3rd ASEAN India Grassroots Innovation Forum

ASSOCIATION

OF SOUTHEAST



विज्ञान एवं प्रौद्योगिकी विभाग

DEPARTMENT OF



Phnom Penh, Cambodia

19th - 21st December, 2022

Report prepared by



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EXECUTIVE SUMMARY

The 3rd edition of ASEAN India Grassroots Innovation Forum was hosted by Cambodia during $19^{th} - 21^{st}$ December, 2022 after a brief interruption of two years owing to the COVID-19 pandemic. The year 2022 happens to be a special year owing to three distinct reasons - India is celebrating 75th year of its independence; India and Cambodia are celebrating 70 years of establishment of diplomatic relations; and India & ASEAN are commemorating 30 years of India - ASEAN relations with India - ASEAN Friendship Year.

Since the beginning of the year, several milestones have been achieved with respect to India's 'Act East' policy and both the India - Cambodia and India - ASEAN relations have seen a renewed impetus and further strengthening with a number of high level political interactions. A virtual summit between Hon'ble Prime Minister Narendra Modi and Samdech Prime Minister Hun Sen took place in May 2022, External Affairs Minister of India Dr. S Jaishankar visited Cambodia in August 2022, Hon`ble Speaker of Lok Sabha On Birla led a parliamentary delegation to Cambodia in April 2022, Hon`ble Vice President of India Shri Jagdeep Dhankhar led Indian delegation for ASEAN - India Commemorative Summit in Phnom Penh and Defence Minister of India Shri Rajnath Singh attended ASEAN Defence Ministers' Meeting Plus and India - ASEAN Defence Ministers' Meeting in Siem Reap in November 2022. And prior to the conclusion of the year, the three-day ASEAN India Grassroots Innovation forum provided a platform for participants to share experiences and best practices in grassroots innovation among ASEAN and Indian communities. The forum was organised by the ASEAN Committee on Science, Technology and Innovation (COSTI) Cambodia, in partnership with the Department of Science and Technology (DST), Government of India and the National Innovation Foundation (NIF), an autonomous body of DST and was funded by the ASEAN - India S&T Development Fund (AISTDF).

The 3rd ASEAN India Grassroots Innovation forum comprised of seminar sessions, innovation competitions, and an exhibition of innovative technologies from a total of 8 countries from the ASEAN and India. By bringing together key players, namely government officials, innovators, academics, business actors, and the wider community, this forum provided a platform to promote and strengthen the development of the grassroots innovation ecosystem. For few years now, the forum has become an effective instrument towards driving a meaningful relationship between India and the ASEAN Member States (AMS) on the premise of Science, Technology and Innovation (STI). The grassroots innovators, the student innovators, the experts and professionals from the

participating countries continue to engage in meaningful dialogues with each other leading to sharing of knowledge and an opportunity to grow together, aligned with "Shared values, common destiny" approach that India and ASEAN has been advocating in recent times for strengthening the relationships.

The key attributes of the three day forum was Panel discussions engaging about 20 experts, representing a wide array of domain expertise, on topics of contemporary importance like STI cooperation in grassroots innovation between AMS and India for resiliency; Policy and regulation ecosystem of Grassroots Innovation in AMS & India Community; Journey to Innovation through UIL (University Industry Linkages) along with competition in two distinct categories – (a) The Grassroots Innovation competition (b) The Student Innovation Competition. Simultaneously, the participants in the forum were also demonstrating the inherent merit of their innovations through an Exhibition. It showcased 100 grassroot innovations from nine countries and attracted around 3,000 visitors.

Year on year, the forum attempts to raise the profile of each and every participant by virtue of creating learning opportunities rooted in profile of fellow participant from another country. It reiterates the importance of the fact that the Science, Technology and Innovation (STI) excellence of one country has the potential to create a societal impact in another country, however, the first step is building cognizance and scouting of a potentially impactful "product" or "service" rooted in STI. It's here, where the role of ASEAN India Grassroots Innovation Forum is paramount today and worthy of an exponential growth in years to come.

Following were the key underlying objectives of the 3rd ASEAN - India Grassroots Innovation Forum 2022 which were met as evident in the performance of innovators from all participating nations and their promise to do better in years to come -

- Encouraging innovation among grassroots communities
- Strengthening the regulations to create ecosystem for grassroots innovation
- Sharing experiences and best practices in grassroots innovation among ASEAN communities and India
- Promoting and socializing grassroots innovation products to governments, academics, business actors and the wider community
- Providing a platform for entrepreneurs in ASEAN Member States (AMS) and India

The participants realized their own important roles in strengthening the eco-system and further established that Innovation is of great help to the society and should be solving pressing problems at hand. Important attributes like low-cost (affordable), value-added, sustainable, scalable, and user-friendly, which lead to a wider acceptance of a social innovation were well understood by fellow participants by virtue of their interactions with each other. The visitors particularly students had an exposure to the fact that innovation need not necessarily be too technical rather it can be a frugal or a grassroots innovation which can come from a humble background also and aspire to develop solutions to generate a sustainable solution for the organization, community, or society.

INAUGURAL CEREMONY

The ASEAN Committee on Science, Technology and Innovation (COSTI) in partnership with the Government of India's Department of Science and Technology (DST) and the National Innovation Foundation (NIF) – India, an autonomous Institution of DST launched the three-day 3rd ASEAN-India Grassroots Innovation Forum 2022 at the Institute of Technology (ICT) of Cambodia in Phnom Penh.



[Left] H.E. Dr. Devyani Uttam Khobragade, Ambassador of India to Cambodia [Right] H.E. Dr. Kan Channmeta, Secretary of State of the Ministry of Industry, Science, Technology and Innovation, Kingdom of Cambodia

The inaugural ceremony comprised of about 45 grassroots innovators and 38 student innovators & experts from the Government and private sectors of 9 different countries i.e. India and 8 AMS (ASEAN Member States) viz. Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Thailand and Vietnam. Besides, there were students and faculty of Institute of Technology (ICT) of Cambodia and professionals and officials from Ministry of Industry, Science, Technology & Innovation (MISTI) of the Kingdom of Cambodia.

Dr. Kan Channmeta, Secretary of State of the Ministry of Industry, Science, Technology and Innovation (MISTI) Cambodia, in his opening remarks said, "*The 3rd ASEAN-India Grassroots Innovation Forum 2022 is an international pioneer event in Cambodia organised not only to promote science, technology, innovations, entrepreneurship and the development of the IR 4.0 but also to create opportunities for students and grassroots innovators to learn from each other's innovation during competitions. He wishes to have more opportunities to grow together, aligned with "Shared values, common destiny" approach that India and ASEAN have been advocating in recent times for strengthening the relationships.* "



H.E. Dr. Kan Channmeta, Secretary of State of the Ministry of Industry, Science, Technology and Innovation, Kingdom of Cambodia delivering opening remarks

In his welcome remarks, Dr Srivari Chandrasekhar, Secretary, Department and Science and Technology (DST), Government of India pointed out, "India attached high importance to grassroots and student innovations in our science, technology, and innovation policy as these are not just integral to it but also its significant driving forces. I urge our friends in ASEAN Member States (AMS) to continue their commitment towards social innovations and collectively ensure that tomorrow is better than today for each one of us. It is heartening to note a similar thrust amongst AMS, hence, it is one of the finest instances of like-mindedness that nations could think of in today's world as the benefits of such policies cumulatively touch a billion lives in Asia alone."



H.E. Dr Srivari Chandrasekhar, Secretary, Department and Science and Technology (DST), Government of India delivering his welcome remarks during the opening ceremony



H.E. Dr. Devyani Uttam Khobragade, Ambassador of India to Cambodia delivering her welcome remarks during the opening ceremony

"Cooperation in Science, Technology and Innovation holds much importance in contemporary times. It has a key potential to accelerate our march towards our developmental goals. It has an inherent potential to bring people together; countries together and in our case today, India and the ASEAN Member States together." said Dr. Devyani Uttam Khobragade, ambassador of the Republic of India to the Kingdom of Cambodia during her Welcome remarks.



Deputy Secretary - General for ASEAN Economic Community Mr. Satvinder Singh delivering his welcome remarks during the opening ceremony

Deputy Secretary - General for ASEAN Economic Community Mr. Satvinder Singh highlighted the significant contribution of grassroots innovators. "Grassroots innovators often operate as informal businesses and contribute to the informal economy," he said. "On average, in 2021, the informal economy represents 35% of GDP in low- and middleincome countries and 15% in advanced economies. In this regard, public and private institutions need to understand grassroots innovation sociocultural dynamics and encourage innovation, particularly towards advancing the circular economy. Policymakers, especially the local government, must acknowledge grassroots innovators as valuable contributors to creativity, employment, and productivity," he added.

Ambassador of India to ASEAN Mr. Jayant N. Khobragade, underlined that when the resources are limited to meet the needs of the growing population, innovation plays a very important role. The grassroots innovation brings solution to local problems, thus significantly contributing to improving the quality of life of the local population. Keeping in view the success of previously organised ASEAN-India Grassroots Innovation Forums, it was decided to once again bring the youth of ASEAN and India together to address the issues faced by our region by developing common understanding. This is yet another event after successfully organising the Startup Festival in Jakarta in October 2022,

involving and encouraging youth to contribute to the prosperity of the region by putting together newer ideas and innovations.

He further stated that "I am happy to inform you that the National Innovation Foundation (NIF) of India, which has collaborated in organising this event, scouts, supports and spawns' grassroots innovations developed by individuals and local communities in any technological field, helping in human survival without any help from the formal sector. NIF helps grassroots innovators and outstanding traditional knowledge holders get due recognition, respect and reward for their innovations. NIF has pooled a database of over 3,25,000 technological ideas, innovations and traditional knowledge practices from over 625 districts of India and has recognised 1093 grassroots innovators and school students at the national level. I wish that this event would boost inclusive innovation approach at the grassroots level among the youth of ASEAN and India that brings affordable, niche solutions for everyday problems of life, making day to day life of the people in the region easier", he said in his remarks.



A Khmer Cultural Performance was organized during the opening ceremony



[Extreme Left] H.E. Dr. HUL Seingheng, Cambodia COSTI Chairperson
[Centre - Left] H.E. Dr. Kan Channmeta, Secretary of State of the Ministry of Industry, Science, Technology and Innovation, Kingdom of Cambodia
[Centre - Right] H.E. Dr. Devyani Uttam Khobragade, Ambassador of India to Cambodia
[Extreme Right] Dr. Zurina Moktar, Head of Science & Technology Division, ASEAN Secretariat



Group photograph of the representatives of ASEC, COSTI Cambodia, India, MISTI Cambodia and ASEAN Member States



Participants from ASEAN Member States and India standing during the National Anthem of India, Cambodia and the ASEAN Anthem



In large numbers, participants from India and ASEAN Member States have assembled to collectively witness the 3rd ASEAN India Grassroots Innovation forum

AN EXHIBITION OF INNOVATIVE TECHNOLOGIES

Nearly 100+ distinct innovative technologies from grassroots and student innovators, from 9 distinct nationalities viz. India and 8 AMS (ASEAN Member States) viz. Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Thailand and Vietnam were at display during the exhibition organized as a part of the forum.



View of innovation exhibition organized during 3rd ASEAN India Grassroots Innovation forum which attracted high footfall







Dignitaries & innovators visiting innovation exhibition, interacting with participants from peer nations building a network



Visitors from ASEAN Member States visiting the innovation exhibition & experiencing the innovations from India, learning from the experiences of each other which was one of the key objectives of 3rd ASEAN India Grassroots Innovation forum



















Participants and visitors from ASEAN Member States at the innovation exhibition, experiencing innovations from each other's country, attempting to map the possibilities of technology adoption in their own country, a key objectives of 3rd ASEAN India Grassroots Innovation forum at Cambodia



Innovators were visiting the pavilion of each other and getting to know about latest trends in each country. This leads to growing the exposure which is inevitable for any progressive nation and its aspirational youth

PANEL DISCUSSIONS

A total of 3 different panel discussions were organized on topics of contemporary importance:

Session 1: STI (Science, Technology and Innovation) cooperation in grassroots innovation between AMS and India for resiliency

Following were the participants in it -

- I. Mr. Tushar Garg, India : Keynote Speaker & Moderator
- II. Ms. Deeksha Katyal, India: Speaker
- III. Dr. Phyu Phyu Win, Myanmar: Speaker
- IV. Dr. TRY Sophal, Cambodia: Speaker
- V. Dr. Phong Thai Le, Vietnam: Speaker



Audience to the panel discussions putting forth questions to get an expert view and benefit entire audience from them



Dr. TRY Sophal, Cambodia

Dr. Phong Thai Le, Vietnam



Ms. Deeksha Katyal, India

Dr. Phyu Phyu Win, Myanmar: Speaker



Every panel discussion started with a keynote speaker session, followed by speaker sessions and then the moderator & entire panel exchanging views on topics of contemporary importance

The audience was made aware on following important dimensions:

- How science and technology is materialized in grassroots innovation?
- STI cooperation context in AMS and India
- "Shared Values, Common Destiny" in a post COVID-19
- Technology transfer between AMS and India
- Challenges of cooperation in grassroots innovation

The session recording has been uploaded to ASEAN India Innovation Platform (AIIP) – Social Innovations YouTube channel and is available at - <u>ASEAN India GI forum - STI</u> <u>cooperation in Grassroots Innovation between AMS and India for resiliency - YouTube</u>

Key takeaways from the 1st session

- A holistic view of policies and adherence to laws is required so that innovations benefit the common people by providing equal opportunities
- In all the countries, India and ASEAN Member States represented in the panel i.e.
 Cambodia, Myanmar and Vietnam, there are grassroots and student innovation based enterprises which face similar challenges & a common opportunity could be providing them access to markets of each other so that their business risks get diversified and eventually mitigated
- The roadmap that India and ASEAN Member States represented in the panel i.e.
 Cambodia, Myanmar and Vietnam, have adopted for their countries is progressive and one strategy which could be adopted to expedite journeys is to collaborate more so that the way particular challenges were handled in one of them could be shared with the other, thereby providing leapfrogging opportunities to incubates. In other words, not necessarily that each country should make the same mistakes and learn. Instead, a better approach is that each one of them make some original mistakes and let everyone else learn from them

Session 2: Policy & regulation ecosystem of Grassroots Innovation in AMS & India Community

Following were the participants in it -

- I. Prof Amarendra Kumar Das, India: Keynote Speaker
- II. H.E. Dr. HUL Seingheng, Cambodia: Keynote Speaker & Moderator
- III. Dr. Toulany Thavisay, Lao PDR: Speaker
- IV. Dr. Raden Arthur Ario Lelono, Indonesia: Speaker
- V. Ms. Pitchayapa Siriratana, Thailand: Speaker
- VI. Dr. SIEV Sokly, Cambodia: Speaker



Prof Amarendra Kumar Das, India: Keynote Speaker

The audience was made aware on following important dimensions:

- What is the policy incentive/support for grassroots innovation in AMS and India?
- How effectively policies contribute to the promotion/protection of grassroots innovation
- Grassroots innovation in India and ASEAN: Similarities vs differences
- Innovation ecosystem for Grassroots/student innovators
- Grassroots innovator platform and across border

Key takeaways from the 2nd session

- Regulators play an important role of 'facilitators" wherein law ensures a balance of "rights" vis-à-vis "duties" & protecting the common people, the "consumers"
- It was also inferred that different countries are at different level of policy making and framing of regulations for innovation, entrepreneurship and start-up ecosystem i.e. trajectory is same, but pace is different. Therefore, an ideal co-operation model would be the one where those who are ahead, act like a model worth emulating for others in the region.
- Different countries have dedicated agencies with a specific mandate to deliver public service focused on creating the eco-system and the "priorities" vary country by country. Some approaches are adopted which "work" while there are also certain approaches which go "terribly wrong". A good cooperation model require that such agencies collaborate to learn from experiences of each other. For example, one country could have explored certain investment models and arrived at certain conclusions. So far, such conclusions aren't in cognizance of peer AMS. If such learnings are accessible, things would move faster and towards greater sustainability.

The session recording has been uploaded to ASEAN India Innovation Platform (AIIP) – Social Innovations YouTube channel and is available at -

Speaker sessions 2: <u>ASEAN India forum - Policy/Regulation ecosystem of Grassroots</u> <u>Innovation in AMS & India Community 1 - YouTube</u>



Speakers from different countries shared their own experiences around Science, Technology and Innovation eco-system

Session 2 with the Speakers and Moderator: <u>ASEAN India forum - Policy/Regulation</u> ecosystem of Grassroots Innovation in AMS & India Community 2 - YouTube



After the Speakers sessions, during the panel discussions, the panelists from different countries shared collective perspectives and answered the questions from the audiences

Session 3: Journey to Innovation through UIL (University Industry Linkage)

Following were the participants in it -

- I. <u>H.E Chea Ratha, Cambodia: Keynote Speaker</u>
- II. Dr. SRUN Pagnarith, Cambodia: Moderator
- III. Prof K M L Pathak, India: Speaker
- IV. Dr. Sharmila Mohamed Salleh, Malaysia: Speaker
- V. Dr. Hel Chanthan (ITC), Cambodia: Speaker
- VI. Dr. Chim Chay (RUA), Cambodia: Speaker



H.E Chea Ratha, Cambodia: Keynote Speaker

The audience was made aware on following important dimensions:

- UIL context at each AMS and India
- Collaboration between innovators and academia
- Best practices of grassroots innovation through UIL
- Journey to innovation in AMS and India
 - \circ $\,$ How to shorten the time from idea to commercialization?
 - How innovation could be sustained and secured the market demands?
 - How innovators access to market information?

Key takeaways from the 3rd session

- The various components in the value chain were deliberated, and the importance of "academia" – "industry" linkage was reiterated wherein different countries have adopted bespoke approaches which proved beneficial for their own country.
- The high amount of importance was attached with Institutions which act as excellent "bridges" between different stakeholders be it the case of National Innovation Foundation (NIF) in India or the Malaysia Innovation Foundation (YIM) in Malaysia which have excelled in the art of connecting at the right time.
- Specific domain cases were also discussed like the case of Agroprocessing in Cambodia wherein a 30 year strategy model is in place spread as 0-10, 11-15, 16-20 and finally, 21-30 years and each of them having a separate goal to be accomplished.
- The emphasis on structural reforms like those related to funding, developing social innovations infrastructure and capacity building was laid and, on the sidelines, perennial challenges like trust deficit between Universities and Industry were discussed, which need some serious thoughts so as to achieve desired success levels

The session recording has been uploaded to ASEAN India Innovation Platform (AIIP) – Social Innovations YouTube channel and is available at - <u>ASEAN India GI forum - Journey</u> to Innovation through UIL (University Industry Linkage) - YouTube



Dr. SRUN Pagnarith, Cambodia



Prof K M L Pathak, India



Audience participated in large numbers during panel discussions, particularly the students, the youth of Cambodia remained actively engaged be it through asking few high quality questions to Speakers, demonstrating their curiosity to learn and eventually positioned themselves as budding entrepreneurs

STUDENT INNOVATION COMPETITION

A total of 38 students from India (8) and 8 AMS (ASEAN Member States) viz. Cambodia (5), Indonesia (2), Lao PDR (5), Malaysia (5), Myanmar (5), Philippines (2), Thailand (5) and Vietnam (1) have participated in the two-day Student Innovation Competition.



Glimpse of the student innovation competition which was spread across three days



Jury members from different countries were very carefully reviewing candidate presentations, asking questions so that students who are getting this first international opportunity learn something new and special during the three-day forum

The posters and in few cases the prototypes of the students were on display at the exhibition organized as a part of the forum such that jury members and the participants at large could familiarize themselves with the innovative technologies being developed in various countries. A jury representing five different nationalities adjudicated the competition. The format of the competition included a presentation delivered by the participating student followed by Q & A.

S.No	Name of the Jury Country	
1	Dr. Sophal Cheat Cambodia (Chair)	
2	Mrs. Sansanee Huabsomboon Thailand	
3	Dr. Visansack Khamphengvong	Laos
4	Ms. Eryda Listyaningrum	Indonesia
5	Mr. Hardev Choudhary	India

The winners were as follows:

Rank	Country	Name of the student	Innovative Technology
1-USD 1500	Thailand	Napaschol Inthapan	ORA (Osteoarthritis
			Rehabilitation Assistant)
2 – USD 1000	Thailand	Tanapat Charunworaphan	The HealthTech that keeps
			your heart in checked
3 – USD 500	Lao PDR	Phonsena Chanthavong	Intelligent boat for a
			<u>cleaner river</u>



Napaschol Inthapan, Thailand won the 1st prize in Student Innovation competition for the innovation titled "ORA" and prize was conferred by Dr. Zurina Moktar, Head - Science and Technology Division, ASEAN Secretariat



Tanapat Charunworaphan, Thailand won the 2nd prize in Student Innovation competition for the innovation titled "The HealthTech that keeps your heart in checked" and prize was conferred by Dr. Zurina Moktar, Head - Science and Technology Division, ASEAN Secretariat



Phonsena Chanthavong, Lao PDR won the 3rd prize in Student Innovation competition for the innovation titled "Intelligent boat for a cleaner river" and prize was conferred by Mr Tushar Garg, Scientist, National Innovation Foundation (NIF) –

GRASSROOTS INNOVATION COMPETITION

A total of 45 innovators from India (9) and 8 AMS (ASEAN Member States) viz. Cambodia (5), Indonesia (5), Lao PDR (4), Malaysia (5), Myanmar (5), Philippines (4), Thailand (5) and Vietnam (3) have participated in the two-day Grassroots Innovation Competition. The posters and in few cases the prototypes of the innovators were on display at the exhibition organized as a part of the forum such that jury members and the participants at large could familiarize themselves with the innovative technologies being developed in various countries.



Jury members from different countries were very carefully reviewing innovators presentations, asking questions so that innovators who are getting this 1st international opportunity learn something new and special during the three day forum



Glimpse of the grassroots innovation competition which was spread across three days

A jury representing five different nationalities adjudicated the competition. The format of the competition included a presentation delivered by the participating innovator followed by Q & A.

S.No	Name of the Jury Country	
1	Prof. Sunil Pareek India (Chair)	
2	Mr. Nik Kamaruzaman Nik Husin Malaysia	
3	Dr. Nay Zar Aung Myanmar	
4	Dr. Anthony Sales	Philippines
5	Mrs. Vu Thuy Lien	Vietnam

The winners were as follows:

Rank	Country	Name of the Innovator	Innovative Technology
1 – USD	India	Shalini Kumari	Modified Walker with
1500			Adjustable Legs
2 – USD	Philippines	Meriam Bouquia	Multi purpose Fiber Stripper
1000			
3 – USD 500	Myanmar	Myo Thaw	GreenToddy's Plamyra palm
			<u>coconut</u>



Shalini Kumari, India won the 1st prize in Grassroots Innovation competition for the innovation titled "Modified Walker with Adjustable Legs" and prize was conferred by Dr. HUL Seingheng, Cambodia COSTI Chairperson



Meriam Bouquia, Philippines won the 2nd prize in Grassroots Innovation competition for the innovation titled "Multi purpose Fiber Stripper" and prize was conferred by Mr Richhpal Singh, Charge d Affairs, Embassy of India in the Kingdom of Cambodia



Myo Thaw, Myanmar won the 3rd prize in Grassroots Innovation competition for the innovation titled "GreenToddy's Plamyra palm coconut" and prize was conferred by Mr Tushar Garg, Scientist, National Innovation Foundation (NIF) –
INDIAN DELEGATION CALLED ON TO THE AMBASSADOR OF INDIA TO CAMBODIA

On the 2nd day of the forum i.e. 20th December, 2022 the delegation from India called on to H.E. Dr. Devyani Uttam Khobragade, Ambassador of India to Cambodia and also had a chance to interact with her team comprising of First Secretary (Political & Commerce) & HOC, Shri Richhpal Singh amongst others.

The 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 the Kingdom of Cambodia. She 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 Cambodia and the broader ASEAN region. This was a unique experience as grassroots and student innovators from India had never visited any Indian embassy abroad. Her Excellency in her interaction deliberated about both the challenges and opportunities that innovators come across in their journeys, the societal problems they have already solved and those which they intend to solve in near future. She has shared her wealth of experience with the innovators, guiding them on what next, what different they can do with their innovations for improved growth prospects. Shri Richhpal Singh, First Secretary (Political & Commerce) & HOC, also shared his perspectives towards brightening the prospects of social innovations from India in the Kingdom of Cambodia.

Her Excellency appreciated the delegation for their innovative work & wished success.

Consequent to this engaging interaction, few innovative technologies are now part of the Embassy of India in Cambodia so that their future prospects could be widened and the citizens of Cambodia visiting the Embassy could experience the potential of social innovations emanating from India.

<u>Facebook</u> <u>Twitter</u>



H.E. Dr. Devyani Uttam Khobragade, Ambassador of India to Cambodia met the delegation from India participating in the 3rd edition of the ASEAN - India Grassroots Innovation Forum, under ASEAN - India Framework in Phnom Penh, Cambodia

GOVERNMENT-TO-GOVERNMENT MEETING

On 21st December, 2022 the representatives from the ASEAN Member States (AMS), ASEAN Secretariat, and the Indian government discussed various strategic points like the continuity of the ASEAN - India Grassroots Innovation Forum and future ASEAN - India STI collaboration opportunities during Government-to-Government meeting.

The meeting was jointly chaired by Dr. Zurina Moktar (ASEAN Secretariat), Dr. Raj Kumar Sharma (India representative) and Dr. HUL Seingheng (Cambodia COSTI Chairperson) and following were the representatives from India and 8 AMS (ASEAN Member States) viz. Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Thailand and Vietnam.



Name	Country	Designation
H.E. Dr. HUL Seingheng	Cambodia	Cambodia COSTI Chairperson, Director
		General of General department of STI
Dr. Arthur Ario Lelono	Indonesia	Director of Talent Management BRIN
Dr. Itthida	Lao PDR	BAC, Ministry of Education and Sport
Gnangnouvong		

Mr. Nik Kamaruzaman	Malaysia	Ministry of Science, Technology and
Nik Husin	in ana yora	Innovation
Dr. Phyu Phyu Win	Myanmar	Department of Research & Innovation/ Ministry of Science & Technology
Dr. Noel Ajoc	Philippines	DOST Caraga
Vu Thuy Lien	Vietnam	National Agency for Science and Technology Information
Dr. Zurina Moktar	ASEAN Secretariat	Head of Science & Technology Division
Dr. Raj Kumar Sharma	India	
Dr. TRY Sophal	Cambodia	Deputy Director General of General department of STI
Dr. Toulany Thavisay	Lao PDR	Deputy director of entrepreneurial education and skills and advancement center
Dr. Sharmila Mohamed Salleh	Malaysia	
Dr. AL – ARIF ABDUL RAHIM	Malaysia	PRINCIPAL ASSISTANT SECRETARY
Dr. Nay Zar Aung	Myanmar	Director and Principal, School of Industrial Training and Education
Mr. TIN SOE	Myanmar	Director and National COSTI Secretariat member
Mr. Nay Oo Kyi nil Kyi	Myanmar	MD, Natural Farm Fresh Myanmar Co., Ltd.
Prof. Le Thai Phong	Vietnam	Foreign Trade University
Dr. Vanny Narita	ASEAN Secretariat	Senior Officer
Ms. Rizky Inayati	ASEAN Secretariat	Officer
Mr. Tushar Garg	India	Scientist - National Innovation Foundation (NIF) - India

As a part of this meeting, following planned activities were discussed viz. Completed activities (a) AIWGST-13 Meeting and GC-AISTDF-8 Meeting (b) ASEAN-India Research & Training Fellowships (AIRTF) (c) ASEAN-India Collaborative R&D project proposals (AICRD) (d) 1st ASEAN-India Start-ups Festival; Ongoing activities i.e. 3rd ASEAN-India Grassroot Innovation Forum; Planned activities viz. (a) 1st ASEAN-India Women Scientists and Innovators Conclave in Singapore during 1H 2023 (b) AIWGST-14 Meeting and GC-

AISTDF-9 Meeting - April 2023 in India (c) 2nd ASEAN-India Start-ups Festival (AISF) - April 2023 in India. For 3rd India - ASEAN InnoTech Summit & 4th ASEAN-India Grassroot Innovation Forum, the hosts were yet to be identified and various countries have expressed their candidature for hosting them.

VISIT OF THE HON'BLE SENIOR MINISTER TO THE EXHIBITION

On 21st December, 2022 H.E. Kitti Settha Pandita Cham Prasidh, Hon'ble Minister of Industry, Science, Technology and Innovation, Kingdom of Cambodia visited the innovation exhibition and interacted with the innovators from India and 8 ASEAN Member States (AMS).

Amongst various insights that he shared with the participating innovators, he fondly remembered his familiarity with the eco-friendly herbal dyes based toys upon visiting the India pavilion.



H.E. Kitti Settha Pandita Cham Prasidh, Hon'ble Minister of Industry, Science, Technology and Innovation (MISTI), Kingdom of Cambodia in a group photograph with participants from India



H.E. Kitti Settha Pandita Cham Prasidh, Hon'ble Minister of Industry, Science, Technology and Innovation (MISTI), Kingdom of Cambodia experiencing innovations from (a) Malaysia – Top (b) India - Bottom





H.E. Kitti Settha Pandita Cham Prasidh, Hon'ble Minister of Industry, Science, Technology and Innovation (MISTI), Kingdom of Cambodia and other dignitaries interacting with grassroots and student innovators from India and 8 of the ASEAN Member States (AMS)

CLOSING CEREMONY

On 21st December, 2022 for the closing ceremony, H.E. Kitti Settha Pandita Cham Prasidh, Hon'ble Minister of Industry, Science, Technology and Innovation, Kingdom of Cambodia; Mr Richhpal Singh, Charge d Affairs, Embassy of India in the Kingdom of Cambodia and Dr. Zurina Moktar, Head - Science and Technology Division, ASEAN Secretariat were amongst the key dignitaries who were present.



The participants in 3rd ASEAN India Grassroots Innovation forum stood and sung India's National Anthem



The participants in 3rd ASEAN India Grassroots Innovation forum stood and sung ASEAN Anthem



The participants in 3rd ASEAN India Grassroots Innovation forum stood and sung Cambodia's National Anthem



H.E. Kitti Settha Pandita Cham Prasidh, Hon'ble Minister of Industry, Science, Technology and Innovation (MISTI), Kingdom of Cambodia shared his remarks during the closing session of 3rd ASEAN India Grassroots Innovation forum

Hon'ble Minister's remarks acknowledged an active contribution and support from India to the forum as he said "...Finally, I would like to extend my sincere appreciation to all the honorable representatives from the ASEAN Member States, the ASEAN Secretariat team, universities, and private sector, and especially to Her Excellency Dr. Devyani Khobragade, Ambassador of the Republic of India to the Kingdom of Cambodia, and through her to the Government of the Republic of India for their active contribution and support for the 3rd ASEAN-India Grassroots Innovation Forum 2022 in Phnom Penh. I am optimistic that cooperation between ASEAN and India will enjoy broader prospects and we will share an even brighter future...".



H.E. Kitti Settha Pandita Cham Prasidh, Hon'ble Minister of Industry, Science, Technology and Innovation (MISTI), Kingdom of Cambodia appreciated the efforts of all participants in the 3rd ASEAN India Grassroots Innovation forum which contributed to its successful conclusion



[Left] Mr Tushar Garg, Scientist, National Innovation Foundation (NIF) – India
[Left Centre] Dr. Zurina Moktar, Head - Science and Technology Division, ASEAN Secretariat
[Right Centre] H.E. Kitti Settha Pandita Cham Prasidh, Hon'ble Minister of Industry, Science, Technology and Innovation (MISTI), Kingdom of Cambodia

[Right] Mr Richhpal Singh, Charge d Affairs, Embassy of India in the Kingdom of Cambodia



He further observed "...Another important activity is the G2G meeting in which the representatives of AMS and Indian government discussed the continuity of the project and future collaboration. This will be a platform to build strong networks and collaboration between AMS and Indian government...". "The three-day forum provides a platform for participants to share experiences and best practices in grassroots innovation among ASEAN and India communities. I am optimistic that cooperation between ASEAN and India will enjoy broader prospects, and we will share an even brighter future," he said.



Deputy Secretary-General for ASEAN Economic Community Satvinder Singh added, "accelerating grassroots innovation beyond a viable means of raising income, demand a lucid ecosystem by empowering the grassroots community to actively share tacit knowledge, co-create and co-innovate in a platform like this forum."

The Ambassador of India to ASEAN Jayant Khobragade expressed his appreciation for the event.



Winners of Grassroots and Student Innovation Competition – 1^{st} , 2^{nd} and 3^{rd} prize in the single group photograph



NEW TECHNOLOGIES SCOUTED DURING THE FORUM

The three day 3rd ASEAN Grassroots Innovation forum witnessed bringing to the forefront of a plethora of societal problems which common people in India and AMS (ASEAN Member States) have been facing and also more importantly Science, Technology and Innovation (STI) based solutions which innovators in each of these countries have figured out to solve them. Few of these have been at various stages of incubation, however, there were few which are yet to get on-boarded to their incubation journeys. It is therefore important that each of these technologies may be taken up for further study, analysis, determination of potential in each on a case to case basis so that relevant stakeholders are linked. The scope of support needed will vary, potential will also vary, however it is certain that if appropriate attention is meted then some new technologies may evolve this year for the years and generations to follow ahead of us.

Details of these technologies available at hand have been uploaded to the innovation bank i.e. ASEAN India Innovation Platform (AIIP) – Social Innovations so that when the common people in India and 10 AMS (ASEAN Member States) look out for problems visà-vis solutions, then these are directly accessible and taken up for further incubation.

A detailed study of these technologies will be taken up for the purpose of initial mapping of feasibility and scope cross border, and once ascertained on a case to case basis, required deliberations will be started.

Country	Innovator(s) / Presenter (s)	Technologies
		Automatic internet-based recycle bin (air-
Cambodia	Team Tanapat	<u>b)</u>
Cambodia	Visal Kao	AIR WRITING
Cambodia	Pickabot	Fruit picking robot
Cambodia	Team Vireak Roeun	Smart Design Apartment
Cambodia	Keopitou Doung	Next-gen id card

Grassroots Innovation based Technologies

India	Kunal Vaid	Silk reeling machine
	Pareshkumar Kasturbhai	Manually Operated Bamboo Incense
India	Panchal	Making Machine
India	Afzal Shaikh	Low cost sanitary napkin making machine
India	Antoji Kalathumkal Job	Rain Water Syringe
India	Narsimha Godasu	Water Hyacinth Harvest Machine
India	Gurmail Singh	Compost Aerator (Maker)
	Venkatapathi Raju	
India	Chintalapati	Herbal Toys
India	Shalini Kumari	Modified Walker with Adjustable Legs
India	Murugesan Mayandi	Banana Fiber Products
Indonesia	Ika Juliana	Greenie
Indonesia	Raihan Dara Lufika	Biona Ceudah Rupa
Indonesia	Mifzaldin Akbar Al Kautsar	<u>HarvPort</u>
Indonesia	Henry Bin Uyu Hidayat	PT Bumi Oma Henshin - Imago Raw Honey
Indonesia	Abdul Malik subianto	PRODUCTION OF OIL COMPOUND
Lao PDR	Prisa Senduangdeth	Cofarm
		Lao agricultural market information
Lao PDR	Bandaxay Lovanxay	<u>system (lao-amis)</u>
Lao PDR	Daovady Mahaxay	Re-Craft Laos
		Economic empowerment for laos
		household farmers through digital data
Lao PDR	Ophakorn Kouphokham	<u>marketplace</u>
		CAHAYA GIMIK ENTERPRISE (Presentation
Malaysia	Fauzi Bin Zakaria	not available)
Malaysia	Mohd Firdausmohd Noh	Flexible silkscreen printing table
Malaysia	Salenaahmad	SURI INSPIRASI SDN BHD
Malaysia	Muhammad Asyraf Muda	Digital livestock platform (saas)
	Rusasmizal Mohamad	
Malaysia	Ghazali	CRAB LANGKAWI FARM & RESTAURANT
Myanmar	Thuzar Win	Plum stone charcoal briquette
Myanmar	Myo Thaw	Palm nectar collection
Myanmar	Nay Oo Kyi	Nature Farm Fresh Myanmar Co Ltd
		Automatic heating mixer for food
Myanmar	Thiri Shwe Yi Win	processing

		A real-time embedded object detection
Myanmar	Htar Su Naing	system using resource limited devices
Thailand	Pitchayapak Petchseesuk	Innovation for supporting the aged society in thailand
		Using innovative water solutions as a tool
Thailand	Samruay Phadphon	for high-hill community development
Thailand	Thongchai Koobkokkruad	Reishural natural facial serum
Thailand	Tatiya Charoenrome	Innovative rubber buttons
Thailand	Chutinun Noppagard	Terry Perfect Company Limited, TISTR
Vietnam	Nguyen Hoang Long	the living air solution for life
		Help poor people own their dream car
Vietnam	Tan Nguyen	(Presentation not available)
Vietnam	Ho Thi Mai	EduCRM
Philippines	Denmar Perez	Coconut dehusking Machine
Philippines	Hannah Jacalan	CACAO INDUSTRY
x	Meriam Bouquia	Presentation not available
Philippines	Laarnie Albacite	Presentation not available

Student Innovation based Technologies

Country	Innovator(s) / Presenter (s)	Technologies
India	Yash Dnyaneshwar Shinde	Multipurpose catering equipment
	Muhammad Alif Iskandarmd	
Malaysia	Faizal	Mrsm bentong
Indonesia	Asep Pamil Sultoni	Presentation not available
Lao PDR	Vinliem Phanitchanleun	Presentation not available
Malaysia	Sakinah Binti Mohd Sahri	Waste wise
India	Elambirai M	Lift accident prevention
		lot based real time patient monitoring
Myanmar	Htoo Myat Minn	<u>system</u>
Philippines	Justin Anthony P	Presentation not available
Thailand	Napaschol Inthapan	Osteoarthritis rehabilitation assistant
Vietnam	Nguyen Thi Lan Phuong	Presentation not available
Myanmar	Thant Tun Kyaw	Inventory control system for sme
Indonesia	Athi' Sayyidah	Presentation not available

		Modified arra (bamboo basket) for
India	AMA Bengia	<u>multipurpose use</u>
Lao PDR	Phonsena Chanthavong	Presentation not available
Cambodia	Sovisal Horn	Presentation not available
Myanmar	Aung Than San	Presentation not available
Philippines	Elan Victoria Tomaneng	Flood detector
		The healthtech that keeps your heart in
Thailand	Tanapat Charunworaphan	<u>checked</u>
Vietnam	Le Mai Linh	Moodsing application
India	Navshri Thakur	Multi tasking kitchen tool
Cambodia	Lim Lyheang	Presentation not available
Indonesia	Muhammad Humam	Presentation not available
Lao PDR	Asasay Kounnavong	<u>Rideshare</u>
Malaysia	Raja Dania Khalisha Roslan	I-glorious oil collection centre
Cambodia	Ly Bunleng	Presentation not available
India	Ashok Dasari	Ceiling fan lifting tool
		Eye tracking movement metrics
		screening mild cognitive alzheimer's
Thailand	Lenny Thomas	<u>disease</u>
India	Sulochana Kakodiya	Fully automatic toilet cleaning machine
Cambodia	Kea Samnang	Presentation not available
Indonesia	Sajid Suhla Amilul Haq	Presentation not available
		Execute as a platform to solve such a
Lao PDR	Thiradeth Khamhoung	problem
India	Abhishek Marripelli	Paddy filling machine
	Boonyarit	
Thailand	Pathomnantapong	Presentation not available
Cambodia	Roy Dynongdia	Presentation not available
Malaysia	Hariz Haiqalhaswandi	Secure monitor bot
Malaysia	Ibrahim Syawwal bin Sofian	<u>Assist +</u>
Lao PDR	Phonesavanh Litdavong	Intelligent boat for a cleaner river
India	Naitik Srivastava	Smart glasses for blind people

KEY TAKEAWAYS / ACHIEVEMENT FROM THE 3RD ASEAN INDIA GRASSROOTS INNOVATION FORUM

Following have emerged as key takeaways / achievements from the 3rd ASEAN India Grassroots Innovation Forum with the corresponding action points –

- By virtue of a deeper engagement with Embassy of India in Cambodia and Indian Mission to ASEAN, newer opportunities have arisen which may be channelized to magnify the impact that India currently has on ASEAN Member States (AMS) in the field of Science, Technology and Innovation (STI). One potential vehicle to accomplish them is to identify some Quick Impact Projects (QIP), the short gestation period projects wherein social innovations from India can be taken up for dissemination through social and commercial channels in the broader ASEAN region. Since "Seeing is believing", the 3rd forum was an opportunity where the value proposition of India's innovations was experienced and hence the foundation was laid to grow prospects further. Few technologies were retained at the Embassy of India in Cambodia with the kind support of the Her Excellency, the Ambassador of India in Cambodia, such that recall value of social innovations from India is continuous and not just one-time.
- H.E. Kitti Settha Pandita Cham Prasidh, Hon'ble Minister of Industry, Science, Technology and Innovation (MISTI), Kingdom of Cambodia while visiting the India pavilion at the exhibition, shared his familiarity with few innovative technologies of the National Innovation Foundation (NIF) – India viz. "Modified Walker with adjustable legs" and "Eco-friendly Toys". This establishes that the frugal and demand driven social innovations from India have created an appeal and familiarity in different parts of the world.
- Quality interactions that innovators and experts from India and ASEAN Member States have built with each other during the forum is beginning of an important dialogue. The preliminary discussions were enriching and as this conversation gets build further, participants in the conversation, would be suitably aware of the

progress that peer nations are making, the benchmarks of the domain area and how to push boundaries to achieve something concrete in the domain area.

- Technologies which have won the award i.e. Modified walker with adjustable legs, Multi purpose Fiber Stripper, GreenToddy's Plamyra palm coconut, ORA (Osteoarthritis Rehabilitation Assistant), The HealthTech that keeps your heart in checked, Intelligent boat for a cleaner river and several others which haven't won the award but were obviously meritorious in certain ways, have established that problems are there in every country, and people figure out ways to solve them everywhere. It may be argued that in certain countries, methodology or approach or the technological solution adopted was better than those adopted in other countries. This paves way for recognition of the fact that "my technology can solve problem elsewhere too" or in economic terms "there exists a demand for my technology in another country" is an important consideration for every innovator. There is a need to build further on this very realization to initiate hopes for cross border technology transfer opportunities.
 - In few cases, complementary solutions for a common problem were also envisioned, which means, the existing solution is serving 50% of the requirements. However, if can be amalgamated with one more existing technology from another country, instead of both serving 50% of the requirements can collectively serve 80%-100% of the requirements. This require a deeper analysis of Use cases such that this thought which prima-facie looks exciting can be realized to its full potential.
- Strengthening India's Science, Technology and Innovation (STI) based relationship with other countries by harnessing its leadership in frugal and demand driven innovations as it would appeal to middle – low income countries on grounds liker coexistence of affordability and excellence. Certain countries find it economically infeasible to procure a technology from advanced economies in Europe and US. Due to quality and other concerns, like geo-political, solutions rooted in India offer the best of the opportunities for both adoption and procurement. This was established when the innovators noted the reaction from visitors who were trying to map the solution they witnessed from India to a problem they are facing in their own country.

Now that technologies from India are noted by citizens who have a recognition and respect for innovations, chances are opportunities would be more than earlier. This would entail follow up discussions not only ensuring that they happen but also ensuring that they are more "focused" and "action oriented" and in "near" and not in "distant" future.

- The forum was an opportunity to showcase the merit in India's model of Innovation, Start-up and Entrepreneurship, which makes it the world's third largest eco-system. Many countries would like to follow it, learn from it and grow their respect for what India has achieved. However, this happens best when there is a "people to people" interaction and also when "proof of pudding is in the eating". When people from other countries get to experience some technologies during the forum, they had questions, and innovators had answers to most of them with a confidence that much of that can be accomplished within the country. It also validated that India's selfreliance quotient is still higher than many other countries of the world, which at times isn't established in deliberations locally.
- The forum enhanced the awareness of participants, the innovators in particular, on areas which will become increasingly important for the world be it the portfolio of technologies which serve the aging population amongst others. This strengthens the inherent demand dimension of technologies which is essential to comprehend areas where the world would require more innovations to happen.



MEDIA COVERAGE

- 1. The ASEAN Secretariat:
 - a. ASEAN-India launches 3rd Grassroots Innovation Forum 2022
 - b. India, Thailand win 3rd ASEAN-India Grassroots Innovation Forum
- 2. Press Information Bureau, Government of India, <u>Department of Science and</u> <u>Technology (DST), Government of India</u>
 - a. <u>An Innovator from India makes the country proud by winning a competition</u> <u>at the 3rd ASEAN India Grassroots Innovation forum in Cambodia</u>
- 3. Indian Mission to ASEAN
 - a. <u>ASEAN-India launched 3rd Grassroots Innovation Forum-2022 in Phnom</u> <u>Penh, Cambodia (19 December, 2022)</u>
 - b. <u>3rd ASEAN India Grassroots Innovation Forum : An Innovator from India</u> make the country proud by winning a competition (21 December, 2022)
- 4. <u>Office of the Permanent Secretary for Higher Education, Science, Research and</u> <u>Innovation, Kingdom of Thailand</u>
- 5. TNAOT, Cambodia
- 6. Vivekananda International Foundation
- 7. TheScitech.org
- 8. India Science

RESOURCES

- ASEAN India Innovation Platform (AIIP) Social Innovations
 - o **Opening ceremony**
 - o <u>Session Presentations</u>
 - $\circ \ \ \text{Session recordings}$
 - Session 1
 - Session 2 : Part 1
 - <u>Session 2: Part 2</u>
 - Session 3
 - o <u>Student Innovation participant presentations</u>
 - o Grassroots Innovation participant presentations
 - o Short video highlight of the 3rd ASEAN India Grassroots Innovation Forum
 - o <u>Closing ceremony</u>
 - o <u>A walkthrough of the Exhibition</u>
 - o <u>Pre-event promotional capsule</u>
 - <u>Closing ceremony speech during 3rd ASEAN India Grassroots Innovation</u> <u>Forum by H.E. Kitti Settha Pandita Cham Prasidh, Hon'ble Minister of</u> <u>Industry, Science, Technology and Innovation, Kingdom of Cambodia</u>



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