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International Conference on Modern and Sustainable Agriculture (ICOMSA): Building Future Agriculture for Better World

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International Conference on Modern and Sustainable Agriculture (ICOMSA): Building Future Agriculture for Better World

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A. SUMMARY OF CONFERENCE

1. Introduction

1.1. Background

The development of modern agriculture is inseparable from efforts to optimize agricultural land resources and increase sectoral competitiveness based on dynamic innovation following the challenges. Modern agriculture is characterized by applying technology and innovation that can be adapted to the conditions and needs of productive activities in the agricultural sector. Agricultural innovations can include technological and agricultural institutions' innovations that are in line with the times. Sustainable agriculture plays an essential role in sustaining natural resources for future generations. Sustainable agriculture emphasizes the need for the stability of natural ecosystems, including biological living systems and materials. This includes the maintenance of biological diversity, genetic resources, soil, water, and agro-climate resources, as well as environmental health and comfort. Moreover, the world is facing the challenge of global warming (the greenhouse effect). Modern and sustainable agriculture is essential for various problems in agriculture. Both are currently the focus of various stakeholders, such as farmers, researchers, and policymakers worldwide. Both are expected to become sustainable solutions to meet food and energy needs and minimize the impact of more significant environmental damage.

International Conference on Modern Sustainable Agriculture was virtually-held in collaboration between the Faculty of Agriculture, IPB University with The International Society for Southeast Asian Agricultural Sciences (ISSAAS) Indonesian Chapter and Indonesian Society for Agronomy (PERAGI). Prof. Arif Satria, Rector of IPB University, Indonesia and Dr. Suwardi, M.Agr., President of International Society for Southeast Asian Agricultural Sciences (ISSAAS) Indonesian Chapter had



given their speech as the keynote speakers for this conference. This conference also had 8 notable invited speakers from various international universities and research centers who delivered their expertise in modern and sustainable agriculture: Prof. Abdul Rashid Muhamed Shariff from Universiti Putra Malaysia, Malaysia, Prof. Makoto Yokohari from The University of Tokyo, Japan, Prof. Salmah Yaakop, Universiti Kebangsaan Malaysia, Malaysia, Prof. Masayoshi Shigyo from Yamaguchi University, Japan, Prof. Byoung Ryong Jeong from Gyeongsang National University, Republic of Korea, Prof. Greta Formaglio from National Institute for Agricultural Research, France, Prof. Anas D Susila from IPB University, Indonesia, and Prof. Hadi Susilo Arifin from IPB University, Indonesia had given their speech as invited speakers for this conference.

The audience of this ICOMSA was the representation of ABGC: Academic (lecturers, students, and researchers), Business (businessman in estate crops from upstream to downstream, financial institutions, marketing agency), Government (administrator/ government, legislative, and Community (community actors and the observer of environment, economy, non-governmental organizations community, etc.). Participants also could present their research papers, and selected papers were published in IOP Conference Series: Earth and Environmental Science are related to this scope: Crop Production, Ecophysiology, Breeding, and Biotechnology; Soil and Nutrient Management; Plant Protection and Agricultural Microbiology; Landscape and Urban Farming, Spatial Agriculture, and Modeling; Biodiversity, Agroforestry, and Agricultural Environment; and Smart Agriculture.

1.2. The objectives of the conference

International Conference on Modern and Sustainable (ICOMSA) were conducted to propose:

1. Media scientific forum to discuss the development of modern agricultural models in sustainable farming systems.
2. Encourage and facilitate networking for Indonesian researchers, especially the IPB academic community in the international arena.
3. Mediate the publication of research results from the IPB academic community and Indonesian researchers in reputable databases.

1.3. Conference Activities

This conference is held from Tuesday to Wednesday, August 2nd and 3rd, 2022 in a virtual conference room using the Zoom application. The conference consisted of presentations by keynote speakers and invited speakers followed by a parallel session of papers presentations and student competition (Table 1)

Table 1. Program schedule of International Conference on Modern and Sustainable Agriculture

Time (GMT+7)	Activity
Day 1 - Tuesday, August 2, 2022	
08.30 - 09.00	Participants join the meeting room
09.00 - 10.15	Opening Ceremony
	Indonesian National Anthem
	Praying
	Welcoming Speech <ol style="list-style-type: none"> Prof. Dr. Suryo Wiyono (Dean ad interim of Faculty of Agriculture, IPB University) Dr. Suwardi (President of The International Society for Southeast Asian Agricultural Sciences (ISSAAS) Indonesian Chapter)
	Opening and Keynote Speech Prof. Dr. Arif Satria (Rector of IPB University)
10.15 - 10.20	Photo Session
	Plenary Session 1 Chairman: Prof. Damayanti Buchori (IPB University)
	1. Prof. Abdul Rashid Muhamed Shariff Universiti Putra Malaysia, Malaysia. “Application of Geospatial Technology and Principles in Advancing Agriculture Practices”.
	2. Prof. Makoto Yokohari The University of Tokyo, Japan. “From Grey Compact to Green Disperse: Future of Urban-rural Mixed Landscape in the Periphery of Asian Cities”.
	3. Prof. Salmah Yaakop Universiti Kebangsaan Malaysia, Malaysia. “Where is the Position of Molecular Systematics and Biodiversity Conservation in the Era of Modern Agriculture?”
13.00 - 14.40	Parallel session 1: 7 room, 5-7 presenter/room Student competition session 1: 2 rooms, 4 presenters/room
14.40 - 16.30	Parallel session 2: 4 rooms, 5-7 presenter/room

Time (GMT+7)	Activity
	Student competition session 2: 2 rooms, 4 presenters/room
	Closing of Day 1

Time (GMT+7)	Activity
Day 2 - Wednesday, August 3, 2022	
08.30 - 08.50	Participants join in the meeting room
08.50 - 09.00	Opening Ceremony
09.00 - 12.00	<p>Plenary Session 2 Chairman: Prof. Edi Santosa (IPB University)</p> <p>1. Prof. Masayoshi Shigyo Yamaguchi University, Japan. “Conservation and Utilization of Plant Genetic Resources for Vegetable Crops in Low-latitude Regions of Asia”.</p> <p>2. Prof. Byoung Ryong Jeong Gyeongsang National University, Republic of Korea. “Experience with LED Lighting in Controlled Environment: A Way of Getting Better Controlled Growing Environment for Plants”.</p> <p>3. Dr. Greta Formaglio National Institute for Agriculture Research, France. “Increasing Competitiveness of Sugarcane by Developing Pest and Disease Resistant Superior Resistance”.</p> <p>4. Prof. Anas D Susila IPB University, Indonesia “Entry point: Toward Precision and Smart Vegetable Production for Small Scale Farmer”.</p> <p>5. Prof. Hadi Susilo Arifin IPB University, Indonesia “Sustainable Urban Agriculture for Better Future City”.</p>

Time (GMT+7)	Activity
13.00 - 14.40	Parallel Session 3: 5 rooms, 5-7 presenters/room
14.40 - 15.30	Parallel Session 4: 6 rooms, 5-7 presenters/room
15.30 - 16.00	Closing Ceremony

2. Contribution to Colleagues

Effective and efficient use of agricultural resources is fundamental to modern and sustainable agriculture. We hope that this exchange of insights and information will trigger collaborative studies between universities and research agencies to create innovations in optimizing the production and sustainability of plantations that are best in quality, quantity, and economy with modern equipment/advanced technology to support an environmentally friendly agricultural system. Thus, collaborating with various components in the agricultural sector becomes crucial to achieving food and energy sovereignty.

3. Participants and Opportunities in Virtually-Held Conference

Since we have regulations to work from the office at IPB University, the organizers could have a chance to work from the office to make sure all the details, especially those needed in-person anticipation before and during the conference, were prepared optimally with strict health protocols. Meanwhile, all the participants followed this conference virtually from their place. This online conference was held using the Zoom application in a virtual seminar room. We have around 125 people participating in this conference which consists of 115 domestic participants and 10 foreign participants. Our non-presenter participants come from various academic and business institutions, government agencies, and community organizations. We received 114 abstracts divided into particular scopes (Figure 1). The 85 selected abstracts and papers from Indonesia, Malaysia, Tanzania, Cambodia, and Japan were presented at the conference (Figure 2). The updated topics delivered have enriched the knowledge and connection of our audiences to current research in modern and sustainable agriculture.

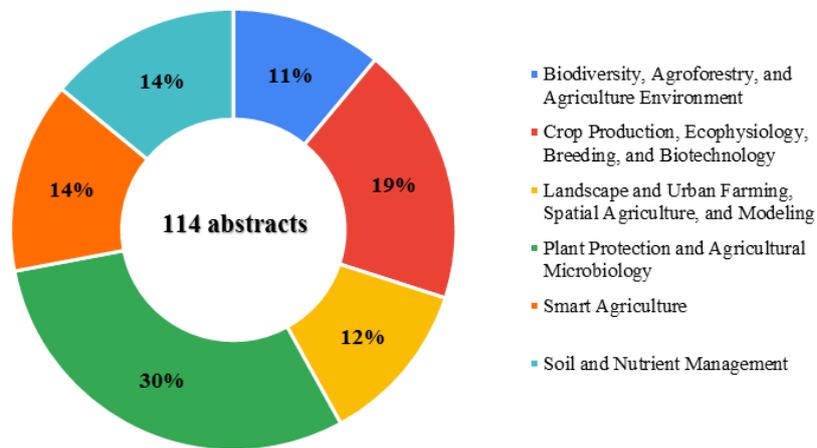


Figure 1 Scopes of the submitted abstracts in the pre-conference submission

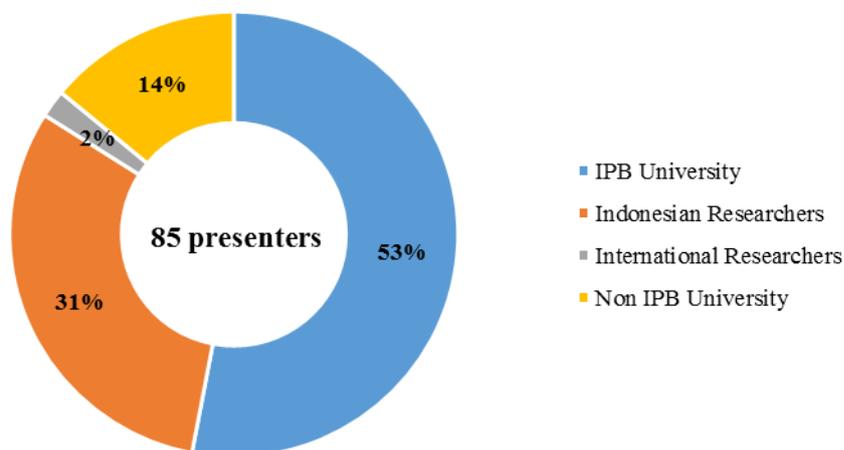


Figure 2 The affiliations of The ICOMSA presenters

As displayed in Table 1, we have 3 main agendas: plenary session, parallel session, and student competition. There was an equal time distribution between talks and Q&A sessions in the plenary session. Each speaker has 25 minutes to talk and 40 minutes of discussion led by the chairman (moderator). To have an efficient Q&A session, the participants asked the question in the chat box or asked directly to the speakers using the raise hand feature in the Zoom application. The parallel session was conducted using 1 Zoom room and 4-5 breakout rooms per day. Each breakout room has a

moderator and assistants from IPB University. One administrator acted as the host and could monitor all the running sessions. The Q&A session was in the last 40 minutes. The participants could move to the desired breakout room in the same session. The student competition session was held on the first day simultaneously with the parallel session in 2 breakout rooms. A total of 16 undergraduate and graduate students from 5 universities presented their posters on modern and sustainable agriculture, such as IPB University, Hasannudin University, Padjajaran University, Bandung Institute of Technology, and Universiti Putra Malaysia.

Most of the conference details have been executed well. Although there was different time zone among the invited speakers, everyone had already prepared the slide presentation and video and sent them to the committee. An important issue in holding a virtually-held conference is if the committee works together in a different conference room. The other technical difficulties learned from previous conferences were about the internet connection of presenters during the seminar. We have already requested a pre-recorded presentation video to be displayed in the seminar. This conference was performed efficiently, and the presenter could be focused on the Q&A session. Generally, virtually-held conferences need several modifications to keep them standardized, especially regarding the quality of insight transferred. Although the participants could not join the in-person discussion, the online conference could reach participants from much broader backgrounds who were usually limited by time and transportation barriers.

4. Paper Publication

As many as 85 abstracts were submitted to the conference and selected to present during the conference. Selected papers (around 84%) were to be published in Scopus-indexed international proceeding *IOP Conference Series: Earth and Environmental Science*. Several criteria used for the paper selection were relevance to the conference topic, adherence to the writing format, being presented orally within the conference, and willingness to follow suggestions for improvement from reviewers. Each paper was reviewed and edited in 5 rounds (1 round pre-conference, 4 rounds post-conference). Turnitin and Grammarly performed similarity and writing structure checking.

The peer-reviewing stage was conducted in Morressier, a platform provided by IOP, involving 22 expert reviewers in September – November 2022. This virtual working space helped the organizer to manage papers with simple but comprehensive operational and monitoring systems. We also have 9 guest editors from various institutions in Indonesia, Malaysia, Japan, and Korea.

5. Funding Acknowledgements

We wish to thank our partners: BASF-Germany for their financial support.

B. LIST OF COMMITTEE

1. Advisory, Steering, and Scientific Committee

Advisory Committee	: Prof. Dr. Suryo Wiyono
Steering Committee	: Dr. Baba Barus (Head - Department of Land Resource Management, IPB University) Prof. Dr. Edi Santosa (Head - Department of Agronomy and Horticulture, IPB University) Dr. Ali Nurmansyah (Head - Department of Plant Protection, IPB University) Dr. Akhmad Arifin Hadi (Head - Department of Landscape Architecture, IPB).
Scientific Committee	: Prof. Dr. Sudarsono (IPB University) Prof. Dr. Sri Hendrastuti Hidayat (IPB University) Prof. Dr. Damayanti Buchori (IPB University) Prof. Dr. Suria D. Tarigan (IPB University)

2. Guest Editors

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3. Organizing Committee

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