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प्रौद्योगिकी मंत्रालय
MINISTRY OF
SCIENCE AND
TECHNOLOGY
सत्यमेव जयते



KEMENTERIAN SAINS,
TEKNOLOGI DAN INOVASI
MINISTRY OF SCIENCE, TECHNOLOGY AND INNOVATION



AIGIF 2023

ASEAN-India Grassroots Innovation Forum
Langkawi, Malaysia

**Langkawi International Convention Centre
(LICC)
Langkawi, Malaysia
28 - 30 November 2023**

MERAKYATKAN SAINS
MENGINSANKAN TEKNOLOGI
MENGARUSPERDANAKAN INOVASI



**MALAYSIA
MADANI**

**LANGKAWI
MALAYSIA**



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1.0 EXECUTIVE SUMMARY

The 4th ASEAN-India Grassroots Innovation Forum (AIGIF) was successfully held from 28th to 30th November 2023, at Langkawi Island, Malaysia, hosted by Ministry of Science, Technology, and Innovation (MOSTI) of Malaysia and implemented by Malaysia Foundation Innovation (YIM) as a part of annual collaboration between the ASEAN Committee on Science, Technology, and Innovation (COSTI); Department of Science & Technology (DST), Government of India; National Innovation Foundation (NIF) – India. The programme was the 4th edition and has previously been conducted in Indonesia (Jakarta) (2018), Philippines (Davao) (2019) and Cambodia (Phnom Penh) in 2022.

The main objective of this programme is to foster innovation and collaboration between ASEAN Member States (AMS) and Republic of India in addressing societal challenges through deployment of Science and Technology. These three (3) days programme encompassed a range of activities focusing on grassroots and student creativity driven innovations, including seminars, forums, exhibitions, competitions and visitation.

On 28th November 2023, the 4th ASEAN-India Grassroots Innovation Forum (AIGIF) was launched by The Honourable Tuan Chang Lih Kang, Minister of Science, Technology and Innovation (MOSTI), Malaysia in the physical presence of H.E. Mr. B.N. Reddy High Commissioner of the Republic of India to Malaysia and virtual presence of H.E. Professor Abhay Karandikar, Secretary to Government of India, Department of Science and Technology (DST) and H.E. Ir. Awang Haji Mohammad Nazri bin Haji Mohammad Yusof Permanent Secretary of the Ministry of Transport and Infocommunications, Brunei Darussalam (COSTI Chairman) amongst others. Other dignitaries witnessing the occasion were Dr. Sebastian Kwan, Science Officer, ASEAN Secretariat, H.E. Dato' Ts. Dr. Hj. Aminuddin Hassim, General Secretary, MOSTI, Malaysia; H.E. Madam Ruziah Shafei, Deputy Secretary General (Planning and Cultivation of Science), MOSTI, Malaysia; H.E. Dr. Sulakshana Jain, Director and Scientist, International Bilateral Cooperation, Department of Science and Technology (DST), India and H.E. Dr. Sharmila Mohamed Salleh, Chief Executive Officer, Yayasan Inovasi Malaysia (YIM). Adding a touch of competition, the Grassroots Innovation Competition and Student Innovation Competition focused on a total of eighty-nine (89) participants from ASEAN countries and India, reflecting a vast diversity of social innovations and the underlying problems being solved by them in a given nation. Simultaneously, a total of 87 grassroots innovations was exhibited by innovators from all participating countries, turning Langkawi into



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a bustling hub with more than five thousand (5000) visitors exploring and engaging. The visitors got an opportunity to have access to local heroes from 11 nations making a difference through their social innovations. It is an experience like none other connecting with innovators and their real stories of overcoming challenges and creating solutions.

The 4th AIGIF transcends mere significance; and instead it represents a remarkable convergence of all participating grassroots ecosystem stakeholders, including innovators (also the students), academia, governments, corporate sectors, non-governmental organizations and communities from all ASEAN countries and India. This event has achieved substantial goals, focusing on fostering social innovation, strengthening governance in grassroots innovation, exchanging best practices, showcasing grassroots innovation at an international level and establishing a pivotal platform for innovators and social entrepreneurs.

This programme stands out not just for its problem-solving approach but for its profound emphasis on community-driven initiatives and collaborative solutions. It vividly showcases the transformative impact of grassroots innovation, addressing community issues, and laying the foundation for a resilient local economy. Far from being a passing event, it signifies the dawn of a more innovative and sustainable future for the ASEAN-India region. Get ready to witness a paradigm shift and embrace the promising possibilities ahead.

After a rich interaction between grassroots and student innovators of three days, the closing ceremony of 4th AIGIF was held in the presence of Honourable Tuan Chang Lih Kang, Minister of Science, Technology, and Innovation (MOSTI) of Malaysia; H.E. Dr. Zurina binti Moktar, Head of Science and Technology Division ASEAN Secretariat (ASEC); and H.E. Dr. Arvind Chandrakant Ranade, Director of the National Innovation Foundation (NIF) India. The participants are now ready to replicate their learning from three days to peers in their respective countries so that the best they observed in another nation can be available to their home country.



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4TH AIGIF 2023
ASEAN – INDIA GRASSROOTS INNOVATION FORUM
Langkawi, Malaysia
28 – 30 November 2023



ACTIVITIES AIGIF 2023	
Innovation Seminar	Innovation Competitions (Grassroots and Students)
Innovation Forum	Innovation Exhibition
Government-to-Government Meeting	Grassroots Innovation Project Visitation

NUMBER OF PARTICIPANTS



Out of 171 delegates who were invited, 146 (85%) attended, contributed to the success of the 4th AIGIF 2023

Breaking new ground after the earlier editions of AIGIF,
MALAYSIA, FOR THE FIRST TIME IN THIS EVENT, MANAGED TO SECURE PARTICIPATION FROM ALL ASEAN COUNTRIES FOR THE 4TH AIGIF 2023

2.0 OPENING CEREMONY

The opening ceremony for the ASEAN-India Grassroots Innovation Forum (AIGIF) 2023 was held on 28th November 2023 at the Grand Ballroom, Langkawi International Convention Centre (LICC), Langkawi. A total of four hundred and seventy-eight (478) attendees graced the ceremony, consisting of three (3) ASEC representatives, forty-six (46) grassroots innovators, forty-three (43) student innovators and professionals from both the public and private sectors, representing eleven (11) diverse countries: Brunei, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam and India.



H.E. Professor Abhay Karandikar, Secretary of the Department of Science and Technology (DST), Government of India delivering his opening speech during the opening ceremony

First and foremost, H.E. Professor Abhay Karandikar, Secretary of the Department of Science and Technology (DST), Government of India formally welcomed delegates from India and all ASEAN Member States (AMS). Delivering the opening speech, he said *“Year on year, the annual ASEAN India Grassroots Innovation Forum, bears testimony to the fact that countries can learn from experiences of each other, and Science, Technology and Innovation (STI), particularly the social innovations are increasingly becoming the driver of relationship between countries, both multilaterally and bilaterally.”*

In his perspective, it is imperative to capitalise on this forum as a strategic platform for exploring more ways to bolster collaboration between ASEAN-India within the cooperation under the ASEAN-India Comprehensive Strategic Partnership. The present moment necessitates to define “cooperation” in unprecedented ways. Deliberation on potentialities such as Joint Product Development, opportunities for Cross-Border Technology Licensing, utilisation of available infrastructure in one country to address deficiencies in another and the facilitation of dissemination and social diffusion are crucial steps to elevate the prominence of cutting-edge technologies across the broader continent or region.



H.E. Mr. B.N. Reddy High Commissioner of the Republic of India to Malaysia delivering his greeting speech during the opening ceremony

Subsequently, H.E. Mr. B.N. Reddy High Commissioner of the Republic of India to Malaysia in his greeting speech, “*The ASEAN India Grassroots Innovation Forum has, indeed, emerged as an important platform in a short span of time in bringing together the Grassroots as well as Student Innovators, S&T experts and professionals from India and the ASEAN Member States in devising innovative solutions in improving lives and bringing positive difference to people. It is becoming a role model for development of grassroots innovation ecosystem. Held in the beautiful island of Langkawi, which has acquired global recognition for Langkawi International Maritime and Airspace (LIMA) Exhibition, the fourth edition of this Forum would add a new feather in the growing success of India-ASEAN engagement in S&T.*”

Moreover, he emphasised the significance of the Enhanced Strategic Partnership between India and Malaysia, particularly in the field of Science and Technology (S&T). During the Joint Commission Meeting co-chaired by the Foreign Ministers of both countries on 7th November 2023 in New Delhi, there was a collective agreement to further enhance bilateral collaboration in Science, Technology, and Innovation. Recognising the vast potential, especially in the space and nuclear sectors, nano-technologies, semiconductor and electronics, capacity building, and training, efforts are underway to reactivate the Joint Committee on S&T. This committee will specifically deliberate on these identified aspects. He expressed gratitude to The Honourable Tuan Chang Lih Kang Minister of Science, Technology and Innovation (MOSTI) of Malaysia for his personal support in advancing these collaborative initiatives.



H.E. Ir. Awang Haji Mohammad Nazri bin Haji Mohammad Yusof Permanent Secretary of the Ministry of Transport and Infocommunications, Brunei Darussalam (COSTI Chairman) delivering his welcoming speech during the opening ceremony

Then, the ceremony marked by the opening speech delivered by of H.E. Ir. Awang Haji Mohammad Nazri bin Haji Mohammad Yusof Permanent Secretary of the Ministry of Transport and Infocommunications, Brunei Darussalam (COSTI Chairman), set a positive and collaborative tone for the COSTI. The Chairman's words reflected a shared commitment to leveraging STI for the collective benefit of ASEAN Member States (AMS) and India fostering a dynamic and innovative regional landscape.



The Honourable Tuan Chang Lih Kang Minister of Science, Technology and Innovation (MOSTI) of Malaysia delivering the keynote address during the opening ceremony.

The keynote address was delivered by The Honourable Tuan Chang Lih Kang Minister of Science, Technology, and Innovation (MOSTI) of Malaysia. He emphasised that the contribution of grassroots innovations with strong focus on socio-technical transition using IoT, AI, sensors, and digitalisation, will further nurtures transformation and entailed deep regional integration including better realisation of economic of scale, collective effort and efficiency and sustainable formation of regional innovation systems for ASEAN Member Countries. He pointed out the importance of AMS sustaining their dedication to social innovations, working together to guarantee a future that surpasses the present for every individual. He also greatly values India's 'Act East' policy, which has strengthened diplomatic ties with Malaysia and other AMS through a shared focus on Science, Technology, and Innovation (STI).

The opening ceremony of the 4th ASEAN-India Grassroots Innovation Forum (AIGIF) 2023 concluded with a vote of thanks and was officiated by The Honourable Tuan Chang Lih Kang, Minister of Science, Technology, and Innovation (MOSTI) of Malaysia.



From left to right:

- Dr. Sebastian Kwan, Science Officer, ASEAN Secretariat
- H.E. Dr. Sulakshana Jain, Director and Scientist of International Bilateral Cooperation, The Department of Science and Technology (DST) India
- H.E. Mr. B.N. Reddy, High Commissioner of the Republic of India to Malaysia
- The Honourable Tuan Chang Lih Kang Minister of Science, Technology and Innovation (MOSTI) of Malaysia
- H.E. Dato' Ts. Dr. Hj. Aminuddin Hassim, General Secretary, Ministry of Science, technology and Innovation (MOSTI) of Malaysia
- H.E. Madam Ruziah Shafei, Deputy Secretary General (Planning and Cultivation of Science), Ministry of Science, technology and Innovation (MOSTI) of Malaysia
- H.E. Dr. Sharmila Mohamed Salleh, Chief Executive Officer, Yayasan Inovasi Malaysia (YIM)



Delegates from ASEAN Member States and India standing during the National Anthem of Malaysia “Negaraku”, National Anthem of India “Jana Gana Mana” and the ASEAN Anthem “The ASEAN Way”



In large numbers, participants from ASEAN Member States and India have assembled to collectively witness the 4th ASEAN-India Grassroots Innovation Forum (AIGIF) 2023

3.0 INDIAN DELEGATION CALLED ON TO THE HIGH COMMISSIONER OF INDIA TO MALAYSIA



On the first day, the delegation from India primarily comprising of grassroots and student innovators called on to Shri B. Nagabhushana Reddy, the High Commissioner of India to Malaysia at Langkawi. Dr Arvind C Ranade, Director, NIF made a presentation on various activities of the Institution and Dr Sulakshana Jain, DST shared a brief overview of 4th AIGIF. In an interaction spanning more than an hour, grassroots innovators and student innovators introduced themselves, shared brief information about their background and also explained the genesis and a gist of their innovative technology and recognition achieved so far for the same. In few cases, the innovators who have carried their technology along with them, had given a demonstration of it and also articulated how it can be a useful social innovation worth disseminating further in Malaysia and the broader ASEAN region. He had shared valuable insights and perspectives with each innovator on their respective technology and conveyed a positive outlook on how each of these could be delved further so as to arrive at a potential future in Malaysia and the broader ASEAN region. He shared his experience with the innovators, guiding them on what next, what different they can do with their innovations for improved growth prospects. His Excellency appreciated the delegation for their innovative work & wished success.

4.0 INNOVATION SEMINAR

The 4th ASEAN-India Grassroots Innovation Forum (AIGIF) 2023 concluded successfully, marking three (3) days of fostering collaboration, ideation, and knowledge exchange among stakeholders, industry experts, academia, innovators, and students. Among the diverse array of programs, the Innovation Seminar took center stage on the 28th and 29th November 2023, featuring three distinguished speakers from India and Malaysia and was attended by an audience of one hundred and twenty-nine (129). The seminar, a pivotal component of AIGIF 2023, aimed to unlock valuable insights, share inspiring stories, and impart practical knowledge, emphasising cross-border collaboration and the exchange of ideas.

SEMINAR A

28th November 2023



**DR.
SULAKSHANA JAIN**

Topic:

**ASEAN India Science,
Technology and
Innovation
Cooperation**

SEMINAR B

29th November 2023



**DR.
NITIN MAURYA**

Topic:

**Pioneering the *In Situ*
Incubation Model for
Rural Grassroots
Innovation Based
Entrepreneurship**

SEMINAR C

30th November 2023



**PROF. DATO' DR.
AILEEN TAN**

Topic:

**Oyster Farming: Way
Forward towards
Sustainable Food
Security**



Speaker 1 (Seminar A):

DR. SULAKSHANA JAIN

*Director & Scientist E, International Bilateral Cooperation,
Department of Science & Technology (DST),
Ministry of Science & Technology, Government of India*

Topic:

ASEAN India Science, Technology, and Innovation Cooperation

Dr. Sulakshana Jain was the opening speaker at the Innovation Seminar and she initiated her talk by exploring the fascinating journey of the ASEAN-India S&T Development Fund (AISTDF), highlighting its substantial growth since its establishment in 2006. The announcement of the fund during the 6th ASEAN-India Summit in Singapore was a turning point, with further enhancements in budget allocation at the 2015 Summit in Malaysia. Managed by the Science and Engineering Research Board (SERB) in New Delhi, the application for AISTDF remains valid until 31st March 2025.

Delving into the initiatives under AISTDF, Dr. Sulakshana Jain showcased the commitment to nurturing collaboration between ASEAN researchers and Indian institutions. Notable programs include Research Training Fellowships, Collaborative R&D Projects, and the ASEAN-India Innovation Platform (AIIP). Research Training Fellowships (RTF) for ASEAN professionals were highlighted, outlining eligibility criteria and comprehensive support for expenses during a research internship in India.



Dr. Sulakshana Jain delivering presentations on the topic ASEAN India Science, Technology and Innovation Cooperation

The significance of ASEAN-India Collaborative R&D Projects was emphasised, with Dr. Sulakshana Jain stressing financial support for international mobility, salaries, and essential resources, encouraging collaborative projects between Indian and ASEAN researchers. The ASEAN-India Innovation Platform (AIIP) was elaborated upon, covering the development of a Technology/Innovation Databank, networking of incubation centers, and the organisation of events such as Start-up festivals and thematic workshops. Links to Social Innovations Databank, Research Innovations Databank, and Product Innovations Databank demonstrated the platform's dedication to knowledge sharing.

The discussion extended to the essential components of the Grassroots Innovation System, highlighting the roles of technology scouting, research and development, intellectual property management, business development, and the critical aspect of social dissemination and commercialisation. Concluding her presentation, Dr. Sulakshana Jain emphasised the achievements of the ASEAN India Grassroots Innovation Platform, including the Innovation Bank and the mapping of innovations from India for ASEAN Member States. She showcased successful initiatives in Indonesia, the Philippines, and Cambodia, underlining exposure visits of innovators from ASEAN states to India.

Dr. Sulakshana Jain's presentation provided a comprehensive understanding of ASEAN-India collaboration in funding and supporting innovators. Her insights into AISTDF schemes and AIIP's role in promoting cross-border innovation set a robust foundation for subsequent discussions in the seminar.



Speaker 2 (Seminar B):

DR. NITIN MAURYA

Scientist & Head Dissemination and Social Diffusion Dept.
National Innovation Foundation (NIF)
An Autonomous Institute of Department of Science and Technology,
Government of India

Topic:

Pioneering the *In Situ* Incubation Model for Rural Grassroots Innovation Based Entrepreneurship

Dr. Nitin Maurya, took the spotlight as the second speaker presenting at the 4th AIGIF 2023's Innovation Seminar, stepping forward with a mission to inspire and uplift rural communities through innovative initiatives. He began by sharing on grassroots innovations, highlighting their power to generate fresh ideas, create new products, and enhance existing ones. The key message resonated with inclusivity, aiming to bridge gaps in social, financial, technological, and spatial aspects.

One (1) standout concept was the in-situ model of innovation incubation, which involves taking innovation support directly to where it's needed most-right where the innovators are. This proactive approach involves understanding their needs on-site and providing the necessary support directly to innovators' doorsteps.

The heart of the talk focused on the positive social impact of grassroots innovations. Dr. Nitin Maurya emphasised how these innovations contribute to increased income, more livelihood opportunities, and improved efficiency. Moreover, they play a crucial role in reducing drudgery, eliminating child labor, and ensuring better access to information, products, and services, ultimately leading to enhanced health and sanitation, especially in India.

Dr. Nitin Maurya then simplified the types of grassroots innovations into three categories: simple, incremental, and unique. This categorisation showcased the diverse nature of these innovations, highlighting their versatility in addressing various challenges.



Dr. Nitin Maurya delivering presentations on the topic Pioneering the *In Situ* Incubation Model for Rural Grassroots Innovation Based Entrepreneurship

The session became even more engaging with success stories of grassroots innovations in India. He shared the inspiring journey of Mitticool Abroad, a grassroots innovation in non-electric refrigeration. The groundbreaking moment came when the Bureau of Indian Standards (BIS) recognised and granted the first-ever license to Mitticool Clay Creation, a grassroots innovation-based enterprise.

The spotlight shifted to the impactful Semi-Automatic Sanitary Napkin Making Machine. Dr. Nitin Maurya demonstrated how this machine has become a game-changer to communities by creating sustainable micro-enterprises and generating livelihoods for women in rural areas. The machine's success story unfolded, contributing not only to rural socio-economic development but also to creating employment opportunities on a significant scale.

His session had showcased how supporting local ideas and businesses can bring about positive change and transformative impact, not just in rural communities but on a broader scale.



Speaker 3 (Seminar C):

PROF. DATO' DR. AILEEN TAN

Director

Centre for Marine and Coastal Studies (CEMACS)
Universiti Sains Malaysia (USM)

Topic:

Oyster Farming: Way Forward towards Sustainable Food Security Based Entrepreneurship

Prof. Dato' Dr. Aileen Tan from Malaysia concluded the Innovation Seminar session on the second day of the 4th AIGIF 2023. Her focus was on Grassroots & Social Innovation and Sustainable Development, with a specific emphasis on Oyster Farming in Malaysia as a crucial step towards achieving sustainable food security.

The session began with an insightful overview of the changing dynamics of our oceans—past, present, and future. Prof. Dato' Dr. Aileen delved into the increasing possibilities of aquaculture, projecting it as a solution surpassing traditional capture fisheries. The Blue Economy concept, promoting inclusive growth and sustainable fisheries, emerged as a key theme, emphasising the need for marine conservation.



Prof. Dato' Dr. Aileen sharing her experiences on Oyster Farming



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The Power of Blue Food was explored, highlighting the significance of aquatic systems in addressing hunger and poverty. Prof. Dato' Dr. Aileen underscored the nutritional value of fish products, their potential for sustainable production, and the environmental advantages of aquaculture over terrestrial sources.

The session transitioned to the importance of "blue foods" for sustainable and healthy diets, focusing on the health benefits of fish, especially the omega-3 fatty acids found in seafood. The discussion addressed challenges such as overfishing, contamination of coastal areas, and the impacts of climate change, emphasising the role of sustainable aquaculture in alleviating these pressures.

Prof. Dato' Dr. Aileen then laid out the way forward towards sustainable food security through non-feed aquaculture. She outlined the significance of diverse aquatic resources and their link to improved nutrition, health, and reduced risks of non-communicable diseases. Diversification to non-feed aquaculture was proposed to address increasing demands for food production, environmental protection, and long-term profitability.

Focus was shifted to Oyster Farming in Malaysia, presenting it as an advantageous venture. The high market demand for Malaysian oysters, the simplicity of oyster farming technology, and its lower labour costs compared to other aquaculture practices were highlighted. The success stories from the Centre for Marine and Coastal Studies (CEMACS) at Universiti Sains Malaysia (USM) were shared, illustrating how oyster farming positively impacts local communities, highlighting achievements, integration of local creativity, awareness of Sustainable Development Goals (SDGs), and income opportunities for the community.

In a nutshell, the Oyster Farming Programme emerged as an impactful initiative, perfectly aligning with Malaysia's global commitments. Prof. Dato' Dr. Aileen Tan's session provided a clear insight into the pivotal role of oyster farming. It goes beyond just providing food, actively contributing to ensuring sustainable food security, boosting economic growth, and fostering community development. This, in turn, strengthens Malaysia's path towards a more prosperous and resilient future. However, dedication and collaboration from all stakeholders are crucial in the journey of educating and instigating change.

5.0 INNOVATION COMPETITION

The Innovation Competition at the forum is a major highlight, providing a platform for creative minds to shine. It comprises of two (2) categories:

- (i) Grassroots Innovation Competition
- (ii) Student Innovation Competition

The presence of judges from Brunei, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam, and India added a rich and diverse perspective to the evaluation process. The judges' expertise in various fields ensures a well-rounded assessment of the innovations presented.

5.1 Grassroots Innovation Competition

A total of forty-six (46) innovators from eleven (11) countries competed in the Grassroots Innovation Competition, which was evaluated by a panel of the seven (7) jury members listed below:

NO	NAME	COUNTRY
1	Dr. Anil Kothari	India
2	Mr. Vathna Suy	Cambodia
3	Dr. Nguyen Thi Hanh	Vietnam
4	Ms. Fairul Azida Shahabudin	Malaysia
5	Mr. Anousone Khamhoung	Lao PDR
6	Ms. Diane Dugan	Philippines
7	Dr. Nay Zar Aung	Myanmar

The participants by country were as follows:

NO	COUNTRY	INNOVATION	PARTICIPANTS
1	Brunei	Ruby Pump Version 1.0	Mr. Nur Muhammad Habibullah bin Haji Mohd Yussof
		Techsim	Ms. Nursheila binti Ziziumiza
		Atmosphiere	Mr. Wan Mohammad Fared bin Haji Zaini
		Bloodkad	Mr. Agus Muslim
2	Cambodia	Eco-Sculpture	Mr. Kouch Sengthai
		Boran Care	Ms. Nhim Sorida
		Solar Dryer Dome	Ms. Soukhim Im
		Ashi Banana Paper Products	Ms. Rathakanha Sour
		Loom to Life	Ms. Soeurn Sokpheaktra
3	India	Belt System Dryer	Mr. Suren Baruah
		Silkworm Breeding Net Folding Machine	Mr. Sunil Shinde
		HRMN-99: Low-Chilling Apple Variety	Mr. Hariman Sharma
		Tractor Mounted Orchard Sprayer	Mr. Rajendra Chhabulal Jadhav
		Weft Insertion Device	Mr. Dipak Bharali
		Onion Harvester, Manual/Bullock Operated Onion Seed Drill	Mr. Shrawan Kumar Bajya
		Pepper Thresher (Black Pepper Decorning Machine)	Mr. Binoy Sebastian
		Automatic Cup Hanger Making Machine	Mr. Mohana Kumar Gopalan Achari Saraswathy
		Sola Wood Sheet Making Machine (Sheet Peeling)	Mr. Dipak Sardar
4	Indonesia	Hydro Power	Mr. Dily Indra Nugraha
5	Lao PDR	Lao Cotton Products	Ms. Chanthaphone Leuang
		3D Recycle Art Products	Ms. Malavong Maniseng
		Golden Net Shawl	Ms. Chitphavan Vichitvongsa Yamada
		Kaiymuan Order Management System	Mr. Billy Vongphachan

		Jungle Vine Beg	Ms. Sengsouk Sylvong
6	Malaysia	OKU Mate	Dr. Mohamad Sobri bin Hamid
		Filtration System ith Oil and Water Separator	Mr. Mohd Amir bin Tukiman
		Robot Farming Kambing (ROFA-K)	Mr. Abu Bakar bin Adnan
		Compact Semi-auto/ Manual Sate Skewering Machine	Mr. Rusdi bin Mohd Rifin
		Multiple Aids for Paediatric Rehabilitation (MAIDs 5)	Ms. Hasnetty Zuria binti Mohamed Hatta
7	Myanmar	Glnkgo Herbal Oil Compress Ball	Ms. Nan Lao Ngin
		Nipa Related Innovated Products	Ms. Hay Mar San
		Thone Pan Hla Cookies (Three Good Nutritional Benefits)	Ms. Nu Nan Dar Lin
		The Quality Products of Roselle Plants for Community Development Project	Ms. Ei Poe Phyu
		Na Rain Bamboo Forest Maintenance and Plantation	Ms. Nan Khin Win
8	Philippines	Community Biomass Gasifier. Agri Waste to Energy tech to power Rural Agri Machineries	Mr. Josemar B. Climaco
		The Ark of Agriculture (ARKA)	Engr. Neil Clyde Kho
		Jardin Hybrid Loom - Langkit Weaving	Mr. Jardin B. Samad
9	Singapore	Enhanced Spent Grains (or EnSpent Grains)	Mr. Kong Qi Heng
		Nala MammoReady™	Dr. Eric Aria Fernandez
10	Thailand	PAC FREENERGY- Heat Recovery for Hot Water System	Mr. Sakkarin Morsor
		Lemon Me Farm	Mr. Chatchai Deesawat
		Agri Service	Ms. Issaree Nittayasomboon
11	Vietnam	NaviAI PrezMate	Mr. Cao Gia Bao
		Aris	Mr. Tran Tuan Viet Ms. Tran Minh Ngoc Nguyen Minh Phuong

The winners were as follows:

NO.	COUNTRY	INNOVATION	WINNER	AWARD
1	India	Weft Insertion Device	Mr. Dipak Bharali	First Place Certificate with Cash Prize MYR1,500.00
2	Thailand	Lemon Me Farm	Mr. Chatchai Deesawat	Second Place Certificate with Cash Prize MYR1,000.00
3	India	Silkworm Breeding Net Folding Machine	Mr. Sunil Shinde	Third Place Certificate with Cash Prize MYR500.00
	Malaysia	Compact Semi-auto/Manual Sate Skewering Machine	Mr. Rusdi bin Mohd Rifin	
4	Cambodia	Ashi Banana Paper Products	Ms. Rathakanha Sour	Promising Certificate with Cash Prize MYR300.00
5	Brunei	Bloodkad	Mr. Agus Muslim	
6	Singapore	Nala MammoReady™	Dr. Eric Aria Fernandez	
7	Myanmar	Thone Pan Hla Cookies (Three Good Nutritional Benefits)	Ms. Nu Nan Dar Lin	
8	Indonesia	Hydro Power	Mr. Dily Indra Nugraha	
9	Philippines	The Ark of Agriculture (ARKA)	Engr. Neil Clyde Kho	
10	Lao PDR	3D Recycle Art Products	Ms. Malavong Maniseng	
11	Vietnam	NaviAI PrezMate	Mr. Cao Gia Bao	

Note: The cash prize of MYR5,900.00 is provided by Yayasan Inovasi Malaysia (YIM)



Jury member from seven (7) countries reviewing and asking questions to participants during the Grassroots Innovation Competition

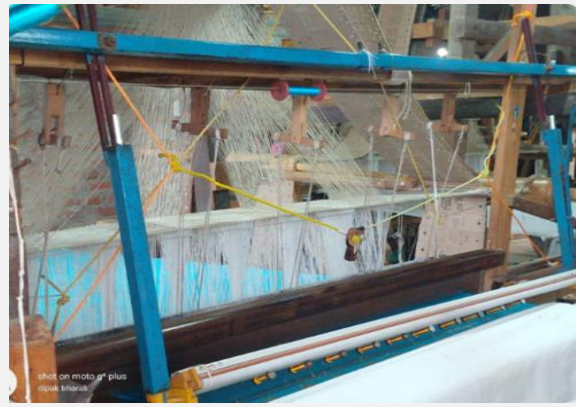


Group photograph of all award winners from Grassroots Innovation Competition

5.2 Highlights of Top Three (3) Winners (Grassroots Innovation Competition)



Mr. Dipak Bharali

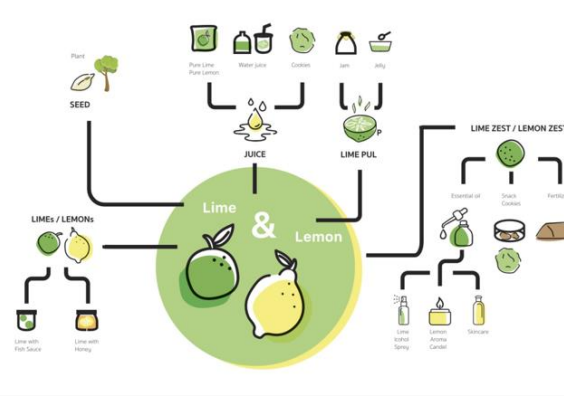


Weft Insertion Device
(India)

Deepak Bharali hails from Napara in Sualkuchi in Kamrup district of Assam, overcame early challenges to become a successful entrepreneur in the muga silk industry. The design-making attachment for Jacquard looms streamlines the process with a base frame, magnet-bearing shaft, and special bobbins using magnetic clamping. This innovative device automates warp thread selection and lifting, enhancing efficiency in handloom fabric weaving. Unlike manual threading, magnet-sensitive bobbins ensure synchronised weft thread crossing for design creation. A prior art search indicates no comparable device in handloom fabric weaving, highlighting the uniqueness of this attachment.



Mr. Chatchai Deesawat



Lemon Me Farm (Thailand)

During the rainy season, limes are economically priced at an average of one (1) baht per piece in Thailand. However, as the dry season sets in, the cost surges to eight (8) baht per piece. This fluctuation in prices has motivated the innovator to actively engage in supporting local agriculture with a dual objective: ensuring a stable income for farmers and mitigating their expenses. Le Me Farm manifests its innovation through the adoption of lime fertilizer as an alternative to hazardous and costly chemical fertilizers. By embracing this eco-friendly approach, Le Me Farm not only contributes to a safer farming environment but also maintains reasonable procurement costs throughout the year. Central to the strategy is the meticulous control of costs in the farm's processed products. Innovative methods have been developed for the preservation and utilisation of freshly squeezed lime juice, maximizing the utility of each lime. Beyond the simple act of juicing, the lime juice is refrigerated and stored for year-round sales. Moreover, the multifaceted use of lime peels has been explored, transforming them into snacks infused with additional herbs for throat relief. Recognising the valuable resource in lime peels, a portion is also converted into fertilizer, offering a sustainable and beneficial solution for nourishing lime trees. Additionally, volatile oil from lime zest is extracted, enhancing the versatility and value derived from each lime in the holistic approach to farming and product development.



Silkworm Breeding Net Folding Machine (India)

Mr. Sunil Shinde



Compact Semi-auto/ Manual Sate Skewering Machine (Malaysia)

Mr. Rusdi bin Mohd Rifin

- i. Silkworm Breeding Net Folding Machine is a square pipe structure consisting of three (3) parts: the main frame, platform and pressing lever. The three-pipe platform is placed on the ground, and a bunch of nets are placed over it. After the nets are properly placed, the platform is lifted upwards towards the main frame as it is hinged at it. Once the platform is vertical, it is locked in position, and the nets are pressed downward by a horizontal pipe moved through the pressing lever. Once the nets are fully pressed, the lever is locked in position. Due to the pressing and locking, ropes can be easily tied around the nets. After properly tying the net, the locks are released and nets removed.
- ii. Sate stands out as one of Malaysia's beloved cuisines, readily available from small hawkers, restaurants, and even featured in in-flight menus. Traditionally, the meat is manually inserted onto bamboo sticks, a process that is labour-intensive. However, due to a shortage of manpower and a desire for a more uniform product with enhanced safety measures, the idea for a semi-automatic machine was conceived. With this innovation, approximately ten (10) pieces of Sate can be produced in a minute, ensuring a consistent and standardised size based on the meat holding jig design. This not only streamlines production but also minimizes the risk of injuries, making the entire process safer.

5.3 Student Innovation Competition

A total of forty-three (43) innovators from nine (9) countries competed in the Student Innovation Competition, which was evaluated by a panel of the five (5) jury members listed below:

NO	NAME	COUNTRY
1	Dr. Sarvesh Kumar Singh	India
2	Dr. Namchai Chewawiwat	Thailand
3	Mr. Mayank Gurnani	Singapore
4	Dr. Amirul Afif Muhamat	Malaysia
5	Mr. Ting Lik Wei	Brunei

The participants by country were as follows:

NO	COUNTRY	INNOVATION	PARTICIPANTS
1	Brunei	TenangMind	Mr. Chen Po-Hua Mr. Soon Kai Li Ms. Liow Jia Chian Eugene Chok Zhi Yang
2	Cambodia	Smart House	Ms. Teng Soksereyvathna
		Vertical Agriculture	Ms. Chou Pichthida
		Agrimation System	Mr. Heng Monyream
		Smart Water Bottle	Ms. Hout Davy
		Agrimate	Mr. Rith Nyvisalsnuk
3	India	Pairing Socks for the Visually Impaired	Navya Sharma
		Rolling Bed (for critically ill patients)	Kalia Daksh
		Parkinson Lathi	Aggarwal Aanchal
		LPG Cylinder Cap Opener	Sayen Akhtar Shaikh
		Anti Milk Spilling Utensil	Halder Himangi
		Umbrella	Supriya Mishra
		Tapioca Uprooter Machine	Subramanian Vachinathan
		A Spotting Pole with an Eye	Lavanya Kuttum
		Auto Sterilizer for Biometric Machines	Swastika Kath
4	Lao PDR	Kaibar Boat	Mr. Vinliem Phanitchaleun
		Vertical Garden	Mr. Phonesavanh Litdavong
		EV Ever Green	Mr. Vilayuth Visonnavong Ms. Phakounkeo Phommavongsa
		Jungle Vine Beg	Ms. Sengsouk Sylvong

5	Malaysia	Lightning Alarm Dangerous Strike Alert System (LADSA)	Mr. Arman Adham Mohd Faiz
		Mr. Security	Ms. Afiqah Maisarah Mohd Rizal
		RUBOBA & RUSCRUB	Ms. Huda Solehah Muhammad Sallehuddin
		CHORDA	Ms. Dania Mirza Akhtar Ramzi
		Bio Natural Ink	Mr. Izz Hadif Mohamad Izwan
6	Myanmar	Scroll Saw Machine	Mr. Phone Myat Ms. Zin Mo Mo Kyaw
		Smart Adaptive Control System	Mr. Thuta Kyaw
		Hydraulic Magic Track	Ms. Kyal Sin Aung
7	Philippines	Solar Emergency Backpack	Mr. Alan Clarence Mr. Anadon, Krypton Alexander L. Bajarin Ms. Althea Nicole P. Enargan
8	Thailand	Innovation machine imitation fireflies flickering light to increase the fireflies population in conservation areas and apply in bio-agriculture.	Mr. Bowonchai Sukchaibowon Mr. Supakrit Sirikaewsakul
		The Development of Bio-Blood Bags Supplements the Efficiency with Natural Rubber, Silkworm Pupae, and Silk Extracts Blends	Ms. Pitchapa Kunathorn
		Organic Sanitary Pads from Plant fibres Coated with Kaffir Lime Extract	Ms. Kawinnart Pongmesa
9	Vietnam	Improving Reverse Logistics Management of Electronic Device Globally: A Solution to Control electronic Waste	Mr. Nguyen Minh Quan
		SWING	Mr. Tran Thuy Duong
		Vietnamese Healthcare Salt	Ms. Nguyen Khanh Linh
		Coffuel	Ms. Bui Nguyen Khanh Linh, Nguyen Duc Toan

The winners were as follows:

NO.	COUNTRY	INNOVATION	WINNER	AWARD
1	Thailand	Organic Sanitary Pads from Plant fibres Coated with Kaffir Lime Extract	Ms. Kawinnart Pongmesa	First Place Certificate with Cash Prize MYR1,500.00
2	Malaysia	RUBOBA & RUSCRUB	Ms. Huda Solehah Muhammad Sallehuddin	Second Place Certificate with Cash Prize MYR1,000.00
3	India	Parkinson Lathi	Ms Aanchal Aggarwal	Third Place Certificate with Cash Prize MYR500.00
4	Brunei	TenangMind	Ms. Tan Been Tiem Mr. Chen Po-Hua Mr. Soon Kai Li Ms. Liow Jia Chian Eugene Chok Zhi Yang	Promising Certificate with Cash Prize MYR300.00
5	Philippines	Solar Emergency Backpack	Mr. Alan Clarence Mr. Anadon, Krypton Alexender L. Bajarin Ms. Althea Nicole P. Enargan	
6	Lao PDR	Kaibar Boat	Mr. Vinliem Phanitchaleun	
7	Vietnam	SWING	Mr. Tran Thuy Duong	
8	Cambodia	Agrimation System	Mr. Heng Monyream	
9	Myanmar	Hydraulic Magic Track	Ms. Kyal Sin Aung	

Note: The cash prize of MYR4,800.00 is provided by Yayasan Inovasi Malaysia (YIM)



Jury member from five (5) countries reviewing and asking questions to participants during the Student Innovation Competition



Group photograph of all award winners from Student Innovation Competition

5.4 Highlights of Top Three (3) Winners (Student Innovation Competition)



Ms. Kawinnart Pongmesa

Organic Sanitary Pads from Plant fibres
Coated with Kaffir Lime Extract
(Thailand)

Sanitary napkins are a crucial necessity for women worldwide; however, over 1.8 billion people currently grapple with a shortage of these essential products, as reported by UNICEF. Candida albicans infections, causing itching, pain, and discomfort, affect more than 75% of women. This product addresses these challenges by enhancing accessibility through a manufacturing process that utilizes local plant fibres, thereby reducing costs. This eco-friendly approach extends from production, where the innovator has transitioned from traditional chemical fibre improvement methods to the use of PD.1 microorganisms capable of degrading lignin and cellulose. Additionally, every layer of our sanitary pads is biodegradable. Furthermore, the product goes beyond just environmental considerations. The innovator has incorporated kaffir lime crude extract, a native plant in Thailand to enhance the inhibition of Candida albicans. This proactive approach not only ensures women have access to affordable and eco-friendly sanitary napkins but also promotes their overall health and well-being.



Ms. Huda Solehah Muhammad Sallehuddin

RUBOBA & RUSCRUB
(Malaysia)

By seamlessly blending biotechnological ingenuity with a commitment to environmental sustainability, the Ruboba & Ruscrub initiative has revolutionised the landscape of food preservation and waste recycling. A triumph in waste reduction, the project has achieved the remarkable feat of generating zero waste through its innovative approach. Harnessing the full potential of vegetables, particularly the vibrant and nutrient-rich duo of broccoli and carrots, the project has unveiled two exceptional products. Beyond merely fostering bodily health, these creations also contribute to skin well-being. The choice of broccoli and carrot as the key ingredients for crafting boba stems from their vivid hues and abundant vitamin content. In a groundbreaking twist, the project transforms these vegetables into playful boba shapes, injecting a sense of joy and excitement into the realm of nutritious eating. This imaginative culinary endeavour not only encourages the consumption of these healthful vegetables but also makes the entire experience both thrilling and delightful.



Aanchal Aggarwal
(India)



Parkinson Lathi

Parkinson's disease is a neurodegenerative disorder affecting dopamine-producing cells in the substantia nigra of the basal ganglia. It is caused by genetics factors with aging being a significant contributor. To address these challenges, student propose modifying a regular walking stick with three features which includes laser Beam, metronome and torch. The laser beam will project lines on the floor, providing a visual cue to overcome freezing and facilitate smoother walking. The metronome will offer an auditory cue, helping patients walk in rhythm and overcome freezing episodes. An additional feature of torch will provide light for better visibility during walking.

6.0 INNOVATION EXHIBITION

The Innovation Exhibition took place from 28th to 30th November 2023, at the Foyer, Langkawi International Convention Centre (LICC). The organisation of this exhibition was attended by more than four thousand (4,000) visitors, comprising members of the grassroots innovation ecosystem and the general public.

A total of eighty-seven (87) global innovation showcases from ASEAN Member States, India, YIM and MOSTI as well as from strategic partners, including government agencies, academia, NGOs and industry. Exhibitors were given the opportunity to conduct demonstrations and sales during the exhibition sessions. Through this event, visitors had the chance to learn more about innovative products developed by local innovators and innovators from AMS and India.



The Honourable Tuan Chang Lih Kang Minister of Science, Technology and Innovation (MOSTI) of Malaysia, H.E. Mr. B.N. Reddy, High Commissioner of the Republic of India to Malaysia, H.E. Dato' Ts. Dr. Hj. Aminuddin Hassim, General Secretary, Ministry of Science, technology and Innovation (MOSTI) of Malaysia, H.E. Madam Ruziah Shafei, Deputy



Secretary General (Planning and Cultivation of Science), Ministry of Science, Technology and Innovation (MOSTI) of Malaysia, H.E. Dr. Sulakshana Jain, Director and Scientist of International Bilateral Cooperation, The Department of Science and Technology (DST) of India, H.E. Dr. Sharmila Mohamed Salleh, Chief Executive Officer, Yayasan Inovasi Malaysia (YIM) and Dr. Sebastian Kwan, Science Officer, ASEAN Secretariat visited the innovation exhibition and interacted with the innovators from ASEAN Member States (AMS) and India on 28th November 2023.





Participants and visitors from ASEAN Member States at the innovation exhibition, exploring and experiencing innovations from each other's country.

7.0 INNOVATION FORUM

Another highlight of the event was the Innovation Forum, comprising two (2) forum sessions, each tackling crucial themes aimed at fostering collaboration, knowledge sharing, and inspiring innovative ideas among representatives from ASEAN countries and India.

The Innovation Forum commenced with a series of insightful presentations by distinguished panellists before the session transitioned into a dynamic panel discussion, skilfully moderated by representatives from Malaysia and India. The dialogue among country representatives was thought-provoking, focusing on the chosen forum themes, and eventually culminated in an interactive Q&A session, providing three hundred and twenty-eight (328) audiences with valuable opportunities to engage with the panellists directly.



FORUM A: ESG & Sustainable Innovations

(From left to right: Mr. Izwan Iskandar Ishak, Dr. Pagnarith Srun, Dr. Arvind C. Ranade, Dr. Anthony C. Sales, Dr. Theint Theint Win, Mr. Ambran Abu Bakar)



FORUM B: Policy & Partnership for Inclusive Development

(From left to right: (Mr. Tushar Garg, Pg. Dr. Adrian Rahaman, Tan Sri Prof. Dr. Noorul Ainur Mohd. Nur, Mrs. Kesone Soulivong, Dr. Pranpreya S. Lundberg, Assoc. Prof. Dr. Le Thai Phong)



Panellists from several countries discussed their experiences and opinions on themes related to Science, Technology, and Innovation (STI)

The forums successfully achieved their objectives of promoting thoughtful discussion, knowledge sharing, and cross-border collaborations. The diverse backgrounds of the panellists enriched the discourse, offering unique perspectives on the forum themes. The interactive nature of the sessions, including panel discussions and Q&A, facilitated a vibrant exchange of ideas, fostering an environment conducive to innovation and partnership building.



विज्ञान एवं
प्रौद्योगिकी मंत्रालय
MINISTRY OF
SCIENCE AND
TECHNOLOGY



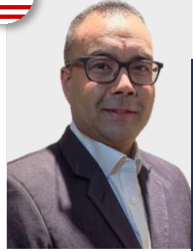
The 4th ASEAN-Indian Grassroots Innovation Forum 2023, particularly the Innovation Forum, served as a platform for meaningful dialogue and collaboration, further strengthening the ties between ASEAN countries and India in the realms of science, technology, and innovation. The outcomes of the forum are expected to contribute significantly to the advancement of ESG, sustainable innovations, inclusive development policies, and international partnerships in the participating nations.

7.1 Forum A: Environmental, Social and Governance (ESG) and Sustainable Innovations

Forum A session at the 4th ASEAN-Indian Grassroots Innovation Forum 2023 on ESG & Sustainable Innovations was a dynamic exploration of groundbreaking ideas fostering environmental, social, and governance (ESG) principles. The central theme emphasised innovations transcending conventional boundaries to actively contribute to sustainability. The potential impact of innovative approaches on the environment, society and governance was demonstrated. The overarching goal was to inspire collaborative efforts beyond national borders, cultivating a regional commitment to sustainable development. The session successfully highlighted the potential impact of inventive solutions and set the stage for ongoing cross-border partnerships in the pursuit of a more sustainable future.

The forum was skilfully moderated by Mr. Izwan Iskandar Ishak and brought together a distinguished panel representing diverse perspectives from Cambodia, India, Philippines, Myanmar, and Singapore.

FORUM A: ESG AND SUSTAINABLE INNOVATIONS



MODERATOR

Mr. Izwan Iskandar Ishak
Legal Advisor
Yayasan Inovasi Malaysia

PANELLISTS LINEUP



Dr. Pagnarith Srun
Deputy Director General
of General Department
of STI
MISTI, Cambodia

Dr. Arvind C. Ranade
Director
National Innovation
Foundation (NIF), India



Dr. Anthony C. Sales
Regional Director
DOST XI, Philippines

Dr. Theint Theint Win
Director of Food Technology
Centre NTU & MOST,
Myanmar



Mr. Ambran Abu Bakar
Chairman & Founder
SCAVAI Alliance Pte. Ltd,
Singapore

KEY TAKEAWAYS ESG AND SUSTAINABLE INNOVATIONS FORUM



Dr. Pagnarith Srun



Deputy Director General of General Department of Science, Technology, and Innovation
Ministry of Industry, Science, Technology & Innovation
CAMBODIA

- Cambodia's STI Policy is aligned with sustainable socio-economic development and digital transformation.
- The Pentagonal Strategy focuses on Growth, Employment, Equity, Efficiency, and Sustainability. This comprehensive approach recognizes the interconnectedness of economic growth, employment, equity, efficiency, and sustainability.
- Inclusive Business (IB) strategies, such as accreditation and technical assistance, indicate a commitment to fostering a business environment that considers social and environmental impacts.



Dr. Arvind Chandrakant Ranade



Director
National Innovation Foundation (NIF)
INDIA

- Grassroots innovations in India address unmet needs using indigenous resources, emphasizing societal problem-solving.
- The National Innovation Foundation (NIF) has built a database of over 3,25,000 ideas, fostering a culture of grassroots innovation.
- Case studies like Mitticool exemplify sustainable practices and align with India's focus on frugality, affordable excellence, and circularity in innovations.



Dr. Anthony C. Sales



Regional Director
Department of Science and Technology Region XI
(DOST XI)
PHILIPPINES

- The Grassroots Innovation for Inclusive Development (GRIND) program illustrates a transformative approach to inclusive development through grassroots innovations.
- Challenges include a lack of awareness, a disestablished framework plan, and limited R&D support.
- GRIND aims to scale up, establish community-led innovation centres, and collaborate with Yayasan Inovasi Malaysia.



Dr. Thient Thient Win



Director of Food Technology Centre
NayPyiTaw Technological University
Ministry of Science and Technology
MYANMAR

- Myanmar's sustainable development plan integrates ESG principles.
- Legislation and policies cover STI, environmental conservation, and waste management.
- The National Innovation System emphasizes collaboration among public and private sectors, academia, and research centres.



Mr. Ambran Abu Bakar

Chairman & Founder
SCAVAI Alliance Pte. Ltd,
SINGAPORE

- SCAVAI integrates technology, engages stakeholders, and emphasizes climate resilience.
- Social justice and equality are prioritized, with a multiracial and multireligious team.
- Anticipates increased regulatory frameworks, green finance growth, and a proactive approach to ESG challenges.

7.2 Forum B: Policy and Partnership for Inclusive Development

The Forum B session on Policy and Partnership for Inclusive Development at the 4th ASEAN-Indian Grassroots Innovation Forum 2023 was a stimulating exploration of strategies aimed at promoting inclusive development. The session's core theme centered on the formulation of policies and partnerships tailored to foster inclusivity within each participating country. Throughout the discussions, panelists provided vivid examples showcasing how collaborative approaches can positively impact social dynamics, technological innovation, and economic inclusivity. The overarching objective was to cultivate a shared regional commitment to policies prioritizing inclusivity and establishing partnerships that effectively bridge developmental gaps.

It was moderated by Mr. Tushar Garg, and features notable lineup of panellists from Brunei, Malaysia, Lao PDR, Thailand and Vietnam.



FORUM B: POLICY AND PARTNERSHIP FOR INCLUSIVE DEVELOPMENT



MODERATOR

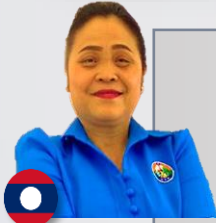
Mr. Tushar Garg
Senior Scientist, Vigilance & Public Information
Officer Government of India's
National Innovation Foundation (NIF)

PANELLISTS LINEUP



Pg. Dr. Adrian Rahaman
Acting Director of the
Technology and Innovation
MTIC, Brunei

**Tan Sri Prof. Dr.
Noorul Ainur**
Professor
Jeffrey Sachs Center,
Malaysia



Mrs. Kesone Soulivong
Director General of Technology
& Transfer Center MTC, Lao
PDR

**Dr. Pranpreya S.
Lundberg**
Director of International
Policy Partnership
NXPO, Thailand



**Assoc. Prof. Dr.
Le Thai Phong**
Associate Professor, PhD, Dean
Foreign Trade University, Vietnam

KEY TAKEAWAYS POLICY AND PARTNERSHIP FOR INCLUSIVE DEVELOPMENT



Pengiran Dr. Adrian Rahaman



Acting Director of the Technology and Innovation Division
for The Smart Nation Office and The Science, Technology,
and Innovation Unit

Ministry of Transport and Infocommunications (MTIC)

BRUNEI

- Grassroots innovation involves local communities creating solutions with limited resources and indigenous knowledge. Social innovation aims to meet social needs and create positive societal change, spanning various sectors. These two are innovations that are driven by community limitations and social needs.
- Introduction of the Council for Research and the Advancement of Technology and Science (CREATES) and emphasis on the role of CREATES in supporting research for economic development as part of the National Innovation Ecosystem in Brunei.
- Brunei Innovation Lab is the core national platform for innovation ecosystem development.
- Outlined strategic partnerships to accelerate innovation under the Digital Economy Masterplan.



Tan Sri Prof. Dr. Noorul Ainur Mohd. Nur



Chairman & Professor
University College of Yayasan Pahang (UCYP)
Jeffrey Sachs Centre of Sustainable Development,
Sunway University
MALAYSIA

- Introduced the concept of Intermediate Technology to avoid complications and promote labor friendly production.
- Shared the success story of the Kundasang Aquafarm in Sabah and Suri Lifestyle Project in Klang Valley, Malaysia.
- Highlighted growth in employment, turnover, empowering women entrepreneurs, and the positive impact on local communities through these social innovation initiatives in Malaysia.
- Acknowledged the importance of government assistance, including funding, training, and facilitation, in social innovation projects.



Mrs. Kesone Soulivong



Director General of Technology and Transfer Center
Ministry of Technology and Communications
LAO PEOPLE'S DEMOCRATIC REPUBLIC (PDR)

- Emphasised the importance of empowering local communities to find solutions to their challenges due to the recognition of the incredible potential of grassroots innovation in Lao PDR.
- Noted the evolution of the entrepreneurial ecosystem in Lao PDR with growing government support despite facing challenges in areas such as funding, infrastructure, and a shift towards risk-taking.

- Startup landscape in Lao PDR is growing and being categorized into tech-based and non-tech-based segments in Lao PDR, with key entities and associations contributing to the startup ecosystem in the country.
- Mapped out the relevant policies and regulations supporting startups in Lao PDR and the plans and degrees to focus on digital development and startups in the country.



Dr. Pranpreya Sriwannawit Lundberg

Director of International Policy Partnership
Office of National Higher Education, Science, Research,
and Innovation Policy Council (NXPO)
Ministry of Higher Education, Science, Research, and
Innovation (MHESI)
THAILAND



- **Key Policy Directions for Inclusive Development in Thailand:**
 - Balanced development with a sufficiency economy philosophy that aligned with Sustainable Development Goals (SDGs).
 - Supporting Thailand's advancement to a high-income country through Higher Education and Innovation (HE&I) initiatives.
 - Addressing climate change by striving for carbon neutrality and net-zero greenhouse gas emissions, accelerating Innovation-Driven Enterprises (IDEs), and focusing on the creative economy from cultural heritage.
 - Social mobility and targeted poverty eradication, the need to aim for upward social mobility of 1 million vulnerable people by 2027.
 - Higher education transformation by emphasizing high-skilled workforce development, implementing the STEM Plus Platform, university capability building, and frontier research. Community-based enterprises and Social Enterprise incubation such as the Pattani Model as a pilot project for poverty eradication and local enterprise incubator fostering entrepreneurship.
- **Pattani Model for Poverty Eradication:**
 - Aiming to increase the income of local entrepreneurs, ensure education for grassroots children, and create jobs for vulnerable groups through the combination of appropriate technology, area-based innovation, and social enterprise incubation.

- **MIT Regional Entrepreneurship Acceleration Program (MIT REAP):**
 - A framework for local enterprise development through grassroots participation which focuses on creating an entrepreneurial ecosystem and network.
- **Thailand Higher Education and Innovation Policy Accelerator (THIPA):**
 - Three collaborative programs: Cultivate the policy, Connect the dot, Scale up the impact. THIPA aims to make a big impact on society through inter-agency projects.



Assoc. Prof. Dr. Le Thai Phong

Associate Professor, PhD, Dean
Foreign Trade University
VIETNAM



- India - Vietnam Cooperation in Science, Technology, and Innovation (STI) which started off as diplomatic relations since 1972, and upgraded to a comprehensive strategic partnership in 2016. Includes STI cooperation agreements since 1978, with a focus on training and scholarships.
- Doi Moi (Renovation) policy led to partnerships with World Bank, IMF, ASEAN, and normalization of US-Vietnam relations which were able to enhance economic integration and contributed towards steady GDP growth which enables Vietnam to become a key trade partner globally.
- Initiatives like the National Innovation Center, Startup Support Programs, and Government support able to boost Global Innovation Index ranking, venture capital investments, and unicorn startups, showcasing a thriving innovation ecosystem.
- Highlights the best practices of Grassroots Innovation through University-Industry linkage with examples from BK-Holdings, FTU Innovation, and Incubation Space whom have incorporated the Entrepreneurship and Innovation (E&I) in university curricula. The action presses on the importance of open innovation and strategic partnerships for sustained market relevance.
- Vietnam initiatives had reflected on the need to trust that policy initiatives, collaborations, and innovations will connect for future development and national's holistic progress.

8.0 GOVERNMENT-TO-GOVERNMENT MEETING



The Government-to-Government (G2G) Meeting of the 4th ASEAN-India Grassroot Innovation Forum (AIGIF) was held on-site on 29th November 2023, hosted by the Ministry of Science, Technology, and Innovation (MOSTI) of Malaysia.

The Meeting was co-chaired by Dr. Balamurugan Nallamuthu, representing COSTI Malaysia, and Dr Sulakshana Jain, Director and Scientist, representing the Department of Science and Technology, the Government of India.

The Meeting was attended by representatives from Brunei Darussalam, the Kingdom of Cambodia, the Republic of Indonesia, the Lao People's Democratic Republic, Malaysia, the Republic of the Union of Myanmar, the Republic of the Philippines, the Kingdom of Thailand, the Socialist Republic of Viet Nam and representatives from the Republic of India. Representatives from the ASEAN Secretariat were also in attendance.



9.0 GRASSROOTS INNOVATION PROJECT VISITATION

A visitation programme has been organized in conjunction with the 4th ASEAN-India Grassroots Innovation Forum. This initiative aims to provide participants with a unique opportunity to engage directly with our grassroots innovators in Malaysia. Attendees were taken on a curated tour to meet and interact with individuals who had made significant contributions at the grassroots level, showcasing their innovative solutions and projects. This firsthand experience not only enriched the overall forum by connecting participants with the tangible impact of grassroots innovation but also served as a platform for knowledge exchange and collaboration. The visitation program offered a dynamic element to the forum, fostering a deeper understanding of the diverse range of innovations emerging from the grassroots communities within the ASEAN-India region.

This visitation is expected to enhance connections, networking, and the potential for collaboration between visitors and grassroots innovators. Direct involvement with these grassroots innovators fosters immediate interaction, allowing individuals to share expertise, provide feedback, and contribute to improvements based on innovation. Engaging directly with grassroots innovators not only nurtures personal connections but also enables the exchange of knowledge and insights, contributing to advancements based on innovation. This interaction serves as a platform for building relationships, fostering collaboration, and collectively working towards innovative enhancements.

On the morning of 30th November 2023, the visitation program was attended by approximately forty-three (43) participants from various ASEAN countries as well as India gathering at Westin Gate in Langkawi International Convention Centre (LIICC), facilitated by one (1) bus accommodating forty-four (44) passengers each. Following a briefing, the group travelled to the first destination for the visitation which was **the Maker Space or also known as the "Ruang Daya Cipta" (RDC)** located at Langkawi Development Authority (LADA), for a comprehensive tour. The tour showcased innovations such as robotics, 3D printing, "SURI Lifestyle," and "Flexsilk."

This RDC functions as a Design, Technology, and Innovation Hub that provides opportunities for learning, training, and technical support. It is well-equipped with "Science, Technology, Innovation and Economy" (STIE) tools and applications such as 3D printers and robotics. The primary objective of RDC is to disseminate knowledge and skills while offering practical

experiences to participants, following the Quintuple Helix method. This approach involves a collaboration between Government, Industry, Academia, Community, and Environment. By employing this method, RDC aims to empower the community by providing them access to technology and activities that were previously less accessible. The goal is to create opportunities for the local community to generate income based on the 10-10 STIE Ecosystem. As of now, YIM has successfully established thirteen (13) RDCs or maker spaces, contributing significantly to the development of these innovative hubs.



Mr. Mohd Firdaus Mohd Noh demonstrating the innovation Flexible Silkscreen Printing Table (Flexsilk) during the Grassroots Innovation Project Visitation



Group photograph of the delegation during the Grassroots Innovation Project Visitation

Subsequently, the itinerary included a transition to Crab Farm Langkawi (SeppeK) for a tour and lunch. Their next visitation location is the "Sistem Pintar Penternakan Ketam" (SeppeK) or Crab Farm Langkawi, situated in Kubang Badak, Langkawi. This crab farming system incorporates Industry 4.0 technology, allowing for control and monitoring through three methods: manual operation, an Android application, and a website. Implemented under the Inclusive SME Ecosystem (i-SEE) Program, SeppeK facilitates remote control of paddle wheels, air pumps, and the electrical system via a mobile application. This innovation streamlines the process for innovators, enabling them to regulate water temperature and quality in the pond to meet specified requirements. SeppeK addresses the challenge of crab mortality by managing salinity and water temperature in the ponds to prevent crab deaths. The system also oversees the pond cooling system and seawater inflow using a 3-phase pump. Notably, the SeppeK project is the first of its kind in Malaysia for open crab farming. Harvest results are electronically recorded and can be analysed through a web portal, marking a significant advancement in the efficiency and sustainability of crab farming practices.



Mr. Rusasmizal Mohd Ghazali demonstrating the innovation Sistem Pintar Penternakan Ketam (SeppeK) during the Grassroots Innovation Project Visitation



Group photograph of the delegation during the Grassroots Innovation Project Visitation

The program concluded with a return journey to LICC, offering participants a day filled with insights into grassroots innovations and technological advancements in Malaysia. In conclusion, the visitation program, aligned with the 4th ASEAN-India Grassroots Innovation Forum, successfully provided participants with a firsthand encounter with Malaysia's grassroots innovators. The tour encompassed two noteworthy destinations – the innovative Maker Space (Ruang Daya Cipta) at Langkawi Development Authority and the technologically advanced 'Sistem Pintar Penternakan Ketam' (SeppeK) or Crab Farm Langkawi. These visits not only facilitated knowledge exchange and collaboration but also showcased the impactful Quintuple Helix approach in empowering communities through accessible technology. The exploration of SeppeK highlighted pioneering efforts in Industry 4.0 technology for crab farming, addressing challenges and recording harvest results electronically. Overall, the visitation program emphasized the significance of grassroots innovation, technology-driven sustainability, and economic empowerment within the ASEAN-India region.

10.0 CLOSING CEREMONY

On the 30th November 2023, a total of two hundred and twenty (220) audiences in the closing ceremony of the ASEAN-India Grassroots Innovation Forum (AIGIF) witnessed the esteemed presence of key dignitaries, adding a significant touch to the conclusion of this momentous event. Among them were The Honourable Tuan Chang Lih Kang, Minister of Science, Technology, and Innovation (MOSTI) of Malaysia; H.E. Dr. Zurina binti Moktar, Head of Science and Technology Division ASEAN Secretariat (ASEC); and H.E. Dr. Arvind Chandrakant Ranade, Director of the National Innovation Foundation (NIF) India.



H.E. Dr. Zurina binti Moktar, Head of Science and Technology Division ASEAN Secretariat (ASEC) delivering her welcoming speech during the closing ceremony



H.E. Dr. Arvind Chandrakant Ranade, Director National Innovation Foundation (NIF) India delivering his greeting speech during the closing ceremony

H.E. Dr. Arvind Chandrakant Ranade, Director National Innovation Foundation (NIF) India, in his greeting speech, remarked, *"Some of us are going to return with a greater level of confidence to articulate and present things before an international audience, and others would have secured an improved ability to identify use cases for technologies available abroad for their own home country. Some of us also would have learnt how to network effectively, engage with delegations from different countries who may share a different background, yet grassroots or student innovation being a common thread."* In line with H.E. Professor Abhay, the Secretary of the Department of Science and Technology (DST), Government of India, who promoted the perspective "Experience technologies to experience a country around you," H.E. Dr. Arvind Chandrakant Ranade acknowledged that all participants have indeed encountered approximately 100 technologies over the past three days, gaining insights into a total of 11 countries. However, he stressed that this represents just the initial phase, and each participant has much more to contribute to one another. H.E. Dr. Arvind Chandrakant Ranade advocated for the continuation of engagement, fostering ongoing dialogues beyond an annual occurrence, to ensure that our enduring commitment to this initiative is communicated with the utmost strength throughout the year.



The Honourable Tuan Chang Lih Kang Minister of Science, Technology and Innovation (MOSTI) Malaysia delivering his closing speech during the closing ceremony

The Honourable Tuan Chang Lih Kang Minister of Science, Technology and Innovation (MOSTI) of Malaysia added “AIGIF 2023 has been a culmination of meticulous preparations, fruitful collaborations, and the inevitable challenges that we have collectively overcome. It is a celebration of the collective effort of innovators, policymakers, and stakeholders who have dedicated their time and expertise to make this event a success. The luminosity of this forum attracted a staggering 5000 visitors, from within Malaysia and far beyond”. He expressed his sincere appreciation and deepest thanks to all the participants, partners and organisers for their contribution and to the success for this forum.

The closing ceremony marked not just the end of an event but the beginning of a sustained commitment to fostering innovation and collaboration. As the dignitaries emphasized, the shared enthusiasm for grassroots innovation should continue to thrive, transcending the boundaries of time and geography. AIGIF 2023 has laid the foundation for a future where nations collaborate, dialogue, and contribute to a sustainable and innovative global community.



Group photographs with representatives of ASEAN Member States (AMS) and India along with The Honourable Tuan Chang Lih Kang Minister of Science, Technology and Innovation (MOSTI), H.E. Dato' Ts. Dr. Hj. Aminuddin Hassim, General Secretary, Ministry of Science, Technology and Innovation (MOSTI) of Malaysia, H.E. Dr. Zurina binti Moktar, Head of Science and Technology Division ASEAN Secretariat (ASEC), H.E. Dr. Sharmila Mohamed Salleh, Chief Executive Officer, Yayasan Inovasi Malaysia (YIM) and H.E. Dr. Arvind Chandrakant Ranade, Director National Innovation Foundation (NIF) India



In large numbers, participants from ASEAN Member States and India have assembled to collectively witness the 4th ASEAN-India Grassroots Innovation Forum (AIGIF) 2023



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11.0 KEY TAKEAWAYS/ACHIEVEMENTS OF 4TH ASEAN-INDIA GRASSROOTS INNOVATION FORUM (AIGIF) 2023

The 4th ASEAN-India Grassroots Innovation Forum (AIGIF) of 2023 unfolded as a grand convergence of minds, bringing together a diverse array of over one hundred (100) participants from the ASEAN Member States (AMS) and India. These three (3) days extravaganzas were not just an event; it became an immersive experience that left an indelible mark on every delegate, creating an atmosphere pregnant with optimism and anticipation for future editions. The vibrant amalgamation of cultures, ideas, and innovation enthusiasts added a dynamic dimension to the forum, transforming it into a global hub of creativity and collaboration.

As we delve into the extensive narrative of the forum, five key takeaways and achievements emerge, not only underscoring the vibrant landscape of grassroots innovation but also illuminating a roadmap for actionable initiatives that could potentially shape the trajectory of innovation in the ASEAN-India region. These takeaways signify more than just moments captured in time; they represent a collective commitment to fostering a culture of innovation that transcends borders and resonates with the spirit of progress.

1. Promotion of Grassroots Innovation

The first key takeaway revolves around the paramount importance of promoting and raising awareness about grassroots innovation. The spotlight focused on stakeholders encompassing government entities, academia, businesses, and society at large. This strategic emphasis aimed not merely at a local understanding but at fostering a broader, global comprehension and support network. The narrative unfolded, highlighting the concerted efforts to cultivate an environment where grassroots initiatives could thrive. These efforts extended beyond the physical confines of the forum, reaching into the digital realm, where innovators could collaborate seamlessly on solutions with shared objectives.

The strategic promotion efforts were not just about showcasing innovations but also about creating a narrative that spoke to the hearts and minds of a global audience. The online platforms envisioned were not merely technological solutions; they were envisioned as digital ecosystems where ideas could germinate, cross-pollinate, and evolve into impactful solutions that address challenges on a local and global scale.



2. Strengthening Collaboration

The second major theme encapsulates the forum's role as a dynamic platform, facilitating the exchange of experiences and best practices in cultivating grassroots innovation. Participants became integral components of a collaborative symphony, where the rich tapestry of diverse backgrounds wove together a narrative of shared learning and growth. The forum became a melting pot of cultures, traditions, and innovative approaches, creating an intellectual crossroads where boundaries blurred, and the collective wisdom of the ASEAN-India region found resonance.

This collaborative symphony was not confined to the duration of the forum but resonated as a call for a sustained approach to collaboration. The action points are designed to develop cross-border knowledge exchange programs aimed not only at immediate solutions but also at nurturing a perpetual exchange of ideas. Advocacy for policies supporting collaborative initiatives was not a one-time recommendation; it was a clarion call for the establishment of frameworks that would endure, ensuring the continuous flow of knowledge and expertise across borders.

3. Showcasing Innovations

A pivotal element of the AIGIF narrative involves providing a vibrant platform for grassroots innovators to showcase their projects and innovations. This goes beyond a mere exhibition; it is a strategic move recognizing the transformative power of visibility. The heart of AIGIF, the Innovation Exhibition, becomes a vivid tapestry portraying impactful technologies and inventive solutions, resonating with creativity.

The notable takeaway emphasizes solutions aligned not only with immediate challenges but also with sustainable development goals, reflecting a commitment to long-term positive impact. This section delves into how this visibility can lead to recognition, support, and the potential scaling up of successful grassroots initiatives. It becomes a dynamic showcase where innovation is not just displayed but celebrated. The action points resonate with the idea that visibility is not a one-time event but an ongoing process. The envisioned platform is not static; it is a living, breathing space where innovators continue to evolve, gaining visibility and support throughout their journey.



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4. Policy Dialogue and Socio-Economic Impact

The fourth key theme involves the recognition of the need for robust governance structures to support and sustain grassroots innovation. Here, the narrative unfolds in the boardrooms of decision-makers, where discussions echo on implementing effective policies, regulations, and frameworks to nurture and protect grassroots innovators and their initiatives. The intricacies of policy dialogue go beyond theoretical frameworks; they delve into the pragmatic aspects of creating an environment where innovation is not just encouraged but safeguarded.

Simultaneously, the narrative shifts to the socio-economic impact of grassroots innovations, acknowledging how addressing local challenges directly influences the socio-economic conditions of communities. These innovations, it is argued, have the potential to contribute significantly to poverty alleviation, job creation, and an overall improvement in the quality of life. The socio-economic impact is not a distant outcome; it is a ripple effect that transforms communities, enriching lives and creating a tangible connection between innovation and societal progress.

5. Recognizing Transformative Grassroots Innovations and Commitment to Societal Betterment

The final theme of the AIGIF narrative revolves around recognizing transformative grassroots innovations. Winning entries become the epitome of a commendable blend of creativity and practicality, with projects like the Weft Insertion Device and Organic Sanitary Pads shining as beacons of ingenuity. Attendees, including industry professionals and policymakers, are encouraged to explore collaboration opportunities with these winning projects, leading to action points that involve establishing innovation hubs as incubators to scale transformative grassroots projects.

This section delves deeper into the commitment to societal betterment, emphasizing the spirit of ingenuity, collaboration, and a steadfast commitment to societal betterment. The forum does not just celebrate innovation for its own sake; it places innovation in the larger context of creating a positive impact on society. The envisioned innovation hubs are not sterile incubators; they are dynamic spaces where ideas not only germinate but also evolve into solutions that address societal challenges in meaningful and sustainable ways.

In conclusion, the ASEAN-India Grassroots Innovation Forum of 2023 transcends being a mere celebration of innovation. Instead, it becomes a catalyst for enduring collaboration and societal betterment. The outlined action points serve as a blueprint for transforming insights into tangible initiatives, ensuring the continued growth and impact of grassroots innovation in the ASEAN-India region. Overall, these takeaways underscore the comprehensive and collaborative nature of the forum, emphasizing the importance of innovation at the grassroots level and the imperative need for supportive governance, knowledge exchange, promotion, and networking to ensure the sustainability and impact of grassroots initiatives in the ASEAN-India region.

12.0 MEDIA

12.1 Press Conference



The press conference was attended by the Minister of MOSTI, the Secretary General of MOSTI and the High Commissioner of India in Malaysia and there are a total of five (5) media covering during the event which are: RTM, TV3, Utusan, Kosmo and Langkawi FM

12.2 Media Exposure

A total of **twenty-seven (27) news** articles have been published regarding AIGIF 2023.

NO	TITLE	NEWS	LINK
1	Majlis Perasmian AIGIF 2023	YouTube MOSTI	https://www.youtube.com/watch?v=GKnMe8SRdVo
2	Majlis Penutup AIGIF 2023	YouTube MOSTI	https://www.youtube.com/watch?v=p2OYtXf2tNs
3	ASEAN-India Grassroots Innovation Forum Unleashes a Collaborative Innovation Explosion Among Malaysia, ASEAN Member States, and India.	Jabatan Penerangan	https://dmedia.penerangan.gov.my/upload/sm/28112023.360101418.pdf
4	The ASEAN- India Grassroots Innovation Forum (AIGIF) 2023	Official MASTIC Portal	https://mastic.mosti.gov.my/event/asean-india-grassroots-innovation-forum-aigif-2023
5	Temubual Bersama Pempamer AIGIF 2023	YouTube MOSTI	https://www.youtube.com/watch?v=jRap2-dAA5s
6	Innovators meet in langkawi	ttrweekly	https://www.ttrweekly.com/site/2023/11/innovators-meet-in-langkawi/
7	4th edition of ASEAN India Grassroots Innovation Forum (AIGIF) launched.	Press Release: PIB Delhi	https://pib.gov.in/PressReleasePage.aspx?PRID=1980525
8	4th Edition of ASEAN India Grassroots Innovation Forum (AIGIF) launched.	Orissadiary	https://orissadiary.com/4th-edition-of-asean-india-grassroots-innovation-forum-aigif-launched/
9	4th Edition of ASEAN India Grassroots Innovation Forum (AIGIF) launched to	dst.gov.in	https://dst.gov.in/4th-edition-asean-india-grassroots-



	strengthen STI cooperation between India & ASEAN Member States.		innovation-forum-aigif-launched-strengthen-sti-cooperation
10	Social Innovators from India win accolades at the 4th edition of ASEAN India Grassroots Innovation Forum (AIGIF) in Malaysia	dst.gov.in	https://dst.gov.in/social-innovators-india-win-accolades-4th-edition-asean-india-grassroots-innovation-forum-aigif
11	ASEAN India Grassroots Innovation Forum (AIGIF) has kicked off in Malaysia with the participation of India and 10 ASEAN member states.	tvbricks	https://tvbricks.com/en/news/asean-india-grassroots-innovation-forum-aigif-has-kicked-off-in-malaysia-with-the-participation-of-i/
12	4th Edition of ASEAN India Grassroots Innovation Forum (AIGIF)	drishtias	https://www.drishtias.com/daily-updates/daily-news-analysis/4th-edition-of-asean-india-grassroots-innovation-forum-aigif
13	4th Edition of ASEAN India Grassroots Innovation Forum (AIGIF) Launched	currentaffairs	https://currentaffairs.adda247.com/4th-edition-of-asean-india-grassroots-innovation-forum-aigif-launched/
14	4th Edition of ASEAN-India Grassroots Innovation Forum at Langkawi, Malaysia	indiplomacy	https://indiplomacy.com/2023/11/29/4th-edition-of-asean-india-grassroots-innovation-forum-aigif-launched/
15	ASEAN India Grassroots Innovation Forum (AIGIF)	raceias	https://www.raceias.com/public/current-affairs/asean-india-grassroots-innovation-forum-aigif
16	ASEAN India Grassroots Innovation Forum (AIGIF)	forumias	https://forumias.com/blog/asean-india-grassroots-innovation-forum-aigif/
17	4th ASEAN India Grassroots Innovation Forum	gktoday.in	https://www.gktoday.in/4th-asean-india-grassroots-innovation-forum/



18	4th edition of ASEAN India Grassroots Innovation Forum launched	officerspulse	https://officerspulse.com/4th-edition-of-asean-india-grassroots-innovation-forum-launched/
19	ASEAN India Grassroots Innovation Forum (AIGIF)	prepp.in	https://prepp.in/news/e-492-asean-india-grassroots-innovation-forum-aigif-upsc-current-affairs
20	4th ASEAN India Grassroots Innovation Forum Strengthens Ties in Science and Technology	krishijagran	https://krishijagran.com/topic/?id=4th%20ASEAN%20India%20Grassroots%20Innovation%20Forum
21	ASEAN-India Grassroots Innovation Forum (AIGIF): Strengthening Bilateral Relations	edunovations	https://edunovations.com/currentaffairs/international/grassroots-innovation-forum-explore-the-significance-of-aigif-in-enhancing-asean-india-ties-through-grassroots-innovation/
22	เยาวชนไทยคว้ารางวัลชิงชนะเลิศเวทีแข่งขันนวัตกรรมระดับภูมิภาคในงาน ASEAN-India Grassroots Innovation Forum 2023 ณ ประเทศมาเลเซีย	ops.go.th	https://www.ops.go.th/th/inter-news-announcement/inter-news/item/9413-asean-india-grassroots-innovation-forum-2023
23	4th ASEAN India Grassroots Innovation Forum	crackittoday	https://crackittoday.com/current-affairs/4th-asean-india-grassroots-innovation-forum/
24	4th edition of ASEAN India Grassroots Innovation Forum (AIGIF) launched	lokraag	https://lokraag.com/bharat-global-news/4th-edition-of-asean-india-grassroots-innovation-forum-aigif-launched/
25	Social Innovators From India Win Accolades At The 4th Edition Of ASEAN India Grassroots Innovation Forum (AIGIF) In Malaysia	orissadiary	https://orissadiary.com/social-innovators-from-india-win-accolades-at-the-4th-edition-of-asean-india-grassroots-innovation-forum-aigif-in-malaysia/



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26	4th ASEAN India Grassroots Innovation Forum Strengthens Ties in Science and Technology	krishijagran	https://krishijagran.com/news/4th-asean-india-grassroots-innovation-forum-strengthens-ties-in-science-and-technology/
27	ASEAN, India collaboration fosters grassroots innovation at AIGIF 2023	Association of Southeast Asian Nations	https://asean.org/asean-india-collaboration-fosters-grassroots-innovation-at-aigif-2023/



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THANK YOU!



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