

# REPORT

## JAPAN-ASEAN SCIENCE, TECHNOLOGY AND INNOVATION PLATFORM (JASTIP) WRAP-UP SYMPOSIUM & WORKSHOP

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**PREPARED BY:**

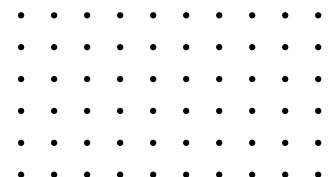
Citra Endah Nur Setyawati  
Taro Sonobe



**JASTIP**

Japan - ASEAN  
Science, Technology and  
Innovation Platform

**2025**



## **Japan-ASEAN Science, Technology and Innovation Platform (JASTIP) Wrap-up Symposium & Workshop Report**

The Japan-ASEAN Science, Technology and Innovation Platform (JASTIP) was launched in September 2015 with the support of the Japan Science and Technology Agency (JST). The objectives of the program are 1) to promote interdisciplinary studies on "Environment and Energy", "Biological Resources and Biodiversity", and "Disaster Prevention and Risk Reduction", 2) to increase the visibility of Japan-ASEAN collaborative research to nonacademic stakeholders, and 3) to establish the platform for Japan-ASEAN research collaboration on science, technology, and innovation. To this end, four working packages (WPs) have been established. The first phase ended in August 2020, and after the review, it was extended to the second phase, which lasted from September 2020 to March 2025.

Since 2018, the Japan-ASEAN Science, Technology and Innovation Platform (JASTIP) has focused on building human resource capacity to promote interdisciplinary collaboration. This is achieved by connecting various stakeholders from ASEAN and Japan to address global and regional challenges through a concept known as "Science, Technology, and Innovation Coordination" (STI Coordination).

STI Coordination facilitates collaboration across different cultures, disciplines, and sectors to tackle social issues and create new values. It emphasizes ethics, community awareness, and the integration of scientific discoveries, technological advancements, and insights from the humanities and social sciences. The core of STI Coordination is personal development in two key areas to solve social problems and generate new value: (i) the passion to grow beyond one's own field or sector, and (ii) the ability to recognize and leverage others' expertise, experience, and networks for collaborative value creation. A co-creative mindset is essential, focusing first on developing oneself and then working cooperatively with others to build a better society.

The Japan-ASEAN Science, Technology and Innovation Platform (JASTIP) Wrap-up Symposium and Workshop took place on 16 December 2024 in Bangkok, Thailand. This report presents the key outcomes and discussions from both events. The aim is to foster a deeper understanding of STI Coordination and advancing human capacity development programs for the next generation of leaders who can take initiatives to drive collaborative innovation across cultures, disciplines, and sectors.

### **1) Japan-ASEAN Science, Technology and Innovation Platform (JASTIP) Wrap-up Symposium**

**Opening address:** Prof. Kono Yasuyuki, JASTIP PI and Vice President, Kyoto University  
Prof. Kono opened the session by expressing his sincere gratitude to the JASTIP members, sharing committee members and participants for their collaboration and support. He emphasized that the

primary objective of the symposium was to report on the outputs and outcomes of JASTIP's 10-year activities, gather evaluations and feedback, and discuss the role of researchers in policymaking while planning the next steps. Reflecting on JASTIP's progress since its inception in 2015, he highlighted achievements in fostering collaboration and innovation and introduced the new Nexus Program by JST, which aims to build a sustainable research ecosystem with ASEAN member states. Prof. Kono encouraged stimulating discussions on future pathways, emphasizing that multiple approaches could be explored to enhance collaboration and innovation, ensuring the continued success of JASTIP initiatives.

**Opening address:** Dr. Kanchana Wanichkorn, Director, Science and Technology Division, ASEAN Secretariat

Dr. Kanchana Wanichkorn opened her remarks by expressing her pleasure in attending the JASTIP wrap-up symposium, describing the event as particularly meaningful given her involvement with the program's inception a decade ago. At that time, she served as Thailand's representative on the ASEAN Committee on Science and Technology (COST). She reflected on how COST has since evolved to include innovation, and how discussions on the JASTIP program began during her tenure. Now, in her role at the ASEAN Secretariat, she was delighted to witness the achievements of JASTIP over the past ten years and participate in discussions about its future.

She conveyed her deepest gratitude to the Japan-ASEAN Science, Technology, and Innovation Platform (JASTIP) for the invitation and highlighted the significance of the day's discussions, which would include reports on the program's achievements and its impacts. Dr. Kanchana emphasized the enduring collaboration between Japan and ASEAN since 2015, spearheaded by Kyoto University under the Collaborative Hubs for International Research Program framework and supported by the Japan Science and Technology Agency (JST). Over the past decade, JASTIP has fostered significant scientific progress and innovation, not only within ASEAN and Japan but also extending its impact globally. The JASTIP Head Office in Bangkok has played a critical role in coordinating these efforts.

Dr. Kanchana also shared insights into ASEAN-Japan relations, providing key statistics. In 2023, ASEAN and Japan achieved two-way trade valued at USD 241 billion, accounting for 6.8% of ASEAN's total merchandise trade. Foreign direct investment (FDI) from Japan to ASEAN amounted to USD 14.5 billion, representing 6.3% of total FDI into the region. Japan remains ASEAN's fourth-largest trade partner and investor. She noted that the year 2025 is pivotal for ASEAN as it will conclude its 10-year roadmap established in 2015, and will launch a new 20-year vision along with four strategic plans—economic, political-security, socio-cultural, and connectivity—prioritizes science, technology, and innovation as cross-cutting themes supporting not only economic development but also education, health, and political decision-making.

Reflecting on JASTIP's achievements, Dr. Kanchana emphasized the importance of personal and institutional-level collaborations between Japan and ASEAN. She expressed excitement about the

continuation of JASTIP's mission under a new initiative titled "Human Capacity Building for Science, Technology, and Innovation Coordination Between ASEAN and Japan Towards Grand Challenges." Approved during a recent meeting in Jakarta, this initiative will be funded by the Japan-ASEAN Integration Fund (JAIF) and will ensure that the collaboration continues for at least the next two years.

Dr. Kanchana also highlighted the broader significance of ASEAN-Japan relations, referencing the 50th-anniversary celebration of ASEAN-Japan relations in 2023. During this milestone, ASEAN and Japan leaders adopted the Joint Vision Statement for ASEAN-Japan Friendship and Cooperation, which emphasized science, technology, and innovation as key components of human capacity development and people-to-people connectivity. She encouraged participants to build on the past decade's successes and align their contributions with ASEAN's ambitious post-2025 vision. She concluded by expressing her anticipation for the symposium's discussions and her optimism for the future of ASEAN-Japan cooperation in science, technology, and innovation.

***Opening address:*** Prof. Noguchi Kazuhiko, Program Officer, JST

Prof. Noguchi began his remarks by expressing his heartfelt gratitude to JASTIP and ASEAN members for their contributions to the success of the program. He acknowledged the challenges posed by the pandemic during JASTIP's activities and commended the resilience and dedication of Kyoto University and ASEAN members in achieving remarkable results despite difficult circumstances. He emphasized that the complex global challenges we face today are beyond the capacity of any single country to address independently. The cooperative relationship established between Japan and ASEAN on a wide range of topics is of significant global importance, extending beyond bilateral relations. Prof. Noguchi expressed hope that this symposium would provide an opportunity to reflect on the achievements of their joint activities and to identify and share future challenges.

Looking ahead, Prof. Noguchi highlighted the importance of maintaining and strengthening the cooperative relationship between Japan and ASEAN. He also expressed a desire for this collaboration to evolve beyond the traditional frameworks of government, academia, and industry, fostering deeper friendships and more meaningful connections. He concluded by reiterating his gratitude and optimism for the future development of Japan-ASEAN relations.

## **Report on output and outcome of JASTIP**

***Overview:*** Prof. Kono Yasuyuki

Prof. Kono opened the session by providing an overview of the outputs and outcomes of JASTIP's 10-year activities. Launched in September 2015, JASTIP is set to conclude by the end of March 2025. The program was established with three main objectives: to promote interdisciplinary

research in the fields of environment and energy, biodiversity and bioresources, and disaster prevention and risk reduction.

He highlighted the program's evolving participation under JASTIP-Net scheme, noting that while initial applications were modest, collaboration with ASEAN Committee on Science, Technology and Innovation (COSTI) and its members led to a significant increase in proposals. JASTIP has accepted approximately 23% of submitted proposals, enabling researchers to participate in workshops, fieldwork, and various research activities. Prof. Kono also mentioned that a provisional summary of JASTIP's activities had been prepared and distributed to participants in advance, marking an important step in consolidating the program's achievements.

The Working Package (WP) comprises WP1 through WP4. WP1 functions as the program's headquarters, orchestrating interdisciplinary and transdisciplinary research while linking JASTIP with diverse stakeholders, including pertinent research institutes, government sectors, and private sectors. WP2 concentrates on studies associated with "Environment and Energy". WP3 concentrates on research about "Bio-Resources and Biodiversity". WP4 concentrates on "Disaster Prevention and Risk Reduction".

### ***WP1: Program Headquarters***

Dr. Taro Sonobe presented the WP1 report, highlighting its outstanding achievements, key challenges, and constraints:

#### **1) JASTIP Symposium**

The symposium served as a significant platform for fostering collaboration and knowledge exchange between Japan and ASEAN researchers and institutions. It provides opportunities for Japanese and ASEAN researchers to meet and interact with various researchers from different disciplines, nationalities and experiences as well as from non-academic stakeholders.

#### **2) JASTIP-Net**

This network facilitated interdisciplinary research and collaboration, contributing to a robust partnership across the ASEAN region, by:

- a) Initiating New Research Collaboration: Facilitated new interdisciplinary research collaborations aligned with JASTIP goals, including compiling research proposals for other competitive funding sources.
- b) Community Expansion for STI Coordination: Enhanced and expanded the community of STI coordinators to promote multi-sectoral and multidisciplinary cooperation.
- c) Leading STI Coordination: Advanced coordination activities at institutional, national, and regional levels to address societal challenges in ASEAN and Japan.

- d) Facilitating Policy-Science Dialogues: Enabled discussions between scientists, researchers, and policymakers to integrate scientific findings into SDG strategy formation at national and regional levels.

### **3) STI Coordination (New Japan-ASEAN Project: JAIF)**

The new initiative under the Japan-ASEAN Integration Fund (JAIF) demonstrated the commitment to advancing Science, Technology, and Innovation (STI) coordination between Japan and ASEAN nations.

Outstanding Achievements of JASTIP-Net (WP1)

#### *1. Initiating Partnerships:*

Established key partnerships, including between Cambodia's Ministry of Industry, Science, Technology, and Innovation (MISTI) and Thailand's Ministry of Higher Education, Science, Research, and Innovation (MHESI), fostering regional STI collaboration.

#### *2. Capacity Development for Cambodia's STI Roadmap 2030:*

Supported the development of Cambodia's Science, Technology, and Innovation (STI) Roadmap 2030, underpinned by a Memorandum of Understanding (MOU) between MISTI and JASTIP.

#### *3. Implementation of Joint STI Coordination Projects:*

Advanced the implementation of collaborative projects such as the Toyota Foundation Initiative Program, driving STI coordination efforts across ASEAN and Japan.

### ***Human Capacity Development for STI Coordination***

1. Toyota Foundation Project on STI Coordination (2023–2025): A collaborative initiative involving Cambodia's MISTI, Thailand, and Japan to strengthen STI coordination through targeted capacity-building efforts.
2. Watanabe Memorial Foundation Project (2023–2024): A partnership with the Philippines and Malaysia aimed at enhancing STI coordination and fostering regional collaboration.
3. JAIF Project on Human Capacity Building for STI Coordination: Focused on developing human resources for STI coordination between ASEAN and Japan to address grand challenges and contribute to sustainable development.

### ***Major Challenges and Constraints***

#### **1. Academic Knowledge Transfer to Practical Knowledge Co-Creation:**

Bridging the gap between theoretical research and practical applications remains a significant challenge. Ensuring that academic outputs translate into actionable solutions require enhanced collaboration mechanisms. Emphasized the need for coordinators to adopt leadership, empathy, and collaborative skills. Key issues include: Sustaining passion and flexibility for self-training across disciplinary boundaries. 2) Promoting co-learning and collaboration among diverse stakeholders. 3) Proposed increasing the number of next-generation leaders skilled in STI coordination to connect platforms and enhance ASEAN-Japan collaboration.

## **2. Human Resource Development in STI Coordination:**

Developing skilled personnel to support STI coordination across ASEAN and Japan is critical for sustaining and expanding collaborative efforts. Emphasized the need for coordinators to adopt leadership, empathy, and collaborative skills. Key issues include: 1) Sustaining passion and flexibility for self-training across disciplinary boundaries. 2) Promoting co-learning and collaboration among diverse stakeholders. 3) Proposed increasing the number of next-generation leaders skilled in STI coordination to connect platforms and enhance ASEAN-Japan collaboration.

## **3. Networking Beyond JASTIP:**

Expanding networks beyond the JASTIP framework is essential to ensure broader and more inclusive partnerships that can address emerging challenges in the region.

### ***WP2: Environment and Energy***

Prof. Ohgaki Hideaki presented the WP2 report, highlighting key collaborations facilitated under JASTIP's initiatives. These include partnerships with the Main Satellite Lab at INC1, Thailand Science Park, and the National Science and Technology Development Agency (NSTDA). Significant milestones include the establishment of cooperative relationships with entities such as MTEC/ENTEC, NANOTEC, BIOTEC-Kyoto University, and NECTEC-Waseda University through e-Asia collaborations. Notably, a Memorandum of Understanding (MOU) between NSTDA and Kyoto University was signed on September 27, 2018, which led to the creation of the KMUTT-KU Double Degree Program in collaboration with NSTDA.

Key collaborative efforts also include:

- Joint research projects with JGSEE/KMUTT at Bangkhuntien Campus (SATREPS project).
- Expansion of research availability to nearby countries, such as Lao PDR in 2019.
- Collaborative projects with King Mongkut's Institute of Technology, Ladkrabang Nano Center (Photocatalysis project), which also involves industry partners.
- Based on the JASTIP collaborative research activities, WP2 members have established start-up companies.

- Support for the establishment of a Chemical Analysis Lab at NUOL's Faculty of Engineering.

Prof. Ohgaki also underscored the significant contributions in biomass utilization, photocatalytic studies, and rural electrification under WP2. These initiatives aim to enhance sustainable resource use, advance renewable energy technologies, and improve energy access in rural areas.

In terms of collaborative education, Prof. Ohgaki noted the Double Degree Program (DDP) at Universiti Malaya (UM) and Chulalongkorn University (master's course, initiated in 2015). UM has also led an international joint educational consortium supported by AUN/SEED-Net, involving NUOL, YTU, CTU, and UBD. He also emphasized that JASTIP-net collaboration research has covered whole ASEAN countries, including Timor Leste, and established strong networks between Japan-ASEAN and ASEAN-ASEAN researchers.

### ***WP3: Bio-Resources and Biodiversity***

Prof. Kamitakahara Hiroshi presented the WP3 activities, focusing on core research conducted by the Biodiversity and Bioresources Groups in collaboration with institutions such as GSA-Kyoto and BRIN.

Biodiversity Group: Research under this group emphasized bioprospecting and implementation studies in Southeast Asia. Key projects include:

- Extracting antibacterial and antiviral substances from Rubiaceae and pteridophyte plants.
- Modifying artemisinin, an anti-malarial compound, using endophytic fungi derived from *Artemisia* plants.
- Applying stable isotope analysis in wildlife environmental forensics to protect CITES-listed species, contributing to the conservation of endangered flora and fauna.

Bioresources Group: The Bioresources Group, in collaboration with RISH-Kyoto and BRIN, concentrated on utilizing tropical plant resources for sustainable applications. Key achievements include:

- Developing highly durable, low-cost housing and novel wood composites from tropical plant materials.
- Characterizing and converting tropical plant resources into functional materials for diverse applications.
- Employing tropical microbes for the bioremediation of textile dye effluents, addressing environmental pollution.
- Conducting studies on the biology and management of wood-attacking insects that have significant global economic impacts.

Prof. Hiroshi also highlighted a successful societal implementation of research by Prof. Dr. Enos Tangke Arung from Mulawarman University. One of the notable achievements is the commercialization of honey produced by stingless bees. This honey is now being sold in Japan, demonstrating the successful application of research for both local and international markets. These initiatives reflect WP3's commitment to advancing sustainable resource utilization and environmental conservation through innovative research and regional collaboration.

#### ***WP4: Disaster Prevention and Risk Reduction***

Prof. Sumi presented on the WP4 theme, focusing on strategies for coping with trans- boundary disasters in the ASEAN region, such as tsunamis, floods, droughts, and haze. The key points of the presentation included:

- **Strengthening Partnerships:** Prof. Sumi emphasized the importance of following up and strengthening the existing partnerships and collaborations established during the first phase of the program. This would ensure continuity and sustainability in addressing disaster management challenges.
- **Regional Workshops and Dialogues:** To address these trans-boundary issues, the program has organized regional workshops on specific disaster-related topics. These workshops serve as platforms for dialogue and knowledge exchange, where participants can learn best practices and share solutions for mitigating and responding to such disasters.
- **Exchange of Researchers:** A significant focus has been placed on the exchange of researchers, particularly young and early-career researchers, to promote collaboration among ASEAN institutions. This exchange helps build long-term partnerships and enhances the capacity of ASEAN countries to manage and respond to trans-boundary disasters.

Through these efforts, WP4 aims to foster regional cooperation and develop practical solutions for disaster resilience across the ASEAN region.

Additionally, Prof. Sumi also highlighted the key outcomes of WP4's efforts to address trans-boundary disasters and enhance regional collaboration. These included:

- **Networking among ASEAN and Japan:** The program successfully fostered strong networks between ASEAN countries and Japan, facilitating collaborative research and disaster risk reduction (DRR) initiatives.
- **Core DRR Hubs:** Three core Disaster Risk Reduction (DRR) hubs were established:
  - MJIT-UTM (Malaysia-Japan International Institute of Technology – University of Technology Malaysia)
  - TLU (Thuy Loi University)
  - ISU (Isabela State University)

- Collaborative Research Initiatives: The hubs worked together on various research initiatives, including the IO-CCA-DRRM project by ISU and TLU, and JASTIP-Net groups focused on issues like haze and water and health security (WHS).
- Knowledge Base on DRR: A shared knowledge base was developed to address common DRR challenges, particularly in areas like WHS, Integrated Flood and Sediment Management, and Transboundary Issues.
- High-Impact Publications: Collaborative research resulted in high-impact papers and joint publications, advancing the field of disaster management.
- Human Resources Development: Notable educational initiatives included the Master of Disaster Management program at MJIIT-DPPC, Ph.D. and Master's students at KU, and the UNESCO-IHP TCs under WENDI.

Key Recommendations for the next steps:

- Sharing Good Practices: It is essential to continue sharing good practices across ASEAN to strengthen regional disaster resilience.
- New Paradigm Coordination: The next phase should focus on a new paradigm that coordinates efforts across three key areas:
  - Flood (Climate) Resilience
  - Water Resources Management
  - Ecosystem Management

Acknowledgements: Prof. Sumi extended his thanks to the collaborating institutions, including Malaysia-Japan International Institute of Technology (MJIIT), University of Technology Malaysia (UTM), Thuy Loi University (TLU), Isabela State University (ISU), and other partners. Special thanks were given to Dr. Shohei Matsuura for his kind support.

## Panel discussion

Topic 1. Achievements of STI collaboration promoted by JASTIP

Topic 2. Role of researchers on STI policy making

*MC: Prof. Kono Yasuyuki*

Prof. Kono highlighted JASTIP's significant achievements in focusing on research related to energy and environment, bioresources, biodiversity, and disaster prevention. These areas were seen as natural priorities, given the expertise of JASTIP researchers. While these accomplishments are noteworthy, they were considered foundational and expected outcomes of the program.

A key success of JASTIP was its ability to enhance research networking and establish new initiatives through JASTIP-Net. Prof. Kono pointed to collaborations, such as those between MISTI in Cambodia and MHESI in Thailand, as successful examples of catalyzing partnerships. This networking function is a point of pride for JASTIP, which has effectively fostered interdisciplinary cooperation.

Another achievement was increasing JASTIP's visibility among governments and intergovernmental agencies, particularly within ASEAN and Japan. While there has been considerable recognition within Japan, Prof. Kono acknowledged that there is room for further global visibility and impact.

On the financial side, Prof. Kono noted that about 20% of JASTIP's overall budget was allocated to JASTIP-Net, which proved highly productive and effective. However, managing such funding schemes posed challenges, requiring extensive negotiations to secure the necessary support.

Prof. Kono also reflected on the program's limited success in fostering academia-private sector collaboration. While some progress was made, it was insufficient, largely due to the need for stronger partnerships with specialized agencies to effectively bridge academia and industry. Moving forward, JASTIP should focus on engaging with these agencies to enhance cooperation.

Despite the strong network of researchers established by JASTIP, Prof. Kono acknowledged that the program has not yet matured into a large-scale institutional collaboration framework, such as a major STI collaboration institute between ASEAN and Japan. Instead, the strategy has been to pursue smaller, incremental steps or "bypass ways" to make progress. While this approach has been effective to some extent, Prof. Kono questioned whether it is the optimal strategy and expressed openness to feedback on how to refine JASTIP's direction.

In conclusion, JASTIP has been successful in networking, catalyzing partnerships, and increasing visibility. However, it faces challenges in scaling collaborations, academia-private sector engagement, and creating a sustainable, large-scale institutional model. Future strategies may need to focus on fostering specialized partnerships and taking incremental steps to overcome these constraints and enhance JASTIP's impact.

### **WP1: Dr. Worajit Setthapun, CMRU and PMU-B, Thailand**

#### *Dr. Worajit's Reflections on STI Coordination and Policy Engagement*

Dr. Worajit began by sharing her multifaceted roles as a university lecturer, researcher, and coordinator in various capacities. She works at Chiang Mai Rajabhat University, helps the Funding Agency for Global Partnership to connect Thai researchers with international partners, and serves as an expert on ASEAN talent mobility (ATM), focusing on capacity building across multiple

platforms. Drawing from these experiences, she offered insights into JASTIP's WP1 achievements and broader STI coordination challenges.

She congratulated JASTIP for its remarkable work in building extensive networks, publishing significant research, and conducting training courses for senior, mid-career, and young researchers. Dr. Worajit suggested that mapping these achievements, such as workshops and stakeholder linkages, could further highlight JASTIP's contributions. She emphasized the importance of addressing coordination challenges, particularly at various levels—regional, national, and institutional. While many coordination efforts in Thailand are government-driven, she noted gaps in subject-based and cross-sectoral coordination that need to be addressed.

Dr. Worajit advocated for a larger, more integrated approach to STI coordination to tackle grand challenges in Asia. She suggested forming multi-country, multi-sectoral coordination teams that include ASEAN member states, Japan, and private sector stakeholders. Capacity building should extend beyond researchers to include government and private sector representatives. Coordinators need to develop skills in stakeholder analysis, cross-cultural communication, and understanding regional and global perspectives.

On capacity building, she highlighted the need for better career recognition for coordinators, who often lack visibility and incentives compared to researchers or managers. Training programs should also target younger generations to sustain a pipeline of skilled coordinators. Dr. Worajit proposed initiatives like shadowing programs and recognition systems for coordinators to address these challenges.

### ***The Role of Researchers in STI Policymaking***

Dr. Worajit underscored the importance of researchers supporting policymakers by providing evidence-based inputs. Researchers should not lead policymaking but rather supply data, policy briefs, and coordination support. To effectively contribute, researchers must understand the policy mindset, including policymakers' constraints and priorities. Communicating in concise, non-academic styles, such as elevator pitches and brief policy documents, is essential for engaging policymakers.

She identified challenges in trust-building and matchmaking between researchers and policymakers, especially for young researchers. Creating channels for collaboration and expanding networks beyond the usual participants are crucial steps. Dr. Worajit also suggested recognizing policy briefs as equivalent to scientific publications to incentivize researchers to engage in policy-relevant work.

Dr. Worajit concluded by reflecting on her own journey from academia to policy engagement, emphasizing the importance of bridging these two worlds. She encouraged researchers to contribute to policymaking while balancing their academic responsibilities, advocating for institutional support and recognition to make such contributions sustainable.

**WP2: Dr. Lily Eurwilaichitr, NSTDA, Thailand**

Dr. Lily from NSTDA, Thailand, presented her insights on the achievements and challenges of JASTIP. She emphasized the significant capacity-building efforts facilitated through double-degree programs, workshops, research exchanges, and networking collaborations. She highlighted JASTIP-Net as a valuable platform for connecting researchers across ASEAN and Japan. Additionally, she mentioned successful initiatives such as Toyota Foundation projects and collaborations with ASEAN COSTI, which serve as models for engaging policymakers and fostering regional research-policy connections.

Dr. Lily identified the challenge of sustaining JASTIP impact, noting the need to ensure its continued relevance and effectiveness in supporting societal advancements. She proposed scaling up the platform to strengthen its role as a regional hub for STI collaboration and capacity building. She also suggested establishing dedicated STI coordinators to bridge the gap between researchers and policymakers, with a focus on creating clear career paths and incentives to attract talent to this role.

On the role of research in STI policymaking, Dr. Lily stressed the importance of transdisciplinary research to address ASEAN's complex issues. She advocated for regular dialogues between researchers and policymakers to enhance visibility and collaboration. To drive societal impact, she proposed a shift in research metrics, moving away from traditional academic KPIs, such as paper publications, to measure the number of people benefiting from research outcomes. She cited NSTDA's example, where KPIs now focus on the societal and economic impact of research, targeting millions of beneficiaries annually.

Dr. Lily concluded by emphasizing that continuity is key to sustaining JASTIP's contributions to the scientific community. She expressed her gratitude to JASTIP for fostering collaboration between ASEAN and Japan and highlighted its role in advancing regional STI capacity building.

**WP3: Prof. Dr. Subyakto, BRIN, Indonesia**

Dr. Subyakto from BRIN (National Research and Innovation Agency of Indonesia) presented his thoughts on the topic, expressing his nervousness as a pure scientist addressing these complex issues. He began by introducing BRIN, which was established in 2021 through the merger of four major research institutes: LAPAN (Indonesian National Institute of Aeronautics and Space), LIPI (Indonesian Institute of Sciences), BPPT (Agency for the Assessment and Application of Technology), and BATAN (National Nuclear Energy Agency). BRIN is a large and integrated research agency, playing a significant role in shaping Indonesia's research landscape.

Dr. Subyakto explained that BRIN is directly under the President of Indonesia and employs around 15,000 people, including 6,000 researchers, engineers, and technicians. The agency's facilities are

spread across Indonesia, from Sumatra to Papua, with infrastructure supporting various research activities in these regions. He highlighted BRIN's three primary functions: providing policy recommendations, acting as a funding agency, and executing research through its 12 research organizations and 85 research centers.

Regarding the achievements of WP3, Dr. Subyakto shared that one of the key accomplishments has been successful collaboration with industries. For instance, BRIN collaborated with three industries to establish 11 companies with a production capacity of 60,000 food packaging units per month. Despite the challenges posed by the pandemic, WP3 has made significant strides in industrial collaboration.

The major challenges faced by WP3 include slowing down of activities due to the pandemic and difficulties in improving research quality and capacity building. Dr. Subyakto noted the importance of improving coordination between principal investigators and their internal teams. In large research institutes like BRIN, smooth coordination is often a challenge, and ensuring effective collaboration among all members is crucial for the success of research initiatives.

Dr. Subyakto also touched on the role of researchers in STI (Science, Technology, and Innovation) policymaking. He pointed out that in Indonesia, the global interaction index ranked 85th in 2020, and 54th in 2021. He highlighted areas where researchers could contribute to government policies, such as food, energy, and water self-sufficiency, human resource development, science and technology education, health, and environmental sustainability. These are key areas where researchers can play a significant role by providing evidence-based insights through policy briefs to inform policymaking.

In conclusion, Dr. Subyakto emphasized that although the research budget in Indonesia is relatively small, representing only 0.3% of the GDP, researchers play an essential role in policy development. By producing high-quality research that addresses real problems, researchers can significantly contribute to the country's development. He also stressed the importance of good communication between researchers and policymakers to ensure that research findings effectively inform government decisions. Dr. Subyakto concluded his presentation by thanking the audience and expressing his appreciation for the opportunity to share BRIN's efforts and perspectives on STI policymaking.

#### **WP4: Prof. Ts. Dr. Ali Selamat, UTM, Malaysia**

Dr. Ali from Malaysia Japan International Institute of Technology (MJIIT) presented his insights, beginning by introducing MJIIT, which has been in operation since 2011. Dr. Ali emphasized that establishing a single university in a culturally diverse region like ASEAN posed challenges, such as differences in educational approaches. To overcome these obstacles, MJIIT adopted a new approach, focusing on engineering-based education in Malaysia. This approach led to the

establishment of the institute and the collaboration with 10 Japanese universities, growing to 30 Japanese universities currently under the Japanese University Consortium.

Dr. Ali highlighted that MJIT's development has been supported by JICA (Japan International Cooperation Agency), allowing the institution to continue fostering industry linkages and further educational activities within ASEAN. This partnership with JICA has enabled MJIT to develop a successful education model that aligns with industry needs and addresses the region's challenges.

Dr. Ali then discussed the collaboration between MJIT and JASTIP (Japan-ASEAN Science, Technology, and Innovation Platform). He noted that JASTIP has supported MJIT's thematic areas, such as disaster risk management, which has been an important focus. MJIT has acted as a hub for collaboration with ASEAN, inviting Japanese experts to contribute and facilitating student attachments. The disaster management projects, in particular, have been vital in addressing natural disasters common in ASEAN countries, with MJIT collaborating with institutions such as Vietnam and others in the region.

One of the significant activities discussed was the 2018 JASTIP Symposium on disaster risk management. The symposium gathered experts from across ASEAN and Japan to share insights on disaster risk management and its implications for the region. Additionally, in 2019, MJIT focused on debris problems in Kota Kinabalu, Malaysia, particularly related to landslides caused by earthquakes. MJIT worked with local universities and communities to develop solutions for disaster preparedness and response in these areas.

Dr. Ali also shared the joint project with the state government of Selangor in Malaysia on disaster risk management. This project involved collaboration with Tokyo University and the City of Sendai in Japan to plan for disaster preparedness, particularly concerning landslides in the region. He explained that a recent landslide in 2023 tragically resulted in the loss of 30 lives, underscoring the importance of disaster preparedness.

Despite these important contributions, Dr. Ali acknowledged that MJIT's media visibility is still limited. He stressed the need for better communication and visibility, especially in engaging young people. He suggested that STI (Science, Technology, and Innovation) coordinators and ambassadors could play a crucial role in spreading awareness about these issues, sharing best practices, and inspiring the younger generation to participate in science and technology outreach activities.

In conclusion, Dr. Ali emphasized the importance of increasing media visibility and building a stronger narrative to engage the public, especially youth, in science and technology. He expressed his belief that such efforts would help foster a greater understanding of the importance of disaster risk management and other critical issues facing ASEAN. Dr. Ali closed his presentation by thanking the audience for their attention and reaffirming the importance of youth engagement in science and technology outreach.

## **Panel Discussions**

### ***Dr. Worajit:***

Dr. Worajit addressed the coordination mechanisms in STI institutions, noting that the goals of coordination depend on the institution's mandate. For universities, it may focus on dual-degree programs, while ministries may handle international affairs coordination. She emphasized the need for coordination at the government level to drive ASEAN-level initiatives. However, she also suggested that collaboration with academia, researchers, and the private sector is necessary to maximize resources. She highlighted the importance of scaling up initiatives, particularly in Japan, to address grand challenges.

### ***Dr. Lily:***

Dr. Lily raised the concept of "systematic change beyond networking," which was discussed earlier. She pointed out that JASTIP's work has contributed to systematic change by integrating various research disciplines and bringing in STI coordinators to help apply scientific efforts in the real world. However, sustaining this change is challenging, especially in light of global issues such as AI and climate change. She emphasized the need for continued evolution and adaptation, leveraging new tools to improve the effectiveness of collaborations.

### ***Dr Subyakto:***

Subyakto discussed the coordination between researchers and the private sector. He noted that various agencies, including JASTIP, promote collaboration through business meetings where researchers present their work to industries. He mentioned the importance of such communication for fostering stronger relationships. However, he also pointed out issues with coordination, such as miscommunication between principal investigators, citing an example from Indonesia where a principal investigator's passing disrupted a project. He stressed that communication is the key to ensuring successful collaboration.

### ***Dr. Ali:***

Dr. Ali shared the importance of MJIT's focus on both education and research. He explained that MJIT works to develop human resources while connecting industries, particularly Japanese industries in Malaysia. He mentioned MJIT's strategic collaborations with organizations like JETRO to expand connections with Japanese industries and academic institutions. He highlighted the creation of a disaster prevention laboratory in collaboration with Japan and expressed hope for further collaboration between Malaysian and Japanese institutions, focusing on both research and education.

### ***Prof Kono:***

Prof Kono emphasized the importance of mutual understanding between researchers and policymakers. He argued that policymakers should better understand the research mindset, and

researchers should recognize the need for policy solutions to be quickly actionable. Prof Kono suggested that bringing policymakers into real-world settings—where they can see the practical implications of research—would help them better understand the challenges researchers face. He also pointed out that research is not always successful and that understanding why it fails is key to future improvements. Both researchers and policymakers must adapt to address urgent societal needs.

### **Closing by Dr Sonobe**

To conclude, Dr. Sonobe emphasized the following points in the ASEAN-Japan project initiation and proposal development:

1. Importance of communication and coordination: Dr. Sonobe stressed that human activity, assisted by various tools, is essential for creating value. Effective communication and coordination are key to achieving success in projects, especially in international collaborations.
2. Perspective on Japan's role in ASEAN: He posed the question of who is looking at Japan when Japan engages in activities within ASEAN. The goal is to promote collaboration between Japan and ASEAN, ensuring that both sides benefit from these interactions.
3. Role of joint partnerships: Dr. Sonobe highlighted the significance of joint partnerships among various stakeholders. By connecting specific companies and fostering interconnectivity between Japan and ASEAN, these partnerships can enable co-creation. The emphasis is on fostering talent and promoting career development as crucial elements for long-term success.
4. Growth-oriented mindset: He echoed Dr. Lily's sentiment about the importance of maintaining a growth-oriented mindset. He encouraged individuals to avoid stagnation and continuously seek personal growth. This can be achieved through collaboration with ASEAN institutions, providing concrete examples through STI coordination and fostering collaboration via JASTIP projects.
5. Next generation of leaders: Dr. Sonobe pointed out that even those in their middle ages can still grow and develop into future leaders. This highlights the importance of continuous learning and development throughout one's career, particularly in the context of fostering leadership in ASEAN-Japan collaboration.

## **2) Report: Japan-ASEAN Science, Technology and Innovation Platform (JASTIP) Wrap-up Workshop**

### ***Opening Remarks***

Dr. Nuki Agya Utama opened the session by emphasizing the critical role of research and technology in shaping the ASEAN region's future. He highlighted that Southeast Asia's economic growth over the next 20 years would depend on robust and informed strategies, making it essential to prioritize research and technology over unguided progress. Dr. Nuki acknowledged that some countries in the region face challenges in keeping updated with recent advancements.

He introduced the workshop agenda and objectives, which aim to showcase JASTIP's efforts in promoting interdisciplinary and transdisciplinary collaboration across various sectors over the past years. He commended JASTIP for serving as an exemplary platform for coordinating the informed collaboration in science, technology, and innovation between Japan and ASEAN.

### ***Presentation by Prof. Eiji Nawata***

Prof. Nawata addressed the future of JASTIP, noting that the program is set to terminate in March 2025, with support from JST ending concurrently. He expressed a strong hope for the continuation of JASTIP's activities and shared ongoing discussions about future ASEAN- Japan STI collaborations.

Prof. Nawata outlined the challenges faced due to budget constraints, which have limited the program's scope. Despite these challenges, JASTIP has successfully fostered multidisciplinary coordination among experts and stakeholders. He concluded by expressing optimism for productive discussions during the workshop, which would guide future initiatives in science, technology, and innovation.

### ***Presentation by Dr. Taro Sonobe***

Dr. Taro Sonobe expressed gratitude for the collaboration and support provided by the Center for Southeast Asian Studies of Kyoto University, acknowledging its vital role in hosting the workshop. He highlighted the importance of common topics such as STI (Science, Technology, and Innovation) coordination and human resource development programs and encouraged participants to actively engage in the discussions to enhance mutual understanding.

Key Points from Dr. Sonobe's Presentation:

- Background of STI Coordination:

The concept of STI Coordination was formed to address challenges that cannot be solved by a single academic discipline. It emphasizes the importance of collaboration between

academia and industry, supported by robust policies and strong communication with local communities, to implement solutions effectively.

- **STI Coordination and Implementation:**

STI Coordination serves as a bridge among sectors, fostering partnerships between academia, industries, government, and local communities. It promotes initiatives to address global challenges, such as climate change, biodiversity conservation, and natural disaster through multidisciplinary collaboration.

- **Human Capacity Development:**

Developing the next generation of leaders in STI Coordination is a key focus. Dr. Sonobe emphasized the need to foster passion and cross-disciplinary understanding, highlighting the importance of person-to-person networks for collaborative problem-solving.

### ***Objectives of the Workshop***

1. To achieve a common understanding of STI coordination.
2. To enhance Japan-ASEAN cooperation in advancing human capacity development programs of STI Coordination.
3. To refine concepts of STI coordination and strengthen existing network platforms.

Dr. Sonobe also stressed the importance of increasing awareness about STI coordination through training programs and other capacity-building opportunities. He concluded by introducing the workshop's structure, which includes expert commentary and discussion sessions to guide the day's agenda.

### ***Expert Commentary and Discussion***

1. **Mr. Shigeru Aoyogi (Director-General, Pale Bleu Dot Foundation)**

Mr. Shigeru Aoyogi underscored the importance of coordination in linking independent thoughts and ideas to achieve meaningful impacts, particularly in the context of rapid technological advancements like artificial intelligence (AI). He noted that the relationship between AI and humanity is becoming increasingly integral, as AI continues to influence various aspects of human life and work. However, he stressed that to foster an inclusive and informed society, a more humanistic approach is necessary. This approach should blend emotional intelligence (EQ) with AI systems while ensuring human oversight to guide and manage AI's growth. Mr. Aoyogi emphasized the importance of embedding comprehensive national policies, such as training for teachers and higher education administrators, to better integrate AI into

society. He shared six key questions to provoke thought and encourage discussions on the role of AI:

- How do you use AI in daily life?
- What do you think humans can do that AI cannot?
- What are the common fears about AI?
- What opportunities do AI bring to humanity?
- How can ethical frameworks align AI systems with human values?
- How can AI be used to solve global issues?

He pointed out that while AI presents significant opportunities to address global challenges like climate change and poverty, it also raises questions about how humanity can keep pace with its rapid development. Mr. Aoyogi highlighted UNESCO's competency framework, which focuses on core values such as integrity, respect for diversity, innovation, knowledge sharing, and professionalism. He linked this framework to the need for transformative skills, emotional intelligence, and human goal-setting to complement AI's systematic capabilities.

Additionally, Mr. Aoyogi discussed the importance of fostering coordination through strong willpower, effective communication, and team-building skills. He stressed that AI systems should be guided by transformative human skills, emotional intelligence, and literacy to align with the Sustainable Development Goals (SDGs) and beyond. He concluded by advocating for education that cultivates respect for others and collaborative working skills, ensuring that human values remain central to technological advancements.

## 2. Mr. Suwanchaoi Lohawatanakul (President, Thailand Productivity Institute)

Mr. Suwanchaoi Lohawatanakul shared Thailand's efforts to enhance the productivity and sustainability of Small and Medium Enterprises (SMEs) through targeted strategies and initiatives. He explained that SMEs in Thailand are categorized into three groups: business successors, new entrepreneurs, and existing businesses. Each group is provided with tailored support, including startup guidance for new entrepreneurs and digital transformation strategies for existing SMEs.

He acknowledged a significant bottleneck in Thailand's SME ecosystem, which is the lack of specialists in AI and sustainability. This shortage is a critical issue as these two areas become increasingly important for business success. To address this, the Thai government has prioritized redefining productivity, focusing on sustainability and quality as essential components despite the high costs associated with these transitions.

Mr. Lohawatanakul highlighted the Institute's mission to strengthen innovation and build trust in Thai products and services. He outlined the framework developed by the Institute, which includes strategic management, customer and marketing management, digital transformation, sustainability,

and operational excellence. He emphasized the importance of collaboration among professors, business owners, and consultants to develop practical solutions and foster a networked SME ecosystem.

He stressed that productivity improvement is not solely about training but also about fostering connections and collaboration within SME networks. For example, the Institute has introduced programs to instill a productivity mindset among younger generations by collaborating with schools and universities to incorporate these principles into education.

In his concluding remarks, Mr. Lohawatanakul emphasized the need for long-term frameworks and management systems to improve SME productivity and sustainability. He reiterated the importance of building human capital through partnerships with academics and international experts, ensuring that Thailand remains competitive in the global economy.

### 3. Dr. Hul Seingheng (Chairman, ASEAN COSTI/ MISTI, Cambodia)

Dr. Hul Seingheng emphasized the critical role of science, technology, and innovation (STI) coordination in addressing regional challenges and fostering human capital development. He highlighted Cambodia's efforts to transition into a knowledge-based economy by investing in STEM education, digital services, and clean energy. He noted that building an adaptable workforce with both technical skills and innovative capabilities is essential for Cambodia's development.

Dr. Seingheng elaborated on Cambodia's policy frameworks, including the National Research Agenda 2025, Cambodia STI Roadmap 2030, and Cambodia Digital Economy and Skill Development Roadmap. These frameworks aim to integrate innovation and technology into the education and training system while addressing critical gaps in STEM education. He stressed the importance of creating training curriculums that emphasize innovation management, technology entrepreneurship, and practical industry-relevant skills to prepare workers for the demands of a global economy.

He acknowledged the challenges Cambodia faces, particularly in providing equitable access to quality education and training in rural areas. Limited resources and access to high-skill STI training remain significant barriers. However, Dr. Seingheng emphasized that regional collaboration, especially with Japan, offers opportunities to address these challenges. He highlighted Japan's expertise in fostering interdisciplinary science and technology networks as a model for ASEAN countries.

Dr. Seingheng also emphasized the need for ASEAN countries to collaborate with Japan on joint research programs, exchange initiatives, and innovation policies. He stressed the importance of public-private partnerships in bridging the gap between research and practical applications. These partnerships can help ensure that STI policies and programs have a real-world impact, fostering entrepreneurship and supporting emerging industries.

He concluded by advocating for increased investment in STI education and training, the development of comprehensive national strategies aligned with global trends, and the integration of social sciences and humanities into STI coordination. He emphasized that Cambodia remains committed to building an innovation ecosystem, nurturing the next generation of STI leaders, and strengthening collaboration across ASEAN and with Japan to address regional and global challenges effectively.

*Question and Answer sessions First Question from Dr. Hul Seingheng:*

The future of AI is undeniably important. However, there are concerns about its uneven benefits. For instance, while one group may benefit greatly from AI, other groups, such as certain communities or private sector entities, might face disruptions. How can we ensure inclusiveness in AI development and implementation so that all sectors of society can benefit from its advancements?

*Responses:*

1. Mr. Shigeru Aoyogi

Mr. Aoyogi acknowledged that the rapid pace of AI advancements presents challenges, particularly in integrating AI applications with diverse groups. He emphasized the need for human coordinators who can guide and oversee these developments to ensure inclusiveness. These coordinators should possess a deep understanding of what technology can achieve and what remains uniquely human. He stressed that the role of these coordinators is crucial in managing AI's societal impact effectively.

2. Dr. Nuki Agya Utama (*Additional Commentary*)

Dr. Nuki highlighted the significance of AI in optimizing processes within the energy sector. He pointed out that AI's efficiency surpasses human capabilities, especially in managing complex systems like the integration of fossil fuels with renewable energy sources. AI, he explained, can address the limitations of renewable energy, such as intermittency, and enhance the overall efficiency of energy systems.

3. Prof. Kano

Prof. Kano shared insights from a discussion with a Japanese entrepreneur who emphasized the importance of balancing intellectual and manual work. While AI is expected to disrupt many white-collar jobs, the entrepreneur noted that certain manual tasks, such as construction, remain critical. There is a shortage of skilled workers for such tasks, and training programs should aim to develop both intellectual and manual skills to address this gap.

4. Mr. Suwanchaoi Lohawatanakul

Mr. Lohawatanakul reflected on the growing integration of AI into industries and its potential impact on blue-collar jobs. He explained Thailand's efforts to develop an AI-powered connectivity master plan for its industries. Despite significant gaps in digital transformation, such as transitioning from Thailand 2.5 to Industry 4.0, the country continues to gather knowledge and insights from international specialists. Mr. Lohawatanakul stressed the importance of leveraging AI to enhance the competitiveness and knowledge of local industries while addressing the challenges of digital transformation.

5. Prof. Kano further elaborated on the need for balance between digital engagement and in-person interactions. Reflecting on lessons from the pandemic era, he noted that younger generations, accustomed to online or digital inputs, should also be encouraged to participate in face-to-face gatherings. These interactions, he argued, are vital for fostering a deeper connection to science and technology. He expressed concern that certain advanced scientific fields, such as quantum theories and genetics, have become abstract and disconnected from everyday human sensations. This disconnect makes it challenging for the general public, who fund such research, to relate to or appreciate its significance. To address this, Prof. Kano emphasized the importance of making science and technology more tangible and relevant to real-world issues. He concluded by reiterating the value of STI coordination in bridging this gap. This coordination can play a crucial role in bringing advanced scientific concepts closer to societal needs and fostering a better understanding among the public.

*Second Question from Mr. Lohawatanakul: "How ready are your SMEs in this AI era?"*

*Responses:*

1. Response from Prof. Ali Selamat (UTM/Malaysia)

Prof. Ali highlighted the country's ongoing efforts to prepare its SMEs for the AI era. Malaysia has undertaken global benchmarking, recognizing Singapore as a regional leader in AI due to its small-scale but advanced initiatives. In response, Malaysia is taking significant steps, such as the establishment of The National AI Office (NAIO), approved by the Cabinet on August 28, 2024. This office acts as the central authority to drive Malaysia's AI agenda. Universities in Malaysia have also been directed by the Ministry of Higher Education to integrate AI into their curriculums. For instance, faculties focusing on data centers and partnerships with companies like Microsoft have been established. Malaysia aims to reach schools, introducing foundational concepts like algorithms and mathematics to prepare the younger generation for an AI-driven economy. The speaker emphasized that AI is for everyone, and it is crucial to balance knowledge, skills, ethical considerations, and emotional intelligence to navigate this new economy effectively.

## 2. Response from Prof. Jeff Chen (NTU/Taiwan)

Prof. Chen provided insights into Taiwan's readiness for the AI era. The government and academia have recognized the importance of AI, investing heavily in related fields. However, challenges persist, especially in engaging the younger generation. While they are familiar with AI, their interest in becoming AI experts or delving deeply into mental and foundational aspects of technology is limited. The speaker, a scientist specializing in robotics and automation, emphasized that AI algorithms should be viewed as tools to solve specific problems. In Taiwan, factories and industries are encouraged to focus on practical issues and apply AI as a tool to enhance productivity. While AI excels in optimizing existing processes, the speaker noted its limitation in creating something entirely new. Taiwan is leveraging AI to accelerate development but acknowledges the importance of human creativity and innovation alongside technological advancements.

### *Wrap-up & General Discussion (Led by Dr Sonobe)*

Dr. Sonobe began the wrap-up session by emphasizing the importance of focusing not only on specific aspects but also on the broader issues that need to be addressed to achieve sustainable solutions. He highlighted the need to identify and resolve critical challenges that could impede progress. According to Dr. Sonobe, it is essential to focus on the necessary actions required to overcome these challenges and ultimately achieve the desired goals.

He also stressed the importance of defining the role of STI (Science, Technology, and Innovation) coordination, particularly in attracting a diverse range of generations. Dr. Sonobe acknowledged the challenge of engaging various groups, including younger, middle, and senior generations, as well as different regions. He emphasized that in order to make STI coordination more inclusive and effective, there must be innovative ideas and concepts that can appeal to a wide audience despite the inherent challenges.

Dr. Sonobe then pointed out that human resource development, which is critical for STI coordination, requires long-term investment to build a solid foundation. He underlined that this is not merely about transferring knowledge or technology but about creating and developing concepts collaboratively. He proposed that continuous improvement and active discussions should be part of this co-creative process, ensuring that the development of STI coordination is sustainable and adaptable over time.

He posed two key questions for further discussion:

1. How can STI coordination be made more attractive to the younger generation? Dr. Sonobe suggested that new academic approaches could be defined by emphasizing the value of STI coordination and creating an implementation process that resonates with

young people. He invited ideas and comments on how to make this field more engaging for future generations.

2. What existing academic disciplines should be integrated into STI coordination? He pointed out that STI coordination should not be confined to science and technology alone but should also harmonize with other fields. Dr. Sonobe sought input on how more practical academic disciplines, such as energy science or agriculture, could contribute to STI coordination and how these fields could be integrated into the broader academic and practical applications of STI.

*Responses:*

1) Dr Worajit

Dr. Worajit emphasized the importance of STI coordination, particularly from the perspective of the academic sector. She noted that while academic researchers are typically trained to dive deeply into specific topics, STI coordination operates on a much broader scale, such as in the context of ASEAN. In academic research, the focus is often on producing detailed insights within a narrow field, such as in a PhD program, where researchers rarely look at a wide range of interconnected issues. However, for STI coordination, the challenge is to provide solutions that benefit larger systems, like government policies or regional initiatives, and this requires a different approach.

She explained that while academics can support STI coordination, the real benefit lies in its application for policymakers and governments, who are tasked with shaping the broader direction. In terms of the academic contribution, Dr. Worajit emphasized that passion, knowledge, and communication are key factors for successful coordination. While academic researchers may possess deep knowledge, the passion and communication skills required to effectively collaborate with policymakers and other stakeholders may vary depending on one's career path or discipline. She highlighted the need for academic sectors to better equip themselves with skills in communication and understanding the world beyond academia, which can be crucial for fostering collaboration and generating impactful solutions.

Dr. Worajit suggested that in order to improve the academic sector's contribution to STI coordination, it would be valuable to create core curricula or lessons that focus on developing passion for solving global issues, communication skills, and a broader understanding of how academic research can be applied to real-world problems. She also noted that while some aspects of STI coordination are more suited to policymakers or funding agencies, the academic sector plays an important role in supporting these efforts by providing the necessary knowledge and insights rooted in their expertise.

Furthermore, Dr. Worajit shared her insights from her experience working in government coordination. She emphasized that STI coordination must start with government leadership, as the role of government coordinators is to bring together various stakeholders, including research institutions, the private sector, and end users. She described PMU-B's approach to building the Agile team. The Agile team focused on identify and bring together teams that can develop solutions for specific challenges such as AI for healthcare. This approach requires agility and collaboration across sectors, with government funding playing a crucial role in enabling these efforts. By establishing funding mechanisms that support the formation of teams or consortia, governments can facilitate the collaboration of diverse stakeholders and ensure the successful development and implementation of STI solutions.

In closing, Dr. Worajit stressed that effective STI coordination requires the formation of specialized teams or units that can bring together the right people, from researchers to industry players, and ensure that their efforts are aligned with policy goals. She suggested that if funding agencies could support the formation of such agile teams by providing non- research grant, they could work together on large, ambitious challenges, driving innovation and impactful outcomes.

## 2) Ms. Eriko Kishida

Ms. Eriko reflected on the discussion by sharing her experiences at the Japan Science and Technology Agency (JST) and how they approach STI coordination. She highlighted that within JST, there is a program aimed at creating program managers, where personnel with research backgrounds, research support experience, and other related expertise to learn how to manage and operate R&D projects, including applying research achievements to society.

Ms. Eriko also mentioned JST's Asian Talent Mobility program, which focuses on collaboration and talent exchange across Asia. She pointed out that this program could be leveraged to further the goals of STI coordination, especially as it involves training and fostering cooperation across different countries. She sees this as a potential avenue to strengthen STI coordination on a broader scale, connecting researchers and innovators across borders.

Additionally, Ms. Eriko raised the idea of integrating STI coordination into education, particularly for younger generations. She noted that while many young people have an interest in science, they tend to gravitate towards research rather than the coordination aspects of STI. To address this, she suggested that it would be helpful to have role models who can showcase the value of being an STI coordinator and the passion required for this field. By highlighting these role models, young people might gain a better understanding of the opportunities in STI coordination and how they can contribute to the field.

Ms. Eriko emphasized the importance of creating an environment where young people can actively engage with and experience the atmosphere of STI coordination. She suggested that

even involving young students in discussions or activities related to STI could make the field more exciting and approachable for them, potentially sparking their interest in becoming future coordinators.

3) Assoc. Prof. Choltis

Dr. Choltis from the AUN raised important points regarding the ownership and extraction of knowledge in STI coordination. He emphasized that the organizations involved in STI coordination, such as universities, are repositories of knowledge in this field. The key challenge, according to the representative, is how to effectively extract and utilize this knowledge. He distinguished between two main aspects of STI coordination: the science of coordination and the art and craft of coordination. The science of coordination can be found in management consultancy and public policy subjects, where the focus is on managing networks of stakeholders and facilitating collaboration. On the other hand, the art and craft of coordination are embodied in the practical work of specific sections within organizations, such as university-industry linkages, community service, and global engagement sections. These areas are where the more nuanced, hands-on skills of STI coordination are developed.

Dr. Choltis pointed out that the first step is to locate where this knowledge is situated within organizations, particularly in universities and related sectors. Once identified, the challenge becomes how to extract and leverage this knowledge effectively for broader STI coordination efforts.

Regarding how to make STI coordination more attractive, Dr. Choltis suggested integrating it into university curricula. He acknowledged that universities already offer a range of subjects such as AI competency, human rights, financial literacy, and data science literacy. STI coordination would need to be positioned as a unique skill set, competing with other educational priorities. He proposed framing STI coordination as a soft skill—one that is essential for every graduate. By positioning it as a fundamental skill that enhances employability and the ability to navigate complex global challenges, STI coordination could become more attractive to students. This would ensure that graduates are equipped not only with technical knowledge but also with the ability to coordinate across disciplines and sectors effectively.

4) Dr. Hul Seingheng

Dr. Hul Seingheng highlighted the significant progress being made in the policy context related to STI coordination and talent development. He mentioned that a key document will be launched at the end of the month, which will lay the foundation for a pilot program focused on talent development in STI. This initiative reflects a strong commitment to fostering talent in the field of science, technology, and innovation (STI).

Dr. Seingheng further emphasized that the federal government is actively prioritizing talent development within STI. As an example, he pointed out that the theme for the 4th Science, Technology, and Innovation Day next year in 2025, as approved by the Minister, will be "Growing Talent for STI". This focus on talent development is a clear indication of the government's dedication to nurturing the next generation of experts and leaders in STI, with a specific emphasis on ensuring that the necessary human resources are in place to drive innovation and development across the region.

- 5) Chisato Saito asked Mr. Suwanchaoi Lohawatanakul a question regarding the differences in training coordination skills for individuals in different sectors. She asked, "What is the main difference in training business professionals, university students, governmental officers, and international agency representatives in coordination skills? Specifically, how does the approach to training differ when it comes to each of these sectors?"

In response to Chisato Saito's question about the differences in training coordination skills for various sectors, Mr. Suwanchaoi Lohawatanakul shared his approach to training in different contexts:

- For students, Mr. Lohawatanakul emphasized a more interactive and participatory approach. He prepares by asking engaging questions and encouraging students to take part in activities. By doing so, he fosters an environment where students feel motivated to learn, open their minds, and actively engage in the learning process. The focus is on creating a space where students are encouraged to think critically and participate willingly.
  - For business professionals, the approach is more objective-oriented. Mr. Lohawatanakul explained that before training any organization, it is essential to understand the specific objectives and criteria for the training. Once the goals are clear, the training is designed with specific targets to ensure the desired outcomes are achieved. This approach is more structured and goal-driven compared to the student training method.
  - For SMEs, the key challenge is gaining trust and belief. Mr. Lohawatanakul stressed that even if one is highly knowledgeable, it is crucial to build trust with SMEs first. He emphasized that training for SMEs involves understanding their needs, approaching them with empathy, and creating a relationship of trust. Once they believe in the trainer's expertise, the training process becomes more effective. This method takes time and requires a personal approach to ensure the message is received and understood correctly.
- 6) Dr Sonobe added the critical role of communication in the context of STI coordination and the development of effective social skills. He reflected on the idea that communication is not only about information transfer but also about understanding the uniqueness of

expertise and building connections across different domains. He noted that while information can be shared through reading lists or collaborative efforts, effective communication also requires compassion and an understanding of the context in which people operate. For example, recognizing that someone may be busy and finding ways to communicate at a more suitable time or in the future is important for fostering better engagement. Dr. Sonobe suggested that in today's world, we should consider how to transcend conventional methods of communication. This involves thinking about how to challenge traditional communication practices and improve the way we engage with others, particularly when coordinating across sectors. He highlighted the need for innovation in communication and social skills, stressing that these are key to successful collaboration and the advancement of STI coordination.

- 7) Prof. Sumi added comments on STI not only on coordination but also in management, where he gave examples: the key challenges in management, particularly in the areas of climate resilience, water safety, energy transition, and ecosystem management, will require different approaches to conflict management, with an emphasis on enhancing mutual benefits among stakeholders. In the context of STI coordination, Prof. Sumi pointed out the importance of involving various stakeholders and attracting the younger generation to the field. He emphasized that coordination is not merely about coordination but also management such as managing players and involves multiple aspects that need to be discussed and understood. Finally, Prof. Sumi made an important distinction one the 'management' between the roles of middle-class and senior-class coordinators. He suggested that while both types of coordinators play vital roles, their responsibilities and approaches may differ. Senior coordinators, in particular, bring valuable expertise and experience to the table, and the challenge lies in connecting this experience with younger or less experienced coordinators to foster a more cohesive and effective team.

#### *Prof. Kono's Wrap-Up Remarks*

Prof. Kono concluded the workshop by summarizing three key points from the discussions:

- 1) Support for STI Coordination: There was robust agreement from today's discussion that STI coordination is essential, and there is a strong need for it moving forward. The importance of coordination in addressing complex challenges was universally acknowledged.
- 2) Influence of AI: Prof. Kono emphasized that AI is having a profound impact, not only on technology but on society as a whole. He stressed that any future plans or strategies must take into account the rapid advancements in AI, as it plays a crucial role in shaping the future of innovation.

- 3) Changing Mechanisms and Emerging Players: Prof. Kono highlighted that innovation mechanisms are evolving, with new players and forces emerging in the landscape. This shift is significant, and it is important not to neglect these changes. The conventional mechanisms of innovation are being challenged, and this has direct implications for STI coordination.

In light of these points, Prof. Kono called for the need to innovate approaches and methodologies, particularly in how we train and prepare the younger generation to engage with these changes and contribute to STI coordination.

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