline media, such as Radio Republik Indonesia Bogor (RRI Bogor), which facilitated a series of taped dialogue sessions, such as the "Role of SEAMEO BIOTROP in Biodiversity Conservation" that was taped during the Center's International Workshop on Climate Change event.

Through several press conferences during its notable events, the Center has also kept up its online presence. In the FY 2021/2022, there were 58 articles on the Center's activities published in various online reputable national media, as well as 10 articles that were published on the official website of the Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia. The news topics were aired on the Center's anniversary, the launching of SEAMEO BIOTROP highlighted programs, and International Workshop on Climate Change.

Figure 30. RRI Bogor Talks with Prof Arif Satria and SEAMEO BIOTROP Board of Directors

Batik Design Competition

Batik is an Indonesian culture that has been recognized by UNESCO as the Masterpieces of the Oral and Intangible Heritage of Humanity on 2 October 2009. Besides being an artwork, a carefully crafted batik design can be used to convey specific promotional messages.

In achieving the 2030 Sustainable Development Goals (SDGs), SEAMEO BIOTROP launched the theme "Biodiversity Literacy: Save Biodiversity". Batik is one of the media that can be used to promote the SEAMEO BIOTROP tagline "Save Biodiversity from Mountains to Oceans".

The 2022 SEAMEO BIOTROP Batik Design Competition was held to obtain batik designs that can depict the tagline. The contestants submitted their batik designs from 21 April up to 23 May 2022. Criteria of the accepted batik designs were: 1) Supporting the tagline "Save Biodiversity from Mountains to Oceans"; 2) Containing one or more typical colors of SEAMEO BIOTROP, i.e., green, orange, and/or yellow; 3) Attaching the philosophy and ideas outlined as the batik design; 4) Designing the batik in an A4-sized page having high resolution; and 5) Posting the batik design in SEAMEO BIOTROP's social media.

On the closing day of the design submission, the organizing committee received 67 batik designs from the contestants. The first stage of batik design selection was carried out on 31 May 2022 to obtain the 10 best batik designs.

The final judging stage was held on 15 June 2022. The jury team consisted of Mr. Anang Ristanto, SE, MA, the Acting Head of the Bureau of Cooperation and Public Relations, the Ministry of Education, Culture, Research and Technology of the Republic of Indonesia; Dr Zulhamsyah Imran, Director of SEAMEO BIOTROP; Ms. Darmawati SS, the Coordinator of Cooperation, Public Relations and Archives Services, the Secretariat of the Directorate General of Culture, the Ministry of Education, Culture, Research and Technology of the Republic of Indonesia; Mr. Ikrom Mustofa, the Director of CV Piarea, and Mr. Kardono, SHut, MT, MMG, from the Directorate of Climate Change Adaptation, the Ministry of Environment and Forestry of the Republic of Indonesia.

The decisions of the final judging stage determined that the winners of the 2022 SEAMEO BIOTROP Batik Design were:

1. Christina Atika Yulina from Universitas Sanata Dharma as the winner;
2. Refanda Wahyu Hadiantoro and Hendri Setiawan from Universitas Sebelas Maret as the second winner;
3. Amaliya Lailatur Rizkiya from Universitas Negeri Surabaya as the third winner;
4. Umi Laila Fitri from State Junior High School 14 Malang as the first runner up;
5. Octo Reinaldy from SEAMEO Qitep in Science as the second runner up;

Accredited Laboratory Testing Services (SLID)

Mitigation and monitoring of environmental quality are important. Efforts to maintain environmental quality in the ASEAN Region are still at a minimum level. The government of each ASEAN country has been doing several efforts to issue regulations by adopting several regulations and protocols at the international level, to tackle environmental issues. Each country implements regulations regarding environmental monitoring toward each activity that causes environmental destruction. The implementation of those regulations shall involve independent institutions which are competent and accredited by accreditation institutions in regard to environmental quality analysis.

Through its Services Laboratory and Innovation Department (SLID), SEAMEO BIOTROP implements the laboratory quality management system which obtains accreditation from the National Accreditation Agency of Indonesia. In the fiscal year 2021/2022, SEAMEO BIOTROP Services Laboratory and Innovation Department renews its ISO 17025:2017 accreditation from the National Accreditation Committee for the fifth cycle, in addition to getting a registration from the Ministry of Environment and Forestry of the Republic of Indonesia. Both formal recognitions are valid until 2025. This is one of the reasons for recognition and reference in environmental quality monitoring to support environmental and biodiversity management, especially soil fertility, air quality standards, and water quality standards. The recognition extends to the dissemination of environmental laboratory management learning through laboratory quality management systems and environmental monitoring for students and other stakeholders.

As an environmental laboratory, the Services Laboratory and Innovation Department (SLID) applies a quite strict rule in managing environmental tests. Maintenance and capacity building of human resources, equipment, and facilities are being prioritized in accordance with the regulations issued by the Government of Indonesia.

SEAMEO BIOTROP Services Laboratory and Innovation Department (SLID) is facilitated by testing equipment (Table 5) which is periodically maintained and calibrated by internal personnel and external institutions.

Table 5. Testing equipment list of SLID

No.	Item	Year of Acquisition	Usage
1	ICP_MS	2014	Metal measurement
2	Atomic Absorption Spectrophotometer	2004	Metal measurement
3	UV-Vis Spectrophotometer	2016	Metal measurement and organic compound
4	HPLC	2012	Metal measurement and organic compound
5	HVHS	2010	Ambient Air Measurement
6	Autoanalyzer	2016	Emission Measurement

To support the efforts for sustainably managing the environment, SEAMEO BIOTROP Services Laboratory and Innovation Department (SLID) contributes an active role in monitoring ambient air quality for the safety of human beings. SLID monitors the quality of emissions resulting from the combustion of industrial fuels for industrial processes. The effort is carried out to support the government's program in reducing exhaust emissions as a contribution for maintaining the increase in the Earth's temperature. Monitoring of water quality standards, soil nutrient levels, as well as soil quality and fertility are also conducted. SLID also measures carbon stocks in the soil due to deforestation, land fires, and ex-mining land. Decomposing organic waste, which is also carried out by SLID as its contribution to controlled waste management, produces compost that is used internally for plant maintenance.

Internship programs and knowledge dissemination are also the highlighted program of the Department. In the FY 2021/2022, SLID carries out internships in identifying carbon stock, water quality monitoring, ambient air quality monitoring, and industrial emission in mangrove areas. Sustainable use of aquatic and marine natural resources is also of SLID's concerns which are implemented by conducting organic carbon testing in mangrove areas. This activity includes monitoring seawater quality and seagrass nutrition monitoring to support research carried out by university students.

Key Results Area: Expanding SEAMEO Membership and Partners, Optimizing Linkages from the Regional and Global Coalition and Alliances

Linkages and Partnerships

The Center established cooperation with potential partners in national, regional and international levels. From July 2021 to June 2022 there were about 12 Memorandum of Understanding (MOUs) and 13 Memorandum of Agreement (MOAs)/Contracts signed with budget support from GOI amounted to IDR 47,832,000.

Most of the ongoing MoUs and MoAs are the collaborations with national, regional and international entities, consisting of 21 MoUs with schools, 7 MoUs and 3 MoAs with national universities, 3 MoUs and 2 MoAs with regional and international universities, 13 MoUs and 12 MoAs with companies, 9 MoUs with government institution, 9 MoUs and 1 MoA with Indonesian organization.

In June 2022, referring to the letter of the Secretary General of the Ministry of Education, Culture, Research and Technology of the Republic of Indonesia (MoECRT-RI) through the Bureau of Cooperation and Public Relations, MoECRT-RI no. 35027/A6/SF.04.03/2022 on 2 June 2022 that the Center's collaboration proposals with partners are postponed until the amendment to Permendikbudristek Number 28 of 2018 is issued. The implication of this direction is the delays of several processes of collaboration, especially with private partners.

Without disregarding the direction from the MoECRT, SEAMEO BIOTROP still signs collaborations with various stakeholders, which have no financial implications, especially to support the enhancement of educational purposes for the surrounding communities.

Currently, SEAMEO BIOTROP is developing the procedure for collaboration and partnership.

The collaboration and partnership are aimed to support the flagship programs of SEAMEO BIOTROP, to strengthen the collaboration and partnership up to the regional and international levels, and to elevate the welfare of the Center's employees in regards to incentives and privileges.

Figure 31. Orientation Webinar between SEAMEO BIOTROP and Mindanao State University (MSU)

Highlighted Collaboration: Mindanao State University (MSU) Philippines

In order to increase visibility and strengthen collaboration at the national, regional and international levels, SEAMEO BIOTROP held an Orientation Webinar between SEAMEO BIOTROP and Mindanao State University (MSU) with the theme "Strengthening Collaborative Ties between SEAMEO BIOTROP and MSU and Increasing Regional Visibility: What SEAMEO BIOTROP and MSU Can Both Do Together" on 19 October 2021 via online platform. This webinar aimed to increase collaboration between SEAMEO BIOTROP and MSU by increasing visibility through training, publications, research and development of tissue culture technology.

This webinar activity was officially opened by Dr Zulhamsyah Imran, Director of SEAMEO BIOTROP. In his speech Dr Zulhamsyah Imran stated that he expected to increase the visibility of SEAMEO BIOTROP by opening up all opportunities that could occur in this digitalization era. Dr Zulhamsyah further explained that in this digitalization era, we cannot be separated from three major disruptions, namely digital disruption, the Covid-19 pandemic, and climate change. We need adjustments to adapt to these three disruptions. Because of these challenges, SEAMEO BIOTROP has renewed its vision to become a reputable center for saving biodiversity from mountains to oceans by 2050. The Center has also changed its missions, strategies, program thrusts, and flagship programs to deal with dynamic changes, threats, and opportunities in the national, regional and international levels.

This webinar activity was divided into 2 sessions. The first session was the main room session presenting resource persons from SEAMEO BIOTROP. The resource persons and topics presented in this session were: 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 Dissemination Information).

The second session was divided into three breakout rooms. The resource persons in breakout room 1 were: 1. Dr Erina Sulistiani (Tissue Culture on Agriculture Plant, Ornamental Plant and Seaweed); 2. Dr Ulfah J. Siregar (Biotechnology for Tropical Agriculture and Forest Products); 3. Ms. Risa Rosita, MSi (Restoration of Ex-Coal Mining Land using Phytoremediation). In breakout room 2, there were 4 speakers: 1. Dr Soekisman Tjitrosemito, MSc (The New Concept of Weed and Their Management); 2. Ms. Indah Wahyuni, MSi (Herbarium SEAMEO BIOTROP); 3. Ir Ina Retnowati (Spoilage Fungi and Mycotoxin in Foodstuff); 4. Dr Idham Sakti Harahap (Stored Product Pest Management). In breakout room 3, there were also 4 speakers: 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, Development of Organic Liquid Fertilizer, Hybrid Solar System and IoT for Hydroponics System); 4. Ms. Shella Marlinda, MSi (Developing Cultivation of Crayfish, Ornamental Fish, Aquaponics, and Fish Feed Production).

This webinar was attended by 102 participants consisting of researchers, lecturers, and associate professors from MSU, SEAMEO BIOTROP, and IPB University.

STRATEGIC THEME 4
DIGITAL TRANSFORMATION AND RAPID CHANGES ADOPTION

Key Results Area: Removing Barriers to Digitalization and Education Innovation and Support the 21st Century Skills Development for Teachers, Education Personnel, and Learners

In 2022, three out of four people aged 16-74 access the Internet daily. Regardless of the purpose, a job or social interaction online activities are sure to translate to offline outcomes. However, education is already falling behind the digitalization curve. Academics must do more to take advantage of the benefits offered by the tools and technologies while addressing concerns surrounding potential misuse, such as cyberbullying and privacy invasion. In 2018, the number of stolen or hacked data records reached a record high, increasing the need for more cyber security experts.

Companies today tend to show greater interest in involving educational institutions in Industry 4.0 technological development. Their collaborations primarily focus on developing digital-physical solutions, promoting technology and product innovations, and encouraging the youth to produce out-of-the-box products.

Yet, education still struggles to encourage students to take up STEM (Science, Technology, Engineering, and Mathematics) courses. The Covid-19 pandemic pushed and accelerated the education sector to digitize, automate, and become more flexible in any circumstances. The needs for digital literacy arise as the pandemic hits globally. As the conventional methods of learning such as attending classes, offline discussions, and other get-together activities are discouraged, the Center produces several alternatives.

Digital media is one of the solutions to facilitate the need for new sources of information, learning media, and communication methods. During the pandemic, SEAMEO BIOTROP optimizes and accelerates its digitalization methods of information dissemination programs, such as the Center's website and social media networks. Several new information systems are developed by the Center as the Center's digitized literature database and to accommodate the needs for publication dissemination.

As the technology evolved and become the new normal, there are increased demands on rich media content, such as images, videos, and other multimedia formats that provide deeper engagements with those prospects. The Center realizes its importance to cater the needs of the demands, as the attention span of the millenial generation keeps on getting lower due to the variation and easier access to digital contents.

Solutions

To cater the needs for digital learning innovation in FY 2021/2022, the Center has developed an expert system on Pests and Diseases detection, prevention, and control in a lemon orchard available in SEAMEO BIOTROP. The application is expected to help the students' learning system.

Multimedia content development to raise the awareness of millennial and gen Z generations to save biodiversity such as educational and technical guidance videos, digital e-book format for SEAMEO BIOTROP publications, infographics, and BIOSync podcast series on the Center's expertise and prominent programs.

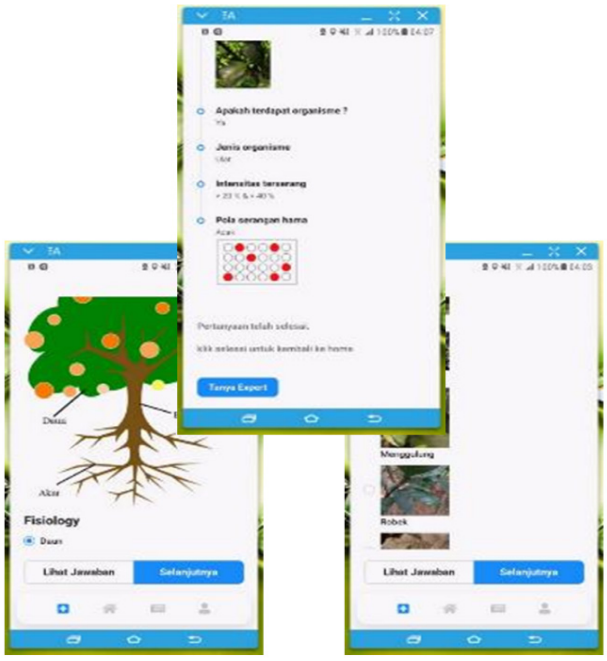


Figure 32. Screenshot of Expert System on Pests and Diseases

Highlights: Expert System on Pests and Diseases Developments

Digital learning innovation is a form of digital transformation in education and learning system that runs faster due to the impact of the Covid-19 pandemic. Digital learning innovation improves the skills of teachers and students and strengthens their involvement in creating an effective, creative, innovative and inclusive educational process. Digital learning innovation supports the spirit of quality and equity in education. Every student has the same chance in receiving a quality learning and education. The study has successfully developed an expert system for identifying pests and diseases in lemon orchard to support the achievement of those goals. This expert system is an effective learning media for practices in identifying plant pests and diseases in lemon orchards. The expert system also demonstrates the application of a problem-based learning approach in a tangible form and user-friendly media. The expert system is available to students and teachers. Indeed, the expert system supports the concept of borderless school and in line with the "Merdeka Belajar Kampus Merdeka" program launched by the Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia.

Multimedia Development

SEAMEO BIOTROP believes that audiovisual materials can be an effective medium to reduce the barriers to learning materials through digitalization of information dissemination and knowledge transfers.

Figure 33. Screenshot of Practicum Video

To address the issue of difficulties in conducting practical sessions during online training, the Center has developed 4 series of practicum videos with clear guidelines and step-by-step instructions to help the learners follow the practicum session in their own environment. The series developed includes fungi identification, aquaponics, hydroponics, and herbarium. To support the online training conducted by the Center, videos of the live online sessions were recorded and uploaded to the Center's Youtube channel to accommodate the participants who missed the live session. The recordings also serve as documentation for the online training sessions, to be used as future references.

Figure 34. SEAMEO BIOTROP Video Profile for 2021

The Center has also developed a new profile video to showcase the Center's vision, missions, and program highlights to update its previous profile video.

Figure 35. BIOSync, Biodiversity podcast

BioSync is the Center series of podcast videos, aimed to get insights and perspectives on the broad theme of Biodiversity. The development of the main theme was made to meet the trend of issues and reach the targeted audience. For the fiscal year under review, the Center has produced 13 episodes of BIOSync.

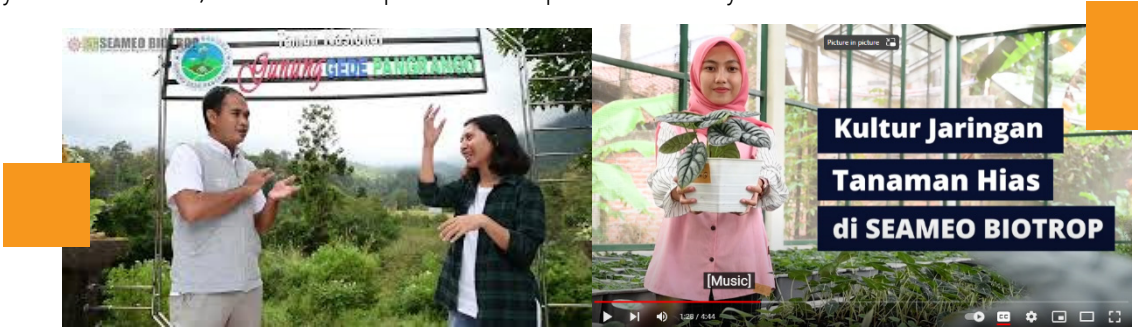


Figure 36. Biodiversity Talks and Short Educational Video

The Center also developed several short educational video series to increase its visibility, such as the propagation of seaweed and leaf ornamental plants using tissue culture technology. Seven informational videos were also produced on biodiversity talks, an interview and coverage on the broad theme of biodiversity conservation, such as interview with the Dean of Faculty of Fisheries and Marine Sciences, IPB University, and the representatives from Gunung Gede Pangrango National Park.

Key Results Area: Supporting Responsive Reform to Effectively Transform and Respond to the Changing Global Context in the Region, including Quality Management

Good Corporate Governance (SOTK) is an important aspect of maintaining the confidence and trust of our investors and stakeholders. The practice of SOTK needs to be managed effectively and efficiently. The SOTK needs to be socialized to the employees of SEAMEO BIOTROP as an ongoing process, so that the SOTK grows as the Center's culture.

SOTK is fundamental to the sustainability of an organization. SOTK ensures trust values for all stakeholders in longer term. SEAMEO BIOTROP adopts SOTK to protect all rights and obligations of the stakeholders are carried out in accordance with the provisions of Indonesia legislations, business ethics, and the best practices. SOTK is also essential to nurture a sound and quality business development and trust that will support the achievements of the Center's vision and missions and to ensure good monitoring and controlling for efficient operational activities and business supervision.

In 2022, we start the year with the new SOTK. Human Resources and Administration Department (HRAD) has primary responsibility for managing, assisting and dealing with all employees in matters of policy administration, recruitment process, benefits administration, employment and labor laws, training and development, personnel records retention, employees' assistance program and general administration (correspondence).

Human Resources and Administration Department (HRAD) is a very important factor to support the achievement of the vision and missions of an organization. The HR management and development system implemented at SEAMEO BIOTROP covers the selection stage in the recruitment process for employees who have competencies and skills in accordance with the needs of the Center. Therefore, SEAMEO BIOTROP manages and develops Human Resources in a professional and planned manner.

SEAMEO BIOTROP realizes that HR is one of the biggest and most important assets for SEAMEO BIOTROP's business sustainability. Therefore, the Center continually strives to develop various training programs to improve the competencies up to the excellent level. The Center continues to facilitate employees with various training and development programs on an ongoing basis to improve skills related to their works and disciplines. SEAMEO BIOTROP also provides training and education programs to improve employees' skills and knowledge in various fields of work and position levels. Throughout 2022, the Center spends IDR 40 million for training and competency development for all employees. Trainings in 2022 includes many aspects, such as managerial and leadership skills based on needs, technical and non-technical capabilities to support work, and other programs according to their respective needs and fields.

Implementation of Good Corporate Governance (SOTK)

SEAMEO BIOTROP strives to realize the stakeholders and values through the implementation of a good corporate governance (SOTK). With the implementation of SOTK, an organization acquires balance both internally and externally, while also maintaining transparent business ethics in accordance with applicable regulations. Implementation of the New SOTK can help SEAMEO BIOTROP to enhance the management of its business operations, while maintaining the Center's reputation that complies with the applicable laws and regulations. The implementations of SOTK refers to the following five principles:

- Transparency; the principle of transparency prioritizes the decisions making process and discloses materials and relevant information regarding the company's business activities.
- Accountability; the principle of accountability provides clarity on the functions and responsibilities of each department in the institution as well as the effective implementation of functions and responsibilities.
- Responsibility; SEAMEO BIOTROP continuously upholds the principle of responsibility in making business activities in accordance with the applicable laws and regulations in Indonesia, sound corporate principle and the implementation of corporate social responsibility commitment.
- Fairness; the principle of fairness and equality in fulfilling the stakeholder in accordance with the applicable laws and regulations.
- Independency; the principle of independency puts forward justice in managing the company professionally without dominations, conflict of interest, or intimidation from various parties that is contrary to the law and sound corporate principles.

SEAMEO BIOTROP is committed to providing added value to stakeholders through the implementation of comprehensive SOTK principles and to achieving the Center's vision and missions.

The current organizational structure of SEAMEO BIOTROP is a structure that has been approved by the 59th GBM in 2021. This structure is considered to meet the needs of the current organization, taking into account the organizational mandates as well as existing internal and external issues. In addition, it has also considered the scope of implementation of (Quality Management System) QMS certification based on ISO 9001. The most influential external issue at this time is the reduction in the budget from the Government of Indonesia for programs, including research, training, and dissemination of research results. The new SOTK SEAMEO BIOTROP is in line with SEAMEO BIOTROP's spirit of supporting the advancement of education, namely Science to Education as stated in the SEAMEO 7 Priority Areas.

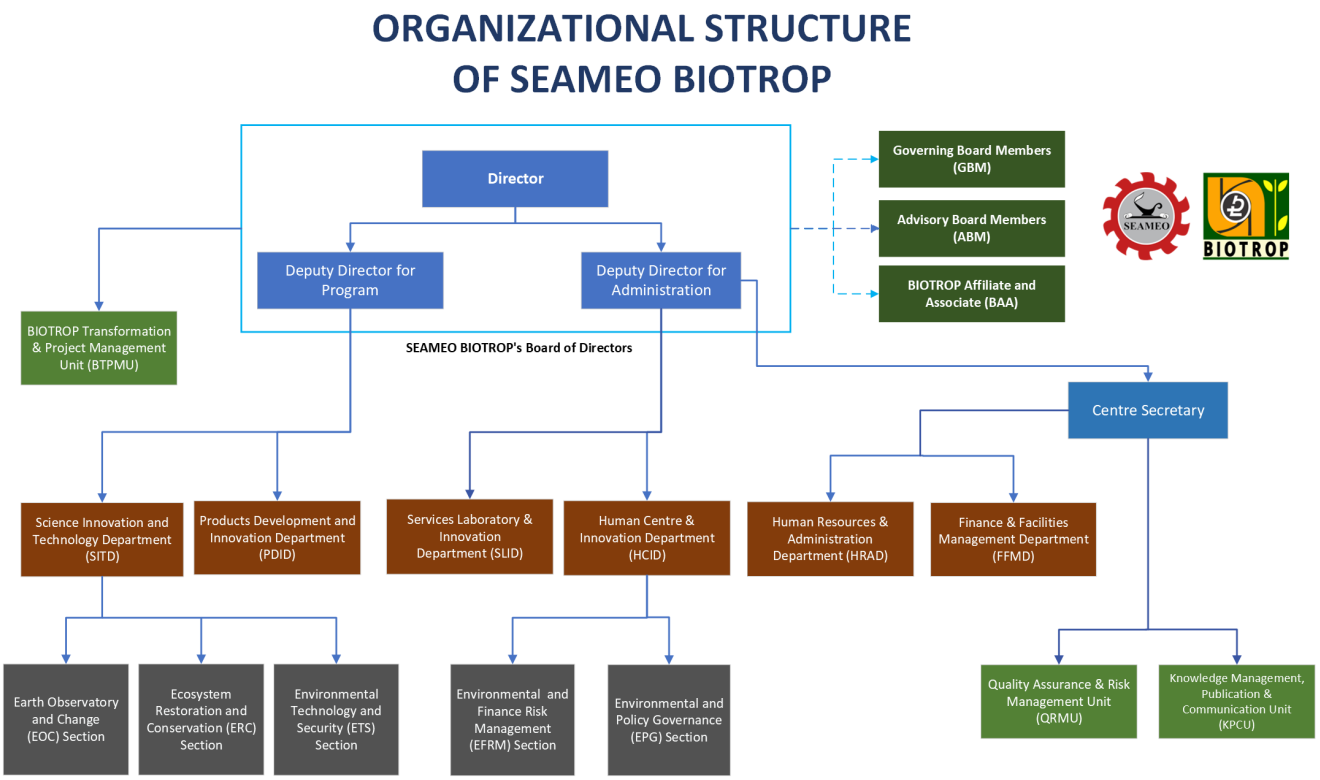


Figure 37. New Organizational Structure of SEAMEO BIOTROP

The implication for the organizational changes includes the changes in SEAMEO BIOTROP human resources, finance management, facilities and assets, and program operational. Those key factors need to be managed and transformed to support the organizational task and visibility.

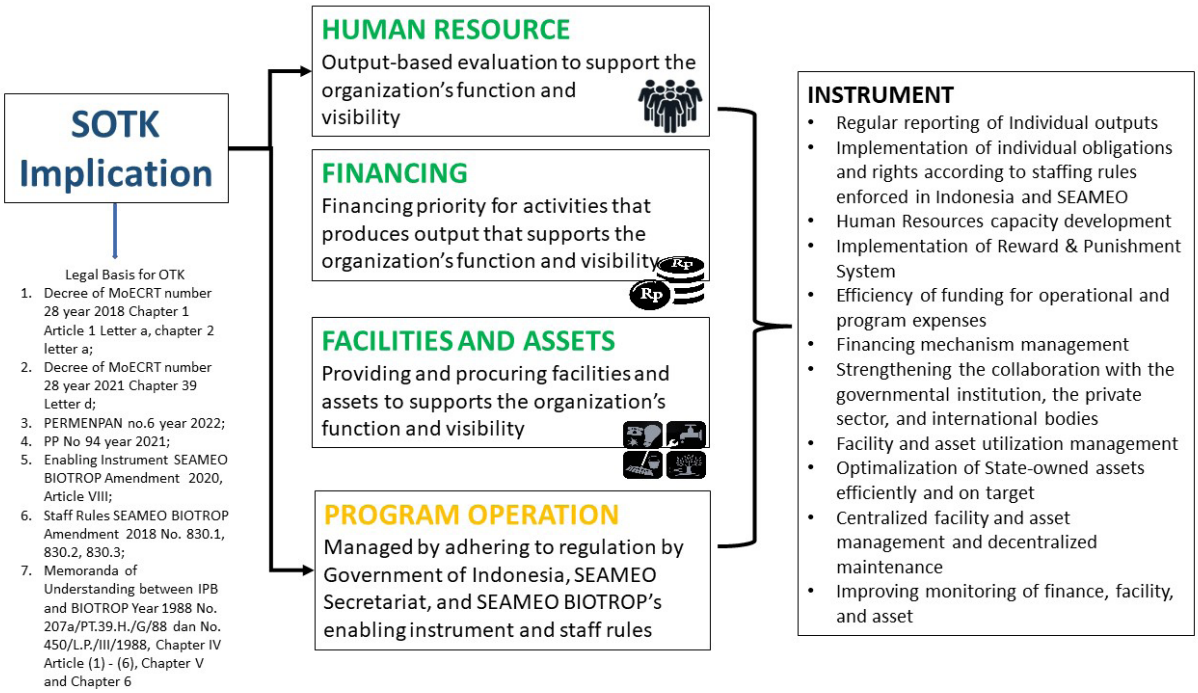


Figure 38. Implications of the New SOTK

Human Resources

In 2022, SEAMEO BIOTROP has 188 employees, including civil servants, contractual workers, outsourced workers, and affiliate scientists. Below are the details of SEAMEO BIOTROP's employee's composition and classification as of June 2022 by employee status, educational levels, and age range.

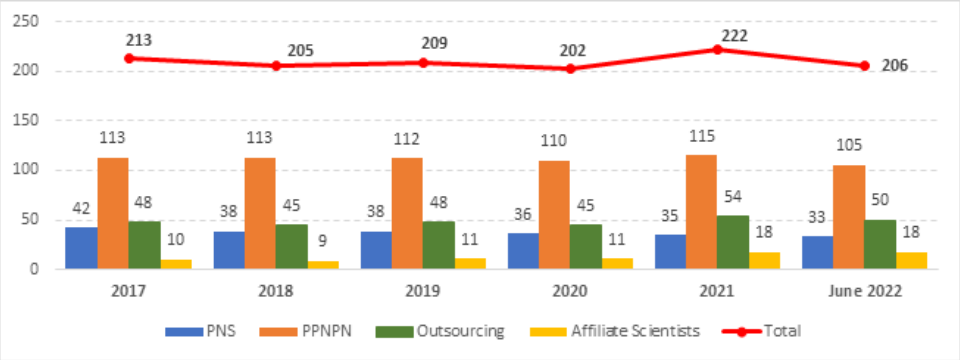


Figure 39. Employees composition by employment status

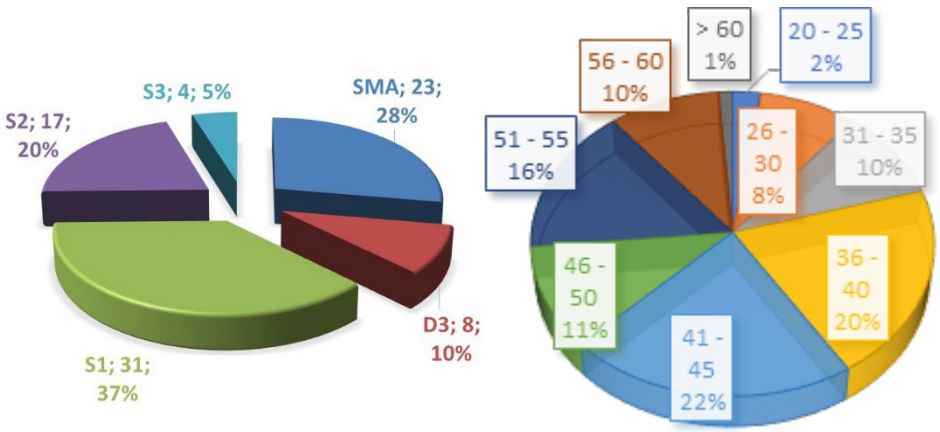


Figure 40. Composition of SEAMEO BIOTROP staff by education and age

In the early 2022, three (3) recruitments were carried out or were in progress. The recruitments included 2 supervisors and Head of Section positions and 1 staff position. In addition, SEAMEO BIOTROP conducts recruitment strategy through BIOTROP Affiliate & Associate (BAA) to support the Program Thrusts which are: 1) Restoration and conservation of unique and degraded ecosystems; 2) Sustainable management and wise utilization of biodiversity, bio-energy, biotechnology, and food security; 3) Strengthening ecosystem resilience to global climate change.

Competency-based HR development is carried out to provide results in accordance with organizational goals and objectives with established performance standards. Therefore, individual performance in the organization is a way to increase the productivity of the organization itself.

SEAMEO BIOTROP is committed to developing the capabilities of its human resources in their respective areas and general organizational competencies to achieve the Center's vision, missions, and goals.

Facilities and Finance Management

Since 2021, the Government of Indonesia (GoI) launched an integrated online based application to support the management of funds and assets of the GoI, namely SAKTI. The development of the application impacted the implementation of the budget planning, fund, and assets management to be more detailed and well-planned. The application implementation shall be followed by the development of human resources capacity as the users. The development of the applications, also required sufficient database system as well as the hardwares.

In 2022, the GoI changed the limit of GoI fund request and payment for operating activities. It affected cash on hand availability and the Center's programs implementation. In the middle of the uncertain economic situation, GoI also increased the value added tax rate from 10% to 11% and entity income tax from 2% to 4% in April and May 2022, respectively. The changes affected the activities of budget plan significantly. The increase of gasoline price also impacted the Center's operating expenses since the Center has four official vehicles. All regulations regarding changes and development by the GoI are conducted to enable the GoI in monitoring and assuring that the funds are utilized and managed in appropriate manners and in accordance with the rules.

To support national products industries, the GoI requires the Center to assure the use of national products and meet the required limit of the imported products of the Center's assets and activities. Other regulation change by the GoI is the bank transfer regulation in particular to the high-risk countries as defined by GoI.

The new normal era caused by Covid-19 pandemic changes the institution management. The implementation of "Work from Home" has become "Work from Anywhere". This situation brings forth the long-distance coordination implementation in the Center's daily activities to assure that there is no delayed service that will be a constraint to achieve the targets.

Since the beginning of 2022, the GoI has started to disseminate the issue on institutional changes, from the GoI fund reduction for programs and issue of human resources status. This is followed by series of meetings organized by the Secretary General of the Ministry of Education, Culture, Research, and Technology (MoECRT) of the Republic of Indonesia to discuss about those above-mentioned issues.

Solutions

In respond to the good governance improvement of the GoI, the Center has taken the following actions:

1. Adjusted financial management flow

   Fund management has high risks. Therefore, the Center sets up a layered validation, verification, and approval of funds requirement and liquidation to assure the appropriate amount, completeness of supporting documents, and avoid fraud and double counting. This practice is also implemented to make sure that the Center provides required data to support financial audit. To assure that there is no-delayed service, the Finance Management Unit arranges that one process shall be managed by more than one financial staff. In response to the implementation of SAKTI online financial application and updated regulation on petty cash of GoI fund and liquidation deadline, Finance and Facilities Management Department (FFMD) submits the cash advance liquidation to the online system, daily.

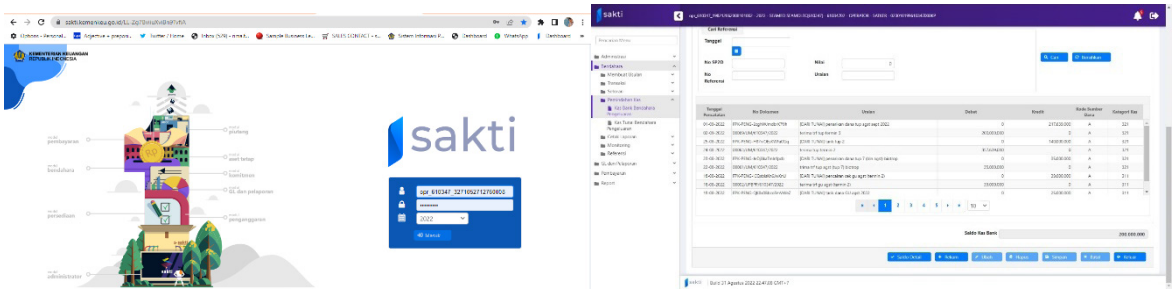


Figure 41. SAKTI application

2. Intensive coordination with related parties

   The changes in regulation occurred in the middle of the fiscal year. Therefore, coordination and communication to related parties shall be conducted intensively. The intensive coordination and communication are conducted in response to the volatile situation and be adaptive to the changes. Related parties include the SEAMEO Centers in Indonesia, MoECRT, SEAMEO Secretariat, and the banks.

3. Centralized bank account

   The Center manages four bank accounts in accordance with the objective of funds i.e., 1) GoI IDR fund; 2) SEDF and Unallocated USD fund; 3) unallocated IDR fund; and 4) projects IDR fund. The centralized bank account management under FFMD is implemented to meet the government regulation. This is also conducted as one of anticipative actions to the institution change issues.

4. Monthly financial and facilities management plan and report

   To support sustainable improvements as indicated in the quality management system the FFMD provides monthly report. The report consists of the information on GoI Fund and SEAMEO Fund Balance Sheet, Cash Flow and Plan and the facilities maintenance and procurement activities. The information in the report may be used to support decision making in the Center.

5. Facilities monitoring instruments improvement

   In line with the implementation of the Quality Management System in accordance with the ISO 9001:2015, the Center improves the manual and printed instruments for implementation and monitoring into digitalized instruments that can be accessed through the Center's official website.

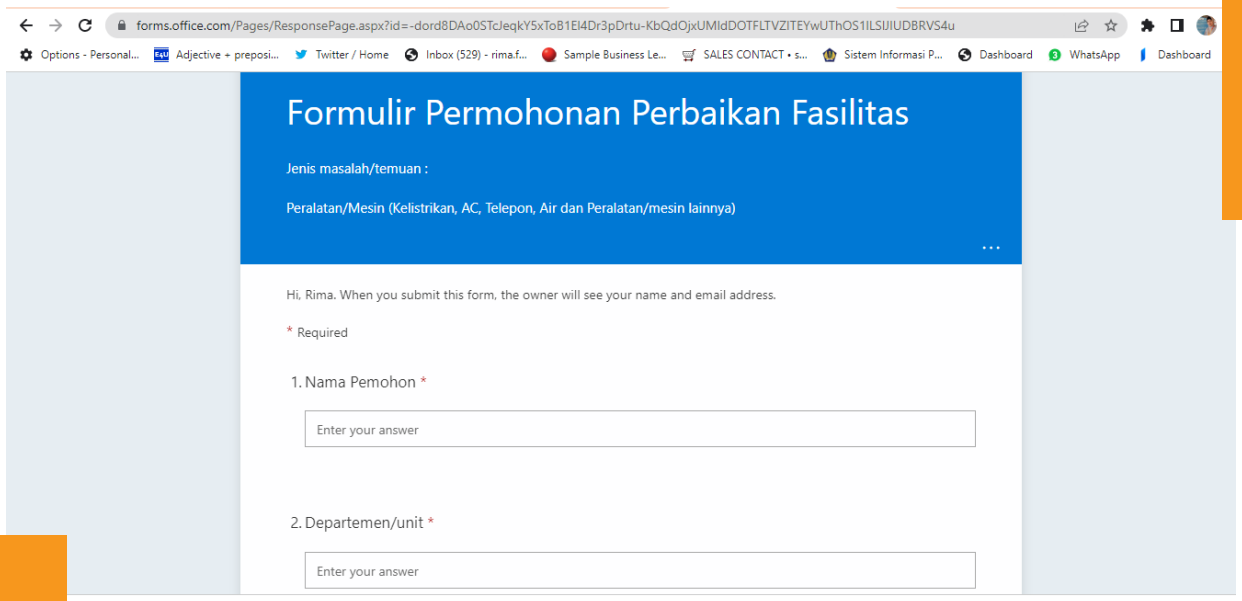


Figure 42. Facilities requested forms

To make sure that the facilities are in good condition to support the implementation of programs and activities, FFMD shall exercise an appropriate monitoring system by establishing daily monitoring sheets, equipment card control, and involving users to inform the update and problems of facilities and equipment under their departments and units. FFMD also selects the suppliers to provide maintenance and construction services and products, carefully, to assure the quality of the result. The supplier evaluation instruments include the legal aspect, offering rates, communication, experiences, and quality of products and services referring to the Center's standard.

6. Information technology improvement

To support online activities and communication, the Center strengthens the internet connection facilities and provides meeting link platforms for up to 500 users. The Center has also conducted internal training on network mapping and maintenance in cooperation with the internet service provider.

Highlights:

The internal and external issues brought positive changes to the Center, as follows:

1. The Center implements a good governance on finance and facilities management.
2. Funds and facilities resources are utilized efficiently and effectively in supporting the programs and activities implementation.
3. The Center has well-planned, measureable and impacted programs and activities.
4. FFMD services are delivered on time and appropriately.
5. The reliable information supports the Board of Directors to take appropriate decisions.

Facility Improvements

For the fiscal year in review, the Finance and Facilities Management Department (FFMD) renovated an idle function room to be a functional room with new features and a Podcast studio. The functional room with capacity up to 15 people is utilized for online and offline meetings, equipped with a smart TV and a set of sound system. The Podcast studio is equipped with a set of camera and condenser microphones to support the production of promotional and educational videos.

Figure 43. The new studio and classroom of SEAMEO BIOTROP

The Center has also renovated the convention hall, dormitories, laboratories, as well as the toilets as the supporting facilities. To build a good image of the Center, FFMD renovated the main office building lobby and conducted maintenance of direction signs, gardens, pedestrians, and surroundings.

As required by the GoI, the Center revised the names of 8 land certificates from the Indonesian Ministry of Education and Culture into the Government of the Republic of Indonesia. The total of the land is 2,400 m^2 and located within the Center's headquarter compound.

Future Plan for Facilities Improvement to Support the Center's Programs and Targets

Year 2022 marked the beginning of the implementation of SEAMEO BIOTROP 11th Five-Year Development Plan (FYDP). In supporting the programs and activities, the Center also prepares plan for facilities improvements, as follows:

1. Prototype on Agro-Eco-Edu Tourism Program

   In line with six priority programs, the Center will develop prototype on Agro-Eco-Edu Tourism program. The prototype is the model of science study conducted in the Center in FY 2021/2022 and consists of the following:

   a. Stingless Bee Garden, learning area for stingless beekeeping.

   b. Aquatic Garden, area for aquaculture and learning aquaponics system.

   c. Sensory Garden and Smart Agriculture, area for biodiversity education and learning ecosystem model.

   d. BIOTROP Science Technology Expo, indoor educational area to learn of BIOTROP's science and technology

2. Non Tax Revenue

   On June 2022, the Center started to open the convention hall, dormitories, and meeting rooms, for rent to the public. The revenue from facilities rent were deposited to the GoI as Non-Tax Revenue.

3. Idle Facilities

   At the beginning of 2022, the Center identified idle facilities to be renovated to support the priority and non-tax revenue target as well as the Agro-Eco-Edu Tourism program. The facilities are as follows:

   a. The former BIOTROP Science Park building to be functioned and office rooms as non-tax revenue objects;

   b. The former BIOTROP Resource Management Center building to be dormitory for students;

   c. The former Enterprise Development Center building to be office rooms as non-tax revenue objects; and

   d. Arboretum to be one of models for the Agro-Eco-Edu Tourism of forest biodiversity.

Financial Viability

For year 2022, the Center received a total of **USD 1,066,234** from the Government of Indonesia to support program activities (researches, trainings, partnership, information dissemination) and operational activities (salary payments and asset and facilities maintenance). The GoI fiscal year is 1 January to 31 December. the GoI reduced the budget for program up to 75% from USD 419,787 in FY 2021 to USD 114,131 in 2022 (1 USD approximately IDR 14,600).

The Center also receives fund from SEAMEO as SEDF (SEAMEO Educational Development Fund) of amount **USD 71,000** for FY 2021/2022 to support regional researches, trainings, international conferences, Governing Board Meetings and personnel exchange programs. The SEAMEO fiscal year is 1 July to 30 June.

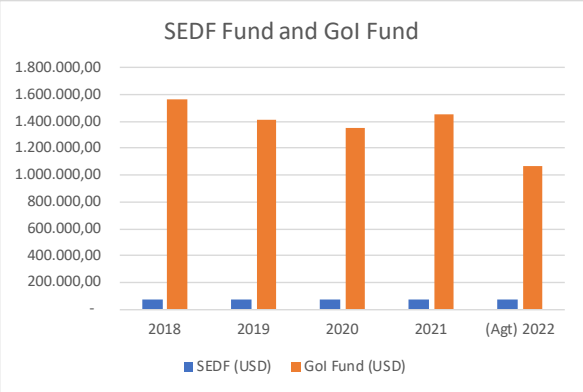
In accordance with SEAMEO, the Center proposed a three-year budget to be submitted to the Board. As presented in the Center's three-year budget for FY 2023/2024, 2024/2025, 2025/2026 the total funds from GoI and SEAMEO is presented below:

No.	Expenses	FY 2020/2021 (USD)	FY 2021/2022 (USD)
1.	Capital	16,112	115,658
2.	Operating	1,283,097	1,280,745
3.	SEDF	71,000	71,000

The funds received and actual utilization by the Centre for the last 5 years from GoI and SEDF are presented below:

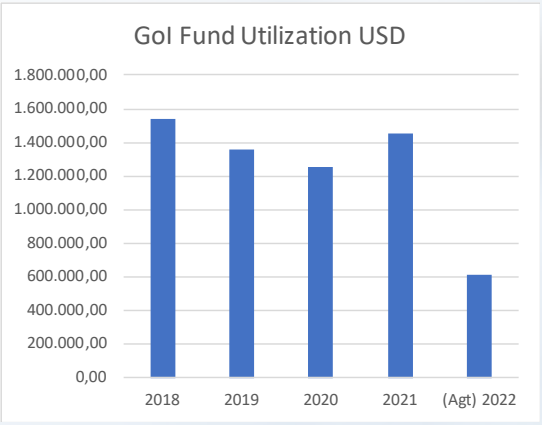
Fund Received

Fiscal Year	SEDF (USD)	GoI Fund (USD)
2018	70,980.00	1,562,036.37
2019	70,995.00	1,409,970.07
2020	70,995.00	1,355,722.53
2021	70,982.50	1,453,034.93
(Agt) 2022	70,995.00	1,066,221.01



GoI Fund Utilization

Fiscal Year	GoI Fund Utilization	
	USD	%
2018	1,542,688.25	98,76
2019	1,354,644.89	96,08
2020	1,253,242.30	92,44
2021	1,450,128.86	99,80
(Agt) 2022	610,682.83	57,28



Despite the decreased fund from the GoI, the targeted outputs and beneficiaries of the Center remain the same. Therefore, the Center shall implement strategies to cope with the situation as follows:

1. Integrating the programs to achieve one excellence output;
2. Establishing collaborations with partner institutions to share resources;
3. Conducting self-management for research activities instead of providing research grants for external experts;
4. Conducting meetings and trainings and other learning activities by online or hybrid mechanism;
5. Publishing digital versions of knowledge and information materials; and
6. Utilizing social media for knowledge and information dissemination.

As mandated by the GoI, the Audit Board of the Republic of Indonesia (Badan Pemeriksa Keuangan or "BPK") conducted financial audit of the GoI fund for FY 1 January to 31 December 2021. On the other hand, as stated in the Center's Enabling Instrument Section XI Management of Funds No. 4, that the account of the Center shall be audited by a firm of auditors to be appointed according to regulations of the Government of Indonesia and recognized by the Board. The financial audit covers the fund from GoI and SEAMEO. Therefore, the Audited Financial Report of the Center for FY 2020/2021 covering the period from 18 July to 24 August 2022 was undertaken by TJAHJO MACHDJUD MODOPURO & Partners an external CPA, License of Public Accountant No.: KEP-1021/KMK.17/1998; 658/KM.1/2018; 79/KM.1/2019; 509/km.1/2019. The CPA was appointed following the procurement procedures of the Government of Indonesia (GoI), contract no. 132.1/PSRP/SC/SPK-LKEU/VII/2022 dated 18 July 2022, in compliance with the required CPA standards.

APPENDICES

The Appendices for this SEAMEO BIOTROP Annual Report for Fiscal Year 2021 - 2022 can be accessed online at:

http://link.biotrop.org/AR2022

SEAMEO BIOTROP OFFICIALS FOR FY 2021/2022

Board of Directors

Dr Zulhamsyah Imran
Director

Dr Perdinan
Deputy Director for Administration

Dr Evelyn V. Bigcas
Deputy Director for Program

Supporting Management Officials

Ms. Santi Ambarwati, MSi
Centre Secretary

Ms. Dewi Suryani, MM
Human Center and Innovation Department Manager

Mr. Arif Nuryadin, AMd
Services Laboratory and Innovation Department Manager

Mr. Bambang Sulistio, SSi
Human Resources and Administration Department Manager

Ms. Rima Febriana. SE, Ak.
Finance and Facilities Department Manager

Dr Erina Sulistiani
Products Development and Innovation Department Manager

Ms. Sri Widayanti, MSi
Science Innovation and Technology Department Manager

Ms. Tenni Wahyuni, AMd
Quality Assurance and Risk Management Unit Head

Mr. Haritz Cahya Nugraha, MT
Knowledge, Publication, and Communication Unit Head

Dr Rhomi Ardiansyah
Head of Ecosystem Restoration and Concervation (ERC) Section

Dr Harry Imantho
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Appendix 1
List of SEAMEO BIOTROP Research Projects

A. On-going Research Projects

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
1	Learning Prototype Design and Development: "Producing Prototype of Organic Pesticides (LiqcorisTM Liquid Smoke Fungicide) In Conserving School Garden Commodity through Participation of Schools"	- Dr Zulhamsyah Imran - Risa Rosita MSi - Deden Dewantara Eris, SP MSi - Nijma Nurfadila MSi - Dewi Rahmawati, MSi - Sunardi Ikay - Henokh Christian Prasgi - Dian Emilia Maulidiyah - Rizky Susanti	General Objective: To aim and initiate the manufacture and production of prototypes of organic pesticides and their application in controlling fruit plant diseases in school gardens. Spesific objectives are: (a) To produce a prototype of an organic pesticide (LiqcorisTM Liquid) as well as educational material for biodiversity conservation efforts in school gardens, (b) To Create a pilot project for the production of organic pesticides (LiqcorisTM Liquid) before being implemented in school gardens, (c) To disseminate and guide students on how to apply organic pesticides (LiqcorisTM Liquid Fumes Fungicide) in school gardens.	Vocational High School, Senior High School, Undergraduate Student	**Expected Outputs:** (1) 1 production tool in producing the prototype (LiqcorisTM Liquid) for biodiversity learning, (2) 1 prototype of organic pesticide (LiqcorisTM Liquid) **Impact:** BIOTROP is known as the Leading Center in Promoting Save Biodiversity to Youth in Southeast Asia (SEA) "Mountain to Ocean (MOTO)"	DIPA 2022	PPBBI, IPB

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
2	Coping Strategies of Urban Households to Ensure Food Security During Covid Pandemic: A Case Study of 3 Communities in Indonesia and The Philippines (Sampling Area: South Bogor, Indonesia)	- Dr Zulhamsyah Imran - Dr Jesus C. Fernandez - Dr Evelyn C. Bigcas - Dr Pedcris Orencio - Dr Dwi N. Iswarawanti - Ir Sri Widayanti, MSi - Santi Ambarwati, MSi - Risa Rosita, MSi - Nijma Nurfadila, MSi	This project aimed to improve the understanding of the experiences of urban communities, particularly in Indonesia and the Philippines, in coping with food security issues and concerns during the pandemic towards generating policy recommendations to address them. The specific objectives are to (1) determine the status of food security among urban households in Indonesia and the Philippines during the pandemic, (2) find out the key determinants of the food security of urban households in Indonesia and the Philippines during the pandemic, (3) identify the range and most common coping strategies adopted by urban households in Indonesia and the Philippines to provide for the daily food needs of their members during the pandemic, (4) determine the social aids sought and received by urban households in Indonesia and the Philippines from government institutions	Government, community	The project is expected to publish a policy brief and an article in an international refereed journal which both contain, among others, the following: (1) Overview of the status of food security among urban households in key cities in Indonesia and the Philippines during the pandemic, (2) Description of determinant factors of the food security status of urban households in key cities in Indonesia and the Philippines during the pandemic, (3) Description of coping strategies and social aids adopted by urban households in key cities in Indonesia and the Philippines to ensure food security of their members during the pandemic, (4) Description of social aids made available by government institutions to urban households in Indonesia and the Philippines during the pandemic, (5) Set of policy recommendations on addressing food security of urban households in key cities in Southeast Asia during a pandemic	SEDF	SEAMEO RECFON, SEARCA

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
			during the pandemic, (5) determine which of the food security components are most challenging for the urban households in Indonesia and the Philippines to cope up with during the pandemic, and (6) generate policy recommendations on addressing food security of urban households in Indonesia and the Philippines during a pandemic		Impact: the common coping strategies adopted by households from Indonesia and Phillipines		
3	Saving Biodiversity Through the Inclusion of Environmental Education in the Curriculum of ASEAN High School Students	- Dr Zulhamsyah Imran - Risa Rosita MSi - Dr Perdinan - Dr Evelyn C. Bigcas - Dr Supriyanto - Ir Sri Widayanti, MSi - Indah Wahyuni, MSi - Dr Agr Rhomi Ardiansyah - Dr Harry Imantho - Dewi Rahmawati, MSi - Nijma Nurfadila, MSi - Trijanti A. Widinni A., MSi - Deda A. Yuliastri, MSi	(1) To measure the awareness of high school students on the value of biodiversity, (2) To support the inclusion of environmental education among high school students in ASEAN, and (3) To create and promote digital learning media in saving biodiversity, through environmental education among high school students in ASEAN based on results of the questionnaire survey analysis.	Government, Schools in ASEAN Level, community	**Expected Outputs:** (1) Policy brief on the inclusion of "biodiversity-enriched" educational material and use of electronic learning media on saving biodiversity through environmental education among high schools in Indonesia/ASEAN, (2) Publication of the study results in the Scopus indexed journal (BIOTROPIA), (3) Publication of the study results in BIODIVERS. **Impact:** SEAMEO BIOTROP is known as the Leading Center in Promoting Save Biodiversity to Youth in Southeast Asia (SEA)	SEDF	MSU, BRIN

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
					"Mountain to Ocean (MOTO)"		
4	Biodiversity Ranking from Mountain to Ocean	- Soekisman Tjitrosemito, PhD - Dr Harry Imantho - Ir Ina Retnowati - Saiful Bachri, SSi	1. Develop a biodiversity database framework document to support "save biodiversity." 2. Develop indicator documents regarding the ranking of biodiversity in national parks/ geoparks. 3. Prepare a working paper for the development of a virtual tour of the BIOTROP biodiversity collection.	SEAMEO BIOTROP Staffs, teachers, government, stakeholders, communities.	**Expected Outputs:** (1) The biodiversity database framework document supports “Save Biodiversity from MOTO”., (2) Document of biodiversity ranking indicators in national parks/geopark, (3) Publication materials related to ranking studies and biodiversity databases	DIPA 2022	KLHK
5	Designing and Conceiving the Agroecoedutourism Development in SEAMEO BIOTROP	- Dr Perdinan - Dr Supriyanto - Dr Agr Rhomi Ardiansyah - Armaiki Yusmur, MSi - Shella Marlinda, MSi	1. Designing and conceptualizing the development of agro-eco-education at SEAMEO BIOTROP; 2. Promote product innovation and knowledge development of SEAMEO BIOTROP; 3. Increasing cooperation between SEAMEO BIOTROP and other parties in the development of agro-eco-edu-tourism; 4. Become a Center for Conservation of Tropical Fruits and Ornamental Fish Biodiversity through Agro-eco-edu-tourism	SEAMEO BIOTROP Staffs, teachers, government, stakeholders, communities.	**Expected Outputs:** (1) 1 masterplan document of Agro-eco-edu-tourism at SEAMEO BIOTROP, (2) 1 Agro-eco-edu-tourism site plan design at SEAMEO BIOTROP, (3) 1 article review **Impact:** Agro-eco-edu-tourism at SEAMEO BIOTROP become a model and can be adopted by countries in Southeast Asia.	DIPA 2022	Tourism Agency, Dewan Kerajinan National Daerah, Financial institution (Bank), Ministry of Education, Culture, Research and Technology, and Ministry of Tourism and Creative Economy; PT Bogor Life Science and Technology (BLST-IPB), Pusat Kajian Hortikultura

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
							Tropika (PKHT-IPB)
6	The Study on the Implementation of Criteria and Indicators for the Archipelago Agroecoedutourism Program Towards SMARTS-BE goes to Southeast Asia	- Dr Supriyanto - Dr Agr Rhomi Ardiansyah - Armaiki Yusmur, MSi - Shella Marlinda, MSi	1. Evaluate the criteria and indicators for the readiness of the Nusantara Agroekoeduwisata program to be implemented in SMK and SEAMEO BIOTROP. 2. Improving the quality of Nusantara Agro-eco-education development in vocational high school and SEAMEO BIOTROP. 3. Become a component of the traveler camp route for Nusantara Agro-eco-educational tourism. 4. Become a tourism program that plays a role in carbon mitigation.		**Expected Outputs:** 1. 1 Standard Operating Procedures (SOP) for SMARTS-BE Goes to Southeast Asia 2. 1 Publication of articles in journals. 3. 1 Policy briefs **Impact:** The concept of Nusantara Agroeco-education in Vocational High School and SEAMEO BIOTROP can be a model of Educational tourism and be adopted by countries in Southeast Asia.	DIPA 2022	Vocational High Schools, government
7	Environmental Risk Management Studies: Risk Communication Strategies in Biotechnology Products"	- Indah Wahyuni, MSi - Deda Annasia Yuliastri, MSi - Dewi Suryani, MM	To assess the knowledge of the community and stakeholders involved regarding biotechnology plants, benefits, and issues that develop on the results of biotechnology products	Farmer, community	**Expected Outputs:** Policy brief related to the communication of potential risks of using PRG products **Impact:** The community and farmer can be well educated in the use of PRG products	DIPA 2022	Government, farmers, private sector, NGOs
8	Development of Green School and Blue School of Biodiversity	- Slamet Widodo S, MSc - Riana Hartati SSi	1. Build a model of biodiversity learning ecosystem consisting of a Green School of biodiversity and a blue school of biodiversity 2. Enhance the role of	Schools, teachers, students	**Expected Outputs:** (1) A multi-literacy-based learning ecosystem model, (2) ProBL, PBL, and HoTs-based learning modules, (3) Training of Trainers for the	DIPA 2022	Schools, government, universities

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
			universities as “Campaign Centers” for Biodiversity Conservation 3. Build direct linkages between curriculum, learning models, modules, and direct practice based on multi-literacy within the scope of biodiversity to increase the knowledge, understanding, and competence of lecturers and students		development of a competency-oriented learning environment ecosystem model		
9	Study of Geopark Rinjani Biodiversity Mapping	- Dr Agr Rhomi Ardiansyah - Slamet Widodo, MSc - Trijanti A. Widinni A., MSi - Harry Imantho, MSc - Risa Rosita, MSi - Nijma Nurfadila, MSi - Dewi Rahmawati MSi - Indah Wahyuni, MSi - Deda A. Yuliastri, MSi	To collect baseline data and existing data on biodiversity in the Rinjani Geopark in collaboration with SEAMEO BIOTROP and the University of Mataram	Government, community, student, teacher, travel agent	Output: 1. Database of Geopark Rinjani Biodiversity 2. Learning model of the Rinjani Geopark Biodiversity Inventory 3. Joint Proposal with Mataram University Impact: Rinjani Geopark can be a learning tool in biodiversity conservation.	DIPA 2022	Mataram University, KLHK, Local government

B. Completed Research Projects

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
1	Biotechnology Application for Provision of Superior Seedlings of Cottonii Seaweed	Dr Erina Sulistiani	To optimize tissue culture procedure for increasing the capacity of providing micropropagules and plantlets of Cottonii seaweed	The Indonesian Ministry of Marine Affairs and Fisheries, Aquaculture Center, Agency of	Superior Seedlings of Cottonii Seaweed are available sustainably	GOI-PRN LPDP	LIPI, Kalimajari Foundation
2	Piloting Tissue Culture of Cottoni seaweed (*Eucheuma cottonii*, *Kappaphycus alvarezii*) for Improving Productivity, Sustainability and Quality of Seaweed Seedlings	Dr Erina Sulistiani	1. To draft SOP which are ready for piloting. 2. To establish trial and pilot tissue culture in SEAMEO BIOTROP for plantlets procurement.	The Indonesian Ministry of Marine Affairs and Fisheries, Aquaculture Center, Agency of Marine Affairs and Fisheries, Seaweed farmers	1. Increased productivity and quality of Cottoni seaweed (Kappaphycus alvarezii, Eucheuma cottonii) seedlings. 2. Improved capacity of researchers,	UNIDO	SMART Fish-2,
3	Effects of Temperature, Water Activity, and Carbon Dioxide on Aflatoxigenic Aspergillus flavus Growth and Aflatoxin Production in Peanuts	Prof Dr Okky Setyawati Dharmaputra; Ir Ina Retnowati; Nijma Nurfadila, MSi; Harry Imantho, MSc; Santi Ambarwati, MSi	1. To test the effect of temperature, water activity (aw) and CO2 levels on A. flavus growth rate and aflatoxin production of stored peanuts. 2. To make a model that describes the effect of temperature, water activity (aw) and CO2 levels on A. flavus growth rate and aflatoxin production of stored peanuts	Farmers, collectors, exporters, scientific community	1. A model that can predict an appropriate storage condition for peanuts based on temperature, water activity and CO2 level in relation in Aspergillus flavus growth and aflatoxin production. 2. A model that can be effectively implemented in minimizing the risk of aflatoxin contamination of the stored peanuts.	DIPA 2021	None

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
4	Climate Change Worsens the Impact of Vachellia nilotica Invasion on Savanna in Baluran National Park	Dr Soekisman Tjitrosoedirdjo; Dr Sri S. Tjitrosoedirdjo, MSc; Indah Wahyuni, MSi; Dr Hamim; Prof Drh Bambang Purwantara, MSc, PhD; Saiful Bachri, S Si	1. To collect C4 grasses, such as Dichanthium aristatum, Brachiaria reptans, Sorghum ritidum, Schlerachne punctate, Themeda triandra seeds. 2. To ensure that the seeds are from the C4 plants, by planting the seeds in a greenhouse for measuring the photosynthesis rate. 3. To measure the competitive ability of the grasses. 4. To further study the competition of grasses against other vegetations in the greenhouse following the approach of replacement series. 5. To select C4 productive competitive grasses and their establishment in developing a productive pasture to support the livelihood of fauna in the park. 6. To plant selected local C4 grasses, following recommendations from the output of these research activities.	The Directorate General of Nature Resources and Ecosystem Conservation, National Park, NGO.	1. Productive grasses as additional component of the best management practices to manage the invasive Vachellia nilotica and pathways to support the population recovery of Banteng (Bos javanicus javanicus), deer, peacock (Pavo muticus) and jungle fowl living in Baluran Naional Park.	DIPA 2021	Baluran National Park

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
5	Development of Ant and Cockroach Control Methods in Urban Areas Based on Baiting System	Dr Idham S. Harahap; Trijanti A. Widinni A., SP., MSi; Herni Widhiastuti SSi	1. To investigate the types of ants commonly found in the city of Bogor. 2. To test the preferences of ants and cockroaches to food baits containing sugar, protein, lipid, and combined ingredients. 3. To test the effectiveness of two types of botanical insecticides (bintaro or sea mango seed extract and fish poison bean leaf extract) against ants and cockroaches. 4. To make ready-to-use bait formulations and designed traps for ant and cockroach bait applications in residential areas.	Pest control, household	1. List of ant and cockroach species commonly found in residential areas in Bogor area. 2. Ready-to-use bait formulations containing botanical insecticides which set in a trap for ant and cockroach control in residential areas.	DIPA 2021	None
6	Neonicotinoid Contamination in Indonesian Estuarine Waters in Relation to Agricultural Land Use (A Case Study in Indramayu Regency)	Dr Aslan; Prof Dr Masumi Yamamuro; Zanne Sandriati Putri, SSi; Armaiki Yusmur, MSi.	1. To analyze the concentrations of neonicotinoid residues in estuarine waters in Indramayu Regency. 2. To analyze the agricultural land use along the banks of the rivers and creeks in Indramayu Regency. 3. To analyze the influence of agricultural land use on the concentrations of neonicotinoid residues in estuarine waters in Indramayu Regency.	Government, scientific community	1. Recommendations and considerations for the Indonesian Government to control the use of neonicotinoids and its pollution in Indonesian environmental waters to prevent the decrease of animal population. 2. Publication in an international reputable scientific journal.	DIPA 2021	University of Tokyo, Japan

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
7	Determination of C/N Ratio In Vannamei Shrimp Litopenaeus Vannamei Culture with Biofloc System for Improving Growth and Feed Efficiency	Dr Ichsan Achmad Fauzi; Shella Marlinda, MSi; Feredik Djonatan Ngili; Yana	1. To determine C/N ratio in shrimp L. vannamei seedlings under biofloc system. 2. To evaluate the growth performance and feed efficiency of L. vannamei seedlings under biofloc system.	Government, scientific community	1. The best C/N ratio for Vannamei shrimp farming using biofloc system 2. Publication in an international reputable scientific journal	DIPA 2021	None
8	Direct Seeding and Seedball Techniques as Alternative Planting Method for Reclamation in Post Mining Area	Armaiki Yusmur, SSi, MSi; Dr Irdika Mansur, MForSc; Risa Rosita, MSi; Salma Zubaidah, SHut; Septian Faris Al Amin, SHut	1. To compare and analyze seedball formulation. 2. To analyze the effectiveness of direct seeding and seedball techniques for recalcitrant, orthodox and cover crop seeds. 3. To analyze survival rate and germination rate of the plants with direct seeding and seedball planting method. 4. To analyze factors influencing the successfulness of direct seeding and seedball planting method at post mining area. 5. To analyze the influence of manure to germination rate of plants with direct seeding planting method.	Government, scientific community, mining company	*1.* Materials for determining reclamation method in post mining areas. *2.* Suitable and effective plant species to used in the reclamation methods. *3.* Inexpensive and efficient methods for reclamation in limestone post mining areas.	DIPA 2021	PT Solusi Bangun Indonesia Tbk.
9	Micropopagation of Acacia mangium M1 Generation Obtained by Mutation Breeding Technique	Dewi Rahmawati, MSi; Dr. Supriyanto; Aditya Pratama, SHut.	*1.* To determine whether the seeds of superior A. mangium seeds of M1 generation are sterile or not.	Government, scientific community	1. Superior seeds, sterile in vitro explants and induction techniques for clonal A. mangium propagation, which products can be used for	DIPA 2021	None

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
			2. To propagate the superior A. mangium M1 generation by using shoot cuttings. *3.* To obtain sterilization technique and appropriate media compositions for conducting micropropagation technique on A. mangium .		companies and communities.		
10	Molecular Profile Characterization of Aspergillus flavus Toxigenity	Anidah, SSi, MTP	*1.* To characterize molecular profile of toxigenic and non-toxigenic A.flavus using twenty-nine genes involved in aflatoxin biosynthesis using PCR method. *2.* To validate potential aflatoxin production using HPLC. *3.* To explore specific candidate genes between toxigenic and non- toxigenic A.flavus from Indonesia.	Government, scientific community	1. Database of molecular profiles of toxigenic and non-toxigenic A. flavus based on aflatoxin biosynthesis genes as the basis for developing molecular markers in detecting toxigenic strains of A. flavus in agricultural commodities.	10	Molecular Profile Characterization of Aspergillus flavus Toxigenity
11	Development of Spatial Decision Support System for Village Based National Rice Production (Phase 2:	Dr Impron MAgrSc; Harry Imantho, MSc; Slamet Widodo Sugiarto MSc;	*1.* To conduct field survey and measure standing crop, dynamics phenological characteristics and soil	Government, scientific community, farmer	*1.* Database of rice characteristics, management practices, climatic data and soil/rice field characteristics in the		

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
	Developing Spatially-Explicit Dynamics Model of Rice)	Dr Yudi Setiawan; Oxa Aspera Endiviana, ST; Taufiq Yuliawan, SSi., MSc.	properties at several rice producer areas in the Northern part of West Java (Indramayu, Pamanukan, Subang, Karawang, Sukabumi and Cianjur). *2.* To develop a crop spatially- explicit dynamics model based on finding and generated parameters from research phase 1, including developing submodels for: *a.* growth and development; *b.* harvest time and yield prediction; *c.* soil water balance; and *d.* nutrient status. *3.* To perform model performance analysis (verification and validation model). *4.* Develop a computer-based crop spatially-explicit dynamics model.		northern part of West Java. *2.* A spatially-explicit dynamic model for rice crop monitoring, based on remote sensed data, including: a) crop growth and development; b) harvest time and yield prediction; c) soil water balance; and d) nutrient status.		
12	Improving the Quality of Mycorrhiza Inoculum in SEAMEO BIOTROP: Development of Biomass Production	Risa Rosita, MSi;	*1.* To study mycorrhizal spore propagation or production using hydroponic	Government, scientific community, farmer	*1.* Educational video materials and also learning modules.		

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
	Techniques, Formulation, Storage, Packaging, Infectivity and Effectiveness Test	Dr Irdika Mansur MForSc; Dr Aslan; Deden Dewantara Eris, SSi,MSi.; Aan Darwati SAk.; Panji Dwi Anggoro; Sunardi Ikay	techniques. *2.* To compare the results of using hydroponic technique with results of using conventional technique. *3.* To gain a quality AMF inoculum formulation. *4.* To obtain a proper storage technique for the AMF inoculum. *5.* To obtain a proper packaging technique for the AMF inoculum. *6.* To study plant growth response toward the application of biological fertilizers. *7.* To measure the infectivity and effectiveness effect of the application of biofertilizers for plants		*2.* Information regarding the manufacture of Mycorrhizal based biological fertilizers at SEAMEO BIOTROP. *3.* Co- authoring one research journal between SEAMEO BIOTROP and partner institutions (PPBBI).		
13	Study on Sengon (Falcataria moluccana) Resistance to Boktor Pest	Dr Ir Ulfah J. Siregar, MAgr;	1. To analyze gene expression related to	Government, scientific community, farmer	1. Optimization of the protocol for the expression	DIPA 2021	PERHUTANI

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
	(Xystrocera festiva) and Gall Rust (Uromycladium tepperianum)		boktor pest resistance and tumor rust using RT- PCR.		of multiple gene sequences using RT- PCR.		
14	Identification of Fertility Biomarker Proteins in Sperm of Superior Local Breed Bulls to Support National Cattle Breeding Program	Prof Drh Bambang Purwantara, MSc, PhD; Dr Ir Dedy Duryadi Solihin, DEA; Prof Asep Gunawan, SPt, PhD; Dr Drh Muhammad Agil, MScAgr; Zulfi Nur Amrina Rosyada, SPt, MSi	1. To describe RNA fertility marker gene expression. 2. To accurately determine the potential and the single nucleotidepolymorphism from the HSP 70 - 2 (HSP A2), OPN, and PRM-1 as fertility marker. 3. To describe the profiles and interactions of sperm proteins that modulate fertilization.	Government, scientific community, farmer	1. Accurate information on molecular markers related to bulls' fertility as essential basis for selection and reselection for determining superior bulls. 2. Policy reference in the bulls refusal process used by the Indonesian Center for Artificial Insemination. 3. Preservation of Madura, Bali, Aceh and Ongole crossbred cattle as local Indonesian germplasm.	DIPA 2021	None
15	Management of Acid Mine Drainage with Floating Treatment Wetlands and Sulfate-Reducing Bacteria (SRB) Enrichment	Dr Ir Irdika Mansur, MForSc; Armaiki Yusmur, MSi; Fitri Arum Sekarjannah, SP; Iwan Perala, SHu	*1.* To identify the type and amount of organic matter to increase the SRB population as well as a growing medium for floating plants. *2.* To obtain potential plant species as AMD phytoremediation agent. *3.* To obtain the best design and size from floating treatment wetlands for AMD management. *4.* To analyze the increase in SRB	Government, scientific community, mining company	*1.* New technology for AMD in situ remediation in void. *2.* Floating treatment wetlands technology with SRB enrichment to improve water quality in voids left by minig operation.	DIPA 2021	None

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
			population from sediments of AMD pond. 5. To measure the effectiveness of floating treatment wetlands with SRB enrichment for AMD management.				
16	Study on the Use of Solid and Engineered Wood in House-Building Activities to Support Climate Stabilization	Jamaludin Malik, SHut, MT, PhD; Dr Ir Supriyanto; Novitri Hastuti, SHut, MSi, MSc PhD; Dr Drs Adi Santoso MSi; Deazy Rachmi Trisatya, SHut, MEnvSc; Rudi Dungani, SHut, MSi, PhD; Kuswara, ST, MA	1. To identify wood species, volume and the type of wood products used in the current house construction. 2. To calculate the amount of carbon stored in solid wood and engineered wood from house construction. 3. To support the continuous use of sustainable, renewable and eco-friendly materials used in house construction.	Government, scientific community, farmer	1. Data and informaion on wood types, volumes and types of processed wood products, both solid and engineered wood used in the current house construction. 2. Calculation of carbon stored in wood products. 3. Publication in an international reputable scientific journal.	DIPA 2021	None
17	Urbanized Ecosystem Resilience through the Flight of Butterflies	Dr Nurul L. Winarni; Ir Sri Widayanti MSi; Dr Aslan; Bhisma Gusti Anugra SSi;	1. To determine the resilience of butterfly community in different urban gradients by using citizen science approach. 2. To evaluate ecological network of butterfly	Government, scientific community	Developing community - driven data collection system: • Target points for visiting and surveying butterfly community.	DIPA 2021	None

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
		Nuruliawati SSi	distribution in urban environment.		• Data on butterfly distributions in Jabodetabek area. Determine the butterfly community in different urban gradients and evaluate ecological network of butterflies in urban environment: • Patterns of butterfly community structure in Jabodetabek area. • Relationship between butterfly distributions and NDVI. • Predicted butterfly distribution.		
18	Effectiveness of Marine Protected Area in Fish Resources Rehabilitation Based on Microsatellite Study and Larval Dispersal Analysis	Dr Reny Puspasari, MSi; Dr Aslan; Dr Hawis Madduppa, SPi, MSi; Dr Ing Widodo Setiyo Pranowo,	1. To analyze individual distribution and population linkages for two targeted species, namely Cephalopholis argus and Epinephelus areolatus. 2. To describe dispersal model of eggs and larvae of those two targeted species and to predict the settlement areas and recruitment areas of larvae.	Government, scientific community	1. Information on the source population and settlement areas for its larvae that functioned as nursery habitat. 2. MPA connectivity based on source and sink population scenario. 3. Increased roles of Pieh Island MPA as a recruitment supplier for surrounding waters through developing MPA connectivity based on the	DIPA 2021	None

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
		ST, MSi; Budi Nugraha, MSi; Rita Rachmawati PhD	3. To develop MPA Network scenario for Pieh Island MPA to maximize their roles in recruiting as the supply for fish resources rehabilitation in the surrounding areas.		resulted scenario.		
19	Assessing the Impacts of Catchment Land-Uses and Coastal Urban Developments on Heavy Metals and Microplastics in Commercial Mangrove Crabs as Measures for Food Safety	Dr Yaya Ihya Ulumuddin; Armaiki Yusmur , MSi.; Dr.Asla n; Suratno MSc.; Corry Yanti Manullang , MSi; Suyadi, PhD	*1.* To investigate heavy metals and microplastic content in Scylla spp from at least 15 locations. *2.* To conduct spatial analysis on land uses where the Scylla spp. are collected. *3.* To examine the effect of land uses on heavy metal and microplastic accumulation. *4.* To establish a monitoring site in one of the locations to be a part of monitoring networks.	Government, scientific community	*1.* Publication-1 titled "Urbanized coastal areas surrounding mangrove forests increase food safety of Scylla spp.", to be submitted to Marine Pollution Bulletin. *2.* Publication-2 titled "Risk assessment of heavy metal accumulation in Scylla spp. to be submitted to Chemistry. *3.* Long term monitoring sites.	DIPA 2021	None
20	Database, Diversity and Potential Use of Local Clove (Syzygium aromaticum (L) Merry and Perry) in Maluku Island	Dr Asri Subkhan Mahulette, SP, MP; Dr Ir Supriyanto; Jonner	*1.* To compile a database of clove varieties, distribution, and ecology in Maluku *2.* To obtain data on the morphological	Government, scientific community	1. At least two articles to be submitted to an international reputable Scopus indexed scientific journal (Biotropia). 2. Research reports. 3. Clove database posted	DIPA 2021	None

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
		Situmorang, MSi; Suyadi, SSi, MSc, PhD; Anggra Alfian, MSi	and agronomic characters of local clove varieties in Maluku *3.* To analyze the genetic diversity of cloves in Maluku, followed by SSR markers identification. *4.* To find potential use of local clove varieties in Maluku through analyses of essential oils components		in the website. 4. New information on varieties and essential oils of clove. 5. Book on Clove Varieties of Maluku Island		
21	Biotransformation of Palm Oil Mill Effluent (POME) into Biofuel by Immobilized Microalgae in A Down Flow Hanging Sponge Reactor (DHS)	Dr Ahmad Shoiful; Dr Ir Ulfah Junearti Siregar MAgr; Dr Eng Lusi Ernawati, ST, MSc; Dr Rozyanti Mohamad; Dr Siti Noorain binti Roslan;	*1.* To cultivate and enrich microalgae on a polyurethane spine media in DHS reactor. *2.* To examine the physical, chemical and biological performance of the microalgae in treating POME. *3.* To analyze the environmental implication of the study using Life Cycle Assessment (LCA)	Government, scientific community, private company	*1.* Research collaboration with ASEAN-class experts in Biotechnology and Bioenergy. *2.* Exchange of research experiences. *3.* Microalgae cultivation in nutrient- rich wastewater for pollutant removal and lipid production. *4.* Results of environmental sustainability analysis of Downflow Hanging Sponge (DHS) system using microalgae for high strength wastewater. *5.* Publication in an international reputable	DIPA 2021	*1.* Institut Teknologi Kalimantan (ITK) *2.* Universiti Kuala Lumpur (UniKL) *3.* Universiti Brunei Darussalam (UBD)

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
		Dr Sharifah Mariam Sayed Hitam; Dr Rosnah Abdullah			scientific journal on these topics: *a.* Microalgae cultivation in nutrient rich wastewater for pollutant removal and lipid production *b.* Environmental sustainability analysis of Downflow Hanging Sponge (DHS) system using microalgae for high strength wastewater. *6.* Data that can support the establishment of industrial scale of the Downflow Hanging Sponge System (DHS). *7.* DHS technology for wastewater treatment in contributing toward a strong research collaboration between Asian countries, especially Malaysia, Indonesia and Brunei in utilizing the abundant of microalgae growth along China Sea. *8.* Alternative in resolving fossil fuel crisis worldwide.		
22	Optimizing Methods for Community Based Sea Cucumber Ranching: A Case Study of Stichopus hermannii Production in	Prof Dr Ambariyanto, MSc; Dr Ir Retno Hartati,	*1.* To replicate the culture of H. atra for sea ranching of S. hermannii using sea	Government, scientific community, private company	*1.* New habitat for sea cucumber culture. *2.* Performance of	DIPA 2021	None

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
	Karimunjawa Islands	MSc; Dr Ir Widianingsih, MSc	pen method. 2. To measure biological, physical, chemical characteristics of the surrounding culture habitat affected by the culture of S. hermannii. 3. To understand acclimatization process in a new habitat of post-release of S. hermannii . 4. To measure the performance (growth and survival rate) of S. hermannii in sea ranching habitat. 5. To engage and cooperate with local communities in regards to sea cucumber culture to perform community-based sea cucumber ranching. 6. To undertake the capacity building for coastal community		stocked sea cucumber in sea ranching location. 3. Publication in national/international seminar/integrated coastal management seminar with tentative title: preliminary trial of community based sea ranching of sea cucumber: social aspect. 4. Publication in an international reputable scientific journal with tentative title: Changing in benthic organisms regarding with stocking of S. hermannii.		

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
			for sea cucumber culture. *7.* To increase the income of the coastal Community. To raise the conservation awareness of the coastal community.				
23	Utilization of Metabarcoding E-DNA as a Variable for Evaluation of Mangrove Ecosystem Conditions in North Sumatera and Aceh	Mohammad Basyuni, SHut, MSi, PhD; Dr Arida Susilowati, SHut, MSi; Ipana Enggar Susetya, SKel, MSi	*1.* To screen community and mangrove zoning in North Sumatera (Langkat) and Langsa (Aceh) using the MiFish universal primer. *2.* To identify interspecific variations analysis of mangrove species in North Sumatera and Aceh. *3.* To formulate genetic and ecological-based conservation strategies for mangroves in North Sumatera.	Government, scientific community	*1.* Data and information on mangrove communities in North Sumatera and Aceh. *2.* Data and information on interspecific variations of mangrove species in North Sumatera and Aceh. *3.* Database on mangrove species to be used by stakeholders in managing mangroves in Indonesia. *4.* Publication in an international reputable scientific journal.	DIPA 2021	None
24	Study of Superior Tropical Fruits for the Development and Empowerment of Agricultural Vocational High Schools in Indonesia: Development of Derivative Product	Dr Ir Supriyanto	Long-term goals of the SMARTS BE Program Toward the Transformation of Creativity and Innovation of Alternative Technology (KITA) Digital Home:	SMARTS-BE Partner Vocational High Schools (Education Office of Province)	*1.* SMARTS-BE workshop on KITA Digital Home. *2.* Advanced research and	DIPA 2021	

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
	from Fruit and Vegetable in Partner Vocational High Schools in Central Java, East Java, and Bali		*1.* To improve the competence, creativity and innovation of educators, education staff and students in the agricultural sector in Indonesia and Southeast Asia. *2.* To provide various products based on creativity and innovation of alternative technology (KITA) Specific objectives of the 2021 activities are: 1. To conduct research and technical guidance with partner VHS (VHS 2 Slawi, VHS 1 Kalibagor, VHS 1 Bawen, VHS 1 Temanggung, VHS 1 Salam, VHS 1 Tulungagung, VHS 1 Nganjuk, VHS 5 Jember, VHS PP Tegalampel, and VHS 1 Badung) for fruit production and handling post-harvest and processed product plans. 2. To conduct training courses on Puree technology and IoT greenhouse. 3. To conduct dissemination of		technical guidance on selected SMARTS-BE Partner VHS. *3.* IoT greenhouse. *4.* Derivative products from fruit (Puree). *5.* Smart monitoring system application. *6.* Training courses on: *a.* Puree technology. *b.* IoT greenhouse. *7.* Information Dissemination: *a.* SMARTS-BE Talk Series. *b.* Success indicators for the selection of 10 model schools. *c.* Inclusion of SMARTS-BE Guidelines in the school's curriculum. *d.* Roadmap document. *e.* Technical guidance for model schools. *f.* Capacity building for underdeveloped vocational high		

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
			knowledge and information through Webinar SMARTS-BE TALK SERIES (9 times) and by producing books, leaflets, learning videos, etc.		schools.		
25	Study of SuperiorTropical Fruits for the Development and Empowerment of Agricultural Vocational High Schools in Indonesia: Development of Derivative Product from Fruit and Vegetable in Partner Vocational High Schools in Aceh, Bangka Belitung, South Sumatera, and Lampung	Dr Ir Dwi Putro Tejo Baskoro, MSc	General objective: To implement the empowerment programs and capacity building for agricultural vocational high schools through the development of superior tropical fruits. Specific objectives: *1.* To apply expert system in the development of intensive fruit orchards based on Best Agricultural Practices (BAP). *2.* To develop derivative fruit products based on independent production. *3.* To conduct training course and certification	SMARTS-BE Partner Vocational High Schools (Education Office of Province)	*1.* Best agricultural practices technology packages for specific location of superior fruit crops. *2.* Professionals/skilled personnels in managing fruit orchards. *3.* Fruit certification for modern market. *4.* Professional staff in producing various derivative products from fruit. *5.* Various derivative products from tropical fruit in every vocational high schools.	DIPA 2021	

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
			on post-harvest fruit handling for selected fruit with topic: • Training and technical guidance for the development of derivative products from fruit industry.				
26	Study of Superior Tropical Fruits for Development and Empowerment of Agricultural Vocational High Schools in Indonesia: Development of Derivative Product from Fruit and Vegetable in Partner Vocational High Schools in West Nusa Tenggara and West Java	Dr Ir Omo Rusdiana, MSc	Long-term goals of the SMARTS BE Program Toward the Transformation of Creativity and Innovation of Alternative Technology (KITA) Digital Home: 1. To improve the competence, creativity and innovation of educators, education staff and students in the agricultural sector in Indonesia and Southeast Asia. 2. To provide various products based on creativity and innovation of alternative technology (KITA) The specific objectives of the 2021 activities are: 1. To conduct research and technical guidance with partner VHS (VHS 1 Cibadak, VHS 1 Pacet dan VHS PPN Mataram) and to improve the health of fruit crops in SMARTS-BE	SMARTS-BE Partner Vocational High Schools (Education Office of Province)	1. SMARTS-BE workshop on KITA Digital Home. 2. Advanced research and technical guidance on selected SMARTS-BE Partner VHS. 3. IoT greenhouse. 4. Derivative products from fruit (Puree). 5. Smart monitoring system application 6. Training courses on: *a*. Puree technology *b*. IoT greenhouse. 7. Information Dissemination: a. SMARTS-BE Talk Series b. Success indicators for the selection of 10 model schools c. Inclusion of SMARTS-BE Guidelines in the school's curriculum. d. Roadmap document. e. Technical guidance for model schools. f. Capacity building for underdeveloped vocational high schools.	DIPA 2021	

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
			Partner Vocational High Schools in West Nusa Tenggara and West Java (VHS 2 Subang, VHS 1 Cibadak, VHS 1 Pacet, VHS PPN Mataram and VHS 1 Bayan in Mataram). 2. To conduct training courses on Puree technology and IoT greenhouse. 3. Information dissemination.				
27	Study of SuperiorTropical Fruits for The Development and Empowerment of Agricultural Vocational High Schools in Indonesia: Development of Derivative Product from Fruit and Vegetable in Partner Vocational High Schools in West Java and DKI Jakarta	Surapati, SP	General objective: To implement the empowerment programs and capacity building for agricultural vocational high schools through the development of derivative products from fruits and vegetables. The specific objectives are: 1. To increase the growth and development of fruit crops planted in 2018, through an intensive optimization for fruit crops growth program by doing good maintenance refering to BAP (Best Agricultural Practice). 2. To improve plant health for supporting fruit crops productivity throughout the season according with BAP (Best	SMARTS-BE Partner Vocational High Schools (Education Office of Province)	1. Production of fruit and vegetable crops throughout the seasons to be processed into various agricultural derivative products. 2. Alternative technology packages for processing agricultural derivative products from fruits and vegetable crops. 3. SOP and videos on the manufacture of fruit crops to support the digitization of learning activities in schools. 4. Technical guidance activities in SMARTS-BE partner schools to realize vocational high school graduates who are accepted in the business and industrial worlds.	DIPA 2021	

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
			Agricultural Practice) system. 3. To manufacture derivative products from superior fruits and vegetables to increase added value of agricultural products in SMARTS-Be Partner Vocational High Schools Region IV (VHS 57 Jakarta, VHS 63 Jakarta, VHS 1 Kemang Bogor and VHS 4 Bogor). 4. To develop derivative products from fruits and vegetables such as sticks, chips, perfume, puree, jam, syrup, and other products. 5. To develop a circular economy based on organic waste. 6. To develop and improve the curriculum for increasing the competence of educators, education staffs and students. 7. To improve competence, creativity and innovation of educators, education staffs and students in Indonesia and Southeast Asia in the agricultural sector. 8. To produce various products based on creativity and alternative technology innovation.		5. Professional/skilled personnel in the field of processing agricultural derivative products from fruits and vegetables. 6. Agricultural derivative products to be sold in the offline and online markets, as the forerunner to realize the SMARTS-BE marketplace. 7. The emergence of young entrepreneurs (school-age) based on fruit and vegetables crop commodities developed in VHS. 8. Cleaner environment which provides benefits for students and crops with the existence of waste-based circular economy activities in schools. 9. Various kinds of waste processed products that can support the improvement of school environment, growth and development of crops in schools. 10. Online Hybrid Learning System (OHLS) for producing agricultural derivative products. 11. A model school based on STEM MM.		

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
					12. Student entrepreneur.		
28	Smart System Development for SMARTS-BE Program: "Integration of Monitoring System Based on Geolocation and Expert System for the Diagnostics of Plant Pests and Diseases"	Slamet Widodo Sugiarto	1. To develop and integrate applications based on web and mobile systems for monitoring based on geolocation and expert system for the diagnostics of plant pests and diseases. 2. To design a distance learning application model based on Project Based Learning (PBL) and Problem Based Learning (PBL).	SMARTS-BE Partner Vocational High Schools (Provincial Office of Education)	1. Improved knowledge, ability and competence of educators and students in utilizing distance learning technology to support the success of the SMARTS BE program. 2. Improved adaptation of educators and students in implementing distance learning models to increase resilience toward anomalous conditions in the learning process.	DIPA 2021	
29	Smart Hydro-Aquaponic (Hypo) using Internet of Things (IoT) Powered by Hybrid Solar System	Dr Ayi Rahmat, SPi, MSi	1. To ensure continuous production of hydroponic plants through automation of instruments that accurately measure the required parameters. 2. To remotely monitor and control the hydroponic system in plant cultivation. 3. To develop SEAMEO BIOTROP as a center for superior hydroponic cultivation technology based on the Internet of Things for decision support systems.	SMARTS-BE Partner Vocational High Schools (Education Office of Province)	1. Plant growth data as a result of automation and remote monitoring and control systems. 2. Publication in an international reputable scientific Scopus indexed journal. 3. Intellectual property rights (IPR) for instrumentation and control systems supported by hybrid solar systems (solar + grid) for optimal growth with IoT Technology. 4. Renewable energy and hydroponic plant growth monitoring systems using the internet as an implementation of technology 4.0.	DIPA 2021	

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
					5. Optimal production of the hydroponic cultivation system. 6. Monitoring system that can be replicated by hydroponic farmers.		
30	Process of Making Extract, Concentrate and Powder Drink from Lemon Var. California	Elvina Agustin Rahayu, MP	1. To overcome the over-supply of lemon production. 2. To obtain the best method for obtaining processed lemon var. california products according to the characteristics contained in the food category. 3. To maintain the important components of the product by using a simple and efficient method so that it can be applied in the vocational high school environment.	SMARTS-BE Partner Vocational High Schools (Education Office of Province)	1. SOP for making powdered drinks from lemon var california juice extract with consistent nutritional content, following Government regulation on food products.	DIPA 2021	

C. Completed Research Projects from PhD Thesis Support Grantees

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
1	Systematic Evidence Evaluation on Industry 4.0 Digital Technologies in Indonesian Food and Agricutural Sector and Its Implication on Pre- and Post-Covid-19 Pandemic	Silvia Uthari Nuzaverra Mayang Mangurai, MSi; Dr. Achmad Solikhin, SHut; Eti Artiningsih Octaviani, SHut, MSi; Anidah, SSi, MTP	1. To investigate all studies and applications of industry 4.0 digital technologies in Indonesian food and agricutural sector (livestock, crops, fishery, and forestry). 2. To provide research and industry mapping of the utilization of digital technologies 4.0 in food and agriculture sector. 3. To identify the gaps occurrences between research and industry in regards to food and agriculture studies and industrial applications, and the implications of the use of digital technologies 4.0 during the Covid-19 pandemic.	Government, scientific community	1. Updated information/data. 2. Identification of agritech industries/startups. 3. Recommendations for digital technologies 4.0 policy.	DIPA 2021	None

D. Completed Research Projects from School Garden Teacher

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
1	Formulation of Liquid Organic Waste to Increase the Resistance of Shallots (*Allium ascalanicum* L.) from *Fusarium* Wilt Disease	Mariani, SP, MSi; Sugiarta; Siti Aminah	To determine the formulation of liquid organic waste which can increase the resistance of shallots (*Allium ascalanicum* L.) from *Fusarium* wilt disease.	Government, scientific community	1. Formulation of liquid organic waste that can increase the resistance of shallots (*Allium ascalanicum* L.) from *Fusarium* wilt disease.	DIPA 2021	None
2	Establishment of Green Integrative Models As A Promotion Media of Biodiversity, Food And Nutrition Sustainable for Students in Kota Kinabalu Indonesian School	Nayudin Hanif, SPd, Gr; Dr Supriyanto, DEA; Susmin Ito, SPd, Gr; Siti Fatimah, SPd, Gr; Ahmad Arif Febriyanto, SPd, Gr; Endang Sari P. Nababan, SPd, Gr; Rangga Bhakty Iskandar, SPd, Gr	1. To prepare an integrated GREEN (Garden Resources, Education, and Environment Nexus) Model as learning media. 2. To promote biodiversity and processed foods. 3. To provide knowledge on sustainable nutritional content in schools.	Government, scientific community	1. Integrated GREEN Model as learning media 2. Media to promote biodiversity and processed food. 3. Knowledge on sustainable nutritional content. 4. Collaborative projects through Project-Based Learning.	DIPA 2021	None
3	Making Simple Distillation Equipment Prototypes in Essential Oil Business Development at Agricultural Vocational High School	Anas, SAg, MA; Roynisfan, SPd, MPd; Abdul Kadir	To create a simple distillation equipment that can be made by students for practicing agricultural-based oil refining	Government, scientific community	A simple distillation equipment for extracting essential oil.	DIPA 2021	None
4	Utilization of Kelor Leaves for the Making of Environmentally Friendly Liquid Handwashing in the Era of Pandemic Covid 19 in SMA Negeri 2 Padalarang	Yulvianah, SPd;	1. To determine the antibacterial activity of Moringa leaf extract against Staphylococcus aureus bacteria, and other types of bacteria. 2. To determine the most appropriate concentration of Moringa leaf extract having the greatest inhibitory power, especially	Government, scientific community	1. Natural antibacterial liquid hand soap containing the extract of Moringa leaves. 2. Students' innovations.	DIPA 2021	None

No.	Title of Research Projects	Researcher/s	Objective(s)	Target Beneficiaries	Output and Impacts Produced	Funding Sources	Partners
			against Staphylococcus aureus bacteria, and other types of bacteria. 3. To compare growth inhibition of Staphylococcus aureus (v/v%) on the maceration concentration of moringa leaves with growth inhibition of Staphylococcus aureus bacteria (v/v%) after being treated by liquid hand soap without Moringa leaves. 4. To foster the students' creativity in creating designs, methods, and installation prototypes for making hand soap made from moringa leaves that are inexpensive and safe for the body and the environment.				

Appendix 2
Training Courses, Workshops, Group Discussions, Seminars and other learning activities

A. National Training, Seminar, Workshop

No	Acitvities	Category	Date	Source of Fund	Collaborating Agency	Methods	Number of Participants		
							Male	Female	Total
1	Technical Guidance on Fumigation	Training	13 - 14 July 2021	DIPA		Online	181	98	279
2	Talk of Affiliate Scientist (TAS) – 4	Webinar	15 July 2021	DIPA		Online	35	34	69
3	BIOTROP to School Seri 9 : 'Remote Sensing dan GIS'	Webinar	19 July 2021			Online	128	185	313
4	Bimbingan Teknis Kultur Jaringan untuk Penyediaan Bibit Rumput Laut Kotoni	Training	26-29 July 2021	DIPA		Online	310	284	594
5	Manfaat Adopsi Tanaman Biotek bagi Petani	Webinar	18 August 2021			Online			0
6	Talk of Affiliate Scientist (TAS) – Seri 5: 'Peran Entomologi dan Pengendalian Hama dalam Mengenal Food Safety'	Webinar	24 August 2021	DIPA		Online	66	52	118
7	Bimbingan Teknis Pertanian Perkotaan : Budidaya Akuaponik	Training	25 - 31 August 2021	DIPA		Online	92	107	199
8	BIOTROP TO SCHOOL (BtS) Seri 10:'Survey Keanekaragaman Hayati : Mendalami Biologi Tropi kamelalui Hobi Pemetaan'	Webinar	30 August 2021			Online	57	52	109
9	Bimbingan Teknis Pertanian Perkotaan : Budidaya Hidroponik	Training	2 - 13 September 2021	DIPA		Online	50	70	120
10	COACHING CLINIC Teknik Budidaya dan Pemeliharaan Pohon Langka Nusantara	Workshop	14 - 16 September 2021	DIPA	IPB University	Blended	159	130	289
11	Bimbingan Teknis Isolasi dan Identifikasi Cendawan Penghasil Mikotoksin	Training	28 - 30 September 2021	DIPA		Online	41	86	127
12	Bimbingan Teknis Budidaya Jamur Tiram dan Jamur Kuping serta Pengolahannya	Training	1-3 November 2021	DIPA		Online	171	219	390
13	Bimbingan Teknis "Save Biodiversity" dalam rangka Merdeka Belajar (MBKM) Camp	Training	8-12 November 2021	DIPA		Offline	34	27	61
14	Pelatihan Pembuatan Pakan Ikan Mandiri	Training	29 Nov - 1 Dec 2021	DIPA		Offline	12	11	23
15	Bimbingan Teknis Fish Apartement Untuk Guru/Kepala Sekolah SMK Kelautan Perikanan	Training	6-8 December 2021	DIPA		Blended	28	22	50

16	Talk of Affiliate Scientist (TAS) – Series 6; Biotechnology Innovations for Food Security and Environmental Sustainability in the Changing Times	Webinar	16 December 2021	DIPA		Online	16	19	35
	Lokakarya dan Diskusi Terpumpun: Identifikasi Kebutuhan Pengembangan SMK di Bidang Biologi Tropis	Workshop	23 February 2022	DIPA	Direktorat SMK, Ditjen Pendidikan Vokasi, Kemendikbudristek	Blended	87	121	208
	Lokakarya dan Diskusi Terpumpun: Potensi Implementasi Program Merdeka Belajar-Kampus Merdeka	Workshop	9 March 2022	DIPA	Direktorat Jendral Pendidikan Tinggi, Riset, dan Teknologi Direktorat Kemitraan dan Penyelarasan Dunia Usaha dan Dunia Industri Direktorat Akademik Pendidikan Tinggi Vokasi	Blended	35	48	83
	Talkshow Suara Cendekia Indonesia Selamatkan Alam (SCISA) Series 1: Kupas Tuntas Dampak dan Risiko Lingkungan Pembangunan IKN Nusantara	Talkshow	11 March 2022	DIPA	Ikatan Cendekia Muslim Indonesia (ICMI) DPP HA IPB DKHA IPB	Blended	101	74	175
	BIOTROP to School (BTS) : “Implementasi Program Save Biodiversity dalam Rangka Mendukung Program MBKM”	Webinar	31 March 2022			Online	31	49	80
	TALK OF AFFILIATE SCIENTIST (TAS): “Prospek Pengembangan Kacang Sacha Inchi di Indonesia”	Webinar	12-Apr-22	DIPA		Online	49	62	111
	BIOTROP to School (BTS) : "Kultur Jaringan Tanaman Hias Daun"	Webinar	26-Apr-22			Online	108	214	322
	FGD Rumusan Strategi Implementasi Program MBKM	Workshop	18 Mei 2022	DIPA	PMO Diktiristek Dit Kemitraan	Online	4	5	9

					dan Penyelarasan Dunia Usaha dan Dunia Industri				
	Bimbingan Teknis Kultur Jaringan untuk Penyediaan Bibit Rumput Laut Kotoni	Training	23 - 25 Mei 2022	DIPA	UNIDO dan GQSP	Offline	11	10	21
	Lokakarya Pengembangan Kerjasama Multi Pihak Program Agro-Eko-Eduwisata SEAMEO BIOTROP dalam Mendukung Pendidikan Konservasi Biodiversitas	Workshop	25 Mei 2022	DIPA		Blended			0
	BIOTROP to School (BTS): (1). SuperMy: Peran Mikoriza di Lahan Marginal (2). Promosi Program Unggulan BIOTROP Tahun 2022: "Save Biodiversity for Future Generation"	Webinar	27 Mei 2022			Online	47	63	110
	Talk of Affiliate Scientist: Larva Si Lalat Hitam yang Kaya Nutrisi: BSF sebagai Bahan Baku Pakan Ikan	Webinar	30 Mei 2022	DIPA		Online	99	85	184
	In-House Training Pengenalan dan Pengelolaan Instrumen Bioteknologi	In House Training	30 - 31 Mei 2022	DIPA		Offline	7	13	20

B. In-country, Regional and International Training

No	Acitvities	Category	Level	Date	Source of Fund	Collaborating Agency	Methods	Number of Participants		
								Male	Female	Total
1	Inception Workshop on Strengthening Capacities for Prevention, Control and Management of Invasive Alien Species (SMIAS) in Indonesia	Workshop	International	12 - 13 July 2021	DIPA	FAO	Online	94	82	176
6	International Workshop on Climate Change	Workshop	International	31 July 2021	DIPA	IPB University, Pi-Area	Online			0
13	Regional Webinar : What does The Peatland Ecosystem Face in The Future?	Webinar	Regional	17-Sep-21	DIPA		Online	85	108	193
15	International Workshop on"Indonesia Sea as Global Climate Engine : Climate Change and Coastal Resilience"	Workshop	InterNational	7 – 8 October 2021	DIPA & SEDF	IPB University, PKSPL IPB Univeristy	Blended	234	231	465
16	Strengthening collaborative ties between BIOTROP and MSU and Increasing Regional Visibility_ What BIOTROP and MSU can both do together	Webinar	Regional	19 October 2021	DIPA	Mindanao State University	Online	16	39	55
21	Low Level Presence Information Sharing Forum in Asia Pacific (APAC) Region	Webinar	Regional	9 December 2021						0
35	Talk of Affiliate Scientist (TAS) goes to SEA: "Weeds and Invasive Alien Plant Species with their Management"	Webinar	Regional	22 June 2022	DIPA		Online	39	72	111

Appendix 3
List of Memorandum of Understanding (MoU)/Memorandum of Agreement (MoA) and Contracts

No	Organization/Agency	Date Signed	Subject of Cooperation	Duration
1	CV PIAREA	15 July 2021	Pembinaan dan Pengembangan Sumber Daya Manusia Training and Development of Human Resources	3 Years
2	Mindanao State University	28 July 2021	Pelaksanaan pendidikan, penelitian, pengabdian kepada masyarakat dan pengembangan Kelembagaan Implementation of education, research, community service and institutional development	
3	PT TRI AYUMON TERPADU	29 July 2021	Pengujian Lapangan Efikasi Fumigan Kingphos 57 P Field Testing of Kingphos 57 P Fumigant Efficacy	n/a
4	PT TRI AYUMON TERPADU	29 July 2021	Kerja sama dibidang pengelolaan hama gudang Cooperation in the field of warehouse pest management	3 Years
5	Sedana Agro - Hubei Ezhou Characteristic Seed Industry	24 August 2021	Screening, Demonstration, and commercialization of high quality Sorghum Variety for Wine and Specialized Herbicide	1 Year
6	Forest and Climate Change Programme Financial Module (FORCLIME-FC)	06 September 2021	Pelaksanaan ToT Bagi Pelaksana Program FORCLIME-FC Implementation of Teaching of Trainers Activity for FORCLIME-FC Program	3 Months
7	PT Prima Kelola	16 September 2021	Proposal bersama dan peminjaman staff Joint collaboration and staff exchange	3 Months
8	PT Prima Kelola	16 September 2021	Kerja Sama Kelembagaan Insitutional Cooperation	3 Years
9	Kastamonu University	21 September 2021	Pelaksanaan pendidikan, penelitian, pengabdian kepada masyarakat dan pengembangan kelembagaan Implementation of education, research, community service and institutional development	3 Years

10	Fakultas Kehutan dan Lingkungan - Institut Pertanian Bogor (IPB)	22 September 2021	Kerja Sama Pendidikan, Penelitian, dan Pengabdian pada Masyarakat dalam rangka Kampus Merdeka- Merdeka Belajar Cooperation in Education, Research and Community Service in the framework of the Freedom-Free Learning Campus	3 Years
11	PT Sygenta	25 September 2021	pengujian kemanan lingkungan jagung produk rekayasa environmental safety testing of engineered corn products	3 Years
12	Croplife	20 October 2021	Aktivitas Komunikasi Bioteknologi di Indonesia Biotechnology Communication Activities in Indonesia	3 Years
13	Fakultas Ilmu Sosial, Universitas Padang	27 October 2021	Bimtek peningkatan kompetensi dosen bidang penginderaan jauh dan SIG (FISIP) Technical guidance for competency improvement for lecturers in the field of remote sensing and GIS (FISIP)	n/a
14	Botani Seed	15-Nov-21	Perbanyakan Bibit Unggul Tanaman Melalui Kultur Jaringan dan Pemasarannya Propagation of Superior Plant Seeds Through Tissue Culture and Its Marketing	3 Years
15	International Service for theAcquisition of Agri-biotech Application (ISAA)	15-Nov-21	Perpanjangan kembali Indonesian Biotechnology Information Center (Indo-BIC) Extension of the Indonesian Biotechnology Information Center (Indo-BIC)	3 Years
16	Pemerintah Kabupaten Tabanan	16-Nov-21	Penelitian, Pengembangan teknologi, pelatihan dan bimtek serta pengabdian kepada masyarakat dibidang biologi tropis di kabupaten Tabanan Research, technology development, training and technical guidance as well as community service in the field of tropical biology in Tabanan district	3 Years
17	Fakultas Perikanan dan Ilmu Kelautan, Universitas Teuku Umar	22-Nov-21	Program Magang Mahasiswa dan Dosen dalam mendukung MBKM Student and Lecturer Internship Program in support of MBKM	1 Year
18	Fakultas Pertanian, Universitas Teuku Umar	22-Nov-21	Program Magang Mahasiswa dan Dosen dalam mendukung MBKM Student and Lecturer Internship Program in support of MBKM	1 Year
19	Universitas Teuku Umar	22-Nov-21	Pelaksanaan pendidikan, penelitian, pengabdian kepada masyarakat dan pengembangan kelembagaan	3 Years

			Implementation of education, research, community service and institutional development	
20	The Canadian Grains Council	1 December 2021	Kerja sama diskusi terpumpun "Low level presence policy sharing forum in Asia Pasific (APAC) Region Collaboration on Focus Group Discussion "Low level presence policy sharing forum in Asia Pacific (APAC) Region	n/a
21	Universitas Mataram	2 December 2021	Penelitian, Pelatihan dan Pengabdian Kepada Masyarakat Mendukung Implementasi Merdeka Belajar-Kampus Merdeka (MBKM) Research, Training and Community Service Supporting the Implementation of Independent Learning-Independent Campus (MBKM)	3 Years
22	Fakultas Pertanian, Universitas Mataram	2 December 2021	Implementasi program MBKM melalui kegiatan Merdeka Belajar Implementation of the MBKM program through Merdeka Belajar activities	1 Year
23	Fakultas Teknologi Pangan dan Agroindustri, Universitas Mataram	2 December 2021	MoA : Kajian Biodiversitas Tropis MoA : Study in the fields of Tropical Biodiversity	1 Year
24	SMK Negeri Tolikara	16 December 2021	Peningkatan Sumberdaya manusia untuk tenaga pengajar, siswa dan alumni Improvement of human resources for teaching staff, students and alumni	3 Years
25	PT J Resources Bolaang Mongondow	11-Apr-22	Adendum Perjanjian Jasa Studi Pengelolaan Air Asam Tambang Secara Pasif untuk Area lanjut Addendum to Passive Acid Mine Water Management Study Service Agreement for Advanced Areas	10 Months
26	PT Tirta Investama	11-Apr-22	Kontrak berlangganan Air Minum galon merk Aqua Subscription contract for drinking water gallons of the Aqua brand	1 Year

Appendix 4

List of Post and Undergraduate Students Who Conducted Research, Internship and On-The-Job Training in SEAMEO BIOTROP

NO	Name	Institution	Level	Research Title	Unit Affiliated with	Supervisor
1	Cut Nurrahma Diana Putri	Faculty of Mathematics and Natural Sciences, Univ Syiah Kuala, Banda Aceh	Undergraduate	Anubias plant propagation techniques *in vitro*	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
2	Nazhatul izzah	Faculty of Mathematics and Natural Sciences, Univ Syiah Kuala, Banda Aceh	Undergraduate	*In vitro* seaweed propagation technique	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
3	Nurtanfizi	Faculty of Mathematics and Natural Sciences, Univ Syiah Kuala, Banda Aceh	Undergraduate	Strawberry propagation technique *in vitro*	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
4	Anandita Rizka Wulandari Rahman	SMK Analis Kimia YKPI Bogor	Student	Determination of Aflatoxin B_1 Detection Limit by AOAC Method by TLC	Food and Feed Laboratory	Ratnaningsih, S.Si
5	Mochamad Dimas Andhika	SMK Analis Kimia YKPI Bogor	Student	Analysis of NH_3 and NO_2 Levels in Ambient Air	Water and Air Laboratory	Budi Cahyadi, S.Si
6	Priyanka Tazkiyannafasa	SMK Analis Kimia YKPI Bogor	Student	Analysis of NH_3 and NO_2 Levels in Ambient Air	Water and Air Laboratory	Budi Cahyadi, S.Si
7	Sekar Laras	SMK Analis Kimia YKPI Bogor	Student	Analysis of NH_3 and NO_2 Levels in Ambient Air	Water and Air Laboratory	Budi Cahyadi, S.Si
8	Sestia Syahra Kusuma	SMK Analis Kimia YKPI Bogor	Student	Determination of pH and Base Saturation in Mineral Soils in Oil Palm Plantation	Soil and Plant Laboratory	Eko Purwiyanto
9	Zelvan Illiyyin Latiif Mulkhoir	SMK Analis Kimia YKPI Bogor	Student	Determination of pH and Base Saturation in Mineral Soils in Oil Palm Plantation	Soil and Plant Laboratory	Eko Purwiyanto
10	Nopiana elia Putri Sitanggang	Faculty of Biology, Satya Wacana Christian University	Undergraduate	Efek karbondioksida terhadap Produksi Aflatoksin pada *Aspergillus flavus in vitro* di Laboratorium Fitopatologi SEAMEO BIOTROP [Effect of carbon dioxide on aflatoxin production in *Aspergillus flavus in vitro* at Phytopathology Laboratory of SEAMEO BIOTROP]	Phytopathology Laboratory	Nijma Nurfadila, M.Si

11	Indah Sari Pakpahan	Faculty of Biology, Satya Wacana Christian University	Undergraduate	Efek Aktivitas Air (aw) terhadap Produksi Aflatoksin pada *Aspergillus flavus in Vitro* di Laboratorium Fitopatologi SEAMEO BIOTROP [Effect of Water Activity (aw) on Aflatoxin Production in *Aspergillus flavus in Vitro* at Phytopathology Laboratory of SEAMEO BIOTROP]	Phytopathology Laboratory	Ir. Ina Retnowati
12	Salsabila Adya M.P	Faculty of Agriculture, Brawijaya University	Undergraduate	Studi Kompetisi Tanaman Buncis Tegak (*Phaseolus vulgaris* L.) dan Gulma Ketul (*Bidens pilosa* L.) dengan Metode Replacement Series [Competition Study of Kidney Beans (*Phaseolus vulgaris* L.) and Ketul Weeds (*Bidens pilosa* L.) with Series Substitution Method]	Weeds and Invasive Alien Plant Spesies (IAPS)	Saiful Bachri, S.Si
13	Harun Dwi Subakti	Faculty of Agriculture, Brawijaya University	Undergraduate	Studi Kompetisi Tanaman Kacang Tunggak (*Vigna unguiculata* L. Walp) dan Gulma Ketul (*Bidens Pilosa* L.) dengan Metode Replacement Series [Competition Study of Cowpea (*Vigna unguiculata* L. Walp) and Ketul Weed (*Bidens pilosa* L.) with Replacement Series Method]	Weeds and Invasive Alien Plant Spesies (IAPS)	Saiful Bachri, S.Si
14	Eldo Iriyo Chamida madina	Faculty of Agriculture, Brawijaya University	Undergraduate	Respon Tanaman Pakcoy (*Brassica rapa* Var. *chinensis*) terhadap Pemberian Bioenzim dan Rendaman Kulit Bawang Merah pada Larutan Nutrisi dengan Sistem Hidroponik Rakit Apung di SEAMEO BIOTROP [Response of Pakcoy Plants (*Brassica rapa* Var. *chinensis*) to Application of Bioenzymes and Shallot Skin Soak in Nutrient Solution with Floating Raft Hydroponic System at SEAMEO BIOTROP]	Greenhouse Hydroponic	Riana Hartati, S.SI

15	Dea Fazria	Faculty of Agricultural Industrial Technology, Padjadjaran University, Bandung	Undergraduate	Proximate Analysis	Food and Feed Laboratory	Ratnaningsih, S.Si
16	Zahra Assyariq	SMKN 1 Cibadak	Student	Isolasi Cendawan pada Biji Kacang Tanah di Laboratorium Fitopatologi SEAMEO BIOTROP [Fungi isolation on Peanut Seeds at Phytopathology Laboratory of SEAMEO BIOTROP]	Phytopathology Laboratory	Nijma Nurfadila, M.Si
17	Fauziah Syarani	SMKN 1 Cibadak	Student	Isolasi Cendawan pada Biji Kacang Tanah di Laboratorium Fitopatologi SEAMEO BIOTROP [Fungi isolation on Peanut Seeds at Phytopathology Laboratory of SEAMEO BIOTROP]	Phytopathology Laboratory	Nijma Nurfadila, M.Si
18	Siti Khoerunnisa	SMKN 1 Cibadak	Student	Proximate Analysis	Food and Feed Laboratory	Ratnaningsih, S.Si
19	Annisa Ahmad Alifa	SMKN 1 Cibadak	Student	Isolasi Cendawan pada Tanaman Kacang Tanah [Fungus Isolation on Peanut Plants]	Food and Feed Laboratory	Ratnaningsih, S.Si
20	Farid Nurkholis	SMKN 1 Temanggung	Student	Budidaya dan Produksi Sayuran dengan teknik Hidroponik [Vegetable Cultivation and Production with Hydroponic techniques]	Greenhouse Hydroponics	Riana Hartati, S.SI
21	Hafidz Arya Hafifi	SMKN 1 Temanggung	Student	Budidaya dan Produksi Sayuran dengan teknik Hidroponik [Vegetable Cultivation and Production with Hydroponic techniques]	Greenhouse Hydroponics	Riana Hartati, S.SI
22	Ahmad Malik Abdul Azis	SMKN 1 Temanggung	Student	Mapping with GIS	Remote Sensing and Ecology Laboratory	Slamet Widodo Sugiarto, S.Si
23	Aji Satria Ekatama	SMKN 1 Temanggung	Student	Mapping with GIS	Remote Sensing and Ecology Laboratory	Slamet Widodo Sugiarto, S.Si
24	Setiyaki Aruma Nandi	SMKN 1 Temanggung	Student	Mapping with GIS	Remote Sensing and	Slamet Widodo Sugiarto, S.Si

					Ecology Laboratory	
25	Finda Wahyuti	SMKN 1 Temanggung	Student	Mapping with GIS	Remote Sensing and Ecology Laboratory	Slamet Widodo Sugiarto, S.Si
26	Gita Puspita Sari	SMKN 1 Temanggung	Student	Mapping with GIS	Remote Sensing and Ecology Laboratory	Slamet Widodo Sugiarto, S.Si
27	Agung Pratama	Agrotechnology Study Program, Faculty of Industrial Technology, Gunadarma University	Undergraduate	Cultivation of kailan (Brassica oleraceae var. achepala) plants hydroponically at SEAMEO BIOTROP	Greenhouse Hydroponics	Riana Hartati, S.Si
28	Salsabila Dian Safitri	Agrotechnology Study Program, Faculty of Industrial Technology, Gunadarma University	Undergraduate	Extraction and Potential Use of Essential Oils and Evaluation of Essential Oil-Based Products	Natural Product Laboratory	Dr. Supriyanto
29	Itsnaini Izzatul Jannah	Agrotechnology Study Program, Faculty of Industrial Technology, Gunadarma University	Undergraduate	Seed bank of weeds in the SEAMEO BIOTROP experiment field	Weeds and Invasive Alien Plant Spesies (IAPS)	Saiful Bachri, S.Si
30	Irena Meiliyana	Agrotechnology Study Program, Faculty of Industrial Technology, Gunadarma University	Undergraduate	Penerapan Software Plantnet untuk Identifikasi Pertumbuhan Gulma pada Areal Penanaman Jeruk Lemon (California) di SEAMEO BIOTROP, Bogor, Jawa Barat [Application of Plantnet Software for Identification of Weed Growth in Lemon (California) Planting Areas at SEAMEO BIOTROP, Bogor, West Java]	Weeds and Invasive Alien Plant Spesies (IAPS)	Saiful Bachri, S.Si
31	Nigel Verrel	Faculty of Biotechnology, Duta Wacana Christian University	Undergraduate	Plant Cultivation by using Tissue Culture Technique	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
32	Sarah Mega Pratena	Faculty of Biotechnology, Duta Wacana Christian University	Undergraduate	Plant Cultivation by using Tissue Culture Technique	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
33	Florencia Angel Meliana	Faculty of Biotechnology, Duta Wacana Christian University	Undergraduate	Plant Cultivation by using Tissue Culture Technique	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si

34	M Haikal Faturrachman	SMK Farmako Medika Plus	Student	Determination of pH and Base Saturation in Mineral Soils	Soil and Plant Laboratory	Eko Purwiyanto
35	M Naufal Effendy	SMK Farmako Medika Plus	Student	Determination of pH and Base Saturation in Mineral Soils	Soil and Plant Laboratory	Eko Purwiyanto
36	Sanjaya Ramadhan	SMK Farmako Medika Plus	Student	Analysis of NO_2 Levels in Ambient Air	Water and Air Laboratory	Achmad Syuhada, S.Si
37	Febriani nadya Eka Pratiwi	Faculty of Halal Food Science, Djuanda University, Bogor	Undergraduate	Pengujian kandungan aflatoksin B_1 pada jagung dengan metode Kromatografi Lapis Tipis (KLT) di SEAMEO BIOTROP [Testing the content of aflatoxin B_1 in corn using Thin Layer Chromatography (TLC) at SEAMEO BIOTROP]	Food and Feed Laboratory	Santi Ambarwati, M.Si
38	Philena Nisivian	Faculty of Halal Food Science, Djuanda University, Bogor	Undergraduate	Pengujian Aflatoksin Pada Kacang Tanah Secara Kromatografi Lapis Tipis (KLT) dI Laboratorium Servis SEAMEO BIOTROP [Aflatoxin Testing in Peanuts by Thin Layer Chromatography (TLC) at SEAMEO BIOTROP Service Laboratory]	Food and Feed Laboratory	Santi Ambarwati, M.Si
39	Nadhifatul Khafidzoh	Faculty of Animal Husbandry and Agriculture, Diponegoro University	Undergraduate	Plant Cultivation by Using Tissue Culture Technique	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
40	Analisa Nur Islami	Faculty of Animal Husbandry and Agriculture, Diponegoro University	Undergraduate	Plant Cultivation by using Tissue Culture Technique	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
41	Martono	SMK Pelita Ciampea	Student	Office Administration	Finance and Accounting Department	Nopi Ramli
42	Karmila	SMK Pelita Ciampea	Student	Office Administration	Services Laboratory and Innovation Department	Philena Nisivian
43	Bella Octavia	Faculty of Health Sciences, Esa Unggul University	Undergraduate	Efektivitas Perkecambahan Biji Akasia (*Acacia mangium*) Generasi M2 [Germination Effectiveness of Acacia Seeds (*Acacia mangium*) Generation M2]	Biotechnology Laboratory	Anidah, M.T.Pn

44	Sofia Florivena Barreto Diaz	Faculty of Health Sciences, Esa Unggul University	Undergraduate	Uji daya kecambah benih akasia (*Acacia mangiu*m) dengan menggunakan metode skarifikasi [Test the germination of acacia (*Acacia mangium*) seeds using the scarification method]	Biotechnology Laboratory	Anidah, M.T.Pn
45	Astrid Ayu Sekar	Faculty of Biotechnology, Duta Wacana Christian University	Undergraduate	Cultivating and Processing Edible Mushroom	Mushroom cultivation Laboratory	Sugih Mukti
46	Denmar Cahya Damsita	Faculty of Biotechnology, Duta Wacana Christian University	Undergraduate	Cultivating and Processing Edible Mushroom	Mushroom cultivation Laboratory	Sugih Mukti
47	Irene Enjelika Girsang	Faculty of Biotechnology, Faculty of Biotechnology, Duta Wacana Christian University	Undergraduate	Cultivating and Processing Edible Mushroom	Mushroom cultivation Laboratory	Sugih Mukti
48	Ir Masniar	Dinas Pertanian dan Perkebunan, Pemerintah Aceh [Department of Agriculture and Plantation, Government of Aceh]	Agricultural Extension	Plant Cultivation by using Tissue Culture Technique	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
49	Ir. Siti Salmiah, MM	Dinas Pertanian danPerkebunan, Pemerintah Aceh [Department of Agriculture and Plantation, Government of Aceh]	Agricultural Extension	Plant Cultivation by using Tissue Culture Technique	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
50	Kurnia Sari, S.Pd.I., M.Si	Dinas Pertanian dan Perkebunan, Pemerintah Aceh [Department of Agriculture and Plantation, Government of Aceh]	Agricultural Extension	Plant Cultivation by using Tissue Culture Technique	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
51	Siti Maulida	Fakultas Pertanian, Universitas Singaperbangsa [Faculty of Agriculture, University of Singaperbangsa]	Undergraduate	Perbedaan Konsentrasi dan Waktu Pemberian Bioenzim Terhadap Pertumbuhan dan Hasil Tanaman Sawi Caisim (*Brassica chinensis* var. *Parachinensis*) dengan Sistem Hidroponik di SEAMEO BIOTROP, Bogor [Differences in Concentration and Time of Bioenzyme Administration on the Growth and Yield of Caisim Mustard (*Brassica chinensis* var. *Parachinensis*)	Greenhouse Hydroponic	Riana Hartati, S.Si

				with a Hydroponic System at SEAMEO BIOTROP, Bogor		
52	Anjar Putri N	Fakultas Pertanian, Universitas Singaperbangsa [Faculty of Agriculture, University of Singaperbangsa]	Undergraduate	Pengaruh perbedaan konsentrasi dan waktu pemberian bioenzim terhadap pertumbuhan dan hasil tanaman Pakcoy (*Brassica rapa* L.) dengan sistem Hidroponik di SEAMEO BIOTROP [The effect of differences in concentration and timing of bioenzyme administration on the growth and yield of Pakcoy (*Brassica rapa* L.) using the hydroponic system at SEAMEO BIOTROP]	Greenhouse Hydroponic	Riana Hartati, S.Si
53	Denissa Nurawalina Fathony	SMK Analis Kimia YKPI Bogor	Student	Analysis of Dissolved Metals and Total Metals in Treated Wastewater by using ICP-MS	Water and Air Laboratory	Achmad Syuhada, S.Si
54	Dian Firmansyah	SMK Analis Kimia YKPI Bogor	Student	Analysis of Dissolved Metals and Total Metals in Treated Wastewater by using ICP-MS	Water and Air Laboratory	Fitri Hanifah, S.Si
55	Yossi A.P	SMK Analis Kimia YKPI Bogor	Student	Soil Fertility Analysis	Soil and Plant Laboratory	Eko Purwiyanto
56	Huda Dermawan	SMK Analis Kimia YKPI Bogor	Student	Soil Fertility Analysis	Soil and Plant Laboratory	Eko Purwiyanto
57	Rasti Yulianjani	SMK PUI Kota Bogor	Student	Office Administration	HRMD	Jujum
58	Devira Nurianti	SMK PUI Kota Bogor	Student	Office Administration	FMD	Lukman Haris, S.Si
59	Siti Hodijah	SMK PUI Kota Bogor	Student	Office Administration	HCID	Ulfah Zul Farisa, S.Hut
60	Muhamad Mirjan	SMK PUI Kota Bogor	Student	Office Administration	HCID	Ulfah Zul Farisa, S.Hut
61	Ikmal Firdaus	SMK AK Nusa Bangsa	Student	Determination of pH, Available P and Total P in Mineral Soils	Soil and Plant Laboratory	Eko Purwiyanto
62	Mohammad Raihan	SMK AK Nusa Bangsa	Student	Analysis of Dissolved Metals and Total Metals in Treated Wastewater by using ICP-MS	Water and Air Laboratory	Budi Cahyadi, S.Si

63	Resti Winardi	IPB FMIPA Dept Kimia	Undergraduate	Analysis of Dissolved Metals and Total Metals in Treated Wastewater by using ICP-MS	Water and Air Laboratory	Fitri Hanifah, S.Si
64	Farahnaz Sabrina	IPB FMIPA Dept Kimia	Undergraduate	Determination of pH, Available P and Total P in Mineral Soils	Soil and Plant Laboratory	Mutiara Hidayat, S.Si
65	Vadila Mulia Putri	Univ. Pembangunan Negeri Veteran Jawa Timur	Undergraduate	Integrated Pest Management of Stored Product Insect Pests	Entomology Laboratory	Trijanti A. Widinni A, M.Si
66	Laras Setyowati	Univ. Pembangunan Negeri Veteran Jawa Timur	Undergraduate	Postharvest Destroying Fungi and Mycotoxins in Foodstuff	Phytopathology Laboratory	Nijma Nurfadila, M.Si
67	Barna Deta Cristin Naftaly	Univ. Pembangunan Negeri Veteran Jawa Timur	Undergraduate	Modern Biotechnology	Biotechnology Laboratory	Anidah, M.T.Pn
68	Catur Putri Enggit Reksiana	Univ. Pembangunan Negeri Veteran Jawa Timur	Undergraduate	Community development	Comdev	Dewi Suryani, MM
69	Muhammad Arif Wahyudin	Univ. Pembangunan Negeri Veteran Jawa Timur	Undergraduate	Invasive Foreign Weed and Plant Control	Laboratorium Gulma dan Tumbuhan Asing Invasif	Indah Wahyuni, M.Si
70	Aura Fathia	IPB FMIPA Dept Kimia	Undergraduate	Determination of pH and Base Saturation in Mineral Soils in Oil Palm Plantation	Soil and Plant Laboratory	Mutiara Hidayat, S.Si
71	Fakhri Naufal	IPB FMIPA Dept Kimia	Undergraduate	Determination of pH, Available P and Total P in Mineral Soils	Soil and Plant Laboratory	Mutiara Hidayat, S.Si
72	Rita	SMK Negeri 1 Sobang Banten	Student	Cultivating and Processing Edible Mushroom	Mushroom cultivation Laboratory	Sugih Mukti
73	Nengsih	SMK Negeri 1 Sobang Banten	Student	Cultivating and Processing Edible Mushroom	Mushroom cultivation Laboratory	Sugih Mukti
74	Yulistiawati	SMK Negeri 1 Sobang Banten	Student	Cultivating and Processing Edible Mushroom	Mushroom cultivation Laboratory	Sugih Mukti
75	Ameliawati	SMK Negeri 1 Sobang Banten	Student	Cultivation and Production of Vegetables by using Hydroponics	Greenhouse Hydroponic	Riana Hartati, S.SI
76	Erna Diana Sari	SMK Negeri 1 Sobang Banten	Student	Cultivation and Production of Vegetables by using Hydroponics	Greenhouse Hydroponic	Riana Hartati, S.SI

77	Regina	SMK Negeri 1 Sobang Banten	Student	Cultivation and Production of Vegetables by using Hydroponics	Greenhouse Hydroponic	Riana Hartati, S.SI
78	Novi Gusmayanti	Politeknik Kelautan dan Perikanan Pangandaran	Diploma	Mapping Using the GIS System	Remote Sensing and Ecology laboratory	Slamet Widodo Sugiarto, S.Si
79	Sima Nursahida Hafiah	Politeknik Kelautan dan Perikanan Pangandaran	Diploma	Mapping Using the GIS System	Remote Sensing and Ecology laboratory	Slamet Widodo Sugiarto, S.Si
80	Mahfud	SMK PP Negeri Bireuen	Student	Cultivation and Production of Vegetables by using Hydroponics	Greenhouse Hydroponic and Mushroom cultivation Laboratory	Riana Hartati, S.SI and Sugih Mukti
81	Mirwan S.TP	Dinas Pendidikan Aceh	Teacher	Food mushroom cultivation and processing techniques and Essential Oil Processing	Mushroom cultivation Laboratory and Natural Product Laboratory	Samsul A. Yani; Dr. Supriyanto
82	M. Faisal Reza Hsb, SP	Dinas Pendidikan Aceh	Teacher	Food mushroom cultivation and processing techniques and Essential Oil Processing	Mushroom cultivation Laboratory and Natural Product Laboratory	Samsul A. Yani; Dr. Supriyanto
83	Musdar	Dinas Pendidikan Aceh	Teacher	Food mushroom cultivation and processing techniques and Essential Oil Processing	Mushroom cultivation Laboratory and Natural Product Laboratory	Samsul A. Yani; Dr. Supriyanto
84	Rahmawati, SP	Dinas Pendidikan Aceh	Teacher	Food mushroom cultivation and processing techniques and Essential Oil Processing	Mushroom cultivation Laboratory and	Samsul A. Yani; Dr. Supriyanto

					Natural Product Laboratory	
85	Jesica Suryanti Purba	IPB FMIPA Dept Kimia	Undergraduate	Analysis of NH_3 and NO_2 Levels in Ambient Air	Water and Air Laboratory	Budi Cahyadi, S.Si
86	Felicia Berliana	IPB FMIPA Dept Kimia	Undergraduate	Determination of pH, Aluminium Saturation and C/N Ratio in Mineral Soils	Soil and Plant Laboratory	Eko Purwiyanto
87	Francis Amadeo Junianto	Univ. Brawijaya Fak. Tekno Pertanian	Undergraduate	Plant Cultivation by using Tissue Culture Technique	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
88	Siti Nasywa Saskia Zamzani	SMK Al-Ittihad Cianjur	Student	Analysis of NH_3 and NO_2 Levels in Ambient Air	Water and Air Laboratory	Fitri Hanifah, S.Si
89	Siti Khodijah Aliyatussalamah	SMK Al-Ittihad Cianjur	Student	Analysis of NH_3 and NO_2 Levels in Ambient Air	Soil and Plant Laboratory	Lydia Ayu Utami, S.Si
90	S. Vallinka Shahieza	SMK Al-Ittihad Cianjur	Student	Proximate Analysis	Food and Feed Laboratory	Ratnaningsih, S.Si
91	Permata Apriliani Dewi Muslimah	SMK Bina Putera Nusantara Kota Tasikmalaya	Student	Analysis of NH_3 Levels in Ambient Air	Water and Air Laboratory	Achmad Syuhada, S.Si
92	Risna Nur Alisa	SMK Bina Putera Nusantara Kota Tasikmalaya	Student	Determination of Aflatoxin B_1 Detection Limit through AOAC Method by using Thin Layer Chromatography (TLC)	Food and Feed Laboratory	Syifa Fauzia, S.Si
93	Ranita Eka Lestari	SMK Bina Putera Nusantara Kota Tasikmalaya	Student	Determination of pH and Base Saturation in Mineral Soils	Soil and Plant Laboratory	Siti Sulastri Rangkuty, S.Si
94	Ananda Nurul Huda	FMIPA, Universitas Sriwijaya [Faculty of Mathematics and Natural Sciences, Sriwijaya University]	Undergraduate	Plant Cultivation by using Tissue Culture Technique	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
95	M Hamdani	SMK Sumpah Pemuda 2	Student	Office administration	Services Laboratory and Innovation Department	Philena Nisivian
96	Siti Handayani	SMK Sumpah Pemuda 2	Student	Office administration	Services Laboratory and Innovation Department	Philena Nisivian
97	Siti Hamidah	SMK Sumpah Pemuda 2	Student	Office administration	Services Laboratory and	Philena Nisivian

					Innovation Department	
98	Septiya Sridamayanti	SMK Sumpah Pemuda 2	Student	Office administration	FMD	Lastiah
99	M Fikri	SMK Sumpah Pemuda 2	Student	Office administration	KMD	Haritz Cahya Nugraha, M.T.
100	Rifdah Hanifah Jauza' Putri	Faculty of Science and Mathematics, Diponegoro University	Undergraduate	Analisis Jenis dan kandungan aflatoksin pada kacang tanah dengan kromatografi lapis tipis [Analysis of the type and content of aflatoxins in peanuts by thin layer chromatography]	Food and Feed Laboratory	Ratnaningsih, S.Si
101	Siti Windi Meiliasari	SMK Wikrama	Student	Office administration	HCID	Ulfah Zul Farisa, S.Hut
102	Tia Daneswari	SMK Wikrama	Student	Office administration	HRMD	Jujum
103	Nursoleha	SMK Wikrama	Student	Office administration	GAD	Lidia Defita
104	Zefanya Natali Wijaya	SMK Wikrama	Student	Office administration	PPC	Devi Septrianti, SE
105	Karin Pramestia Listiyani	Faculty of Mathematics and Natural Sciences, Universitas Pendidikan Indonesia (UPI)	Undergraduate	Promotion of Cavendish Banana Plant (*Musa Acuminata*) Using Tissue Culture Techniques	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
106	Ika Fruaro	SMK Negeri Tolikara	Student	Distillation, Characterization, Chemical Compotition of Essential Oil and Its Product Development	Natural Product Laboratory	Dr. Supriyanto
107	Yosias Werko	SMK Negeri Tolikara	Student	Distillation, Characterization, Chemical Compotition of Essential Oil and Its Product Development	Natural Product Laboratory	Dr. Supriyanto
108	David Fruaro	SMK Negeri Tolikara	Student	Distillation, Characterization, Chemical Compotition of Essential Oil and Its Product Development	Natural Product Laboratory	Dr. Supriyanto
109	Nataliel Werko	SMK Negeri Tolikara	Student	Distillation, Characterization, Chemical Compotition of Essential Oil and Its Product Development	Natural Product Laboratory	Dr. Supriyanto
110	Agrita Treido	SMK Negeri Tolikara	Student	Distillation, Characterization, Chemical Compotition of Essential Oil and Its Product Development	Natural Product Laboratory	Dr. Supriyanto

111	Trapinus Treido	SMK Negeri Tolikara	Student	Distillation, Characterization, Chemical Compotition of Essential Oil and Its Product Development	Natural Product Laboratory	Dr. Supriyanto
112	Adinda Rizka Triana	SMAK Bogor	Student	Determination of pH and Base Saturation in Mineral Soils	Soil and Plant Laboratory	Eko Purwiyanto
113	Kevin Daffa Mahesa	SMAK Bogor	Student	Determination of pH and Base Saturation in Mineral Soils	Soil and Plant Laboratory	Eko Purwiyanto
114	Krisna Yudha Pradana	SMAK Bogor	Student	Pengujian Aflatoksin B1 dari 3 toko di pasar ciawi secara KLT (Kromatografi Lapis Tipis) [Aflatoxin B_1 testing from 3 shops in Ciawi market by TLC (Thin Layer Chromatography)]	Food and Feed Laboratory	Ratnaningsih, S.Si
115	Fidelia Intan Roslinda	SMAK Bogor	Student	Pengujian Aflatoksin B_1 dari 3 toko di pasar ciawi secara KLT (Kromatografi Lapis Tipis) [Aflatoxin B1 testing from 3 shops in Ciawi market by TLC (Thin Layer Chromatography)]	Food and Feed Laboratory	Ratnaningsih, S.Si
116	Monika Lestari Sihombing	SMAK Bogor	Student	Analysis of NH_3 and NO_2 Levels in Ambient Air	Water and Air Laboratory	Budi Cahyadi, S.Si
117	Tarisa Nora Sabrina	SMAK Bogor	Student	Analysis of NH_3 and NO_2 Levels in Ambient Air	Water and Air Laboratory	Budi Cahyadi, S.Si
118	Anisa Novia I	Fakultas Sains dan Teknologi, UIN Walisongo Semarang [Faculty of Science and Technology, UIN Walisongo Semarang]	Undergraduate	Karakteristik dan pemanfaatan biji kacang sacha inchi (*Plukenetia volubilis*) dalam pembuatan sabun cair transparan [Characteristics and utilization of Sacha inchi (*Plukenetia volubilis*) seeds in the manufacture of transparent liquid soap]	Natural Product Laboratory	Dr. Supriyanto
119	Aulia Nafida	Fakultas Sains dan Teknologi, UIN Walisongo Semarang [Faculty of Science and Technology, UIN Walisongo Semarang]	Undergraduate	Karakteristik dan pemanfaatan biji kacang sacha inchi (*Plukenetia volubilis*) dalam pembuatan sabun cair transparan [Characteristics and utilization of Sacha inchi (*Plukenetia volubilis*) seeds in the manufacture of transparent liquid soap]	Natural Product Laboratory	Dr. Supriyanto

120	Lucky Kurniawan	Fakultas Sains dan Teknologi, UIN Walisongo Semarang [Faculty of Science and Technology, UIN Walisongo Semarang]	Undergraduate	Studi Kompetisi Antara Rumput Pakan Herbivora (*Dichantium aristatum*, *Brachiaria* Sp.) Dan Gulma Berdaun Lebar (Vernoniacymosa) Dari Taman Nasional Baluran, Jawa Timur [Study of Competition Between Herbivorous Forage Grass (*Dichantium aristatum, Brachiaria* Sp.) And Broadleaf Weed (Vernoniacymosa) From Baluran National Park, East Java]	Weeds and Invasive Alien Plant Spesies (IAPS)	Saiful Bachri, S.Si
121	Dwi Ryan Nugroho	Fakultas Sains dan Teknologi, UIN Walisongo Semarang [Faculty of Science and Technology, UIN Walisongo Semarang]	Undergraduate	Perbedaan Pertumbuhan Eksplan pada Tiap-tiap Media terhadap Jumlah Eksplan yang Ditanam ketika Multiplikasi [Differences in Explant Growth in Each Media to the Number of Explants Planted when Multiplication]	Biotechnology Laboratory	Dewi Rahmawati, M.Si
122	Ibnu Sina Rafiq Romawan	Fakultas Sains dan Teknologi, UIN Walisongo Semarang [Faculty of Science and Technology, UIN Walisongo Semarang]	Undergraduate	Analisis berbagai macam kesulitan dalam memindahkan tanaman akasia, anggrek, krisan, dan mint ke media baru [Analyze the various difficulties in transferring acacia, orchid, chrysanthemum and mint plants to new media]	Biotechnology Laboratory	Dewi Rahmawati, M.Si
123	Lukman Syah	Politeknik Pertanian Negeri Pangkajene Kepulauan	Diploma	Pengembangan Jeruk lemon california dan produk turunannya [Development of California lemons and their derivatives]	Natural Product Laboratory	Dr. Supriyanto
124	Asrullah Syam	Politeknik Pertanian Negeri Pangkajene Kepulauan	Diploma	Budidaya kacang sacha inchi dan produk turunannya [Cultivation of Sacha Inchi beans and their derivatives]	Natural Product Laboratory	Dr. Supriyanto
125	Ghina Amaliasari	Faculty of Mathematics and Natural Sciences, Jenderal Sudirman University	Undergraduate	Perbanyakan tanaman talas jepang (*Satoimo colocasia*) dengan menggunakan teknik kultur jaringan [Propagation of Japanese taro plants (*Satoimo colocasia*) using tissue culture techniques]	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si

126	Pina Pebrianti	Faculty of Mathematics and Natural Sciences, Jenderal Sudirman University	Undergraduate	Perbanyakan tanaman pisang cavendish dengan menggunakan teknik kultur jaringan	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
127	Alissa Nurfitriana	Faculty of Mathematics and Natural Sciences, Jenderal Sudirman University	Undergraduate	Perbanyakan tanaman jati dengan menggunakan teknik kultur jaringan [Plant propagation of Cavendish using tissue culture techniques]	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
128	Mona	SMK Negeri 1 Pangkalan Kuras Riau	Student	Cultivation and Production of Vegetables by using Hydroponics	Greenhouse Hydroponic	Riana Hartati, S.SI
129	Dwi Fajar Muntama	SMK Negeri 1 Pangkalan Kuras Riau	Student	Cultivation and Production of Vegetables by using Hydroponics	Greenhouse Hydroponic	Riana Hartati, S.SI
130	Desti Elza Widiyanti	SMK Negeri 1 Pangkalan Kuras Riau	Student	Cultivation and Production of Vegetables by using Hydroponics	Greenhouse Hydroponic	Riana Hartati, S.SI
131	Miftahul Ulfa	SMK Negeri 1 Pangkalan Kuras Riau	Student	Cultivation and Production of Vegetables by using Hydroponics	Greenhouse Hydroponic	Riana Hartati, S.SI
132	Muhammad Fajar Habibie MRP	SMK Negeri 1 Pangkalan Kuras Riau	Student	Cultivation and Production of Vegetables by using Hydroponics	Greenhouse Hydroponic	Riana Hartati, S.SI
133	Lestari Rucianti	SMK Negeri 1 Pangkalan Kuras Riau	Student	Plant propagation using tissue culture techniques, food mushroom cultivation and processing and vegetable crop cultivation using a hydroponic system	Tissue Culture Laboratory and Mushroom Cultivation Laboratory	Dr.Ir. Erina Sulistiani, M.Si,; Sugih Mukti; Riana Hartati, S.Si
134	Nelly Amelia Putri	SMK Negeri 1 Pangkalan Kuras Riau	Student	Plant propagation using tissue culture techniques, food mushroom cultivation and processing and vegetable crop cultivation using a hydroponic system	Tissue Culture Laboratory and Mushroom Cultivation Laboratory	Dr.Ir. Erina Sulistiani, M.Si,; Sugih Mukti; Riana Hartati, S.Si
135	Syifa Alfiani Zamzami	Agribusiness Management Study Program, Vocational School, IPB University	Diploma	Pendirian Unit Bisnis Serbuk Kaldu Jamur Tiram di Laboratorium budidaya jamur merang SEAMEO BIOTROP [Establishment of Oyster Mushroom Broth Powder Unit Business in edible mushroom cultivation Lab of SEAMEO BIOTROP]	Mushroom cultivation Laboratory	Sugih Mukti
136	Nestia Cindy Isrofi	Agribusiness Management Study Program, Vocational School, IPB University	Diploma	Pemanfaatan pemasaran digital melalui Shopee dan Instagram di Unit Budidaya edible Mushroom SEAMEO BIOTROP	Mushroom cultivation Laboratory	Sugih Mukti

				[Utilization of digital marketing through Shopee and Instagram at SEAMEO BIOTROP's edible mushroom cultivation unit]		
137	Fariz Alqadari	Agribusiness Management Study Program, Vocational School, IPB University	Diploma	Cultivating and Processing of Edible Mushroom	Mushroom cultivation Laboratory	Sugih Mukti
138	Muhammad Nazril Ilham	SMK Bhakti Insani	Student	Rekayasa Perangkat Lunak [Software Engineering]	FFMD	Lukman Haris, S.Si
139	George Farrel Edbert Tahya	SMK Bhakti Insani	Student	Rekayasa Perangkat Lunak [Software Engineering]	FFMD	Lukman Haris, S.Si
140	Satria Nugraha	SMK N 4 Kota Bogor	Student	Rekayasa Perangkat Lunak [Software Engineering]	FFMD	Lukman Haris, S.Si
141	Muhammad Ardiansyah	SMK N 4 Kota Bogor	Student	Rekayasa Perangkat Lunak [Software Engineering]	FFMD	Lukman Haris, S.Si
142	Nurria Uswatun Hasanah	University of Pembangunan Negeri Veteran (UPN) Jawa Timur	Undergraduate	Plant Cultivation by using Tissue Culture Technique	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
143	Daffa Novendra Aditama	University of Pembangunan Negeri Veteran (UPN) Jawa Timur	Undergraduate	Pengaruh Penambahan Bioenzim Pada Tanaman Bayam Hidroponik Sistem NFT [The Effect of Addition of Bio Enzymes on Hydroponic Spinach Plants NFT System]	Greenhouse Hydroponic	Riana Hartati, S.Si
144	Hafid Rahman	Faculty of Fisheries and Marine Sciences, Diponegoro University	Undergraduate	Teknik Pembenihan Ikan Nila (*Oreochromis niloticus*) Di SEAMEO BIOTROP [Tilapia (*Oreochromis niloticus*) Hatchery Technique at SEAMEO BIOTROP]	Aquatic Laboratory	Shella Marlinda, M.Si
145	Alfini Siska Dewi Handayani	Faculty of Science and Technology, UIN Walisongo Semarang	Undergraduate	Kajian Biologi Lima Jenis Rumput Baluran dan Uji Dormansi *Verbena brasiliensis* di SEAMEO BIOTROP, Bogor, Jawa Barat [Biology Study of Five Types of Baluran Grass and Dormancy Test of *Verbena brasiliensis* at SEAMEO BIOTROP, Bogor, West Java]	Weeds and Invasive Alien Plant Spesies (IAPS)	Saiful Bachri, S.Si
146	Karin Pramestia Listiyani	Faculty of Mathematics and Natural Sciences, Universitas Pendidikan Indonesia (UPI)	Undergraduate	Isolasi dan Identifikasi *Citrus aurantiifolia* Spora Mikoriza pada Perakaran Tanaman Jeruk Nipis (*Citrus*	Biosystem and Landsape	Risa Rosita, M.Si

				aurantiifolia) [Isolation and Identification of *Citrus aurantiifolia* Mycorrhizal Spores on Roots of Lime (*Citrus aurantiifolia*) Plants]	Management Laboratory	
147	Farhan Alfarizi	Chemical Analysis Study Program, Vocational School, IPB University	Diploma	Cultivating and Processing of Edible Mushroom	Mushroom cultivation Laboratory	Dr.Ir. Erina Sulistiani, M.Si
148	Yosia Hana Theresia	Chemical Analysis Study Program, Vocational School, IPB University	Diploma	Cultivating and Processing of Edible Mushroom	Mushroom cultivation Laboratory	Dr.Ir. Erina Sulistiani, M.Si
149	Ardiansyah Damaiyanto	Chemical Analysis Study Program, Vocational School, IPB University	Diploma	Cultivating and Processing of Edible Mushroom	Mushroom cultivation Laboratory	Dr.Ir. Erina Sulistiani, M.Si
150	Dinda Bunga Anugrah	Department of Biology, Faculty of Science and Technology, University of Al Azhar Indonesia (UAI)	Undergraduate	Perbanyakan tanaman menggunakan teknik kultur jaringan [Plant propagation using tissue culture techniques]	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
151	Rudi Alamsyah	Faculty of Agriculture, Papua University	Undergraduate	Sistem Informasi Geografis [Geographic Information System]	Biosystem and Landsape Management Laboratory	Armaiki Yusmur, M.Si
152	Ishak Samuel Luter Kamawa	Faculty of Agriculture, Papua University	Undergraduate	Sistem Informasi Geografis [Geographic Information System]	Biosystem and Landsape Management Laboratory	Armaiki Yusmur, M.Si
153	Donathus Maninem	Faculty of Agriculture, Papua University	Undergraduate	Sistem Informasi Geografis [Geographic Information System]	Biosystem and Landsape Management Laboratory	Armaiki Yusmur, M.Si
154	Yohanes panino	Faculty of Agriculture, Papua University	Undergraduate	Teknik Isolasi dan Identifikasi Mikoriza serta Pemanenan Tanaman Bermikoriza [Mycorrhizal Isolation and Identification Techniques and Harvesting of Mycorrhizal Plants]	Biosystem and Landsape Management Laboratory	Risa Rosita, M.Si
155	Susanti Kambuaya	Faculty of Agriculture, Papua University	Undergraduate	Teknik Isolasi dan Identifikasi Mikoriza serta Pemanenan Tanaman Bermikoriza [Mycorrhizal Isolation and Identification	Biosystem and Landsape Management Laboratory	Risa Rosita, M.Si

				Techniques and Harvesting of Mycorrhizal Plants]		
156	Albertina	Faculty of Agriculture, Papua University	Undergraduate	Teknik Isolasi dan Identifikasi Mikoriza serta Pemanenan Tanaman Bermikoriza [Mycorrhizal Isolation and Identification Techniques and Harvesting of Mycorrhizal Plants]	Biosystem and Landsape Management Laboratory	Risa Rosita, M.Si
157	Asmar Kalismahada Putra Etista	Faculty of Fisheries and Marine Sciences, IPB University	Undergraduate	Analysis of NH_3 and NO_2 Levels in Ambient Air	Water and Air Laboratory	Budi Cahyadi, S.Si
158	Asri Wulandari	SMK Negeri 2 Cilaku Cianjur	Student	Analysis of NH_3 and NO_2 Levels in Ambient Air	Water and Air Laboratory	Nuraimy Citra, S.Tp
159	Vibia Sabina	SMK Negeri 2 Cilaku Cianjur	Student	Analysis of NH_3 and NO_2 Levels in Ambient Air	Water and Air Laboratory	Achmad Syuhada, S.Si
160	Bunga Anggia Puspita	SMK Negeri 2 Cilaku Cianjur	Student	Determination of pH and Base Saturation in Mineral Soils	Soil and Plant Laboratory	Eko Purwiyanto
161	Afnan Nafisa Rahma	SMK Negeri 1 Sukabumi	Student	Mapping by using the GIS	Remote Sensing and Ecology laboratory	Harry Imantho, M.Sc
162	Annisa Azzara Putri	SMK Negeri 1 Sukabumi	Student	Mapping by using the GIS	Remote Sensing and Ecology laboratory	Harry Imantho, M.Sc
163	Siti Nur Parida	SMK Negeri 1 Sukabumi	Student	Mapping by using the GIS	Remote Sensing and Ecology laboratory	Harry Imantho, M.Sc
164	Siti Pratiwi	SMK Negeri 1 Sukabumi	Student	Mapping by using the GIS	Remote Sensing and Ecology laboratory	Harry Imantho, M.Sc
165	Siti Rahma Habibilah	SMK Negeri 1 Sukabumi	Student	Mapping by using the GIS	Remote Sensing and Ecology laboratory	Harry Imantho, M.Sc

166	M Thoriq Octaven	SMK Bakti Rimba	Student	Pengukuran Biomassa Hutan di Arboretum SEAMEO BIOTROP [Measurement of Forest Biomass at the SEAMEO BIOTROP Arboretum]	Biosystem and Landsape Management Laboratory	Armaiki Yusmur, M.Si
167	Raden Abdallah Al Zuhri	SMK Bakti Rimba	Student	Pengukuran Biomassa Hutan di Arboretum SEAMEO BIOTROP [Measurement of Forest Biomass at the SEAMEO BIOTROP Arboretum]	Biosystem and Landsape Management Laboratory	Armaiki Yusmur, M.Si
168	Meisya Hendriyani	SMK Bakti Rimba	Student	Pengukuran Biomassa Hutan di Arboretum SEAMEO BIOTROP [Measurement of Forest Biomass at the SEAMEO BIOTROP Arboretum]	Biosystem and Landsape Management Laboratory	Armaiki Yusmur, M.Si
169	Diana Febriyanti Nasution	SMK Bakti Rimba	Student	Pengukuran Biomassa Hutan di Arboretum SEAMEO BIOTROP [Measurement of Forest Biomass at the SEAMEO BIOTROP Arboretum]	Biosystem and Landsape Management Laboratory	Armaiki Yusmur, M.Si
170	Tarisa Mutiara	SMK Bakti Rimba	Student	Pengukuran Biomassa Hutan di Arboretum SEAMEO BIOTROP [Measurement of Forest Biomass at the SEAMEO BIOTROP Arboretum]	Biosystem and Landsape Management Laboratory	Armaiki Yusmur, M.Si
171	Karlin	SMK Bakti Rimba	Student	Pengukuran Biomassa Hutan di Arboretum SEAMEO BIOTROP [Measurement of Forest Biomass at the SEAMEO BIOTROP Arboretum]	Biosystem and Landsape Management Laboratory	Armaiki Yusmur, M.Si
172	Abdillah Amri Maulida	SMK Bakti Rimba	Student	Pengukuran Biomassa Hutan di Arboretum SEAMEO BIOTROP [Measurement of Forest Biomass at the SEAMEO BIOTROP Arboretum]	Biosystem and Landsape Management Laboratory	Armaiki Yusmur, M.Si
173	Vito Naufal Listyo	SMK Bakti Rimba	Student	Pengukuran Biomassa Hutan di Arboretum SEAMEO BIOTROP [Measurement of Forest Biomass at the SEAMEO BIOTROP Arboretum]	Biosystem and Landsape Management Laboratory	Armaiki Yusmur, M.Si
174	Muhammad Al Fath Tauhidillah Riyanto	SMK Bakti Rimba	Student	Pengukuran Biomassa Hutan di Arboretum SEAMEO BIOTROP [Measurement of Forest Biomass at the SEAMEO BIOTROP Arboretum]	Biosystem and Landsape Management Laboratory	Armaiki Yusmur, M.Si

175	Alief Anugerah Sani	Politeknik AKA Bogor	Diploma	Verifikasi Metode Penentuan nilai BoD dalam Air Limbah Domestik secara Iodometri [Verification of the BoD Value Determination Method in Domestic Wastewater with the Iodometric Method]	Water and Air Laboratory	Budi Cahyadi, S.Si
176	Ainira Azkarunisa	Politeknik AKA Bogor	Diploma	Validation Test method for determination of zinc (Zn) in soil by wet digestion using a mixture of HNO_3 and $HCLO_4$ with atomic absorption spectrophotometer at Soil and Plant Laboratory of SEAMEO BIOTROP	Soil and Plant Laboratory	Eko Purwiyanto
177	I Putu Djiorghi Pradhividya Raharja	Bina Nusantara University	Undergraduate	Mapping with GIS	Remote Sensing and Ecology laboratory	Slamet Widodo Sugiarto, M.Sc
178	Aminatul Zahra, S.Pi, M.Si	Maritim Raja Ali Haji University (URAH), Tanjungpinang, Riau	Lecturer	Seaweed Cultivation through Tissue Culture Techniques	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
179	Dwi Septiani Putri, S.Pi, M.Si	Maritim Raja Ali Haji University (URAH), Tanjungpinang, Riau	Lecturer	Seaweed Cultivation through Tissue Culture Techniques	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
180	Muhammad Isbat Amrullah	Faculty of Mathematics and Natural Sciences, Semarang State University	Undergraduate	Plant Cultivation using Tissue Culture Techniques	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
181	Timotius Surya Saputra	Faculty of Mathematics and Natural Sciences, Semarang State University	Undergraduate	Plant Cultivation using Tissue Culture Techniques	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
182	Dian Akbar Setiawan	School of Life Sciences and Technology, Bandung Institute of Technology (ITB)	Undergraduate	Plant Cultivation using Tissue Culture Techniques	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
183	Sutra Dharma	School of Life Sciences and Technology, Bandung Institute of Technology (ITB)	Undergraduate	Plant Cultivation using Tissue Culture Techniques	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
184	Laura Tesalonika	School of Life Sciences and Technology, Bandung Institute of Technology (ITB)	Undergraduate	Plant Cultivation using Tissue Culture Techniques	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
185	Renardi Tanoto	School of Life Sciences and Technology, Bandung Institute of Technology (ITB)	Undergraduate	Plant Cultivation using Tissue Culture Techniques	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
186	Abia Sayori	Agricultural Development Polytechnic (POLBANGTAN) Manokwari	Diploma	Food mushroom cultivation and processing techniques and plant propagation using tissue culture techniques	Mushroom cultivation Laboratory and	Dr.Ir. Erina Sulistiani, M.Si

					Tissue Culture Laboratory	
187	Dwi Parwati	Agricultural Development Polytechnic (POLBANGTAN) Manokwari	Diploma	Food mushroom cultivation and processing techniques and plant propagation using tissue culture techniques	Mushroom cultivation Laboratory and Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
188	Febriola Hilkia	Agricultural Development Polytechnic (POLBANGTAN) Manokwari	Diploma	Food mushroom cultivation and processing techniques and plant propagation using tissue culture techniques	Mushroom cultivation Laboratory and Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
189	Joni Prianto	Agricultural Development Polytechnic (POLBANGTAN) Manokwari	Diploma	Food mushroom cultivation and processing techniques and plant propagation using tissue culture techniques	Mushroom cultivation Laboratory and Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
190	Patricia Celine	Faculty of Science and Technology, Pelita Harapan University	Undergraduate	Penentuan Populasi Cendawan pada Vanili Asal Sulawesi Selatan di SEAMEO BIOTROP [Determination of Fungus Populations on Vanilla from South Sulawesi at SEAMEO BIOTROP]	Phytopathology Laboratory	Nijma Nurfadila, M.Si
191	Tracy Anastasia Lazialitta Sumendap	Faculty of Science and Technology, Pelita Harapan University	Undergraduate	Seaweed Tissue Culture Cultivation Technique	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
192	Isaura Andreana Kowanda	Faculty of Science and Technology, Pelita Harapan University	Undergraduate	Seaweed Tissue Culture Cultivation Technique	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
193	Henokh Christian Prasgi	Faculty of Biology, Satya Wacana Christian University	Undergraduate	Exploration and Identification of Arbuscular Mycorrhizal Fungi (AMF) from Soil Around Oil Palm Trees (*Elaeis* sp.) at SEAMEO BIOTROP	Biosystem and Landsape Management Laboratory	Risa Rosita, M.Si
194	Satriani	Faculty of Fisheries and Marine Sciences, IPB University	Postgraduate	Analysis of the Potential of Seagrass Substrates as Carbon Absorbers in Sangihe Island Waters, North Sulawesi	Soil and Plant Laboratory	Eko Purwiyanto

195	Fuja Arsita Siregar	Faculty of Fisheries and Marine Sciences, IPB University	Postgraduate	Analysis of the Potential of Seagrass Substrates as Carbon Absorbers in Sangihe Island Waters, North Sulawesi	Soil and Plant Laboratory	Eko Purwiyanto
196	Eka Nur Pradiani Putri	SMKN 63 Jakarta	Student	Food Mushroom Cultivation and Processing Techniques And Plant Propagation Using Tissue Culture Techniques	Mushroom Cultivation Laboratory and Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
197	Sevty Nurul Afriliani	SMKN 63 Jakarta	Student	Cultivation and Processing Techniques of Food Mushrooms and Plant Propagation Using Tissue Culture Techniques	Mushroom Cultivation Laboratory and Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
198	Triyana Maya Kurniawanti	SMKN 63 Jakarta	Student	Cultivation and Processing Techniques of Food Mushrooms and Plant Propagation Using Tissue Culture Techniques	Mushroom Cultivation Laboratory and Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
199	Marwah Sri Maulida	SMKN 63 Jakarta	Student	Cultivation and Processing Techniques of Food Mushrooms and Plant Propagation Using Tissue Culture Techniques	Mushroom Cultivation Laboratory and Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
200	Tsabbit Aqdaamii' Arsyan	SMKN 63 Jakarta	Student	Cultivation and Processing Techniques of Food Mushrooms and Plant Propagation Using Tissue Culture Techniques	Mushroom Cultivation Laboratory and Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
201	Zaid Anwar Fauzi	SMKN 63 Jakarta	Student	Cultivation and Processing Techniques of Food Mushrooms and Plant Propagation Using Tissue Culture Techniques	Mushroom cultivation Laboratory and Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
202	Muhammad Daffa Thahran Aslami	SMKN 63 Jakarta	Student	Cultivation and Processing Techniques of Food Mushrooms and Plant	Mushroom Cultivation Laboratory and	Dr.Ir. Erina Sulistiani, M.Si

				Propagation Using Tissue Culture Techniques	Tissue Culture Laboratory Tissue Culture Laboratory	
203	Badriansyah	Faculty of Mathematics and Natural Sciences, University of Mataram	Undergraduate	Seaweed Tissue Culture Cultivation Technique	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
204	Maulia Sustiana	Faculty of Mathematics and Natural Sciences, University of Mataram	Undergraduate	Seaweed Tissue Culture Cultivation Technique	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
205	Ahmad Raihan Nasution	School of Life Sciences and Technology, Bandung Institute of Technology (ITB)	Undergraduate	Pemanfaatan Bonggol Pisang (*Musa paradisiaca*)dan Daun Kelor (*Moringa oleifera*)Sebagai Larutan Penurun pH dan Nutrisi Tambahan Hidroponik [Utilization of Banana Weevil (*Musa paradisiaca*) and Moringa Leaves (*Moringa oleifera*) as a pH-lowering solution and additional nutrients for hydroponics]	Greenhouse Hydroponic	Riana Hartati, S.Si
206	Izzudin Muhammad Hisyam	School of Life Sciences and Technology, Bandung Institute of Technology (ITB)	Undergraduate	Pengembangan Pestisida Nabati dari Daun Kipahit (*Tithonia diversifolia*) dan Kecubung (*Datura metel*) Sebagai Upaya Pengendalian Kutu Daun (Aphids) Pada Budidaya Hidroponik [Development of Vegetable Pesticides from Kipahit (*Tithonia diversifolia*) and Amethyst (*Datura metel*) Leaves as Efforts to Control Aphids in Hydroponic Cultivation]	Greenhouse Hydroponic	Riana Hartati, S.Si
207	Fransiscus Jason Wiguna	School of Life Sciences and Technology, Bandung Institute of Technology (ITB)	Undergraduate	Identifikasi dan Isolasi Fungi Mikoriza Arbuskula (FMA) pada Pohon Jeruk Lemon (*Citrus limon*) di SEAMEO BIOTROP [Identification and Isolation of Arbuscular Mycorrhizal Fungi (AMF) on Lemon Tree (*Citrus limon*) at SEAMEO BIOTROP]	Biosystem and Landsape Management Laboratory	Risa Rosita, M.Si
208	Ayu Paraswati Kusuma Dewi	Department of Science, Sumatra Institute of Technology (ITERA)	Undergraduate	Isolation and Morphological Identification of Arbuscular Mycorrhizal Fungi (AMF) from the Rhizosphere of	Biosystem and Landsape	Risa Rosita, M.Si

				Teak Plants (*Tectona grandis* Linn.f) in Natural Forest Land, SEAMEO BIOTROP, Bogor	Management Laboratory	
209	Novita Dwi Yanti	Department of Science, Sumatra Institute of Technology (ITERA)	Undergraduate	Isolasi dan Identifikasi Secara Morfologi Fungi Mikoriza Arbuskula (FMA) dari Rhizosfer Tanaman Rumput Gajah Mini pad [Isolation and Morphological Identification of Arbuscular Mycorrhizal Fungi (AMF) from the Rhizosphere of Mini Elephant Grass Plants]	Biosystem and Landsape Management Laboratory	Risa Rosita, M.Si
210	Rizky Susanti	Department of Science, Sumatra Institute of Technology (ITERA)	Undergraduate	Isolation and Morphological Identification of Arbuscular Mycorrhizal Fungi (AMF) from Rhizosphere of Aloe Vera (*Aloe vera*) in Agroforestry Land at SEAMEO BIOTROP, Bogor	Biosystem and Landsape Management Laboratory	Risa Rosita, M.Si
211	Fitra Nabila Putri	Department of Biology, Syiah Kuala University, Banda Aceh	Undergraduate	Seaweed Tissue Culture Cultivation Technique	Tissue Culture Laboratory	Dr.Ir. Erina Sulistiani, M.Si
212	Alya Randah Aqilah	Department of Biology, Syiah Kuala University, Banda Aceh	Undergraduate	Pemanfaatan Minyak Atsiri sebagai Aromaterapi, sabun dan parfum [Utilization of Essential Oils as Aromatherapy, Soap and Perfume]	Natural Product Laboratory	Dr. Supriyanto
213	Mardhiah Hayati	Department of Biology, Syiah Kuala University, Banda Aceh	Undergraduate	Utilization of Essential Oils as Aromatherapy, Soap and Perfume	Natural Product Laboratory	Dr. Supriyanto
214	Annisa Wulandari	Faculty of Agriculture, Bengkulu University	Undergraduate	Teknik Budidaya Selada (*Lactuca sativa* L.) Secara Hidroponik di SEAMEO BIOTROP [Lettuce (*Lactuca sativa* L.) Cultivation Technique Hydroponically at SEAMEO BIOTROP]	Greenhouse Hydroponic	Riana Hartati, S.Si
215	Retno Wulandari	Faculty of Agriculture, Bengkulu University	Undergraduate	Usaha Budidaya Caisim (*Brassica chinensis* Var. *parachinensis*) Secara Hidroponik di SEAMEO BIOTROP [Cultivation of Caisim (*Brassica chinensis* Var. *parachinensis*) Hydroponically at SEAMEO BIOTROP]	Greenhouse Hydroponic	Riana Hartati, S.Si

216	Salsabila Dewi Satriani	Faculty of Agriculture, Bengkulu University	Undergraduate	Pertumbuhan dan Produktivitas Jamur Tiram pada Media Tanam Baglog [Growth and Productivity of Oyster mushrooms in Baglog Planting Media]	Mushroom Cultivation Laboratory	Dr.Ir. Erina Sulistiani, M.Si
217	Rosa Aulia Kinanti	Faculty of Agriculture, Bengkulu University	Undergraduate	Cultivating and Processing Edible Mushroom	Mushroom Cultivation Laboratory	Dr.Ir. Erina Sulistiani, M.Si
218	Ignatius Deovanny Sinaga	Faculty of Agriculture, Bengkulu University	Undergraduate	Isolasi dan Perbanyakan Spora dalam Rangka Produksi Jamur Tiram [Isolation and Propagation of Spores for Oyster Mushroom Production]	Mushroom Cultivation Laboratory	Dr.Ir. Erina Sulistiani, M.Si
219	Rahayu Mekar K	Faculty of Fisheries and Marine Sciences, IPB University	Undergraduate	Perbedaan pengaruh jenis pakan sebagai sumber nutrisi yang mempengaruhi pertumbuhan ikan lele (*Clarias* Sp.) dan Pakcoy (*Brassica* sp.) yang terintegrasi dalam sistem akuaponik [Differences in the effect of the type of feed as a source of nutrients that affect the growth of catfish (*Clarias* Sp.) and Pakcoy (*Brassica* sp.) which are integrated in the aquaponics system]	Aquatik Laboratory	Shella Marlinda, M.Si
220	Helen Novena S	Faculty of Fisheries and Marine Sciences, IPB University	Undergraduate	Pengaruh Media yang berbeda terhadap biomassa larva lalat tentara hitam (*Hermetia illucens*) [Effect of different media on larval biomass of black army fly (*Hermetia illucens*)]	Aquatik Laboratory	Shella Marlinda, M.Si
221	Tri Suci RN	Faculty of Fisheries and Marine Sciences, IPB University	Undergraduate	Differences in the effect of the type of feed as a source of nutrients that affect the growth of catfish (*Clarias* Sp.) and Pakcoy (*Brassica* sp.) which are integrated in the aquaponics system	Aquatik Laboratory	Shella Marlinda, M.Si
222	Elya Inara S	Faculty of Fisheries and Marine Sciences, IPB University	Undergraduate	Laju Pertumbuhan manfish (*Pterophyllum* Sp) berdasarkan pakan alami dan buatan [Growth rate of manfish (*Pterophyllum* Sp) based on natural and artificial feed]	Aquatik Laboratory	Shella Marlinda, M.Si

223	Wanda Nur F	Faculty of Fisheries and Marine Sciences, IPB University	Undergraduate	Growth rate of manfish (*Pterophyllum* Sp) based on natural and artificial feed	Aquatik Laboratory	Shella Marlinda, M.Si
224	Iqbal Jayusman	Faculty of Fisheries and Marine Sciences, IPB University	Undergraduate	Pengaruh Media yang berbeda terhadap biomassa larva lalat tentara hitam (*Hermetia illucens*) [Effect of different media on larval biomass of black army fly (*Hermetia illucens*)]	Aquatik Laboratory	Shella Marlinda, M.Si
225	Bimantoro S	Faculty of Fisheries and Marine Sciences, IPB University	Undergraduate	Laju Pertumbuhan manfish (*Pterophyllum* Sp) berdasarkan pakan alami dan buatan [Growth rate of manfish (*Pterophyllum* Sp) based on natural and artificial feed]	Aquatik Laboratory	Shella Marlinda, M.Si
226	Husna Mudzakir	Faculty of Fisheries and Marine Sciences, IPB University	Undergraduate	Effect of different media on larval biomass of black army fly (*Hermetia illucens*)	Aquatik Laboratory	Shella Marlinda, M.Si
227	Venatta Dzikri A	Faculty of Fisheries and Marine Sciences, IPB University	Undergraduate	Effect of different media on larval biomass of black army fly (*Hermetia illucens*)	Aquatik Laboratory	Shella Marlinda, M.Si
228	Laiyina Fitrotuz Z	Faculty of Fisheries and Marine Sciences, IPB University	Undergraduate	Differences in the effect of the type of feed as a source of nutrients that affect the growth of catfish (*Clarias* Sp.) and Pakcoy (*Brassica* sp.) which are integrated in the aquaponics system	Aquatik Laboratory	Shella Marlinda, M.Si
229	Vinny Devitrie	Faculty of Fisheries and Marine Sciences, IPB University	Undergraduate	Differences in the effect of the type of feed as a source of nutrients that affect the growth of catfish (*Clarias* Sp.) and Pakcoy (*Brassica* sp.) which are integrated in the aquaponics system	Aquatik Laboratory	Shella Marlinda, M.Si
230	Fattiya Abidati	Faculty of Fisheries and Marine Sciences, IPB University	Undergraduate	Effect of different media on larval biomass of black army fly (*Hermetia illucens*)	Aquatik Laboratory	Shella Marlinda, M.Si
231	Fariz Fadila A	Faculty of Fisheries and Marine Sciences, IPB University	Undergraduate	Differences in the effect of the type of feed as a source of nutrients that affect the growth of catfish (*Clarias* Sp.) and Pakcoy (*Brassica* sp.) which are integrated in the aquaponics system	Aquatik Laboratory	Shella Marlinda, M.Si

232	Erida Rizky J	Faculty of Fisheries and Marine Sciences, IPB University	Undergraduate	Laju Pertumbuhan manfish (*Pterophyllum* Sp) berdasarkan pakan alami dan buatan [Growth rate of manfish (*Pterophyllum* Sp) based on natural and artificial feed]	Aquatik Laboratory	Shella Marlinda, M.Si

Appendix 5. BIOTROP Publications

A. Articles, Technical Papers in Peer-Reviewed Journals and Proceedings

Achirul Nanda, Muhammad & Wijayanto, Arif & **Imantho, Harry** & Nelwan, Leopold & Budiastra, I Wayan & Seminar, Kudang. 2022. Factors Determining Suitable Landfill Sites for Energy Generation from Municipal Solid Waste: A Case Study of Jabodetabek Area, Indonesia. The Scientific World Journal. 2022. 1-16. 10.1155/2022/9184786.

Aditya Rizky Priatama, Yudi Setiawan**, Irdika Mansur**, & Muhammad Masyhuri. 2022. Regression Models for Estimating Aboveground Biomass and Stand Volume Using Landsat-Based Indices in Post-Mining Area. Jurnal Manajemen Hutan Tropika vol. 28 no. 1, 1 – 14 p

Andiko Pradana, Julye Ekasari, Dedi Jusadi, Shela Marlinda, & **Ichsan Achmad Fauzi**. 2022. Evaluation of color-based classical conditioning as feeding stimuli in common carp, *Cyprinus carp*io. IOP Conference Series: Earth and Environmental Science. Vol 1033 Issue 1

Anna Julyarti, Nurheni Wijayanto, & **Irdika Mansur**. 2022. Cajuput (*Melaleuca cajuputi (L.) Powell*) Oil Yield and Cineole Analysis in Ex-Coal Mining Land with Monoculture and Agroforestry Patterns. Jurnal Sylva Lestari Volume 10 No. 2, 202 – 210 p

Arief Sabdo Yuwono, Idat Galih Permana, Lia Nurulalia & Priscilia Dana Mentari. 2021. Decomposition Characteristics of Selected Solid Organic Wastes by Black Soldier Fly (BSF) Larvae as Affected by Temperature Regimes. Polish Journal of Environmental Studies Vol. 30 Issue 5 Pages 4343-4351

Asrianti Arif, Faisal Danu Tuheteru, **Irdika Mansur** & H Nasir. 2021. Propagation of valuable tree of Eha (*Castanopsis buruana Miq*.) using stem cutting. IOP Conf. Series: Earth and Environmental Science 807 (2021) 042066. IOP Publishing. DOI: 10.1088/1755-1315/807/4/042066

Berlin Pandapotan Pardede, Muhammad Agil, Ni Wayan Kurniani Karja, Cece Sumantri, Iman Supriatna & **Bambang Purwantara**. 2022. PRM1 Gene Expression and Its Protein Abundance in Frozen-Thawed Spermatozoa as Potential Fertility Markers in Breeding Bulls. Vet. Sci. 2022, 9(3), 111; https://doi.org/10.3390/vetsci9030111

Basrudin, Husna, Faisal Danu Tuheteru, Asrianti Arif, Albasri **, Irdika Mansur** & Krisdianto. 2021. Influence of seedlings height and planting media on Eha growth (*Castanopsis buruana Miq.)* from the extract of natural saplings. IOP Conf. Series: Earth and Environmental Science 807 (2021) 042015 IOP Publishing doi:10.1088/1755-1315/807/4/042015.

David Timotius Tambunan, **Ichsan Achmad Fauzi**, Muhammad Agus Suprayudi, **Shela Marlinda &** Julye Ekasari. 2022. Evaluation of feeding response and growth performance of tilapia (Orechromis niloticus) that conditioned with color-assigned LED that associated with feeding and stressor. IOP Conference Series: Earth and Environmental Science. Vol 1033 Issue 1

Dewayany Sutrisnoa, Ati Rahadiati , Mazlan Bin Hashimc, Peter Tian-Yuan Shihd, Rongjun Qine,

Muhammad Helmi , **Armaiki Yusmur** & Li Zhang. 2022. Spatial planning-based ecosystem adaptation (SPBEA) as a method to mitigate the impact of climate change: The effectiveness of hybrid training and participatory workshops during a pandemic in Indonesia. APN Science Bulletin 2022, Volume 12, Issue 1. https://doi.org/10.30852/sb.2022.1772

Dewi Rahmawati, Supriyanto, & Nugroho A. 2022. The Effect of gamma radiation on germination of Acacia (*Acacia mangium*) generation M2. Jurnal Perbenihan Tanaman Hutan. 10(1): 23-36.

Dewi Wulandari, Agus C, Risa Rosita **, Irdika Mansur** & Maulana AF. 2022. Impact of tin mining on soil physio-Chemical properties in Bangka, Indonesia. Jurnal Sains dan Teknologi Lingkungan Vol. 14 no. 2 January 2022.

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Faisal Danu Tuheteru, Asrianti Arif, Husna Husna, Basrudin Basrudin, Albasri Albasri, **Irdika Mansur**, Maman Turjaman, Miranda Hadiyanti Hadijah, Agnitje Rumambi, Budi Prasetya & Armila R Male. 2022. Tolerance of lonkida (*Nauclea orientalis L*.) seedlings inoculated with mycorrhizae against drought and waterlogging stress. Journal of Degraded and Mining Lands Management Volume 9 Issue 4 Pages 3725-3732

Jefry Jefry, Mia Setiawati, Dedi Jusadi, **Ichsan Achmad Fauzi**. 2021. Cellulase hydrolyzed *Indigofera zolingeriana* leaf utilization as a feed ingredient for gourami fingerling. Jurnal Akuakultur Indonesia Vol. 2 issue 2 pages 139 – 147

Harahap IS, Asnan TAW, **Widayanti S, and Widhiastuti H**. 2022. Diversity and composition of ant species in different urban areas in Bogor, West Java, Indonesia. Biodiversitas 23: 4090-4096. (2022) https://smujo.id/biodiv/article/view/11477

Hermiati, Eddy Nurtjahya & **Irdika Mansur**. 2021. Abundanceand potency of Non-Symbiotic Nitrogen-Fixing Bacteria in Padang Sapu-sapu, Pejem Village, Bangka. BERKALA SAINSTEK (2):95-102. DOI: 10.19184/bst.v9i2.20057

I Wayan Budiastra, Haris Ramadhan & **Nijma Nurfadila**. 2022. Determination of chemical content of vanilla pods (Vanilla planifolia) non-destructively using NIR Spectroscopy. ICBB.

Ihsan Noor, Yudi Firmanul Arifin, Bambang Joko Priatmadi, Akhmad Rizally Saidy, & **Irdika Mansur**. 2022. Role of the Tree Species Selected in Developing Swampy Forest System for Passive Treatment of Acid Mine Drainage. Technium Sustainability Vol. 2, No. 1, pp.46-53.

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Irdika Mansur & Rahma Sari. 2021. Respon Pertumbuhan Bibit Ylang-Ylang (*Cananga odorata forma genuine*) Terhadap Pemberian Pupuk Daun Di Persemaian (Response of Ylang-Ylang Seed Growth (*Cananga odorataformagenuina*) to Giving Leaf Fertilizers in Nursery). Jurnal Silvikultur Tropika Vol. 12 No. 3, December 2021, pages 102-108.

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M. A. Nanda, A. K. Wijayanto, **H. Imantho**, L. O. Nelwan, I. W. Budiastra & K. B. Seminar. 2022. Factors Determining Suitable Landfill Sites for Energy Generation from Municipal Solid Waste: A Case Study of Jabodetabek Area, Indonesia. The Scientific World Journal, Vol. 2022, Article-ID 9184786, 16 p, doi: 10.1155/2022/9184786

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ecosystem adaptation (SPBEA) as a method to mitigate the impact of climate change: The effectiveness of hybrid training and participatory workshops during a pandemic in Indonesia. APN Science Bulletin. 2022. 29-43. 10.30852/sb.2022.1772.

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B. Journals and Newsletters

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C. Monographs

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D. Research Reports

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Anas, Roynisfan. 2021. Making Simple Distillation Equipment Prototypes in Essential Oil Business Development at Agricultural Vocational High School. SEAMEO BIOTROP, Bogor.

Anidah.2021. Molecular Profile Characterization of Aspergillus flavus Toxigenity. SEAMEO BIOTROP, Bogor.

Aslan, Yamamuro M, Putri ZS, Yusmur A. 2021. Neonicotinoid Contamination in Indonesian Estuarine Waters in Relation to Agricultural Land Use (A Case Study in Indramayu Regency). SEAMEO BIOTROP, Bogor.

Baskoro DPT. 2021. Study of SuperiorTropical Fruits for the Development and Empowerment of Agricultural Vocational High Schools in Indonesia: Development of Derivative Product from Fruit and Vegetable in Partner Vocational High Schools in Aceh, Bangka Belitung, South Sumatera, and Lampung. SEAMEO BIOTROP, Bogor.

Basyuni M, Susilowati A, Susetya IE. 2021. Utilization of Metabarcoding E-DNA as a Variable for Evaluation of Mangrove Ecosystem Conditions in North Sumatera and Aceh. SEAMEO BIOTROP, Bogor.

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Fauzi IA, Marlinda S, Ngili FD, Yana. 2021. Determination of C/N Ratio In Vannamei Shrimp Litopenaeus Vannamei Culture with Biofloc System for Improving Growth and Feed Efficiency. SEAMEO BIOTROP, Bogor.

Hanif N, Supriyanto, Ito S, Fatimah S, Febriyanto AA, Nababan ESP, Iskandar RB. 2021. Establishment of Green Integrative Models As A Promotion Media of Biodiversity, Food And Nutrition Sustainable for Students in Kota Kinabalu Indonesian School. SEAMEO BIOTROP, Bogor.

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Mahulette AS, Supriyanto, Situmorang J, Suyadi, Alfian A. 2021. Database, Diversity and Potential Use of Local Clove (Syzygium aromaticum (L) Merry and Perry) in Maluku Island. SEAMEO BIOTROP, Bogor.

Malik J, Supriyanto, Hastuti N, Santoso A, Trisatya DR, Dungani R, Kuswara. 2021. Study on the Use of Solid and Engineered Wood in House-Building Activities to Support Climate Stabilization. SEAMEO BIOTROP, Bogor.

Mangurai SUNM, Solikhin A, Octaviani EA ,Anidah. 2021. Systematic Evidence Evaluation on Industry 4.0 Digital Technologies in Indonesian Food and Agricutural Sector and Its Implication on Pre- and Post-Covid-19 Pandemic. SEAMEO BIOTROP, Bogor.

Mansur I, Yusmur A, Sekarjannah FA, Perala I. 2021. Management of Acid Mine Drainage with Floating Treatment Wetlands and Sulfate- Reducing Bacteria (SRB) Enrichment. SEAMEO BIOTROP, Bogor.

Mariani, Sugiarta, Aminah S. 2021. Formulation of Liquid Organic Waste to Increase the Resistance of Shallots (Allium ascalanicum L.) from Fusarium Wilt Disease. SEAMEO BIOTROP, Bogor.

Purwantara B, Solihin DD, Gunawan A, Agil M, Rosyada NA. 2021. Identification of Fertility Biomarker Proteins in Sperm of Superior Local Breed Bulls to Support National Cattle Breeding Program. SEAMEO BIOTROP, Bogor.

Puspasari R, Aslan, Madduppa H, Pranowo WS, Nugraha B, Rachmawati R. 2021. Effectiveness of Marine Protected Area in Fish Resources Rehabilitation Based on Microsatellite Study and Larval Dispersal Analysis. SEAMEO BIOTROP, Bogor.

Rahayu EA. 2021. Process of Making Extract, Concentrate and Powder Drink from Lemon Var. California. SEAMEO BIOTROP, Bogor.

Rahmat A. 2021. Smart Hydro-Aquaponic (Hypo) using Internet of Things (IoT) Powered by

Hybrid Solar System. SEAMEO BIOTROP, Bogor.

Rahmawati D, Supriyanto, Pratama A.2021. Micropopagation of Acacia mangium M1 Generation Obtained by Mutation Breeding Technique. SEAMEO BIOTROP, Bogor.

Rosita R, Mansur I, Aslan, Eris DD, Darwati A, Anggoro PD, Ikay S. 2021. Improving the Quality of Mycorrhiza Inoculum in SEAMEO BIOTROP: Development of Biomass Production Techniques, Formulation, Storage, Packaging, Infectivity and Effectiveness Test. SEAMEO BIOTROP, Bogor.

Rusdiana O. 2021. Study of Superior Tropical Fruits for Development and Empowerment of Agricultural Vocational High Schools in Indonesia: Development of Derivative Product from Fruit and Vegetable in Partner Vocational High Schools in West Nusa Tenggara and West Java. SEAMEO BIOTROP, Bogor.

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Siregar UJ, Hartati S. 2021. Study on Sengon (Falcataria moluccana) Resistance to Boktor Pest (Xystrocera festiva) and Gall Rust (Uromycladium tepperianum). SEAMEO BIOTROP, Bogor.

Sugiarto SW.2021. Smart System Development for SMARTS-BE Program: “Integration of Monitoring System Based on Geolocation and Expert System for the Diagnostics of Plant Pests and Diseases”. SEAMEO BIOTROP, Bogor.

Supriyanto. 2021. Study of Superior Tropical Fruits for the Development and Empowerment of Agricultural Vocational High Schools in Indonesia: Development of Derivative Product from Fruit and Vegetable in Partner Vocational High Schools in Central Java, East Java, and Bali. SEAMEO BIOTROP, Bogor.

Surapati. 2021. Study of SuperiorTropical Fruits for The Development and Empowerment of Agricultural Vocational High Schools in Indonesia: Development of Derivative Product from Fruit and Vegetable in Partner Vocational High Schools in West Java and DKI Jakarta. SEAMEO BIOTROP, Bogor.

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Ulumuddin YI, Yusmur A, Aslan, Suratno, Manullang CY, Suyadi. 2021. Assessing the Impacts of Catchment Land-Uses and Coastal Urban Developments on Heavy Metals and Microplastics in Commercial Mangrove Crabs as Measures for Food safety. SEAMEO BIOTROP, Bogor.

Winarni NL, Widayanti S, Aslan, Anugra BG, Nuruliawati. 2021. rbanized Ecosystem Resilience through the Flight of Butterflies. SEAMEO BIOTROP, Bogor.

Yulvianah, Mahardika E. 2021. Utilization of Kelor Leaves for the Making of Environmentally Friendly Liquid Handwashing in the Era of Pandemic Covid 19 in SMA Negeri 2

Padalarang. SEAMEO BIOTROP, Bogor.

Yusmur A, Mansur I, Rosita R, Zubaidah S, Al Amin SF.2021. Direct Seeding and Seedball Techniques as Alternative Planting Method for Reclamation in Post Mining Area. SEAMEO BIOTROP, Bogor.

E. Multimedia for Promotional Materials

Videos

BINCANG BIODIVERSITAS - Seafarming, Pemberdayaan Masyarakat dalam Pemanfaatan Hayati Laut (https://www.youtube.com/watch?v=lovekllaQpQ)

BIOSync 10 - Pencari Ilmu dari Papua (Biosync 10 - Pencari Ilmu dari Papua)

BIOSync 11 - Praktek Kerja Industri SMKN Tolikara Pengembangan Minyak Atsiri dan Produk Turunannya (https://www.youtube.com/watch?v=NOjmiBBbYko)

Brochure and Booklet

SEAMEO BIOTROP Capacity Building Program

SEAMEO BIOTROP Entomology Laboratory

SEAMEO BIOTROP Hydroponic

SEAMEO BIOTROP Facilities

SEAMEO BIOTROP Affiliate and Associate program

Infographics

Stored Product Insect Pest Phosphine Resistance

Aflatoxin: Hidden Carcinogen in Daily Food

Artificial vs Natural Fish Feeds

SLID Mendukung MBKM

Appendix 6.
List of Scientific Visits to SEAMEO BIOTROP

No	Organization/Institution	Date	Participant	Visit Area
1	SDIT Insantama, Bogor	8 July 2021	98	Tissue Culture Lab, Entomology Lab, Hydroponic
2	Balai Perikanan Budidaya Air Payau Situbondo	9-10 July 2021	5	Entomology Lab, Hydroponic, Edible Mushroom Cultivation
3	SD IT Insantama, Bogor	26 August 2021	4	Entomology Lab, Hydroponic, Tissue Culture Lab
4	Universitas Pembangunan National Veteran Jawa Timur	06 September 2021	13	Entomology Lab, Lab. Natural Product, Hydroponic
5	SD IT Insantama, Bogor	23 September 2021	3	Entomology Lab, Hydroponic, Akuaponik
6	SD IT Insantama, Bogor	27 October 2021	130	Entomology Lab, Hydroponic, Edible Mushroom Cultivation
7	SD Regia Pacis, Bogor	21 October 2021	170	Akuaponik, Hydroponic, Entomology Lab
8	SMK YKPI Analis Kimia	03-Nov-21	45	Lab. Air dan Udara, IPAL, Lab Tanah dan Tanaman
9	SMP Nuraida Bogro	12-Nov-21	45	Entomology Lab, Hydroponic, Edible Mushroom Cultivation
10	PT kaliduren Estate, Jember	15-Nov-21	2	Entomology Lab, Hydroponic, Edible Mushroom Cultivation
11	MGMP IPA, Kab. Serang	16-Nov-21	80	Entomology Lab, Hydroponic, Edible Mushroom Cultivation
12	Musyawarah Kerja Kepala Sekolah (MKKS) SMK Kab. Timor Tengah Utara, NTT	17-Nov-21	20	Entomology Lab, Lab. Natural Product, Hydroponic
13	SMK Kehutanan Bakti Rimba, Bogor	18-Nov-21	51	Entomology Lab, Hydroponic, Edible Mushroom Cultivation
14	Badan Riset dan Inovasi National (BRIN)	19-Nov-21	2	n/a
15	MI Sirojul Fallah	23-Nov-21	5	Entomology Lab, Hydroponic, Tissue Culture Lab
16	Dinas Tanaman Pangan dan Holtikultura, Medan	24-Nov-21	4	Entomology Lab, Hydroponic, Edible Mushroom Cultivation
17	PT Centre of Excellence SeaWeed Indonesia	29-30 November 2021	2	Entomology Lab, Hydroponic, Akuaponik
18	Universitas Halu Oleo, Kendari-Sulawesi	3 December 2021	7	Entomology Lab, Lab. Biosystem and Lanscape Management, Hydroponic
19	PT Centre of Excellence SeaWeed Indonesia	29-30 November 2021	12	Entomology Lab, Hydroponic, Akuaponik
20	Universitas Halu Oleo, Kendari-Sulawesi	4 December 2021	17	Entomology Lab, Lab. Biosystem and Lanscape Management, Hydroponic

No	Organization/Institution	Date	Participant	Visit Area
21	Kementerian Koordinator Bidang Kemaritiman dan Investasi Republik Indonesia	14 January 2022	11	Tissue Culture Lab, Edible Mushroom Cultivation, Lab. Natural Product
22	Bupati Maluku Tenggara bersama Kadis Kelautan dan Perikanan		5	, ,
23	PT Global Environment Laboratory (Study Banding ke Soil and Plant Lab)	18 January 2022	3	Soil and Plant Lab, IPAL, Lab. Terpadu
24	Universitas Negeri Semarang (UNNES)	20 January 2022	7	Tissue Culture Lab, Lab. Akuatik, Hydroponic
25	Balai Penelitian Tanaman Hias, Cianjur	20 January 2022	7	Tissue Culture Lab, Persemaian Kuljar,
26	Politeknik Negeri Lampung (POLINELA)	27 January 2022	7	Lab. Natural Product, Hydroponic, Edible Mushroom Cultivation
27	MTs Al Husna Tanggerang, tingkat 7 & 8	16 March 2022	130	Hydroponic, Tissue Culture Lab, Akuaponik
28	Direktorat Jenderal Perikanan Budidaya	11 March 2022	10	Tissue Culture Lab, Lab. Akuatik, Edible Mushroom Cultivation
29	BRI Research Institute	18 March 2022	21	Lab. Natural Product, Hydroponic, Akuaponik
30	KEMENTAN	11 March 2022	5	Hydroponic, Tissue Culture Lab, Edible Mushroom Cultivation
31	Direktorat Jenderal Hortikultura Kementan	17 March 2022	5	Edible Mushroom Cultivation, Tissue Culture Lab, Persemaian Kuljar
32	Univ. Pelita Harapan	05-Apr-22	2	Tissue Culture Lab, Persemaian Kuljar, Edible Mushroom Cultivation
33	Persatuan Wredatama Republik Indonesia (PWRI)	06-Apr-22	9	Lab. Natural Product, Hydroponic, Edible Mushroom Cultivation
34	Univ. Bengkulu	20-Apr-22	6	Lab. Natural Product, Hydroponic, Edible Mushroom Cultivation
35	Bupati Ogan Komering Ulu	19-Apr-22	45	Lab. Natural Product, Hydroponic, Edible Mushroom Cultivation
36	SMA IT Insan Mandiri, Bekasi	19-Mei-22	76	Hydroponic, Akuaponik, Edible Mushroom Cultivation
37	Pusat Riset Bioindustri Lau dan darat - BRIN	19-Mei-22	1	Tissue Culture Lab, Persemaian Kuljar, Edible Mushroom Cultivation
38	Islamic Boarding School Mutiara Quran	6 June 2022	25	Tissue Culture Lab, Lab. Fitopatologi, Edible Mushroom Cultivation

No	Organization/Institution	Date	Participant	Visit Area
39	SMP Islam Al Azhar BSD @Metland Cibubur	9 June 2022	52	Tissue Culture Lab, Lab. Fitopatologi, Edible Mushroom Cultivation
40	CV Renata Nursery GS BIOTECH	28 June 2022	11	Edible Mushroom Cultivation, Tissue Culture Lab, Persemaian Kuljar
41	Pertamina (persero)	6 June 2022	8	Lab. Natural Product, Edible Mushroom Cultivation, Persemaian Kuljar
42	Pampera (Perjuangan Amanat Penderitaan Rakyat) Brebes	27 June 2022	10	Lab. Natural Product, Persemaian Kuljar, Edible Mushroom Cultivation
43	Universitas Pertahanan RI (NTT)	30 June 2022	3	Lab. Natural Product, Edible Mushroom Cultivation, Tissue Culture Lab
			1174	

Appendix 7.

Resource Person, Moderator, Rapporteur and Reviewer on Scientific Training Courses, Workshops, Conferences and Symposia Attended by SEAMEO BIOTROP Staff Members during FY 2021/2022

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
1	Dr. Zulhamsyah Imran	BIMTEK Tim Validasi Kajian Lingkungan Hidup Strategis (KLHS) Penataan Ruang Kabpupaten/Kota Provinsi Papua [Validation Team for Strategic Environmental Studies (KLHS) Spatial Planning for Regency/City Papua Province] Organizer : Forestry and Environment Service (KLHK) Papua Province]	04-08 July 2021	-	Resource Person
2	Dr. Zulhamsyah Imran	Environmental Leader Talk eries 1 dengan tema "Menghijaukan Jalan Tol dengan pohon Langka Untuk mengurangi Emisi dan Peningkatan Edukasi" [Environmental Leader Talk series 1 with the theme "Greening Toll Roads with Rare trees To reduce Emissions and Improve Education"] Organizers : DPP HA IPB, DKHA IPB, SEAMEO BIOTROP	Bogor, 10 July 2021	Enriching Human Made for Saving Biodiversity	Resource Person
3	Indah Wahyuni, M.Si	Inception workshop SMIAS 1 GEF-7 Organizers : Ministry of Environment and Forestry, Food and Agriculture Organization of the United Station, SEAMEO BIOTROP	Bogor, 12 July 2021		MC & Rapporteur
4	Yuni Puspita Sari, MM	Webinar - Status of PPNPN BIOTROP with BKHM officials from the Ministry of Education and Culture Organizer : SEAMEO BIOTROP	Bogor, 12 July 2021		Moderator

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
5	Sri Ismawati Soerianegara, M.Sc	Inception workshop SMIAS 1 GEF-7 Organizers : Ministry of Environment and Forestry, Food and Agriculture Organization of the United Station, SEAMEO BIOTROP	Bogor, 12-13 July 2021	-	Rapporteur
6	Dr. Zulhamsyah Imran	Inception workshop SMIAS 1 GEF-7 Organizers : Ministry of Environment and Forestry, Food and Agriculture Organization of the United Station, SEAMEO BIOTROP	Bogor, 12 – 13 July 2021	-	Moderator
7	Dr. Soekisman Tjitrosoedirdjo	Inception workshop SMIAS 1 GEF-7 Organizers : Ministry of Environment and Forestry, Food and Agriculture Organization of the United Station, SEAMEO BIOTROP	Bogor, 12 – 13 July 2021	-	Moderator
8	Dr. Idham S. Harahap	Fumigation Technical Guidance in the Perspective of Integrated Warehouse Pest Management Organizer : SEAMEO BIOTROP	Bogor, 13 July 2021	Serangga Hama Gudang, Organisme Perusak Kayu, Bahan Arsip, Museum dan Pengelolaannya General Pest Control [Warehouse Pest Insects, Wood Destroying Organisms, Archives Materials, Museums and Their Management General Pest Control]	Resource Person
9	Ir. Sri Widayanti, M.Si.	Fumigation Technical Guidance in the Perspective of Integrated Warehouse Pest Management Organizer : SEAMEO BIOTROP	Bogor, 13 July 2021	Teknik Fumigasi Fosfin (PH3) [Phosphine Fumigation Technique (PH3)]	Resource Person
10	Trijanti A. Widinni A, SP. M.Si	Fumigation Technical Guidance in the Perspective of Integrated Warehouse Pest Management	Bogor, 13 July 2021	Pengelolaan Hama Gudang Terpadu (PHGT) [Integrated Warehouse Pest Management (PHGT)]	Resource Person

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
		Organizer : SEAMEO BIOTROP			
11	Shella Marlinda, M.Si.	Talks of Affliate Scientist (TAS) Seri 4: Developing More Sustainable Aquacultue Organizer : SEAMEO BIOTROP	Bogor, 15 July 2021		Moderator
12	Harry Imantho, M.Sc	BIOTROP to SCHOOL SERIES 9 : "Remote Sensing and GIS Organizer : SEAMEO BIOTROP, BSC, Graduate School of IPB	Bogor, 19 July 2021	Remote Sensing dan GIS untuk Pertanian Presisi [Potential of GIS and Remote Sensing Technology for Strategic Environmental Studies]	Resource Person
13	Slamet Widodo Sugiarto, S.Si	BIOTROP to SCHOOL SERI 9 : "Remote Sensing dan GIS Organizer : SEAMEO BIOTROP, BSC, Sekolah Pasca Sarjana IPB	Bogor, 19 July 2021	Potensi Teknologi GIS dan Remote Sensing untuk Kajian Lingkungan Hidup Strategis [Potential of GIS and Remote Sensing Technology for Strategic Environmental Studies]	Resource Person
14	Sri Ismawati Soerianegara, M.Sc	SEAMEO Center's Directors Meeting 2021 (Virtual) Organizer : SEAMES	21 July 2021		Rapporteur
15	Dr. Erina Sulistiani, M.Si	BIMTEK - Tissue culture for the provision of kotoni seaweed seeds Organizer : SEAMEO BIOTROP	Bogor, 26 – 29 July 2021	1. Kultur jaringan untuk penyediaan bibit tanaman dan rumput laut [Tissue culture for the provision of plant and seaweed seeds] 2. Fasilitas, peralatan dan teknik aseptik dalam kultur jaringan rumput laut [Facilities,	Resource Person

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
				equipment and aseptic techniques in seaweed tissue] 3. Tahapan kultur jaringan rumput laut kotoni [Culture Stages of cotony seaweed tissue culture]	
16	Dr. Zulhamsyah Imran	Workshop Loss and Damage Soared, What Should We Do Organizers : Center for Planning Studies (PSB), PIAREA, SEAMEO BIOTROP	Bogor, 31 July 2021		Resource Person
17	Armaiki Yusmur, M.Si	Pekerjaan jasa survey lapangan untuk Kajian Pengembangan perkebunan (antara lain Pala) teringerasi dengan industri pengelolaan hasil perkebunan (di Provinsi Papua Barat) [Field survey services for plantation development studies (Nutmeg) integrated with the plantation product management industry (in West Papua Province)] Organizer : PT Prima Kelola IPB	Bogor, 23 August – 2 September 2021		Resource person
18	Dr. Idham Sakti Harahap	TAS series 5 Webinar Peran Entomologi dan pengendalian hama dalam mengawal food safety [TAS series 5 Webinar Role of Entomology and pest control in controlling food safety] Organizer : SEAMEO BIOTROP	Bogor, 24 August 2021	Peran Entomologi dalam Food Safety [Role of Entomology in Food Safety]	Resource person
19	Ir. Sri Widayanti, M.Si.	TAS series 5 Webinar Peran Emtomologi dn pengendalian hama dalam mengawal food safety [TAS series 5 Webinar Role of Entomology and pest control in controlling food safety]	Bogor, 24 August 2021		Moderator

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
		Organizer : SEAMEO BIOTROP			
20	Armaiki Yusmur, M.Si	BIOTROP to School Webinar Series 10 : Biodiversity Survey "Exploring Tropical Biology through Mapping Hobby" Organizer : SEAMEO BIOTROP	30 August 2021	Mendalami Biologi Tropika melalui Hobi Pemetaan [Tropical Biology through Mapping Hobby]	Resource person
21	Shella Marlinda, M.Si	BIMTEK Pertanian Perkotaan – Budidaya Akuaponik [BIMTEK Urban Agriculture – Aquaponic Cultivation] Organizer : SEAMEO BIOTROP	Bogor, 25-31 August 2021		Resource person
22	Harry Imantho, M.Sc	Webinar "Morning Mind Cloud Idea Seri 8" (MOMI CLOUDIA) -Membangun dan Mengembangkan Sistem Manajemen Riset [Building and Developing a Research Management System] Organizer : SEAMEO BIOTROP	Bogor, 25 August 2021		Moderator
23	Nijma Nurfadila, M.Si	Webinar "Morning Mind Cloud Idea Seri 8" (MOMI CLOUDIA) "Membangun dan Mengembangkan Sistem Manajemen Riset" [[Building and Developing a Research Management System] Organizer : SEAMEO BIOTROP	Bogor, 25 August 2021		Interpreter
24	Saiful Bachri, S.Si	Webinar BIOTROP to School Seri 10 : Survey Keanekaragaman Hayati : Mendalami Biologi Tropika melalui Hobi Pemetaan [Biodiversity Survey "Exploring Tropical Biology through Hobbies Mapping] Organizer: SEAMEO BIOTROP	Bogor, 30 August 2021		Moderator

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
25	Dr. Ir. Erina Sulistiani, M.Si	FGD Strategic activities Development of quality and sustainable seaweed seeds Organizer : Coordinating Ministry for Maritime Affairs and Investment Republic of Indonesia	Jakarta, 31 August 2021		Resource person
26	Riana Hartati, S.Si	BIMTEK Pertanian Perkotaan - Budidaya Hidroponik [BIMTEK Urban Agriculture - Hydroponic Cultivation] Organizer : SEAMEO BIOTROP	Bogor, 2-3, 7, 9-10 September 2021		Resource person
27	Sri Ismawati Soerianegara, M.Sc	Webinar and Focus Group Discussion Sustainable and Innovative Financing on Invasive Alien Species (IAS) Management in Indonesia Organizer : SEAMEO BIOTROP	Bogor, 3 September 2021		Interpreter
28	Dr. Ir. Erina Sulistiani, M.Si	BIMTEK Kultur Jaringan Tanaman di Lab. Kuljar PT Bukit Asam, Muara Enim [BIMTEK - Plant Tissue Culture in the Lab. Kuljar PT Bukit Asam, Muara Enim] Organizer : PT Bukti Asam	Tanjung Enim, Sumatera Selatan, 6-10 September 2021		Resource person
29	Rosadi Kartawijaya, S.Pd.I.	BIMTEK Kultur Jaringan Tanaman di Lab. Kuljar PT Bukit Asam, Muara Enim [BIMTEK - Plant Tissue Culture in the Lab. Kuljar PT Bukit Asam, Muara Enim] Organizer: PT Bukti Asam	Tanjung Enim, Sumatera Selatan, 6-10 September 2021		Resource person

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
30	Dr. Perdinan	Sosialisasi Kegiatan Identifikasi Adaptasi Perubahan Iklim Berbasis Ekosistem [Socialization of Ecosystem-Based Climate Change Adaptation Identification Activities] Organizer: Direktorat Jenderal Pengendalian Perubahan Iklim, Kementerian Lingkungan Hidup dan Kehutanan [Directorate General of Climate Change Control, Ministry of Environment and Forestry]	Jakarta, 21-22 September 2021	Pengantar Perubahan Iklim dan kosistem [ntroduction to Climate Change and Ecosystems]	Resource person
31	Risa Rosita, M.Si	ARLab Virtual Open House 2021 Organizer : IPB University	Bogor, 21-22 September 2021	"Identifikasi Sampel Spora Fungi Mikoriza Arbukusula dengan Teknik Molekuler" [Spore Samples Identification of Arbuscula Mycorrhiza Fungi Using Molecular Techniques]	Resource person
32	Dr. Perdinan	Tindak Lanjut Fasilitasi dan Pendampingan Penyusunan Rencana Aksi Adaptasi Perubahan Iklim Kabupaten Kendal [Follow-up Facilitation and Assistance in the Preparation of an Action Plan for Climate Change Adaptation in Kendal Regency] Organizer : Direktorat Jenderal Pengendalian Perubahan Iklim, Kementerian Lingkungan Hidup dan Kehutanan [Organizer : Directorate General of Climate Change Control, Ministry of Environment and Forestry]	Jakarta, 27 September 2021		Resource person
33	Prof. Dr. Okky S. Dharmaputra	BIMTEK Isolasi dan Identifikasi Cendawan Penghasil Mikotoksin [BIMTEK Isolation and Identification of Mycotoxin Producing Fungi]	Bogor, 28-29 September 2021	Pengenalan Cendawan dan Keragaman Cendawan Penghasil Miktosin pada Bahan Pangan di Indonesia [Introduction of Fungi and Diversity of Myctocin-Producing	Resource person

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
		Organizer : SEAMEO BIOTROP		Fungi in Food Ingredients in Indonesia]	
34	Nijma Nurfadila, M.Si	BIMTEK Isolasi dan Identifikasi Cendawan Penghasil Mikotoksin [[BIMTEK Isolation and Identification of Mycotoxin Producing Fungi] Organizer : SEAMEO BIOTROP	Bogor, 28-29 September 2021	Isolasi dan Enumerasi Cendawan penghasil Miktosin pada bahan pangan [Isolation and Enumeration of Myctocin-Producing Fungi in Foodstuffs]	Resource person
35	Ir. Ina Retnowati	BIMTEK Isolasi dan Identifikasi Cendawan Penghasil Mikotoksin [BIMTEK Isolation and Identification of Mycotoxin Producing Fungi] Organizer: SEAMEO BIOTROP	Bogor, 28-29 September 2021	Identifikasi Cendawan penghasil miktosin pada bahan pangan secara morfologi [Isolation and Enumeration of Myctocin-Producing Fungi in Foodstuffs]	Resource person
36	Anidah, M.Pn	BIMTEK Isolasi dan Identifikasi Cendawan Penghasil Mikotoksin [BIMTEK Isolation and Identification of Mycotoxin Producing Fungi] Organizer: SEAMEO BIOTROP	Bogor, 28-29 September 2021	Identifikasi cendawan penghasil miktosin secara molekuler [Molecular identification of mytocin-producing fungi]	Resource person
37	Santi Ambarwati, M.Si	BIMTEK Isolasi dan Identifikasi Cendawan Penghasil Mikotoksin [BIMTEK Isolation and Identification of Mycotoxin Producing Fungi] Organizer: SEAMEO BIOTROP	Bogor, 28-29 September 2021	Deteksi dan analisis aflatoksin pada bahan pangan dan isolat cendawan [Detection and analysis of aflatoxins in foodstuffs and fungal isolates]	Resource person

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
38	Riana Hartati, S.Si	Seminar On Early Childhood : Institution, Education and Development (SEED) Organizer: Faculty of Economic and Management, IPB University	Bogor, 29 September 2021	School garden untuk peningkatan mutu pendidikan di Lembaga PAUD melalui pembelajaran Hidroponik [School garden for improving the quality of education in PAUD institutions through hydroponic learning]	Resource person
39	Risa Rosita, M.Si.	Workshop on Policy Brief Capacity Building Organizer: SEAMEO RECSAM Malaysia	Bogor, 5-6 October 2021	Biotrop Study Relate to Essential Oil	Resource Person
40	Dr. Perdinan	Workshop International Sea as Global Climet Engine : Climate change and Coastal Resilience Organizer: SEAMEO BIOTROP	Bogor, 7-8 October 2021		Moderator
41	Dewi Suryani M.M	Workshop International Sea as Global Climet Engine : Climate change and Coastal Resilience Organizer: SEAMEO BIOTROP	Bogor, 7-8 October 2021		Moderator
42	Dr. Supriyanto	Training of Trainer “Penguatan Kapasitas Pelaksana Program FORCLIME-FC Kabupaten Kapuas Hulu, Berau dan Malinau dalam Rangka Pengakhiran Program” [Training of Trainers “Strengthening the Capacity of FORCLIME-FC Program Implementers in Kapuas Hulu, Berau and Malinau Districts for Program Termination”] Organizer: SMARTS-be SEAMEO BIOTROP	Kapuas Hulu, 8-10 October 2021		Resource Person

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
43	Dr Supriyanto	Training of Trainer (ToT) Penguatan Kapasitas Pelaksana Program FORCLIME-FC Kabupaten Kapuas Hulu, Berau dan Malinau dalam rangka Pengakhiran Program [Training of Trainers "Strengthening the Capacity of FORCLIME-FC Program Implementers in Kapuas Hulu, Berau and Malinau Districts for Program Termination"] Organizers : FORCLIME-FC Kabupaten Kapuas Hulu	Kapuas Hulu, 8-10 October 2021	Bio-enzym dan Biopestisida, Komunikasi Perencanaan, Pembuatan Bio-Enzym, Gaharu: Pengenalan Gaharu dan Kualitas Gaharu, Teknik Inokulasi Gaharu, Pembuatan Inokulum Cair, Penyuntikan, Penyulingan dan Ekstraksi Gaharu, Pembuatan Parfum [Bio-enzymes and Biopesticides, Planning Communication, Production of Bio-Enzymes, Agarwood: Introduction of Agarwood and Quality of Agarwood, Agarwood Inoculation Techniques, Liquid Inoculum Production, Injection, Distillation and Extraction of Agarwood, Perfume Production]	Resource Person
44	Dr Supriyanto	Kerjasama IPB dan BNPB [Cooperation between IPB and BNPB] Organizer : IPB University	Bogor, 11 October 2021	Pemulihan SDA dan Lingkungan pasca bencana di Pasir Madang [Recovery of natural resources and the environment after the disaster in Pasir Madang]	Resource Person
45	Dr Supriyanto	Lokakarya Pengembangan SMK Model Agro Eko Eduwisata Program SMARTS-Be [Workshop on the Development of Vocational Schools for Agro Eco Edutourism Model SMARTS-Be Program] Organizer: SMARTS-be SEAMEO BIOTROP	Bogor, 11 – 13 October 2021	Penelusuran Minat dan Bakat Siswa dalam Agro Eko Eduwisata [Exploring Student Interests and Talents in Agro Eco Edutourism]	Resource Person

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
46	Dr Supriyanto	Pengembangan proposal CPRN [CPRN proposal development] Organizer: CPRN	Bogor, 12 October 2021	Pengembangan proposal CPRN [CPRN proposal development]	Resource Person
47	Dr Supriyanto	Webinar Shell Desa Bersemi [Bersemi Village Shell Webinar] Organizer: Shell	Bogor, 14 October 2021	Pembangunan kebun buah di sekolah Jabodetabek [Construction of fruit orchards in Jabodetabek schools]	Resource Person
48	Dr Supriyanto	Orientation Webinar “Strengthening Collaboration between BIOTROP and MSU and Expanding Regional Visibility” Organizers : Jointly SEAMEO BIOTROP, Mindanao State University	19 October Bogor, 2021	Introduction to laboratory natural product	Resource Person
49	Dr. Perdinan	Evaluasi Pelaksanaan Identifikasi Adaptasi Perubahan Iklim Berbasis Ekosistem di 5 (Lima) Wilayah Balai PPI dan KHL [Evaluation of Implementation of Ecosystem-Based Climate Change Adaptation Identification in 5 (Five) PPI and KHL Balai Areas] Organizer : Kementerian Lingkungan Hidup dan Kehutanan, Direktorat Jenderal Pengendalian Perubahan Iklim	Jakarta, 19 Oktober 2021		Resource Person
50	Ir. Ina Retnowati	Orientation Webinar “Strengthening Collaboration between BIOTROP and MSU and Expanding Regional Visibility” Organizesr: Jointly SEAMEO BIOTROP, Mindanao State University	Bogor, 19 October 2021	Spoilage Fungi and Mycotoxins in Foodstuff	Resource Person
51	Harry Imantho, M.Sc	Orientation Webinar “Strengthening Collaboration between BIOTROP and MSU and Expanding Regional Visibility”	Bogor, 19 October 2021	Remote Sensing and Geographic Information System to Support Precision Agriculture Practices	Resource Person

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
		Organizers : Jointly SEAMEO BIOTROP, Mindanao State University			
52	Dr. Erina Sulistiani	Orientation Webinar “Strengthening Collaboration between BIOTROP and MSU and Expanding Regional Visibility” Organizers : Jointly SEAMEO BIOTROP, Mindanao State University	Bogor, 19 October 2021	Tissue Culture on Agriculture Plant, Ornamental Plant and Seaweed	Resource Person
53	Dr. Ulfah J Siregar	Orientation Webinar “Strengthening Collaboration between BIOTROP and MSU and Expanding Regional Visibility” Organizer : Jointly SEAMEO BIOTROP, Mindanao State University	1 Bogor, 9 October 2021	Biotechnology for Tropical Agriculture and Forest Products	Resource Person
54	Risa Rosita, M.Si	Orientation Webinar “Strengthening Collaboration between BIOTROP and MSU and Expanding Regional Visibility” Organizers : Jointly SEAMEO BIOTROP, Mindanao State University	Bogor, 19 October 2021	Restoration Ex-Coal Mining Soil Using Phytoremediation	Resource Person
55	Dr. Perdinan	Orientation Webinar “Strengthening Collaboration between BIOTROP and MSU and Expanding Regional Visibility” Organizer : Jointly SEAMEO BIOTROP, Mindanao State University	Bogor, 19 October 2021		Moderator
56	Eriza Falashifa, S.Hut	Orientation Webinar “Strengthening Collaboration between BIOTROP and MSU and Expanding Regional Visibility” Organizers : Jointly SEAMEO BIOTROP, Mindanao State University	Bogor, 19 October 2021		Rapporteurs
57	Dr. Soekisman Tjitrosemito, M.Sc	Orientation Webinar “Strengthening Collaboration between BIOTROP and MSU and Expanding Regional Visibility” Organizers :	Bogor, 19 October 2021	The New Concept of Weed and Their Management	Resource Person

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
		Jointly SEAMEO BIOTROP, Mindanao State University			
58	Indah Wahyuni, M.Si	Orientation Webinar "Strengthening Collaboration between BIOTROP and MSU and Expanding Regional Visibility" Organizers : Jointly SEAMEO BIOTROP, Mindanao State University	Bogor, 19 October 2021	Herbarium SEAMEO BIOTROP (BIOT)	Resource Person
59	Trijanti A Widinni A M.Si	Orientation Webinar "Strengthening Collaboration between BIOTROP and MSU and Expanding Regional Visibility" Organizera : Jointly SEAMEO BIOTROP, Mindanao State University	Bogor, 19 October 2021	Stored Product Pest Management	Resource Person
60	Dr. Evelyn V. Bigcas	Orientation Webinar "Strengthening Collaboration between BIOTROP and MSU and Expanding Regional Visibility" Organizers : Jointly SEAMEO BIOTROP, Mindanao State University	Bogor, 19 October 2021		Moderator
61	Dr. Supriyanto	Orientation Webinar "Strengthening Collaboration between BIOTROP and MSU and Expanding Regional Visibility" Organizers : Jointly SEAMEO BIOTROP, Mindanao State University	Bogor, 19 October 2021	Indonesian Essential Oils	Resource Person
62	Shella Marlinda, M.Si	Orientation Webinar "Strengthening Collaboration between BIOTROP and MSU and Expanding Regional Visibility" Organizers : Jointly SEAMEO BIOTROP, Mindanao State University	Bogor, 19 October 2021	Development Cultivation of Crayfish, Ornamental Fish, Aquaponic and Fish Feed Production	Resource Person
63	Saiful Bachri, S.Si	Orientation Webinar "Strengthening Collaboration between BIOTROP and MSU and Expanding Regional Visibility" Organizers : Jointly SEAMEO BIOTROP, Mindanao State University	Bogor, 19 October 2021		Rapporteurs

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
64	Sri Ismawati Soerianegara, M.Sc	Pelatihan pengelolaan jurnal berbasis OJS [OJS-based journal management training] Organizer: SEAMEO SEAQIL	Jakarta, 19-21 October 2021	Dinamika dan Tantangan Pengelolaan Jurnal di SEAMEO Center Indonesia (SCI) [Dynamics and Challenges of Journal Management at SEAMEO Center Indonesia (SCI)]	Resource Person
65	Slamet Widodo s, M.Sc	Bimtek Aplikasi Sistem Informasi untuk Pengembangan Pertanian presisi [Information System Application Technical Guidance for Precision Agriculture Development] Organizer: Smarts-Be	Bogor, 19-22 October 2021	Aplikasi Sistem Informasi untuk Pengembangan Pertanian Presisi [Information System Applications for Precision Agricultural Development]	Resource Person
66	Woro Kanti Darmastuti, M.Si	Pelatihan pengelolaan jurnal berbasis OJS [OJS-based journal management training] Organizer: SEAMEO SEAQIL	Jakarta, 19-21 October 2021	Dinamika dan Tantangan Pengelolaan Jurnal di SEAMEO Center Indonesia (SCI) [Dynamics and Challenges of Journal Management at SEAMEO Center Indonesia (SCI)]	Resource Person
67	Dr Supriyanto	Webinar SMK PPN Saree, Aceh Organizer: SMK PPN Saree, Aceh	Saree, Aceh, 20 October 2021		Resource Person
68	Dr. Ir. Erina Sulistiani, M.Si	Pelatihan Kultur Jaringan [Tissue Culture Training] Organizer : Dinas Pendidikan dan Kebudayaan, Unit Pelaksanaan Teknis SMK N 2 Pandeglang	Paandeglang, Banten, 20-22 Oktober 2021		Resource Person
69	Harry Imantho, M.Sc	Bimbingan Teknis Pengembangan SMK Model Agro Eduwisata Program SMARTS-BE”	Bogor, 20-22 Oktober 2021		Resource Person

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
		[Technical Guidance for the Development of the Agro-Edutourism Model Vocational School for the SMARTS-BE Program"] Organizer: SMARTS-BE			
70	Dewi Suryani M.M	Webinar Monday Mind Cloud Idea Seri 10 " Semakin Produktif Meski Pandemi Covid-19" [Webinar Monday Mind Cloud Idea Series 10 "More Productive Despite the Covid-19 Pandemic"] Organizer: SEAMEO BIOTROP	Bogor, 25 Oktober 2021		Moderator
71	Dr Supriyanto	Bimbingan Teknis penerapan internet of things (IoT) pada smart hydrponic-aquaponic (hypo) yang didukung dengan sistem solar hibrid di SEAMEO BIOTROP [Technical Guidance on the application of the internet of things (IoT) on smart hydroponic-aquaponic (hypo) supported by a solar hybrid system at SEAMEO BIOTROP" Organizer: SMARTS-BE	Bogor, 26-28 October 2021		Reviewer
72	Dr Supriyanto	Lokakarya Pengembangan SMK Model Agro Eko Eduwisata Program SMARTS-BE [Workshop on the Development of Vocational Schools for Agro Eco Edutourism Model SMARTS-BE . Program] Organizer: SMARTS-BE SEAMEO BIOTROP	Bogor, 1 -3 November 2021	Penelusuran Bakat dan Minat Siswa dalam Agro Eko Eduwisata	Resource Person

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
73	Sugih Mukti	Pelatihan Online Budidaya jamur [Mushroom cultivation online training] Organizer: SEAMEO BIOTROP	Bogor, 2 November 2021	1. Pembuatan Media dan Bibit Jamur F1 [Making F1 Mushroom Media and Seeds] 2. Pembuatan Media dan Bibit Jamur F2 dan F3 [Making F2 and F3 Mushroom Media and Seeds]	Resource Person
74	Ramdani	Pelatihan Online Budidaya jamur [Mushroom cultivation online training] Organizer : SEAMEO BIOTROP	Bogor, 3 November 2021	Pembuatan Kerupuk dan Nugget Jamur Tiramn[Making Oyster Mushroom Crackers and Nuggets]	Resource Person
75	Dr. Zulhamsyah Imrsan	Webinar Penguatan Sistem Pangan untuk Perbaikan Ekonomi, Gizi dan Tangguh Bencana Organizer: Kementerian PPN/BAPPENAS	Jakarta, 4 November 2021		Moderator
76	Samsul Ahmad Yani, S.Si	Pelatihan Pembuatan Bibit dan Budidaya Jamur [Training on Seedling and Mushroom Cultivation] Organizer : SMK Negeri 2 Pandeglang	Pandeglang, Banten, 8-11 November 2021	Implementasi Pembelajaran Program SMK Pusat Keunggulan	Resource Person
77	Tenni Wahyuni	Bimtek “SAVE BIODIVERSITY” dalam rangka merdeka belajar kampus merdeka (MBKM) Camp Jointly organized by: SEAMEO BIOTROP, Universitas Mataram, SMK PPN Mataram, SEAMEO Centre Indonesia	Mataran, Lombok, 8–12 November 2021	Kolaborasi dan Jaringan	Resource Person

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
78	Ir. Sri Widayanti, MSi	Bimtek "SAVE BIODIVERSITY" dalam rangka merdeka belajar kampus merdeka (MBKM) Camp Jointly organized by: SEAMEO BIOTROP, Universitas Mataram, SMK PPN Mataram, SEAMEO Centre Indonesia	Mataram, Lombok, 8–12 November 2021	Permasalahan Hama Gudang dan Pengelolaannya di Indonesia	Resource Person
79	Dr. Perdinan	Bimtek "SAVE BIODIVERSITY" dalam rangka merdeka belajar kampus merdeka (MBKM) Camp Jointly organized by: SEAMEO BIOTROP, Universitas Mataram, SMK PPN Mataram, SEAMEO Centre Indonesia	Mataram, Lombok, 8–12 November 2021	Perubahan Iklim dan Pertanian Lahan Kering	Resource Person
80	Dewi Rahmawati, MSi	Bimtek "SAVE BIODIVERSITY" dalam rangka merdeka belajar kampus merdeka (MBKM) Camp Jointly organized by: SEAMEO BIOTROP, Universitas Mataram, SMK PPN Mataram, SEAMEO Centre Indonesia	Mataram, Lombok, 8–12 November 2021	Bioteknologi Modern	Resource Person
81	Indah Wahyuni, MSi	Bimtek "SAVE BIODIVERSITY" dalam rangka merdeka belajar kampus merdeka (MBKM) Camp Jointly organized by: SEAMEO BIOTROP, Universitas Mataram, SMK PPN Mataram, SEAMEO Centre Indonesia	Mataram, Lombok, 8–12 November 2021	1. Herbarium : Pengenalan, Manfaat, dan Pentingnya dalam penelitian Biodiversitas Tumbuhan Pengenalan Tumbuhan Asing Invasif dan Dampak terhadap Ekosistem di Indonesia	Resource Person
82	Dr. Zulhamsyah Imran	Bimtek "SAVE BIODIVERSITY" dalam rangka merdeka belajar kampus merdeka (MBKM) Camp Jointly organized by: SEAMEO BIOTROP, Universitas Mataram, SMK PPN Mataram, SEAMEO Centre Indonesia	Mataram, Lombok, 8–12 November 2021	1. Peran SEAMEO BIOTROP dalam mendukung Merdeka Belajar Budidaya Perikanan	Resource Person

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
83	Dewi Suryani, SP., MM	Bimtek "SAVE BIODIVERSITY" dalam rangka merdeka belajar kampus merdeka (MBKM) Camp Jointly organized by: SEAMEO BIOTROP, Universitas Mataram, SMK PPN Mataram, SEAMEO Centre Indonesia	Mataram, Lombok, 8–12 November 2021	Training need analysis	Resource Person
84	Haritz Cahta Nugraha, MSc	Bimtek "SAVE BIODIVERSITY" dalam rangka merdeka belajar kampus merdeka (MBKM) Camp Jointly organized by: SEAMEO BIOTROP, Universitas Mataram, SMK PPN Mataram, SEAMEO Centre Indonesia	Mataram, Lombok, 8–12 November 2021	Media Pembelajaran Digital	Resource Person
85	Rizkia Tirtani	Bimtek "SAVE BIODIVERSITY" dalam rangka merdeka belajar kampus merdeka (MBKM) Camp Jointly organized by: SEAMEO BIOTROP, Universitas Mataram, SMK PPN Mataram, SEAMEO Centre Indonesia	Mataram, Lombok, 8–12 November 2021	Kolaborasi dan Jaringan	Resource Person
86	Slamet Widodo Sugiarto, S.Si, M.Si	Diklat Peningkatan Kompetensi Guru dan Siswa [Training for Teacher and Student Competency Improvement Organizer : SMKN 1 Kalibagor, Banyumas	Banyumas, 10-12 November 2021	1. Pengoperasian pesawat drone [Operation of drones] 2. Pemanfaatan aplikasi ArcGIS Soft untuk pembuatan peta/ landscape lahan/ Kebun [Utilization of the ArcGIS Soft application for making maps/landscapes/gardens 3. Pemanfaatan pesawat drone untuk pengamatan hama dan penyakit tanaman [Utilization of	Resource Person

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
				drones for observation of plant pests and diseases]	
87	Dr Supriyanto	Bimtek SMARTS-BE di SMKN 63 Jakarta [SMARTS-BE technical guidance at SMKN 63 Jakarta Development of SMK Agro Eco Edutourism Model SMARTS-BE . Program] Organizer : SMARTS-BE SEAMEO BIOTROP	Bogor, 11 November 2021	Pengembangan SMK Model Agro Eko Eduwisata Program SMARTS-BE [Development of SMK Agro Eco Edutourism Model SMARTS-BE . Program]	Resource Person
88	Santi Ambarwati, M.Si	In House Training Audit Internal ISO 17025:2017 berbasis ISO 19011:2018 [In House Internal Audit Training ISO 17025:2017 based on ISO 19011:2018] Organizer : SLID (Service Laboratory Innovation Department) SEAMEO BIOTROP	Bogor, 11 & 18 November 2021	Audit Internal SNI ISO/IEC 17025 : 2017 Berdasarkan SNI ISO 19011 : 2018 [Internal Audit Training ISO 17025:2017 based on ISO 19011:2018]	Resource Person
89	Riana Hartati, S.Si	Kuliah Umum Fakultas Pertanian, Perikanan dan Biologi Universitas Bangka Belitung [General Lecture of the Faculty of Agriculture, Fisheries and Biology, Bangka Belitung University] Organizer : Bangka Belitung University	Bangka Belitung, 12 November 2021	Prospek Urban Farming melalui teknologi hidroponik di masa mendatang [Future prospects of Urban Farming through hydroponic technology]	Resource Person
90	Dr Supriyanto	Bimtek Online SMARTS-BE wilayah Jateng, Jatim dan Bali [SMARTS-BE Online Guidance for Central Java, East Java and Bali] Organizer : SMARTS-BE SEAMEO BIOTROP	Bogor, 15 November 2021	Pengembangan SMK Model Agro Eko Eduwisata Program SMARTS-BE [Development of SMK Agro Eco Edutourism Model SMARTS-BE . Program]	Resource Person

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
91	Dr Supriyanto	Talkshow Aromatherapy untuk menjaga Kesehatan tubuh [Talkshow: Aromatherapy to maintain a healthy body] Organizers: IPB and BIOTROP	Bogor, 20 November 2021	Aromatherapy untuk menjaga Kesehatan tubuh [Aromatherapy to maintain a healthy body]	Resource Person
92	Dr Supriyanto	Bimtek Pengembangan hasil hutan bukan kayu (gaharu, masohi, gambir) di Kab Mapi, Papua [Technical guidance for the development of non-timber forest products (gaharu, masohi, gambier) in Mapi District, Papua] Organizers : IPB dan Pemda Mapi Papua	Bogor, 20 November 2021	Pengembangan hasil hutan bukan kayu (gaharu, masohi, gambir) di Kab Mapi, Papua [Development of non-timber forest products (gaharu, masohi, gambier) in Mapi District, Papua]	Resource Person
93	Dr. Perdinan	MOMI Cloudia Series 11 “Kepemimpinan Era Milenial” [MOMI Cloudia Series 11: “Millennial Era Leadership”] Organizer : SEAMEO BIOTROP	Bogor, 29 November 2021		Moderator
94	Shella Marlinda, M.Si	Pelatihan pembuatan pakan ikan mandiri [Training on making fish feed independently] Organizer: SEAMEO BIOTROP	2 Bogor, 9 November – 1 December 2021	Menentukan Kualitas Bahan Baku I dan Baku II [Determining the Quality of Raw Materials I and II]	Resource Person
95	Yana	Pelatihan pembuatan pakan ikan mandiri [Training on making fish feed independently] Organizer: SEAMEO BIOTROP	Bogor, 29 November – 1 December 2021	1. Menentukan Kualitas Bahan Baku II [Determining the Quality of Raw Materials II] 2. Pembuatan Pakan Ikan [Fish Feed Making]	Resource Person

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
96	Nurdin	Pelatihan pembuatan pakan ikan mandiri [Training on making fish feed independently] Organizer: SEAMEO BIOTROP	Bogor, 29 November – 1 December 2021	Pembuatan Pakan Ikan [[Fish Feed Making]]	Resource Person
97	Dr. Zulhamsyah Imran	Bimtek Tim Validasi KLHS Provinsi Papua Barat dan Bimtek Calon Tenaga Ahli KLHS (berbagai KRP) pada Perguruan Tinggi di Provinsi Papua Barat [Technical Guidance for the KLHS Validation Team of West Papua Province and Technical Guidance for Prospective KLHS Experts (various KRPs) at Universities in West Papua Province] Organizer : Pemerintah Provinsi Papua Barat Dinas Lingkunga Hidup dan Pertanian [West Papua Provincial Government Department of Environment and Agriculture]	Jakarta, 29 November – 2 December 2021		Resource Person
98	Dr. Perdinan	Pengembangan SRN PPI [Development of SRN PPI] Organizer : Direktorat Jenderal Pengendalian Perubahan Iklim, Kementerian Lingkungan Hidup dan Kehutanan [Directorate General of Climate Change Control, Ministry of Environment and Forestry,]	Jakarta, 30 November 2021	Model Pengembangan SRN [SRN Development Model]	Resource Person
99	Samsul Ahmad Yani, S.Si	Bimbingan Teknis Kultur Jaringan Tanaman di Lab. Kuljar [Technical Guidance on Plant Tissue Culture in the Tissue Culture Laboratory] Organizer : PT Bukit Asam, Muara Enim	Muara Enim, Sumatera Selatan, 8– 11 December 2021	Implementasi dari Kerjasama Pekerjaan Jasa Peningkatan Kapasitas Produksi Laboratprium Kultur Jaringan (SPPH-13805) antara SEAMEO BIOTROP dan PT Bukit Asam [Implementation of the Cooperation for Production Capacity Building for Network Culture	Resource Person

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
				Laboratory (SPPH-13805) between SEAMEO BIOTROP and PT Bukit Asam]	
100	Rosadi Kartawarijaya, S.Pd.I.	Bimbingan Teknis Kultur Jaringan Tanaman di Lab. Kuljar [[Technical Guidance on Plant Tissue Culture in the Tissue Culture Laboratory] Organizer: PT Bukit Asam, Muara Enim	Muara Enim, Sumatera Selatan, 8–11 December 2021	Implementasi dari Kerjasama Pekerjaan Jasa Peningkatan Kapasitas Produksi Laboraoprium Kultur Jaringan (SPPH-13805) antara SEAMEO BIOTROP dan PT Bukit Asam [Implementation of the Cooperation for Production Capacity Building for Network Culture Laboratory (SPPH-13805) between SEAMEO BIOTROP and PT Bukit Asam]	Resource Person
101	Prof. Drh. Bambang Purwantara	Low Level Presence Information Sharing Forum in Asia Pacific (APAC) Region Organizer : IndoBIC	Bogor, 9 December 2021		Moderator
102	Dr. Perdinan	Workshop Penandatanganan Kerja Sama [Workshop on Cooperation Signing] Organizer : SEAMEO REFCON, 7 SCI	Jakarta, 9-11 December 2021		Moderator
103	Dr. Perdinan	Diskusi Publik – PUSIK Parahyangan [Public Discussion – PUSIK Parahyangan]	10 December 2021	Progres Indonesia dalam upaya pencegahan dan penanganan perubahan iklim, tantangannya kedepan dan komitmen Indonesia di COP26, Glasgow [Indonesia's progress in efforts to prevent and deal with climate	Resource Person

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
				change, future challenges and Indonesia's commitment at COP26, Glasgow]	
104	Dr. Soekisman Tjitrosemitro	Kegiatan Penyusunan Dokumen Resiko Jenis Invasif di Taman Nasional Bromo Tengger Semeru [Activities for Preparation of Invasive Risk Documents in Bromo Tengger Semeru National Park] Organizer : Ditjen KSDAE Kementerian Lingkungan Hidup dan Kehutanan	Jakarta, 14 December 2021		Resource Person
105	Dr. Supriyanto	Bincang pagi di RRI [Morning talk at RRI] Organizer : SEAMEO BIOTROP	Bogor, 16 December 2021	SMARTS-BE Program	Resource Person
106	Dr. Supriyanto	Memberikan konsultasi di PT Pesona Khatulistiwa [Provide consultation at PT Pesona Khatulistiwa] Organizer: PT Pesona Khatulistiwa	Tanjung Selor, Kalimantan Utara, 16 December 2021	Pengembangan tanaman Kakao [Cocoa plant development]	Resource Person
107	Dr. Supriyanto	Budidaya Dan Pengembangan Gaharu, Masohi Dan Gambir Di Kab Mappi Papua [Cultivation and Development of Agarwood, Masohi and Gambir in Mappi Regency, Papua Organizers : Mappi Regency, Papua and IPB University	Kabupaten Mappi, Papua, 20 December 2021	Budidaya dan Pengembangan Gaharu, Masohi dan Gambir [Cultivation and Development of Agarwood, Masohi and Gambir]	Resource Person
108	Dr. Perdinan	Workshop Evaluasi Pelaksanaan Proyek GEF-5 dan GEF-6 di Indonesia [Workshop on Evaluation of GEF-5 and GEF-6 Project Implementation in Indonesia]	Jakarta, 21 December 2021		Resource Person

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
		Organizer : Kementerian Lingkungan Hidup dan Kehutanan (KLHK) [Ministry of Environment and Forestry (KLHK)]			
109	Dr. Perdinan	Pembahasan Rancangan Peraturan Menteri Kesehatan bidang Kesehatan Lingkungan [Discussion of the Draft Regulation of the Minister of Health in the field of Environmental Health] Organizers : Ministry of Health Republic of Indonesia	Jakarta, 27 December 2021	Pengembangan teknologi sensor dan metode aplikasinya untuk deteksi hama gudang di dalam kontainer [Development of sensor technology and its application methods for detection of warehouse pests in containers]	Resource Person
110	Sri Widayanti, M.Si.	Seminar Hasil Uji Tera TA 2021 [Seminar on FY 2021 Calibration Test Results] Organizers : Ministry of Agriculture Agricultural Quarantine Agency	Jakarta, 27 December 2021		Resource Person
111	Dr. Supriyanto	Penyusunan Modul Pemulihan SDA dan Lingkungan Pasca Bencana Tanah Longsor [Preparation of Natural Resources and Environmental Recovery Modules after Landslide Disasters] Organizers : IPB and BNPB	Bogor, 6 January 2022	Pemulihan SDA dan Lingkungan Pasca Bencana Tanah Longsor [Natural Resources and Environment Recovery after Landslide Disaster]	Resource Person
112	Dr. Supriyanto	Pelatihan Gasifikasi Biomassa untuk Menghasilkan Cuka Kayu [Biomass Gasification Training to Produce Wood Vinegar] Organizer: IPB University	Bogor, 11 January 2022	Gasifikasi Biomassa untuk Menghasilkan Cuka Kayu [Biomass Gasification to Produce Wood Vinegar]	Resource Person
113	Armaiki Yusmur, M.Si	Praktikum Lapangan Terpadu [Integrated Field Practicum] Organizer: Faculty of Mathematics and Natural Sciences, IPB University	Bogor, 17–19 January 2022	Praktek pemanfaatan drone bidang meteorologi terapan [The practice of using drones in the field of applied meteorology]	Resource Person

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
114	Dr. Supriyanto	Rapat Tim Pakar Ketahanan Pangan [Food Security Expert Team Meeting] Organizers: KLHK	Jakarta, 18 January 2022		Resource Person
115	Ir. Sri Widayanti M.Si	Training Fumigasi Sulfuril Fluorida (SO_2F_2) [Sulfuryl Fluoride (SO_2F_2) Fumigation Training] Organizer : PT Kristalindo Karunia Internasional	Jakarta, 18 – 19 January 2022	Sistem Ketahanan Pangan di HTI PT. Sylva, Lampung [Food Security System in PT HTI]	Resource Person
116	Trijanti A. Widinni, M.Si	Training Fumigasi Sulfuril Fluorida (SO_2F_2) [Sulfuryl Fluoride (SO_2F_2) Fumigation Training] Organizer: PT Kristalindo Karunia Internasional	Jakarta, 18 – 19 January 2022		Resource Person
117	Heri Yanto	Training Fumigasi Sulfuril Fluorida (SO_2F_2) [Sulfuryl Fluoride (SO_2F_2) Fumigation Training] Organizer: PT Kristalindo Karunia Internasional	Jakarta, 18 – 19 January 2022		Resource Person
118	Dr. Perdinan	Pembahasan Draft Petunjuk Teknis Desa/Kelurahan Sehat Iklim [Discussion of the Draft Technical Guidelines for Climate Healthy Villages] Organizers : Ministry of Health of the Republic of Indonesia, Directorate General of Public Health	Jakarta, 24 January 2022		Resource Person
119	Prof. Okky Setyawati Dharmaputra	Kuliah Umum di Jurusan Teknologi pangan, Fakultas Teknik, Binus University [Public Lecture at Department of Food Technology, Faculty of Engineering, Binus University]	Jakarta, 27 January 2022	Cendawan perusak dan Mikotoksin pada Bahan Pangan, Pencegahan, dan Pengendaliannya [Destructive	Resource Person

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
		Organizer : BINUS University		Fungi and Mycotoxins in Foodstuffs, Prevention and Control]	
120	Dr. Zulhamsyah Imran	Webinar Kation Peran Pemuda dalam Mengoptimalkan Ekosistem Laut dan Mendukung Blue Ekonomi [Webinars on the Role of Youth in Optimizing Marine Ecosystems and Supporting the Blue Economy] Organizers : IPB University, KADER	Bogor, 30 January 2022		Resource Person
121	Dr. Soekisman Tjitrosemito	Pedoman Analisis Risiko OPT berdasarkan media pembawa (oleh Bidang Benih, Pusat KTKHN), dan dilanjut dengan Penyusunan pedoman AROPT gulma [OPT Risk Analysis Guidelines based on carrier media (by Seed Division, KTKHN Center), and continued with the preparation of weed AROPT guidelines] Organizers: Ministry of Agriculture Agricultural Quarantine Agency	Jakarta, 3 February 2022	Implementasi Weed Risk Assessment in Indonesia	Resource person
122	Dewi Suryani, Sp., MM	Webinar Kontribusi Analisis Beban Kerja (ABK) terhadap capaian organisasi [Webinar : Contribution of Workload Analysis (ABK) to organizational achievement] Organizer SEAMEO Centre Indonesia	Bogor, 10 February 2022		Resource person
123	Dr Supriyanto	Progress Report CPRN Summit 2022 Organizer :	14 February 2022		Resource person

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
124	Dr Supriyanto	Gerakan Nasional Revolusi Mental [Mental Revolution National Movement] Organizer : Kementerian Koordinator Bidang Pembangunan Manusia dan Kebudayaan Republik Indonesia (Coordinating Ministry for Human Development and Cultural Affairs)	Jakarta, 16 February 2022	Inisiasi Aksi Nyata Gerakan Nasional Revolusi Mental Gerakan Nasional Revolusi Mental (GNRM) [Initiation of Real Action National Mental Revolution Movement National Mental Revolution Movement (GNRM): 10 Million Tree Planting Movement]	Resource person
125	Risa Rosita, M.Si.	3 rd International Conference on Environment and Forest Conservation February 21-23, 2022 Kastamonu/TURKEY Organizer : Kastamonu University, Turkey	Bogor, 21 February 2022	Isolation and Characterızatıon of Hg and Pb Reducıng Bacterıa in Several Contamınated Habıtats	Resource person
126	Dr Perdinan	Lokakarya dan Diskusi Terpumpun Identifikasi Pengembangan SMK di Bidang Biologi Tropis [Focused Workshop and Discussion on Identification of Vocational High School Development in Tropical Biology] Organizer : SEAMEO BIOTROP	Bogor, 23 February 2022	Pengembangan Sekolah Menengah Kejuruan (SMK) [Development of Vocational High Schools (SMK)]	Resource person
127	Dr Zulhamsyah Imran	Lokakarya dan Diskusi Terpumpun Identifikasi Pengembangan SMK di Bidang Biologi Tropis [Focused Workshop and Discussion on Identification of Vocational High School Development in Tropical Biology] Organizer : SEAMEO BIOTROP	Bogor, 23 February 2022		Moderator
128	Slamet Widodo, M.Sc	Lokakarya dan Diskusi Terpumpun Identifikasi Pengembangan SMK di Bidang Biologi Tropis			Moderator

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
		[Focused Workshop and Discussion on Identification of Vocational High School Development in Tropical Biology] Organizer : SEAMEO BIOTROP	Bogor, 23 February 2022		
129	Dr Zulhamsyah Imran	3rd International Conference on Forest Conservation, Turkey Organizer : Kastamonu University, Turkey	Online, 23 February 2022	Biodiversity Enrichment Literacy for Protecting Coastal Ecosystem and Blue Carbobn Sequestration	Resource person
130	Dr Zulhamsyah Imran	Consortium of Professional Development Institutions Towards a Greater Society in the Era of Disruption: Reflections on 75 years of HMI] Organizers : Consortium of Islamic Student Association (HMI) Professional Development Institutions	Bogor, 25 February 2022		Resource person
131	Riana Hartati, S.Si	Kegiatan Biologi Berbagi Ilmu (GIGIMU) [Science Sharing Biology Activities (GIGIMU)] Organizer : Badan Eksekutif Mahasiswa, Universitas Indraprasta PGRI (Unidra) [Student Executive Board, University of Indraprasta PGRI (Unindra)]	Jakarta, 6 March 2022	Hijaukan Lingkungan Manfaatkan Lahan Kecilmu dengan tanaman Hidroponik [Green the Environment Take advantage of your small land with hydroponic plants]	Resource person
132	Armaiki Yusmur, M.Si	Lokakarya Diversifikasi Sensitif Gender Pada Sistem Kakao Petani Kecil di Lampung [Workshop on Gender Sensitive Diversification in Smallholder Cocoa Systems in Lampung] Organizers : SEAMEO BIOTROP with Bangor University, Barry Callebout, IPB University, and Lampung University	Lampung, 14 March 2022	Completely Peeling the Environmental Impacts and Risks of Nusantara IKN Development	Resource person

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
133	Prof. Dr. Okky Setyawati Dharmaputra	Lokakarya Diversifikasi Sensitif Gender Pada Sistem Kakao Petani Kecil di Lampung [Workshop on Gender Sensitive Diversification in Smallholder Cocoa Systems in Lampung] Organizers : SEAMEO BIOTROP with Bangor University, Barry Callebout, IPB University, and Lampung University	Lampung, 10 March 2022	Pengaruh Aflatoksin terhadap mutu biji kakao [The Effect of aflatoxin on cocoa bean quality]	Resource person
134	Dr. Perdinan	Discussion with Special Presidential Envoy for Climate Senior Advisor, Reed Schuler to exchange view on issues related to climate change in Indonesia Organizer : Embassy of the United States of America	Jakarta, 18 March 2022		Resource person
135	Dr. Zulhamsyah Imran	Podcast Model pengembangan bisnis produk perikanan budidaya berbasis riset dan startup [Podcast Research and startup-based aquaculture product business development model]	Bogor, 19 March 2022		Resource person
136	Dr. Zulhamsyah Imran	Penguatan Perikanan Budidaya Berbasis Riset dan Star Up [Research-Based Aquaculture Strengthening and Star Up] Organizer : Bisnis Teknologi (IBT), Politeknik Indonesia (POLIVEN) [Technology Business (IBT), Indonesian Polytechnic (POLIVEN)]	Aceh, 20 March 2022	Model Pengembangan Bisnis Produk Perikanan Budidaya Berbasis Riset dan Startup [Research and Startup-Based Aquaculture Product Business Development Model]	Resource person
137	Drs. Jonner Situmorang, M.Si	Kegiatan Pelatihan Budidaya Jamur Tiram dan Pelatihan Pengolahan Minyak Atsiri [Oyster Mushroom Cultivation Training Activities and Essential Oil Processing Training] Organizer :	Bogor, 21-31 March 2022		Resource person

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
		Dinas Pertamanan dan Hutan Kota Bogor [Bogor City Parks and Forest Service]			
138	Dr Perdinan	Digital iLearn@america: Protecting Our Forests Protects Us Organizer : @America	Jakarta, 22 March 2022	Climate Vulnerability and Risks of Mangrove Ecosystem in Indonesia	Resource person
139	Dr. Zulhamsyah Imran	Suara Cendekia Indonesia Selamatkan Alam (SCISA), Series 1: Kupas Tuntas Dampak dan Risiko Lingkungan Pembangunan IKN Nusantara [Suara Cendekia Indonesia Saves Nature (SCISA), Series 1: Examines the Environmental Impacts and Risks of the Archipelago IKN Development] Orgainer : SEAMEO BIOTROP, DKHA IPB, DPPHA IPB	Bogor, 25 March 2022		Moderator
140	Dr. Perdinan	Diaspora Talk Vol. 5: "Asa di Negeri Kanguru" [Diaspora Talk Vol. 5: 'Hope in Kangaroo Land"] Organizer : DKHA IPB, DPPHA IPB	Bogor, 26 March 2022		Moderator
141	Dr. Soekisman Tjitrosoedirjo	Pembahasan pedoman Analisis Risiko Organisme Pengganggu Tumbuhan (AROPT) [Discussion of guidelines for Analysis of Plant Destruction Organisms Risk (AROPT)] Organizer : Badan Karantina Pertanian [Agricultural quarantine agency]	Jakarta, 28-30 March 2022		Resource person
142	Dr. Supriyanto	SEAMEO Centres Policy Research Network (CPRN) Summit 2022 Organizer :	Yogjakarta, 29 March 2022	Tropical Diversity for Prevention Against Covid-19: Potential Use of Essential Oils Therapy as Alternative to Medicine	

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
		SEAMEO RECSAM			
143	Dr. Evelyn V Bigcas	Digital iLearn@america: Protecting Our Forests Protects Us Orgainzer : iLearn@america	Online, 22 March 2022	Those Little Things that you and i can do to save our beloved forests	
144	Slamet Widodo Sugiarto, M.Sc	BIOTROP to School (BTS) Seri 1 Organizer : SEAMEO BIOTROP	Bogor, 31 March 2022	"Implementasi Program Save Biodiversity dalam rangka mendukung Program MBKM"	
145	Dr. Supriyanto	Talk of Affiliate Scientist (TAS): Seri 1: Prospek Pengembangan Kacang Sacha Inchi di Indonesia [Talk of Affiliate Scientist (TAS) Series 1: Prospects of Development of Sacha Inchi Beans in Indonesia] Organizer : SEAMEO BIOTROP	12 April 2022		Resource person
146	Dr. Rhomi Ardiansyah	Talk of Affiliate Scientist (TAS): Seri 1: Prospek Pengembangan Kacang Sacha Inchi di Indonesia [Talk of Affiliate Scientist (TAS) Series 1: Prospects of Development of Sacha Inchi Beans in Indonesia] Organizer : SEAMEO BIOTROP	Bogor, 12 April 2022		Moderator
147	Dr. Sri Sudarmiyati T	Inhouse Training "Pengenalan dan Identifikasi Biji Gulma Terbawa Media Pembawa Impor" [Inhouse Training "Introduction and Identification of Weed Seeds Carried by Imported Carrier Media"] Organizer : Balai Besar Karantina Pertanian Tanjung Priok	Jakarta, 19 – 21 April 2022		Resource person

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
148	Dr. Soekisman Tjitrosemito	Inhouse Training “Pengenalan dan Identifikasi Biji Gulma Terbawa Media Pembawa Impor” [Inhouse Training “Introduction and Identification of Weed Seeds Carried by Imported Carrier Media”] Organizer : Balai Besar Karantina Pertanian Tanjung Priok	Jakarta, 19 – 21 April 2022		Resource person
149	Dr.Ir. Erina Sulistiani, M.Si	BIOTROP to School (BTS) Seri 2: Kultur Jaringan Tanaman Hias Daun : “Kultur Jaringan Tanaman Hias Daun” [BIOTROP to School (BTS) Series 2: Leaf Ornamental Plant Tissue Culture: “Leaf Ornamental Plant Tissue Culture”] Organizer : SEAMEO BIOTROP	Bogor, 26 April 2022		Resource person
150	Anidah, S.Si., M.T.Pn	BIOTROP to School (BTS) Seri 2: Kultur Jaringan Tanaman Hias Daun : “Kultur Jaringan Tanaman Hias Daun” [BIOTROP to School (BTS) Series 2: Leaf Ornamental Plant Tissue Culture: “Leaf Ornamental Plant Tissue Culture”] Organizer : SEAMEO BIOTROP	Bogor, 26 April 2022		Moderator
151	Dr. Zulhamsyah Imran	Peran Masyarakat dalam Mengoptimalkan Keanekaragaman Hayati yang Memberikan Manfaat diberbagai Bidang [The Role of Society in Optimizing Biodiversity That Provides Benefits in Various Fields] Organizer : Sinauskill Institute	Bogor, 22 May 2022		Resource person
152	Dr. Ir. Erina Sulistiani, MSi.	Bimbingan Teknis Kultur Jaringan untuk Penyediaan Bibit Rumput Laut Kotoni	Jakarta, 23– 25 May 2022		Resource Person

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
		[Tissue Culture Technical Guidance for the Provision of Kotoni Seaweed Seeds] Organizers : SEAMEO BIOTROP with UNIDO's Global Quality and Standards Programme (GQSP) Indonesia SMART-Fish			
153	Samsul A Yani, S.Si.	Bimbingan Teknis Kultur Jaringan untuk Penyediaan Bibit Rumput Laut Kotoni [Tissue Culture Technical Guidance for the Provision of Kotoni Seaweed Seeds] Organizerss : SEAMEO BIOTROP with UNIDO's Global Quality and Standards Programme (GQSP) Indonesia SMART-Fish	Jakarta, 23–25 May 2022		Resource Person
154	Risa Rosita, M.Si.	Biotrop To School (BTS) Organizer : SEAMEO BIOTROP	Bogor, 27 May 2022	Supermy: Peran Mikoriza di Lahan Sub-Optimal [The Role of Mycorrhiza in Sub-Optimal Land]	Resource Person
155	Anidah, M.T.Pn	In-House Training: Pengenalan dan Pengelolaan Instrumen Bioteknologi [In-House Training: Introduction and Management of Biotechnology Instruments] Organizer : SEAMEO BIOTROP	Bogor, 30–31 May 2022		Resource Person
156	Dewi Rahmawati, M.Si	In-House Training: Pengenalan dan Pengelolaan Instrumen Bioteknologi [In-House Training: Introduction and Management of Biotechnology Instruments]	Bogor, 30–31 May 2022		Resource Person

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
		Organizer : SEAMEO BIOTROP:			
157	Dr. Perdinan	Forum Group Discussion (FGD) Implementasi Undang-Undang Nomor 23 Tahun 2014 tentang Pemerintahan Daerah Terkait Pengelolaan Wilayah Pesisir [Forum Group Discussion (FGD) Implementation of Law Number 23 of 2014 concerning Regional Government Related to Coastal Area Management] Organizer : Kantor Staf Presiden Republik Indonesia [Staff Office of the President of the Republic of Indonesia]	Jakarta, 13 June 2022		Resource Person
158	Dr. Ir. Erina Sulistiani, MSi.	The 4th SUMMER COURSE 2022 “Manufacturing of Marine Algae toward Society 5.0” Organizer : Departemen Teknologi Hasil Perairan, FPIK, IPB [Department of Aquatic Products Technology, FPIK, IPB]	Bogor, 14 June 2022		Resource Person
159	Dr. Zulhamsyah Imran	Pelatihan Pendidikan Pengembangan Perikanan di Manado [Fisheries Development Education Training in Manado] Organizers : PT Prima kelola IPB and Bank BRI	Bogor, 14-17 June 2022		Resource Person
160	Dr. Supriyanto	Aplikasi Pelaksanaan Pascatambang pada Tambang Mineral Non Logam/bantuan di Indonesia [Application of Post-Mining Implementation in Non-Metal Mineral Mines/assistance in Indonesia] Organizers :	Jakarta, 22 June 2022		Resource Person

No	Name	Title of Activity	Venue and Date	Title(s) of Paper Presented	Remarks
		Dinas Energi dan Sumber Daya Mineral dan Pemerintah Provinsi Banten [Department of Energy and Mineral Resources and Banten Provincial Government]			
161	Dr. Soekisman Tjitrosoedirdjo	Pembahasan Pedoman Analisis Risiko Organisme Pengganggu Tumbuhan (AROPT) untuk Kelompok Gulma [Discussion of Guidelines for Analysis of Plant Destruction Organisms Risk (AROPT) for Weed Groups] Organizer : Badan Karantina Pertanian, Kementerian Pertanian, RI [Agricultural Quarantine Agency, Ministry of Agriculture, RI]	Jakarta, 29 June – 1 July 2022		Resource Person

Appendix 8
Scientific Training Courses, Workshops, Conferences and Symposia Attended by SEAMEO BIOTROP Staff Members during FY 2021/2022

No	Name	Title of Activity	Venue and Date	Remarks
1.	Rima Febriana, SE	Diskusi Online program scale up SMARTS-Be [Online discussion of SMARTS-Be scale up program] Organizer : SEAMEO BIOTROP	Bogor, 1 July 2021	Participant
2.	Santi Ambarwati, M.Si	Sosialisasi Penerapan SMAP di BSN [Socialization of SMAP Implementation at BSN] Organizer : Badan Standardisasi Nasional [National Standardization Agency]	n.d.	Participant
3.	M. Tajudin, SE, MM	Workshop Road Map FYDP 11 SEAMEO BIOTROP Organizer : SEAMEO BIOTROP	Bogor, 6 July 2021	Participant
4.	Arif Nuryadin, B.Sc	Workshop Road Map FYDP 11 SEAMEO BIOTROP Organizer : SEAMEO BIOTROP	Bogor, 8 July 2021	Participant
5.	Bambang Sulistio, S.Si	Workshop Road Map FYDP 11 SEAMEO BIOTROP Organizer : SEAMEO BIOTROP	Bogor, 08 July 2021	Participant
6.	Ir. Sri Widayanti, M.Si.	Inception Workshop SMIAS 1 GEF-7 Organizers : Ministry of Environment and Forestry, Food and Agriculture Organization of the United Station, SEAMEO BIOTRO	Bogor, 12 July 2021	Participant
7.	Rizkia Tirtani	Webinar- BIOTROP PPNPN Status Organizer : SEAMEO BIOTROP	Bogor, 12 July 2021	Participant
8.	Riana Hartati, S.Si	Webinar- BIOTROP PPNPN Status Organizer : SEAMEO BIOTROP	Bogor, 12 July 2021	Participant
9.	Budiyono	Webinar- BIOTROP PPNPN Status	Bogor, 12 July 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		Organizer : SEAMEO BIOTROP		
10.	Deda Annafia Yuliastri, M.Si	Webinar- BIOTROP PPNPN Status Organizer : SEAMEO BIOTROP	Bogor, 12 July 2021	Participant
11.	Dewi Suryani, MM	Bimtek Fumigasi Dalam Perspektif Pengelolaan Hama Gudang Terpadu [Technical Guidance on Fumigation in the Perspective of Integrated Warehouse Pest Management] Organizer : SEAMEO BIOTROP	Bogor, 13 July 2021	Participant
12.	Herni Widhiastuti, S.Si	Bimtek Fumigasi Dalam Perspektif Pengelolaan Hama Gudang Terpadu [Technical Guidance on Fumigation in the Perspective of Integrated Warehouse Pest Management] Organizer : SEAMEO BIOTROP	Bogor, 13 July 2021	Participant
13.	Deri Yandi, S.Si	Bimtek Fumigasi Dalam Perspektif Pengelolaan Hama Gudang Terpadu [Technical Guidance on Fumigation in the Perspective of Integrated Warehouse Pest Management] Organizer : SEAMEO BIOTROP	Bogor, 13-14 July 2021	Participant
14.	Deri Yandi, S.Si	Talks of Affiliate Scientist (TAS) Seri 4 “Developing More Sustainable Aquaculture” Organizer : SEAMEO BIOTROP	Bogor, 15 July 2021	Participant
15.	Yuni Puspita Sari, MM	Webinar Sosialisasi Pengisian E-SKP Staf BIOTROP [Webinar: Socialization of E-SKP Filling for BIOTROP Staff] Organizer : SEAMEO BIOTROP	Bogor, 15 July 2021	Participant
16.	Zulkarnaen Noor Syarif, S.Kom	Webinar Sosialisasi Pengisian E-SKP Staf BIOTROP [Webinar Socialization of E-SKP Filling for BIOTROP Staff] Organizer : SEAMEO BIOTROP	Bogor, 15 July 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
17.	Ir. Sri Widayanti, M.Si.	Talks of Affiliate Scientist (TAS) Seri 4 “Developing More Sustainable Aquaculture” Organizer : SEAMEO BIOTROP	Bogor, 15 July 2021	Participant
18.	Deri Yandi, S.Si.	Talks of Affiliate Scientist (TAS) Seri 4 “Developing More Sustainable Aquaculture” Organizer : SEAMEO BIOTROP	Bogor, 15 July 2021	Participant
19.	Deri Yandi, S.Si	BIOTROP to SCHOOL SERI 9 : "Remote Sensing dan GIS Organizers : SEAMEO BIOTROP, BSC, Sekolah Pasca Sarjana IPB	Bogor, 19 July 2021	Participant
20.	Ir. Sri Widayanti, M.Si.	BIOTROP to SCHOOL SERI 9 : "Remote Sensing dan GIS Organizers : SEAMEO BIOTROP, BSC, Sekolah Pasca Sarjana IPB	Bogor, 19 July 2021	Participant
21.	Adjie Tunggul Wahono	Webinar "Pengenalan ISO/IEC 17025: 2017 [Webinar "Introduction to ISO/IEC 17025: 2017] Organizer : PSPIN (Pusat Studi Pengembangan Informasi Nasional	19 July 2021	Participant
22.	Restu Detiana Putri	Webinar "Pengenalan ISO/IEC 17025: 2017 [Webinar "Introduction to ISO/IEC 17025: 2017] Organizer : PSPIN (Pusat Studi Pengembangan Informasi Nasional)	Bogor,	Participant
23.	Didi Junaedi, A.Md	Webinar: Diskusi status Kepegawaian PPNPN SEAMEO BIOTROP [Webinar : Discussion on SEAMEO BIOTROP PPNPN Employment Status] Organizer : SEAMEO BIOTROP	Bogor, 21 July 2021	Participant
24.	Eko Purwiyanto	Webinar: Diskusi status Kepegawaian PPNPN SEAMEO BIOTROP [Webinar : Discussion on SEAMEO BIOTROP PPNPN Employment Status]	Bogor, 21 July 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		Organizer : SEAMEO BIOTROP		
25.	Herni Widhiastuti, S.Si	Webinar: Diskusi status Kepegawaian PPNPN SEAMEO BIOTROP [Webinar : Discussion on SEAMEO BIOTROP PPNPN Employment Status] Organizer : SEAMEO BIOTROP	Bogor, 21 July 2021	Participant
26.	Utami Megawati, S.Ak	Webinar : Diskusi status Kepegawaian PPNPN SEAMEO BIOTROP [Webinar : Discussion on SEAMEO BIOTROP PPNPN Employment Status] Organizer : SEAMEO BIOTROP	Bogor, 21 July 2021	Participant
27.	Bambang Sulistio, S.Si	Webinar : Diskusi status Kepegawaian PPNPN SEAMEO BIOTROP [Webinar : Discussion on SEAMEO BIOTROP PPNPN Employment Status] Organizer : SEAMEO BIOTROP	Bogor, 21 July 2021	Participant
28.	Riana Hartati, S.Si	Webinar : Diskusi status Kepegawaian PPNPN SEAMEO BIOTROP [Webinar : Discussion on SEAMEO BIOTROP PPNPN Employment Status] Organizer : SEAMEO BIOTROP	Bogor, 21 July 2021	Participant
29.	Didi Junaedi, A.Md	Webinar : Diskusi status Kepegawaian PPNPN SEAMEO BIOTROP [Webinar : Discussion on SEAMEO BIOTROP PPNPN Employment Status] Organizer : SEAMEO BIOTROP	Bogor, 21 July 2021	Participant
30.	Fitri Junaedy, SEI	Webinar : Diskusi status Kepegawaian PPNPN SEAMEO BIOTROP [Webinar : Discussion on SEAMEO BIOTROP PPNPN Employment Status] Organizer : SEAMEO BIOTROP	Bogor, 21 July 2021	Participant
31.	Deda Annafia Yuliastri, M.Si	Webinar : Diskusi status Kepegawaian PPNPN SEAMEO BIOTROP [Webinar : Discussion on SEAMEO BIOTROP PPNPN Employment Status]	Bogor, 21 July 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		Organizer : SEAMEO BIOTROP		
32.	Elvina Rahayu, S.Ak.	Webinar: Diskusi status Kepegawaian PPNPN SEAMEO BIOTROP [Webinar : Discussion on SEAMEO BIOTROP PPNPN Employment Status] Organizer : SEAMEO BIOTROP	Bogor, 21 July 2021	Participant
33.	Deri Yandi, S.Si	Webinar: Diskusi status Kepegawaian PPNPN SEAMEO BIOTROP [Webinar : Discussion on SEAMEO BIOTROP PPNPN Employment Status] Organizer : SEAMEO BIOTROP	Bogor, 21 July 2021	Participant
34.	Dr. Ir. Erina Sulistiani, M.Si	Webinar: Diskusi status Kepegawaian PPNPN SEAMEO BIOTROP [Webinar : Discussion on SEAMEO BIOTROP PPNPN Employment Status] Organizer : SEAMEO BIOTROP	Bogor, 21 July 2021	Participant
35.	Arif Nuryadin, B.Sc	SEAMEO Centre's Directors Meeting 2021 (Virtual) Organizer : SEAMES	Bogor, 21 July 2021	Participant
36.	Bambang Sulistio, S.Si	SEAMEO Centre's Directors Meeting 2021 (Virtual) Organizer : SEAMES	Bogor, 21 July 2021	Participant
37.	Dr. Ir. Erina Sulistiani, M.Si	SEAMEO Centre's Directors Meeting 2021 (Virtual) Organizer : SEAMES	Bogor, 21 July 2021	Participant
38.	Rima Febriana, SE	SEAMEO Centre's Directors Meeting 2021 (Virtual) Organizer : SEAMES	Bogor, 21 July 2021	Participant
39.	Asep Syaefudin, SE	SEAMEO Centre's Directors Meeting 2021 (Virtual) Organizer : SEAMES	Bogor, 21 July 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
40.	Yuni Puspita Sari, MM	SEAMEO Centre's Directors Meeting 2021 (Virtual) Organizer : SEAMES	Bogor, 22 July 2021	Participant
41.	Bambang Sulistio, S.Si	SEAMEO Centre's Directors Meeting 2021 (Virtual) Organizer : SEAMES	Bogor, 22 July 2021	Participant
42.	Santi Ambarwati, M.Si	SEAMEO Centre's Directors Meeting 2021 (Virtual) Organizer : SEAMES	Bogor, 22 July 2021	Participant
43.	Asep Syaefudin, SE	Workshop on 11th SEAMEO BIOTROP Five Year Development Plan (FYDP) Organizer : SEAMEO BIOTROP	Bogor, 22 July 2021	Participant
44.	Rima Febriana, SE	Workshop SIOP of SEAMEO Organizer : SEAMEO BIOTROP	Bogor, 22 Julyi 2021	Participant
45.	Haritz Cahya Nugraha, M.T	Workshop on Digital Marketing Organizer : SEAMEO BIOTROP	Bogor, 23 July 2021	Participant
46.	Dewi Rahmawati, M.Si	Workshop on Digital Marketing Organizer : SEAMEO BIOTROP	Bogor, 23 July 2021	Participant
47.	Fitri Junaedy, SEI	Workshop on Digital Marketing Organizer : SEAMEO BIOTROP	Bogor, 23 July 2021	Participant
48.	Deda Annafia Yuliastri, M.Si	Workshop on Digital Marketing Organizer : SEAMEO BIOTROP	Bogor, 23 July 2021	Participant
49.	Syifa Fauzia, S.Si.	Workshop on Digital Marketing Organizer : SEAMEO BIOTROP	Bogor, 23 July 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
50.	Zulkarnaen Noor Syarif	Workshop on Digital Marketing Organizer : SEAMEO BIOTROP	Bogor, 23 July 2021	Participant
51.	Sri Ismawati Soerianegara, M.Sc	Workshop on Digital Marketing Organizer : SEAMEO BIOTROP	Bogor, 23 July 2021	Participant
52.	Alya Shafira, S.T.	Workshop on Digital Marketing Organizer : SEAMEO BIOTROP	Bogor, 23 July 2021	Participant
53.	Haritz Cahya Nugraha, M.T	Workshop on Digital Marketing Organizer : SEAMEO BIOTROP	Bogor, 23 July 2021	Participant
54.	Lillys Betty Yuliawati, S.Si	Workshop on Digital Marketing Organizer : SEAMEO BIOTROP	Bogor, 23 July 2021	Participant
55.	Deda Annasia Yuliastri, M.Si	Workshop on Digital Marketing Organizer : SEAMEO BIOTROP	Bogor, 23 July 2021	Participant
56.	Fitri Junaedy, SEI	Workshop on Digital Marketing Organizer : SEAMEO BIOTROP	Bogor, 23 July 2021	Participant
57.	Dewi Rahmawati, M.Si	Workshop on Digital Marketing Organizer : SEAMEO BIOTROP	Bogor, 23 July 2021	Participant
58.	Dani Yudi, A.Md	Workshop on Digital Marketing Organizer : SEAMEO BIOTROP	Bogor, 23 July 2021	Participant
59.	Lastiah	Workshop on Digital Marketing Organizer : SEAMEO BIOTROP	Bogor, 23 July 2021	Participant
60.	Deri Yandi, S.Si	Workshop on Digital Marketing Organizer : SEAMEO BIOTROP	Bogor, 23 July 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
61.	Woro Kanti Darmastuti, M.Si	Workshop on Digital Marketing Organizer : SEAMEO BIOTROP	Bogor, 23 July 2021	Participant
62.	Anidah, M.T.Pn	Workshop on Digital Marketing Organizer : SEAMEO BIOTROP	Bogor, 23 July 2021	Participant
63.	Rizkia Tirtani	Workshop on Digital Marketing Organizer : SEAMEO BIOTROP	Bogor, 23 July 2021	Participant
64.	Rima Febriana, SE	Workshop on Digital Marketing Organizer : SEAMEO BIOTROP	Bogor, 23 July 2021	Participant
65.	Eriza Falashifa, S.Hut	Workshop on Digital Marketing Organizer : SEAMEO BIOTROP	Bogor, 23 July 2021	Participant
66.	Asep Saepudin	Workshop on Digital Marketing Organizer : SEAMEO BIOTROP	Bogor, 23 July 2021	Participant
67.	Indra Septian, A.Md	Workshop on Digital Marketing Organizer : SEAMEO BIOTROP	Bogor, 23 July 2021	Participant
68.	Deri Yandi, S.Si	BIMTEK kultur jaringan untuk penyediaan bibit rumput laut kotoni [Tissue culture training for the provision of kotoni seaweed seeds] Organizer : SEAMEO BIOTROP	Bogor, 26-27 July 2021	Participant
69.	Utami Megawati, S.Ak.	Webinar Analisis SWOT [SWOT Analysis Webinar] Organizer : SEAMEO BIOTROP	Bogor, 28 July 2021	Participant
70.	Arif Nuryadin, B.Sc	Webinar Analisis SWOT [SWOT Analysis Webinar] Organizer : SEAMEO BIOTROP	Bogor, 28 July 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
71.	Herni Widhiastuti, S.Si	Webinar Analisis SWOT [SWOT Analysis Webinar] Organizer : SEAMEO BIOTROP	Bogor, 28 July 2021	Participant
72.	Bambang Sulistio, S.Si	Webinar Analisis SWOT [SWOT Analysis Webinar] Organizer : SEAMEO BIOTROP	Bogor, 28 July 2021	Participant
73.	Asep Syaefudin, SE	Webinar Analisis SWOT [SWOT Analysis Webinar] Organizer : SEAMEO BIOTROP	Bogor, 28 July 2021	Participant
74.	Sri Widayanti, M.Si.	Webinar Analisis SWOT [SWOT Analysis Webinar] Organizer : SEAMEO BIOTROP	Bogor, 28 July 2021	Participant
75.	Harry Imantho, M.Sc	Webinar Analisis SWOT [SWOT Analysis Webinar] Organizer : SEAMEO BIOTROP	Bogor, 28 July 2021	Participant
76.	Fitri Junaedy, SEI	Webinar Analisis SWOT [SWOT Analysis Webinar] Organizer : SEAMEO BIOTROP	Bogor, 28 July 2021	Participant
77.	Dr.Ir. Erina Sulistiani, M.Si	Webinar Analisis SWOT [SWOT Analysis Webinar] Organizer : SEAMEO BIOTROP	Bogor, 28 July 2021	Participant
78.	Haritz Cahya Nugraha, M.T	Webinar Analisis SWOT [SWOT Analysis Webinar] Organizer : SEAMEO BIOTROP	Bogor, 28 July 2021	Participant
79.	Lillys Betty Yuliawati, S.Si	Webinar Analisis SWOT [SWOT Analysis Webinar] Organizer : SEAMEO BIOTROP	Bogor, 28 July 2021	Participant
80.	Rima Febriana, SE	Webinar Analisis SWOT [SWOT Analysis Webinar] Organizer :	Bogor, 28 July 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		SEAMEO BIOTROP		
81.	Ratnaningsih, S.Si.	Webinar : Peran Kromatografi Dalam Analisis Senyawa Baru [The Role of Chromatography in the Analysis of New Compounds] Organizer : **PT Sciencewerke**	Bogor, 29 July 2021	Participant
82.	Rima Febriana, SE	Workshop Sistem Informasi Manajemen Sasaran Pegawai Berbasis Web (E-SKP) [Web-based Employee Target Management Information System Workshop (E-SKP)] Organizer : SEAMEO SEAQIL	Bogor, 29 July 2021	Participant
83.	Eko Purwiyanto	Workshop Sistem Informasi Manajemen Sasaran Pegawai Berbasis Web (E-SKP) [Web-based Employee Target Management Information System Workshop (E-SKP)] Organizer : SEAMEO SEAQIL	Bogor, 29 July 2021	Participant
84.	Yuni Puspita Sari, MM	Workshop Sistem Informasi Manajemen Sasaran Pegawai Berbasis Web (E-SKP) [Web-based Employee Target Management Information System Workshop (E-SKP)] Organizer : SEAMEO SEAQIL	Bogor, 29 July 2021	Participant
85.	Bambang Sulistio, S.Si	Workshop Sistem Informasi Manajemen Sasaran Pegawai Berbasis Web (E-SKP) [Web-based Employee Target Management Information System Workshop (E-SKP)] Organizer : SEAMEO SEAQIL	Bogor, 29 July 2021	Participant
86.	Mutiara Hidayat, S.Si	Workshop Sistem Informasi Manajemen Sasaran Pegawai Berbasis Web (E-SKP) [Web-based Employee Target Management Information System Workshop (E-SKP)]	Bogor, 29 July 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		Organizer : SEAMEO SEAQIL		
87.	Ratnaningsih, S.Si.	Workshop Sistem Informasi Manajemen Sasaran Pegawai Berbasis Web (E-SKP) [Web-based Employee Target Management Information System Workshop (E-SKP)] Organizer : SEAMEO SEAQIL	Bogor, 29 July 2021	Participant
88.	Utami Megawati, S.Ak.	Workshop Sistem Informasi Manajemen Sasaran Pegawai Berbasis Web (E-SKP) [Web-based Employee Target Management Information System Workshop (E-SKP)] Organizer : SEAMEO SEAQIL	Bogor, 29 July 2021	Participant
89.	Syifa Fauzia, S.Si.	Workshop Sistem Informasi Manajemen Sasaran Pegawai Berbasis Web (E-SKP) [Web-based Employee Target Management Information System Workshop (E-SKP)] Organizer : SEAMEO SEAQIL	Bogor, 29 July 2021	Participant
90.	Fitri Junaedy, SEI	Workshop Sistem Informasi Manajemen Sasaran Pegawai Berbasis Web (E-SKP) [Web-based Employee Target Management Information System Workshop (E-SKP)] Organizer : SEAMEO SEAQIL	Bogor, 29 July 2021	Participant
91.	Riana Hartati, S.Si	Organizer : Workshop Sistem Informasi Manajemen Sasaran Pegawai Berbasis Web (E-SKP) [Web-based Employee Target Management Information System Workshop (E-SKP)] Organizer : SEAMEO SEAQIL	Bogor, 29 July 2021	Participant
92.	Rizkia Tirtani	Workshop Sistem Informasi Manajemen Sasaran Pegawai Berbasis Web (E-SKP) [Web-based Employee Target Management Information System Workshop (E-SKP)]	Bogor, 29 July 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		Organizer : SEAMEO SEAQIL		
93.	Indra Septian, A.Md	Workshop Sistem Informasi Manajemen Sasaran Pegawai Berbasis Web (E-SKP) [Web-based Employee Target Management Information System Workshop (E-SKP)] Organizer : SEAMEO SEAQIL	Bogor, 29 July 2021	Participant
94.	Elvina Rahayu, S.Ak.	Workshop Sistem Informasi Manajemen Sasaran Pegawai Berbasis Web (E-SKP) [Web-based Employee Target Management Information System Workshop (E-SKP) Organizer : SEAMEO SEAQIL	Bogor, 29 July 2021	Participant
95.	Nijma Nurfadila, M.Si	Webinar Digitalisasi Inovasi untuk Mendukung Kedaulatan Pangan Indonesia [Webinar Digitizing Innovation to Supporting Indonesian Food Sovereignty] Organizer : IPB University	Bogor, 5 August 2021	Participant
96.	Drs. Jonner Situmorang, M.Si	Webinar Digitalisasi Inovasi untuk Mendukung Kedaulatan Pangan Indonesia [Webinar Digitizing Innovation to Supporting Indonesian Food Sovereignty] Organizer : IPB University	Bogor, 5 August 2021	Participant
97.	Nijma Nurfadila, M.Si	Webinar tentang mikrobiologi [Webinars on microbiology] Organizer : BPOM	Bogor, 9 August 2021	Participant
98.	Eko Purwiyanto	Webinar estimasi uncertainty analisis dengan metoda Kjeldahl [Webinar estimation of uncertainty analysis using the Kjeldahl method] Organizer : PT. Abadi Nusa Indonesia dan Gerhart	Bogor, 16 August 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
99.	Arif Nuryadin, B.Sc	Webinar estimasi uncertainty analisis dengan metoda Kjeldahl [Webinar estimation of uncertainty analysis using the Kjeldahl method] Organizer : PT. Abadi Nusa Indonesia dan Gerhart	Bogor, 16 August 2021	Participant
100.	Nijma Nurfadila, M.Si	International Guest Lecture on Marine Biodiversity Organizer : Diponegoro University (UNDIP)	Bogor, 16 August 2021	Participant
101.	Ujang Sanusi	Webinar : Semangat Merdeka, Covid Merdeka, Keluarga Bahagia [Webinar : Free Spirit, Free Covid, Happy Family] Organizer : KPKNL Tangerang II	Jakarta, 18 August 2021	Participant
102.	Dewi Rahmawati, M.Si	Webinar Manfaat Adopsi Tanaman Biotek bagi Petani [Webinar: Benefits of Adopting Biotech Crops for Farmers] Organizer : IndoBIC	Bogor, 18 August 2021	Participant
103.	Dr. Ir. Erina Sulistiani, M.Si	Webinar Manfaat Adopsi Tanaman Biotek bagi Petani [Webinar: Benefits of Adopting Biotech Crops for Farmers] Organizer : IndoBIC	Bogor, 18 August 2021	Participant
104.	Ir. Sri Widayanti, M.Si.	Webinar Manfaat Adopsi Tanaman Biotek bagi Petani [Webinar: Benefits of Adopting Biotech Crops for Farmers] Organizer : IndoBIC	Bogor, 18 August 2021	Participant
105.	Didi Junaedi, A.Md	Pelatihan Sistem Informasi Manajemen Sasaran (E-SKP) Berbasis Web [Web-Based Target Management Information System (E-SKP) Training] Organizer : SEAMEO BIOTROP	Bogor, 18 August 2021	Participant
106.	Nijma Nurfadila, M.Si	Webinar “IPB Innovation and Bussiness Sustainability” Organizer : STP IPB University 2021	18 August 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
107.	Rima Febriana, SE	Bimtek Pengadaan Barang Jasa Pemerintah [Technical Guidance - Government Procurement of Goods and Services (PBJ)] Organizer : -	Bandung, 19 August 2021	Participant
108.	Utami Megawati, S.Ak.	Webinar "Memahami 3 Metode Analisis Powerfull (SWOT Analisis, Key Performance Indicators & Root Cause Analysis' [Webinar "Understanding 3 Powerful Analysis Methods (SWOT Analysis, Key Performance Indicators, & Root Cause Analysis"] Organizer : LPKN	19-21 August 2021	Participant
109.	Zulkarnaen Noor Syarif, S.Kom	Webinar Memahami 3 Metode Analisis Powerfull (SWOT Analisis, Key Performance Indicators, & Root Cause Analysis [Webinar "Understanding 3 Powerful Analysis Methods (SWOT Analysis, Key Performance Indicators, & Root Cause Analysis"] Organizer : LPKN	19-21 August 2021	Participant
110.	Ir. Sri Widayanti, M.Si.	11th International Conference on controlled Atmosphere and Fumigation in Stored Products (Online) Organizer: University of Manitoba, Canada	23-27 August 2021	Participant
111.	Dr. Idham S. Harahap	11th International Conference on controlled Atmosphere and Fumigation in Stored Products (Online) Organizer: University of Manitoba, Canada	23-27 August 2021	Participant
112.	Trijanti A.Widinni A, M.Si	11th International Conference on controlled Atmosphere and Fumigation in Stored Products (Online) Organizer: University of Manitoba, Canada	23-27 August 2021	Participant
113.	Sri Ismawati Soerianegara, M.Sc	TAS series 5 : "Peran Emtomologi dn pengendalian hama dalam mengawal food safety" [TAS series 5: "Role of	Bogor, 24 August 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		Entomology and pest control in guarding food safety"] Organizer : SEAMEO BIOTROP		
114.	Deri Yandi, S.Si.	TAS series 5 : "Peran Emtomologi dn pengendalian hama dalam mengawal food safety" [TAS series 5: "Role of Entomology and pest control in guarding food safety"] Organizer : SEAMEO BIOTROP	Bogor, 24 August 2021	Participant
115.	Herni Widhiastuti, S.Si	TAS series 5 : "Peran Emtomologi dn pengendalian hama dalam mengawal food safety" [TAS series 5: "Role of Entomology and pest control in guarding food safety"] Organizer : SEAMEO BIOTROP	Bogor, 24 August 2021	Participant
116.	Ir. Ina Retnowati	TAS series 5 : "Peran Emtomologi dn pengendalian hama dalam mengawal food safety" [TAS series 5: "Role of Entomology and pest control in guarding food safety"] Organizer : SEAMEO BIOTROP	Bogor, 24 August 2021	Participant
117.	Nijma Nurfadila, M.Si	TAS series 5 : "Peran Emtomologi dn pengendalian hama dalam mengawal food safety" [TAS series 5: "Role of Entomology and pest control in guarding food safety"] Organizer : SEAMEO BIOTROP	Bogor, 24 August 2021	Participant
118.	Dewi Suryani, SP, MM	BIMTEK : Pertanian Perkotaan – Budidaya Akuaponik [Technical Guidance: Urban Farming – Aquaponic Cultivation] Organizer : SEAMEO BIOTROP	Bogor, 25 & 31 August	Participant
119.	Ir. Sri Widayanti, M.Si.	Diskusi Pembahasan Analisis Tisiko Organisme Penganggu Tumbuhan (AROPT) [Discussion of Plant Destruction Organisms Risk Analysis (AROPT)]	Jakarta, 25-27 August 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		Organizer : Badan Karantina Pertanian [Agricultural quarantine agency]		
120.	Arif Nuryadin, B.Sc	Webinar "Morning Mind Cloud Idea Seri 8" (MOMI CLOUDIA) "Membangun dan Mengembangkan Sistem Manajemen Riset" [Webinar Morning Mind Cloud Idea Series 8" (MOMI CLOUDIA): "Building and Developing a Research Management System"] Organizer : SEAMEO BIOTROP	Bogor, 25 August 2021	Participant
121.	Sri Ismawati Soerianegara, M.Sc	Webinar "Morning Mind Cloud Idea Seri 8" (MOMI CLOUDIA) "Membangun dan Mengembangkan Sistem Manajemen Riset" [Webinar Morning Mind Cloud Idea Series 8" (MOMI CLOUDIA): "Building and Developing a Research Management System"] Organizer : SEAMEO BIOTROP	Bogor, 25 August 2021	Participant
122.	Dewi Suryani, SP, MM	Webinar "Morning Mind Cloud Idea Seri 8" (MOMI CLOUDIA) "Membangun dan Mengembangkan Sistem Manajemen Riset" [Webinar Morning Mind Cloud Idea Series 8" (MOMI CLOUDIA): "Building and Developing a Research Management System"] Organizer : SEAMEO BIOTROP	Bogor, 25 August 2021	Participant
123.	Yuni Puspita Sari, MM	Webinar "Morning Mind Cloud Idea Seri 8" (MOMI CLOUDIA) "Membangun dan Mengembangkan Sistem Manajemen Riset" Organizer : SEAMEO BIOTROP	Bogor, 25 August 2021	Participant
124.	Ir. Ina Retnowati	Webinar "Morning Mind Cloud Idea Seri 8" (MOMI CLOUDIA) "Membangun dan Mengembangkan Sistem Manajemen Riset" [Webinar Morning Mind Cloud Idea Series 8" (MOMI CLOUDIA): "Building and Developing a Research Management System"] Organizer :	Bogor, 25 August 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		SEAMEO BIOTROP		
125.	Herni Widhiastuti, S.Si.	Webinar "Morning Mind Cloud Idea Seri 8" (MOMI CLOUDIA) "Membangun dan Mengembangkan Sistem Manajemen Riset" [Webinar Morning Mind Cloud Idea Series 8" (MOMI CLOUDIA): "Building and Developing a Research Management System"] Organizer : SEAMEO BIOTROP	Bogor, 25 August 2021	Participant
126.	Santi Ambarwati, M.Si	Webinar "Morning Mind Cloud Idea Seri 8" (MOMI CLOUDIA) "Membangun dan Mengembangkan Sistem Manajemen Riset" [Webinar Morning Mind Cloud Idea Series 8" (MOMI CLOUDIA): "Building and Developing a Research Management System"] Organizer : SEAMEO BIOTROP	Bogor, 25 August 2021	Participant
127.	Saiful Bachri, S.Si	Webinar "Morning Mind Cloud Idea Seri 8" (MOMI CLOUDIA) "Membangun dan Mengembangkan Sistem Manajemen Riset" [Webinar Morning Mind Cloud Idea Series 8" (MOMI CLOUDIA): "Building and Developing a Research Management System"] Organizer : SEAMEO BIOTROP	Bogor, 25 August 2021	Participant
128.	Trijanti A. Widinni Asnan, M.Si.	Webinar "Morning Mind Cloud Idea Seri 8" (MOMI CLOUDIA) "Membangun dan Mengembangkan Sistem Manajemen Riset" [Webinar Morning Mind Cloud Idea Series 8" (MOMI CLOUDIA): "Building and Developing a Research Management System"] Organizer : SEAMEO BIOTROP	Bogor, 25 August 2021	Participant
129.	Rima Febriana, SE	Webinar "Morning Mind Cloud Idea Seri 8" (MOMI CLOUDIA) "Membangun dan Mengembangkan Sistem Manajemen Riset" [Webinar Morning Mind Cloud Idea Series 8" (MOMI CLOUDIA):	Bogor, 25 August 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		"Building and Developing a Research Management System"] Organizer : SEAMEO BIOTROP		
130.	Asep Syaefudin, SE	Webinar "Morning Mind Cloud Idea Seri 8" (MOMI CLOUDIA) "Membangun dan Mengembangkan Sistem Manajemen Riset" Organizer : SEAMEO BIOTROP	Bogor, 25 August 2021	Participant
131.	Dewi Rahmawati, M.Si	Webinar "Morning Mind Cloud Idea Seri 8" (MOMI CLOUDIA) "Membangun dan Mengembangkan Sistem Manajemen Riset" [Webinar Morning Mind Cloud Idea Series 8" (MOMI CLOUDIA): "Building and Developing a Research Management System"] Organizer : SEAMEO BIOTROP	Bogor, 25 August 2021	Participant
132.	Dr. Ir. Erina Sulistiani, M.Si	Webinar "Morning Mind Cloud Idea Seri 8" (MOMI CLOUDIA) "Membangun dan Mengembangkan Sistem Manajemen Riset" [Webinar Morning Mind Cloud Idea Series 8" (MOMI CLOUDIA): "Building and Developing a Research Management System"] Manajemen Riset" Organizer : SEAMEO BIOTROP	Bogor, 25 August 2021	Participant
133.	Nijma Nurfadila, M.Si	Webinar Food Technology Webinar Series 3 : Plant-Based Raw Materials: Challenges and Opportunities Organizer : PT GEM Indonesia	25 August 2021	Participant
134.	Deri Yandi, S.Si	BIMTEK Pertanian Perkotaan - Budidaya Akuaponik [Urban Farming Technical Guidance - Aquaponic Cultivation] Organizer : SEAMEO BIOTROP	26 &31 August 2021	Participant
135.	Sri Ismawati Soerianegara, M.Sc	Webinar BIOTROP to School Seri 10 : Survey Keanekaragaman Hayati "Mendalami Biologi Tropika melalui Hobi Pemetaan" [Webinar BIOTROP to School	30 August 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		Series 10 : Biological Diversity Survey "Exploring Tropical Biology through Mapping Hobby"] Organizer : SEAMEO BIOTROP		
136.	Deri Yandi, S.Si	Webinar BIOTROP to School Seri 10 : Survey Keanekaragaman Hayati "Mendalami Biologi Tropika melalui Hobi Pemetaan" [Webinar BIOTROP to School Series 10 : Biological Diversity Survey "Exploring Tropical Biology through Mapping Hobby"] Organizer : SEAMEO BIOTROP	30 August 2021	Participant
137.	Dr. Zulhamsyah Imran	Workshop "Peran Kawasan Konservasi Laut terhadap Kelestarian Lingkungan dan Pengurangan Ketimpangan di Indonesia" [Workshop "The Role of Marine Protected Areas on Environmental Sustainability and Inequality Reduction in Indonesia"] Organizers : Lembaga Penyelidikan Ekonomi dan Masyarakat, Fakultas Ekonomi dan Bisnis, Universitas Indonesia (LPEM FEB UI)	1 September 2021	Participant
138.	Shella Marlinda, M.Si	Workshop "Peran Kawasan Konservasi Laut terhadap Kelestarian Lingkungan dan Pengurangan Ketimpangan di Indonesia" [Workshop "The Role of Marine Protected Areas on Environmental Sustainability and Inequality Reduction in Indonesia"] Organizer : Lembaga Penyelidikan Ekonomi dan Masyarakat, Fakultas Ekonomi dan Bisnis, Universitas Indonesia (LPEM FEB UI)	1 September 2021	Participant
139.	Ir. Sri Widayanti, M.Si	Pembahasan Analisis Risiko Organisme Pengganggu Tumbuhan (AROPT) [Discussion of Plant Destruction Organisms Risk Analysis (AROPT)] Organizer :	1-3 September 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		Badan Karantina Pertanian, Kementerian Pertanian [Agricultural Quarantine Agency, Ministry of Agriculture]		
140.	Dr. Zulhamsyah Imran	Inte-Centre Collaboration Meeting (ICCM) Organizers: Kementerian Pendidikan dan Kebudayaan, Riset, dan Tekonologi dan 7 SEAMEO Centres [MoECRTand and 7 SEAMEO Centres in Indonesia]	1-4 September 2021	Participant
141.	Bambang Sulistio, S.Si	Inte-Centre Collaboration Meeting (ICCM) Organizers: Kementerian Pendidikan dan Kebudayaan, Riset, dan Tekonologi dan 7 SEAMEO Centres [MoECRTand and 7 SEAMEO Centres in Indonesia]	1-4 September 2021	Participant
142.	Alya Shafira, S.T.	Inte-Centre Collaboration Meeting (ICCM) Organizers: Kementerian Pendidikan dan Kebudayaan, Riset, dan Tekonologi dan 7 SEAMEO Centres [MoECRTand and 7 SEAMEO Centres in Indonesia]	1-4 September 2021	Participant
143.	Dr, Evelyn V. Bigcas	Inte-Centre Collaboration Meeting (ICCM) Organizers: Kementerian Pendidikan dan Kebudayaan, Riset, dan Tekonologi dan 7 SEAMEO Centres [MoECRTand and 7 SEAMEO Centres in Indonesia]	2-4 September 2021	Participant
144.	Dr Sri Sudarmiyati Tjitrosoedirjo, MSc	Webinar and Focus Group Discussion Sustainable and Innovative Financing on Invasive Alien Species (IAS) Management in Indonesia Organizer : SEAMEO BIOTROP	3 September 2021	Participant
145.	Dr Soekisman Tjitrosoedirjo	Webinar and Focus Group Discussion Sustainable and Innovative Financing on Invasive Alien Species (IAS) Management in Indonesia Organizer :	3 September 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		SEAMEO BIOTROP		
146.	Slamet Widodo Sugiarto, M.Sc	Webinar and Focus Group Discussion Sustainable and Innovative Financing on Invasive Alien Species (IAS) Management in Indonesia Organizer : SEAMEO BIOTROP	3 September 2021	Participant
147.	Prof. Dr. Okky S. Dharmaputra	Webinar "Strategi pengelolaan aset biodiversitas cendawan di Indonesia" [Webinar : "Strategies for managing fungal biodiversity assets in Indonesia"] Organizers : Dept. Biologi, IPB University, Mikoina Bogor, Indonesian Center for Tropical Sciences [Dept. Biology, IPB University, Mikoina Bogor and the Indonesian Center for Tropical Sciences]	6 September 2021	Participant
148.	Rima Febriana, SE	Workshop sosialisasi dan evaluasi keuangan Satker SEAMEO SEAMOLEC dan Rekon keuangan bulan Juli dan August, action plan TUP September-Oktobedr 2021 [Workshop on financial socialization and evaluation of SEAMEO SEAMOLEC Satker and financial reconciliation in July and August, TUP action plan September – October 2021] Organizer : SEAMEO SEAMOLEC	7-9 September 2021	Participant
149.	M. Tajudin, SE, MM	Workshop sosialisasi dan evaluasi keuangan Satker SEAMEO SEAMOLEC dan Rekon keuangan bulan Juli dan August, action plan TUP September-Oktober 2021 [Workshop on financial socialization and evaluation of SEAMEO SEAMOLEC Satker and financial reconciliation in July and August, TUP action plan September – October 2021] Organizer : SEAMEO SEAMOLEC	Jakarta, 7-9 September 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
150.	Bambang Sulistio, S.Si	Workshop sosialisasi dan evaluasi keuangan Satker SEAMEO SEAMOLEC dan Rekon keuangan bulan Juli dan August, action plan TUP September-Oktober 2021 [Workshop on financial socialization and evaluation of SEAMEO SEAMOLEC Satker and financial reconciliation in July and August, TUP action plan September – October 2021] Organizer : SEAMEO SEAMOLEC	Jakarta, 7-9 September 2021	Participant
151.	Peri Siantuni, SE	Workshop sosialisasi dan evaluasi keuangan Satker SEAMEO SEAMOLEC dan Rekon keuangan bulan Juli dan August, action plan TUP September-Oktober 2021 [Workshop on financial socialization and evaluation of SEAMEO SEAMOLEC Satker and financial reconciliation in July and August, TUP action plan September – October 2021] Organizer : SEAMEO SEAMOLEC	Jakarta, 7-9 September 2021	Participant
152.	Herman Apriyadi, SE	Workshop sosialisasi dan evaluasi keuangan Satker SEAMEO SEAMOLEC dan Rekon keuangan bulan Juli dan August, action plan TUP September-Oktober 2021 [Workshop on financial socialization and evaluation of SEAMEO SEAMOLEC Satker and financial reconciliation in July and August, TUP action plan September – October 2021] Organizer : SEAMEO SEAMOLEC	Jakarta, 7-9 September 2021	Participant
153.	Deri Yandi, S.Si.	BIMTEK Pertanian Perkotaan - Budidaya Akuaponik [Urban Farming Technical Guidance - Aquaponic Cultivation] Organizer : SEAMEO BIOTROP	Bogor, 10 September 2021	Participant
154.	Dika Zulkarnaen, S.Si.	Pelatihan dan Uji Sertifikasi STTK Bidang Petugas Pengambil Contoh (PPC) [STTK Certification Training and Test for Sampling Officers (PPC)] Organizer : Emerald Petroleum Trainindo	Jakarta, 12-15 September 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
155.	Mahpudin	Pelatihan dan Uji Sertifikasi STTK Bidang Petugas Pengambil Contoh (PPC) Pelatihan dan Uji Sertifikasi STTK Bidang Petugas Pengambil Contoh (PPC) [STTK Certification Training and Test for Sampling Officers (PPC)] Organizer : Emerald Petroleum Trainindo	Jakarta, 12-15 September 2021	Participant
156.	Dewi Suryani, SP., MM	BIMTEK Pertanian Perkotaan - Budidaya Hidroponik [Urban Farming Technical Guidance - Aquaponic Cultivation] Organizer : SEAMEO BIOTROP	Bogor, 13 September 2021	Participant
157.	Dewi Rahmawati, M.Si	Bimbingan Teknis dan Uji Kompetensi untuk Pelaksanaan Pelatihan Jarak Jauh [Technical Guidance and Competency Test for Remote Training Implementation] Organizer : LPKN	13–18 September 2021	Participant
158.	Sri Ismawati Soerianegara, M.Sc	Bimbingan Teknis dan Uji Kompetensi untuk Pelaksanaan Pelatihan Jarak Jauh [Technical Guidance and Competency Test for Remote Training Implementation] Organizer : LPKN	13–18 September 2021	Participant
159.	Slamet Widodo, M.Sc	Bimbingan Teknis dan Uji Kompetensi untuk Pelaksanaan Pelatihan Jarak Jauh [Technical Guidance and Competency Test for Remote Training Implementation] Organizer : LPKN	13–18 September 2021	Participant
160.	Anidah, M.Pn	Bimbingan Teknis dan Uji Kompetensi untuk Pelaksanaan Pelatihan Jarak Jauh [Technical Guidance and Competency Test for Remote Training Implementation] Organizer : LPKN	13–18 September 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
161.	Shella Marlinda, M.Si	Bimbingan Teknis dan Uji Kompetensi untuk Pelaksanaan Pelatihan Jarak Jauh [Technical Guidance and Competency Test for Remote Training Implementation] Organizer : LPKN	13–18 September 2021	Participant
162.	Risa Rosita, M.Si	Bimbingan Teknis dan Uji Kompetensi untuk Pelaksanaan Pelatihan Jarak Jauh [Technical Guidance and Competency Test for Remote Training Implementation] Organizer : LPKN	13–18 September 2021	Participant
163.	Trijanti A. Widinni Asnan, M.Si.	Bimbingan Teknis dan Uji Kompetensi untuk Pelaksanaan Pelatihan Jarak Jauh [Technical Guidance and Competency Test for Remote Training Implementation] Organizer : LPKN	13–18 September 2021	Participant
164.	Indah Wahyudi, M.Si	Bimbingan Teknis dan Uji Kompetensi untuk Pelaksanaan Pelatihan Jarak Jauh [Technical Guidance and Competency Test for Remote Training Implementation] Organizer : LPKN	13–18 September 2021	Participant
165.	Arif Nuryadin, B.Sc	MOMI CLOUDIA Seri 9 “Good Governance on Managing Marine Biodiversity and Biotechnology Lessons from Experience” Organizer : SEAMEO BIOTROP	Bogor, 14 September 2021	Participant
166.	Herni Widhiastuti, S.Si	MOMI CLOUDIA Seri 9 “Good Governance on Managing Marine Biodiversity and Biotechnology Lessons from Experience” Organizer : SEAMEO BIOTROP	Bogor, 14 September 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
167.	Dewi Suryani, SP., MM	MOMI CLOUDIA Seri 9 “Good Governance on Managing Marine Biodiversity and Biotechnology Lessons from Experience” Organizer : SEAMEO BIOTROP	Bogor, 14 September 2021	Participant
168.	Drs. Jonner Situmorang, M.Si	MOMI CLOUDIA Seri 9 “Good Governance on Managing Marine Biodiversity and Biotechnology Lessons from Experience” Organizer : SEAMEO BIOTROP	Bogor, 14 September 2021	Participant
169.	Nijma Nurfadila, M.Si	Webinar "IPB Innovation and Bussiness Sustainability" Organizer : IPB University	Bogor, 15 September 2021	Participant
170.	Nijma Nurfadila, M.Si	Regional Webinar: What does The Peatland Ecosystem Face in The Future? Organizers : SEAMEO BIOTROP, IPB University and As-Syafi’yah Islam University	Bogor, 17 September 2021	MC
171.	Ir. Ina Retnowati	Regional Webinar: What does The Peatland Ecosystem Face in The Future? Organizers : SEAMEO BIOTROP, IPB University and As-Syafi’yah Islam University	Bogor, 17 September 2021	Participant
172.	Ir. Sri Widayanti, M.Si.	Regional Webinar: What does The Peatland Ecosystem Face in The Future? Organizers : SEAMEO BIOTROP, IPB University and As-Syafi’yah Islam University	Bogor, 17 September 2021	Participant
173.	M. Tajudin, SE., MM	Workshop Evaluasi TA.2021 dan Revisi Dokumen Usulan TA.2022 Satker SEAMEO SEAMOLEC [Workshop on Evaluation of FY2021 and Revision of Proposed Documents for FY2022 SEAMEO SEAMOLEC Satker] Organizer : SEAMEO SEAMOLEC	20-22 September 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
174.	Herman Apriyadi, SE	Workshop and Training *End User* Sakti Tahun 2021 Satker SEAMEO SEAMOLEC ['Sakti' End User Workshop and Training in 2021 SEAMEO SEAMOLEC Satker] Organizer : SEAMEO SEAMOLEC	20–24 September 2021	Participant
175.	Supriyatno, A.Md	Workshop and Training *End User* Sakti Tahun 2021 Satker SEAMEO SEAMOLEC ['Sakti' End User Workshop and Training in 2021 SEAMEO SEAMOLEC Satker] Organizer : SEAMEO SEAMOLEC	20–24 September 2021	Participant
176.	Yuni Puspita Sari, MM	Webinar Nasional Kearsipan [National Archives Webinar] Organizer : Unit Arsip, IPB University	Bogor, 21 September 2021	Participant
177.	Santi Ambarwati, M.Si	Webinar Virtual Tour Advanced Research Lab, IPB University [Webinar Virtual Tour Advanced Research Laboratory, IPB University] Organizer : IPB University	Bogor, 21 September 2021	Participant
178.	Dr. Zulhamsyah Imran	Konsensus Nasional Standar Penilaian Green Label Indonesia (GLI) Produk Minyak Atsiri [National Consensus on Indonesian Green Label Assessment Standards (GLI) for Essential Oil Products] Organizer : Green Product Council Indonesia (GPCI)	Jakarta, 22 September 2021	Participant
179.	Dr. Supriyanto	Konsensus Nasional Standar Penilaian Green Label Indonesia (GLI) Produk Minyak Atsiri [National Consensus on Indonesian Green Label Assessment Standards (GLI) for Essential Oil Products] Organizer : Green Product Council Indonesia (GPCI)	Jakarta, 22 September 2021	Participant
180.	Santi Ambarwati, M.Si	Webinar ISO 17011 Organizer : Badan Standardisasi Nasional [National Standardization Agency (BSN)]	22 September 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
181.	Drs. Jonner Situmorang, M.Si	Webinar Digitalisasi Inovasi untuk mendukung Kedaulatan Pangan [Webinar Digitizing Innovation to support Food Sovereignty] Organizer : IPB University	Bogor, 23 September 2021	Participant
182.	Ujang Sanusi	Workshop dan Training End User Sakti Tahun 2021 Workshop dan Training End User Sakti Tahun 2021 ['Sakti' End User Workshop and Training in 2021] Organizer : SEAMEO SEAMOLEC	Jakarta, 27–30 September 2021	Participant
183.	Indra Septian, A.Md	Workshop dan Training End User Sakti Tahun 2021 ['Sakti' End User Workshop and Training in 2021] Organizer : SEAMEO SEAMOLEC	Jakarta, 27–30 September 2021	Participant
184.	Dr.Ir. Erina Sulistiani, M.Si	Webinar Tropical Seaweed Innovation Network (TSIN) Series #5 "The Potenial Development of Asparogopsis Seaweed for Sustainable Livestock Feed Production to Reduce Methane". Organizer : Ditjen PDSPKP	Jakarta, 28 September 2021	Participant
185.	Deri Yandi, S.Si	BIMTEK Isolasi dan Identifikasi Cendawan Penghasil Mikotoksin [Technical Guidance on Isolation and Identification of Mycotoxin Producing Fungi] Organizer : SEAMEO BIOTROP	Bogor, 28-29 September 2021	Participant
186.	Ujang Sanusi	Workshop dan Training End User Sakti Tahun 2021 Workshop dan Training End User Sakti Tahun 2021 ['Sakti' End User Workshop and Training in 2021] Organizer : SEAMEO SEAMOLEC	Jakarta, 1 October 2021	Participant
187.	Indra Septian	Workshop dan Training End User Sakti Tahun 2021 Workshop dan Training End User Sakti Tahun 2021 ['Sakti' End User Workshop and Training in 2021] Organizer :	Jakarta, 1 October 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		SEAMEO SEAMOLEC		
188.	Dika Zulkarnaen, S.Si.	Webinar: Bimtek KLHK Organizer : KLHK	7 October 2021	Participant
189.	Dr. Erina Sulistiani, M.Si	Workshop International Sea as Global Climet Engine : Climate change and Coastal Resilience Organizer : SEAMEO BIOTROP	Bogor, 7-8 October 2021	Participant
190.	Utami Megawati, S.Ak	Workshop International Sea as Global Climet Engine : Climate change and Coastal Resilience Organizer : SEAMEO BIOTROP	Bogor, 7-8 October 2021	MC
191.	Lukman Haris, S.Si	Workshop International Sea as Global Climet Engine : Climate change and Coastal Resilience Organizer : SEAMEO BIOTROP	Bogor, 7-8 October 2021	Participant
192.	Haritz Cahya Nugraha, M.T.	Workshop International Sea as Global Climet Engine : Climate change and Coastal Resilience Organizer : SEAMEO BIOTROP	Bogor, 7-8 October 2021	Participant
193.	Ir. Sri Widayanti, M.Si.	Workshop International Sea as Global Climet Engine : Climate change and Coastal Resilience Organizer : SEAMEO BIOTROP	Bogor, 7-8 October 2021	Participant
194.	Dr. Zulhamsyah Imran	Workshop International Sea as Global Climet Engine : Climate change and Coastal Resilience Organizer : SEAMEO BIOTROP	Bogor, 7-8 October 2021	Participant
195.	Bambang Sulistio, S.Si	Workshop International Sea as Global Climet Engine : Climate change and Coastal Resilience Organizer :	Bogor, 7-8 October 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		SEAMEO BIOTROP		
196.	Deki Zulkarnain, S.Sos	Workshop International Sea as Global Climet Engine : Climate change and Coastal Resilience Organizer : SEAMEO BIOTROP	Bogor, 7-8 October 2021	Participant
197.	Prof. Dr. Okky S. Dharmaputra	Workshop International Sea as Global Climet Engine : Climate change and Coastal Resilience Organizer : SEAMEO BIOTROP	Bogor, 7-8 October 2021	Participant
198.	Harry Imantho, M.Sc	Workshop International Sea as Global Climet Engine : Climate change and Coastal Resilience Organizer : SEAMEO BIOTROP	7-8 October 2021	Participant
199.	Peri Siantuni, SE	Workshop International Sea as Global Climet Engine : Climate change and Coastal Resilience Organizer : SEAMEO BIOTROP	Bogor, 7-8 October 2021	Participant
200.	Zulkarnaen Noor Syarif, S.Kom	Training of Trainer “Penguatan Kapasitas Pelaksana Program FORCLIME-FC Kabupaten Kapuas Hulu, Berau dan Malinau dalam Rangka Pengakhiran Program” [Training of Trainers “Strengthening the Capacity of FORCLIME-FC Program Implementers in Kapuas Hulu, Berau and Malinau Districts for Program Termination”] Organizer : SMARTS-BE SEAMEO BIOTROP	Bogor, 8 October 2021	Participant
201.	Dr. Zulhamsyah Imran	Diskusi Kelompok Terpumpun (DKT) program Anti Perundungan Regional II [Focus Group Discussion (FGD) Regional II Anti Bullying Program] Organizer : Kementerian Pendidikan, Kebudayaan Riset, dan Teknologi [Ministry of	Jakarta, 18-20 October 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		Education, Research Culture, and Technology]		
202.	Dani Yudi Trisna, A.Md	Diskusi Kelompok Terpumpun (DKT) program Anti Perundungan Regional II [Focus Group Discussion (FGD) Regional II Anti Bullying Program] Organizer : Kementerian Pendidikan, Kebudayaan Riset, dan Teknologi [Ministry of Education, Research Culture, and Technology]	18-20 October 2021	Participant
203.	Drs. Jonner Situmorang, M.Si	Orientation Webinar "Strengthening Collaboration between BIOTROP and MSU and Expanding Regional Visibility" Organizers : Jointly SEAMEO BIOTROP, Mindanao State University	Bogor, 19 October 2021	Participant
204.	Rima Febriana, SE	Orientation Webinar "Strengthening Collaboration between BIOTROP and MSU and Expanding Regional Visibility" Organizers : Jointly SEAMEO BIOTROP and Mindanao State University	Bogor, 19 October 2021	Participant
205.	Riana Hartati, S.Si	Orientation Webinar "Strengthening Collaboration between BIOTROP and MSU and Expanding Regional Visibility" Organizers : Jointly SEAMEO BIOTROP and Mindanao State University	Bogor, 19 October 2021	Participant
206.	Arif Nuryadin, B.Sc	Orientation Webinar "Strengthening Collaboration between BIOTROP and MSU and Expanding Regional Visibility" Organizers : Jointly SEAMEO BIOTROP and Mindanao State University	Bogor, 19 October 2021	Participant
207.	Dewi Rahmawati, M.Si	Orientation Webinar "Strengthening Collaboration between BIOTROP and MSU and Expanding Regional Visibility" Organizers : Jointly SEAMEO BIOTROP and Mindanao State University	Bogor, 19 October 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
208.	Deda Annafia Yuliastri, M.Si	Orientation Webinar "Strengthening Collaboration between BIOTROP and MSU and Expanding Regional Visibility" Organizers : Jointly SEAMEO BIOTROP and Mindanao State University	Bogor, 19 October 2021	Participant
209.	Dewi Suryani, SP, MM	Orientation Webinar "Strengthening Collaboration between BIOTROP and MSU and Expanding Regional Visibility" Organizers : Jointly SEAMEO BIOTROP and Mindanao State University	Bogor, 19 October 2021	Participant
210.	Deri Yandi, S.Si	Orientation Webinar "Strengthening Collaboration between BIOTROP and MSU and Expanding Regional Visibility" Organizers : Jointly SEAMEO BIOTROP and Mindanao State University	Bogor, 19 October 2021	Participant
211.	Dr Zulhamsyah Imran	Orientation Webinar "Strengthening Collaboration between BIOTROP and MSU and Expanding Regional Visibility" Organizers : Jointly SEAMEO BIOTROP and Mindanao State University	Bogor, 19 October 2021	Participant
212.	Risya Ayu Astari, A.Md	Webinar pengukuran pH, kalibrasi serta troubleshootingnya [Webinar on pH measurement, calibration and troubleshooting] Organizer : PT. Alfascale Indonesia	19 October 2021	Participant
213.	Eko Purwiyanto	Webinar pengukuran pH, kalibrasi serta troubleshootingnya [Webinar on pH measurement, calibration and troubleshooting] Organizer : PT. Alfascale Indonesia	19 October 2021	Participant
214.	Harry Imantho, M.Sc	Bimtek Pengembangan SMK Model Agro Edowisata Program SMARTS-BE di SMK PPN Saree, Aceh [Technical Guidance for the Development of the Agroedutourism Model Vocational School for the SMARTS-BE Program at the PPN Saree Vocational School, Aceh]	Aceh Besar, 20-22 October 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		Organizer : SMARTS-BE		
215.	Risya Ayu Astari, A.Md	Webinar Interpretasi control chart Organizer : PT. Berca Niaga Medika	21 Oktober 2021	Participant
216.	Ir. Sri Widayanti, M.Si.	Webinar - Bimtek Propaktani [Webinar - Propaktani Technical Guidance] Organizer : Ditjen Tanaman Pangan	21 Oktober 2021	Participant
217.	Dika Zulkarnaen, S.Si.	Webinar IQC Organizer : PT Berca Niaga Medika	21 Oktober 2021	Participant
218.	Ir. Sri Widayanti, M.Si.	Webinar PEI: Strategi Akselerasi Implementasi PHT di Indonesia [PEI Webinar: Strategy for Accelerating IPM Implementation in Indonesia] Organizer : Perhimpunan Entomologi Indonesia [Indonesian Entomology Association]	22 Oktober 2021	Participant
219.	Herni Widhiastuti, S.Si	Webinar PEI: Strategi Akselerasi Implementasi PHT di Indonesia [PEI Webinar: Strategy for Accelerating IPM Implementation in Indonesia] Organizer : Perhimpunan Entomologi Indonesia [Indonesian Entomology Association]	22 Oktober 2021	Participant
220.	Utami Megawati, S.Ak	Webinar Monday Mind Cloud Idea Seri 10 “Semakin Produktif Meski Pandemi Covid-19” [“More Productive Despite the Covid-19 Pandemic”] Organizer : SEAMEO BIOTROP	Bogor, 25 Oktober 2021	Participant
221.	Fitri Hanifah	Webinar Monday Mind Cloud Idea Seri 10 “Semakin Produktif Meski Pandemi Covid-19” [“More Productive Despite the Covid-19 Pandemic”] Organizer : SEAMEO BIOTROP	Bogor, 25 Oktober 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
222.	Bambang Sulistio, S.Si	Webinar Monday Mind Cloud Idea Seri 10 “Semakin Produktif Meski Pandemi Covid-19” [“More Productive Despite the Covid-19 Pandemic”] Organizer : SEAMEO BIOTROP	Bogor, 25 Oktober 2021	Participant
223.	Fitri Junaedy, SEI	Webinar Monday Mind Cloud Idea Seri 10 “Semakin Produktif Meski Pandemi Covid-19” [“More Productive Despite the Covid-19 Pandemic”] Organizer : SEAMEO BIOTROP	Bogor, 25 Oktober 2021	Participant
224.	Lukman Haris, S.Si	Webinar Monday Mind Cloud Idea Seri 10 “Semakin Produktif Meski Pandemi Covid-19” [“More Productive Despite the Covid-19 Pandemic”] Organizer : SEAMEO BIOTROP	Bogor, 25 Oktober 2021	Participant
225.	Yuni Puspita Sari, MM	Webinar Monday Mind Cloud Idea Seri 10 “Semakin Produktif Meski Pandemi Covid-19” [“More Productive Despite the Covid-19 Pandemic”] Organizer : SEAMEO BIOTROP	Bogor, 25 Oktober 2021	Participant
226.	Ir. Sri Widayanti, M.Si.	Webinar Monday Mind Cloud Idea Seri 10 “Semakin Produktif Meski Pandemi Covid-19” [“More Productive Despite the Covid-19 Pandemic”] Organizer : SEAMEO BIOTROP	Bogor, 25 Oktober 2021	Participant
227.	Hari Sudarman	Webinar Monday Mind Cloud Idea Seri 10 “Semakin Produktif Meski Pandemi Covid-19” [“More Productive Despite the Covid-19 Pandemic”] Organizer : SEAMEO BIOTROP	Bogor, 25 Oktober 2021	Participant
228.	Devi Septrianti, SE	Webinar Monday Mind Cloud Idea Seri 10 “Semakin Produktif Meski Pandemi Covid-19” [“More Productive Despite the Covid-19 Pandemic”] Organizer : SEAMEO BIOTROP	Bogor, 25 Oktober 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
229.	Herni Widhiastuti, S.Si	Webinar Monday Mind Cloud Idea Seri 10 “Semakin Produktif Meski Pandemi Covid-19” [“More Productive Despite the Covid-19 Pandemic”] Organizer : SEAMEO BIOTROP	Bogor, 25 Oktober 2021	Participant
230.	Risya Ayu Astari, A.Md	Webinar Monday Mind Cloud Idea Seri 10 “Semakin Produktif Meski Pandemi Covid-19” [“More Productive Despite the Covid-19 Pandemic”] Organizer : SEAMEO BIOTROP	Bogor, 25 Oktober 2021	Participant
231.	Sri Ismawati Soerianegara, M.Sc	Webinar Monday Mind Cloud Idea Seri 10 “Semakin Produktif Meski Pandemi Covid-19” [“More Productive Despite the Covid-19 Pandemic”] Organizer : SEAMEO BIOTROP	Bogor, 25 Oktober 2021	Participant
232.	Deda Annafia Yuliastri, M.Si.	Webinar Monday Mind Cloud Idea Seri 10 “Semakin Produktif Meski Pandemi Covid-19” [“More Productive Despite the Covid-19 Pandemic”] Organizer : SEAMEO BIOTROP	Bogor, 25 Oktober 2021	Participant
233.	Rima Febriana, SE	Webinar Monday Mind Cloud Idea Seri 10 “Semakin Produktif Meski Pandemi Covid-19” [“More Productive Despite the Covid-19 Pandemic”] Organizer : SEAMEO BIOTROP	Bogor, 25 Oktober 2021	Participant
234.	Saiful Bachri, S.Si	Webinar Monday Mind Cloud Idea Seri 10 “Semakin Produktif Meski Pandemi Covid-19” [“More Productive Despite the Covid-19 Pandemic”] Organizer : SEAMEO BIOTROP	Bogor, 25 Oktober 2021	Participant
235.	Drs. Jonner Situmorang, M.Si	Webinar Monday Mind Cloud Idea Seri 10 “Semakin Produktif Meski Pandemi Covid-19” [“More Productive Despite the Covid-19 Pandemic”] Organizer : SEAMEO BIOTROP	Bogor, 25 Oktober 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
236.	Herni Widhiastuti, S.Si	Webinar PEI 51 dengan tema peneliti muda PEI untuk masa depan Indonesia [PEI Webinar 51 : Young PEI researchers for the future of Indonesia] Organizer : Perhimpunan Entomologi Indonesia [Indonesian Entomology Association]	26 Oktober 2021	Participant
237.	Ir. Sri Widayanti, M.Si.	Webinar PEI 51 dengan tema peneliti muda PEI untuk masa depan Indonesia [PEI Webinar 51 : Young PEI researchers for the future of Indonesia] Organizer : Perhimpunan Entomologi Indonesia [Indonesian Entomology Association]	26 Oktober 2021	Participant
238.	Dewi Suryani, SP, MM	Seminar Komunikasi Resiko dan Stewardship Kerja sama dengan PT Sygenta [Seminar on Risk Communication and Stewardship in collaboration with PT Syngenta] Organizer : PT Sygenta	Malang, 27-30 Oktober	Participant
239.	Puput Nisausholiha, S.Pi	Seminar Komunikasi Resiko dan Stewardship Kerja sama dengan PT Sygenta [Seminar on Risk Communication and Stewardship in collaboration with PT Syngenta] Organizer : PT Sygenta	Malang, 27-30 Oktober	Participant
240.	Drs. Agung Mustofa	Pelatihan Pra Purnabakti Pegawai IPB [Pre-Retirement Training for IPB Employees] Organizer : IPB University	Bogor, 28-29 October 2021	Participant
241.	Drs. Jonner Situmorang, M.Si	Pelatihan Pra Purnabakti Pegawai IPB [Pre-Retirement Training for IPB Employees] Organizer : IPB University	Bogor, 28-29 October 2021	Participant
242.	Dr. Zulhamsyah Imran	Seminar Komunikasi Resiko dan Stewardship [Seminar on Risk Communication and Stewardship] Organizers :	Medan, 1–2 November 2021	Welcome Remaks

No	Name	Title of Activity	Venue and Date	Remarks
		Jointly by SEAMEO BIOTROP and PT Syngenta		
243.	Deri Yandi, S.Si	Bimtek Budidaya Jamur Tiram dan Jamur Kuping serta Pengolahannya [Guidance on the Cultivation of Oyster Mushrooms and Ear Mushrooms and Their Processing] Organizer : SEAMEO BIOTROP	Bogor, 1-2 November 2021	Participant
244.	Dewi Suryani, SP, MM	Seminar Komunikasi Resiko dan Stewardship [Seminar on Risk Communication and Stewardship] Organizers : Jointly by SEAMEO BIOTROP and PT Syngenta	Medan, 1-3 November 2021	Participant
245.	Nijma Nurfadila, M.Si	Pelatihan penggunaan dan pemeliharaan mikroskop cahaya tipe baru [Training on the use and maintenance of a new type of light microscope] Organizers : Jointly by Phytopathology Lab of SEAMEO BIOTROP and Olympus	Bogor, 2 November 2021	Participant
246.	Ir. Ina Retnowati	Pelatihan penggunaan dan pemeliharaan mikroskop cahaya tipe baru [Training on the use and maintenance of a new type of light microscope] Organizers : Jointly by Phytopathology Lab of SEAMEO BIOTROP and Olympus	Bogor, 2 November 2021	Participant
247.	Arif Nuryadin, B.Sc	Webinar : Pertemuan teknis laboratorium pengujian [Webinar : Testing laboratory technical meeting] Organizer : KAN	Jakarta, 4 November 2021	Participant
248.	Ratnaningsih, S.Si.	Webinar tentang protein lokal [Webinar on local proteins] Organizer : SEAMEO RECFON	Jakarta, 4 November 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
249.	Dewi Suryani, SP., MM	Seminar Komunikasi Resiko dan Kunjungan Lapangan [Risk Communication Seminar and Field Visit] Organizers : Jointly by SEAMEO BIOTROP and PT Syngenta	Yogjakarta, 8-10 November 2021	Participant
250.	Lidia Defita, S.Kom	Seminar Komunikasi Resiko dan Kunjungan Lapangan [Risk Communication Seminar and Field Visit] Organizers : Jointly by SEAMEO BIOTROP and PT Syngenta	Yogjakarta, 8-10 November 2021	Participant
251.	Woro Kanti Darmastuti, M.Si	Bimbingan teknis Penggunaan Repositori Nasional (RIN) [Technical Guidance on the Use of the National Repository (RIN)] Organizer : Direktorat Respitori, Multimedia dan Penerbitan Ilmiah, BRIN [Directorate of Repository, Multimedia and Scientific Publishing, BRIN]	Jakarta, 9 November 2021	Participant
252.	Haritz Cahya Nugraha, M.T	Bimbingan teknis Penggunaan Repositori Nasional (RIN) [Technical Guidance on the Use of the National Repository (RIN)] Organizer : Direktorat Respitori, Multimedia dan Penerbitan Ilmiah, BRIN [Directorate of Repository, Multimedia and Scientific Publishing, BRIN]	Jakarta, 9 November 2021	Participant
253.	Saiful Bachri, S.Si	Workshop kerjasama riset internasional, izin penelitan asing, dan pelaksanaan protokol nagoya. CRC 990-EFForTS [Workshop on international research cooperation, foreign research permits, and implementation of the Nagoya protocol. CRC 990-EFForTS] Organizers : Universitas Tadulako, IPB, CRC 990 (Universitas Goettingen) Jerman	11 November 2021	Participant
254.	Yuni Puspitasari, MM	Pelatihan Pra Purnabakti Pegawai IPB [Pre-Retirement Training for IPB Employees] Organizer : IPB University	Bogor, 11-12 November 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
255.	Eko Purwiyanto	In House Training Audit Internal ISO 17025:2017 berbasis ISO 19011:2018 [In House Internal Audit Training ISO 17025:2017 based on ISO 19011:2018] Organizer : SLID (Service Laboratory Innovation Department) SEAMEO BIOTROP	Bogor, 11 & 18 November 2021	Participant
256.	Dika Zulkarnaen, S.Si	In House Training Audit Internal ISO 17025:2017 berbasis ISO 19011:2018 [In House Internal Audit Training ISO 17025:2017 based on ISO 19011:2018] Organizer : SLID (Service Laboratory Innovation Department) SEAMEO BIOTROP	Bogor, 11 & 18 November 2021	Participant
257.	Mutiara Hidayat, S.Si	In House Training Audit Internal ISO 17025:2017 berbasis ISO 19011:2018 [In House Internal Audit Training ISO 17025:2017 based on ISO 19011:2018] Organizer : SLID (Service Laboratory Innovation Department) SEAMEO BIOTROP	11 & 18 November 2021	Participant
258.	Mahpudin	In House Training Audit Internal ISO 17025:2017 berbasis ISO 19011:2018 [In House Internal Audit Training ISO 17025:2017 based on ISO 19011:2018] Organizer : SLID (Service Laboratory Innovation Department) SEAMEO BIOTROP	11 & 18 November 2021	Participant
259.	Nuraimy Citra	In House Training Audit Internal ISO 17025:2017 berbasis ISO 19011:2018 [In House Internal Audit Training ISO 17025:2017 based on ISO 19011:2018] Organizer : SLID (Service Laboratory Innovation Department) SEAMEO BIOTROP	Bogor, 11 & 18 November 2021	Participant
260.	Mutia Nurfaozi	In House Training Audit Internal ISO 17025:2017 berbasis ISO 19011:2018 [In House Internal Audit Training ISO 17025:2017 based on ISO 19011:2018] Organizer : SLID (Service Laboratory Innovation Department) SEAMEO BIOTROP	Bogor, 11 & 18 November 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
261.	Nova Dewi Herawati	In House Training Audit Internal ISO 17025:2017 berbasis ISO 19011:2018 [In House Internal Audit Training ISO 17025:2017 based on ISO 19011:2018] Organizer : SLID (Service Laboratory Innovation Department) SEAMEO BIOTROP	Bogor, 11 & 18 November 2021	Participant
262.	Restu Detiana Putri	In House Training Audit Internal ISO 17025:2017 berbasis ISO 19011:2018 [In House Internal Audit Training ISO 17025:2017 based on ISO 19011:2018] Organizer : SLID (Service Laboratory Innovation Department) SEAMEO BIOTROP	Bogor, 11 & 18 November 2021	Participant
263.	Fitri Hanifah	In House Training Audit Internal ISO 17025:2017 berbasis ISO 19011:2018 [In House Internal Audit Training ISO 17025:2017 based on ISO 19011:2018] Organizer : SLID (Service Laboratory Innovation Department) SEAMEO BIOTROP	Bogor, 11 & 18 November 2021	Participant
264.	Adjie Tunggul Wahono	In House Training Audit Internal ISO 17025:2017 berbasis ISO 19011:2018 [In House Internal Audit Training ISO 17025:2017 based on ISO 19011:2018] Organizer : SLID (Service Laboratory Innovation Department) SEAMEO BIOTROP	Bogor, 11 & 18 November 2021	Participant
265.	Risya Ayu Astari, A.Md	In House Training Audit Internal ISO 17025:2017 berbasis ISO 19011:2018 [In House Internal Audit Training ISO 17025:2017 based on ISO 19011:2018] Organizer : SLID (Service Laboratory Innovation Department) SEAMEO BIOTROP	Bogor, 11 & 18 November 2021	Participant
266.	Drs. Agung Mustofa	In House Training Audit Internal ISO 17025:2017 berbasis ISO 19011:2018 [In House Internal Audit Training ISO 17025:2017 based on ISO 19011:2018] Organizer : SLID (Service Laboratory Innovation Department) SEAMEO BIOTROP	Bogor, 11 & 18 November 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
267.	Siti Sulastri Rangkuty, S.Si	In House Training Audit Internal ISO 17025:2017 berbasis ISO 19011:2018 [In House Internal Audit Training ISO 17025:2017 based on ISO 19011:2018] Organizer : SLID (Service Laboratory Innovation Department) SEAMEO BIOTROP	Bogor, 11 & 18 November 2021	Participant
268.	Phileena Nisivian	In House Training Audit Internal ISO 17025:2017 berbasis ISO 19011:2018 [In House Internal Audit Training ISO 17025:2017 based on ISO 19011:2018] Organizer : SLID (Service Laboratory Innovation Department) SEAMEO BIOTROP	Bogor, 11 & 18 November 2021	Participant
269.	Budi Cahyadi, S.Si	In House Training Audit Internal ISO 17025:2017 berbasis ISO 19011:2018 [In House Internal Audit Training ISO 17025:2017 based on ISO 19011:2018] Organizer : SLID (Service Laboratory Innovation Department) SEAMEO BIOTROP	Bogor, 11 & 18 November 2021	Participant
270.	Syifa Fauzia, S.Si	In House Training Audit Internal ISO 17025:2017 berbasis ISO 19011:2018 [In House Internal Audit Training ISO 17025:2017 based on ISO 19011:2018] Organizer : SLID (Service Laboratory Innovation Department) SEAMEO BIOTROP	Bogor, 11 & 18 November 2021	Participant
271.	Aris Purnajaya	In House Training Audit Internal ISO 17025:2017 berbasis ISO 19011:2018 [In House Internal Audit Training ISO 17025:2017 based on ISO 19011:2018] Organizer : SLID (Service Laboratory Innovation Department) SEAMEO BIOTROP	Bogor, 11 & 18 November 2021	Participant
272.	Arif Nuryadin, B.Sc	In House Training Audit Internal ISO 17025:2017 berbasis ISO 19011:2018 [In House Internal Audit Training ISO 17025:2017 based on ISO 19011:2018] Organizer : SLID (Service Laboratory Innovation Department) SEAMEO BIOTROP	Bogor, 11 & 18 November 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
273.	Lydia Ayu Utami	In House Training Audit Internal ISO 17025:2017 berbasis ISO 19011:2018 [In House Internal Audit Training ISO 17025:2017 based on ISO 19011:2018] Organizer : SLID (Service Laboratory Innovation Department) SEAMEO BIOTROP	Bogor, 11 & 18 November 2021	Participant
274.	Achmad Syuhada	In House Training Audit Internal ISO 17025:2017 berbasis ISO 19011:2018 [In House Internal Audit Training ISO 17025:2017 based on ISO 19011:2018] Organizer : SLID (Service Laboratory Innovation Department) SEAMEO BIOTROP	Bogor, 11 & 18 November 2021	Participant
275.	Zulkarnaen Noor Syarif, S.Kom	In House Training Audit Internal ISO 17025:2017 berbasis ISO 19011:2018 [In House Internal Audit Training ISO 17025:2017 based on ISO 19011:2018] Organizer : SLID (Service Laboratory Innovation Department) SEAMEO BIOTROP	Bogor, 11 & 18 November 2021	Participant
276.	Ratnaningsih, S.Si	In House Training Audit Internal ISO 17025:2017 berbasis ISO 19011:2018 [In House Internal Audit Training ISO 17025:2017 based on ISO 19011:2018] Organizer : SLID (Service Laboratory Innovation Department) SEAMEO BIOTROP	Bogor, 11 & 18 November 2021	Participant
277.	Devi Septrianti, SE	Diskusi dan Bimtek Kebijakan Pengadaan Barang/Jasa Tahun Anggaran 2022 [Discussion and Technical Guidance for Policy on Procurement of Goods/ Services for Fiscal Year 2022] Organizer : Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi [Ministry of Education, Culture, Research, and Technology]	Jakarta, 13 November 2021	Participant
278.	Bambang Sulistio, S.Si	Diskusi dan Bimtek Kebijakan Pengadaan Barang/Jasa Tahun Anggaran 2022 [Discussion and Technical Guidance for Policy on Procurement of Goods/ Services for Fiscal Year 2022]	Jakarta, 13 November 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		Organizer : Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi [Ministry of Education, Culture, Research, and Technology]		
279.	Lukman Haris, S.Si	Diskusi dan Bimtek Kebijakan Pengadaan Barang/Jasa Tahun Anggaran 2022 [Discussion and Technical Guidance for Policy on Procurement of Goods/ Services for Fiscal Year 2022] Organizer : Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi [Ministry of Education, Culture, Research, and Technology]	Jakarta, 13 November 2021	Participant
280.	Harry Imantho, M.Sc	FGD KLHS RZWP3K dengan Dinas Kehutanan dan Lingkungan Hidup Prop Papua dan Dinas Kelautan dan Perikanan [Forum Group Discussion (FGD) - KLHS RZWP3K with the Papua Provincial Forestry and Environment Service and the Marine and Fisheries Service Organizers : Dinas Kehutanan dan Lingkungan Hidup Provinsi Papua dan Dinas Kelautan dan Perikanan [Papua Province Forestry and Environment Service and Marine and Fisheries Service]	Jakarta, 17-18 November 2021	Participant
281.	Ir. Sri Widayanti, M.Si	Pelatihan Pra Purnabakti Pegawai IPB [Pre-Retirement Training for IPB Employees] Organizer : IPB University	Bogor, 18-19 November 2021	Participant
282.	Arif Nuryadin, B.Sc	Mengikuti Pelatihan Pra Purnabakti Pegawai IPB [Pre-Retirement Training for IPB Employees] Organizer : IPB University	Bogor, 18-19 November 2021	Participant
283.	Hari Sudarman	Pelatihan Pra Purnabakti Pegawai IPB [Pre-Retirement Training for IPB Employees] Organizer : IPB University	Bogor, 18-19 November 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
284.	Asim	Pelatihan Pra Purnabakti Pegawai IPB [Pre-Retirement Training for IPB Employees] Organizer : IPB University	Bogor, 18-19 November 2021	Participant
285.	Ujang Sanusi	Pelatihan Pra Purnabakti Pegawai IPB [Pre-Retirement Training for IPB Employees] Organizer : IPB University	Bogor, 18-19 November 2021	Participant
286.	Dewi Suryani, SP., MM	Pelatihan dan Sertifikasi Metodologi Pelatihan Tatap Muka Bagi Para Trainer dan Tenaga Kepelatihan Organizer : LPKN	Bogor, 22 – 29 November 2021	Participant
287.	Deri Yandi, S.Si	Pelatihan dan Sertifikasi Metodologi Pelatihan Tatap Muka Bagi Para Trainer dan Tenaga Kepelatihan [Training and Certification of 'Face-to-Face Training Methodology for Trainers and Training Personnel'] Organizer : LPKN	Bogor, 22 – 29 November 2021	Participant
288.	Dr. Perdinan	Forum Group Discussion dengan Kemenkes membahas perkembangan peluang proyek perubahan iklim dalam kerangka proposal Green Climate Fund [Forum Group Discussion with the Ministry of Health to discuss the development of climate change project opportunities within the framework of the Green Climate Fund proposal] Organizer : Save the Children Indonesia	Jakarta, 22 November 2021	Participant
289.	Nijma Nurfadila, M.Si	Pelatihan pembuatan pakan ikan mandiri [Training on making fish feed independently] Organizer : SEAMEO BIOTROP	Bogor, 29 November – 1 December 2021	MC
290.	Dr. Perdinan	Pembahasan pengelolaan data perubahan Iklim dalam kerangka peraturan Presiden Nomor 98 Tahun 2021 [Discussion of climate change data	Jakarta, 2 December 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		management within the framework of Presidential Regulation Number 98 of 2021] Organizer :		
291.	Dr. Perdinan	Workshop Kerjasama Ditjen Dikristek – SEAMEO Center-KUI Perguruan Tinggi dalam rangka mendukung Implementasi Kebijakan Kampus Merdeka [Cooperation Workshop of the Directorate General of Higher Education Research and Technology – SEAMEO Center-PUI Universities in order to support the Implementation of the Independent Campus Policy] Organizer : Kementerian pendidikan, Kebudayaan Riset dan Teknologi [Ministry of Education, Culture Research and Technology]	Bogor, 3-5 December 2021	Participant
292.	Tenni Wahyuni, A.Md	Workshop Kerjasama Ditjen Dikristek – SEAMEO Center-KUI Perguruan Tinggi dalam rangka mendukung Implementasi Kebijakan Kampus Merdeka [Cooperation Workshop of the Directorate General of Higher Education Research and Technology – SEAMEO Center-PUI Universities in order to support the Implementation of the Independent Campus Policy] Organizer : Kementerian pendidikan, Kebudayaan Riset dan Teknologi [Ministry of Education, Culture Research and Technology]	Bogor, 3-5 December 2021	Participant
293.	Alya Shafira, S.T.	Webinar Nasional Menjawab Tantangan Masa Depan Sawit Indonesia [National Webinar Responding to the Challenges of Indonesia's Palm Oil Future] Organizer : Dewan Pengurus Pusat Himpunan Alumni Institut Pertanian Bogor [Central Board of Bogor Agricultural University Alumni Association]	Bogor, 16 December 2021	MC

No	Name	Title of Activity	Venue and Date	Remarks
294.	Ir. Ina Retnowati	Webinar nasional mengenai mikroba dalam perspektif makanan, kesehatan dan lingkungan hidup [National Webinar on microbes in food, health and environmental perspectives] Organizer : Perhimpunan Mikrobiologi Indonesia [Indonesian Society of Microbiology]	Bogor, 16 December 2021	Participant
295.	Dr. Ir. Erina Sulistiani, MSi	Seaweed Festival Organizer : Kementerian Kelautan dan Perikanan [Ministry of Marine and Fisheries]	Jakarta, 20 December 2021	Participant
296.	Haritz Cahya Nugraha, M.T.	Seaweed Festival Organizer : Kementerian Kelautan dan Perikanan [Ministry of Marine and Fisheries]	Jakarta, 20 December 2021	Participant
297.	Eriza Falashifa, S.Hut	Seaweed Festival Organizer : Kementerian Kelautan dan Perikanan [Ministry of Marine and Fisheries]	Jakarta, 20 December 2021	Participant
298.	Dr. Perdinan	Rapat Advokasi dan Peluncuran Buku Data dan Informasi Dampak Perubahan Sektor Kesehatan Berbasis Bukti di Indonesia" [Advocacy Meeting and Launch of Evidence-Based Data and Information on the Impact of Changes in the Health Sector in Indonesia"] Organizer : Kementerian Kesehatan Republik Indonesia [Ministry of Health Republic of Indonesia]	Jakarta, 21 December 2021	Participant
299.	Deri Yandi, S.Si	Pelatihan BioOC/Pilearn [Training of BioOC/Pilearn] Organizer : PIAREA	Bogor, 21 December 2021	Participant
300.	Dika Zulkarnaen, S.Si.	Webinar pengelolaan Limbah B3 [Webinar : Hazardous Waste Management] Organizer : LabMania	27 December 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
301.	Herni Widhiastuti, S.Si	Webinar Quality time with BBP3KP : "Pengenalan dasar kalibrasi, evaluasi, dan rekomendasi hasil kalibrasi peralatan Laboratorium" [Webinar Quality time with BBP3KP : "Introduction to the basics of calibration, evaluation, and recommendations for calibration of laboratory equipment"] Organizer : Balai Besar Pengujian Penerapan Produk Kelautan dan Perikanan, Direktorat Jenderal Penguatan Daya Saing Produk Kelautan dan Perikanan, Kementerian Kelautan dan Perikanan 3	28 December 2021	Participant
302.	Ir. Sri Widayanti, M.Si.	Webinar Quality time with BBP3KP : "Pengenalan dasar kalibrasi, evaluasi, dan rekomendasi hasil kalibrasi peralatan Laboratorium" [Webinar Quality time with BBP3KP : "Introduction to the basics of calibration, evaluation, and recommendations for calibration of laboratory equipment"] Organizer : Balai Besar Pengujian Penerapan Produk Kelautan dan Perikanan, Direktorat Jenderal Penguatan Daya Saing Produk Kelautan dan Perikanan, Kementerian Kelautan dan Perikanan 3	28 December 2021	Participant
303.	Nijma Nurfadila, M.Si	Webinar Quality time with BBP3KP : "Pengenalan dasar kalibrasi, evaluasi, dan rekomendasi hasil kalibrasi peralatan Laboratorium" [Webinar Quality time with BBP3KP : "Introduction to the basics of calibration, evaluation, and recommendations for calibration of laboratory equipment"] Organizer : Balai Besar Pengujian Penerapan Produk Kelautan dan Perikanan, Direktorat Jenderal Penguatan Daya Saing Produk Kelautan dan Perikanan, Kementerian Kelautan dan Perikanan 3	28 December 2021	Participant
304.	Ir. Ina Retnowati	Webinar Quality time with BBP3KP : "Pengenalan dasar kalibrasi, evaluasi, dan rekomendasi hasil kalibrasi peralatan Laboratorium" [Webinar	28 December 2021	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		Quality time with BBP3KP : "Introduction to the basics of calibration, evaluation, and recommendations for calibration of laboratory equipment"] Organizer : Balai Besar Pengujian Penerapan Produk Kelautan dan Perikanan, Direktorat Jenderal Penguatan Daya Saing Produk Kelautan dan Perikanan, Kementerian Kelautan dan Perikanan 3		
305.	Deri Yandi, S.Si	Workshop on Effective Communication and Public Speaking Organizer : PIAREA	Bogor, 14 January 2022	Participant
306.	Fitri Junaedy, SEI	Workshop on Effective Communication and Public Speaking Organizer : PIAREA	Bogor, 14 January 2022	Participant
307.	Adwitiya Priyotama, S.H.	Workshop on Effective Communication and Public Speaking Organizer : PIAREA	Bogor, 14 January 2022	Participant
308.	Alya Shafira, S.T.	Workshop on Effective Communication and Public Speaking Organizer : PIAREA	Bogor, 14 January 2022	Participant
309.	Budi Cahyadi, S.Si.	Workshop on Effective Communication and Public Speaking Organizer : PIAREA	Bogor, 14 January 2022	Participant
310.	Dani Yudi Trisna, A.Md	Workshop on Effective Communication and Public Speaking Organizer : PIAREA	Bogor, 14 January 2022	Participant
311.	Deda Annasia Yuliastri, M.Si.	Workshop on Effective Communication and Public Speaking Organizer : PIAREA	Bogor, 14 January 2022	Participant

No	Name	Title of Activity	Venue and Date	Remarks
312.	Deri Yandi, S.Si	Workshop on Effective Communication and Public Speaking Organizer : PIAREA	Bogor, 14 January 2022	Participant
313.	Eriza Falashifa, S.Hut	Workshop on Effective Communication and Public Speaking Organizer : PIAREA	Bogor, 14 January 2022	Participant
314.	Haritz Cahya Nugraha, M.T	Workshop on Effective Communication and Public Speaking Organizer : PIAREA	Bogor, 14 January 2022	Participant
315.	Jenny Kharismawaty, S.T.	Workshop on Effective Communication and Public Speaking Organizer : PIAREA	Bogor, 14 January 2022	Participant
316.	Nopi Ramli	Workshop on Effective Communication and Public Speaking Organizer : PIAREA	Bogor, 14 January 2022	Participant
317.	Utami Megawati, S.Ak	Workshop on Effective Communication and Public Speaking Organizer : PIAREA	Bogor, 14 January 2022	Participant
318.	Yuni Puspita Sari, M.M.	Workshop on Effective Communication and Public Speaking Organizer : PIAREA	Bogor, 14 January 2022	Participant
319.	Deri Yandi, S.Si	Pelatihan Metode Training Need Analisys (TNA) & Bloom’s Taxonomy [Training Need Analysis (TNA) Method & Bloom's Taxonomy] Organizer : LPKN	Jakarta, 26-31 January 2022	Participant
320.	Indah Wahyuni, M.Si	Pelatihan Metode Training Need Analisys (TNA) & Bloom’s Taxonomy [Training Need Analysis (TNA) Method & Bloom's Taxonomy] Organizer : LPKN	Jakarta, 26-31 January 2022	Participant

No	Name	Title of Activity	Venue and Date	Remarks
321.	Slamet Widodo Sugiarto, M.Si	Pelatihan Metode Training Need Analisys (TNA) & Bloom's Taxonomy [Training Need Analysis (TNA) Method & Bloom's Taxonomy] Organizer : LPKN	Jakarta, 26-31 January 2022	Participant
322.	Deda Annasia Yuliastri, M.Si.	Pelatihan Metode Training Need Analisys (TNA) & Bloom's Taxonomy [Training Need Analysis (TNA) Method & Bloom's Taxonomy] Organizer : LPKN	Jakarta, 26-31 January 2022	Participant
323.	Riana Hartati, S.Si	Pelatihan Metode Training Need Analisys (TNA) & Bloom's Taxonomy [Training Need Analysis (TNA) Method & Bloom's Taxonomy] Organizer : LPKN	Jakarta, 26-31 January 2022	Participant
324.	Dewi Suryani, SP, MM	Pelatihan Metode Training Need Analisys (TNA) & Bloom's Taxonomy [Training Need Analysis (TNA) Method & Bloom's Taxonomy] Organizer : LPKN	Jakarta, 26-31 January 2022	Participant
325.	Herni Widhiastuti, S.Si	Webinar ketelusuran dalam pengukuran kimia [Webinar : Traceability in chemical measurement] Organizers : Masyarakat metrologi Indonesia & BSN	Bogor, 27 January 2022	Participant
326.	Dewi Rahmawati, M.Si	Webinar ketelusuran dalam pengukuran kimia [Webinar : Traceability in chemical measurement] Organizers : Masyarakat metrologi Indonesia & BSN	Bogor, 27 January 2022	Participant
327.	Nijma Nurfadila, M.Si	Webinar ketelusuran dalam pengukuran kimia [Webinar : Traceability in chemical measurement] Organizers : Masyarakat metrologi Indonesia & BSN	Bogor, 27 January 2022	Participant

No	Name	Title of Activity	Venue and Date	Remarks
328.	Dr. Sri Sudarmiyati Tjitrosoedirdjo	Pedoman Analisis Risiko OPT berdasarkan media pembawa dan Penyusunan pedoman AROPT gulma [Pest Risk Analysis Guidelines based on carrier media and Preparation of weed AROPT guidelines] Organizer: Kementrian Pertanian Badan Karantina Pertanian [Ministry of Agriculture Agricultural Quarantine Agency]	Bogor, 3 February 2022	Participant
329.	Indah Wahyuni, M.Si	Pedoman Analisis Risiko OPT berdasarkan media pembawa dan Penyusunan pedoman AROPT gulma [Pest Risk Analysis Guidelines based on carrier media and Preparation of weed AROPT guidelines] Organizer: Kementrian Pertanian Badan Karantina Pertanian [Ministry of Agriculture Agricultural Quarantine Agency]	Bogor, 3 February 2022	Participant
330.	Saiful Bachri, S.Si	Pedoman Analisis Risiko OPT berdasarkan media pembawa dan Penyusunan pedoman AROPT gulma [Pest Risk Analysis Guidelines based on carrier media and Preparation of weed AROPT guidelines] Organizer: Kementrian Pertanian Badan Karantina Pertanian [Ministry of Agriculture Agricultural Quarantine Agency]	Bogor, 3 February 2022	Participant
331.	Ir. Sri Widayanti, M.Si	Pembahasan Analisis Risiko Organisme Pengganggu Tumbuhan (AROPT) [Discussion of Plant Destruction Organisms Risk Analysis (AROPT)] Organizer : Kementrian Pertanian Badan Karantina Pertanian [Ministry of Agriculture Agricultural Quarantine Agency]	7 – 9 February 2022	Participant
332.	Zulkarnaen Noor Syarif, S.Kom	Workshop Metaverse (batch 2): Dasar Teknis Teknologi XR Untuk Metaverse [Metaverse Workshop (batch 2): Technical Fundamentals of XR Technology for Metaverse] Organizer: SEAMOLEC	9 – 10 February 2022	Participant

No	Name	Title of Activity	Venue and Date	Remarks
333.	Alya Shafira, ST	Workshop Metaverse (batch 2): Dasar Teknis Teknologi XR Untuk Metaverse [Metaverse Workshop (batch 2): Technical Fundamentals of XR Technology for Metaverse] Organizer: SEAMOLEC	9 – 10 February 2022	Participant
334.	Arif Nuryadin, B.Sc	Webinar: Kontribusi Analisis Beban Kerja (ABK) terhadap capaian organisasi [Webinar: Contribution of Workload Analysis (ABK) to organizational achievement] Organizer: SEAMEO Centre Indonesia	10 February 2022	Participant
335.	Ir. Sri Widayanti, M.Si.	Webinar: Kontribusi Analisis Beban Kerja (ABK) terhadap capaian organisasi [Webinar: Contribution of Workload Analysis (ABK) to organizational achievement] Organizer: SEAMEO Centre Indonesia	10 February 2022	Participant
336.	Risa Rosita, M.Si	Webinar: Kontribusi Analisis Beban Kerja (ABK) terhadap capaian organisasi [Webinar: Contribution of Workload Analysis (ABK) to organizational achievement] Organizer: SEAMEO Centre Indonesia	10 February 2022	Participant
337.	Deda Annafia Yuliastri, M.Si	Webinar: Kontribusi Analisis Beban Kerja (ABK) terhadap capaian organisasi [Webinar: Contribution of Workload Analysis (ABK) to organizational achievement] Organizer: SEAMEO Centre Indonesia	10 February 2022	Participant
338.	Nuraimy Citra	Pelatihan dan Sertifikasi Kompetensi Analis Kimia [Chemical Analyst Competency Training and Certification] Organizer: Research Center of Material Science Universitas Indonesia (RSCMS UI)	14-18 February 2022	Participant

No	Name	Title of Activity	Venue and Date	Remarks
339.	Adjie Tunggul Wahono	Pelatihan dan Sertifikasi Kompetensi Analis Kimia [Chemical Analyst Competency Training and Certification] Organizer: Research Center of Material Science Universitas Indonesia (RSCMS UI)	14 – 18 February 2022	Participant
340.	Arif Nuryadin, B.Sc	Webinar: Tarif volatil dan non volatil PNBP non PTN [Webinar: Volatile and non-volatile rates for non-PTN PNBP] Organizer: Kemendikbudristek [Ministry of Education, Culture, Research and Technology]	15 February 2022	Participant
341.	Ir. Ina Retnowati	Webinar: Entrepreneurship Outlook 2022 Organizer : Sampurna Entrepreneurship Training Center	16 February 2022	Participant
342.	Bambang Sulistio, S.Si	Bimbingan Teknis (BIMTEK) penyusunan Aanalisis Beban Kerja (ABK) [Technical Guidance (BIMTEK) preparation of Workload Analysis (ABK)] Organizer: SEAMEO CECCEP	Bandung, 17 – 18 February 2022	Participant
343.	Yuni Puspita Sari, MM	Bimbingan Teknis (BIMTEK) penyusunan Aanalisis Beban Kerja (ABK) [Technical Guidance (BIMTEK) preparation of Workload Analysis (ABK)] Organizer: SEAMEO CECCEP	Bandung, 17 – 18 February 2022	Participant
344.	Arif Nuryadin, B.Sc	Lokakarya dan Diskusi Terpumpun Identifikasi Pengembangan SMK di Bidang Biologi Tropis [Focused Workshop and Discussion on Identification of Vocational High School Development in Tropical Biology] Organizer: SEAMEO BIOTROP	Bogor, 23 February 2022	Participant
345.	Nijma Nurfadila, M.Si	Webinar "Sosialisasi Program Matching Fund Tahun 2022: Sinergi Pendidikan Vokasi Dan Industri Untuk Daya Saing Ekonomi" [Webinar "Socialization of the Matching Fund Program in 2022: Synergy	Jakarta, 7 March 2022	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		of Vocational Education and Industry for Economic Competitiveness"] Organizer: Direktorat Kemitraan dan Penyelarasan Dunia Usaha dan Dunia Industri, Direktorat Jenderal Vokasi [Directorate of Partnership and Alignment of Business and Industry, Directorate General of Vocational Education]		
346.	Arif Nuryadin, B.Sc	Webinar Link and Mach Kedaireka: "Sosialisasi Program Matching Fund Tahun 2022: Sinergi Pendidikan Vokasi Dan Industri Untuk Daya Saing Ekonomi" [Webinar Link and Mach Kedaireka: "Socialization of Matching Fund Program in 2022: Synergy of Vocational Education and Industry for Economic Competitiveness"] Organizer: Direktorat Jenderal Pendidikan Vokasi, Kemendikbudristek [Directorate General of Vocational Education, Ministry of Education and Culture, Research and Technology]	Jakarta, 7 March 2022	Participant
347.	Dewi Rahmawati, M.Si	Webinar Bioinformatics Webinar Series #1 2022: Integrasi ilmu bioinformatika dalam penciptaan inovasi agromaritim [Webinar Bioinformatics Webinar Series #1 2022: Integration of bioinformatics science in the creation of agro-maritime innovation] Organizer : Pusat Studi Biofarmaka Tropika (TropBRC) LPPM, IPB University	Bogor, 8 March 2022	Participant
348.	Nijma Nurfadila, M.Si	Webinar: Talkshow "Sound of Environmental Cendekia Indonesia (SECI) Series 1: Kupas Tuntas Dampak dan Resiko Lingkungan Pembangunan IKN Nusantara" [Webinar: Talkshow "Sound of Environmental Scholar Indonesia (SECI) Series 1: Examines the Environmental Impacts and Risks of Nusantara IKN Development"] Organizer: SEAMEO BIOTROP	Bogor, 11 March 2022	Participant

No	Name	Title of Activity	Venue and Date	Remarks
349.	R. Rima Febriana, SE	Workshop Pemutakhiran Data dan Asistensi Komitmen Penggunaan Produk Dalam Negeri [Workshop on Data Updates and Assistance in Commitment to Using Domestic Products] Organizer: SEAMEO SEAMOLEC	Jakarta, 18-19 March 2022	Participant
350.	Lastiah	Workshop Pemutakhiran Data dan Asistensi Komitmen Penggunaan Produk Dalam Negeri [Workshop on Data Updates and Assistance in Commitment to Using Domestic Products] Organizer: SEAMEO SEAMOLEC	Jakarta, 18-19 March 2022	Participant
351.	Armaiki Yusmur, M.Si	Workshop Studi pengelolaan air asam tambang secara pasif untuk area lanut [Workshop on Study of passive acid mine water management for lagoon areas] Organizer: PT. JRESOURCES BOLAANG MONGONDOU, Kota Mobagu, Sulawesi Utara	Manado, 21-25 March 2022	Participant
352.	Samsul A. Yani, S.Si	Pelatihan Budidaya Jamur Tiram dan Pengolahan Minyak Atsiri [Training on Oyster Mushroom Cultivation and Essential Oil Processing] Organizer: Dinas Pertamanan dan Hutan Kota, Kota Bogor [City Parks and Forest Service, Bogor City]	Bogor, 21-31 March 2022	Participant
353.	Sugih Mukti	Pelatihan Budidaya Jamur Tiram dan Pengolahan Minyak Atsiri [Training on Oyster Mushroom Cultivation and Essential Oil Processing] Organizer: Dinas Pertamanan dan Hutan Kota, Kota Bogor [City Parks and Forest Service, Bogor City]	Bogor, 21-31 March 2022	Participant
354.	Indah Wahyuni, M.Si	Pembahasan pedoman Analisis Risiko Organisme Pengganggu Tumbuhan (AROPT) [Discussion of Guidelines for Analysis of Plant Destruction Organisms (AROPT)]	28-30 March 2022	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		Organizer: Badan Karantina Pertanian [Agricultural quarantine agency]		
355.	Dr. Zulhamsyah Imran	Workshop Penyusunan Dokumen Kerja sama Swakelola [Self-Management Cooperation Document Preparation Workshop] Organizer: Direktorat Jenderal Hortikultura, Kementerian Pertanian [Directorate General of Horticulture, Ministry of Agriculture]	Jakarta, 29 March 2022	Participant
356.	Arif Nuryadin,B.Sc	Workshop Penyusunan Dokumen Kerja sama Swakelola [Self-Management Cooperation Document Preparation Workshop] Organizer: Direktorat Jenderal Hortikultura, Kementerian Pertanian [Directorate General of Horticulture, Ministry of Agriculture]	Jakarta, 29 March 2022	Participant
357.	Dr. Ir. Erina Sulistiani, M.Si	Workshop Penyusunan Dokumen Kerja sama Swakelola [Self-Management Cooperation Document Preparation Workshop] Organizer: Direktorat Jenderal Hortikultura, Kementerian Pertanian [Directorate General of Horticulture, Ministry of Agriculture]	Jakarta, 29 March 2022	Participant
358.	Harry Imantho, M.Sc	BIOTROP to School (BTS) Seri 1: "Implementasi Program Save Biodiversity dalam rangka mendukung Program MBKM" [BIOTROP to School (BTS) Series 1: "Implementation of the Save Biodiversity Program to support the MBKM Program"] Organizer: SEAMEO BIOTROP	Bogor, 31 March 2022	Participant
359.	Nijma Nurfadila, M.Si	BIOTROP to School (BTS) Seri 1: "Implementasi Program Save Biodiversity dalam rangka mendukung Program MBKM" [BIOTROP to School (BTS) Series 1: "Implementation of the	Bogor, 31 March 2022	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		Save Biodiversity Program to support the MBKM Program"] Organizer: SEAMEO BIOTROP		
360.	Deri Yandi, S.Si	BIOTROP to School (BTS) Seri 1: "Implementasi Program Save Biodiversity dalam rangka mendukung Program MBKM" [BIOTROP to School (BTS) Series 1: "Implementation of the Save Biodiversity Program to support the MBKM Program"] Organizer: SEAMEO BIOTROP	Bogor, 31 March 2022	Participant
361.	Bambang Sulistio, S.Si	BIOTROP to School (BTS) Seri 1: "Implementasi Program Save Biodiversity dalam rangka mendukung Program MBKM" [BIOTROP to School (BTS) Series 1: "Implementation of the Save Biodiversity Program to support the MBKM Program"] Organizer: SEAMEO BIOTROP	Bogor, 31 March 2022	Participant
362.	Herni Widhiastuti, S.Si	BIOTROP to School (BTS) Seri 1: "Implementasi Program Save Biodiversity dalam rangka mendukung Program MBKM" [BIOTROP to School (BTS) Series 1: "Implementation of the Save Biodiversity Program to support the MBKM Program"] Organizer: SEAMEO BIOTROP	Bogor, 31 March 2022	Participant
363.	Ir. Ina Retnowati	BIOTROP to School (BTS) Seri 1: "Implementasi Program Save Biodiversity dalam rangka mendukung Program MBKM" [BIOTROP to School (BTS) Series 1: "Implementation of the Save Biodiversity Program to support the MBKM Program"] Organizer: SEAMEO BIOTROP	Bogor, 31 March 2022	Participant
364.	Dewi Rahmawati, M.Si	BIOTROP to School (BTS) Seri 1: "Implementasi Program Save Biodiversity dalam rangka mendukung Program MBKM" [BIOTROP to School	Bogor, 31 March 2022	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		(BTS) Series 1: "Implementation of the Save Biodiversity Program to support the MBKM Program"] Organizer: SEAMEO BIOTROP		
365.	Deda Annafia Yuliastri, M.Si	BIOTROP to School (BTS) Seri 1: "Implementasi Program Save Biodiversity dalam rangka mendukung Program MBKM" [BIOTROP to School (BTS) Series 1: "Implementation of the Save Biodiversity Program to support the MBKM Program"] Organizer: SEAMEO BIOTROP	Bogor, 31 March 2022	Participant
366.	Syifa Fauzia, S.Si.	BIOTROP to School (BTS) Seri 1: "Implementasi Program Save Biodiversity dalam rangka mendukung Program MBKM" [BIOTROP to School (BTS) Series 1: "Implementation of the Save Biodiversity Program to support the MBKM Program"] Organizer: SEAMEO BIOTROP	Bogor, 31 March 2022	Participant
367.	Dr. Perdinan	Workshop Rekonsiliasi Program dan Anggaran SEAMEO Centres di Indonesia [SEAMEO Centers Program and Budget Reconciliation Workshop in Indonesia] Organizer: SEAMEO SEAMOLEC	Jakarta, 11–13 April 2022	Participant
368.	R. Rima Febriana, SE	Workshop Rekonsiliasi Program dan Anggaran SEAMEO Centres di Indonesia [SEAMEO Centers Program and Budget Reconciliation Workshop in Indonesia] Organizer: SEAMEO SEAMOLEC	Jakarta, 11–13 April 2022	Participant
369.	Peri Sianturi, SE	Workshop Rekonsiliasi Program dan Anggaran SEAMEO Centres di Indonesia [SEAMEO Centers Program and Budget Reconciliation Workshop in Indonesia] Organizer: SEAMEO SEAMOLEC	Jakarta, 11–13 April 2022	Participant

No	Name	Title of Activity	Venue and Date	Remarks
370.	Nijma Nurfadila, M.Si	Talk of Affiliate Scientist (TAS) Seri 1: "Prospek Pengembangan Kacang Sacha Inchi di Indonesia [Talk of Affiliate Scientist (TAS) Series 1: "Prospects for the Development of Sacha Inchi Beans in Indonesia] " Organizer: SEAMEO BIOTROP	Bogor, 12 April 2022	Participant
371.	Dewi Rahmawati, M.Si	Talk of Affiliate Scientist (TAS) Seri 1: "Prospek Pengembangan Kacang Sacha Inchi di Indonesia [Talk of Affiliate Scientist (TAS) Series 1: "Prospects for the Development of Sacha Inchi Beans in Indonesia] " Organizer: SEAMEO BIOTROP	Bogor, 12 April 2022	Participant
372.	Indah Wahyuni, M.Si	Talk of Affiliate Scientist (TAS) Seri 1: "Prospek Pengembangan Kacang Sacha Inchi di Indonesia [Talk of Affiliate Scientist (TAS) Series 1: "Prospects for the Development of Sacha Inchi Beans in Indonesia] " Organizer: SEAMEO BIOTROP	Bogor, 12 April 2022	Participant
373.	Risa Rosita, M.Si	Talk of Affiliate Scientist (TAS) Seri 1: "Prospek Pengembangan Kacang Sacha Inchi di Indonesia [Talk of Affiliate Scientist (TAS) Series 1: "Prospects for the Development of Sacha Inchi Beans in Indonesia] " Organizer: SEAMEO BIOTROP	Bogor, 12 April 2022	Participant
374.	Herni Widhiastuti, S.Si	Talk of Affiliate Scientist (TAS) Seri 1: "Prospek Pengembangan Kacang Sacha Inchi di Indonesia [Talk of Affiliate Scientist (TAS) Series 1: "Prospects for the Development of Sacha Inchi Beans in Indonesia] " Organizer: SEAMEO BIOTROP	Bogor, 12 April 2022	Participant
375.	Sri Ismawati Soerianegara, M.Sc	Talk of Affiliate Scientist (TAS) Seri 1: "Prospek Pengembangan Kacang Sacha Inchi di Indonesia [Talk of Affiliate Scientist (TAS) Series 1: "Prospects for	Bogor, 12 April 2022	Participant (Translator)

No	Name	Title of Activity	Venue and Date	Remarks
		the Development of Sacha Inchi Beans in Indonesia] ” Organizer: SEAMEO BIOTROP		
376.	Dewi Suryani,SP, MM	In-house Training “Pengenalan dan Identifikasi Biji Gulma Terbawa Media Pembawa Impor" [In-house Training “Introduction and Identification of Weed Seeds Carried by Imported Carrier Media.”] Organizer: Balai Besar Karantina Pertanian Tanjung Priok [Tanjung Priok Agricultural Quarantine Center]	Jakarta, 19–21 April 2022	Participant
377.	Harry Imantho, M.Sc	In-house Training “Pengenalan dan Identifikasi Biji Gulma Terbawa Media Pembawa Impor" [In-house Training “Introduction and Identification of Weed Seeds Carried by Imported Carrier Media.”] Organizer: Balai Besar Karantina Pertanian Tanjung Priok [Tanjung Priok Agricultural Quarantine Center]	Jakarta, 19–21 April 2022	Participant
378.	Deri Yandi, S.Si	In-house Training “Pengenalan dan Identifikasi Biji Gulma Terbawa Media Pembawa Impor" [In-house Training “Introduction and Identification of Weed Seeds Carried by Imported Carrier Media.”] Organizer: Balai Besar Karantina Pertanian Tanjung Priok [Tanjung Priok Agricultural Quarantine Center]	Jakarta, 19–21 April 2022	Participant
379.	Deda Annafia Yuliastri	In-house Training “Pengenalan dan Identifikasi Biji Gulma Terbawa Media Pembawa Impor" [In-house Training “Introduction and Identification of Weed Seeds Carried by Imported Carrier Media.”] Organizer: Balai Besar Karantina Pertanian Tanjung Priok [Tanjung Priok Agricultural Quarantine Center]	Jakarta, 19–21 April 2022	Participant

No	Name	Title of Activity	Venue and Date	Remarks
380.	Saiful Bachri, S.Si	In-house Training “Pengenalan dan Identifikasi Biji Gulma Terbawa Media Pembawa Impor" [In-house Training “Introduction and Identification of Weed Seeds Carried by Imported Carrier Media.”] Organizer: Balai Besar Karantina Pertanian Tanjung Priok [Tanjung Priok Agricultural Quarantine Center]	Jakarta, 19–21 April 2022	Participant
381.	Ir. Sri Widayanti, M.Si.	In-house Training “Pengenalan dan Identifikasi Biji Gulma Terbawa Media Pembawa Impor" [In-house Training “Introduction and Identification of Weed Seeds Carried by Imported Carrier Media.”] Organizer: Balai Besar Karantina Pertanian Tanjung Priok [Tanjung Priok Agricultural Quarantine Center]	Jakarta, 19–21 April 2022	Participant
382.	Riana Hartati, S.Si	In-house Training “Pengenalan dan Identifikasi Biji Gulma Terbawa Media Pembawa Impor" [In-house Training “Introduction and Identification of Weed Seeds Carried by Imported Carrier Media.”] Organizer: Balai Besar Karantina Pertanian Tanjung Priok [Tanjung Priok Agricultural Quarantine Center]	Jakarta, 19–21 April 2022	Participant
383.	Lastiah	In-house Training “Pengenalan dan Identifikasi Biji Gulma Terbawa Media Pembawa Impor" [In-house Training “Introduction and Identification of Weed Seeds Carried by Imported Carrier Media.”] Organizer: Balai Besar Karantina Pertanian Tanjung Priok [Tanjung Priok Agricultural Quarantine Center]	Jakarta, 19–21 April 2022	Participant
384.	Dr. Zulhamsyah Imran	BIOTROP to School (BTS) Seri 2: “Kultur Jaringan Tanaman Hias Daun” [BIOTROP to School (BTS) Series 2: “Leaf Ornamental Plant Tissue Culture” with	Bogor, 26 April 2022	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		the topic "Leaf Ornamental Plant Tissue Culture"] Organizer: SEAMEO BIOTROP		
385.	Deri Yandi, S.Si	BIOTROP to School (BTS) Seri 2: "Kultur Jaringan Tanaman Hias Daun" [BIOTROP to School (BTS) Series 2: "Leaf Ornamental Plant Tissue Culture" with the topic "Leaf Ornamental Plant Tissue Culture"] Organizer: SEAMEO BIOTROP	Bogor, 26 April 2022	Participant
386.	Ir. Ina Retnowati	BIOTROP to School (BTS) Seri 2: "Kultur Jaringan Tanaman Hias Daun" [BIOTROP to School (BTS) Series 2: "Leaf Ornamental Plant Tissue Culture" with the topic "Leaf Ornamental Plant Tissue Culture"] Organizer: SEAMEO BIOTROP	Bogor, 26 April 2022	Participant
387.	Ir. Sri Widayanti, M.Si.	Sharing Session Project Management Concept: "7 Keys of Project Success" Organizer: SEAMEO BIOTROP	Bogor, 19 May 2022	Participant
388.	Trijanti A. Widinni Asnan, M.Si.	Sharing Session Project Management Concept: "7 Keys of Project Success" Organizer: SEAMEO BIOTROP	Bogor, 19 May 2022	Participant
389.	Wati Madyawati	Sharing Session Project Management Concept: "7 Keys of Project Success" Organizer: SEAMEO BIOTROP	Bogor, 19 May 2022	Participant
390.	Nijma Nurfadila, S.Si	Sharing Session Project Management Concept: "7 Keys of Project Success" Organizer: SEAMEO BIOTROP	Bogor, 19 May 2022	Participant
391.	Bambang Sulistio, S.Si	Sharing Session Project Management Concept: "7 Keys of Project Success" Organizer: SEAMEO BIOTROP	Bogor, 19 May 2022	Participant

No	Name	Title of Activity	Venue and Date	Remarks
392.	Harry Imantho, M.Sc	Sharing Session Project Management Concept: "7 Keys of Project Success" Organizer: SEAMEO BIOTROP	Bogor, 19 May 2022	Participant
393.	Dewi Suryani, MM	Sharing Session Project Management Concept: "7 Keys of Project Success" Organizer: SEAMEO BIOTROP	Bogor, 19 May 2022	Participant
394.	Ir. Ina Retnowati	Sharing Session Project Management Concept: "7 Keys of Project Success" Organizer: SEAMEO BIOTROP	Bogor, 19 May 2022	Participant
395.	Dr. Ir. Erina Sulistiani, M.Si	Sharing Session Project Management Concept: "7 Keys of Project Success" Organizer: SEAMEO BIOTROP	Bogor, 19 May 2022	Participant
396.	Dewi Rahmawati, M.Si	Sharing Session Project Management Concept: "7 Keys of Project Success" Organizer: SEAMEO BIOTROP	Bogor, 19 May 2022	Participant
397.	Deri Yandi, S.Si	Sharing Session Project Management Concept: "7 Keys of Project Success" Organizer: SEAMEO BIOTROP	Bogor, 19 May 2022	Participant
398.	Riana Hartati, S.Si	Sharing Session Project Management Concept: "7 Keys of Project Success" Organizer: SEAMEO BIOTROP	Bogor, 19 May 2022	Participant
399.	Deda Annafia Yuliastri, M.Si	Sharing Session Project Management Concept: "7 Keys of Project Success" Organizer: SEAMEO BIOTROP	Bogor, 19 May 2022	Participant
400.	Dewi Suryani, SP., MM	Diskusi Terpumpun Kajian Rinjani Geopark "Study on Biodiversity Mapping in Rinjani Geopark" : Kebijakan Pengelolaan Geopark Rinjani [Focused Discussion on Rinjani Geopark Study "Study on Biodiversity Mapping in Rinjani Geopark" : Rinjani Geopark Management Policy]	Bogor, 23 May 2022	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		Organizers: SEAMEO BIOTROP and Mataram University		
401.	Nijma Nurfadila, M.Si	Diskusi Terpumpun Kajian Rinjani Geopark "Study on Biodiversity Mapping in Rinjani Geopark" : Kebijakan Pengelolaan Geopark Rinjani [Focused Discussion on Rinjani Geopark Study "Study on Biodiversity Mapping in Rinjani Geopark" : Rinjani Geopark Management Policy] Organizers: SEAMEO BIOTROP and Mataram University	Bogor, 23 May 2022	Participant
402.	Eko Purwiyanto	Diskusi Terpumpun Kajian Rinjani Geopark "Study on Biodiversity Mapping in Rinjani Geopark" : Kebijakan Pengelolaan Geopark Rinjani [Focused Discussion on Rinjani Geopark Study "Study on Biodiversity Mapping in Rinjani Geopark" : Rinjani Geopark Management Policy] Organizers: SEAMEO BIOTROP and Mataram University	Bogor, 23 May 2022	Participant
403.	Dewi Rahmawati, M.Si	Diskusi Terpumpun Kajian Rinjani Geopark "Study on Biodiversity Mapping in Rinjani Geopark" : Kebijakan Pengelolaan Geopark Rinjani [Focused Discussion on Rinjani Geopark Study "Study on Biodiversity Mapping in Rinjani Geopark" : Rinjani Geopark Management Policy] Organizers: SEAMEO BIOTROP and Mataram University	Bogor, 23 May 2022	Participant
404.	Deda Annafia Yuliastri, M.Si	Diskusi Terpumpun Kajian Rinjani Geopark "Study on Biodiversity Mapping in Rinjani Geopark" : Kebijakan Pengelolaan Geopark Rinjani [Focused Discussion on Rinjani Geopark Study "Study on Biodiversity Mapping in Rinjani Geopark" : Rinjani Geopark Management Policy]	Bogor, 23 May 2022	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		Organizers: SEAMEO BIOTROP and Mataram University		
405.	Armaiki Yusmur, M.Si	Diskusi Terpumpun Kajian Rinjani Geopark “Study on Biodiversity Mapping in Rinjani Geopark” : Kebijakan Pengelolaan Geopark Rinjani [Focused Discussion on Rinjani Geopark Study “Study on Biodiversity Mapping in Rinjani Geopark” : Rinjani Geopark Management Policy] Organizers: SEAMEO BIOTROP and Mataram University	Bogor, 23 May 2022	Participant
406.	Dewi Suryani, SP, MM	Bimbingan Teknis Kultur Jaringan untuk Penyediaan Bibit Rumput Laut Kotoni [Tissue Culture Technical Guidance for the Provision of Kotoni Seaweed Seeds] Organizesr: SEAMEO BIOTROP, UNIDO's Global Quality and Standards Programme (GQSP) Indonesia SMART-Fish	Bogor, 23 May 2022	Participant
407.	Riana Hartati, S.Si	Bimbingan Teknis Kultur Jaringan untuk Penyediaan Bibit Rumput Laut Kotoni [Tissue Culture Technical Guidance for the Provision of Kotoni Seaweed Seeds] Organizesr: SEAMEO BIOTROP, UNIDO's Global Quality and Standards Programme (GQSP) Indonesia SMART-Fish	Bogor, 23 May 2022	Participant
408.	Aminatul Zahra, S.Pi, M.Si	Bimbingan Teknis Kultur Jaringan untuk Penyediaan Bibit Rumput Laut Kotoni [Tissue Culture Technical Guidance for the Provision of Kotoni Seaweed Seeds] Organizesr: SEAMEO BIOTROP, UNIDO's Global Quality and Standards Programme (GQSP) Indonesia SMART-Fish	Bogor, 23 May 2022	Participant
409.	Dwi Septiani Putri, S.Pi, M.Si	Bimbingan Teknis Kultur Jaringan untuk Penyediaan Bibit Rumput Laut Kotoni [Tissue Culture Technical Guidance for the Provision of Kotoni Seaweed Seeds] Organizesr:	Bogor, 23 May 2022	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		SEAMEO BIOTROP, UNIDO's Global Quality and Standards Programme (GQSP) Indonesia SMART-Fish		
410.	Sri Ismawati Soerianegara, M.Sc	Webinar - SEAMEO Secretariat : 2nd SEAMEO-New Zealand Master Class on Digital Revolution for Education	24 May 2022	Participant
411.	Harry Imantho, M.Sc	Indonesia Water Security webinar Series: Reducing Indonesia's Water Stress	25 May 2022	Participant
412.	Dewi Suryani, SP, MM	Lokakarya Pengembangan Kerjasama Multi Pihak Program Agro-EkoEduwisata SEAMEO BIOTROP dalam Mendukung Pendidikan Konservasi Biodiversitas : "Regulasi dan Perubahan RTRW dalam pengembangan Agroekoeduwisata" [SEAMEO BIOTROP Multi-Stakeholder Cooperation Development Workshop on Agro-EcoEdutourism in Supporting Biodiversity Conservation Education: "Regulation and Changes in Spatial Planning for Agro-eco-edutourism Development"] Organizer: SEAMEO BIOTROP	Bogor, 25 May 2022	Participant
413.	Deda Annafia Yuliastri, M.Si	Lokakarya Pengembangan Kerjasama Multi Pihak Program Agro-EkoEduwisata SEAMEO BIOTROP dalam Mendukung Pendidikan Konservasi Biodiversitas : "Regulasi dan Perubahan RTRW dalam pengembangan Agroekoeduwisata" [SEAMEO BIOTROP Multi-Stakeholder Cooperation Development Workshop on Agro-EcoEdutourism in Supporting Biodiversity Conservation Education: "Regulation and Changes in Spatial Planning for Agro-eco-edutourism Development"] Organizer: SEAMEO BIOTROP	Bogor, 25 May 2022	Participant
414.	Dr. Rhomi Ardiansyah	Lokakarya Pengembangan Kerjasama Multi Pihak Program Agro-EkoEduwisata SEAMEO BIOTROP dalam Mendukung Pendidikan Konservasi Biodiversitas :	Bogor, 25 May 2022	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		"Regulasi dan Perubahan RTRW dalam pengembangan Agroekoeduwisata" [SEAMEO BIOTROP Multi-Stakeholder Cooperation Development Workshop on Agro-EcoEdutourism in Supporting Biodiversity Conservation Education: "Regulation and Changes in Spatial Planning for Agro-eco-edutourism Development"] Organizer: SEAMEO BIOTROP		
415.	Armaiki Yusmur, M.Si	Lokakarya Pengembangan Kerjasama Multi Pihak Program Agro-EkoEduwisata SEAMEO BIOTROP dalam Mendukung Pendidikan Konservasi Biodiversitas : "Regulasi dan Perubahan RTRW dalam pengembangan Agroekoeduwisata" [SEAMEO BIOTROP Multi-Stakeholder Cooperation Development Workshop on Agro-EcoEdutourism in Supporting Biodiversity Conservation Education: "Regulation and Changes in Spatial Planning for Agro-eco-edutourism Development"] Organizer: SEAMEO BIOTROP	Bogor, 25 May 2022	Participant
416.	Nijma Nurfadila, S.Si	Lokakarya Pengembangan Kerjasama Multi Pihak Program Agro-EkoEduwisata SEAMEO BIOTROP dalam Mendukung Pendidikan Konservasi Biodiversitas : "Regulasi dan Perubahan RTRW dalam pengembangan Agroekoeduwisata" [SEAMEO BIOTROP Multi-Stakeholder Cooperation Development Workshop on Agro-EcoEdutourism in Supporting Biodiversity Conservation Education: "Regulation and Changes in Spatial Planning for Agro-eco-edutourism Development"] Organizer: SEAMEO BIOTROP	Bogor, 25 May 2022	Participant
417.	Asep Saepudin	Lokakarya Pengembangan Kerjasama Multi Pihak Program Agro-EkoEduwisata SEAMEO BIOTROP dalam Mendukung Pendidikan Konservasi Biodiversitas :	Bogor, 25 May 2022	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		"Regulasi dan Perubahan RTRW dalam pengembangan Agroekoeduwisata" [SEAMEO BIOTROP Multi-Stakeholder Cooperation Development Workshop on Agro-EcoEdutourism in Supporting Biodiversity Conservation Educatio: "Regulation and Changes in Spatial Planning for Agro-eco-edutourism Development"] Organizer: SEAMEO BIOTROP		
418.	Dewi Suryani, SP, MM	In-House Training: Pengenalan dan Pengelolaan Instrumen Bioteknologi [In-House Training: Introduction and Management of Biotechnology Instruments] Organizer: SEAMEO BIOTROP	Bogor, 30-31 May 2022	Participant
419.	Deri Yandi, S.Si	In-House Training: Pengenalan dan Pengelolaan Instrumen Bioteknologi [In-House Training: Introduction and Management of Biotechnology Instruments] Organizer: SEAMEO BIOTROP	Bogor, 30-31 May 2022	Participant
420.	Deda Annafia Yuliastri, M.Si	In-House Training: Pengenalan dan Pengelolaan Instrumen Bioteknologi [In-House Training: Introduction and Management of Biotechnology Instruments] Organizer: SEAMEO BIOTROP	Bogor, 30-31 May 2022	Participant
421.	Indah Wahyuni, M.Si	In-House Training: Pengenalan dan Pengelolaan Instrumen Bioteknologi [In-House Training: Introduction and Management of Biotechnology Instruments] Organizer: SEAMEO BIOTROP	Bogor, 30-31 May 2022	Participant
422.	Riana Hartati, S.Si	In-House Training: Pengenalan dan Pengelolaan Instrumen Bioteknologi [In-House Training: Introduction and Management of Biotechnology Instruments]	Bogor, 30-31 May 2022	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		Organizer: SEAMEO BIOTROP		
423.	Dr. Rhomi Ardiansyah	In-House Training: Pengenalan dan Pengelolaan Instrumen Bioteknologi [In-House Training: Introduction and Management of Biotechnology Instruments] Organizer: SEAMEO BIOTROP	Bogor, 30-31 May 2022	Participant
424.	Shella Marlinda, M.Si	In-House Training: Pengenalan dan Pengelolaan Instrumen Bioteknologi [In-House Training: Introduction and Management of Biotechnology Instruments] Organizer: SEAMEO BIOTROP	Bogor, 30-31 May 2022	Participant
425.	Nijma Nurfadila, M.Si	In-House Training: Pengenalan dan Pengelolaan Instrumen Bioteknologi [In-House Training: Introduction and Management of Biotechnology Instruments] Organizer: SEAMEO BIOTROP	Bogor, 30-31 May 2022	Participant
426.	Didi Junaedi, A.Md	In-House Training: Pengenalan dan Pengelolaan Instrumen Bioteknologi [In-House Training: Introduction and Management of Biotechnology Instruments] Organizer: SEAMEO BIOTROP	Bogor, 30-31 May 2022	Participant
427.	Budiyono	In-House Training: Pengenalan dan Pengelolaan Instrumen Bioteknologi [In-House Training: Introduction and Management of Biotechnology Instruments] Organizer: SEAMEO BIOTROP	Bogor, 30-31 May 2022	Participant
428.	Iman	In-House Training: Pengenalan dan Pengelolaan Instrumen Bioteknologi [In-House Training: Introduction and Management of Biotechnology Instruments]	Bogor, 30-31 May 2022	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		Organizer: SEAMEO BIOTROP		
429.	Indrajit	In-House Training: Pengenalan dan Pengelolaan Instrumen Bioteknologi [In-House Training: Introduction and Management of Biotechnology Instruments] Organizer: SEAMEO BIOTROP	Bogor, 30 – 31 May 2022	Participant
430.	Fitri Junaedy, SEI	Pelatihan dan Bimbingan Teknis HR Staff Sertifikasi BNSP [BNSP Certification HR Staff Training and Technical Guidance] Organizer: Talenta Borneo	5 June 2022	Participant
431.	Putri Dina Rahayu, SE	Pelatihan dan Bimbingan Teknis HR Staff Sertifikasi BNSP [BNSP Certification HR Staff Training and Technical Guidance] Organizer: Talenta Borneo	5 June 2022	Participant
432.	Dewi Suryani, SP, MM	The 4th Summer Course 2022: "Manufacturing of Marine Algae toward Society 5.0" Organizer: Departemen Teknologi Hasil Perairan, Fakultas Perikanan dan Ilmu Kelautan, IPB University [Department of Aquatic Product Technology, Faculty of Fisheries and Marine Sciences, IPB University]	Bogor, 14 June 2022	Participant
433.	Riana Hartati, S.Si	The 4th Summer Course 2022: Manufacturing of Marine Algae toward Society 5.0" Organizer: Departemen Teknologi Hasil Perairan, Fakultas Perikanan dan Ilmu Kelautan, IPB University [Department of Aquatic Product Technology, Faculty of Fisheries and Marine Sciences, IPB University]	Bogor, 14 June 2022	Participant
434.	Sri Ismawati Soerianegara, M.Sc	The 4th Summer Course 2022: Manufacturing of Marine Algae toward Society 5.0" Organizer:	Bogor, 14 June 2022	Participant

No	Name	Title of Activity	Venue and Date	Remarks
		Departemen Teknologi Hasil Perairan, Fakultas Perikanan dan Ilmu Kelautan, IPB University [Department of Aquatic Product Technology, Faculty of Fisheries and Marine Sciences, IPB University]		
435.	Indah Wahyuni, M.Si	Pembahasan Pedoman Analisis Risiko Organisme Pengganggu Tumbuhan (AROPT) untuk Kelompok Gulma [Discussion of Guidelines for Analysis of Plant Destruction Organisms Risk (AROPT) for Weed Groups] Organizer: Badan Karantina Pertanian, Kementerian Pertanian [AgriculturalQuarantine Agency, Ministry of Agriculture]	Jakarta, 29 June-1 July 2022	Participant
436.	Dr. Zulhamsyah Imran	FGD dengan tema Islam dan Keberpihakan dalam Transisi Berkeadilan dan Pembangunan Berkelanjutan [FGD with the theme Islam and Partisanship in the Transition of Justice and Sustainable Development] Organizer: PT. Republika Media Mandiri	Jakarta, 29 June 2022	Participant