THE PHILIPPINES’ ECOSYSTEM FOR TECHNOLOGY STARTUPS

Gary Teves, Hannah Muralla-Palustre, Christopher Miguel Saulo, Jahjiel Pajutan, Mario Jordan Fetalino III, and Paul Vandenberg

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Ecosystems for Technology Startups in Asia and the Pacific

ASIAN DEVELOPMENT BANK
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Foreword

Business models continue to evolve rapidly, spurred by new digital technologies and their deployment in providing goods and services in innovative ways. We can now order food, hail a taxi, move money, arrange travel, watch entertainment, shop for just about anything, and even take courses or consult a doctor using digital methods. At a deeper and often less visible level, technology is affecting production processes in the form of Industry 4.0. Technology-based startup enterprises—or tech startups, for short—are an important part of the evolving business-to-business and business-to-consumer landscape in Asia and the Pacific as well as globally.

Startups develop in an ecosystem that can support—or hinder—their development. That ecosystem involves many national elements, but regional and international factors also are important, especially in increasingly open and globalized economies. Finance, often from venture capital, and skilled personnel, including both tech experts and entrepreneurs, are important parts of the ecosystem. Good digital infrastructure and supportive government policy are also critical. Startups develop best when the markets for their goods and services are large and active.

This report analyzes the Philippines’ ecosystem and the support it gives to the growing number of startups. The report focuses on startups in four areas: agritech, edtech, healthtech, and greentech (also known as cleantech). These four areas not only contribute to economic activity but can have a deeper impact on socioeconomic development. Edtech and healthtech contribute to human capital formation while agritech improves productivity and raises incomes in the rural sector where many poor people work. Greentech advances environmental sustainability and climate change mitigation.

The analysis of the Philippines’ ecosystem provides recommendations for policy makers both in the Philippines and other countries in Southeast Asia. My hope is that high-quality ecosystems can support startups throughout the Asia and Pacific region.

Albert Park
Chief Economist
Asian Development Bank
The report was prepared jointly by Think Tank, Inc. (TTI) and the Asian Development Bank (ADB). Lead authors for TTI are Gary Teves, Hannah Muralla-Palustre, Jahjiel Pajutan, Christopher Miguel Saulo, and Mario Jordan Fetalino III; and for ADB, Paul Vandenberg. Aimee Hampel-Milagrosa provided guidance on study design and Rana Hasan and Lei Lei Song offered management support.

The authors would like to thank key experts from the government, incubators, accelerators, development partners, investors, academic institutions, and startups who provided invaluable insights to the researchers that informed the preparation of this study. A draft of the report was reviewed by the Department of Science and Technology and suggestions were incorporated.

Tuesday Soriano copyedited the report, and Gee Ann Carol Burac provided administrative support and contract management.
<table>
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<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ATBI</td>
<td>Agri-Aqua Technology Business Incubation</td>
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<tr>
<td>DICT</td>
<td>Department of Information and Communications Technology</td>
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<tr>
<td>DOST</td>
<td>Department of Science and Technology</td>
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<tr>
<td>DTI</td>
<td>Department of Trade and Industry</td>
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<td>GII</td>
<td>Global Innovation Index</td>
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<td>ISA</td>
<td>Innovative Startup Act</td>
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<tr>
<td>LGU</td>
<td>local government unit</td>
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<td>MAIN</td>
<td>Manila Angel Investors Network</td>
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<tr>
<td>Mbps</td>
<td>megabits per second</td>
</tr>
<tr>
<td>NIASD</td>
<td>National Innovation Agenda and Strategy Document</td>
</tr>
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<td>NIC</td>
<td>National Innovation Council</td>
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<tr>
<td>PCAARRD</td>
<td>Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development</td>
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<tr>
<td>PCHRD</td>
<td>Philippine Council for Health Research and Development</td>
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<tr>
<td>PCIEERD</td>
<td>Philippine Council for Industry, Energy and Emerging Technology Research and Development</td>
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<tr>
<td>PhilGEPS</td>
<td>Philippine Government Electronic Procurement System</td>
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<td>PIA</td>
<td>Philippine Innovation Act</td>
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<tr>
<td>R&amp;D</td>
<td>research and development</td>
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<tr>
<td>RSEs</td>
<td>research scientists and engineers</td>
</tr>
<tr>
<td>SGF</td>
<td>Startup Grant Fund</td>
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<tr>
<td>STEM</td>
<td>science, technology, engineering, and mathematics</td>
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<tr>
<td>SVF</td>
<td>Startup Venture Fund</td>
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<tr>
<td>TAPI</td>
<td>Technology Application and Promotion Institute</td>
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<tr>
<td>TBI</td>
<td>technology business incubator</td>
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<td>VC</td>
<td>venture capital</td>
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The Philippine startup ecosystem has its roots in the early 2000s. At that time, the private sector began offering mentorships to budding entrepreneurs and organizing incubator programs. The Philippine government laid the foundation for startup support through enabling policies starting in 2010, followed by the creation of the Roadmap for Digital Startups in 2015. More recently, the Innovative Startup Act (ISA) and the Philippine Innovation Act (PIA), both passed in 2019, provide further government support to improve the startup ecosystem.

There are about 700 active startups in the Philippines today, a significant increase from only 100 in 2015. Most are active in fintech, media and entertainment, and e-commerce. Other market segments are emerging but still in the early stages of development. These include sectors in which startups are not only making an economic impact but also promoting human and sustainable development. Four such sectors are the focus of this report: agritech (agriculture), edtech (education), cleantech (environment), and healthtech (health care). Startup innovations in these sectors support human capital development by improving health and education, assist poor people in rural areas by increasing farm productivity, and help create a cleaner environment through mitigation and adaptation to climate change.

Promoting innovation is seen as a key strategy for the Philippines to recover from the pandemic, accelerate its growth, and achieve high-income status by 2040. Through their innovative capabilities, startups can play an important role in these processes.

The startup ecosystem consists of institutions, individuals, programs, and processes that interact with each other to support startups by creating an enabling environment. The key components are government programs and policies, financial institutions, incubators and accelerators, human capital (talent), and digital infrastructure.
Government Programs and Policies

The PIA set the policy direction for innovation and created the interagency National Innovation Council, which drafted the 10-year National Innovation Agenda and Strategy document. The law also created the Innovation Fund, which awards grants to enterprises that develop innovative solutions in 10 priority sectors.

Meanwhile, the ISA created programs and incentives to support the development of startups, which are implemented by various departments. The Startup Venture Fund is managed by the Department of Trade and Industry. The Department of Science and Technology (DOST) has three affiliated agencies with respective startup programs in agriculture, health, and industry, and has launched a Startup Grant Fund program. The Department of Information and Communications Technology, which is responsible for improving the country’s digital infrastructure, is developing the national startup portal and working closely with private incubators and accelerators. It has also launched a Startup Grant Fund program.

The scope and quality of government support for startups has improved significantly in the last few years.

Finance and Investment

State banks and private banks offer a variety of financing programs for small enterprises, but loans are not high on the list of funding options considered by startup founders. Loans are considered risky because many startups lack a revenue stream to make service payments. However, the Development Bank of the Philippines and the Land Bank of the Philippines, among other financial institutions, do offer credit to finance innovative enterprises.

Startups prefer venture capital (VC) over bank financing, even if it means giving up some control by sharing equity. VC understands the startup model well, can identify a startup’s weaknesses and propose solutions, and can provide mentoring in addition to financing.

Corporate VC was the earliest investor in tech startups and remains the primary source of funding today. These conglomerates either have their own VC arms or invest directly in startups that fit their core business. There are at least 40 VC firms in the country, with investments concentrated in digital sectors such as fintech, media and entertainment, and e-commerce. There is a need to attract investors for agritech, cleantech, edtech, and healthtech to give these sectors a greater chance of development.
Incubators and Accelerators

The Philippines has a large number of incubators and accelerators sponsored by the government, universities, Philippine conglomerates, and global companies like Alibaba and Google. Most are located in Metro Manila. DOST alone funds more than 50 technology business incubators.

An incubator helps a startup develop its ideas into a viable business by providing advice, training, access to markets, and links to prospective investors. An accelerator provides mentoring, access to funding, and networks to accelerate the growth of startups that have demonstrated good product-market fit. Both incubator and accelerator programs last 3–6 months and conclude with a demo day where founders pitch their ventures to potential investors.

Most of the tech startup founders interviewed for this report have joined at least one incubator program. They cited access to mentors and training, as well as reaching customers and partners, as benefits. Access to funding, which is typically highlighted as an incentive for joining incubators, ranked third among the top benefits. Incubators also give founders a sense of community that serves as a support system. Those who have not joined an incubator or accelerator cited the one-size-fits-all nature of the programs that benefit early-stage startups. Advanced-stage startups seek more customized mentorship and support. In the Philippines, there is currently no mature accelerator that offers such a customized approach.

Human Capital

The startup sector benefits from a workforce with higher levels of knowledge and advanced skills to produce technology innovations. In the Philippines, there are about 708 research scientists and engineers (RSEs) per million population. This is more than the number (380) that the United Nations Educational, Scientific and Cultural Organization (UNESCO) prescribes for a country to pursue its development and industrialization goals. However, the number in the Philippines is lower than in similar Southeast Asian countries.

The government has sought to promote RSEs through the Balik Scientist Program, which encourages Filipino scientists and technologists educated or trained abroad to return and apply their expertise domestically. The program offers generous financial incentives. Between 1986 and 2019, 526 Filipino scientists were persuaded to return.
There was a strong call among tech startup founders for the development of more homegrown tech talent. This can be achieved by improving the science, technology, engineering, and mathematics (STEM) curriculum in basic and higher education, and by promoting entrepreneurship and multidisciplinary academic programs. Startups would benefit from more talent, and government agencies would also benefit from employing personnel with the technical skills to assess and accredit tech startups’ products and services.

**Digital Infrastructure**

Adoption of digital innovations is affected by the high cost and access to the internet, as well as digital literacy among the population. The government can continue its efforts to improve digital infrastructure and accelerate the shift to online transactions.

Connectivity in rural areas is important for tech startups to attract customers and expand into new markets. Digital literacy among farmers is an issue, as they are older and find it difficult to learn the digital technologies offered by agritech firms.

The government’s transition to digitalization allows tech startups to access government services. The national government can fully digitalize services and other forms of support so that tech startups can obtain permits and access other support more quickly.

**Recommendations**

The last section of the report offers recommendations for improving the ecosystem. They are briefly listed here.

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Recommendations</th>
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<tr>
<td>High-level actions</td>
<td>• Conduct an annual review of key laws: Innovative Startup Act and Philippine Innovation Act.</td>
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<td></td>
<td>• Appoint startup champions to the National Innovation Council.</td>
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<td>Programs and regulations</td>
<td>• Streamline requirements for grant programs.</td>
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<td></td>
<td>• Create a cofinancing scheme for the national government to support local government in building ecosystems.</td>
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## Executive Summary

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<tr>
<th>Dimensions</th>
<th>Recommendations</th>
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<tr>
<td>Incubators and accelerators</td>
<td>• Improve the quality and management of new incubators.</td>
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<td></td>
<td>• Promote the establishment of accelerators.</td>
</tr>
<tr>
<td>Digital infrastructure and literacy</td>
<td>• Improve digital infrastructure.</td>
</tr>
<tr>
<td></td>
<td>• Promote digital literacy.</td>
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<td>Procurement and endorsement</td>
<td>• Ensure startups are aware of public procurement opportunities.</td>
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<td>• Encourage government to digitalize by adopting startup solutions.</td>
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<td></td>
<td>• Promote endorsement of healthtech startups.</td>
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<tr>
<td>Incentives for investors</td>
<td>• Create a tax credit system for investors in startups.</td>
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<td>• Reduce the need for foreign registration of startups to attract venture capital.</td>
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<tr>
<td>Talent</td>
<td>• Create a voucher system to encourage students to choose science, technology, engineering, and mathematics (STEM) pathways.</td>
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<td></td>
<td>• Increase STEM elements in agriculture courses.</td>
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In 2020, governments around the world imposed lockdowns to limit the spread of the coronavirus disease (COVID-19) pandemic. Stay-at-home regulations reduced mobility, prompting consumers to shop online, students to take up remote learning, and office workers to work from home. These changes to a new normal accelerated the adoption of technologies that otherwise would have taken years.

Against this backdrop, the Philippine startup industry, while still nascent, came into the spotlight. Startups enabled people to quickly adopt a range of digital technologies, from e-commerce and fintech to medical consultation and online entertainment. Existing startups adapted and expanded their services, while new startups emerged to take advantage of new opportunities and meet new needs.

Startups could ease the stress of the lockdown and help sustain economic activity because of prior initiatives to build the ecosystem. A decade before the pandemic, policy makers began to recognize the importance of innovation and technology to economic growth. They also understood the catalytic role that startups could—and should—play in this process. Public policies and programs were therefore adopted to create and strengthen the startup ecosystem. Private sector players—from conglomerates to financial institutions—also began to adapt to the new phenomenon of startups.

The Philippine startup ecosystem continues to grow and evolve. The number and sophistication of startups can also increase. This report provides a review and assessment of the ecosystem and how it supports the growing but nascent startup community. More startups, and those that are larger and offer deeptech solutions, can contribute to the post-pandemic recovery of the Philippine economy. They can also be the engine to achieve the longer-term goals of innovation, technological advancement, and sustainable economic growth.
1.1 What Is a Startup?

A startup is a young company that innovates technologies—or applies existing technologies in innovative ways—to provide a new product or service. The early stages of a startup’s development are therefore focused on innovation, design, prototyping, and testing; and often with minimal or no revenue stream. While traditional companies apply a standard business model, a startup creates a new model. In fact, the main innovation may be the model.

Some startups manufacture physical products, but many create a service that is digital and operates or is offered over the internet. Because the internet can provide immediate access to thousands and indeed millions of customers, the business model is often considered “repeatable”—many customers can use or access a service without the startup having to produce new physical products. For this reason, it is also highly “scalable” (Blank 2013). Most traditional small and medium-sized enterprises follow a gradual growth path, but the trajectory of startups usually follows a J-curve. The company grows slowly at first and then exponentially after reaching a point of rapid scaling.

Startups are considered “disruptors” not only because they displace products offered by traditional businesses, but because they change the way products or services are supplied. They are changing the way business is done, whether business-to-consumer (B2C) or business-to-business (B2B). For example, books are sold online (e.g., on Amazon) instead of in a bookstore. Startups’ innovations are also changing and improving the way we live. PayPal cofounder Peter Thiel said in his book Zero to One (Thiel 2014) that “new technology tends to come from startups, small groups of people bound together by a sense of mission to change the world for the better.”

1.2 Mapping the Ecosystem

The idea of an “ecosystem” defies simple definition. It encompasses a range of institutions, policies, people, and businesses that can support the development of tech startups. It is the environment in which startups operate and includes the startups themselves. The key components of the ecosystem are government (policies and programs), incubators and accelerators, financiers, digital infrastructure, and talent (tech and entrepreneurial). The ecosystem also comprises suppliers and customers, the culture of innovation, risk, and entrepreneurship, and non-digital infrastructure such as transportation, energy, and water.
This report finds that government policies and other components of the ecosystem are supportive of startups. However, startups face challenges in securing funding and getting the support they need. Other key constraints include a lack of local talent and tech mentors, digital infrastructure, and digital literacy.

This report focuses on domestic startups in agritech, cleantech, edtech, and healthtech. Startups in these four fields have the potential to impact human and sustainable development while providing economic benefits that apply to startups in all sectors. Agritech can increase farm productivity and income, reducing poverty in rural areas and increasing food security. Cleantech promotes green technologies and environmental sustainability in a country severely affected by climate change. Edtech and healthtech, on the other hand, develop human capital, increase labor productivity, and raise income and human well-being.

1.3 Methodology and Report Structure

The report is based in part on data and information collected through key informant interviews with stakeholders. Over two dozen tech startups were interviewed, comprising nine in agritech, seven in cleantech, five in edtech, and five in healthtech. The interviewers asked the startups about the challenges they faced and the quality and relevance of the support provided by the various players of the ecosystem. Startups were asked about gaps in the ecosystem that might be filled or areas that might be improved. From the standard initial questions, the interviewers then used the responses received to delve more deeply into specific issues. The information obtained is embedded in the analysis of the report and the recommendations. They also completed an online survey of basic information. A copy of the survey questionnaire can be found in the Appendix. The government agencies consulted are the main implementing agencies of the innovation laws in the Philippines and their related agencies. Financial institutions and regulatory agencies were also interviewed. Incubators and accelerators were selected primarily through recommendations from industry groups and individuals working in the sector. Funders were also selected through referrals. Secondary data and information were gathered from reports, media sites, and other sources.

The report has four main sections. Following this introduction, Chapter 2 provides an overview of the Philippine startup sector and its evolution. Chapter 3 provides an analysis of the components of the ecosystem, incorporating the views of startups and other players. Chapter 4 provides recommendations for policy makers and other actors in the startup community.
2.1 History and Growth

The Philippine startup ecosystem began to develop in the early 2000s with the emergence of mentorships and the first private sector incubators. Starting around 2010, the government took a more active role by introducing new policies and programs to aid startups. The local startup scene experienced a breakthrough year in 2012, when corporate incubators Kickstart and Ideaspace began funding startups such as the e-commerce website Sulit and the instant messaging platform Chikka (Ibrahim and Li 2015).

In 2015, the government launched the Philippine Roadmap for Digital Startups to support internet-related innovations and encourage ventures that would spur economic growth. Startups were also expected to provide solutions to pressing issues, such as social inequality, financial illiteracy, and inadequate health-care coverage for disadvantaged groups.

The road map defines a startup as “any business entity that is less than five years old, registered with the financial regulatory authorities of any country, provided that majority of its team is operating and residing in the Philippines” (Ibrahim and Li 2015). Internet startups can develop products or services in all sectors, including agriculture, business process outsourcing, communications, disaster management, education, energy, food technology, government, health, infrastructure, social entrepreneurship, and tourism.

The startup community has been supported by the efforts of three key departments: the Department of Science and Technology (DOST), the Department of Trade and Industry (DTI), and the Department of Information and Communications Technology (DICT). They signed a memorandum of understanding on startups assistance in 2018.1 The memorandum led to increased interdepartmental cooperation, including on events such as the 5th Philippine Startup Challenge,

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1 It was signed during the 2nd National TBI Summit in December 2018.
the RISE conference in Hong Kong, China (28 startups received funding to attend), and the First Philippine Startup Week, among others. These events were all held in 2019. The latter has become an annual event for the three departments, in partnership with QBO Innovation Hub.

Several important laws have been passed to create a supportive ecosystem for enterprises in general, startups in particular, and for innovation and use of the internet. These include the Free Internet Access in Public Places Act, 2017, and the Ease of Doing Business Act, 2018. These two laws were followed by the Revised Corporation Code, the Philippine Innovation Act (PIA), and the Innovative Startup Act (ISA), all passed in 2019. Recently, DTI launched the National AI Strategy Roadmap in 2021 to accelerate the adoption of artificial intelligence to advance industrial development and entrepreneurship. The Philippines is among the first 50 countries in the world to have a national strategy on artificial intelligence.

The Philippines has improved its performance in innovation rankings over time. Between 2014 and 2021, it rose from 100th to 51st in the Global Innovation Index (GII). The Philippines is among a group of lower middle-income countries whose performance exceeded expectations for their level of development. The Philippines ranks 4th out of 34 lower middle-income economies included in the GII 2021 report and 11th out of 17 economies in the combined regions of Southeast Asia, East Asia, and Oceania. The Philippines is among the world’s top 30 countries in knowledge and technology output (patents, labor productivity growth, high-tech exports). Areas for further improvement include institutions (political and regulatory environment), infrastructure (information and communication technology, electricity and logistics, ecological sustainability), and market sophistication (ease of getting credit, market capitalization, trade diversification).

### 2.2 Composition of Philippine Startups

Gradual improvements in the ecosystem have helped Philippine startups grow over the past decade. Interest and investment have become more pronounced in the last 2 years, possibly as part of a pandemic push that underscored the need for digital transformation. In 2021, a total of $858 million was invested in Philippine startups, more than the combined total of $803 million from 2018 to 2020.

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2 The Implementing Rules and Regulations for the Innovative Startup Act was launched together by DOST, DTI, and the DICT at the First Philippine Startup Week.


4 The nine other countries that surpassed expectations are India, Kenya, Moldova, Mongolia, Morocco, Tanzania, Tunisia, Ukraine, and Viet Nam.
The Philippine Roadmap for Digital Startups identified about 100 startups across the country in 2015, but the Philippine Startup Ecosystem Report 2021 estimates that there are now 700 active startups (Ibrahim and Li 2015; Gobi-Core Philippine Fund 2021). The actual number could be higher, as some ventures are still at an early stage and therefore not counted.

Fintech at 19% and e-commerce at 7% account for about a quarter of all startups. The combination of a surge in mobile banking due to COVID-19, a favorable regulatory environment, and a high number of previously unbanked and underserved Filipinos allowed many fintech startups to establish or expand in a short period. Education and health care each account for 5.2% of all startups. Agriculture is at 3.1% and cleantech is not included in the data (DTI 2021c).

The Philippine startup ecosystem ranks among the top 20 global ecosystems in terms of affordable talent, among the top 25 Asian ecosystems in terms of funding, and among the top 30 Asian ecosystems in terms of “bang for the buck” (Startup Genome 2022).

Table 1 provides a list of funding deals for startups during the pandemic.

Table 1: Philippine Startups That Gained Funding during the Pandemic, 2020 and 2021

<table>
<thead>
<tr>
<th>Industry</th>
<th>Startup</th>
<th>Funding Raised</th>
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<tbody>
<tr>
<td>Fintech</td>
<td>Mynt</td>
<td>$300 million in funding</td>
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<tr>
<td></td>
<td>Voyager Innovations</td>
<td>$167 million in new funding</td>
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<tr>
<td></td>
<td>Tonik Digital Bank</td>
<td>$17 million pre-Series B funding</td>
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<td></td>
<td>Uploan</td>
<td>$10.6 million in funding</td>
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<tr>
<td>e-Commerce</td>
<td>Goodwork.ph</td>
<td>$1.6 million seed round</td>
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<tr>
<td></td>
<td>Edamama</td>
<td>$5 million pre-Series A funding</td>
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<tr>
<td></td>
<td>Etaily</td>
<td>$1.6 million seed funding</td>
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<tr>
<td></td>
<td>Prosperna</td>
<td>$55,000 in funding</td>
</tr>
<tr>
<td>Media entertainment</td>
<td>Kumu</td>
<td>$73.6 million Series C funding</td>
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<tr>
<td>Crypto platforms</td>
<td>Philippine Digital Exchange Asset</td>
<td>$12.5 million in funding</td>
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<tr>
<td>Digital services</td>
<td>Komunidad</td>
<td>$1 million in seed funding</td>
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<tr>
<td>Logistics</td>
<td>Inteluck</td>
<td>$5 million pre-Series B funding</td>
</tr>
</tbody>
</table>

Source: Presentation by R. Aldaba, Department of Trade and Industry, 26 November 2021.
The Philippine Startup Survey 2020 shows that several digitally enabled startups have grown during the pandemic. Forty-nine percent of startups began offering a new product or service just before the start of the enhanced community quarantine, and 21% saw increased demand for their products and services.

Startups in logistics, edtech, enterprise technology, fintech, and healthtech were positively impacted, mainly because they provided products or services for home shopping and delivery, online learning, work-from-home, and other remote arrangements.

Table 2 shows Philippine startups by funding stage. Fifty-three percent are in the seed stage, followed by 23% in the pre-seed stage, and 13% in Series A. Startups in Series C account for 1.6%, while 3.4% have exited through mergers or acquisitions (DTI 2021c).

### Table 2: Philippine Startups by Funding Stage

<table>
<thead>
<tr>
<th>Stage</th>
<th>Philippine Startups (%)</th>
<th>Typical Amount ($), Typical Amount ($)</th>
<th>Investing Parties</th>
<th>Stage of Business</th>
<th>Raised Where</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-seed</td>
<td>23%</td>
<td>150,000 and below</td>
<td>Family, friends, angel investors</td>
<td>Ideation</td>
<td>Competitions, universities</td>
</tr>
<tr>
<td>Seed</td>
<td>53%</td>
<td>150,000–750,000</td>
<td>Family, friends, angel investors, VCs</td>
<td>Has minimum viable product</td>
<td>Incubators, accelerators, coworking spaces</td>
</tr>
<tr>
<td>Pre-Series A</td>
<td>4%</td>
<td>750,000–3 million</td>
<td>Angel investors, VCs, other institutions</td>
<td>Has product-market fit</td>
<td>Angels in Singapore and Hong Kong, China; competitions</td>
</tr>
<tr>
<td>Series A</td>
<td>13%</td>
<td>3 million to 10 million</td>
<td>VCs, other institutions</td>
<td>Scale up</td>
<td>Silicon Valley</td>
</tr>
<tr>
<td>Series B</td>
<td>1.4%</td>
<td>10 million to 100 million</td>
<td>VCs, other institutions</td>
<td>Scale up</td>
<td>Silicon Valley</td>
</tr>
<tr>
<td>Series C</td>
<td>1.6%</td>
<td>More than 100 million</td>
<td>Investment banks, VCs, other institutions</td>
<td>Scale up</td>
<td>Silicon Valley</td>
</tr>
<tr>
<td>Exit</td>
<td>3.5%</td>
<td>IPO, M&amp;A, profitable for &gt;5 years</td>
<td>Stability/expansion</td>
<td>Stock exchange, private agreements</td>
<td></td>
</tr>
</tbody>
</table>

IPO = initial public offering; M&A = merger and acquisition; VC = venture capital.
Note: Typical amounts are based on international standards and do not include unicorns.

* DTI (2021c).
Source: Ibrahim and Li (2015).
The startup ecosystem consists of different stakeholders interacting with each other to create an environment conducive to the creation of innovative business ventures. Just as raising a child takes a village, building a successful startup requires the support of government, investors, employees, customers, academia, and other players in the startup community.

3.1 Government Programs and Policies

The government plays a crucial role in creating a conducive environment for tech startups to grow and develop. It provides the regulatory and legal framework that influences the actions and decisions of other stakeholders in the ecosystem.

The Philippines has two landmark laws that define national policy to foster the growth of tech startups: the Philippine Innovation Act (PIA) and the Innovative Startup Act (ISA). Both were enacted in 2019 and are designed to spur technological innovation to achieve economic growth and sustainable development.

**Philippine Innovation Act**

The PIA sets the overarching policy direction for innovation. It created the National Innovation Council (NIC), an interagency body tasked with leading the development of the country’s vision for innovation, setting long-term innovation goals, and developing innovation strategies.

One of the NIC’s key mandates is to develop a 10-year National Innovation Agenda and Strategy Document (NIASD), which provides a long-term road map for improving innovation governance in the country. Policies and strategies to promote innovation in each region are part of the NIASD. The NIC has identified 10 priority innovation areas to be included in the NIASD: learning and education, health and well-being, food and agribusiness, finance, trade, transportation and...
logistics, public administration, security and defense, energy, and blue economy and water.\textsuperscript{5}

After being sidelined by the pandemic response, the NIC met for the first time in February 2021. The council discussed proposed guidelines for accessing the Innovation Fund and the first draft NIASD, which is now expected to be introduced in the first quarter of 2023 (Desiderio 2022).

The PIA provides for the establishment of an Innovation Fund to award grants to enterprises that create solutions with socioeconomic or environmental benefits in the 10 priority sectors. The law provides for an initial allocation of ₱1 billion to the Innovation Fund. By mid-2022, ₱200 million had been allocated.

The National Economic and Development Authority, which serves as the NIC Secretariat, has issued a call for proposals for the Innovation Fund. In the first round, eligible organizations are limited to national government agencies, local government units, state universities and colleges, and government corporations. The fund will be used to support government agencies’ programs in micro, small, and medium-sized enterprises innovation, regional innovation, strategic research and development (R&D), establishment of innovation centers and business incubators, and other related activities.

In addition, the PIA mandates a credit quota to promote lending to the startup sector. Under the law, banking institutions are required to allocate at least 4% of their total loanable funds to innovation development. The Bangko Sentral ng Pilipinas is seeking public comments on a draft circular in 2022 that will govern the implementation of the credit quota.

**Innovative Startup Act**

The ISA focuses on programs and incentives to support the development of startups and startup enablers. It created the Philippine Startup Development Program, which is a collection of programs, benefits, and incentives.

Under the Philippine Startup Development Program, qualified startups and startup enablers\textsuperscript{6} can receive subsidies for the cost of registration and permit application, as well as for the use of facilities, office space, and equipment from government or private institutions. Moreover, startups are provided support to participate in local and international startup events.

\textsuperscript{5} National Innovation Day Speech of Rosemarie Edillon, undersecretary of the National Economic and Development Authority. 21 April 2022.

\textsuperscript{6} Enablers include incubators, accelerators, and financiers, but also other entities that in some way support the growth of startups.
A steering committee composed of DTI, DOST, and DICT leads the implementation of the ISA. The chair of the committee rotates between the three agencies every 2 years, with DTI starting in 2022. DOST and DICT each have their own Startup Grant Fund (SGF) for startups. The act also created the Startup Venture Fund (SVF), which matches investments made by selected investors in Philippine startups. The SVF is managed by the National Development Company, a state-owned company supervised by DTI. In 2021, the National Development Company allocated ₱250 million to the SVF for startups in the seed to Series B stage (DTI 2021b).

Another key provision of the ISA is the creation of three types of startup visas by the Department of Foreign Affairs. These are (i) startup owner visa for prospective or current foreign owners of a startup or startup enabler registered in the country; (ii) startup employee visa for foreign employees of a startup or startup enabler registered in the Philippines; and (iii) startup investor visa for prospective or current foreign investors of a locally registered startup or startup enabler. The visas will facilitate the entry of foreign owners of startups or startup enablers into the country. Holders of any of these visas will be exempted from obtaining an Alien Employment Permit from the Department of Labor and Employment.

The ISA also provides for the establishment of Philippine startup ecozones, but the government has not yet determined where these zones will be located and what incentives will be offered to startups in these zones.

The implementation of the ISA was delayed by the pandemic. The administrative order formalizing the creation of the steering committee for the ISA’s implementation was signed in March 2021. In addition, another (DOST) administrative order on the Implementing Guidelines for the SGF was published in May 2021. In the same year, 49 startups received a total funding of ₱182.5 million from DOST. Other important provisions of ISA were still under discussion at the end of 2022.

**Other Enabling Policies**

The Philippine government has also enacted five laws (see Table 3) that support the creation and growth of all types of enterprises, which would also help startups. The Philippine Technology Transfer Act is relevant to startups because it supports the commercialization of research ideas and the spin-off of startups from universities and research institutes.
### Table 3: Philippine Laws in Support of the Startup Sector

<table>
<thead>
<tr>
<th>Law</th>
<th>Year</th>
<th>Salient Provisions</th>
</tr>
</thead>
</table>
| R.A. 10055 Philippine Technology Transfer Act | 2010   | • Allows research development institutions (RDIs) to retain ownership of intellectual property rights (IPR) derived from government-funded research.  
  • Allows employees of researchers in RDIs to commercialize intellectual property and IPR by creating, owning, or managing a spin-off firm undertaking commercialization, or even accepting employment in the spin-off firm.                                                                                                                                                     |
| R.A. 11032 Ease of Doing Business Law    | 2018   | • Streamlines and modernizes the processing of permits and licenses at both the national and local levels, making it easier for startups to register their businesses and secure other necessary requirements.  
  • Prescribes processing time depending on the type of transaction: 3 working days for simple transactions, 7 working days for complex transactions, and 20 working days for highly technical transactions.                                         |
| R.A. 11232 Revised Corporation Code of the Philippines | 2019   | • Removes the requirement of five individuals to form a corporation, allowing the formation of a one-person corporation even with only a single shareholder.  
  • Makes it easier for entrepreneurs to form a limited liability company (Saulon 2019).                                                                                                                                                                                                                                                                                                                                                     |
| R.A. 11534 Corporate Recovery and Tax Incentives for Enterprises Act | 2021   | • Reduces the corporate income tax rate for micro, small, and medium-sized enterprises from 30% to 20% and provides incentives such as an income tax holiday and increased deductions to both exporters and enterprises in the domestic market when engaged in activities included in the Strategic Investment Priority Plan (SIPP).*  
  *Activities covered by the SIPP include, among others, research and development leading to significant value addition, higher productivity, improved efficiency, and breakthroughs in science and health; the creation of new knowledge and intellectual property registered or licensed in the Philippines; and the commercialization of patents, industrial designs, copyrights, and utility models owned by a registered firm. |
| R.A. 11647 Amendments to the Foreign Investments Act | 2022   | • Allows foreigners with a minimum paid-up capital of $100,000 to invest in domestic micro and small domestic firms if they are either engaged in advanced technology, as determined by the Department of Science and Technology, or endorsed as a startup or startup enabler by designated government agencies.                                      |

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**Specific Government Programs for Startups**

DTI, DOST, and DICT are at the forefront of supporting startups in the Philippines. Each has its own programs and initiatives.

#### Department of Trade and Industry

Under DTI, the Competitiveness Innovation Group leads the implementation of the Inclusive Innovation Industrial Strategy, which aims to develop globally competitive and innovative industries, including small and medium-sized enterprises and startups. DTI offers a number of programs for startups, including incubation and acceleration, internationalization and creation of linkages, and funding. These are summarized in Table 4.
Another planned initiative of DTI in partnership with the Anti-Red Tape Authority is the creation of a Startup Business One Stop Shop. This platform will facilitate faster processing of business permits for startup registration, operation, and closure. DTI also operates two important public–private partnerships related to startups. The first is the National Center for Artificial Intelligence Research (NCAIR), which was scheduled to start in 2022. NCAIR will act as a hub where government agencies, researchers, universities, research institutes, multinational corporations, and startups can collaborate on artificial intelligence (AI) research and development and technology application. Key sectoral research programs under NCAIR include agritech and aquaculture, transportation and urban science, smart manufacturing, health care, and resilience technology (DTI 2021a).

The second public–private partnership arrangement is the Regional Inclusive Innovation Centers, which will strengthen collaboration between government, industry, and academia. These centers will serve as a convergence platform not

![Table 4: DTI Programs to Support Startups](image)

<table>
<thead>
<tr>
<th>Program</th>
<th>Year</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incubation Development and Entrepreneurial Assistance (IDEA)</td>
<td>2022</td>
<td>Incubation and Acceleration</td>
<td>• For early-stage startups that have a minimum viable product for commercialization.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Support includes learning sessions and workshops, consultation services, and mentorship from industry experts.</td>
</tr>
<tr>
<td>Accelerating Development Valuation and Corporate Entrepreneurship (ADVANCE)</td>
<td>2022</td>
<td>Incubation and Acceleration</td>
<td>• For advanced-stage startups that are growing at least locally and want to scale their business operations.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Support includes financial management and intellectual property rights, and mentorship.</td>
</tr>
<tr>
<td>Global Acceleration Program (GAP)</td>
<td>2022</td>
<td>Incubation and Acceleration</td>
<td>• For startups planning to expand internationally.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Support includes international training workshops, venture capital funding, and delivering a regional business development program.</td>
</tr>
<tr>
<td>International and Local Exposure Assistance Program (iLEAP)</td>
<td>2021</td>
<td>Internationalization and Linkages Creation</td>
<td>• Supports startups and startup enablers to participate in local or international events, expos, and competitions.</td>
</tr>
<tr>
<td>Strategic MSMLE and Startup Link (SMART Link)</td>
<td>2020</td>
<td>Internationalization and Linkages Creation</td>
<td>• Business-to-business matching sessions to facilitate collaboration between traditional MSMEs and startups that can help them apply innovative activities, such as digital solutions, in their operations.</td>
</tr>
<tr>
<td>Startup Venture Fund</td>
<td>2021</td>
<td>Financing</td>
<td>• ₱250 million venture fund to support the expansion, product development, sales, marketing, etc. of tech startups.</td>
</tr>
</tbody>
</table>

DTI = Department of Trade and Industry; MSMEs = micro, small, and medium-sized enterprises.
Source: Interview with Department of Trade and Industry (Competitiveness and Innovation Group).
only to stimulate the local innovation ecosystem, but also to support R&D that would enhance the competitiveness and economic growth of each region. Each center will bring together innovation ecosystem actors such as local governments; startups; micro, small, and medium-sized enterprises; incubators and accelerators; funders; universities; R&D laboratories; and science and technology parks.

**Department of Science and Technology**

DOST has three sectoral planning councils that develop and implement programs and strategies for science and technology. Each council also has its own programs for startups.

**Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development**

The Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (PCAARRD) operates an SGF that provides finance to startups in the agriculture and aquatic and natural resources sectors to support product improvements, marketability, process improvements, and technology validation. Startups can receive up to ₱5 million to implement a proposal within 1 year. The program targets startups that have been operating for at least a year and no more than 5 years. Seven startups received grants out of 20 proposals submitted in 2021.8

PCAARRD also organized the Agri-Aqua Innovation Challenge with the Asian Institute of Management and the Management Association of the Philippines. This competition is open to startups that have been in operation for 1–5 years and students who have agri-aqua technologies in early-stage prototypes. In the student category, winners will receive between ₱100,000 to ₱400,000, while winners in the professional category will receive between ₱200,000 and ₱1,000,000 plus mentorship from the Asian Institute of Management.

Finally, PCAARRD’s National Agri-Aqua Technology Business Incubation (ATBI) program provides technology management, business development, networking, marketing, and administrative support services, as well as access to facilities and equipment for startups. Since 2017, 22 ATBIs have been established and received ₱230 million. A real-time ATBI monitoring system has been established as a one-stop source of information on the products and technologies developed by incubatees. This system also monitors the ATBIs. The program has supported over 300 incubatees.

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8 Interview with DOST-PCAARRD. 24 March 2022.
The Philippine Council for Health Research and Development

The Philippine Council for Health Research and Development (PCHRD) operates a Startup Research Grant Program that funds early-stage health startups in the areas of R&D, technology improvement, or creation of initial market traction.\(^9\) Grants range from ₱3 million to ₱5 million, and each startup must implement its proposal within a year. The PCHRD approved five proposals as of March 2022.

For the grant, the PCHRD is looking for startups working in three areas of health care: (i) innovative tools to improve provider-patient experience, such as appointment scheduling systems, home care monitoring, and resource mapping; (ii) systems for health service delivery, such as online referral systems and teleconsultation; and (iii) technologies for biomedical devices, diagnostic kits, and smart and resilient health facilities.

The PCHRD requires applicants to have a minimum viable product or prototype at the time of submission. If a startup meets the minimum eligibility criteria but fails to meet the technical requirements, the PCHRD puts them in touch with health and technology experts who can help improve their proposals and allow them to resubmit. The council also helps startups form linkages and partnerships with experts who can help them make their technologies FDA-compliant.

The Philippine Council for Industry, Energy and Emerging Technology Research and Development

The Philippine Council for Industry, Energy and Emerging Technology Research and Development (PCIEERD) also has an SGF to fund early-stage startups in sustainable industries, learning and education, remote productivity tools, creative industries, and data-driven solutions. Funding is provided up to ₱5 million. In 2021–2022, funding was approved for 49 startups with a total of ₱183 million.\(^10\)

PCIEERD is also implementing the Women-Helping-Women: Innovating Social Enterprise Program, which provides incubation and funding support to women-led social enterprises. The program supports technology purchases, R&D, technical assistance, and mentoring. The council provided ₱54 million to 14 enterprises in 2021–2022.\(^11\)

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\(^9\) Interview with DOST-PCHRD. 14 March 2022.
\(^10\) As of November 2022. Information provided by DOST.
\(^11\) As of November 2022. Information provided by DOST.
PCIEERD also works with higher education institutions to establish technology business incubators (TBIs). Currently, there are 32 TBIs, each supporting 10–15 startups per year. PCIEERD has invested more than ₱244 million in TBIs nationwide, and a total of 851 startups have been incubated. The second round of the Higher Education Institution Readiness for Innovation and Technopreneurship program, a preparatory program for universities selected to manage and operate a DOST incubator, was implemented in 2022 to prepare the next 27 universities for establishing their own incubators.

There is also the Regional Startup Enabler for Ecosystem Development (ReSEED) program, which aims to strengthen the ecosystem in the regions by providing financial support to PCIEERD-funded TBIs to lead in establishing and formalizing a regional startup ecosystem consortium. The program aims to enable other cities and regions in the Philippines to catch up and produce their own startups. Nine ReSEED programs were funded with a total of ₱13.5 million to help consortia establish and formalize, develop a regional startup development plan, engage with mentors to train startups, and partner with their respective regional development council.

Table 5 summarizes the startup programs and funding provided by DOST through its three councils.

<table>
<thead>
<tr>
<th>Council</th>
<th>Program</th>
<th>Year</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCAARRD</td>
<td>Startup Grant Fund</td>
<td>2021</td>
<td>Financing</td>
<td>• Provides funding to startups involved in agriculture, aquatic, and natural resources.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Qualified startups are entitled to receive as much as ₱5 million to implement their proposal within 1 year.</td>
</tr>
<tr>
<td></td>
<td>Agri-Aqua Innovation Challenge</td>
<td>2022</td>
<td>Competition</td>
<td>• Open to startups with 1–5 years of operation and students who have agri-aqua technologies in an early-stage prototype.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Winners receive cash prizes and mentoring opportunities.</td>
</tr>
<tr>
<td></td>
<td>National Agri-Aqua Technology</td>
<td>2017</td>
<td>Incubation</td>
<td>• Provides services such as technology management, business development, networking, marketing, administrative support, and access to facilities and equipment.</td>
</tr>
<tr>
<td></td>
<td>Business Incubation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCHRD</td>
<td>Startup Grant Fund</td>
<td>2020</td>
<td>Financing</td>
<td>• Provides funding to early-stage health-care startups</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Grants range between ₱3 million and ₱5 million, and each startup must implement its proposal within 12 months.</td>
</tr>
<tr>
<td>PCIEERD</td>
<td>Startup Grant Fund</td>
<td>2021</td>
<td>Financing</td>
<td>• Provides funding for early-stage startups involved in sustainable industries, learning/education, remote productivity tools, content and talent development for creative industries, and data-driven solutions for industry.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Funding provided under this grant could be up to ₱5 million.</td>
</tr>
</tbody>
</table>
The Philippines’ Ecosystem for Technology Startups

In addition to these three sectoral planning councils, DOST also runs the Technology Application and Promotion Institute (TAPI), which is tasked to accelerate the commercialization of technologies. One of TAPI’s initiatives is the Venture Financing Program, which provides up to ₱2 million per project to improve viability, increase competitiveness, and promote commercialization of technologies or inventions. The fund can cover up to 70% of the total project cost, while the startup or technology development project is expected to put up 30%. The project should belong to the priority sectors identified by DOST.

TAPI is also implementing the Technology Innovation for Commercialization Program (TECHNICOM), launched in 2013. It aims to accelerate the transfer, utilization, and commercialization of R&D outputs through financial and technical assistance. In line with DOST’s Harmonized National R&D Agenda for 2017–2022, the program provides support to three broad areas: agriculture, aquatic, and natural resources; health; and industry, energy, and emerging technology.

Funding is provided for prototyping, pilot testing, technology validation, field testing, feasibility studies, and securing intellectual property rights for all research technologies funded by DOST. There is no cap on funding per project. Support is provided for 1 year, but may be extended.

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12 Department of Science and Technology, Technology Application and Promotion Institute (TAPI). Revised Implementing Guidelines of the Venture Financing Program (VFP) for Start-Up and Technology-Based Projects. TAPI Administrative Order Number 2022-Series of 2022.

13 Department of Science and Technology. Revised Policy Framework and Implementing Guidelines for the Technology Innovation for Commercialization (Technicom) Program. DOST Administrative Order No. 012.
Department of Information and Communications Technology

DICICT has supported startups since its inception in 2015. Before the enactment of the ISA and the PIA, programs focused primarily on raising awareness of how aspiring entrepreneurs can create a tech startup. With the implementation of the ISA, DICICT has taken on a larger role in the startup ecosystem with its Digital Startup Development and Acceleration Program, which consists of several subprograms. Table 6 provides some details on the programs of DICICT.

The first subprogram strengthens DICICT’s awareness campaigns and learning sessions in collaboration with stakeholders such as QBO and Ideaspace. For example, Startup 101 is a one-day workshop that teaches participants how to develop ideas, pitch, and create a minimum viable product. Participants interested in further developing their idea and product can go to Startup 102.

As part of the Startup Ecosystem Mapping, DICICT assesses the startup ecosystem in selected cities outside Metro Manila. Related to this is the Digital Cities Program, where the department selects ideal locations nationwide for information technology and business process management (IT-BPM) firms. In addition to IT-BPM, the program also encourages these cities to improve their innovation ecosystem to support local startups.

DICICT is currently developing the One Philippine Startup Portal as an online database for startups and startup enablers (with their basic information). The portal will also provide an inquiry and application function for the ISA program. Statistical information, annual reports, and other studies relevant to the startup ecosystem in the Philippines will also be made available. The department also plans to establish innovation studios. These lab studios will serve as coworking spaces equipped with the necessary hardware and software to support startups.

DICICT, through the ICT Industry Development Bureau, will also launch its SGF to fund early-stage ICT-based startups and help them access mentors and coaches. Qualified startups will receive a grant ranging from ₱500,000 to ₱1 million. Startups that have a proof of concept and need assistance to build prototypes, or that have a prototype and need resources to develop a minimum viable product, are eligible to apply. The grants are open to all startup sectors that seek to solve social problems.

Other planned programs include the development of acceleration programs and the creation of the InnovNation Network, which will bring together startup stakeholders to collaborate on mentorships and other activities.
DICT is also responsible for improving the country’s digital infrastructure. It is implementing the National Broadband Plan, which will deploy fiber-optic cables and wireless technologies to improve internet speeds throughout the country. Phase 1 involves activating 28 nodes of the national fiber-optic backbone in 12 provinces in Luzon (DICT 2021) to increase speeds to 200 megabits per second (Mbps) by 2022. Phase 2 includes the laying of submarine fiber-optic cables to connect Luzon, Visayas, and Mindanao, while Phase 3 will connect the remaining provinces to the national fiber-optic backbone.

DICT is also fast-tracking the construction of shared telecommunications (telco) towers in unserved and underserved areas by reducing the red tape involved in obtaining permits at the local level, a move it hopes will encourage the growth of independent tower companies. The streamlining initiative has reduced the number of permits required to build telco towers from 13 to 8, cut the number of documents required from 86 to 15, and reduce processing time from 241 to 16 days (Anti-Red Tape Authority 2021).

In addition, DICT is expanding its Free Wi-Fi program to broaden internet access, especially in unserved and underserved areas. By October 2021, the department had installed more than 11,000 free WiFi sites across the country, including in geographically remote areas.

### Table 6: DICT Programs to Support Startups

<table>
<thead>
<tr>
<th>Program</th>
<th>Year</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Startup Ecosystem Mapping</td>
<td>2016</td>
<td>• Assessed the startup ecosystem in selected cities outside Metro Manila.</td>
</tr>
<tr>
<td>Awareness campaigns</td>
<td>2018</td>
<td>• Organized events such as workshops on product creation and development.</td>
</tr>
<tr>
<td>and learning sessions</td>
<td></td>
<td>• Interested parties can further develop their idea and product.</td>
</tr>
<tr>
<td>Digital Cities Program</td>
<td>2020</td>
<td>• DICT selects locations nationwide that are ideal for information technology and business process management (IT-BPM) firms.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• It also encourages cities to improve their innovation ecosystems to support local startups and invite tech companies to locate there.</td>
</tr>
<tr>
<td>Startup Grant Fund</td>
<td>2021</td>
<td>• Provides funding for early-stage ICT-based startups and give access to mentors and coaches.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Qualified startups receive a grant of between ₱500,000 and ₱1 million.</td>
</tr>
<tr>
<td>One Philippine Startup</td>
<td>2022</td>
<td>• The portal includes a database with basic information about startups and startup enablers.</td>
</tr>
<tr>
<td>Portal</td>
<td></td>
<td>• It also includes inquiry and application functions for programs under the ISA.</td>
</tr>
<tr>
<td>InnovNation Network</td>
<td>2022</td>
<td>• Connects startup stakeholders to collaborate on mentorships and other activities.</td>
</tr>
</tbody>
</table>

DICT = Department of Information and Communications Technology, ICT = information and communication technology, ISA = Innovative Startup Act. Sources: Interview with Department of Information and Communications Technology; News articles.
Other Government Initiatives

The Department of Agriculture has launched the Young Farmers Challenge Fund, a grant scheme for farm-based enterprises focused on innovative ideas for micro and small agribusinesses. It awards ₱50,000 each to 1,300 winners at the provincial level; ₱150,000 each to three winners at the regional level; and ₱300,000 each to six winners at the national level. The Department of Agriculture also provides online training on business permits and licenses, agricultural marketing, and basic accounting to encourage young Filipinos to venture into farming and agribusiness.

At the local level, some cities are launching initiatives to promote local talent and develop tech startups. The Quezon City government, the country’s wealthiest local government, was scheduled to launch the Startup QC program in 2022 to provide training, mentoring, networking, and seed funding to entrepreneurs developing solutions to social problems (Quezon City.gov.ph 2022). The program is expected to be open to students and non-students and is divided into three competitive phases: evaluation, business development, and product development.

Makati City, which hosts the country’s top business district, has a similar project called Resiliency, Innovation, Sustainability, and Entrepreneurship (RISE) to support sustainable and scalable startups. Eight early-stage startups will receive a ₱500,000 grant, a 12-week training program for entrepreneurs, and guidance on pitching to investors. RISE is a collaboration between the city government, the University of Makati, and the Ronin Group, an investor.¹⁴

Government Programs and Policies: Issues, Challenges, and Risks

The tech startups interviewed for this study noted a significant improvement in the level and quality of government support for the sector. A decade ago, when the tech startup scene was emerging, it was much more difficult to get government attention or support. Gradually, government support and engagement has increased and evolved. DTI and DOST began to participate in discussions about how to support tech startups. These departments learned from their experiences and developed programs to address the needs.

The biggest breakthrough came in 2019 with the passage of the PIA and the ISA, which institutionalized support for the tech startup sector and recognized its immense role in economic development. Some startup founders previously based abroad said the passage of the PIA was their main motivation for returning to the Philippines.

¹⁴ RISE.
**Coordination**

Interagency coordination was cited as one of the challenges of startup governance. Some startup founders encouraged government agencies to provide holistic support to tech startups.

Some startups noted the ISA’s structure of multiple implementing agencies. Currently, DTI, DOST, and DICT jointly lead the implementation of this law and rotate the chairmanship every 2 years. Founders are concerned that this structure could contribute to delays in enforcing the law, as one government agency must consult with two others before making a decision. Tech startups operate in a fast-paced environment and any delay affects their business. Therefore, they are looking for a dedicated office to take care of their needs and concerns and act as their main champion in government to bridge the gap between the bureaucracy and tech entrepreneurs.

**Awareness and access**

While startups acknowledge the proliferation of government support programs, they feel that awareness of these programs might be increased. Some startup founders noted that most of the programs under DOST and DICT are focused on assisting early-stage startups, and there might be more programs that provide an advanced level of support for those in the growth or scaling stages.\(^{15}\)

Although most programs are designed for early-stage startups, there is still an information gap about how to participate. For example, contact information and process flowcharts might be made more readily available to interested applicants. Those just starting out and most in need of support might be made aware of programs and given assistance in applying.

Location also presents a challenge for startups in accessing programs. DTI, DOST, and DICT have regional offices, which are helpful for tech startups located outside of Metro Manila. In some cases, founders indicated that regional offices are located far away. Since most local government units outside Metro Manila do not have their own startup programs, founders often request for help from these regional or national offices.

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\(^{15}\) In fact, this structure is intentional: DICT programs are designed for the idea to proof of concept/prototype stage, DOST for the proof of concept/prototype to market stage, and DTI for the market to expansion stage.
Permits, licenses, and applications

Tech startups in all four sectors need to obtain permits and licenses and process other applications. Some founders said that the application process for government grants has many requirements. Some government agencies require startups to submit business models and proposals—which may be a difficult requirement for startups that may not have the necessary data. There are also cases where a startup needs to prove that it is able to issue an official receipt.

Even if a startup manages to meet the requirements, the processing of applications can take so long that by the time a decision is made, the startup’s financial resources have already been exhausted. Furthermore, it may take several weeks to receive funds after the application is approved.

The government as customer

Tech startups emphasized that the best way for the government to support the sector is to become a customer itself. They want their innovative technologies to be adopted by the public sector. Having the national government as a customer lends credibility to the startup and its products. This can help increase the valuation of the startups, especially when it is assessed by investors and clients, notably those from abroad.

Some founders noted that the government might be more eager to have tech startups as suppliers. They need to make connections within government agencies and establish contact with decision makers. Moreover, for startups that can identify procurement opportunities, they need to better understand the procurement process and its requirements.

Being “asset light” and having been in operation for only a few years, most startups find it difficult to meet procurement requirements and secure opportunities to work with the government. As a result, the tech startups interviewed for this study thought it unlikely that they would succeed in providing their products or services to government.

Nonetheless, bidding for government contracts was made more accessible through the online application process of the Philippine Government Electronic Procurement System (PhilGEPS). A Red Membership has been created for small enterprises to bid for government contracts worth less than ₱1 million. Unfortunately, most startups do not know about this membership.
The government can also help by endorsing tech startups, particularly those in the health-care sector. Healthtech founders said they are constrained by low adoption by potential clients, including the elderly. They also said that they have difficulty creating demand for their product or service among health-care providers. An endorsement from the government’s Health Technology Assessment Committee (HTAC) can help raise awareness and increase adoption of innovations. Currently, health startups seeking HTAC endorsement are assessed in the same manner as large health-care companies. Evaluating healthtech startups under a different standard would help more of them gain government endorsement and thus be better able to compete in the health-care market.

3.2 Financing and Investment

All tech startups face the challenge of obtaining adequate funding. This challenge is well known and both the government and the private sector are making efforts to address it. As mentioned earlier, the government has enacted laws that provide funding for innovative ventures, in addition to grants from key agencies.

Bank Loans

Government financial institutions, notably the Development Bank of the Philippines and the Land Bank of the Philippines (Landbank), have introduced lending programs to assist businesses with technological innovations. The Landbank’s I-TECH Lending Program funds Philippine inventions and innovative works, providing up to ₱12.5 million per project under a sharing scheme with DOST. The borrower must hold a patent and pass a technical viability assessment. A biofertilizer startup was funded and a thermal speed-drying technology to reduce the use of roads for drying palay.

The Landbank’s SMART in City Development Lending Program helps local government transition to modern technologies in agriculture, dam systems, energy, and traffic management. A bank officer said there are very few local startups that could provide the technology desired by local governments. The low take-up was also because local government units (LGUs) focused on health-related projects during the pandemic.  

Small Business Corporation (SBCorp) is a major funder of small enterprises although it does not specifically target startups. In 2021, it approved over 20,000 loans for small businesses affected by the pandemic. In collaboration with the

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16 Interview with Land Bank of the Philippines, 1 June 2022.
University of the Philippines, SBCorp funded a facility to produce a new technology to detect contamination in food production. SBCorp previously participated in pitching sessions organized by the Philippine Business for Social Progress to attract new clients for investment. The events were discontinued and SBCorp has since had difficulty finding potential investment partners.

Many tech startup founders have considered applying for a loan, but documentation and collateral requirements have discouraged them from doing so. For example, applying for a loan requires accounting records and tax returns, which most budding startups do not have. To illustrate the complexity of the process, one startup hired an accounting firm to prepare the required documents. This, of course, involved additional costs for the enterprise.

One of the partners of a cleantech startup applied for a loan from a government corporation that provides loans to its members. The approval period was several months for a ₱250,000 loan.

The time it takes a financial institution to make a lending decision also varies, depending on the complexity of the project and the size of the loan. For microloans, the processing time can be as quick as 10 working days, but for large projects that require borrowing several million pesos, it can take at least 45 working days.

Tech startups consider loans risky, especially those that do not yet have a source of revenue. They worry about servicing a loan and paying interest. An edtech founder said loans are usually not a viable option until a startup reaches its fifth year and has achieved a certain level of business stability.

Some founders said they did not feel comfortable with banks because of the founders’ young age or lack of track record. They also said that some banks evaluate the creditworthiness of a startup based on the same criteria as traditional businesses. For example, an agritech that uses deep technology said it is considered as risky as the agriculture sector in general.

Some bank officials said that their perceived aloofness toward small businesses and startups is a misconception. Typically, the bank assesses a potential borrower’s creditworthiness by checking the five Cs of credit: capacity, capital, character, collateral, and conditions. However, the Landbank says it has other ways of determining a good borrower. For example, a startup can improve its chances of getting a loan by demonstrating its viability through a strong feasibility study or a good project design. The startup must be able to show that its projections are realistic and achievable for banks like the Landbank to approve the loan application.
The Landbank also accepts movable assets as collateral, especially if they are purchase orders or accounts receivables (i.e., invoices) from a reputable company. The borrower must also be able to show that they will use the funds in good faith as proposed to the bank.

**Venture Capital**

There are at least 40 venture capital (VC) firms in the country, many of which are subsidiaries of large corporations. In fact, corporate VC dominates the VC scene in the Philippines. They were among the earliest investors in local tech startups and currently invest either directly or through their VC subsidiaries. As one would expect, they tend to invest in startups that operate in the same sectors as themselves.17

In general, VC in the Philippines focuses on more mature, revenue-generating startups and traditional businesses, rather than early-stage ventures. VC firms typically look at a founder’s competency and background when deciding whether to fund a startup, which is a major challenge for entrepreneurs without a business background.

Most tech startups in the Philippines received their venture funding from overseas VC or private equity firms.18 In fact, 12% of total foreign sourced investment in the Philippines went to startups in 2021 (Oundjian et al. 2022).

Core Capital stated that 80%–90% of the total VC funding for startups are foreign. The Founder Institute, an incubator, advises startups participating in its program to set up in Singapore or a United States (US)-based company to raise funds. Funds typically flow through these foreign-based holding companies, which then fund the operations and capital expenses of their Philippine company. From an investor’s perspective, this structure allows for mitigation of the risks associated with a direct investment in a local company.

As noted earlier in the report, Philippine startups raised $858 million in 2021. Most of the funding went to fintech (66%), media and entertainment (13%), and e-commerce (9%). Healthtech attracted 0.12% and edtech, 0.02%. Agritech and cleantech, on the other hand, were too small to be mentioned (Gobi-Core Philippine Fund 2021).

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17 Interview with Core Capital, March 2020.
18 One source suggested that 80%–90% of startup financing comes from foreign VC.
One of the first VC firms is Kickstart Ventures, an offshoot of Globe Telecom.\(^{19}\) It has supported a number of local startups, including Entrego, Kalibrr, Kumu, and Zalora, and has also invested in companies overseas. Kickstart manages the Ayala Corporation Technology Innovation Venture (ACTIVE) Fund, which has raised $180 million, particularly for fintech, e-commerce, and construction tech. The fund has invested in eight startups since its inception in 2019 (Philstar Global 2022).

AC Health, a unit of Ayala Group, has invested in AIDE App, a health-care platform, and MedGrocer, an on-demand medicine delivery service. JG Digital Equity Ventures (JGDev), part of the Gokongwei group, has started a $50 million venture fund focused on e-commerce, fintech, supply chain, and logistics. It has invested in Snapcart, a data analytics platform, and Growsari, a digital procurement platform for \textit{sari-sari} stores (i.e., neighborhood convenience stores). Other corporate VCs have invested in such successful startups as Great Deals Corp., Kumu, Paymongo, and PDAX. Table 7 shows some of the top VC firms that have invested in tech startups, with about half being corporate VCs.

\begin{table}[h]
\centering
\begin{tabular}{|c|c|c|c|c|}
\hline
Organization & Preferred Round & Investment Size ($\)) & Backed by Traditional Conglomerates & Known Portfolio Companies \\
\hline
Core Capital & Seed Series A & 100,000–500,000 & No & Kumu, Tier One Entertainment, Flowerstore.ph, Cloudeats \\
\hline
Kickstart Ventures & Series A & 100,000–1 million & Ayala Group Globe Telecom & Coins.ph, edamama, Kumu, Sprout Solutions, Nextpay \\
\hline
Foxmont Capital & Seed Series A & 100,000–500,000 & No & Kumu, Podcast Network Asia, Locad, Prosperna, Sarisuki \\
\hline
JGDev & Series A Series B & 500,000–3 million & Gokongwei Group & EtaIly, iPrice, Growsari, Snapcart \\
\hline
UBX (venture side) & Series A & 500,000 & Aboitiz Group & Seekcap, i2i, Bux, Akin, PDAX \\
\hline
Ideaspace & Seed & 10,000–20,000 & PLDT Group & Coins.ph, 1Export, Qwikwire, Cocotel \\
\hline
Manila Angels Investors Network & Seed & 10,000–500,000 & No & Qwikwire, Kumu, Taxumo, Booky \\
\hline
Cerebro Labs & Seed & 100,000–500,000 & Abaya family & Qwikwire, Magpie, Kiana, Get \\
\hline
Future Now Ventures & Seed & 100,000–500,000 & No & Cloudswyft, Autodeal, Booky, Flyspaces \\
\hline
Agile Digital Ventures & Series A & NA & Megaworld Group & Pickaroo \\
\hline
Navegar & Series A Series B & 2 million–5 million & No & The Bistro Group, Great Deals e-Commerce, TaskUs, Bo’s Coffee \\
\hline
Kaya Founders & Seed Series A & NA & No & Armada, Locad, Kraver’s Canteen, Paymongo \\
\hline
\end{tabular}
\caption{Investments by Venture Capital Firms in the Last 5 Years}
\end{table}

\(^{19}\) Kickstart is also funded by Ayala as noted in the table.
Table 7 continued

<table>
<thead>
<tr>
<th>Organization</th>
<th>Preferred Round</th>
<th>Investment Size ($</th>
<th>Backed by Traditional Conglomerates</th>
<th>Known Portfolio Companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>KSR Ventures</td>
<td>Seed</td>
<td>NA</td>
<td>No</td>
<td>Edukasyon.ph, NXTLVL Farms</td>
</tr>
<tr>
<td>Buko Ventures</td>
<td>Pre-Seed</td>
<td>5,000–10,000</td>
<td>No</td>
<td>Chatgenie, Mayani, Cocotel, Twala</td>
</tr>
<tr>
<td>917 Ventures</td>
<td>Seed onward</td>
<td>NA</td>
<td>Globe Telecom</td>
<td>KonsultaMD, Adspark, Purego</td>
</tr>
</tbody>
</table>

AIM = Asian Institute of Management; DOST = Department of Science and Technology; DTI = Department of Trade and Industry; NA = not available; PCIEERD = Philippine Council for Industry, Energy and Emerging Technology Research and Development; PRC = People’s Republic of China.

Note: Only domestic venture capital is listed, not foreign.
Source: Authors, based on publicized investments.

The Philippine Stock Exchange may allow unprofitable companies to list through a sponsorship model. The profitability requirement often prevents companies from being listed on the exchange. This is especially true for startups, which are often unprofitable in their first few years while they focus on product development and user growth. Through the sponsorship model, startups would have the opportunity to make an initial public offering (IPO) if an accredited sponsor endorses them. The mechanics of the sponsor model were developed in 2022.

**Financing and Investment: Issues, Challenges, and Risks**

More than half (62%) of tech startups identified access to capital as their biggest challenge (Figure 1). As a result, 39% of tech startups use a combination of their own money and funds contributed by or borrowed from family and friends to start the business. Angel investors followed at 26%, and 17% used bank financing.

**Figure 1: Top Challenges for Startup Founders**

- **62%** Lack of access to capital
- **54%** Regulatory environment/requirements
- **27%** Development of new products and services

Source: Authors’ survey.
The funding gap exists primarily in the pre-Series A stage. The limited formal funding for early-stage startups prevents them from getting to the Series A stage. In the first quarter of 2022, $310 million was invested in eight companies in the Philippines, showing that despite the high level of investment in the startup space, only a few companies are benefiting (Oundjian et al. 2022).

There are organizations like the Manila Angel Investors Network (MAIN) that connect high-net worth individuals with startups in the pre-Series A stage. Usually, MAIN invites selected startups to pitch to these investors. Investors interested in a particular startup are then helped by MAIN to create a structure for the investment. However, there are few organizations like MAIN that provide a structured approach to angel investing, and the current gap in pre-Series A stage startups shows that there could be more angel investing occurring in the country.

Founders indicated a preference for VC over bank loans. VC understands the startup model and can point to business problems they can help solve or find someone who can. The prospect of mentoring is also why startups are drawn more to VCs than banks, even if getting VC means giving up some control by sharing equity. Attracting the interest of VCs requires good connections, which is a challenge in itself.

### 3.3 Incubators and Accelerators

An incubator helps a startup develop its ideas into a viable business by providing advice and training, resources, and access to markets and investors. A typical incubator program runs for 3–6 months and concludes with Demo Day, where the founder makes a pitch to a pool of potential investors.

Accelerators aim to fast-track the growth of startups that already have a proven product-market fit. Accelerators provide consultation, mentoring and networking, and assistance in accessing funding, markets, and investors. Accelerator programs typically take between 3 and 6 months and usually conclude with a Demo Day.

The Philippine Venture Capital Report 2022 indicates that there are at least 35 incubators and accelerators in the country. The most prominent incubator in the Philippines is QBO Innovation Hub, which recently merged with PLDT-backed Ideaspace. Other prominent incubators and accelerators are listed in Table 8, along with the number of their graduates.
Incubators and Accelerators: Issues, Challenges, and Risks

Seventeen of the 26 tech startups interviewed said they had joined at least one incubator (Figure 2). Four startups that did not join an incubator said they had parent companies that subsidized their operations. Two other startups had founders over the age of 40 who did not feel it was necessary to join an incubator because they already had many years of professional experience. One tech startup stated that it could not find information on how to join a program.

Five incubators were interviewed for this study; two are privately run, two are run by academic institutions, and one is sponsored by the government. Fifteen of the 17 startups surveyed that joined an incubator did so at QBO or the Ideaspace.

Table 8: Incubator and Accelerator Graduates, 2015–2022

<table>
<thead>
<tr>
<th>Organization</th>
<th>Number of Graduates</th>
<th>Affiliation</th>
<th>Known Graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ideaspace x QBO</td>
<td>100+</td>
<td>PLDT, DTI, DOST</td>
<td>Investagrams, Cocotel, Peddlr</td>
</tr>
<tr>
<td>Founder Institute Manila</td>
<td>50*</td>
<td>Founder Institute Global</td>
<td>Servehappy.ph, Acudeen</td>
</tr>
<tr>
<td>AIM–Dado Banatao Incubator</td>
<td>27</td>
<td>AIM, DOST-PCIEERD</td>
<td>Kumu, Invested, Mayani, Eculfill</td>
</tr>
<tr>
<td>Benilde HIFI</td>
<td>5</td>
<td>College of St. Benilde</td>
<td>NA</td>
</tr>
<tr>
<td>UPScale (composed of UP Enterprise, Ignite Innovation Labs, and Entrelead)</td>
<td>34</td>
<td>University of the Philippines, DOST-PCIEERD</td>
<td>Cropital, MyRemitHub, OneWatt, Automart.PH</td>
</tr>
<tr>
<td>Alibaba E-Founders/Netpreneurs</td>
<td>100+</td>
<td>Alibaba (PRC)</td>
<td>Motivotech, Zagana, Greatdeals e-Commerce Corp., Investagrams</td>
</tr>
<tr>
<td>Startup Village</td>
<td>50*</td>
<td>Google Launchpad</td>
<td>Pearpay, Appload, Freyo</td>
</tr>
</tbody>
</table>

AIM = Asian Institute of Management; DOST = Department of Science and Technology; DTI = Department of Trade and Industry; NA = not available; PCIEERD = Philippine Council for Industry, Energy and Emerging Technology Research and Development; PRC = People’s Republic of China.

* Estimates based on available information.

Source: Authors.

Figure 2: Startups That Joined an Incubator or Accelerator

Agritech 56% 5 out of 9
Cleantech 71% 5 out of 7
Edtech 83% 4 out of 5
Healthtech 60% 3 out of 5

Source: Authors’ survey.
Foundation, which have now merged. This is the largest and most prominent program and is located in Metro Manila. Most provincial and regional incubators are run by universities, and all known privately run incubators are located in Metro Manila. The latter are usually supported by conglomerates. Ideaspace, for example, is supported by the PLDT Group, and Globe Telecom supports 917 Ventures.

A tech startup based outside Metro Manila observed that the incubator it joined did not seem to have a developed program. It was run by staff who were still learning how to run a program and was not well funded. This sentiment was echoed by several other startups that had participated in multiple incubators.

Running an incubator program is expensive, especially in the early stages. Innovation Garage, the in-house incubator of a fintech company, stated that it spends at least ₱2 million on each startup to develop it to the point where it creates a minimum viable product. Innovation Garage also recognizes that it may take years for the startup to deliver a reasonable return on investment to the company.

Incubators run by universities, especially in the provinces, have less funding than those run privately. They depend on the institution’s revenue, which usually comes from tuition fees. During the pandemic, there was a sharp drop in enrollment, which affected tuition revenue at private universities and thus the funds available to incubators. The budgets of public universities were also affected by the pandemic, and some of the corresponding incubators were also affected.

However, some state universities coped well with the pandemic. Central Luzon State University (CLSU) in Nueva Ecija, for example, used its R&D capabilities to introduce commercially viable technologies to generate revenue for the university. Through its collaboration with DOST, CLSU sold services to 6,828 clients, generating ₱24.3 million that went to the startup incubator (Bautista 2022). This shows that a strong R&D program can bring double benefits: it contributes to scientific knowledge and provides a valuable source of revenue to fund further innovation.

The top two benefits of joining an incubator, according to the tech startups interviewed, are access to customers and partners, and technical know-how and mentoring (Figure 3). Access to funding, which is typically cited as an incentive for joining an incubator, ranked third. Two tech startups said the incubators they joined did not have strong linkages to investors or funding channels. An agritech founder said the incubator it joined brought in many investors, although only some of them were interested in or familiar with digitalizing agriculture.

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20 UBX Philippines Corp., the fintech subsidiary of Union Bank of the Philippines.
A major benefit that startups receive from incubators—which often goes unrecognized—is the support system provided by a community of other tech entrepreneurs (Freeman et al. 2015). Startups have a high failure rate, and the pressures and work stress that come with the job often have an impact on founders’ mental health.

One tech startup founder said that being surrounded by other entrepreneurs with similar experiences helps create an empathetic environment. Such a support system helps alleviate the pressures and anxiety that founders experience and gives them suggestions on how to solve problems that arise in their respective startups.

Of the founders who did not join an incubator, several cited that the one-size-fits-all nature of the programs benefits only early-stage startups. For an advanced-stage startup that would benefit from a customized approach with mentorship and corporate support, other types of programs would be useful. Unfortunately, there is no mature accelerator in the Philippines that can address such needs.

### 3.4 Human Capital

Behind every startup is a founder with an innovative idea that he or she wants to turn into a profitable business. To do so, the founder seeks cofounders with complementary skills and hires others to help with the technical aspects of product innovation and the business side of the new business model. The human capital of all the startup’s employees is critical to the success of the venture.
National R&D personnel in government, higher education, and private industry increased from 16,673 in 2009 to 75,037 in 2018 (Dela Pena and Biyo 2020). This translates to a ratio of 708 research scientists and engineers (RSEs) per million population, higher than the minimum of 380 RSEs per million population prescribed by the United Nations Educational, Scientific and Cultural Organization (UNESCO) for a country to pursue its development and industrialization goals. By comparison, Singapore has 1,316 RSEs per million, Viet Nam 1,825, Thailand 3,139, and Malaysia 4,750.

One government initiative to boost RSEs in the country is the Balik Scientist Program, established by Presidential Decree No. 819 and implemented since 1986. It encourages Filipino scientists and technologists who are educated or trained abroad to return to the Philippines, share their knowledge of foreign technologies, and use their expertise to develop local science and technology.

The engagement period of a Balik Scientist can be short (up to 6 months) or long (at least 2 years). Benefits include a lump-sum payment of ₱500,000, airfare, $200 per day, and membership in the National Research Council of the Philippines. Long-term engagements also include a relocation allowance of ₱250,000 and a monthly housing and transportation allowance. As of 2019, 526 Filipino scientists have returned to the Philippines under this program.

To further increase the number of RSEs, the Philippines can consider investing more in education and training in science, technology, engineering, and mathematics (STEM). The Commission on Higher Education reported that of the 800,000 university graduates in 2019, 29% took business administration and 11% completed engineering and technology. Another 5.6% have degrees in medical and health sciences and 3.2% in agriculture, forestry, and fisheries. A study by DOST concluded that the available STEM programs with 80 bachelor, 56 postgraduate, and 33 PhD programs might be increased to meet the country’s development needs (Dela Pena and Biyo 2020).

The study noted that the country’s 33 PhD programs focused on STEM may not produce many researchers, highlighting the need for more research-focused doctorate degrees. In engineering, there are only 1–3 PhD programs per subdiscipline, all located in the National Capital Region. In biology, which is considered a big need in the Philippines, there are 12 doctoral programs. More generally, STEM university programs are mostly located in Metro Manila and offered by private institutions (Dela Pena and Biyo 2020).
Human Capital: Issues, Challenges, and Risks

Tech startups interviewed for the study confirmed that the country might encourage an increase in both the quality and quantity of human capital, which is important for developing homegrown technological innovation. Many of the respondents (62%) said that acquiring talent is one of the biggest challenges they face as a tech startup.

In some ways, the pandemic has helped address the homegrown talent issue by promoting remote work. An edtech startup was able to hire talent that worked remotely from other countries, while a cleantech firm said that some of its developers are concurrently working at larger tech companies.

In the Philippines, there might be more research institutions offering R&D that startups can develop. Expertise is concentrated in Metro Manila as well. Three universities were recently recognized by DOST for their R&D programs and development of commercially viable technologies; all are in Metro Manila or Central Luzon (Bautista 2022).

Government agencies responsible for regulating and certifying products (i.e., safety and standards) have skilled personnel. Government financial institutions use these agencies to assess the technical viability of loan applicants.

Startups have also noted that there might be additional mentors and mentorship programs. One edtech founder joined a competition abroad. After winning the competition, he was offered technical training that he was not able to secure in the Philippines. In addition to technical expertise, founders expressed the need for mentoring on business registration, tax compliance, accounting records, financial planning, and regulatory procedures. Tech startups interviewed said that a central database of experts who can help with startup-related problems, whether pro bono or for a small fee, would be a huge help to the sector.

There is expertise among the general workforce that can be further developed. One healthtech founder said that nurses and therapists hired by the company were provided with additional training to operate the machines used alongside doctors.

Tech startups interviewed for the study urged that the STEM curriculum be further strengthened. An edtech founder observed greater interest in tech-related courses during the pandemic.
Respondents also stressed the need to promote entrepreneurship to nurture the next generation of startup founders. There is also a need to encourage careers in agriculture. If the sector is promoted as agribusiness that is profitable and sustainable, it could draw more interest from young people, who might be more open to the digitalization of the agriculture sector. The future workforce also can be more multidisciplinary to work in the tech startup world. For example, an agritech that relies heavily on data said it needs employees who are skilled in back-end engineering but would also be comfortable interacting with farmers.

### 3.5 Digital Infrastructure

Tech startups interviewed for this report did not consider the Philippines’ digital infrastructure as a major obstacle to their development. However, they noted that improvements would help to expand their markets for products or services offered on or through the internet. The cost and ease of access to the internet, as well as low digital literacy, especially among the elderly, affect the adoption of digital innovations. The World Bank also notes that the Philippines’ digital infrastructure is restraining the effective use of digital technologies and may limit the size of the market for internet-based products and services offered by startups (World Bank 2020).

The IMD World Digital Competitiveness Ranking 2021 ranks the Philippines 58th out of 64 countries in terms of digital competitiveness and capacity to harness digital technologies for transformation (IMD World Competitiveness Center 2021). The country’s top issues are the quality of communications technology, the low number of users, and inadequate internet bandwidth speed.

The Philippines ranks 68th out of 120 economies in the Inclusive Internet Index (CPBRD 2021). This rank for other countries is as follows: Thailand (30th), Malaysia (46th), and Viet Nam (54th). In the index, the Philippines ranks 60th in “availability,” which is the quality and breadth of available infrastructure required to access the internet. As of November 2021, there were 25,213 cell towers in the Philippines (Business World 2021). This is below some other countries in the region (Globe 2021). More towers means that fewer Filipinos would use each tower, which would improve internet quality. The density of telco towers (i.e., the number of towers per 100,000 cell phone users) in several neighboring countries is shown in Figure 4.
4G availability in the Philippines increased to 82% in early 2020. Availability is higher in Thailand, Indonesia, and Viet Nam, as shown in Figure 5. 4G availability is the percentage of time 4G users spend with a 4G connection.
According to a survey conducted by DICT, 83% of households do not have internet access at home, mainly because of the cost of services and equipment. In terms of type of internet connection, fixed wired broadband dominates among Filipino households at 53%, followed by mobile broadband at 22%, and fixed wireless broadband also at 22%. The Philippines has a fixed broadband subscription rate of 7.24 per 100 people. Figure 6 shows the rate for several countries.

![Figure 6: Fixed Broadband Subscriptions, 2020 (per 100 people)](chart)

In terms of active mobile broadband subscriptions, the Philippines has 63 subscriptions per 100 inhabitants in 2020 (see Figure 7).

![Figure 7: Mobile Broadband Subscriptions, 2020 (per 100 people)](chart)

21 Fixed internet broadband subscriptions refer to subscriptions for high-speed access to the internet. These include cable modem, DSL, fiber-to-the-home/building, other fixed (wired) broadband subscriptions, satellite broadband, and terrestrial fixed wireless broadband.

22 Mobile broadband subscriptions refer to mobile subscriptions that advertise data speeds of 256 kbits or greater.
The Philippines has an average monthly broadband cost of $44 in 2022. Figure 8 shows costs in other neighboring countries.23

![Figure 8: Average Cost of Broadband per Month, 2022 (\$)](source: Cable.co.uk. Global Broadband Pricing League Table 2022)

Mobile data costs in the Philippines have decreased over the past 2 years. The average price for 1 GB is $0.52, compared with $0.45 in Malaysia and $0.38 in Thailand (Figure 9).

![Figure 9: Average Price of 1 GB of Mobile Data, 2022 (\$)](source: Cable.co.uk. Worldwide Mobile Data Pricing 2022)

23 Cable.co.uk. Global Broadband Pricing League Table 2022.
Average mobile internet speed in the Philippines increased from 11 megabits per second (Mbps) in 2021 to 23 Mbps in October 2022. It is below the global median of 33 Mbps and most peers of the Association of Southeast Asian Nations, as can be seen in Figure 10.²⁴

Average fixed broadband internet speeds increased from 28 Mbps in 2021 to 71.7 Mbps in October 2022, closer to the global average of 72.4 Mbps (Figure 11).

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Digital Infrastructure: Issues, Challenges, and Risks

Low-cost and reliable internet connections in the provinces would help tech startups to expand the reach of their products and services. A healthtech startup said its services are currently limited to middle- and upper-income earners in cities because most people in rural areas do not have a stable connection to access its services.

A founder of a healthtech startup said digitalization in the Philippines might be improved. The founder noted that the private sector is making advances in introducing new ways to consult doctors, buy medicines, and purchase health insurance.

The government’s shift toward broader digitalization can help tech startups’ access to some government services. A cleantech firm noted improvements at the national level and commended an energy regulator for responding promptly to its request for information on new clean energy laws and policies. At the local level, the founder noted that the quickest way to contact local government unit (LGU) officials is still through a “warm” recommendation.

If the national government were to launch a concerted effort to fully digitalize government services and other forms of assistance, tech startups could get permits faster and start operations sooner.

Digital literacy might also be addressed so that innovations from tech startups can be more easily adopted by more Filipinos, not just the younger generation. Many people could improve their digital literacy to use technology in agriculture, education, or health. For example, the average age of Filipino farmers is 57 (Palis 2020), and many can be encouraged to learn new things and adopt new farming technologies. Agritech founders said that improving the digital literacy of farmers and agricultural workers would help increase adoption of agritech innovations.

Agritech founders also noted the importance of the technical skills of government employees who engage with farmers. These workers have the expertise to quickly understand startups’ innovations. Agritech companies sometimes can help to train extension workers on how to use their technology so they can help with pilot testing with farmers. Agritech founders pointed out that government agencies can act as early adopters (i.e., promoters) to enable faster adoption of new technologies by farmers.

Edtech firms are also affected by the level of digital literacy, which affects adoption of new tools and services. In addition, edtech firms can consider targeting the Department of Education rather than individual teachers and schools. As one edtech founder noted, teachers and principals follow the direction set by the national government and do not decide what technology to use in their classrooms.
The Philippine government’s support for startups has improved. Policy makers—and other nongovernment players—can continue to strengthen the ecosystem to encourage startup growth and thereby contribute to the dynamism of the economy. In particular, these efforts can encourage the creation and success of startups in agritech, cleantech, edtech, and healthtech.

4.1 High-Level Actions

**Appoint startup champions to the National Innovation Council.** The National Innovation Council (NIC) is a 25-member advisory body chaired by the President and includes 16 department secretaries and the National Economic and Development Authority. Seven private sector representatives are also expected to serve on the council. Some of these members could represent startups, which would give them a voice at the national level and provide a channel for input to the council from startup associations, venture capital (VC), or angel investor groups. Through the council, startups could help the government develop innovation policies and programs to strengthen the ecosystem.25

**Monitor the implementation of the Innovative Startup Act and the Philippine Innovation Act.** The Innovative Startup Act (ISA) is not currently required to undergo a periodic review of its implementation. The Philippine Innovation Act (PIA) requires a review of the credit quota (i.e., 4% of banking lending for innovation) every 3 years and a review of the implementing regulations every 5 years. Given the rapid pace of change in the ecosystem, an ISA review could be conducted regularly and the PIA review more frequently. These reviews would assess program effectiveness and suggest improvements.

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25 In Indonesia and other countries, entrepreneurs and founders of mature startups have been appointed to key government positions. For example, Nadiem Makarim, founder of multibillion-dollar tech startup Gojek, was appointed by President Joko Widodo to head the Ministry of Education and Culture in 2019. Such representation can help give startups a greater voice and role in the economy.
4.2 Programs and Regulations

Monitor and adjust new programs to maximize their effectiveness. The government has put in place many new programs, including grant schemes and incubators and accelerators. Most have recently begun. It is important to monitor these programs to detect issues and to ensure they are providing the support startups need. Surveys and exit interviews with startup participants are important tools in this regard.

Create a cofinancing scheme involving the national government and LGUs to develop local ecosystems. LGU spending on ecosystem development could be matched by national funding through a cofinancing scheme. This would help reduce the concentration of startup support in Metro Manila and supplement the current reliance on university-led incubators. For every ₱1 an LGU provides in grants to incubators or startups, the national government could provide another ₱2 – ₱3.

Streamline requirements for grant programs. Government grants are a good source of capital for young startups that are not yet able to obtain other types of funding. However, many startups have difficulty accessing these grants. Implementing agencies for these grants can revisit their program requirements to ensure they are feasible for the startups they target. The criteria should give adequate weight to the merits of the product and not focus too heavily on documentation.

Accelerate digitization of regulations, programs, and procurement. The government can accelerate the digitalization of transactions with startups. This can save time, lower costs, and reduce impediments. Digitalization can improve three types of interactions: regulatory compliance (e.g., permits and licenses), delivery of support programs for startups, and public procurement of startups’ products. In procurement, digital payment can reduce the time it takes to make payments, which can have a positive impact on startups’ cash flow.

4.3 Incubators and Accelerators

Attain high quality of new incubators. The number of incubators has grown rapidly in recent years, and coverage across the country has increased. Many of these programs are new, and their managers and staff are still figuring out the best way to provide support. Incubators can improve and mature by (i) listening and adjusting to the needs of startups that join, (ii) learning from more established incubators, and (iii) asking startups that have completed programs to assess the support they received.
Promote accelerator programs for advanced-stage startups. There are now a large number of incubators that support early-stage startups. Advanced-stage startups need the support of accelerators that provide a customized approach with mentorship and corporate support. New ones of this kind could be established.

4.4 Digital Infrastructure and Literacy

Increase access to low-cost digital services. Many startup innovations are provided to customers on or through the internet. Therefore, improving internet coverage and use, especially in rural areas and among farmers and the elderly, will help expand the market for startups. Digital infrastructure and services in the Philippines have improved considerably in recent years and continued progress can be encouraged.

Promote digital inclusion through digital literacy programs. Continued efforts could be made to improve digital literacy across the country. The department currently provides digital literacy training for selected groups, which could be expanded to other sectors and include young people and the elderly. The Department of Information and Communications Technology (DICT) could design a digital literacy module for the Department of Education’s Alternative Learning System for out-of-school youth and adult learners. Literacy training could also be provided through agricultural extension services and local health workers to increase the acceptance of startup innovations in agritech and healthtech.

4.5 Procurement and Endorsement

Increase awareness of PhilGEPS, the public procurement platform. Tech startups can sell their products and services to the government to support the digitalization of public services. Few startups are aware of PhilGEPS’ Red Membership, which allows small firms to bid on projects worth ₱1 million or less. Startups and other small firms can build credibility with government agencies through smaller contracts and then bid on larger projects. Awareness of and guidance on procurement through PhilGEPS can be provided through programs offered by DOST, DTI, DICT, and incubators and accelerators. Having the government as a customer lends credibility to a startup and helps it gain the trust of potential customers and investors.

Increase endorsement of healthtech startups. Separate criteria can be created for health startups that seek endorsement by the Health Technology Assessment Committee (HTAC). Currently, startups are evaluated in the same manner as pharmaceutical firms and large health-care corporations. The HTAC advises the
Department of Health and the Philippine Health Insurance Corporation on which health interventions and technologies are most cost-effective while achieving the desired medical outcome and therefore should be funded by the government. A favorable endorsement from the HTAC can help boost clinical confidence among health-care providers and increase the chances that a health startup’s products will attract users.

4.6 Incentives for Investors

Create a tax credit for investors in early-stage startups. This can be modeled after the scheme in the United States, which applies to investments in startups up to $500,000. It applies to investment losses in a startup that has closed after operating for 3 years or less. Under such a scheme in the Philippines, early-stage investors would receive a tax credit (for a failed investment), which could be credited against other taxes payable. This will encourage investors to invest in startups and thus provide more early-stage funding. The credit could be implemented by amending an existing law such as the Corporate Recovery and Tax Incentives for Enterprises Act (2021) or the Internal Revenue Code.

Reduce the need for startups to register abroad. Foreign VC currently encourages startups to register abroad. This is because investor rights and liquidation procedures are clearer and the legal system is efficient in locations such as Singapore. In the longer term, better rights, procedures, and adjudication mechanisms can help to attract VC that does not require foreign registration.

4.7 Talent

Introduce a voucher system to encourage students to enroll in STEM. The government currently provides free tuition at state universities and colleges, regardless of academic program. It could introduce a voucher or bursary program for students enrolled in STEM to cover living expenses and the cost of books, computers, and other items. This would create incentives for students to pursue careers that might involve working in or setting up startups. The voucher system could also be applied to private higher education to subsidize tuition. It could be modeled in part on the existing voucher system for senior high school students.

Integrate STEM elements into agriculture courses at senior high schools and vocational institutes. The alignment would become science, technology, engineering, arts, and mathematics (STEAM) and underscore the importance the government places on agriculture as a career choice. The expanded strand could attract a tech-savvy generation to agriculture and help modernize the sector through technology and innovation.
Dear Startup Founder,

We represent Think Tank, Inc. and we are currently conducting a research study to better understand the startup ecosystem in the Philippines. Our findings will be submitted to the Asian Development Bank and shared with key stakeholders in government and the private sector.

Part of our study is to identify the factors that support and constrain the growth and development of startups in the country. Before we proceed with the in-depth interview on the schedule we’ve agreed upon, we would like to get some basic information on your business through this quick survey. Your participation would be greatly appreciated.

1. **Name of startup:**

2. **Description of your company:**

3. **Products and/or services:**

4. **Year established:**

5. **Which sector is your business aligned?**
   - Agritech
   - Cleantech
   - Edutech
   - Healthtech
   - Fintech
   - e-Commerce
   - Others:

6. **Gender of the head of organization:**
   - Male
   - Female
   - Others:
7. **Location of headquarters (region):**
   - Dropdown (Regions I to XIII plus NCR, CAR, BARMM)

8. **How many employees do you have?**
   - 1–9 employees
   - 10–99 employees
   - More than 100 employees

9. **What does your annual revenue look like?**
   - Below ₱500,000
   - ₱500,000 to ₱1,000,000
   - ₱1,000,000 to ₱5,000,000
   - ₱5,000,000 to ₱10,000,000
   - ₱10,000,000 and above

10. **What forms of financing have you received in the last year or since you started operating?**
    - Bank financing
    - Own funds, including family and friends
    - Grants from government
    - Grants from foundations
    - Venture capital
    - Angel investors
    - Incubators finance
    - Others: ______________________________________________________________

    Optional: You may expound on your answer in the previous question here ________

11. **Do you need financing over the next year?**
    - Yes
    - No

12. **Do you have expectations for growth over the next year?**
    - Yes
    - No

13. **What are the top three challenges your organization is facing?**
    - Lack of access to capital
    - Regulatory environment/requirements
    - Lack of access to new markets/geographies
    - Acquiring talent/workforce
    - Development of new products and services
    - Others: ______________________________________________________________

    Optional: You may expound on your answer in the previous question here. (e.g., What specific regulatory barriers are you facing? What hinders your firm from accessing capital?)
14. **Have you been part of an incubator/accelerator program?**
   - Yes
   - No
   If yes, which one/s? ____________________________________________________________

15. **What are the key reasons for joining an incubator/accelerator?**
   - Learning/capacity-building
   - Access to capital
   - Access to network
   - Others: ________________________________________________________________


Galang, R. 2022. Ease of Doing Business: Connecting Opportunities by Cutting the Red Tape. Presentation to the Anti-Red Tape Authority. 8 April.


References
The Philippines’ Ecosystem for Technology Startups

Technology-based startup enterprises are an increasingly important part of the business landscape in Asia and the Pacific. By applying innovative technologies to create new products and services, they can make a significant contribution to economic development while generating social and environmental benefits. However, to survive and then thrive, tech startups require an enabling ecosystem that includes supportive government policy, adequate access to capital, skilled personnel, and quality digital infrastructure. This report assesses the current ecosystem for tech startups in the Philippines, focusing on four sectors: climate change, education, agriculture, and health. The report discusses challenges facing tech startups in these sectors and provides recommendations.

About the Asian Development Bank

ADB is committed to achieving a prosperous, inclusive, resilient, and sustainable Asia and the Pacific, while sustaining its efforts to eradicate extreme poverty. Established in 1966, it is owned by 68 members—49 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.