Building Prolific Entrepreneurship Ecosystems: Shared Lessons from India and ASEAN

Incubators as Catalysts for Innovation

Amelia Litania
Programme Officer, ERIA

Shailaja Shukla
Associate - Insight, CIIE.CO

Acknowledgements

Executive Summary

This report is part of a study that CIIE.CO, the Innovation Continuum, and Economic Research Institute of ASEAN and East Asia (ERIA) are conducting to open collaboration and peer learning between India and the Association of Southeast Asian Nations (ASEAN) and share knowledge and tools relevant to entrepreneurship ecosystems in South Asia. It dives into the evolution of the incubation ecosystem in India and ASEAN and presents a comparative analysis of some of the major policies. This report is based on the joint roundtable held by CIIE.CO and ERIA on 'Incubators as Catalysts for Innovation', as well as previous research by both organisations on incubators in their respective countries and/or regions.

Key Messages

- The Indian startup ecosystem went through an evolution in three phases. Phase 1 began in the early 2000s with a focus on commercialisation of technology. Phase 2 came around 2008 when Internet 2.0 came into the picture, which shifted focus beyond research and towards tech startups. Phase 3 began in 2016, when the government developed the startup policy. The ecosystem has grown multifold between 2016–2021 with more than 40 startups that reached a valuation of US$1 billion (or unicorns) emerging only in 2021.

- The innovation and entrepreneurship ecosystem in Southeast Asia is maturing, as evidenced by the increasing number of exits and a growing number of unicorns mainly in four ASEAN Member States: five in Indonesia, four in Singapore, two in Viet Nam, and one in Malaysia (Ajmone Marsan, Sabrina, and Jin, 2021). During 2023–2025, 700+ are expected to exit, mainly through mergers and acquisitions and initial public offerings through the Special Purpose Acquisition Company. Even though countries in Southeast Asia are at different stages of development, because of the maturing ecosystem, there are also more venture capital and resources available in Southeast Asia.

- Per Chintan Vaishnav of Atal Innovation Mission (AIM), 'The innovation ecosystem in India is a transducer with creativity as input and innovation and entrepreneurship as output.'

● Where there is a lack of funding, there is a lot of innovation focused on solving bigger problems and supporting local communities. There are examples of startups in rural areas that have thrived over bigger brands in Southeast Asia because they are locally driven and focused on providing value to their customers.

● Funding agencies should consider the three Cs for incubation programmes:

1. Capital. There should be enough for the incubator to cover expenses, grow, and become sustainable in the long run.

2. Connections. Incubators should be able to connect the entrepreneurs to the right people. The incubation manager should be well-connected in their respective region.

3. Competency. To help and support startups, an incubator itself needs to have certain competencies and expertise, especially in operational areas such as human resources, compliances.

INTRODUCTION

In 2020, India was home to over 50,000 startups, with an expected annual growth rate of over 12% (Startup India, n.d). According to the National Association of Software and Service Companies (NASSCOM), India is home to over 350 incubators and accelerators, covering about 100 cities, with this number set to increase exponentially in the coming years (NASSCOM, 2020). A 2017 NASSCOM study placed India third globally in terms of the number of incubators. However, India is far behind the leaders, with China having over 2,400 incubators and the United States (US) having over 1,500 incubators.

In the same year, ASEAN released a guideline for creating an enabling environment for the region's startups ecosystem. In 2018, at least 5,800 active startups were operating across all major sectors in the ASEAN, including fintech, big data, consumer goods and services, and e-commerce (ASEAN, 2020). Since 2012, Southeast Asia has given rise to over ten unicorns, with a combined market value of over US$34 billion (Reyes, 2020). Startups providing new products and services are growing across the region and governments have dedicated instruments or programmes to support innovation. Some programmes have enabled providers like incubators, accelerators, or innovation centres to scale up startup commercialisation and foster collaboration with the private sector (Ajmone Marsan et al., 2021). Overall, each member state of ASEAN experienced the different stages of development and progress to foster incubators and accelerators that would support the entrepreneurship ecosystem in the region.

Considering the coronavirus disease (COVID-19) pandemic, there has been an organic shift towards virtual incubation globally. As a result, many incubators will continue to have a hybrid mode and may become global. This will encourage the demand for access to knowledge, resources, and mentorship. Startups might leverage these global networks to seek more customised inputs that drive their success.

A major gap in the Indian ecosystem exists in the synergy between policy, industry, and academia. So far, the exchange has been transactional at best. There is a lack of trust amongst these three communities. This mistrust may be rooted in older generations of the industry, which believed that outsiders do not really understand how the ecosystem works. The misconception that profit was the only motivation for industry also plagued the academic community. There is a need to overcome this deep divide between these communities. How far have the policymakers been able to bridge this gap between industry–academia–government is still unknown.

Similarly, to boost the incubators and accelerators ecosystem, ASEAN's key challenge is to collaborate with academia and the private sector and facilitate the development of an ecosystem where a variety of stakeholders could create synergies in the region. Monitoring mechanisms already exist, but more effort is needed to gain a better understanding of the effectiveness of existing support schemes.

Policy Overview

The Case of India

In India, there is evidence of an incubation structure from as early as 1955, when the Ministry of Micro, Small, and Medium Enterprises (MSME), which aimed to provide boosts to small businesses, set up the National Small Industries Corporation (NSIC). In 1982, the National Science and Technology Entrepreneurship Development Board (NSTEDB) was created under the Department of Science and Technology (DST), which focused on generating jobs and commercialising technology. The DST is also responsible for the creation of new programmes aimed at incubators (NASSCOM, 2020). In 2008, MSME also started setting up and supporting incubators.

Before 2014, incubator related policies seemed to focus on technology-based entrepreneurship, with schemes such as the Technology Incubation and Development of Entrepreneurs (TIDE); a scheme to promote the Innovation Rural Industry and Entrepreneurship (ASPIRE); and the National Initiative for Developing and Harnessing Innovation (NIDHI). In 2014, however, the central government's initiative, Startup India, became the catalyst for the incubation and startup ecosystem in India. This led to the creation of the Atal Innovation Mission (AIM) by NITI Aayog, which had a more comprehensive and inclusive approach to incubators (Sharma and Vohra, 2020). With these interventions, India witnessed the founding of over 200 incubators in 2010–2020 (Sharma and Vohra, 2020).

In recent times, policies have focused on geographical inclusion. For example, AIM supports Atal Innovation Community Centres to promote innovation in previously unserved regions (AIM, n.d). TIDE 2.0, which was launched in 2019, started grouping incubators based on their location, focus, age, and experience, wherein one group of incubators comprises incubators in underdeveloped ecosystems (MeitY Startup Hub, 2019). Furthermore, in 2020, AIM launched 'AIM-iCrest' to build the capacity of AIM incubators as organisations, hoping to create world class incubators (ET Now Digital, 2020).

Figure 1: Evolution in Incubation Policies of the Central Government
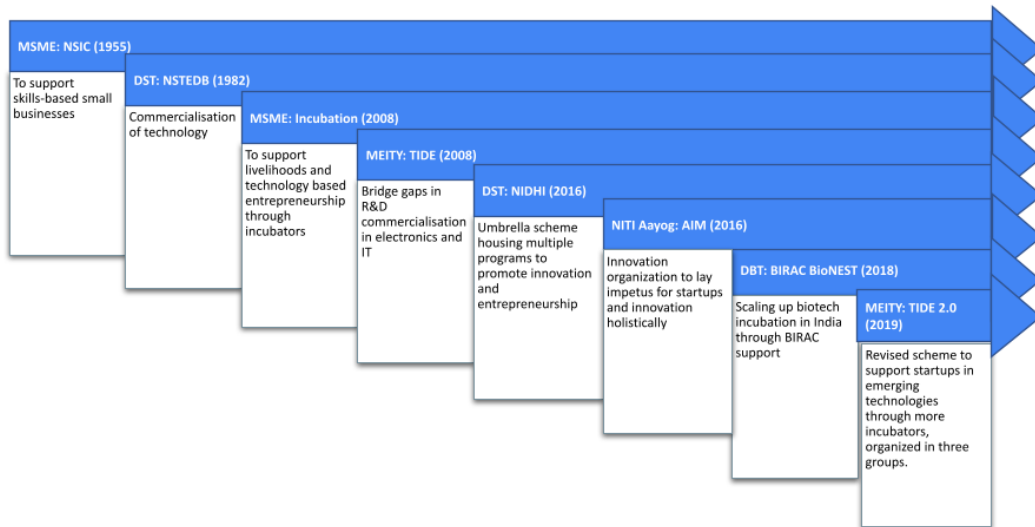
AIM = Atal Innovation Mission; BIRAC BioNEST = Biotechnology Industry Research Assistance Council, BIOincubators Nurturing Entrepreneurship for Scaling Technologies; DBT = Department of Biotechnology; DST = Department of Science and Technology; NSIC = National Small Industries Corporation; NSTEDB = National Science and Technology Entrepreneurship Development Board; MSME = Ministry of Micro, Small and Medium Enterprises; MEITY = Ministry of Electronics and Information Technology; NIDHI = National Initiative for Developing and Harnessing Innovation; TIDE = National Science and Technology Entrepreneurship Development Board. Note: Adapted from and expanded on source publications.
Source:
1. Sharma, S. and N. Vohra (2020), 'Incubation in India: A multi-level analysis', IIM Ahmedabad Working Paper WP-2020-03-01. https://web.iima.ac.in/assets/snippets/workingpaperpdf/16280815672020-03-01.pdf (accessed 8 June 2021).
2. Sharma, S., N. Vohra, and S. Shukla (2021). 'The Past, Present and Future of Start-Up Incubation in India', In Shifting Orbits: Decoding the Trajectory of the Indian Start-up Ecosystem, edited by Thillai Rajan, A. et al., pp.62–73. Hyderabad: Universities Press (India) Private Limited.

Some of the more recent initiatives show a significant change in how policymakers look at incubation as it not only involves geographical inclusion but also requires capacity building of incubators, giving them an identity as organisations with their own set of challenges.

The Case of ASEAN

Southeast Asia is becoming one of the strategic places to grow a startup in today's entrepreneurial world. In the past 5 years, ASEAN experienced a strong economic growth that attracted private equity and venture capital, amounting to US$9.6 billion secured by ASEAN in 2019 (King, 2021). The creation of the ASEAN Economic Community in 2015 and the adoption of broad and inclusive development goals of the 2030 Agenda led to the increasing support of policymakers towards entrepreneurship in MSMEs to boost regional economic growth and to narrow income gaps between and within ASEAN Member States.

The support is especially needed as in most ASEAN countries, MSMEs represent around 97%–99% of the enterprise population (ASEAN, 2018). This number comprises heterogeneous groups ranging from micro-firms to high-growth startups to small family businesses (Ajmone Marsan and Sabrina, 2020). Due to the Covid-19 pandemic and the shift towards digitalisation, many MSMEs in ASEAN countries are still struggling to adopt new technology and to compete with larger companies that have more resources to upscale the business (Ajmone Marsan and Sabrina, 2021).

To tackle this challenge, ASEAN governments and many private sectors started to play an active role as incubators and accelerators to create new businesses and facilitate new innovations. For example, in Viet Nam, around 50 incubators and accelerators were active in 2018, most of which were government led (ADB, 2020). In Thailand, the number of accelerators increased from 1 to 13 between 2012 and 2018. In Myanmar, the regional government played an active role in boosting local entrepreneurship, e.g., Yangon regional government's first partnership with a Swiss startup incubator to launch the Yangon Innovation Centre in 2018 (McKinsey, 2020).

ASEAN efforts to build more integrated and collaborative support for the entrepreneurship and startups ecosystem progressed considerably in 2018, when ASEAN held the first meeting for the ASEAN Business Incubator Network (ABINet) Project. The purpose of the project was to strengthen the regional networking and linkage amongst the incubators in the ASEAN region and promote the competitiveness of SMEs. The platform also serves as a network of mentors, offering incubation and acceleration programmes for startups, while providing a channel for market expansion and incentives to attract investors to potential startups in the region.

At the national level, several ASEAN Member States have already implemented incubating programmes that focus on fostering entrepreneurship skills and development amongst MSMEs. In Indonesia, for instance, several ministries implement these programmes and incorporate them into the strategic plans of the Ministry of Education, Culture, Research, Technology and the Coordinating Ministry of Economy Affairs. Under the Ministry of Entrepreneur Development and Cooperatives in Malaysia, the SME Corp spearheaded these programmes. In the Philippines, the Fabrication Laboratories (FabLabs) of the Department of Trade and Industry implement training programmes and research projects for technology business incubators. Meanwhile, in Myanmar, entrepreneurship camps and incubators are run by the country's Young Entrepreneurs Association.

Other ASEAN Member States have implemented other initiatives, but the lack of concrete actions and synergy amongst stakeholders remains a key challenge. In Viet Nam, a government decree identified

the agencies responsible for supporting start-up activities, but they have not implemented any concrete programmes. In the Lao People's Democratic Republic, the Five-Year National Socio-Economic Development Plan 2016–2020 outlines measures to enhance the capacity of entrepreneurs, but few concrete programmes appear to be in place.

Overall, many ASEAN countries already have national innovation hubs and incubators. With the emphasis on the importance of public–private partnerships in building a successful ecosystem for entrepreneurs, it is critical for businesses and private initiatives to nurture entrepreneurial skills (Ajmone Marsan and Sabrina, 2021). However, to be competitive, policymakers in ASEAN Member States will need to coordinate how to connect national incubators into regional networks and overlay regional business and financial support services to help SMEs operate across ASEAN. Synergising the regional networks with national incubators and innovators would open doors to new opportunities, nurture the cross-fertilisation of ideas between cultures and communities, and support the exploration of complementarities between countries.

Comparison of Policies

Comparison of Policies in India

In India, the government funds around 260 incubators (Rault and Matthew, 2019) and around 13 central government departments are supporting incubators (Sharma and Vohra, 2020). Each department has a distinct focus area and direction. For example, a biotech incubator differs greatly from an agricultural one. Despite that, incubators are often affiliated with multiple departments to ensure their own sustainability as an organisation. The following list covers the departments with affiliated incubators at a central government level.

List of Departments:

- Atal Innovation Mission, NITI Aayog
- Department of Agricultural Research and Education
- Department of Biotechnology
- Department of Space
- Department of Scientific and Industrial Research
- Department of Science and Technology
- Ministry of Development of North Eastern Region

- Ministry of Electronics and Information Technology
- Ministry of Human Resource Development
- Ministry of Agriculture and Farmers Welfare
- Ministry of Defense
- Ministry of Food Processing Industries
- Ministry of Skill Development and Entrepreneurship
- Ministry of Tourism
- Ministry of Micro, Small and Medium Enterprises

Amongst these, four government bodies stand out as top supporters of incubation based on the number of incubators supported by each department over the years (Sharma and Vohra, 2020). We have captured a brief comparative overview of the major national incubation policies by these four departments in Table 1. This further highlights the different focus areas of each policy.

Table 1: Overview of Major National Incubation Policies in India

Policy	Department	Year	Focus	Elements
TIDE/TIDE2.0	Ministry of Electronics and Information Technology	2008/2019	Technology incubation centres in ICT and Electronics	Hold grand challenges, MeitY Startup Hub to connect different stakeholders, special COE for IPR assistance, grouping incubators (which can act as mentors to each other) based on experience and location
ASPIRE	Ministry of Micro, Small and Medium Enterprises	2015	Technology-based incubation in the rural-agro industry and livelihood business incubators to build commercial businesses in rural areas	Aims at creating a database of current technologies and using their network to convert these technologies into products.
NIDHI	National Science and Technology Entrepreneurship Development Board , Department of Science and Technology	2016	Technology and innovation-based startups in certain areas align with the national priorities.	Hold grand challenges, specific schemes for the creation of CoE. Support startups through scouting, supporting and scaling of innovations through interventions across different stages of startup journey
Startup India	Atal Innovation Mission, NITI Aayog	2016	To encourage a culture and provide a platform for innovation and entrepreneurship	Capacity-building for incubators, hosting grand challenges, setting up tinkering labs in schools, supporting startups through Atal Incubation Centres and setting up Atal Community Innovation Centres in tier 2 and 3 cities

CoE = Centre of Excellence; IPR = Intellectual Property Registration; NIDHI=National Initiative for Developing and Harnessing Innovations.
Sources:
1. Ministry of Electronics and Information Technology (n.d.), Technology Incubation and Development of Entrepreneurs (TIDE) 2.0. https://meitystartuphub.in/incubators/schemes/tide-2-0 (accessed 8 June 2021).
2. Ministry of Micro, Small and Medium Enterprises (n.d.), 'Scheme for Promotion of Innovation, Entrepreneurship and Agro-Industry'. https://www.nsic.co.in/pdfs/aspire15.pdf (accessed 8 June 2021).
3. NIDHI Prayas, (n.d.), About Us – DST-NIDHI. https://www.nidhi-prayas.org/#parentVerticalTab11 (accessed 8 June 2021)
4. Atal Innovation Mission (n.d.), Overview, https://aim.gov.in/overview.php (accessed 8 June 2021).

Comparison of Policies amongst ASEAN Countries

Across ASEAN, incubation and acceleration programmes are carried out in various sectors and institutions. With most of the programmes led by government institutions, each member state has a certain focus and strategies to boost the entrepreneurship ecosystem based on national characteristic and policy priorities. As many ASEAN countries disperse access and support for potential startups and innovation, national agencies are given specialised roles and responsibilities to support incubators and accelerator programmes.

The following list covers some of the key central government institutions that monitor and implement national incubation/startup programmes.

List of Key Government Institutions:

- Brunei Darussalam:
  Ministry of Finance and Economy; Brunei Economic Development Board.

- Cambodia:
  Ministry of Economy and Finance; Khmer Enterprise

- Indonesia:
  Ministry of Cooperative and SMEs, Ministry of Industry, National Research and Innovation Agency

- Lao People's Democratic Republic:
  Lao National Chamber of Commerce and Industry

- Malaysia:
  Ministry of Entrepreneur Development and Cooperatives, Ministry of Science, Technology and Innovation

- Myanmar:
  Ministry of Industry, Myanmar Small Medium Enterprise Development Agency

- Philippines:
  Department of Trade and Industry, Department of Science and Technology, Department of Information and Communication Technology

- Singapore:
  Ministry of Trade and Industry, Economic Development Board, Enterprise Singapore, A*STAR

- Thailand:
  Ministry of Science and Technology (MOST), Ministry of Digital Economy and Society

- Viet Nam:
  Ministry of Science and Technology

We captured a brief comparative overview of the major government institutions and agencies that are responsible for the incubation policies in Table 2. This further highlights the different focus areas of each policy.

Table 2: Overview of Major National Incubation Policies in ASEAN Member States

Country	Lead Ministries/National Agencies	Focus	Elements
Brunei Darussalam	• Ministry of Finance and Economy (MOFE) • Brunei Economic Development Board (BED)	Streamlining startups and expanding the business ventures for local SMEs	BED, under the MOFE, built Brunei's first ICT incubator, providing subsidised office space to broadband access and skills development for startups
Cambodia	• Ministry of Economy and Finance • Khmer Enterprise	Scaling startups business to regional and global level	The Cambodian Ministry of Economy and Finance formed Khmer Enterprise as a national platform to stimulate growth of entrepreneurship and provide financial and non-financial support
Indonesia	• Ministry of Cooperative and SMEs • Ministry of Industry • National Research and Innovation Agency (BRIN) • Indonesia Stock Exchange (IDX) Incubator	Boosting competitive entrepreneurship through startups incubation to support Industry 4.0	• Ministry of Cooperative and SMEs to support and regulate incubator programmes for local start-ups and continue to provide them opportunities through its Startup Incubator Programme (SIP) • BRIN as a focal point for research and technology business incubators (TBIs) • IDX Incubator as a facilitator to help digital-based startups that want to IPO
Lao People's Democratic Republic	Lao National Chamber of Commerce and Industry (LNCC)	Advancing Lao innovative entrepreneurship and startups ecosystem	LNCC is tasked to prepare the Lao Angel Investor Network, SMEs funding program and consultation, as well as business development and mentorship network.
Malaysia	• Ministry of Entrepreneur Development and Cooperatives (MEDAC) • SME Corp. Malaysia. • Ministry of Science, Technology and Innovation (MOSTI) • Cradle Fund Sdn. Bhd.	Support the growth, commercialisation, and innovation of startups and SMEs	• SME Corps under MEDAC enhances the productivity and growth of SMEs. It is also a central point of reference for research and data dissemination of entrepreneurs and incubators scenarios. • Under MOSTI, Cradle Fund provides commercialisation support for technology entrepreneurs and innovators.
Myanmar	• Ministry of Industry • Myanmar SME Development Agency	Creating a good ecosystem for startups, incl. startups friendly policy and providing attractions to entrepreneurs to gain momentum and create job opportunities	Myanmar SME Development Agency is the primary catalyst for developing MSMEs in Myanmar, providing capacity building trainings, financial access, SMEs registration, etc.
Philippines	• Department of Trade and Industry (DTI) Negosyo Centre and DTI FabLabs • Department of Science and Technology (DOST) • Department of Information and Communication Technology (DICT)	Supporting startups ecosystem, accelerate STI, bridging communication between startups and private and public partner agencies, and strategised ways to help technology business incubators and startups	• DTI created the Pondo Para sa Pagbabago at Pag-Asenso (P3) – a programme that provides cheap loans with only a 2.5% monthly interest rate. This program allows startups to benefit from an alternative capital source, allowing them to grow and expand their business. • DTI Negosyo Centre was established to promote ease of doing business and facilitate access to services for startups and MSMEs. • DOST Startup Ecosystem Development Program was established to support TBI and startups.

Singapore	• Economic Development Board (EDB) Singapore • Enterprise Singapore • Agency for Science, Technology and Research (A*STAR)	Championing the overall growth of Singapore enterprises and startups in the region	• EDB, Enterprise and A*STAR are statutory boards under the Ministry of Trade and Industry (MTI). • EDB aims to grow inward investment and development of enterprise ecosystem in Singapore. • Enterprise Singapore focuses on helping local enterprises build capabilities and capture new opportunities across sectors and market. • A*STAR co-innovate with local research and innovation institutions & Singapore universities (NUS Enterprise, NTUitive, SMU IIE, etc.) plays as incubators to improve access to technologies and grants for startups and SMEs.
Thailand	• Ministry of Science and Technology (MOST) • Ministry of Digital Economy and Society (MDES) • National Innovation Agency (NIA) • Digital Economy Promotion Agency (DEPA) Accelerator Program • Thailand Board of Investment	Acceleration of business digitalisation, innovation and investment for startups	• MOST and MDES focus on innovation development and digitalisation amongst Thai businesses and SMEs. • One of NIA's portfolios is Startup Thailand, the national startup promotion platform in the country. • Thailand Board of Investment is assigned to promote investment in Thailand and Thai overseas investment. One area includes promoting investment to encourage R&D, incubator programs, innovation, and value creation in certain industries.
Viet Nam	• Ministry of Science and Technology (MOST) • National Agency for Technology Entrepreneurship and Commercialisation Development (NATEC) • The Office of National Programmes on Science and Technology (ONPOST)	Support the development of the startup ecosystem, foster innovation and technology commercialisation	• MOST leads the National Program 844, which aims to provide support for incubators, accelerators, training courses on innovative startup. In 2013, the Viet Nam Silicon Valley was launched under MOST as a centre for incubation, mentoring, and granting funds to innovators and entrepreneurs. • NATEC to promote the startup economy in Viet Nam by providing training, mentorship, business incubation and acceleration and financial aid to new startups and enterprises.

ICT = Information, Communication, and Technology; IPO = Initial Public Offering; R&D = Research and Development; SMEs = Small and Medium Size Enterprises; Sdn. Bhd. = Private Limited Company in Malaysia; NUS Enterprise = National University of Singapore Enterprise; NTUitive = Nanyang Technological University Innovation & Enterprise; SMU IIE = Singapore Management University Institute of Innovation & Entrepreneurship

Sources:
1. Ajmone Marsan, G., L.M. Sabrina, and O.T. Jin (2021), 'Entrepreneurship, Startups and Innovation (E-S-I) in ASEAN and East Asia: Shaping the Post-Pandemic Recovery', Lesson from ERIA E-S-I, Episodes 1–5.
2. Cradle Fund Sdn. Bhd, About Us, https://www.cradle.com.my/about-us/ (accessed 1 December 2021).
3. See NUS Enterprise, About Us https://enterprise.nus.edu.sg/ ; NTUitive, Our DNA https://www.ntuitive.sg/about-us/our-dna; SMU Institue of Innovation & Entrepreneurship, Incubator https://iie.smu.edu.sg/ (accessed 1 December 2021).

POLICY RECOMMENDATIONS

- **Policy support now needs to look at the gaps in specific sectors and lifecycle stages of startups.** This is vital for building startups and startup-like organisations. The requirements will significantly vary across different sectors, such as agriculture, health, and education. Each sector needs a different intervention.

- **Policy needs to encourage more entrepreneurship amongst graduating students in less explored disciplines.** It is a common observation across geographies in India and ASEAN that academic institutes either do not promote entrepreneurship sufficiently or, at best, such promotion is limited to certain disciplines such as technology, business, and management. Evangelising student entrepreneurship in these areas may unlock innovation and create opportunity for long overdue disruptions in the market.

- **More engagement in the form of procurement is needed from the government.** While there are platforms and recent initiatives in India to encourage procurement from small businesses, there needs to be more policy level intervention towards this. The traditional tendering method of procurement is more transparent, improves fair access, and is equitable. However, due to its requirements, in terms of scale and legitimacy, it is out of bounds for early-stage startups. It is important to identify ways to retain the democratic principles, but equally important to procure products and adopt services and solutions from startups to provide them access to the market. This move from the government will also bring the benefits of innovation to the citizens.

- **Impact measurement and tracking for incubators and other players in the ecosystem can help policymakers meet entrepreneurship goals for the entire ecosystem.** In other words, what gets measured gets done. This approach not only helps all the players in the ecosystem – such as policymakers, incubators, and investors – align on goals, but also ensures measurable progress. Policymakers must pay attention to defining measures that are relevant to the respective ecosystem.

- **Governments can play a huge role in de-risking startups.** At present, most de-risking is limited to providing capital (in the form of grants or equity). More involvement from the government in the form of industry connections, procurement, partnerships, certifications, support with internationalisation, amongst others can help alleviate this risk and unlock growth for startups.

- **Adjusting to the behavioural changes brought about by COVID-19.** The pandemic forced citizens across the globe to adopt technology. However, there remains a significant digital divide in urban and

rural areas within India and the ASEAN region. Virtual incubation is showing promise in the wake of behaviour changes that COVID-19 brought along. Policymakers can consider defining virtual incubation mechanisms and suggesting good practices for virtual incubation.

- **Policy needs to strengthen strategic collaboration amongst policymakers.** Incubation policies of multiple government agencies would enhance their impact if they are in sync rather than operating in silos. This can be done by appointing a nodal agency that would make it easier to share information and collaborate between incubation programmes and policies.

- **Policy should comment on and inform incubators about emerging sectors and focus areas.** Ongoing research to identify focus areas and themes that need startup intervention and support from the ecosystem is a critical exercise for an ecosystem to move forward. Policymakers must support such research endeavours that provide insights which contribute to outcomes for the entire ecosystem.

- **Policy should strengthen the link between national and regional initiatives to build more opportunities and benefits for startup ecosystems.** For ASEAN and India, policy measures to help startups connect at the regional level may have the added advantages of levelling the playing field. For example, governments can boost cooperation at the regional level through cross-national collaborative policy efforts.

- **Support the startup infrastructure that drives quality to scale up and help transition startups into the new normal of the Covid-19 pandemic.** Government plays a critical role in providing a regulatory environment that facilitates the growth of new technology and startup cluster. It should ensure systemic improvement in digital governance issues that does not pause but, in fact, accelerates during crises.

REFERENCES

Action Community for Entrepreneurship (2019), Thailand Startup Ecosystem Report: An Overview. https://ace.org.sg/ecosystem-reports/ (accessed 12 September 2021).

ADB Institute (2020), 'Financing of Tech Startups in Selected Asian Countries', ADBI Working Paper Series. https://www.adb.org/sites/default/files/publication/579766/adbi-wp1115.pdf (accessed 8 September 2021).

Ajmone Marsan, G. and L.M. Sabrina (2020), 'ASEAN MSMEs in a COVID-19 World: Lessons from ERIA MSMEs', Talks 1–5, ERIA Event Report. Jakarta: Economic Research Institute for ASEAN and East Asia. https://www.eria.org/publications/asean-msmesin-a-covid-19-world-lessons-from-eria-msmes-talks-1-5/ (accessed 8 September 2021).

Ajmone Marsan, G. and L.M. Sabrina (2021), 'ASEAN MSMEs in a COVID-19 World: Lessons from ERIA MSMEs', Talks 6–10, ERIA Event Report. Jakarta: Economic Research Institute for ASEAN and East Asia. https://www.eria.org/publications/asean-msmes-in-a-covid-19-world-lessons-from-eria-msmes-talks-6-10/ (accessed 8 September 2021).

Ajmone Marsan, G., L.M. Sabrina, and O.T. Jin (2021), 'Entrepreneurship, Startups and Innovation (E-S-I) in ASEAN and East Asia: Shaping the Post-Pandemic Recovery', Lesson from ERIA E-S-I, Episodes 1–5. https://www.eria.org/uploads/media/Event-Reports/2021-August-Event%20Report-ESI-Episode-1-5.pdf (accessed 8 September 2021).

Arayata, C. (2018), 'DOST, DICT, DTI partner to support startups', Philippine News Agency. https://www.pna.gov.ph/articles/1057094 (accessed 11 September 2021).

ASEAN Secretariat (2020), ASEAN Guidelines on Fostering a Vibrant Ecosystem for Startups Across Southeast Asia, https://asean.org/book/asean-guidelines-on-fostering-a-vibrant-ecosystem-for-startups-across-southeast-asia/ (accessed 10 September 2021).

ASEAN (2018), 'Boosting Competitiveness and Inclusive Growth', ASEAN SME Policy Index. https://asean.org/wp-content/uploads/2018/08/Report-ASEAN-SME-Policy-Index-2018.pdf (accessed 8 September 2021).

Atal Innovation Mission (n.d)., Atal Community Innovation Centre. https://aim.gov.in/acic-overview.php (accessed 8 June 2021).

Dharmaraj, Samaya (2021), 'Vietnam National Innovation Centre to Boost Tech Start-up Ecosystem' Opengov Asia, https://opengovasia.com/vietnam-national-innovation-centre-to-boost-tech-start-up-ecosystem/ (accessed 28 November 2021).

Enterprise Singapore (2019), 'Singapore Strengthens its Startup Ecosystem to Enhance Position as Global-Asia Node for Technology, Innovation and Enterprise'. https://www.enterprisesg.gov.sg/media-centre/media-releases/2019/april/singapore-strengthens-its-startup-ecosystem-to-enhance-position-as-a-global-asia-node-for-technology-innovation-and-enterprise (accessed 12 September 2021)

ET Now Digital (2020, July 30), 'Startup booster: NITI Aayog, Bill and Melinda Gates Foundation launch AIM iCREST Incubator Program', Times Now. https://www.timesnownews.com/business-economy/economy/article/startup-booster-niti-aayog-bill-melinda-gates-foundation-launch-aim-icrest-incubator-program/629777 (accessed 8 June 2021)

Government of India, Ministry of Micro, Small, and Medium Enterprises (2018), 'Guidelines of ASPIRE', A Scheme for Promotion of Innovation,Rural Industry and Entrepreneurship (ASPIRE). https://aspire.msme.gov.in/ASPIRE/AFHome.aspx# (accessed 8 June 2021)

Government of India, Ministry of Electronics and Information Technology (2019), 'Technology Incubation and Development of Entrepreneurs (TIDE 2.0)', MeitY Startup Hub. https://meitystartuphub.in/incubators/schemes/tide-2-0 (accessed 8 June 2021).

King, T. (2021), 'ASEAN PEVC Industry Doubles in Five Years', The Asset, https://www.theasset.com/article/44785/asean-pevc-industry-doubles-in-five-years (accessed 8 September 2021).

McKinsey Global Institute (2021), 'The Future of Asia: Asian Flows and Network are Defining the Next Phase of Globalization', https://www.mckinsey.com/featured-insights/asia-pacific/the-future-of-asia-asian-flows-and-networks-are-defining-the-next-phase-of-globalization (accessed 8 September 2021).

Naing Oo, A. (2019), 'Startups ought to be supported' The Global New Light of Myanmar. https://www.gnlm.com.mm/start-ups-ought-to-be-supported/ (accessed 11 September 2021).

NASSCOM (2017), 'Incubators/Accelerators Driving Growth of Indian Startup Ecosystem – 2017', https://nasscom.in/knowledge-centre/publications/incubators-accelerators-driving-growth-indian-start-ecosystem-2017 (accessed 8 June 2021).

NASSCOM (2020), Startup Catalysts - Incubators and Accelerators 2020, https://nasscom.in/knowledge-centre/publications/start-catalysts-%E2%80%93-incubators-accelerators (accessed 8 June 2021).

National Science & Technology Entrepreneurship Development Board (NSTEDB), (n.d.), 'About Us'. https://www.nstedb.com/about-us.htm (accessed 8 June 2021)

Oxford Business Group (2015), 'Brunei Darussalam Bolsters Support for Startups'. https://oxfordbusinessgroup.com/news/brunei-darussalam-bolsters-support-start-ups (accessed 8 September 2021).

Rault, Y.M. and S. Mathew (2019), 'An Imbalanced Ecosystem. Startups in India', *Economic and Political Weekly,* 54(45), pp.45-50. https://www.researchgate.net/publication/337285031_An_imbalanced_ecosystem_start-ups_in_India (accessed 8 June 2021).

Reyes, M. (2020), 'Unicorns of Southeast Asia', Cognity Labs. https://cognity.substack. com/p/unicorns-of-southeast-asia (accessed 8 September 2021)

Sharma, S. and N. Vohra (2020), 'Incubation in India: A multi-level analysis', IIM Ahmedabad Working Paper WP-2020-03-01. https://web.iima.ac.in/assets/snippets/workingpaperpdf/16280815672020-03-01. pdf (accessed 8 June 2021).

Sharma, S., N. Vohra, and S. Shukla (2021), 'The Past, Present and Future of Start-up Incubation in India', *In Shifting Orbits: Decoding the Trajectory of the Indian Start-up Ecosystem*, edited by Thillai Rajan A, Srivardhini K Jha, Joffi Thomas and Rohan Chinchwadkar, pp.62-73. Hyderabad: Universities Press (India) Private Limited.

SME Corporation Malaysia (2021), 'About MSE Corp. Malaysia', Official Website of SME Corp. Malaysia. https://www.smecorp.gov.my/index.php/en/about-sme-corp-malaysia (accessed 11 September 2021)

Startup India (2021), Incubator Framework. https://www.startupindia.gov.in/content/sih/en/incubator-framework.html (accessed 8 June 2021).

Umali, T. (2019), 'Indonesia Strengthens Support for Startups Business', Opengov Asia. https://opengovasia. com/indonesia-strengthens-support-for-start-up-businesses/ (accessed 11 September 2021)

Yu, D. (2020), '500 Startups Partner with Government Unit to Support Tech Startups in Cambodia', Tech Asia. https://www.techinasia.com/500-startups-partners-government-unit-support-tech-startups-cambodia (accessed 8 September 2021).