JICA Global Agenda for

No. 4 Private Sector Development

Strategy for Support for Building Startup Ecosystems for Innovation Creation (Next Innovation with Japan; NINJA)

Japan International Cooperation Agency (JICA) works toward the achievement of the Sustainable Development Goals (SDGs).

2023.07

1. Purpose

1.1 Purpose of the Strategy

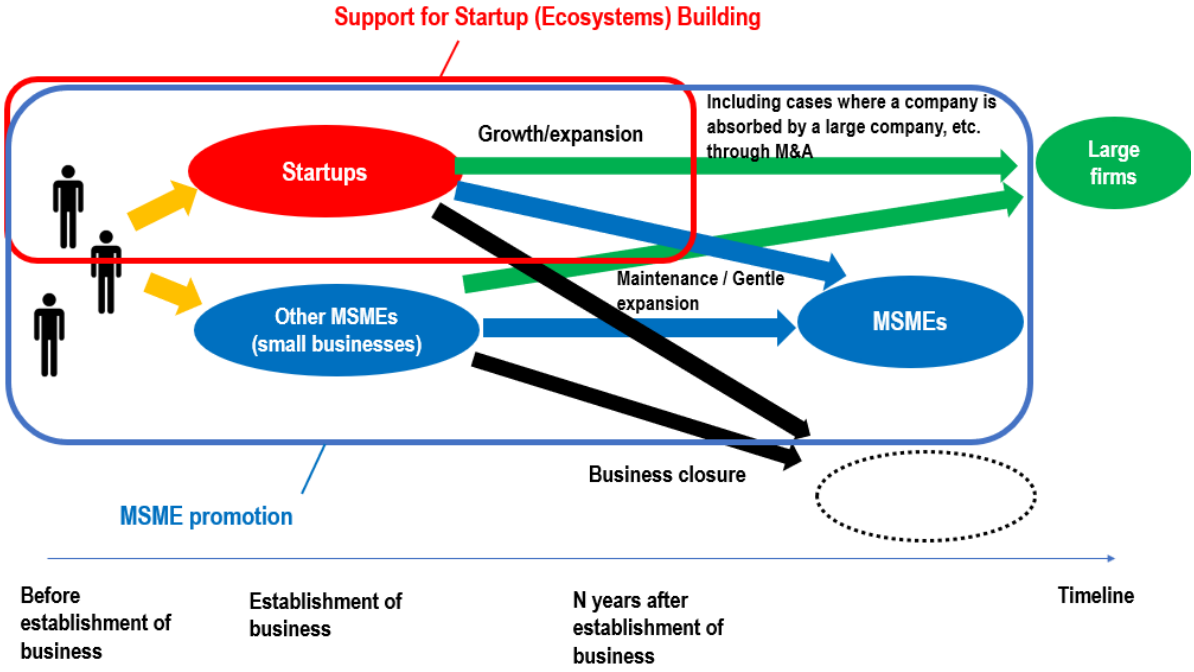
*Related terms are listed in Appendix 1.

This Strategy is one of the strategies that make up the JICA Global Agenda for "Private Sector Development[1]," which is dedicated to fostering entrepreneurs and supporting the development of an environment for private sector companies to grow. In addition to the SME promotion efforts that JICA has been implementing so far, this Strategy aims to promote economic growth in developing countries through the creation of innovation [2] by startups in developing countries (Appendix 2), solving local social issues, and creating new industries and employment opportunities. (See Fig. 1 for the relationship between support for building startup ecosystems and SME promotion). To this end, JICA will establish and develop a "startup ecosystem" to achieve a situation where innovative "startups" are continuously and autonomously created and nurtured. In particular, JICA will focus on fostering startups that solve social issues. In addition, JICA will contribute to the achievement of Target 8.3: "Promote development-oriented policies that support productive activities, appropriate job creation, entrepreneurship, creativity, and innovation, as well as encourage the establishment and growth of MSMEs, including through improved access to financial services" in SDG Goal 8: "Promote inclusive and sustainable economic growth, full and productive employment for all and decent work for all."; and the achievement of Target 9.b: "Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities" in SDG Goal 9: "Build resilient infrastructure, promote sustainable industrialization and expand technological innovation."

[1] In addition to this Strategy, there are two other strategies under "Private Sector Development": "Africa Kaizen Initiative (AKI) "and ""the Promotion of Investment and Industry in Asia".

[2] Schumpeter, a proponent of "innovation," explains that new combinations, i.e., (1) new products, (2) new production methods, (3) new markets, (4) new resources, and (5) new organizations, will bring about economic development. Naokazu Takemoto, "kigiyou taikoku o tsukuru inobe-shon soushutsu no tame no kigyoka to nihon no torikumi (Creating an Entrepreneurial Superpower: Entrepreneurs and Japan's Approach to Innovation Creation)," PHP Institute, 2021.

<Fig. 1> Startup Ecosystem Support and SME Promotion
A subset of SMEs is distinguished from “small businesses” as “startups.”
Support for startup (ecosystem) building is part of SME promotion.



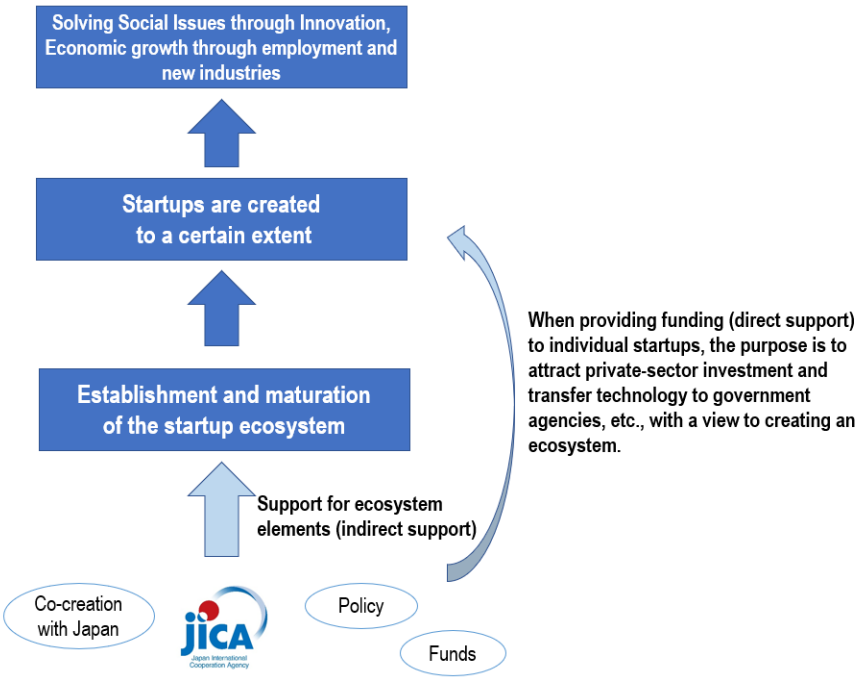
1.2 Overview of the Strategy

The Strategy will support the creation and development of a “startup ecosystem” to create an environment in which startups can be continuously and autonomously created and nurtured, and through the development of innovative businesses by startups, solve social issues through innovation and achieve economic growth through the creation of new industries and job creation.

As a background, in developing countries, where the environment is such that “population growth and market size” x “social issues (difficulties/inefficiency) faced” x “potential for DX” (e.g., the spread of smartphones and looser regulations than in developed countries), innovation is easily generated, and innovation is expected to contribute to solving social issues. In addition, Africa and other countries are facing issues such as job creation due to future population growth and the need to break away from dependence on primary industries, and startups are expected to play a major role in resolving these issues.

Among the 10 elements[3] of the startup ecosystem (Fig. 8 and 9, Appendix 3), which are described below, JICA will focus on the development of "talent and human resources (entrepreneurs and employees)," "leadership for entrepreneurship (entrepreneurial skills, mindset, etc.)," "venture/angel funding," "legal systems and policies," "social networks." While JICA will provide support to individual startups, the purpose of JICA's support is to provide credit and other benefits, to serve as a catalyst for further private sector investment, and to transfer know-how to government agencies.

<Fig. 2> Overview of NINJA Strategy



The focus of support will be on developing countries, especially those with less developed startup ecosystems, where the government has a proactive stance in promoting startups. Once the ecosystem has developed and matured, JICA will position local startups as partners in addressing social issues in the country, co-create with them, and provide support for the inclusion of vulnerable groups in the ecosystem. In providing support, JICA will promote collaboration between local startups and Japanese startup ecosystem actors such as Japanese private companies, investors, universities, and startups, as well as reverse innovation into Japan.

[3] The 10 elements are as follows: (1) Physical infrastructure for meeting other actors, (2) demand and purchasing power, (3) BtoB service providers, (4) talent and human resources (entrepreneurs and employees), (5) knowledge and R&D, (6) leadership for entrepreneurship (entrepreneurial skills, mindset, etc.), (7) venture/angel funding, (8) legal systems and policies, (9) culture of entrepreneurship, (10) social networks

2. Current Situation and Development Approaches

2.1 Current development issues, factors that contribute to the problems to be addressed

(1) Solving social issues through innovation creation

Modern society faces various challenges, including the spread of COVID-19. With regard to the SDGs, the corona crisis has caused the first increase in poverty rates in 20 years and raised such issues as the weakening of food security, stalling of progress in universal health coverage, and climate change. To solve these issues and achieve the SDGs, it is important to create innovation[4], and innovation by startups is expected[5] (Appendix 4). For example, it was Moderna, a startup, that produced a vaccine for COVID-19 at an astonishing speed[6].

Innovation is particularly likely to be born in developing countries, where the environment of "population growth and market size" x "social challenges faced (difficulties/inefficiency)" x "potential for DX" (e.g., the spread of smartphones and looser regulations than in developed countries) are all present. The cost of starting up a business is lower than in the past due to the spread of smartphones and the progress in digitalization. This has also encouraged the environment for startups to be established in developing countries, and startups are emerging one after another. As a result, a "leapfrog[7]" phenomenon has occurred where products and services that have jumped over the stages of development that developed countries have gone through suddenly spread, dramatically increasing the speed at which social issues are solved. In addition, "reverse innovation[8]," in which innovations born in developing countries flow back to

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[4] Naokazu Takemoto, Creating an Entrepreneurial Superpower: Entrepreneurs and Japan's Approach to Innovation Creation, PHP Research Institute, 2021.

[5] Sustainable Development Goals (SDGs) Report 2022 (https://www.unic.or.jp/activities/economic_social_development/sustainable_development/2030agenda/sdgs_report /) and United Nations "The Sustainable Development Goals Report 2021" (https://unstats.un.org/sdgs/report/2021/The- Sustainable-Development-Goals-Report-2021.pdf)

[6] Naoyoshi Goto and Phil Wickham, "Venture Capitalists - The Most Powerful 'King Makers' Who Move the World," Newspix, Inc.

[7] The "frog jump." Refers to the rapid diffusion of new digital technologies in developing and emerging countries.

[8] LIXIL Corporation's "waterless toilet" introduced in Kenya has been introduced to Japan and other countries for use in disasters, the cashless payment service "Paypay" can now provide services in collaboration with Paytm of India, and a service to transport blood by drones in Rwanda

developed countries, is also expected to solve social issues in the developed countries.

It is said that about half of new startup companies (people) go out of business within five years[9], but they differ from the traditional concept of SMEs in that they are not bound by the products, services, technologies, and strategies that have been offered so far and are more likely to create radical innovations. The entry of startups also triggers innovation by non-startups, and this stimulates metabolism through market mechanisms, thus invigorating the economy[10].

By encouraging these trends through this Strategy, we aim to solve social issues in developing countries and, as a side effect, contribute to solving global social issues, including those in developed countries such as Japan.

(2) Economic growth through the creation of new industries and businesses

Startups reallocate[11] jobs from old industries to new industries and have a stronger effect on economic growth than opening a small business[12].

There are some countries in Africa, Southeast Asia, South Asia, and Latin America where the employment rate in the agricultural sector exceeds 50% (Fig. 3). Therefore, the growth rate of per capita income is easily influenced by fluctuations in the prices of primary commodities and is also susceptible to weather and climate change[13].

Startups are emerging in a wide range of fields, mainly in the so-called tech sector, including fintech (finance), agritech (agriculture), cleantech (environment), healthtech (health), e-commerce, transportation, entertainment, insurtech (insurance), and edtech (education). The economy as

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has been launched in the Goto Islands using the technology and aircraft of the US startup "Zipline." These can be cited as case studies.

[9] According to the "2002 White Paper on Small and Medium Enterprises" (https://warp.da.ndl.go.jp/info:ndljp/pid/11551249/www.chusho.meti.go.jp/pamflet/hakusyo/H14/index.html), the cause is attributed to the lack of management knowledge and know-how to overcome management crises immediately after opening a business and underestimation of scale. Also, according to Masatoshi Kato, "Economics of Startup: Understanding the Birth and Growth of New Firms," Yuhikaku Publishing, 2022, the cause is attributed to the "disadvantages of newness" (work procedures, networks, and stable customers have not been established, and the lack of track records (transaction history) makes it difficult to find lenders for funds) and "disadvantages of smallness" (cost disadvantage compared to large firms).

[10] Masatoshi Kato, "Economics of Startup: Understanding the Birth and Growth of New Firms," Yuhikaku Publishing, 2022

[11] Bos, J. W., & Stam, E. (2014). Gazelles and industry growth: a study of young high-growth firms in the Netherlands.
Industrial and Corporate Change

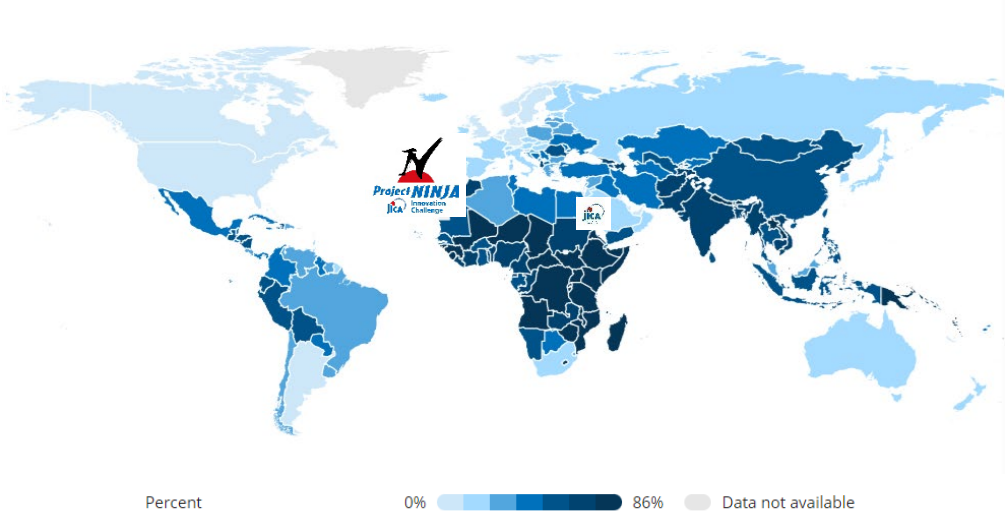
[12] Stam, E., Hartog, C., Van Stel, A., & Thurik, R. (2011). Ambitious entrepreneurship and macro-economic growth. In M. Minniti (Ed.), The dynamics of entrepreneurship. Entrepreneurship Monitor Data, Oxford: Oxford University Press, & Wong, P. K., Ho, Y. P., & Autio, E. (2005). Entrepreneurship, innovation and economic growth: Evidence from GEM data. Small Business Economics.

[13] Theodore Ahler (ed.) (2019), "Rebuilding Africa's Growth: Trajectories for a New Africa"

a whole is expected to become increasingly digitized in the future. Although this Strategy does not support only digital tech startups, it is estimated that business models utilizing digital technology will account for 70% of the new added value created in the world over the next 10 years, and it is said that by 2023, more than half of the world's GDP will be generated by companies using digital technology[14]. Therefore, it is expected that the number of such startups will inevitably increase in developing countries, creating a significant impact. Supporting the birth of such startups and promoting the creation of new industries and businesses can be expected to contribute to economic growth in developing countries.

<Fig. 3> Employment Rate in Agriculture[15]

There are some countries in sub-Saharan Africa, Southeast Asia, South Asia, Latin America, etc. where the employment rate exceeds 50%.



(3) Creation of employment opportunities

Startups are a driving force and important player in job creation[16].

Although this Strategy's projects will not be implemented exclusively in the African region, the creation of employment opportunities in Africa, in particular, is a more serious challenge than in other regions due to population growth. By 2050, Africa will be the only region in the world with a growing working-age population segment. Between 2018 and 2050, 72% of the projected increase in the global working-age population will be in Africa. Working-age population growth has exceeded 10% per year for the past 60 years, and similar growth is

[14] Startup Genome "The Global Startup Ecosystem Report 2022", https://www.nikkei.com/article/DGXMZO58180180X10C20A4 SHE000/

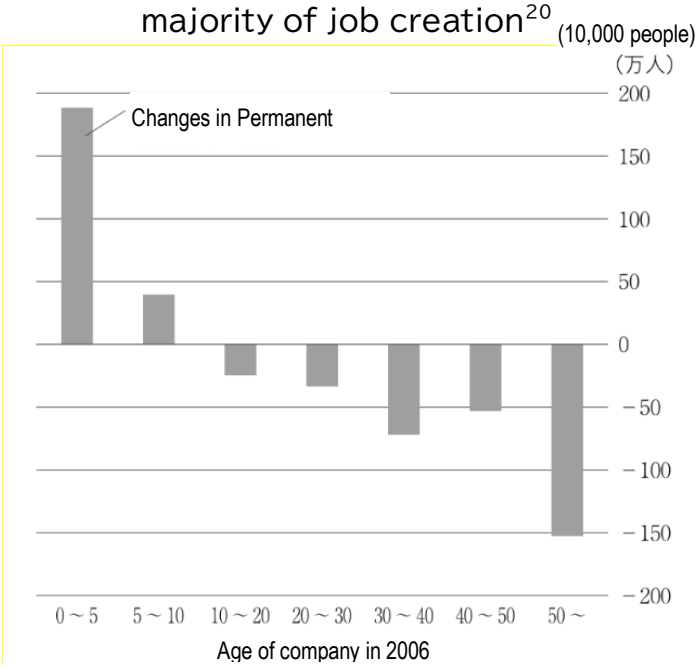
[15] World Bank Gender Data Portal (https://genderdata.worldbank.org/indicators/sl-empl-zs/)

[16] Haltiwanger et al. 2013 "Who Creates Jobs? Small versus Large versus Young."

expected to continue over the next 30 years. Overall, however, growth in Africa has slowed in recent years, and over the past decade or so, Africa's growth rate has been lower compared to other regions of the world. Good-quality jobs have not been created to absorb the 200 million young people expected to enter the labor market over the next decade or so. Closing the widening gap between population and employment is an urgent challenge[17].

Although the majority of startups do not have job creation as a business objective in itself, compared to family-owned small businesses, startup businesses often grow rapidly and hire employees due to their innovative nature[18], resulting in job creation (see Fig. 4 and Appendix 5).

<Fig. 4> Net increase in permanent employees by company age in Japan[19]
Young companies (startups) less than 5 years old are responsible for the majority of job creation[20]



<Current State of the Startup Ecosystem in Developing Countries>

Until now, there were 176 unicorn companies (unlisted companies with a corporate value of $1 billion or more) worldwide in 2015, most of which

[17] Theodore Ahler (ed.) "Rebuilding Africa's Growth: Trajectories to a New Africa," 2019
[18] On the other hand, even in the case of starting a business as a freelancer, about 20% of the startups are subsequently accompanied by employment. Small and Medium Enterprise Agency: 2020 White Paper on Small and Medium Enterprises (https://www.chusho.meti.go.jp/pamflet/hakusyo/2020/chusho/b1_3_3.html)
[19] Masatoshi Kato, "Economics of Start-up: Understanding the Birth and Growth of New Firms," Yuhikaku Publishing, 2022
[20] Although there is no definition of the number of years a startup has been in business, a company that has been in business for at least five years or less can be considered a startup.

originated in Silicon Valley, but by 2021, the number had jumped to 959, with nearly half of them coming from outside the United States[21]. For example, startups are surging in India due to the price collapse of telecommunication fees, etc. In Singapore and Indonesia, the top companies with the highest corporate value in the country are startups that have become huge[22]. In Asia, there are unicorn companies in China, followed by India, Singapore, and Indonesia; in Latin America, there are unicorn companies in Brazil, Colombia, and Mexico; and in Africa, there are unicorn companies in South Africa and Nigeria[23].

However, there are many developing countries that have not developed the 10 elements of the startup ecosystem discussed below and have not generated many startups domestically. For example, on the African continent, Nigeria, South Africa, Egypt, and Kenya are considered the Big 4, where investment is highly concentrated, and there is a huge discrepancy compared to other countries there even from looking at the number of startups[24]. As an example, in Ghana, although there are many incubators, each company operates individually, and because of the lack of actors such as accelerators, mentors, and large companies, (7) venture/angel funding and (10) social networks have not developed. The Ghanaian government, led by the Ministry of Business Development (MBD), is implementing the National Entrepreneurship and Innovation Programme (NEIP) to support startups, but information on these support measures is not widespread, and the programme are not well utilized by startups. However, information on these support measures has not been widely disseminated, and startups have not made much use of them. In addition, since SMEs and startups are not distinguished in the operation of support measures, (8) legal systems and policies, such as the lack of tax incentives for startups and the strict requirements for foreign investors and foreign CEOs to receive subsidies such as NEIP, is also an issue[25]. As a result, the number of startups in Ghana is less than 1,000, with only 6 Series A companies[26]. It can

[21] Naoyoshi Goto and Phil Wickham, "Venture Capitalists - The Most Powerful 'King Makers' Who Move the World," Newspix, Startup Genome "The Global Startup Ecosystem Report 2022"
[22] Naoyoshi Goto and Phil Wickham, "Venture Capitalists - The Most Powerful 'King Makers' Who Move the World," Newspix, Inc.
[23] Asei Ito, "Digitalizing Developing Countries: Beyond the Developed Countries or the Coming of Surveillance Society," Chuko Shinsho, 2020
[24] As of 2022, there were 9,618 startups in South Africa, 4,946 in Nigeria, 3,256 in Egypt, and 2,232 in Kenya. In comparison, there were less than 1,000 startups in other countries in Africa (976 in Ghana); from data provided by Double Feather Partners.
[25] Deloitte Tohmatsu Financial Advisory LLC and Deloitte Tohmatsu Venture Support Co., Ltd., "Final Report on Information Collection and Confirmation Survey on Startup and Entrepreneur Support," 2021
[26] From data provided by Double Feather Partners

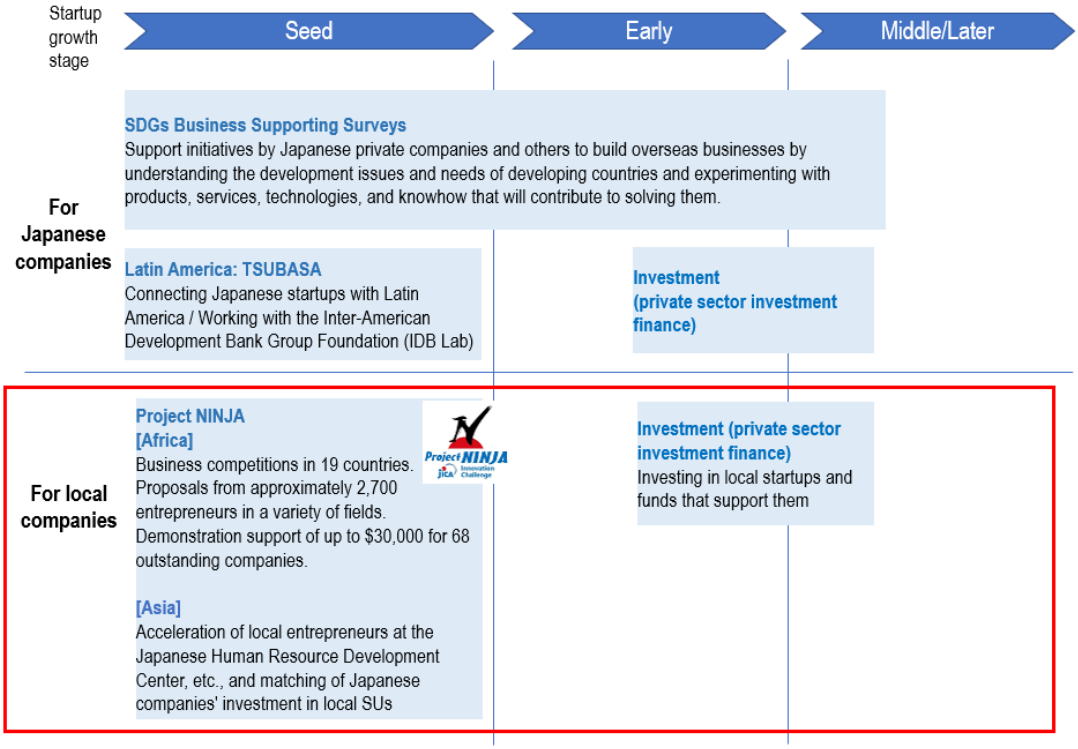
be said that the startup ecosystem is in the Dawn stage there.

2.2 International trends of JICA and other organizations to date

<JICA's initiatives>

JICA's startup support to date (including support for Japanese startups) can be categorized and organized as shown in Fig. 5.

<Fig. 5> JICA's startup support projects to date[27]
Support for local startups is covered by this Strategy
(including projects that do not use the brand name "Project NINJA")



As shown in Fig. 5, in addition to initiatives related to supporting Japanese companies (including startups) to expand their businesses to developing countries, JICA provides a wide range of support for local startups and the establishment of startup ecosystems. In this Strategy, support for local startups is the target, and the use of the brand name "Project NINJA[28]" is recommended. The Strategy encompasses various activities such as research and policy support for the startup ecosystem, private sector investment finance,

[27] Excerpts from the press study session held on November 29, 2022
[28] "Project NINJA" does not have any specific program implementation methods or procedures.

and “individual company support” programs for startups (business plan competitions, incubation and acceleration programs, pitch events, Proof of Concept (PoC) support, matching support, etc.). In addition, existing initiatives that do not use the “Project NINJA” brand name, such as acceleration programs targeting local startups at some of the JICA-supported Japanese human resources development centers[29] established in nine Asian countries, are also included in this Strategy. See Appendix 6 for a list of startup support programs. Examples are listed below.

- “Data Collection Survey on Enhancement of Startup Ecosystem in African Region”

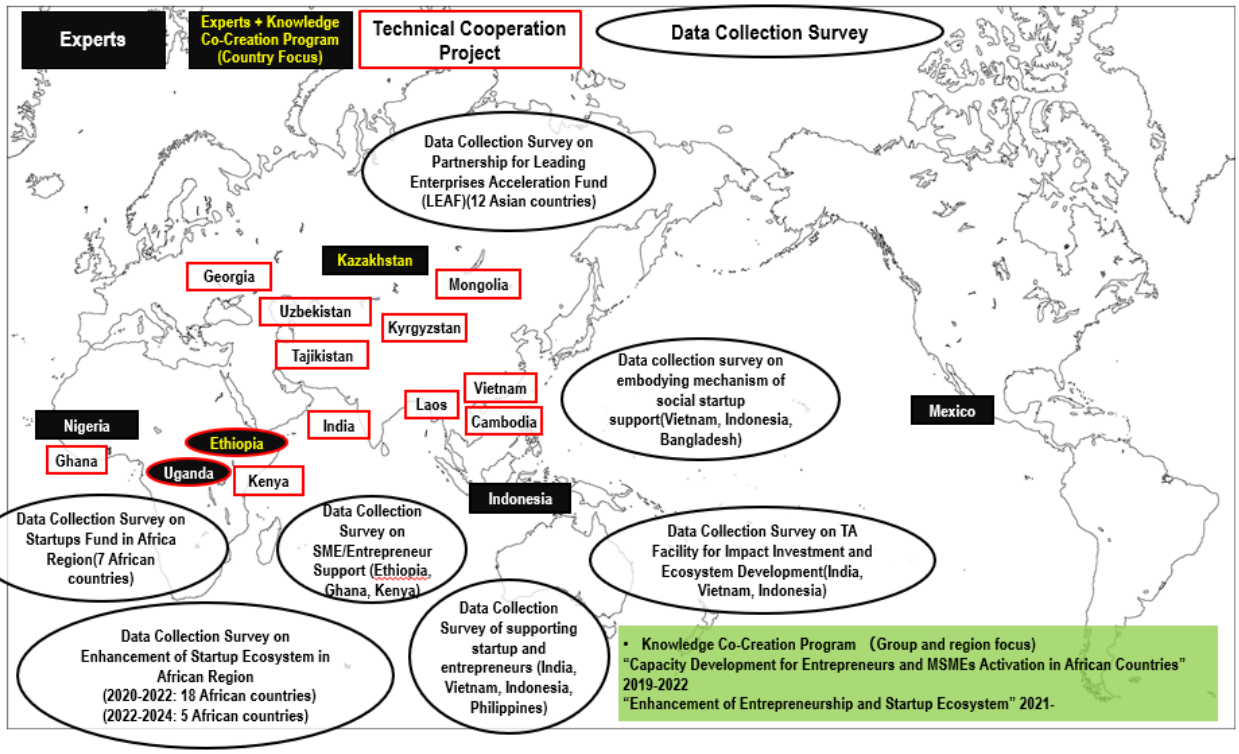
  A survey to establish an effective acceleration program to foster startups in the African region and to examine how to utilize JICA’s financial assistance, among other things. As one of the activities of this survey, a business plan competition titled “NINJA Business Plan Competition in Response to COVID-19” was held in July 2020, targeting 19 African countries. Through the commissioning of PoC to 68 outstanding companies selected from a total of 2,713 applications, NINJA promotes the creation of innovative business models and technologies that respond to changes in the social structure and economic activities under the corona crisis, and the fostering of startups that will be responsible for these objectives.

- Experts: “Entrepreneurs Support and Innovation Promotion Advisors” (Nigeria)

  Experts dispatched to the Office for Nigerian Digital Innovation (ONDI) (Sept. 2021 - Sept. 2023). Assistance provided to the Nigerian government to conduct an ecosystem study on seven sectors of particular focus for startup support, as well as incubation and acceleration programs to be implemented by the government. Advisors also provided support for collaboration between Japanese companies and local startups and were involved in policies related to the Startup Act.

[29] The centers were conceived as centers for the development of business human resources in countries in transition to a market economy and for the formation of human networks with Japan and have been opened one after another since 2000. Ten centers have been established in 9 countries: Mongolia, Uzbekistan, Kyrgyzstan, Kazakhstan, Ukraine, Vietnam (Hanoi and Ho Chi Minh City), Cambodia, Laos, and Myanmar. Of these, 8 centers in 7 countries (excluding Kazakhstan and Ukraine) are currently implementing technical cooperation projects, with emphasis on strengthening their functions as platforms that bring together diverse actors, including partner countries, Japanese companies, universities, local governments, and financial institutions.

<Fig. 6> Countries and regions where startup support projects are implemented (including those scheduled to be implemented)
The Startup Ecosystem Support Program is expanding beyond Africa.



*The current situation is such that no technical cooperation projects (other than data collection surveys and experts) aimed solely at startup support are being implemented, but only a combination of enhancement of business development services (BDS) as support for SMEs and startup support programs, or technical cooperation with a Japanese human resources development center to provide startup support as part of management support are being implemented.

<Characteristics of the Japanese startup ecosystem and the significance of Japan's support for startup ecosystems in developing countries>

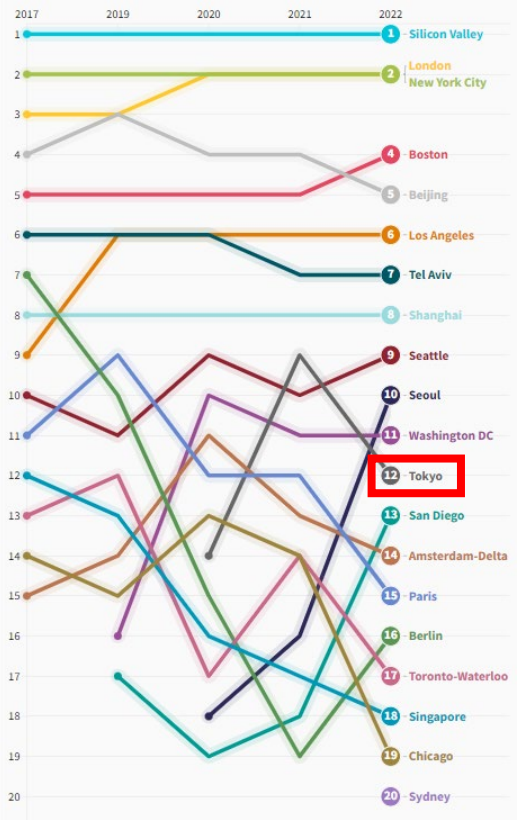
Although Japan's startup ecosystem cannot be considered as mature as that of the United States and other countries, there is growing recognition of the importance of the startup ecosystem in Japan, and the startup support system has been strengthened. In particular, Tokyo's ecosystem is gaining recognition globally. In Startup Genome's "Global Startup Ecosystem Report 2019[30]," Tokyo's ecosystem was mentioned for the first time as being in an "early globalization[31]" stage. Manufacturing robots and fintech were introduced as

[30] https://startupgenome.com/reports/global-startup-ecosystem-report-2019
[31] The stage where global collaboration has begun to progress.

strong sectors, and the Tokyo Metropolitan Government's accelerator program "FinTech Business Camp Tokyo," in which foreign companies can participate, and "J-Startup[32]", a startup company development support program promoted by the Ministry of Economy, Trade and Industry, were also mentioned. Tokyo has since been ranked 14th (in the 2020 edition[33]), 9th (in the 2021 edition[34]), and 12th (in the 2022 edition[35]) in the report's ecosystem rankings, placing it within the top 15 of 140 cities worldwide for three consecutive years (Fig. 7).

<Fig. 7> Trends in the "GLOBAL STARTUP ECOSYSTEM RANKING" (2017-2022)[36]

Tokyo's startup ecosystem beginning to gain recognition



It can be said that as a country, Japan ranks sixth after the United States, U.K., China, Israel, and South Korea, ranking higher than France and Germany with one of the top startup ecosystems in the world. Some startups have successfully raised tens of billions of yen and have started serving as mentors engaged in angel investing and giving advice to startups begun by the younger generation. "Mega-venture [37] " companies such as Rakuten, Sony, and Softbank are such examples, and even after becoming large companies, in-house startups are being created. In particular, with regard to startups featuring artificial intelligence (AI) technology, Tokyo ranks seventh in the world in terms of the number of registered companies. The concentration of startups in and around the Hongo Campus of

[32] JETRO HP (https://www.jetro.go.jp/biz/areareports/2019/19eb953238275f11.html)
[33] https://startupgenome.com/reports/gser2020
[34] https://startupgenome.com/report/gser2021
[35] https://startupgenome.com/reports/gser2022 One of the reasons for the high evaluation was the large number of exits, but it is also due to the fact that the number of people who want to become entrepreneurs is increasing, thanks to initiatives such as the "J-startup" mentioned above and the ¥60 billion fund at the University of Tokyo.
[36] Startup Genome (https://startupgenome.com/report/gser2022)
[37] Although there is no clear definition, a large firm is one that has achieved rapid growth in a short period of time and has reached a certain size in terms of corporate value, number of employees, capital, etc.

the University of Tokyo has become known as "Hongo Valley[38]."

As a national policy, startup support was addressed in the "Basic Policy on Economic and Fiscal Management and Reform 2022: For a New Form of Capitalism -Achieving a Sustainable Economy by Harnessing Processes to Overcome Challenges to Drive Growth-[39]" approved by the Cabinet in June 2022, and the "Startup Development Five-year Plan[40]" was announced in November of the same year. In the same month, the Tokyo Metropolitan Government also announced a policy called "Global Innovation with STARTUPS[41]." Both include public procurement from startups[42] and one-stop support for startups at private-sector startup exchange centers where government officials can interact with startups on a daily basis. It is also worth mentioning that the Government Pension Fund Investment Fund (GPIF) has started investing in domestic startups via VC[43]. Given these circumstances, it is expected that startup development in Japan will gain further momentum in the future.

Furthermore, at the TICAD 8 (8th Tokyo International Conference on African Development) held in August 2022, support for "startup-centered businesses that solve social issues" by Japanese and African youth was mentioned[44], and the importance of supporting startups in developing countries was also confirmed.

Under such circumstances, this Strategy recognizes that Japan's startup ecosystem is still in the process of maturing, and instead of taking the approach of "Japan teaching developing countries," Japan will incorporate future initiatives in developing countries as a reference for itself and will develop the startup ecosystem together. In addition to emphasizing a "co-creation" approach, Japan also expects "reverse innovation," in which innovations born in developing countries can also solve problems in Japan.

Japan leads in the number of open innovation centers in Silicon Valley, and many large Japanese companies have established operations there. VC/CVC

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[38] Tohru (Kobayashi) Yoshioka, Yuki Maruyama, Yuri Hirai, Toshiya Watanabe "WHY 'HONGO VALLEY' ATTRACTS HIGH-TECH ACADEMIC SPIN-OFFS? : DETERMINANTS OF AN ACADEMIC SPIN-OFF CLUSTER," Hitotsubashi Business Review, 2020

[39] https://www5.cao.go.jp/keizai-shimon/kaigi/cabinet/2022/2022_basicpolicies_ja.pdf

[40] 13th meeting of the Council of New Form of Capitalism Realization (https://www.cas.go.jp/jp/seisaku/atarashii_sihonsyugi/kaigi/dai13/gijisidai.html)

[41] https://www.metro.tokyo.lg.jp/tosei/hodohappyo/press/2022/11/24/02.html

[42] Tokyo Trial Order Certification System (https://www.sangyo-rodo.metro.tokyo.lg.jp/chushou/shoko/sougyou/trial/), UPGRADE with TOKYO (https://upgrade-tokyo.metro.tokyo.lg.jp/), King Salmon Project (https://kingsalmon.tokyo/)

[43] Nihon Keizai Shimbun (https://www.nikkei.com/article/DGXZQOUC286WG0Y2A620C2000000/)

[44] Overvview of results of TICAD8 (https://www.mofa.go.jp/mofaj/files/100387002.pdf)

investing in developing countries such as Africa is also emerging. In addition, university initiatives are also becoming more active, such as the University of Tokyo's ¥60 billion fund[45]. Linking such Japanese companies and universities with startups in developing countries or promoting entrepreneurship by people who have studied in Japan and become knowledgeable or pro-Japanese will be a strength of Japanese support and will also lead to the development of the Japanese startup ecosystem through co-creation. In initiatives under Project NINJA so far, Japanese companies have already invested in startups and provided mentoring opportunities, and Japan will promote such collaboration of "Japanese investors, companies, universities, etc. x startups in developing countries."

<Characteristics of JICA's support for startup ecosystems, and significance of JICA's support for startup ecosystems in developing countries>.

As mentioned earlier, JICA does not provide direct supports to individual startups, but rather supports the formation and development of startup ecosystems through the governments of developing countries. Therefore, JICA will focus on areas that private-sector actors in the startup ecosystem are unwilling or unable to do (e.g., promoting high-risk pre-seed/seed funding among startup funding and providing policy support to developing country governments, etc.).

JICA has an extensive track record in developing countries in such areas as policy formulation for medium- and long-term government strategies and master plans, support for the development of legal systems including intellectual property rights and tax systems, and the development of government human resources. Through the implementation of various types of ODA, we have relationships of trust with the governments of each country. Although Project NINJA itself has just started in 2020 and has not yet accumulated sufficient experience and know-how, it is difficult for actors in the private sector to provide support for such policy areas, government human resources, etc. Therefore, JICA has a significant role to play in these areas. JICA also has a wealth of experience in Knowledge Co-Creation Programs in Japan, and there have been cases of foreign students who have completed the long-term training program "ABE Initiative[46]" and launched startups in their home countries. JICA has expertise in human resource development and co-

[45] University of Tokyo Innovation Platform Co., Ltd. (UTokyo IPC) https://www.utokyo-ipc.co.jp/investment/

[46] Industrial Human Resource Development Initiative for African Youth (ABE Initiative) https://www.jica.go.jp/africahiroba/business/detail/03/index.html

creation through training utilizing the resources of Japanese universities, so this will be strengthened. Compared to other development partners, JICA has restrictions on invest directly in private companies by setting up funds on its own due to the investment ratio of its private sector investment finance, and that is a constraint in supporting startups. Therefore, JICA has only played a complementary role in private sector investment finance. However, in the course of multiple data collection surveys, JICA has been experimenting with the nature of its role with regard to investment and loans (see Appendix 7).

In addition, having issue-specific departments and having many overseas offices is JICA's strength. For example, when supporting agricultural startups, it is effective to collaborate with the Agriculture and Rural Development Group of the Economic Development Department, which has knowledge in the agricultural sector, and when the ecosystem has matured, it is possible to utilize the technologies of local startups for JICA projects in the agricultural sector. In addition, since JICA has overseas offices in countries where the startup ecosystem is not mature, it can accurately grasp the situation in such countries and cities where the private sector does not have much information, and link this to effective support. Information sharing and collaboration among offices can also contribute to ecosystem collaboration among cities across countries.

In addition, the name "Project NINJA" is already becoming a brand name that is becoming popular in some countries and among other development partners[47]. By utilizing this brand name to carry out activities in the future, effective publicity and collaboration with other development partners will be possible.

<Activities of other agencies>

USAID, GIZ, AFD/PROPARCO, KOICA, World Bank, IFC, UNDP, EBRD, and others are working to support startups all over the world (see Appendix 8).

One of the strengths of some of other agencies is that they have a fund management system that allows them to invest directly in startups (without restrictions on investment ratios, etc.). In many cases, they also provide support for collaboration with companies in the home country or apply startup support measures implemented in the home country. On the other hand, there are few examples relevant to JICA's experts working together with government agencies that serve as C/Ps, and it can be said that there are few agencies that

[47] For example, USAID approached us about collaboration after hearing about the Project NINJA program implemented in Southeast Asia.

are able to approach the policy field.

Many of the agencies started supporting startup ecosystems even before JICA began its support, but all of them are still in the initial stage regarding the creation of best implementation method, how to set outcome indicators, etc. Thus, it cannot be said that the methods for supporting the formation and development of startup ecosystems and how to measure results have been established.

3. Development Scenario and Key Concepts

3.1 Development scenario

The startup ecosystem consists of 10 elements: (1) physical infrastructure for meeting other actors, (2) demand and purchasing power (for products and services offered by startups), (3) B to B service providers, (4) talent and human resources (entrepreneurs and employees), (5) knowledge and R&D, (6) leadership for entrepreneurship (entrepreneurial skills, mindset, etc.), (7) venture/angel funding, (8) legal systems and policies (for startups and innovation promotion), (9) culture of entrepreneurship, and (10) social networks (Appendix 3).

The initial state in the scenario: “the startup ecosystem (10 elements) has not been established and developed” → “the startup ecosystem (10 elements) will be established and developed” (Fig. 9, inside the blue dotted line), varies from country to country and city to city, depending on the original level of development of each element, the level of government and private sector intervention, and how it will develop. The level of original development of each component and how it develops with the intervention of government and private actors and other circumstances[48] differ from country to country and from city to city. For this part of the scenario (within the dotted blue box in Fig. 9), it is not possible to define one “standard” scenario in which the 10 elements will develop, but it is possible that they will develop in several patterns, and an example is shown in Fig. 10. Naturally, other patterns may exist according to country or city.

In addition, a desktop study of the ecosystems of four cities (Appendix 9)

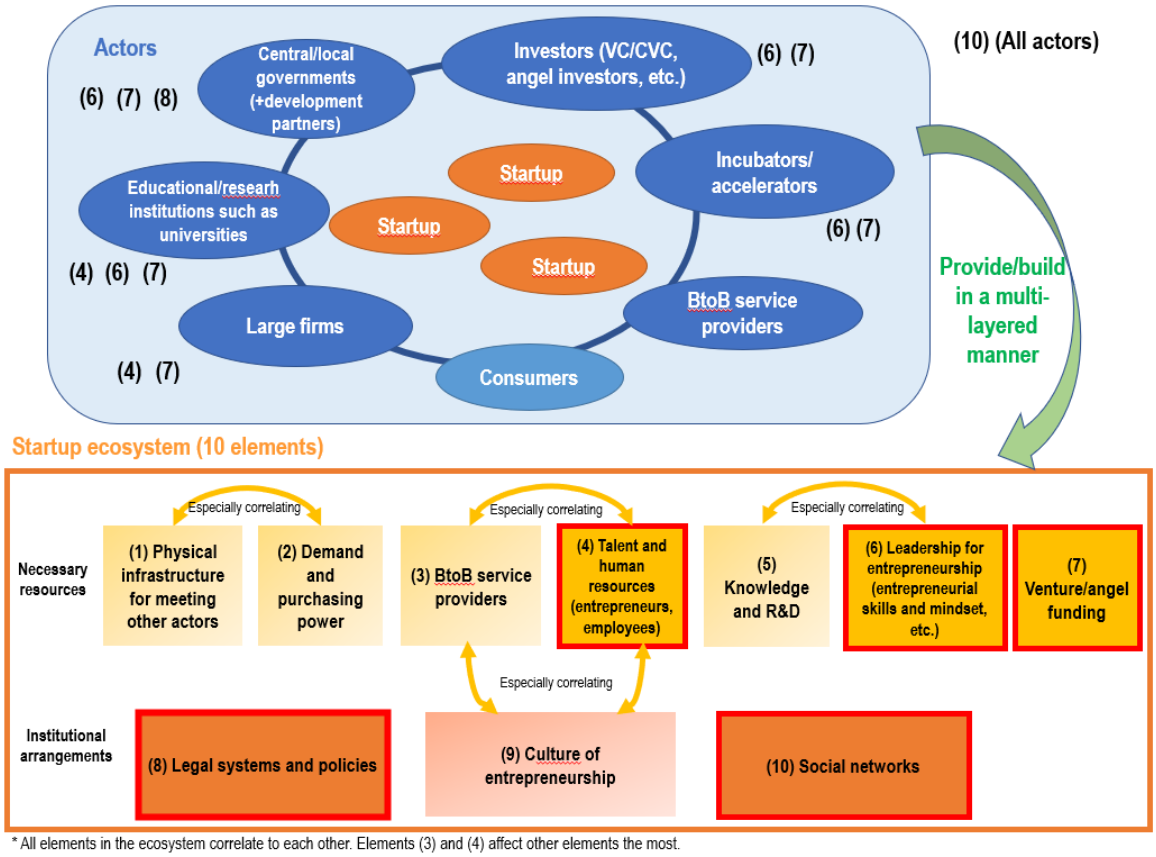
[48] For example, the spread of 4G in India. See Appendix 9.

shows that there is no uniformity in the way they have developed, and accordingly, in which sectors they have strengths. For nearly two decades, Silicon Valley's success has been tried and emulated around the world but ultimately abandoned[49] because policies have not been implemented without taking into consideration the elements of individual countries or cities. Without understanding the above, it is highly probable that importing one-off best practices from more prosperous regions will likely have limited effects. Therefore, in this Strategy, projects that fit each individual country or city will be formed by analyzing each city or country as a whole.

<Fig. 8> Actors and elements of the startup ecosystem[50]

Building an ecosystem where each actor provides resources and builds systems and backgrounds in a multilayered manner.

*At the side of each actor, it is indicated which of the ecosystem elements (4), (6), (7), (8), and (10) at the lower part of the figure are provided by that actor.

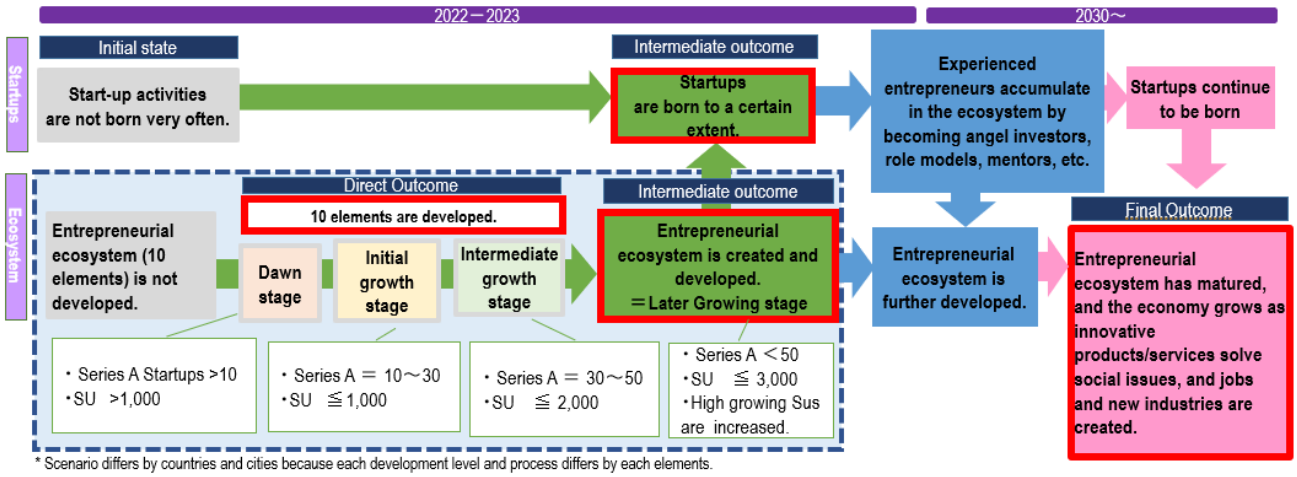


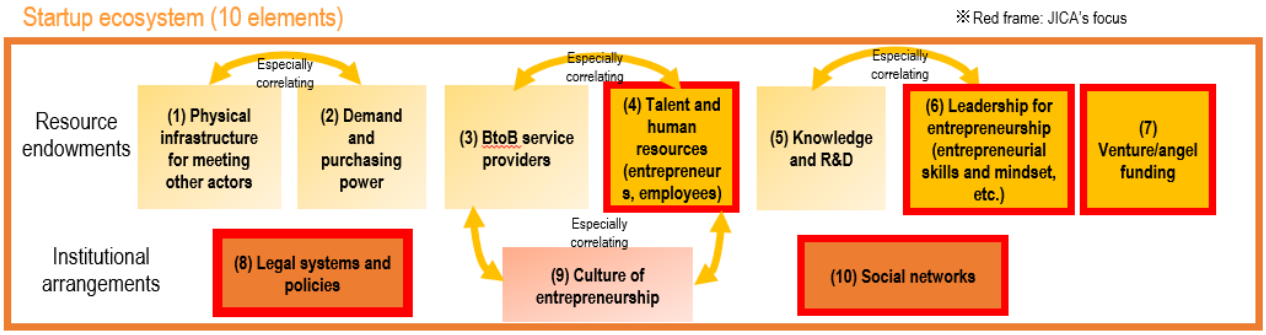
[49] Comments from Daisuke Kanama, Professor, Kanazawa University/Visiting Professor, The University of Tokyo

[50] The upper half of the figure (actors) is based on Deloitte Tohmatsu Financial Advisory LLC and Deloitte Tohmatsu Venture Support Co., Ltd., " Final Report on Information Collection and Confirmation Survey on Startup and Entrepreneur Support," November 2021.

<Fig. 9> Development Scenario diagram

Outcomes to be committed to in this Strategy are enclosed in red boxes.



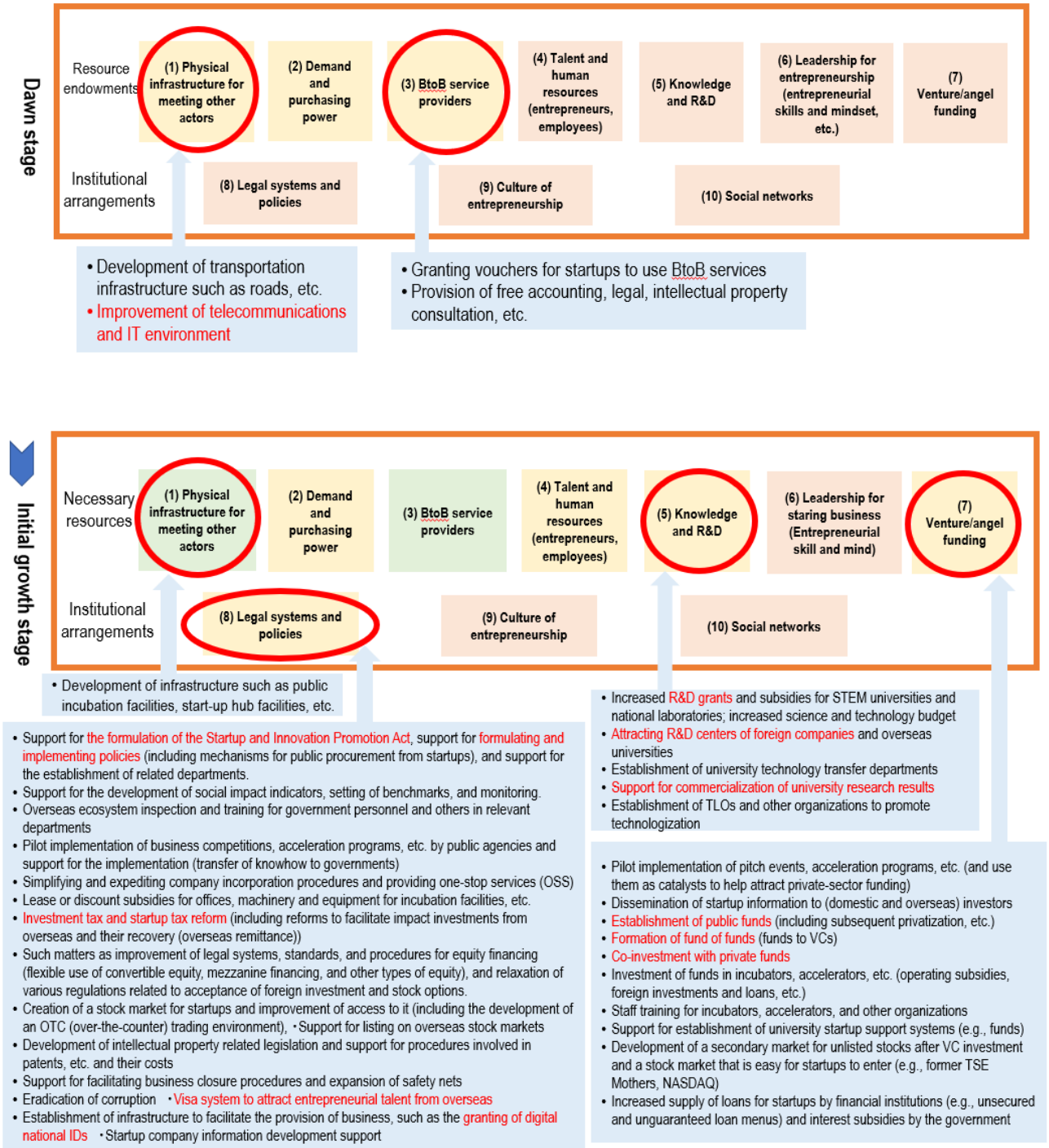


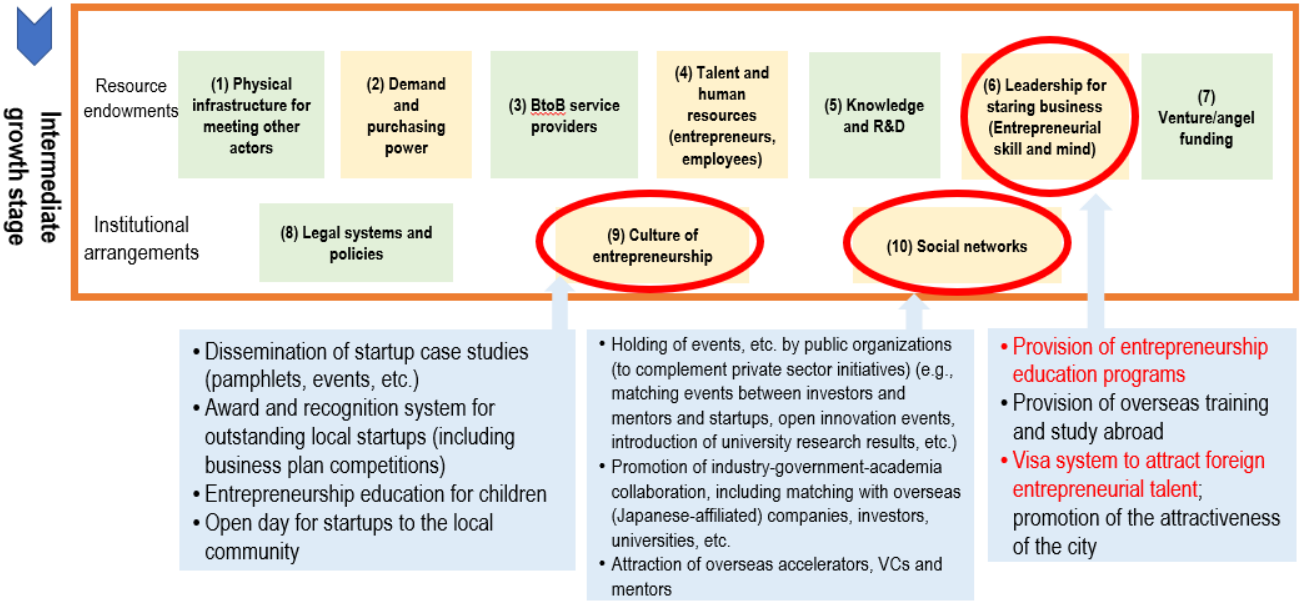
* Ecosystem can be city, region or country, as well as by each sector or technique
* All elements in the ecosystem correlate to each other. Elements (3) and (4) affect other elements the most.

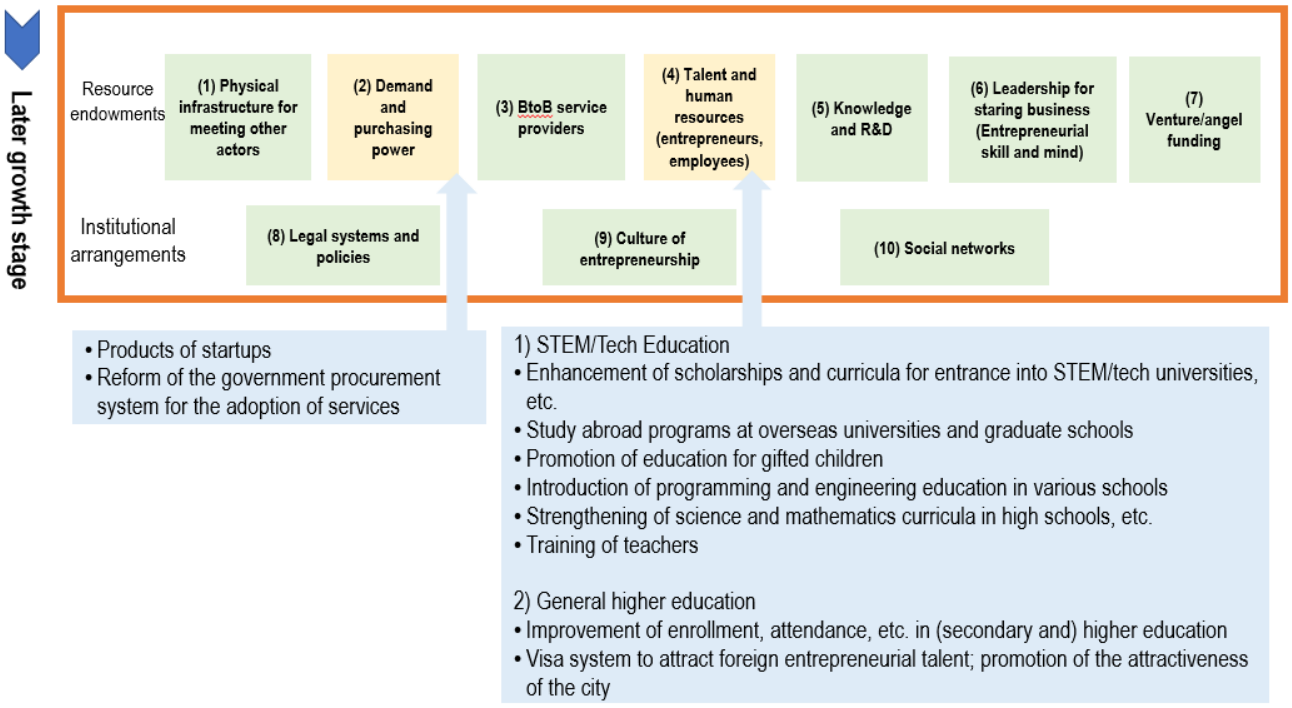
*The numbers (1) through (10) in the 10 elements do not indicate priorities for initiatives.

*This figure shows the development stage of the “startup ecosystem,” not the developmental stages of a “startup” (seed, early, middle, later, etc.).

<Fig. 10> Examples of the startup ecosystem (10 elements) development patterns and solutions (enclosed within blue boxes in Fig. 9). Red boxes indicate examples of solutions actually implemented by the government or private sector in the reference example countries.
With ICT infrastructure as a basis, a strong commitment from government organizations will become an important trigger.







Note that the geographic scope of the startup ecosystem to which this scenario applies is centered on "cities" but their geographic scope or administrative units are not defined[51]. Since there is no settled theory as to what is appropriate as the level of scope of analysis for a startup ecosystem, this Strategy do not exclude the possibility that the geographic scope may be

[51] Erik Stam and Andrew van de Ven (2021) "Entrepreneurial Ecosystem Elements"

larger or smaller depending on the context of each country or region, that it may expand or contract over time, or that transnational ecosystems may emerge. While most elements of a startup ecosystem can be categorized at the regional level, the legal and institutional conditions are often designed at the national level, and the indicators available vary from country to country and city to city[52], and this should be kept in mind when conducting the analysis.

Initial State

This indicates a state where because a city is not developing one or more of the above 10 elements, the startup ecosystem as a whole is not developing, and therefore a state where not many startups are emerging. Which of the 10 elements is underdeveloped and to what degree varies from city to city.

For example, if **(7) venture/angel funding** is not developed, even if one tries to launch a startup, he/she will not be able to raise the necessary initial investment capital from investors or VCs and cannot proceed with the business. Also, if **(4) talent/human resources (entrepreneurs[53] and employees**) is not developed, they will not be able to come up with a business idea, turn an idea into a product or service, find co-founders or employers, etc.

However, not only have the indicators for each element not been established, but also there has been no research on what level these indicators should be to be considered "developed" (e.g., at what level of the amount and number of VC investments can "angel/venture funding" can be said to have developed, etc.).

Direct Outcomes: 10 elements will develop.

By implementing the solution, each element will develop, and as the elements interrelate and promote development, the startup ecosystem as a whole will be built and develop from the dawn stage to the later growth stage.

As mentioned above, it is not possible to define one "standard" scenario in which the 10 elements develop. Based on this premise, the following can be considered as one pattern for the development of startup ecosystems in developing countries, based on examples of cities where the ecosystems are already considered to be in the mid- to late-stage of growth (Fig. 10).

With ICT infrastructure as a basis, a strong commitment from government organizations will become an important trigger.

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[52] Daisuke Kanama, "Multifaceted View of the Recent Studies in Entrepreneurial Ecosystem and Research Agendas in Japan," IFI Working Paper No. 12, 2022

[53] See Appendix 2 for definitions of "startup" and "entrepreneur."

(Reference examples: Tel Aviv, Israel; Singapore; Sao Paulo, Brazil; Hyderabad, India)

In the dawn stage, **(1) physical infrastructure for meeting other actors** and **(3) BtoB service providers** will develop due to the development of ICT by private companies as a basis. As a result of attractive market conditions such as 4G, the spread of inexpensive smartphones, and the large population, ICT-related companies will enter one after another from overseas, and startups will be born as well. In addition, the spread of mobile money and the national ID system has created business opportunities targeting a wide range of people, including the informal sector, and has made it possible to build various systems such as fintech, creating a climate in which tech startups can flourish. With ICT companies that have been successful in the past providing various services, startups will be able to conduct business at low cost, and startups will be born and accumulate in the region.

In the initial growth stage, under the above basis, a comprehensive startup policy will be implemented with a strong commitment by government organizations, and **(8) legal systems and policies** will develop. For example, **(7) venture/angel funding** will develop through the establishment of government funds, co-investment with private VCs, investment in VCs and CVCs, deregulation, creation of a preferential tax system for investors, reform of stock exchanges, etc.; **(1) physical infrastructure for meeting other actors** will develop through the establishment of innovation hubs and incubation facilities; and **(5) knowledge and R&D** will develop through the attraction of R&D centers from abroad, the issuance of visas to entrepreneurs, financial assistance for R&D, and support for commercialization of university research results.

In the intermediate growth stage, as a result of the above, **(10) social networks** will be strengthened as, among other things, ecosystem actors will gather in the region from Japan and abroad, and industry-government-academia collaboration will be promoted. Entrepreneurship programs will also be actively implemented, and **(6) leadership for entrepreneurship (entrepreneurial skills, mindset, etc.)** will develop. Startups will gradually emerge and accumulate in the region, and startups that have an impact on the region will be launched and widely known in the region as model cases, thus promoting the development of **(9) culture of entrepreneurship** and developing into the later growth stage.

These 10 elements should be viewed together as a single “startup ecosystem” and not as independent of each other. Even if only one element develops, it will not function as a “startup ecosystem,” so it is necessary to develop as a whole. Even if support is provided to one element, other elements may develop at the

same time. Furthermore, the timeline of which of these 10 elements should develop first, and the threshold of how much each element should develop before it can be said to have developed, have not yet been studied. Through the implementation of the Strategy, each outcome and the evidence of indicators will be accumulated, and also the correlations among the elements will be clarified.

Intermediate outcome: Startup ecosystem is built and developed (late growth phase). As a result, startups are born to a certain extent.

As the 10 elements develop and the startup ecosystem is built and developed, startups will be born in the region (country or city) to a certain extent as an output. These high-growth startups will create value, drive job creation, reallocate jobs from old industries to new industries, and become the engine of economic growth.

While there is currently no perfect indicator to measure the activities of startups and the value they generate, measurements can be made by the number and percentage of companies that show high growth (e.g., companies that achieve an average annual growth rate of more than 20% over a three-year period). However, it is difficult to confirm whether a startup is "high-growth" or not, since it is rare for startups to disclose sales figures, and it takes time for these results to become available. Therefore, for convenience, we use "achieved Series A[54]" as an intermediate outcome indicator.

Final outcome: The startup ecosystem matures, social problems are solved through innovative products/services, and the economy grows through the creation of jobs and new industries.

Once a certain number of startups are born, over time, people with entrepreneurial experience accumulate in the ecosystem by becoming angel investors, role models, mentors, etc. These experienced entrepreneurs provide positive feedback to the 10 elements of the ecosystem and further develop the ecosystem. For example, successful startup entrepreneurs become venture capitalists, role models, mentors, developers of leaders and networks, etc., thereby developing funding, culture, networks, etc. (However, since the region and time period in which the research was conducted has been limited, further research is necessary.)

Entrepreneurs who have lived in a particular location longer and developed

[54] The company is in the process of launching its product offering and completing its first round of investment. See Appendix 2, Fig. 4 for details.

social ties have been shown to be more successful than newcomers, and furthermore, they tend to stay in the area even after they have successfully exited. This tendency is referred to as “entrepreneurial recycling,” where capital, knowledge, networks, and know-how generated by successful startups accumulate within the ecosystem through mentorship and investment in the next generation of entrepreneurs. Successful entrepreneurs gain valuable experience and legitimacy, and they can attract support and investment for future activities. In particular, an exit through an acquisition or IPO can trigger investment activity by employees who have held spin-out or stock options, further expanding the entrepreneur’s resources within the ecosystem. Such cycles develop a local culture of entrepreneurship[55]. Furthermore, even if startups fail, the activities of those startups themselves and the experience of their failure can become fertile ground for those who follow and a catalyst for more effective and efficient activities[56].

Eventually, the startup ecosystem will mature, function and circulate autonomously as well as sustainably, creating not only a high number of startups in the short term and a high startup rate, but also a regional environment that enhances the competitiveness of new businesses and a state where startups continue to be born. As a result, the economy will grow through startup innovation and job creation, and social issues will be solved with innovative products/services.

Academic research on startup ecosystems is lacking, and practice has been ahead of research. It remains unclear which processes in the startup ecosystem development process depend on the region-specific context and which are determined solely by the current state and environment[57]. Therefore, the “Development Scenario” is tentative and will be revised from time to time from future research and practice.

3.2 Rationale for the Development Scenario

This report was prepared based on the following literature and interviews with relevant organizations.

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[55] Daisuke Kanama, “Multifaceted View of the Recent Studies in Entrepreneurial Ecosystem and Research Agendas in Japan,” IFI Working Paper No. 12, 2022

[56] However, it is vital to maintain the openness and tolerance of the startup ecosystem, specifically how to attract and support cross-border entrepreneurs, so as not to discourage the activities of returnees and immigrant entrepreneurs, who are known as ”transnational entrepreneurs.”

[57] Daisuke Kanama, ”Current Trends and Future Research Agenda of Startup Ecosystem Studies: Toward the Development of Ecosystems Based on Regional Characteristics,” IFI Working Paper No. 12, 2022.

- Professor Daisuke Kanama, Kanazawa University/Visiting Professor, University of Tokyo, “Current Trends and Future Research Agenda of Startup Ecosystem Research: Toward the Development of Ecosystems Based on Regional Characteristics,” IFI Working Paper No. 12, 2022, and comments from Professor Kanama.
- Erik Stam and Andrew van de Ven (2021) “Entrepreneurial ecosystem elements.”
- Zoltan J. Acs, Erkko Autio, Laszlo Szerb (2014) “National Systems of Entrepreneurship: measurement issues and policy implications “
- Startup Genome (2022) “The Global Startup Ecosystem Report 2022”
- References listed in Appendix 9.
- Exchange of views within JICA and with other development partners (World Bank/IFC, UNDP, USAID, GIZ, AFD/PROPARCO) and the private sector (venture capitalists, consultants, etc.), etc.

4. Implementation Direction

4.1 Basic Policy for Scenario Development

- Support the establishment and development of a startup ecosystem where local startups that aim to contribute to solving social issues and achieving the SDGs in the target countries through business can be continuously nurtured.
- The five elements that this Strategy will focus on in the scenario shall be (4) **talent and human resources (entrepreneurs and employees)**, (6) **leadership for entrepreneurship (entrepreneurial skills, mindset, etc.)**, (7) **venture/angel funding**, (8) **legal systems and policies**, and (10) **social networks**.
- The Strategy will support countries and cities in the dawn/initial growth stage, while countries and cities in the intermediate/later growth stage will be positioned as partners in co-creating innovations that will contribute to solving social issues in developing countries. Japanese investors, companies, universities, start
- ups, etc. will be included among these partners.

Launched in January 2020, “Project NINJA” began as a pilot project to collect and confirm basic information. It is now in the process of being fully

implemented through technical cooperation projects (experts, technical cooperation projects, etc.), and no projects have been completed yet. Since there are no established research results on the process of forming and strengthening the startup ecosystem and the degree of development of each element, we plan to review the scenario and basic policy of the Strategy by applying the scenario as a tentative plan to actual projects and repeating feedback of practices and lessons learned, while also utilizing research results of other organizations.

First, the state of the startup ecosystem (maturity of elements) and issues in the target countries/cities will be identified through the implementation of data collection survey, knowledge co-creation program (Group & Region Focus), dispatch of experts, etc. The results of the analysis of the startup ecosystem will be shared with government officials and other relevant organizations in the target countries to support the formulation of mid- to long-term development scenarios and policy plans for the formation and strengthening of the startup ecosystem.

Next, while collaborating with other organizations, JICA will examine the solutions to be provided in accordance with (3) below and subsequently implement them after forming technical cooperation projects. In addition, we will analyze the ecosystem on a regular basis as well as review the targets and project effectiveness and have them reflected in the review of the cooperation plans for the projects upon collaborating with the relevant organizations.

(1) Division of roles among the actors involved

The actors and their roles are organized as follows:

<Fig. 11> Related actors and role allocation

Actor	Role
Central government ministries/agencies	Overall understanding of the startup ecosystem and gap analysis, improvement of policies and systems related to startup support, and development of physical infrastructure
Policy-executing agency	Budgeting and implementation of startup support projects that are difficult for the private sector to implement on its own; public procurement targeted at startups
Development partners	Support for government policies and initiatives in target countries, provision of know-how through trial implementation of startup support projects, etc.,

	provision of investments and loans to entrepreneurs, funds, etc. and direct collaboration with local startups to resolve issues
Private-sector entrepreneurship support agencies (incubators, accelerators, etc.)	Utilizing expertise and networks to implement startup support services and investments, provide entrepreneurship programs, and offer mentoring opportunities
Investors, large companies / multinational companies, and people with entrepreneurial experience	Investment and business partnerships for startups, offering of mentoring opportunities, and producing human resources
Universities and other educational/research institutions	Providing entrepreneurship programs for students, supporting startups using research results and protecting intellectual property, supporting job placement in startups, and accepting international students

(2) Concept of Support Scheme

The following is a summary of the support scheme and how it will be utilized.

<Fig. 12> Support Schemes and Their Utilization Methods

Support Scheme	Utilization Method
Data Collection Survey	Analyze the state of the startup ecosystem and issues in the target countries, implement pilot projects, and consider JICA project implementation policies
Experts	Implement programs for startups, make policy recommendations, promote collaboration among related organizations to build and develop a startup ecosystem, support the establishment of a social startup fund (public-private or public-generated), and collaborate with Japan Overseas Cooperation Volunteers.
Technical Cooperation for Development	Support for the development of a master plan for the establishment and development of a startup ecosystem in target countries

Planning	
Technical Cooperation Project	Technical cooperation for the establishment and development of startup ecosystems, support for the establishment of social startup funds (public-private or public-generated)
Knowledge Co-Creation Program in Japan[58] / Invitation	Relationship building and information exchange between local startup ecosystem stakeholders and Japanese startup ecosystem stakeholders. Long-term Knowledge Co-Creation Program: Acquisition of knowledge and skills specific to the startup's business area to solve social issues. Short-term Knowledge Co-Creation Program: Development of entrepreneurial skills and mindset
Project Research	Case studies on startup ecosystem creation and development process, research on standard scenarios, outcome indicators, etc., evaluation of impacts of existing projects, etc.
Japanese ODA Loan	Implementation of support programs, policy improvement, support for establishment of startup funds by target country governments, etc. through policy-supported Japanese ODA loans
Private Sector Investment Finance	Investment in startup funds/impact funds and mid- and later-stage companies
SDGs Business Supporting Surveys	Support for overseas business development of Japanese companies that contribute to solving social issues in developing countries through business
Grant Aid	Provision of capital to social startup funds (public-private, or public-generated) established by the government of the target country, and provision of facilities and equipment (experimental equipment, 3D printers, etc.) to startup support organizations (public experimental and research institutions, universities, etc.).

[58] Knowledge Co-Creation Program for Group and Region Focus, Japan-Mexico Training Program, Nikkei Training Program, and Long-term Knowledge Co-Creation Programs

(3) Concept of Support Contents

- The five elements that this Strategy will focus on in the scenario are **(4) talent and human resources (entrepreneurs and employees)**, **(6) leadership for entrepreneurship (entrepreneurial skills, mindset, etc.)**, **(7) venture/angel funding**, **(8) legal system and policies**, and **(10) social networks**.

  [Reasons for focusing on these elements]
  (4) Talent and human resources (entrepreneurs and employees): Of the 10 elements, this element, along with (3) BtoB service providers, is the most important and has the strongest impact on the other elements. On the other hand, acquiring skills, knowledge, and experience specific to each startup's business domain, as well as general knowledge, etc. to be able to work as a member of society, is difficult for private companies to provide because of the importance of long-term educational opportunities, from early childhood education to specialized higher education. JICA will further develop the acceptance of its existing Long-term Knowledge Co-Creation Programs and focus on this element because it is possible to develop human resources with connections to Japanese companies, universities, etc.
  (6) Leadership for entrepreneurship (entrepreneurial skills, mindset, etc.): Private-sector incubators, accelerators, etc. are also developing entrepreneurship programs, but private-sector programs are rarely implemented in the pre-seed/seed/early stages when it is difficult to access private funding. Therefore, JICA will focus on attracting interest, especially from those who are not aiming at startups, and expanding the overall base of entrepreneurs who are aiming at startups, as well as on supporting the activities of public institutions that complement these programs.
  (7) Venture/angel funding: The biggest challenge facing startups is funding, especially in the dawn and early growth stages of the startup ecosystem where private investment is not active, and it is important for governments, etc. in developing countries to provide startup certification, investment, and financing to attract private capital. Compared to other countries, Japanese investors tend to be relatively long-term investors, and if developing country governments are wary of investments from other countries, they may prefer investments from Japan if Japanese investors act as a "balancer" based on the developing country

governments' trust in Japan[59].

(8) Legal systems and policies: It is the role of public institutions to formulate legal systems and policies, and it is difficult for the private sector to intervene. As noted on p. 9, technical cooperation, especially support in the area of policy, is an area in which JICA has strengths, taking advantage of its relationship of trust with the governments of developing countries.

(10) Social networks: As previously mentioned, support can be provided through the resources of Japanese investors, private companies, universities, etc., and co-creation and reverse innovation with Japan can be expected.

- Since each initiative is interrelated, the projects will be grouped into the following four categories.

  (A) Policies related to startup support: Support the introduction of startup-related policies by government agencies in developing countries and improve the business environment through tax and regulatory reform. Promote budgeting of the above support programs by governments. In addition, combine Knowledge Co-Creation Programs in Japan and invitations to Japan, as appropriate, to develop government human resources.

  Specific examples)

  - Support for such matters as formulation of startup promotion laws, development and implementation of policies, and establishment of relevant departments
  - Formulation of social impact indicators by startup businesses, setting of benchmarks, and support for monitoring
  - Simplifying and expediting company incorporation procedures and providing one-stop services (OSS)
  - Lease and subsidy policies for offices and equipment for incubation facilities, etc.
  - Policy recommendations on investment tax and startup tax reform (including reforms to facilitate impact investments from overseas and their recovery (overseas remittance))
  - Establishment of startup funds by the government and support for co-investment with the private sector, etc.

[59] Yasumasa Yamamoto, "World Map of Startups and Technology," Diamond Inc., 2020.

- Promotion of dialogue between government and private actors
- Startup company information development support
- Development of intellectual property related legislation and support for procedures involved in patents, etc. and their costs
- Support for facilitating business closure procedures and expansion of safety nets

(B) "Entrepreneurship programs, etc.": Entrepreneurship awareness raising seminars, idea competitions, incubation, hackathons, etc.: Provide basic and initial support for entrepreneurship through seminars and competitions for students and youth. Provide people who want to start their own businesses with entrepreneurial skills and mindset and broaden the base of those people in such ways as disseminating successful examples of entrepreneurial activities. In addition, provide opportunities to study in Japan and promote continuous networking through Short-term Knowledge Co-Creation Programs in Japan and alumni associations.

(C) Acceleration, financing, open innovation, etc.: Develop Series A level startups through acceleration (growth acceleration) support for startups after their launch. Seek collaboration with investors, large companies, mentors, and startups, and facilitate financing by supporting the implementation of matching and the formation of communities. In addition, attract and secure private-sector support institutions from overseas that can implement these programs. Moreover, by collaborating with other development finance institutions, consideration will be given to investing in startup funds or individual companies with high development impact whose business plans are appropriate and whose businesses are expected to be accomplished through private sector investment finance where financing by private financial institutions would be difficult. In addition, provide opportunities to study in Japan and promote continuous networking through Short-term Knowledge Co-Creation Programs in Japan and alumni associations.

(D) Long-term Knowledge Co-Creation Programs: Foster human resources who, by learning knowledge and skills specific to a startup's business area (social issues such as health, education, agriculture, etc., and ICT and advanced technologies, etc. to solve them) that contributes

to solving social issues in developing countries, will establish connections with Japanese universities and companies, and who intend to launch a startup or find a job as those who are well-versed in Japan and are pro-Japanese.

<Fig. 13> Startup Ecosystem Elements and Contents of JICA's Initiatives
The focus areas of this Strategy are (4), (6), (7), (8), and (10).

Ecosystem Elements	This Strategy	Other strategies
(1) Physical infrastructure and infrastructure for meeting other actors		Improvement of transportation infrastructure, communication and IT environment (Social Infrastructure Department) FabLab installation, etc. (STI/DX Office)
(2) Demand and purchasing power	((A) Support through policy)	
(3) B to B service providers	((A) Support through policy)	
(4) Talent / human resources (Entrepreneur, employee)	(D) Knowledge Co-Creation Program and support in cooperation with other strategies listed at the right	Promotion of STEM and digital education, general higher education, etc. and industrial human resource development (Human Development Department, STI/DX Office) Developing entrepreneurs through the ABE Initiative and Long-term Knowledge Co-Creation Program related to solutions to various social issues (Africa Department, etc.)
(5) Knowledge / R&D	((A) Support through policies)	Promotion of R&D at universities, etc. (Human Development Department) Establishment of a

		technology promotion agencies
(6) Leadership for entrepreneurship (entrepreneurial skills, mindset, etc.)	(B) Entrepreneurship programs, etc.	Entrepreneurship programs for children, etc. (consider collaboration with this Strategy, Human Development Department)
(7) Venture/angel funding	(A) Policies (investment-related) (B) Entrepreneurship programs, etc. (C) Acceleration, etc. (including private sector investment finance)	Support for establishment of startup funds at universities, etc. (Human Development Department, STI/DX Office)
(8) Legal systems and policies	(A) Policies (B) Pilot implementation of entrepreneurship programs, etc. and (C) Acceleration, etc. (transfer of know-how through government program support) and development of government human resources through training, etc.	
(9) Culture of entrepreneurship	(B) Support through entrepreneurship programs, etc.	
(10) Social networks	Networking through various measures (including Knowledge Co-Creation Programs in Japan) Matching with Japanese (and foreign)	

	companies, investors, universities, etc., open innovation, etc. (complementing private sector initiatives) Promotion of formation of startup hubs and other communities[60]	

＊ Promote Gender Smart Business (hereinafter referred to as "GSB") in collaboration with the Office for Gender Equality and Poverty Reduction with regard to all **(1) through (10)**.

(4) Deployment policies and procedures

- Understanding and monitoring the current situation: In order to understand the state of the ecosystem in the target countries/cities, we will (1) gather information on the 10 elements, (2) analyze the state of development, challenges, and key actors in the ecosystem (including potential partners), and (3) organize and share JICA's initiatives with partners. In (1) and (2), the growth stage and attributes of the startups (e.g., origin, education/career, sector/sub-sector, year of startup, status of public/private sector accelerator programs, etc.) are also to be identified.
- Target countries/cities will be classified into four levels, and priority initiatives will be considered.
- Relevant information on countries eligible for support will be updated annually.
- Implementation of (B) entrepreneurship programs and (C) acceleration programs as described in 4. (3) above.

In the startup ecosystem to be supported in this Strategy, we are particularly looking forward to the creation of startups[61] that are focused on achieving the SDGs and that are engaged in businesses with a high potential for impact in solving social issues. Although such startups have high potential

[60] Basically, there will be no construction of facilities.
[61] Similar concepts have emerged with the idea of "impact companies" and "impact startups.
An "impact company" is a company that intends to create a positive and measurable social and environmental impact with business growth.
(https://impactinvestment.jp/user/media/resources-pdf/concept-paper_final.pdf)
An "impact startup" is a company or startup that both "solves social issues" and "grows sustainably" and has a positive impact on society.
(https://prtimes.jp/main/html/rd/p/000000001.000109519.html)

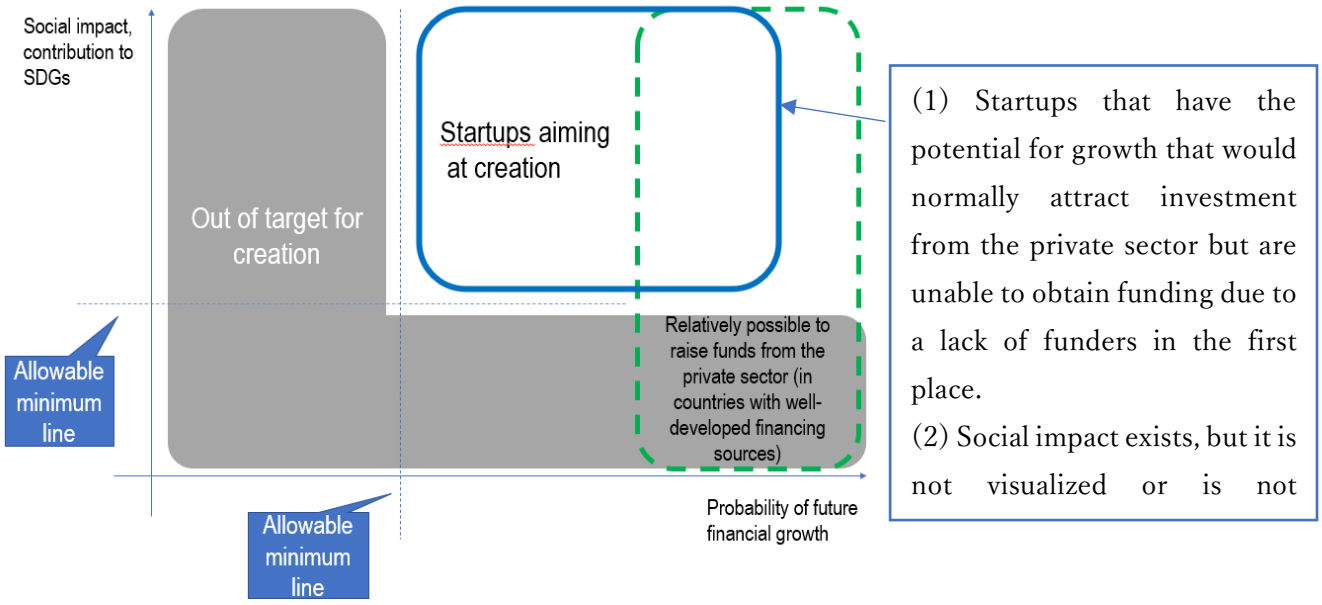
for growth, it may be difficult to visualize their growth potential and impact, or it may be difficult to obtain funding from the private sector because there are few investors in the region to invest in the first place. Therefore, when implementing programs to support individual startups with the aim of providing know-how to governments and attracting investment from the private sector, emphasis should be placed on achieving the SDGs, and support should be focused on startups with high potential for impact in solving social issues. In addition to visualizing the impact and providing acceleration support (training, mentoring, public relations, matching, etc.), JICA and other public organizations will provide funding to give certification and help attract private investment (since the objective is to encourage private investment, the amount of PoC support to date has been small at about ¥1 million to ¥3 million, or in some cases no funding has been provided).

Conversely, we will not focus on companies[62] whose businesses cannot be found to be directly and clearly related to the SDGs goals as pilot projects conducted by JICA. However, it is not possible to uniformly determine whether a company is eligible based on the outline of its product or service alone. For example, a “game application” can contribute to education, etc., or a BtoB logistics online platform can contribute to improving the efficiency of healthcare or agriculture. Judgments will be made as appropriate based on the background and objectives of the project. If a sector or subsector has many companies and there is excessive competition, it will not be eligible for support because metabolism will be encouraged without support from public organizations. However, JICA will not designate sectors or subsectors that each country should focus on and support but will respect the will of each government and determine the target of support through dialogue. In cases where other development partners are supporting startups in general, JICA will be flexible as appropriate in such cases as when collaborating with those partners.

[62] If the sole purpose of the project is to ”promote employment” (related to Goal 8 of the SDGs), almost all projects would be included. Therefore, careful judgment should be made considering whether the project is not offensive to public order and morals, the nature of the project and the jobs to be created (whether the jobs are decent work, whether they promote youth and gender equality, whether they are industries the recipient government wants to focus on, etc.), the scale of jobs to be created, etc.

<Fig. 14> Startups aiming to be created through the development of the startup ecosystem[63]

The goal is to create startups that have social impact and a certain probability of financial growth.



*The “acceptable minimum line” on the horizontal axis “probability of future financial growth” will be determined on a project-by-project basis in dialogue with the governments of each country, but a rough example is shown below.

(Example) Technical cooperation project: If startup has already started its business, the startup is currently in the red, but its sales, number of customers, etc. are growing and it expect to turn profitable.

*As for the minimum acceptable line on the vertical axis “social impact and contribution to the SDGs,” no guideline will be set, as it varies from sector to sector. Methods for setting impact indicators, etc. will be addressed in future activities.

*In addition, while JICA and government agency officials may participate in the screening process for business plan competitions and other programs, as well as for private sector investment finance, private sector accelerators and investors basically lead the screening process.

[63] Deloitte Tohmatsu Financial Advisory LLC and Deloitte Tohmatsu Venture Support Co., Ltd. ”Information Gathering and Confirmation Study on the Startup Innovation Ecosystem in India and Measures to Strengthen Japan-India Partnership,” DFR, November 2022.

<Fig. 15> Categorization of future action policies and assumed schemes
Special focus on the dawn and early growth stages

Classification[64]	**Action policy** *Focused support for immature elements among the ecosystem elements	**Main assumptions scheme**	**Ratio**
Dawn stage Series A: Less than 10 companies Startups: Less than 1,000 companies Examples: Kampala (Uganda), Accra (Ghana), Lusaka (Zambia), Kigali (Rwanda)	(A) Policy support (support for formulation of the Startup and Innovation Promotion Act, support for formulation and implementation of policies, support for establishment of relevant departments, etc.) (B) Entrepreneurship programs such as idea competitions, incubation, entrepreneurship education, etc., and short-term Knowledge Co-Creation Programs in Japan (C) Create Series A companies through intensive support for small-scale accelerators, investor matching, etc., create success stories, and transfer know-how to the government (D) Long-term Knowledge Co-Creation Programs	**Experts / Data Collection Surveys / Knowledge Co-Creation Programs in Japan / Grant Aid**	**35%.**
Initial growth stage Series A: 10 to 30 companies Startups: more than 1,000 companies Examples: Nairobi (Kenya), Cairo (Egypt)	(A) Policy support (investment and startup tax reform, government support for startup fund establishment, etc.) (C) Provide high-quality acceleration, mentoring, matching, and other programs for startups aiming for Series A status, attract private-sector funding through Short-term	**Data Collection Surveys / Experts / Technical Cooperation for Development Planning / Technical**	**35%.**

[64] Since only African data is currently available, only African cities are shown as examples.

	Knowledge Co-Creation Programs in Japan to support acceleration of growth. (C) Promote collaboration and cooperation with VCs and consider the possibility of private sector investment finance if there are promising VCs. (C) Consideration of investment in governmental financial institutions in partner countries through Japanese ODA loans	**Cooperation Projects / Japanese ODA Loans / Knowledge Co-Creation Programs in Japan**	
Intermediate growth stage[65] Series A: 50-150 companies Startups: More than 2,000 companies Example: Lagos (Nigeria)	Local startups will be positioned as partners in JICA's initiatives to address social issues in the relevant country and in the business deployment of Japanese companies. (C) Implementing open innovation research commissioning programs for thematic issues set by JICA and Japanese companies; Short-term Knowledge Co-Creation Programs in Japan. (A) (C) Promote collaboration with Impact Investment Promotion (including impact measurement and monitoring support[66]) (A) Startup information development Also support the creation of an environment that facilitates	**Partnerships with the Private Sector and Private Sector Investment Finance / Data Collection Surveys / Knowledge Co-Creation Programs in Japan** **Experts / Technical Cooperation for Developme**	**15%.**
Later growth stage Series A: More than 150 companies More than 3,000 startups Examples: Cape Town and Johannesburg (South Africa)			**15%.**

[65] There is already a certain concentration of startups and various actors, and JICA's comparative advantage in nurturing startups is not high.
[66] Includes such matters as reporting obligations for impacts arising from corporate activities, the development of standard data sets and the development of databases for such impacts.

	entrepreneurship among vulnerable groups within the relevant city or country.	**nt Planning / Technical cooperatio n projects**	

*Expand the range of target countries outside the candidate countries through training participants' participation in Knowledge Co-Creation Programs (Group & Region Focus) and survey projects targeting a wide area.

(5) Approach to selection of target countries and cities

The following is our approach to the selection of priority initiatives under the leadership of the Private Sector Development Group of the Economic Development Department, in terms of budget size, probability of results, and other factors.

- Focus on cities and countries in the **dawn stage or initial growth stage** that are difficult for the private sector to reach (expand beyond the African region).
- Number of target countries/cities: A **total of 10-15 countries/cities in the dawn stage or initial growth stage** will be targeted for support (subject to change based on budget, staffing, etc.).
- Considering aspects such as demand (including ease of test marketing), availability of human resources to become entrepreneurs and employees, etc., a rough standard should be **a population of at least 2 million** on a city basis[67].
- The target countries and cities should be those where developing country governments and local governments are willing to create startups and can provide policy support. In particular, priority will be given to countries that have enacted startup support laws or are preparing or considering such laws.

In selecting cities, the first step is to select the "capital" of the target country and other core "cities" within the country or region. "Cities" are selected because cities are important in the startup ecosystem, and ecosystems develop in cities. According to a World Bank survey, in the United States, which produces more than half of the world's unicorns, 80% of all startups are born in urban

[67] "City basis" refers to a cohesive unit as an ecosystem and is not restricted to administrative units (it can be a state, province, city, etc., or a "metropolitan area" that straddles administrative units). The number of people over 2 million is only a guideline for selecting countries to be supported due to budgetary and other constraints and will be determined based on the future population growth rate and other factors as appropriate.

areas (San Francisco, New York, Boston, etc.), and the same holds true in other countries such as China and the UK. The growth of startups tends to rely heavily on their overwhelming technological capabilities and their ability to quickly build a business to capture the market. Human resources with specialized knowledge and experience are the determining factor for success, so startups can grow and compete globally by acquiring human resources that serve as the source of competitiveness such as talented researchers, engineers, and visionary management teams. Many such human resources tend to prefer attractive living environments and bustling communities. In other words, attractive cities attract human resources, and startups are increasingly likely to be born and grow there.

Meanwhile, startups originating from rural areas are also being created, and there are calls for closing the gap between urban and rural ecosystems. However, it is a matter of fact that each city within the same country has a different level of ecosystem maturity and characteristics (for example, not every city in the US can or should become Silicon Valley). Simply deploying a successful program in a capital city in a regional city in the same way or aiming too rapidly for the same level of development as the capital city may not be very effective. If the capital or urban area is still in the dawn or early growth stage, the development of the capital or urban area should be addressed first. If the ecosystem in the capital or urban area has developed to the intermediate to later growth stage, and if the regional city has a certain population size, etc., we do not preclude working on the construction and development of the ecosystem in the regional city. In such cases, we recommend considering whether small business startup support may be more suitable.

4.2 Initiatives to maximize impact and final outcomes

The following platform activities will be carried out.

(1) Activities related to the creation of public goods: **Research and symposiums**

- **Research to support scenarios and outcome indicators** and accumulation of case studies ＊Especially important
- Survey ecosystems using common indicators, mutually compare and utilize data, and create **a checklist of ecosystem maturity levels**
- Research on **metrics for measuring the social impact** of startups
- **Share and confirm** (worldwide) **goals** as a platform
- In the future, centralize implementation of **monitoring of progress** in each project and each country; **dashboarding**

- Sharing of case studies and know-how on startup support from governments, local governments, universities, etc. of each country and strengthening of cooperation through **symposiums, etc.** (standardization through **manuals and toolkits** in the future)

  [Members] JICA, national governments and startup support government agencies, local governments (worldwide), universities (worldwide), and other development partners (worldwide) *We will also consider forming a platform among implementing countries, using the "Africa Kaizen Initiative (AKI)" as reference.

(2) Activities related to co-creation: **Knowledge Co-Creation Programs**

- Establish new Long-term Knowledge Co-Creation Programs or expand existing programs: Increase the number of human resources who acquire knowledge and skills specific to the business areas of startups and contribute to solving social issues, and who have connections with Japanese universities and companies, and who launch startups as knowledgeable and pro-Japanese entrepreneurs.
- Standardization of excellent content (lecture content, destinations to visit, etc.)
- Developing new destinations to visit and cooperate with developing countries for co-creation
- Creation of YouTube videos and materials for on-demand lectures, uploading to YouTube, JICA-VAN, etc.
- In the future, utilize third-country training programs and complementary overseas training programs in countries with growing startup ecosystems.
- Combining Knowledge Co-Creation Programs (Group & Region Focus) and capacity-building training programs to create opportunities for co-creation between developing countries and Japanese startup support organizations, development consultants/VCs, JICA staff and experts, and other related parties.
- Assigning wide-area advisors in base countries to support participants in Knowledge Co-Creation Programs in Japan in implementing action plans after their return to their home countries on a business dispatch basis.
- Autonomous learning and networking, including alumni, through the use of LinkedIn.
- Collaboration with other development partners and other training programs

alumni associations and LinkedIn Example: USAID's YALI[68] (see Appendix 8)

[Members]

- Participants of Short-term and Long-term Knowledge Co-Creation Programs, invitees, and their alumni (governments of developing countries, startup-supporting government agencies, startups, and other ecosystem stakeholders)
- Knowledge Co-Creation Program contractors and lecturers, participants of capacity building training programs (JICA staff, experts from each country, development consultants/VCs and other JICA project related personnel, and other Japanese ecosystem related personnel)
- Participants and alumni of similar training programs of other development partners, etc.

(3) Activities related to resource mobilization / activities related to knowledge management:

Joint programs with other development partners + opening of dedicated NINJA web page

- **Implementation of joint programs**
- Granting **preferential seeding** rights in programs to startups selected in each other's programs, **dispatching of judges and mentors**, etc.
- **Opening of a dedicated NINJA webpage** (introducing startups recognized as having social impact supported by JICA and developing country governments, venture capitalists and companies collaborating with NINJA initiatives, and posting of information on pitch events by JICA and other development partners)
- Implementation of **programs in collaboration with each issue department** (e.g., Rural Development Group provides mentoring for supported agri-techs; open innovation programs, etc.)

[Members] Local startups, other development partners, and private companies and investors

For the above activities, collaborations will be done with the following agencies, complementing each other's characteristics.

- Players in the domestic startup ecosystem[69], including government agencies

[68] USAID (https://yali.state.gov/)
[69] In July 2020, Japan signed an "Agreement on Support for the Formation of a Startup Ecosystem"

(METI, JETRO, Organization for Small & Medium Enterprises and Regional Innovation, and NEDO), local governments, private companies and organizations, universities, financial institutions and funds

- USAID, GIZ, AFD/PROPARCO, UNDP, WB/IFC, and other development agencies and foundations that support the startup ecosystem and that have generally agreed on collaboration at the moment
- Develop other new collaborative partners as needed

5. Goal, Targets, and Indicators

5.1 Goal/Targets and Indicators

* Indicators assumed to be shared with external actors are underlined.
* The specific figures for the parts marked as XX will be determined through a baseline survey after the Strategy has been developed.
* For targets related to the GSB[70], indicators marked with ☆ have been tentatively inserted. The indicators will be reviewed, and items will be added after the completion of the said Strategy.

[Final goals]

- Annual number of new jobs[71] created by startups (in countries targeted for support) will increase (3-year average)
  ☆ Of the above, the percentage of women will be 40%[72]
- (Independent indicators per project) If each country or city has a focused sector, the impact indicators for that sector or subsector shall be determined

with eight government-affiliated agencies to establish a partnership agreement with startup support organizations (commonly known as Plus: Platform for Unified Support for Startups). Seven more agencies joined in November 2022.
(https://www.meti.go.jp/press/2022/11/20221111002/20221111002.html)

[70] The definition of GSB will also be organized in the same Strategy. With regard to gender, there are not only women but also LGBTQ and other diverse genders. Whether or not to include gender diversity other than women in the indicators will be included in organizing the GSB Strategy. For example, by not requiring gender in applications for business plan competitions, etc., the bias of judges may be eliminated, so if it cannot be ascertained, it will not be counted.

[71] Direct and Indirect jobs are included among Direct, Indirect, and Induced jobs. However, since it is not enough to simply increase the "number" of jobs, the "quality" of jobs will be taken into account.

[72] This is because under Article 8 of the Equal Employment Opportunity Act for Men and Women and its Guidelines, the number of female workers in an employment management category is considered to be "considerably smaller than the number of male workers in the same employment management category," and the criterion for positive action to be taken is "40%."

and targeted.

Example: Maternal mortality rate shall be reduced to less than 70 per 100,000 live births

- Support the growth of 1,600 companies by 2030 and create an environment where startups can grow (Global Agenda Target)

[Intermediate Targets]

- Among the countries/cities targeted for support by JICA, there are three countries[73] (cities) whose ecosystems have reached the later growth stage (determined according to the following).
- There will be 50 Series A startup firms (persons) (in countries targeted for support) x 3 countries.
- There will be 3,000 startup firms (persons) (in countries targeted for support) x 3 countries.

  ☆ The percentage of GSB[74] among the above Series A and startups will exceed 40%.
- High-growth startups (Example: 20% average growth in sales over 3 years) within the startup ecosystem (in countries targeted for support) (follow-up survey on companies that are targeted for support and can provide information)

[Direct Targets]

<Fig. 16> Direct Targets

	Outcome Targets/Indicators
(4) Talent and human resources (entrepreneurs and employees)	● There will be XX graduates of STEM/tech colleges and graduate schools (in countries targeted for support). ☆ Of the above, the percentage of women will be 40%.
(6) Leadership for entrepreneurship (entrepreneurial skills, mindset, etc.)	● The number of participants in entrepreneurship programs (including non-JICA programs), etc. (in countries targeted for support) will be XX. ☆ Of the above, the percentage of women will be 40%.

[73] While there is a total of 10-15 countries and cities to be targeted for support (possibly subject to change depending on budget, staffing, etc.), it is estimated that 20-30% of the countries to be supported from the dawn or early growth stage will reach the lates growth stage by 2030, since it is expected to take 10-20 years for the ecosystem to develop in those countries.

[74] The definition of Gender Smart Business (GSB) is based on the GSB Promotion Strategy

(7) Venture/angel funding	● The total annual venture capital investment (3-year average) (in countries targeted for support) will be $200 million (and the number of cases XX)[75]. ☆ Of the above, the amount invested in GSB will be at least 40%.
(8) Legal systems and policies	● Enactment or revision of startup-related laws involving JICA assistance (in countries targeted for support), establishment of related departments, etc. will be implemented in three countries.
(10) Social networks	● The number of matches between actors in countries targeted for support and overseas, such as large companies, investors, and universities, and local startups will be XX. ● The number of startups and innovation-related communities (hubs, etc.) will be XX.

5.2 Monitoring Framework

The monitoring of this Strategy is assumed to be conducted according to the following indicators, but moving forward, a review will be made as appropriate as evidence is collected and verified while implementing the project.

[Final Outcome]

- The startup ecosystem (in country targeted for support) matures (mature stage) and the economy grows by solving social issues and creating jobs and new industries through innovative products/services.
- By 2030, SDGs 8.3 “Promote development-oriented policies that support productive activities, appropriate job creation, entrepreneurship, creativity, and innovation, as well as encourage the establishment and growth of MSMEs, including through improved access to financial services” and SDG 9.b “Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities” will be achieved.

[75] According to Startup Genome’s ”The Global Startup Ecosystem Report 2022,” of the 19 cities in ODA target countries, there are 8 cities with a total venture capital investment of more than $1 billion from 2017 to 2021 (an average of more than $200 million per year). These cities are Lagos, Bangalore (Karnataka), Kuala Lumpur, Telangana, Bogota, Buenos Aires, Mexico City, and Sao Paulo. Tokyo has $1.5 billion (annual average $300 million) in venture capital investment.

[Intermediate Outcome]

- The startup ecosystem (in the country targeted for support) is built and developed (late growth stage).
- Through the above, a certain number of startups will be generated.

[Direct Outcome]
Ten elements will be developed (in countries targeted for support). Of these, JICA will particularly focus on the following five elements:
(4) Talent and human resources (entrepreneurs and employees)
(6) Leadership for entrepreneurship (entrepreneurial skills, mindset, etc.)
(7) Venture/angel funding
(8) Legal systems and policies
(10) Social networks

<Fig. 17> Monitoring Items

Category	Data/item proposal	Collection method, collector, and frequency
Final goals	1) Number of new jobs created by startups (3-year average) ☆ Percentage of women among the above	✓ Method of collection: Voluntary interviews with recipients of support by JICA, other development partners, governments, etc. ✓ Collectors: Government agency officials of each country, experts and personnel involved in technical cooperation projects ✓ Frequency: Once a year
	2) (Independent indicators per project) If each country or city has a focused sector, the impact indicators for that sector or subsector shall	✓ Collection methods, etc. will be determined for each project. Example: Maternal mortality rate shall be reduced to less than 70 per 100,000 live

	be determined and targeted.	births ✓ Frequency: Once every three years
Intermediate targets	1) Number of cities/regions among countries targeted for support by JICA whose ecosystems have reached the later growth stage (determined by the following) 2) Number of Series A startups 3) Number of startups 4) Number of high-growth startups (Example: 20% average growth in sales over 3 years) ☆ Percentage of GSBs among the above Series A and startups	✓ Method of collection: 1) Judged according to the following: 2), 3) Data from technical cooperation projects, basic surveys, etc., or from private companies 4) Voluntary interviews with recipients of support by JICA, other development partners, governments, etc. ✓ Collectors: 1) Stakeholders and personnel in charge of the Strategy 2), 3) Collection of data of personnel involved in technical cooperation projects or basic surveys, or of private companies by personnel in charge of the Strategy. 4) Government agency officials of each country, experts and personnel involved in technical cooperation projects ✓ Frequency: 1)-3) Once a year 4) Once every 3 years
Direct outcome monitoring indicators and targets		
(4) Talent and human	1) Number of persons completing relevant Long-	✓ Method of collection: 1) Collect the number of

resources (entrepreneurs and employees)	term Knowledge Co-Creation Programs Percentage of women among the above 2) Number of undergraduate and graduate STEM/tech students and researchers (in countries targeted for support) Percentage of women among the above 3) Number of persons aged 15-65 who have completed higher (or secondary) education Percentage of women among the above * 2) and 3) are provisional indicators and may be subject to change.	people completing related training programs 2), 3) Government, private-sector, and university data ✓ Collector: 1) Person in charge of the project 2), 3) Personnel in charge of the Strategy collects data from people involved in projects, such as technical cooperation projects and basic surveys, or from private companies' data. ✓ Frequency: Once a year
(6) Leadership for entrepreneurship (entrepreneurial skills, mindset, etc.)	1) Number of participants in entrepreneurship education programs, etc.[76] Percentage of women among the above 2) Percentage of respondents among those in 1) above who replied that their entrepreneurial skills and mindset have improved.	✓ Method of collection: 1) Collect the number of participants in JICA projects 2) Conduct course participant surveys ✓ Collectors: Experts, personnel involved in technical cooperation projects, etc. ✓ Frequency: Each time
(7) Venture/angel funding	Amount and number of venture capital investments and number of companies (3-year average) ☆ Amount of investment in GSB out of the above	✓ Method of collection: Data from technical cooperation projects, basic survey, etc., or private companies' data ✓ Collectors: Personnel in

[76] If there are multiple programs and duplication of participants cannot be omitted, the total number of participants will be counted.

		charge of the Strategy collects data from people involved in projects, such as technical cooperation projects and basic surveys, or from private companies' data. ✓ Frequency: Once a year
(8) Legal systems and policies	1) Enactment or revision of startup-related laws related to JICA assistance, establishment of related departments, etc. 2) Number of days required for company incorporation procedures and number of agencies and departments that must be visited 3) Corruption Perception Index or similar indicator * 2) and 3) are provisional indicators and may be subject to change.	✓ Method of collection: 1) Interviews with the partner country's government, etc., and collection of news reports 2) Interviews with relevant agencies, private companies' data 3) Publicly available data from Transparency International ✓ Collector: Experts and personnel involved in technical cooperation projects, or personnel in charge of the Strategy ✓ Frequency: As needed
(10) Social networks	1) Number of matches between large companies, investors, universities, etc. in countries targeted for support and overseas (Japanese-affiliated) and local startups 2) Number of startup and innovation-related communities (hubs, etc.)	✓ Method of collection: 1) Interviews with recipients of support by JICA, other development partners, governments, etc. (ex-post-facto questionnaires, etc.) 2) Data from technical cooperation projects, basic surveys, etc., or private companies' data ✓ Collector: 1) Government agency

		officials of each country, experts and personnel involved in technical cooperation projects 2) Experts and personnel involved in technical cooperation projects, or personnel in charge of the Strategy ✓ Frequency: Once a year

JICA's Focused Solutions (Input → Output)	
(4) Talent and human resources (entrepreneurs and employees)	● Accepting training program participants by establishing new courses or expanding existing courses for related Long-term Knowledge Co-Creation Programs ✓ The number of people completing the related Long-term Knowledge Co-Creation Programs will become 30[77]. ☆ The percentage of women among the above will become 40%.
(6) Leadership for entrepreneurship (entrepreneurial skills, mindset, etc.)	● Implementation of entrepreneurship programs, etc. ✓ The number of participants in entrepreneurship programs, etc. will become 15,000[78]. ☆ The percentage of women among the above will become 40%.
(7) Venture/angel funding	● Implementation of acceleration, financing, open innovation, Short-term Knowledge Co-Creation Programs in Japan, etc. (for startups aiming for

[77] Completion of training by 2030 10 persons x 3 years = 30 persons
[78] In the 5th Medium-term Targets (by the end of March 2027), [Indicators 1-6] Number of trained industrial human resources (private sector human resources) = 92,500 (number of companies developed, number of corporate support personnel, and number of seminar participants). Since this includes the number of small, medium, and micro enterprises other than startups and the number of corporate support personnel, the target shall be about 10% of that, or 10,000 x 1.5-fold (by 2030), which is approximately 10% of the total. This does not include those who simply applied to competitions, etc., but rather counts those who have undergone some form of training.
[79] According to Startup Genome's "The Global Startup Ecosystem Report 2022," of the 19 cities in ODA countries with a total venture capital investment of more than USD 1 billion from 2017 to 2021 (an average of more than USD 200 million per year) in Lagos, Bangalore (Karnataka), Kuala Lumpur, Telangana, Bogota, Buenos Aires, Mexico City, and Sao Paulo. Tokyo has $1.5 billion (annual average $300 million).

	Series A) ● Implementation of entrepreneurship programs, etc. ● Policy support (investment and startup tax reform, government support for startup fund establishment, etc.) ● Overseas investments and loans to promising VCs, etc. ● Investment in government-affiliated financial institutions in the partner country ✓ Total annual venture capital investment (3-year average) in the city/country targeted for support will become $200 million (and XX number of cases)[79] ☆ Of the above, the amount invested in GSB will become at least 40%.
(8) Legal systems and policies	● Formulation of startup promotion laws, development and implementation of policies, and support for the establishment of related departments ● Formulation of indicators of social impact of businesses by startups, setting of benchmarks, and support for monitoring ● Visits and training of government personnel and others in Japanese/overseas ecosystems ● Pilot implementation of and lateral support for business competitions, acceleration programs, etc. by public agencies (transfer of knowhow) ● Policy support for simplifying and expediting company incorporation procedures and providing one-stop services (OSS) ● Lease and subsidy policies for offices and equipment for incubation facilities, etc. ● Policy recommendations on investment and startup tax reform (including reforms to facilitate impact investments from overseas and their recovery

[79] According to Startup Genome's "The Global Startup Ecosystem Report 2022," of the 19 cities in ODA countries with a total venture capital investment of more than USD 1 billion from 2017 to 2021 (an average of more than USD 200 million per year) in Lagos, Bangalore (Karnataka), Kuala Lumpur, Telangana, Bogota, Buenos Aires, Mexico City, and Sao Paulo. Tokyo has $1.5 billion (annual average $300 million).

	(overseas remittance)) ● Establishment of startup funds by the government and support for co-investment with the private sector, etc. ● Promotion of dialogue between government and private actors ● Startup company information development support ● Development of intellectual property related legislation and support for procedures involved in patents, etc. and their costs ● Support for facilitating business closure procedures and expansion of safety nets ✓ The number of government personnel and others in startup related departments participating in training programs becomes 15,000[80]. ☆ Of the above, the percentage of women will become 40% or more.
(10) Social networks	● Formation of networks through various measures (including Knowledge Co-Creation Programs in Japan) ● Matching with Japanese-affiliated (overseas) companies, investors, universities, etc.; introduction of open innovation, university research results, etc. (complementing private sector initiatives) ● Promotion of formation of communities such as startup hubs

[80] Similar to (6), in the 5th Medium-term Targets (by March 2027), [Indicators 1-6] Number of trained industrial human resources (private sector human resources) = 92,500 (number of companies trained, number of corporate support personnel, and number of seminar participants). Since this includes private sector human resources and non-startup personnel, the target shall be about 10% of that or 10,000 x 1.5-fold (by 2030).

Appendix

Writers in the Organization

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Appendix 1: Glossary of Related Terms

The following is a list of terms and abbreviations used in the startup and investment related industries, whether or not they are mentioned in the Strategy. However, as startups use the latest technologies and develop their own products and services to create innovative products and services, terms other than those listed below often appear and become widely used, so it is necessary for those involved to keep up to date.

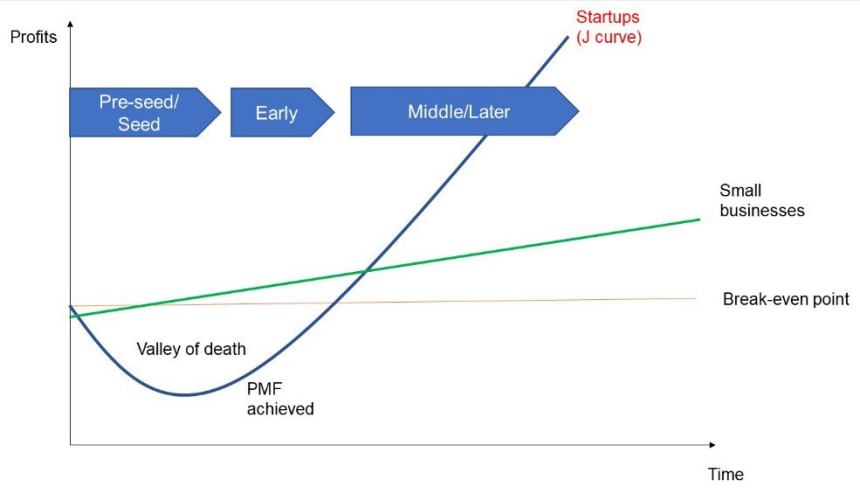
Terminology	Definition and description
ideathon	A term coined by combining the words “Idea” and “Marathon.” An ideathon is an event where diverse members gather to discuss a specific theme, and through dialogue, create new ideas, action plans, and business models in a short period of time.
exit	Sale of shareholdings through IPO, M&A, etc.
incubator/incubation (programs and facilities), Accelerator/acceleration (programs and facilities)	“Incubation” means “hatching” as when an egg hatches. Although the two terms are not well defined and are often confused, they both play the role of helping startups brush up their business ideas before and after establishment, and connecting them to investors by holding pitches, demo days, and other events. Within this Strategy, the incubator will support startups in the seed/early stage and the accelerator will support startups in the middle/later stage. Both may or may not involve the provision of office space and Internet access, and the incubator and accelerator may or may not invest in the startups. The duration of the support may also vary.
angel investor	Wealthy private investors who invest primarily in startups in the target country or region from the seed stage. Sometimes successful entrepreneurs already have become angel investors. They may provide not only capital but also advice to entrepreneurs and help them grow.
capital gain	Profit acquired from the sale of stocks and other assets held.
stock option	A right that allows employees and directors of a stock

	company to acquire shares of the company's stock at a predetermined price. When the company's performance improves and the stock price rises, they can acquire the shares at the exercise price and then sell them for a profit.
deep tech	Innovative technologies based on cutting-edge research results. Often requires a large amount of funding from the initial stage. On the other hand, they are more difficult to imitate than Internet-based technologies (e.g., platforms). Examples: Artificial intelligence (AI), robots, 3D printers, automated driving, flying cars, spaceflight, lunar exploration, clean power, alternative energy, genome editing, life extension technology, implantation technology, human augmentation, IoT, sensors, wearables, precision medicine, neural networks, quantum computing, nanotechnology, synthetic biology, immersive technology, VR (virtual reality), and AR (augmented reality)
demo day	For example, this is an event held[1] by YCombinator (SF), TechStars (NY), 500Startups (SF), and many other seed accelerators in North America, where developed startups demonstrate and present their products and services.
hackathon	A term coined by combining the words "hack" and "marathon." A type of development event in which engineers, designers, planners, marketers, etc. form teams, bring their respective technologies and ideas to a given theme, develop (prototype) services, systems, applications, etc. in a short period of time (one day to one week), and compete for results.
business plan competition	A competition in which participants propose various business models and compete for excellence. Sometimes prize money and extra prizes are awarded for the realization of the business model.
pitch	A short presentation about a business given by an

[1] https://thebridge.jp/2013/05/the-meaning-of-demoday-and-tech-blog-media-for-japanese

	entrepreneur to investors or judges at a competition.
pivot	A “change of direction” or “change of course.” In startups, it means to change a specific part of an idea (vision) as the axis of the idea and change other parts of the idea, such as changing the course of the business strategy or working on a different idea or plan[2].
venture	This is a Japanese-English term that has been established since the 1980s. Since “startup” is usually used in English, we also use the term “startup” in this Strategy. The definition by Professor Emeritus Shuichi Matsuda of Waseda University, a member of the Venture Capital Society of Japan, is “a young company that is not afraid of risk, led by an entrepreneur with a high ambition to grow, and that has some novelty with business independence, social and international characteristics[3].”
mentor	A person who provides advice and guidance to entrepreneurs. Successful business owners, venture capitalists, and others often serve as mentors.
unicorn	Unlisted companies with an assessed enterprise value of $1 billion or more.
reverse innovation	Products and services developed for developing countries are “reverse-imported” to developed countries for diffusion in their markets. LIXIL Corporation’s “waterless toilet” introduced in Kenya has been introduced to Japan and other countries for use in disasters, the cashless payment service “Paypay” can now provide services in collaboration with Paytm of India, and a service to transport blood by drones in Rwanda has been launched in the Goto Islands using the technology and aircraft of the US startup “Zipline.” These can be cited as case studies.
serial entrepreneur	An entrepreneur who launches a series of new businesses or ventures over and over again. They grow the business, sell it, and then use the proceeds to start

[2] https://www.utokyo-ipc.co.jp/column/pivot
[3] Naokazu Takemoto, Creating an Entrepreneurial Superpower: Entrepreneurs and Japan’s Approach to Innovation Creation, PHP Research Institute, 2021

	a new business again.
roadshow	A company information session held for institutional investors after receiving listing approval and before the initial public offering. It also serves as a place to determine the supply and demand trends for the public offering and offering price at the time of the IPO[4].
J curve	The cash flow of startups is often in the red for the first two to three years of business (known as the "valley of death"), after which the cash flow turns positive, and the accumulated losses are recovered. This is called the "J" curve, because the vertical axis represents profit and the horizontal axis represents time, as shown in the figure below. 
LP investor	Abbreviation for Limited Partnership. This refers to an investor who invests through a VC. The investor does not directly execute the business related to the investment, and the scope of his/her responsibility is limited. Institutional investors and business companies (including CVCs) often become LP investors. In contrast, a GP (General Partner) makes all decisions and assumes unlimited liability in the fund.
MVP	Abbreviation for Minimum Viable Product. A product with the minimum functionality required[5].
PoC	Abbreviation for Proof of Concept. This is the process of

[4] Roadshow | Glossary of Securities Terms | Nomura Securities (nomura.co.jp)
[5] What is a Minimum Viable Product (MVP)? Explaining the Meaning and Business Benefits - Monster Lab (monstar-lab.com)

	verifying the feasibility and effectiveness of a new idea, concept, etc. If the feasibility and effectiveness can be determined through this process, a product development plan can move on to the actual project.
PMF	Abbreviation for Product Market Fit. Achieving a product or service that is passionately desired by the intended consumer[6].
STEM	Acronym for S: Science, T: Technology, E: Engineering, and M: Mathematics. A generic term for the educational fields of science, technology, engineering, and mathematics.
TLO	Abbreviation for Technology Licensing Organization. A technology licensing organization promotes the transfer (commercialization) of research results (patents and other intellectual property) related to technology at universities and other institutions to the private sector.
VC/CVC	Venture Capital and Corporate Venture Capital, respectively. VC: A fund that invests money entrusted by institutional investors, business companies, and individual investors in startups. The term of the fund is generally 10 years. CVC: A fund established by an operating company (large company), whose main business is not investment, to invest in startups that have the potential to generate synergies with its own business field.

Reference

Deloitte Tohmatsu Financial Advisory LLC and Deloitte Tohmatsu Venture Support Co., Ltd., “Final Report on Information Collection and Confirmation Survey on Startup and Entrepreneur Support,” 2021

[6] Masayuki Tadokoro, “Startup Science,” Nikkei Business Publications, Inc., 2017.

Appendix 2: “Startups” and “Startup Ecosystems”

1. Startup

Although there is no globally accepted definition of a startup at this time, for the purposes of this Strategy, a startup is distinguished from a “small business startup” as a business entity that has the following characteristics (see Fig. 1).

- It has a product or business model that does not previously exist in the market and is “innovative.”
- It achieves a “problem-solving” business (not necessarily related to social issues) and makes the business “grow rapidly” (scale) in a short period of time.
- Rapid growth results in strong demand for funds and carries high risk.
- Usually, the cash flow of a startup is in the red for the first two to three years of business (known as the “valley of death,” etc.), followed by a “J-curve” pattern, where the cash flow turns positive, and the accumulated losses are recovered (see Fig. 2).

On the other hand, many small businesses tend to show steady, linear growth, and they often aim to secure stable and continuous earnings rather than high growth potential.

According to USAID’s “Entrepreneurship Toolkit [1] ,” “opportunity entrepreneurship” or “high-growth entrepreneurship” (businesses that start because they see an opportunity and often contribute to the development of a sector by making a profit, hiring employees, and bringing new products to the market) is distinguished from “need-based entrepreneurship” (micro and small businesses that start out of necessity to make a living, selling handicrafts and food around the house, often family-run with no employees). In this Strategy, the former (“opportunity entrepreneurship” or “high-growth entrepreneurship”) is considered a startup.

Since “novelty” and “growth potential” of a startup are only relative and subjective concepts, we shall take a broad view of companies and business operators that are trying something new.

In Japan, the term “startup” is not uniformly defined by law, but startups that have both “growth potential” and “novelty” are generally considered to be eligible for Japanese government support. In addition, under the Japanese tax system, companies established less than 10 years ago may be eligible, but the number of years of establishment should follow the definition of the number of years of establishment of a startup company in each country, if any (for example,

[1] USAID (https://2009-2017.state.gov/documents/organization/175149.pdf)

the definition in Ethiopia is seven years or less since establishment).

In this Strategy, “startup” refers to a company or business, and “entrepreneur” refers to a person who is willing to launch a startup or small business.

<Fig. 1> Differences between startup and small business entrepreneurship[2]

	Startup	Small business
Growth pattern	There are growth prospects that follow a J-curve pattern. If successful, it can generate huge returns in a short period of time.	Linear growth. Steady returns can be acquired.
Market environment	Competition takes place in an uncertain environment where the existence of a market has not been confirmed, and the timing of business entry, etc., is critical.	It has already been proven that the market exists. Changes in the market environment are minimal.
Personnel size	Initially a small number of employees but may hire many at once.	Can be gradually increased from a small number. Can be operated in small numbers.
Sources of funding	Venture capitalists and angel investors	Personal funds, banks
Incentives for entrepreneurs and employees	Stock options and capital gains from IPOs and buyouts	Stable salary paid
Markets that can be served	(Since exponential growth is sought) procurement of labor and consumption of services take place everywhere.	Geographically limited in terms of where labor is procured and services are consumed.
Innovation method	Disruptive innovations that redefine existing markets	Sustainable innovation based on existing markets

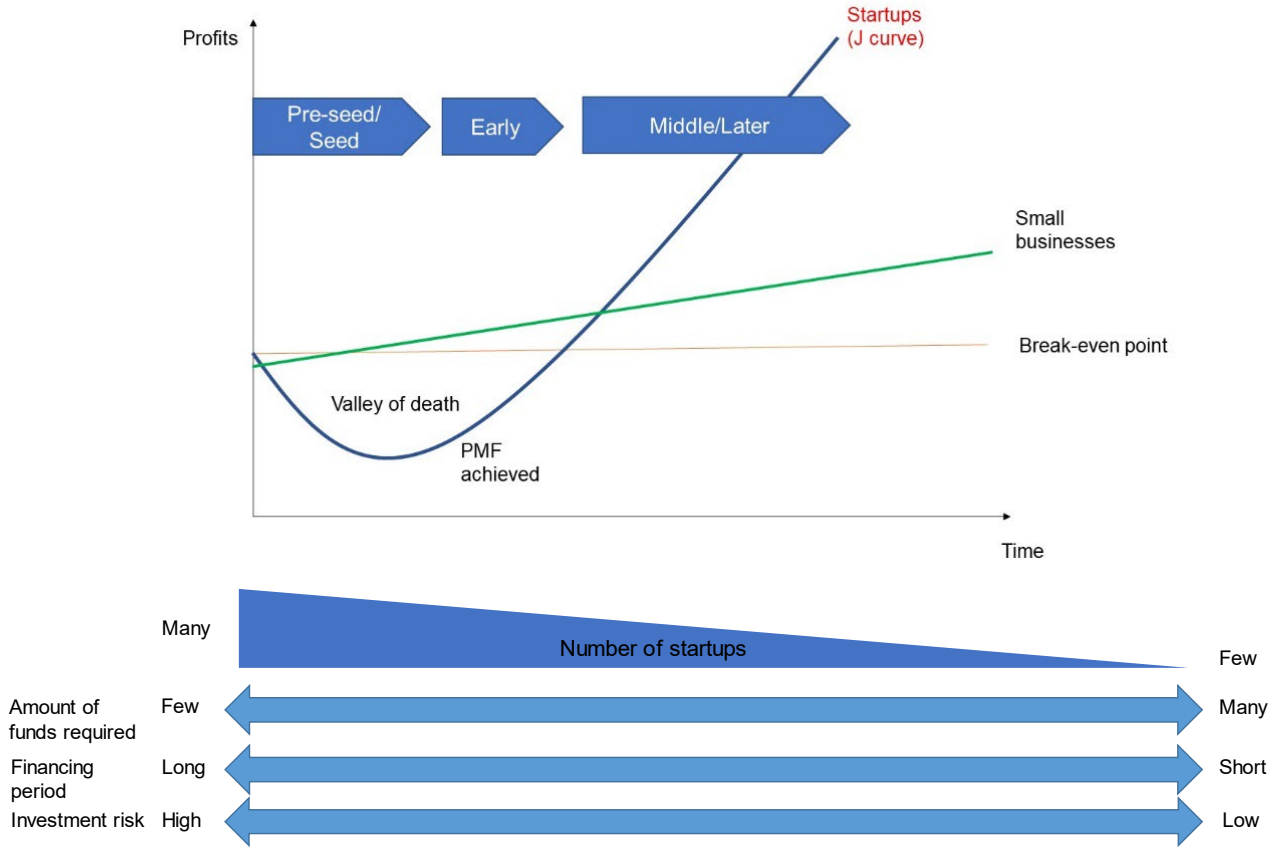
* The above are terms and distinctions used by investors and other startup-related industries. The definitions of small and medium-sized enterprises (SMEs) in various countries distinguish between small and medium-sized (micro)

[2] Adapted from Masayuki Tadokoro, ”Startup Science,” Nikkei Business Publications, Inc., 2017

enterprises and large enterprises based on capitalization, number of employees, etc. If the distinction applies, “startups” would also be classified as small and medium-sized (micro) enterprises. However, it is important to recognize the above distinction because the support measures required are also different, for example, “investment” tends to be required rather than “financing” because they aim for rapid growth with high risk and high return, as shown in Fig. 2.

<Fig. 2> Startup growth curve[3]

Achieves rapid growth with high risk/high return and creates a J-curve pattern



* However, neither startups nor small businesses necessarily continue to grow as shown in the graph above, as it is not easy to sustain a business, especially in the early stages of establishment, and many businesses go out of business along the way.

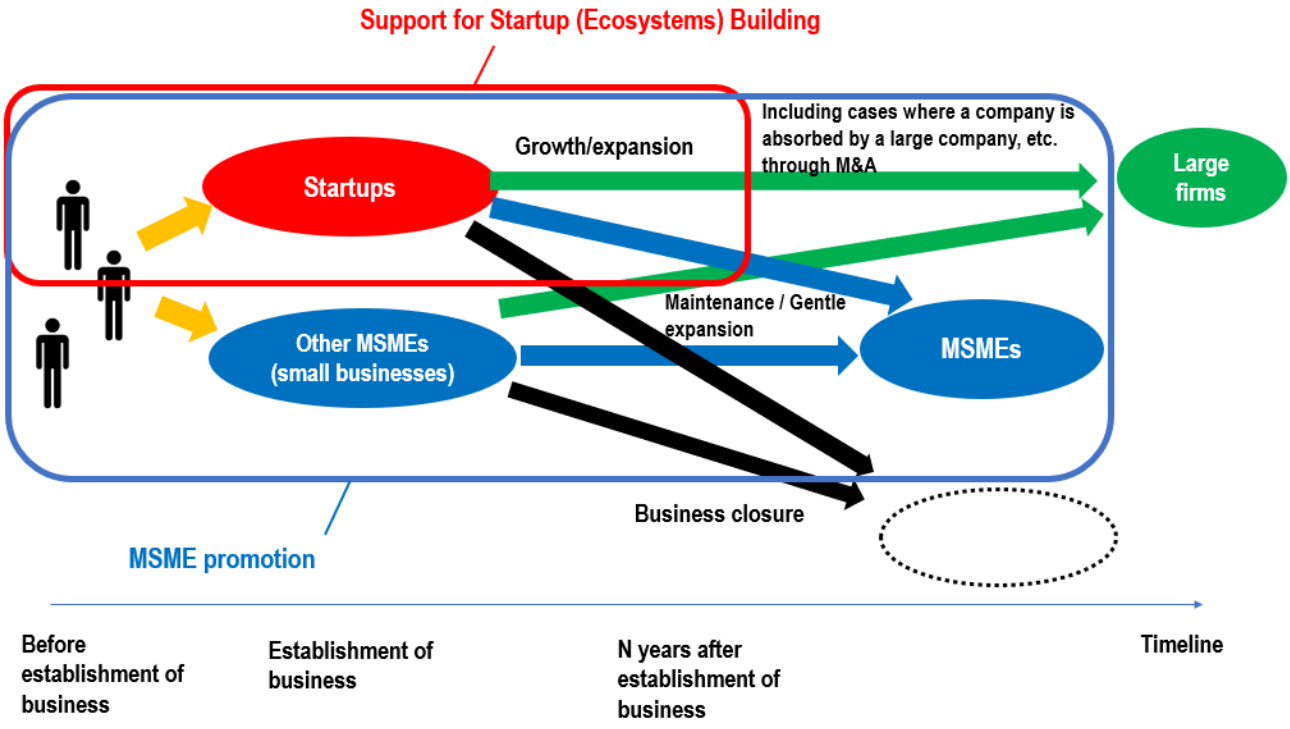
* PMF (Product Market Fit): A state in which products and services are provided that satisfy customer issues and are accepted by the appropriate market (i.e., products and services that are truly desired by the intended consumers, not just

[3] Based on Masayuki Tadokoro, “Startup Science,” Nikkei Business Publications, Inc., 2017 and Deloitte Tohmatsu Financial Advisory LLC and Deloitte Tohmatsu Venture Support Co., Ltd. ”Final Report on Information Collection and Confirmation Survey on Startup and Entrepreneur Support,” 2021

“nice to have”[4]).

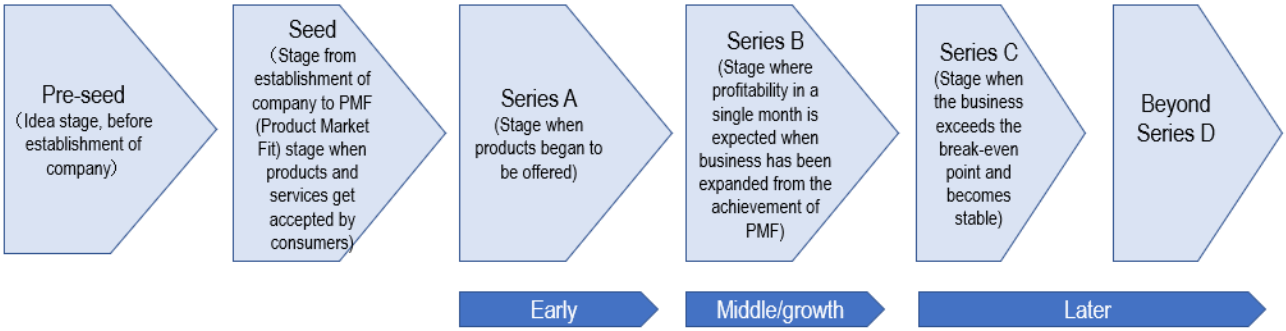
JICA’s private sector development assistance includes “small and medium enterprise promotion” as an important area, and JICA will also provide support for “small business” start-ups. However, there are many differences between the support required for “start-up” and “small business” entrepreneurship, and JICA will provide support while paying attention to the differences between the two. Since there are many cases of confusion between the two among government officials in developing countries, JICA will promote understanding of the difference and provide support from the perspective of establishing a common understanding of the two. Furthermore, there are cases where it is not always possible to clearly separate “start-ups” and so-called “small businesses,” or to support both at the same time, or to support the establishment of policies and business environments that are conducive to both. In such cases, “small business” is not excluded from the scope of support. In addition, the requirement for “rapid growth” (how much growth is achieved) shall be relaxed as appropriate in each country context.

<Fig. 3> Startup Ecosystem Support and SME Promotion
Global Agenda for Private Sector Development to support both companies



[4] Masayuki Tadokoro, “Startup Science, Nikkei Business Publications, Inc., 2017

<Fig. 4> Designations and guidelines for startup procurement rounds
Series represents the number of investment rounds



* The above is only an example of a definition, and different actors have different definitions. In particular, Series A, B, etc. only represent the number of investment rounds, and each startup is in a different state/stage. In addition, the amount of funds raised, the number of rounds, and the method of raising funds vary from startup to startup.

2. Startup ecosystem

The "startup ecosystem" refers to the local entrepreneurial environment surrounding startups[5] and is like an ecosystem in the natural world, where startups and various actors with resources conduct activities, startups launch their businesses, and various actors provide various support for their establishment and growth, including financial and human support. It is an organic collaboration that provides various types of support, including financial and personnel support[6]. Within a startup ecosystem, startups are created in a sustainable and autonomous manner, and the ecosystem develops and evolves (as opposed to a mere "network," which refers to connections among people and organizations). In addition, startup-related activities are not completed solely online, and some resources are not mobile, so startup ecosystems are tied to specific countries, regions, and cities, even in this age of the Internet[7].

The key actors comprising the ecosystem are defined in this Strategy as described in Fig. 5. They are startups, incubators/accelerators, investors (angel investors, venture capital (VC), corporate venture capital (CVC), etc.), central and local government agencies and development partners, R&D institutions, universities and other educational institutions, large companies and conglomerates, B-to-B service providers, consumers, etc. However, there is no

[5] Masatoshi Kato, Startup Economics - Learning the Birth and Process of New Companies, Yuhikaku, 2022.
[6] Spigel, B. (2017). The relational organization of entrepreneurial ecosystems. Entrepreneurship Theory and Practice
[7] Adapted from Mari Sako, "Business ecosystems: how do they matter for innovation?", 2018

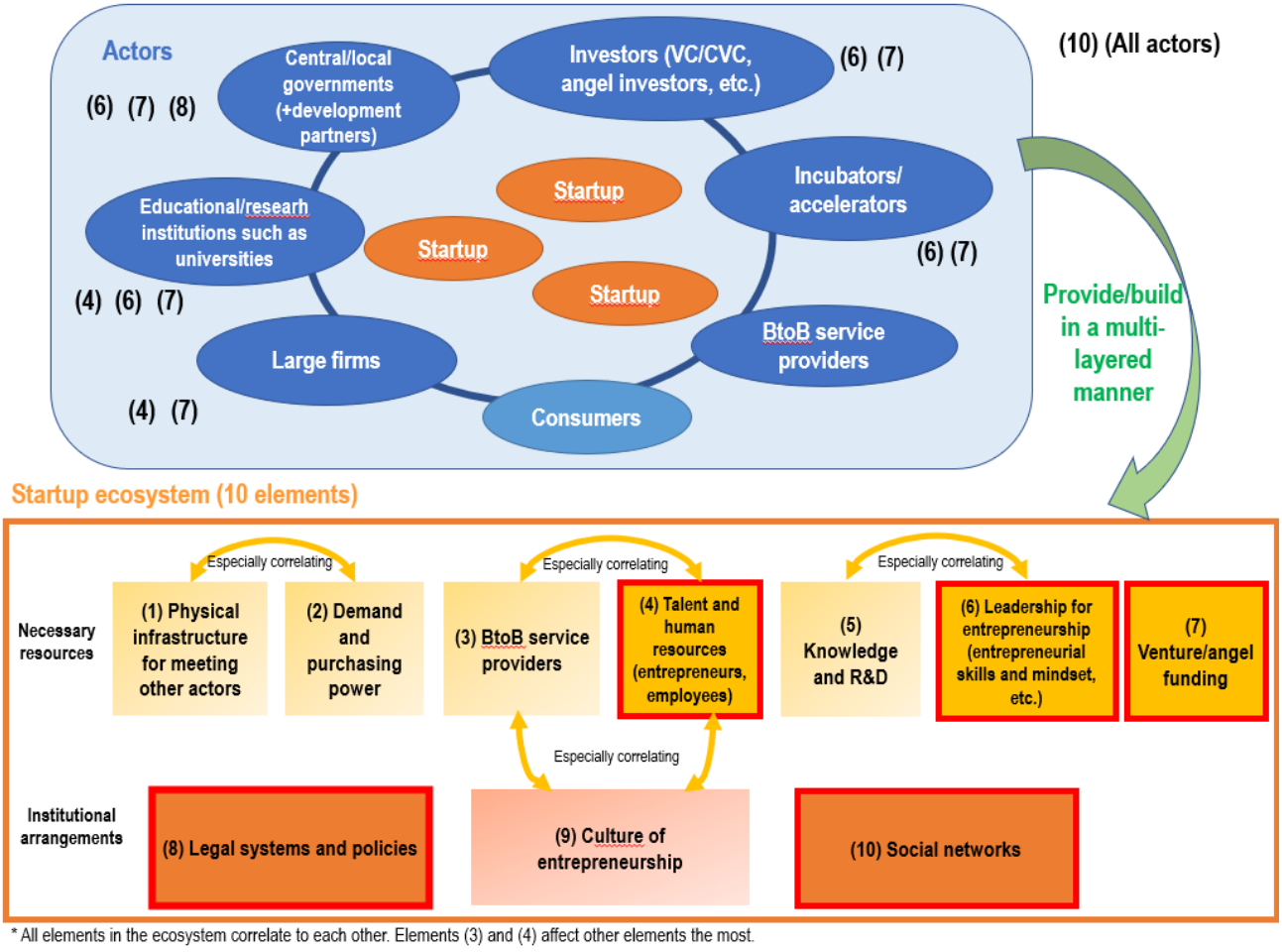
uniformity as the military is an important actor in human resource development in some countries such as Israel.

These actors will provide resources such as “funds,” “human resources,” and “knowledge and research results” to foster startups.

<Fig. 5> Key actors in the startup ecosystem[8]

Each actor provides resources, institutions, and background in a multilayered manner to create an ecosystem

Next to the actor, indicate which of the ecosystem components (4), (6), (7), (8), and (10) at the bottom of the chart are provided.



*The numbers (1) through (10) designated for the elements do not imply order of priority of the initiatives.

[8] The upper half of the figure (actors) is based on Deloitte Tohmatsu Financial Advisory LLC and Deloitte Tohmatsu Venture Support Co., Ltd. ”Final Report on Information Collection and Confirmation Survey on Startup and Entrepreneur Support,” 2021.

Appendix 3: Scenario Ten Elements of the Startup Ecosystem

Below is a description of the ten elements and examples of indicators and solutions. The focus of support in this Strategy is on (4), (6), (7), (8), and (10).

Although examples of indicators to measure the maturity of each element are listed, there is no accumulated research on what kind of indicators are suitable, and there is a mixture of indicators at the country and city level, as well as different indicators available for different countries and cities. There are also examples of using startup ecosystem rankings and other surveys conducted by private organizations, but these are not comprehensive surveys of developing countries, and the continuity of the surveys is not assured. As a result, it is difficult to uniformly compare maturity levels among countries and cities at this time.

Therefore, when measuring the maturity of the startup ecosystem in each country/city, it is recommended to select indicators that are available in the target country from those listed in the Examples of Indicators as much as possible, and alternative indicators other than those listed above may also be used. It would also be effective[1] to evaluate the level of development of the culture of entrepreneurship by conducting a questionnaire survey of local residents, for example, "What image do you have of entrepreneurship?" However, it would be difficult to measure the degree of development of each element by conducting such a survey every time, due to cost and other factors. Nevertheless, if it is possible to conduct such a survey in a particular country or project, we encourage the establishment and measurement of indicators.

In the future, one of the activities of this Strategy will be to standardize indicators, conduct ongoing surveys in countries where JICA operates, and create a checklist that will allow for easy diagnosis of the level of development.

(1) Physical infrastructure for meeting other actors

The physical environment and supporting institutions that allow startups to meet other actors in the startup ecosystem (e.g., startups with other startups, investors, etc.) in close geographic proximity. Also, the physical infrastructure and location of the city/region. It is important to determine whether startups can reach each actor's activities and opportunities, or how much effort, time, distance, cost, etc. will be required to do so. For example, in a startup ecosystem, when making an investment decision, the startup can actually meet and talk

[1] In Zoltan J. Acs, Erkko Autio, Laszlo Szerb (2014) "National Systems of Entrepreneurship: Measurement issues and policy implications," indicators are set using a questionnaire survey.

face-to-face multiple times, obtain information from mentors and university officials from face-to-face meetings in the form of small talk, observe consumers using prototypes and get immediate feedback, etc. In a startup ecosystem, the opportunity to meet face-to-face is important even in a digitalized society[2], so the ability to meet in close geographic proximity is important.

However, since an increasing percentage of businesses are using digital technology, the Internet environment is also an important infrastructure and shall be included in this item.

Examples of indicators:

- Population within 30 minutes of accessibility (access by car/road, rail, plane, or boat for islands)
- Number of incubation facilities, startup hubs, etc.
- Number of events that bring actors together and match them with each other, and number of participants.
- Number of Internet users per population of 100 and number of cell phone and smartphone owners[3]

Examples of solutions:

- Development of transportation infrastructure such as roads, etc.
- Improvement of telecommunication and IT environment, provision of free Wi-Fi environment at incubation facilities
- Development of infrastructure such as public incubation facilities, startup hub facilities, etc.

(2) Demand and purchasing power

The economic means by which residents purchase goods and services. Potential market demand, population size.

Although the distance between a startup and its market/customers may not seem like a problem for a digital business, a startup can only take advantage of new business opportunities if customers with specific needs exist in the community. Especially when markets and customers are in close geographic proximity, startups can test and improve new products through close interaction with them, and that is the best way to validate highly uncertain business plans.

Some startups, especially if the domestic market is small, may begin by

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[2] Tohru (Kobayashi) Yoshioka, Yuki Maruyama, Yuri Hirai, Toshiya Watanabe "WHY 'HONGO VALLEY' ATTRACTS HIGH-TECH ACADEMIC SPIN-OFFS? : DETERMINANTS OF AN ACADEMIC SPIN-OFF CLUSTER," Hitotsubashi Business Review, 2020

[3] (https://www.itu.int/itu-d/reports/statistics/2022/11/24/ff22-foreword/)

targeting markets outside of their home country, such as Europe or the United States. In Africa, startups may target neighboring countries in the same language zone, or Mongolian startups may target Asian markets such as Singapore, but the first priority is whether there is a large enough market within the country or city.

Examples of indicators:

- Per capita disposable income, GDP (purchasing power)
- Population size and its projected value
- Domestic market (GDP + imports - exports) x urbanization rate (percentage of population living in that city)

Example of a solution:

- Reform of the government procurement system for the adoption of startup products and services

(3) BtoB service providers

A variety of diverse and specialized BtoB service providers. For example, ICT, R&D, accounting and legal services, management consulting, advertising, staffing services, etc.[4] Those services speed up or lower the barriers for startups to create or offer their businesses. This is a particularly startup-friendly service within BDS, for example, when a startup is short of engineering employees, a readily available engineering staffing service can facilitate business.

Example of an indicator:

- Percentage of BtoB service providers among businesses.

Examples of solutions:

- Granting vouchers for startups to use BtoB services
- Provision of free accounting, legal, and intellectual property consultation, etc.

(4) Talent and human resources (entrepreneurs and employees)

[4] Examples of intermediate business services: ICT services, R&D, others (legal and administrative services, architectural and engineering consultants, advertising, staffing, security, cleaning) (Netherlands Census Bureau SIC sections 72-74 (https:// from www.cbs.nl/en-gb/our-services/methods/definitions/business-services)

Human resources with (1) specialization in each startup's business area (especially in STEM/tech) and (2) general skills, knowledge, and experience to become entrepreneurs, co-founders, or employees of startups.

Examples of indicators:

- (1) Number of undergraduate and graduate students and researchers in STEM and tech fields
- (2) Number of persons aged 15-65 who have completed higher education (or secondary education)

Examples of solutions: Education Promotion

(1)STEM and Tech Education

- Scholarships for students to attend STEM/tech colleges and universities, etc., and curriculum enhancement,
- Study Abroad Programs at overseas universities and graduate schools
- Promotion of education for gifted children
- Introduction of programming and engineering education to various schools
- Strengthening the curriculum of science and mathematics education in high schools, etc.
- Training of teachers

(2) General Higher Education

- Improvement of (secondary and) higher education enrollment, attendance, etc.
- Visa system to attract foreign talents and enhancement of a city's attractiveness

(5) Knowledge and R&D

Investments in R&D in new scientific and technological knowledge and knowledge creation. Universities and other institutions of higher education have a role in developing new technologies that create entrepreneurial opportunities and in supplying highly specialized human resources. Researchers and students with entrepreneurial spirit within universities can transfer technology seeds to existing companies or implement them themselves as startups. R&D centers in the private sector can also play an important role, as is the case in India and Israel.

Examples of indicators:

- Ratio of the amount of (public and private) R&D investment to GDP
- Number of R&D center locations
- Number of STEM universities, ranking of universities, number of papers, number of patents

Examples of solutions:

- Increased R&D grants and subsidies for STEM universities and national laboratories; increased science and technology budgets
- Attracting R&D centers of overseas companies and overseas universities
- Establishment of university technology transfer departments and support for commercialization of research results
- Establishment of TLO and other organizations to promote technological innovation

(6) Leadership for entrepreneurship (entrepreneurial skills, mindset, etc.)

Leadership that provides guidance and direction for collective action and leads a business or group. Leadership requires entrepreneurial and managerial education and training that enables people to possess and demonstrate entrepreneurial skills, mindsets, and business management competencies.

The existence of leadership is difficult to measure because it is invisible, but for convenience it shall be measured by the number of leaders, etc.

Examples of indicators:

- Number of participants in entrepreneurship education programs (whether or not they are CEOs)
- Number of innovation project leaders who received public subsidies within a given period of time

Examples of solutions:

- Provision of entrepreneurship education and training programs
- Provision of overseas training and study abroad opportunities that include entrepreneurship education and training.
- Visa system to attract foreign entrepreneurial talent, and promotion of a city's attractiveness.

(7) Venture/angel funds

The existence of financial means to invest in startups. The amount of investment by (angel investors and) venture capitalists, especially in that city, etc.

The biggest challenge startups face is funding, and the availability and accessibility of funding for startups is critical for growth and survival. It is important that startups have access to uninterrupted sources of funding from the launch to the scale-up stage. However, many indicators for this are at the country level and not at the city level.

Unlike the launching of small businesses, startups generally use equity investments, which are easier to procure compared to loans from financial institutions (banks) as there is no obligation to repay and does not require any track record of success. In this sense, financial institutions are not ”major” actors in the startup ecosystem, but unlike equity investment, there is no intervention by financial institutions in the management of a startup’s business, and startups may thus prefer to use loans to raise small amounts of capital quickly or to combine equity investment and loans. Therefore, the development of a startup loan menu is also needed. In addition, there are also cases where startup crowdfunding is used.

Examples of indicators:

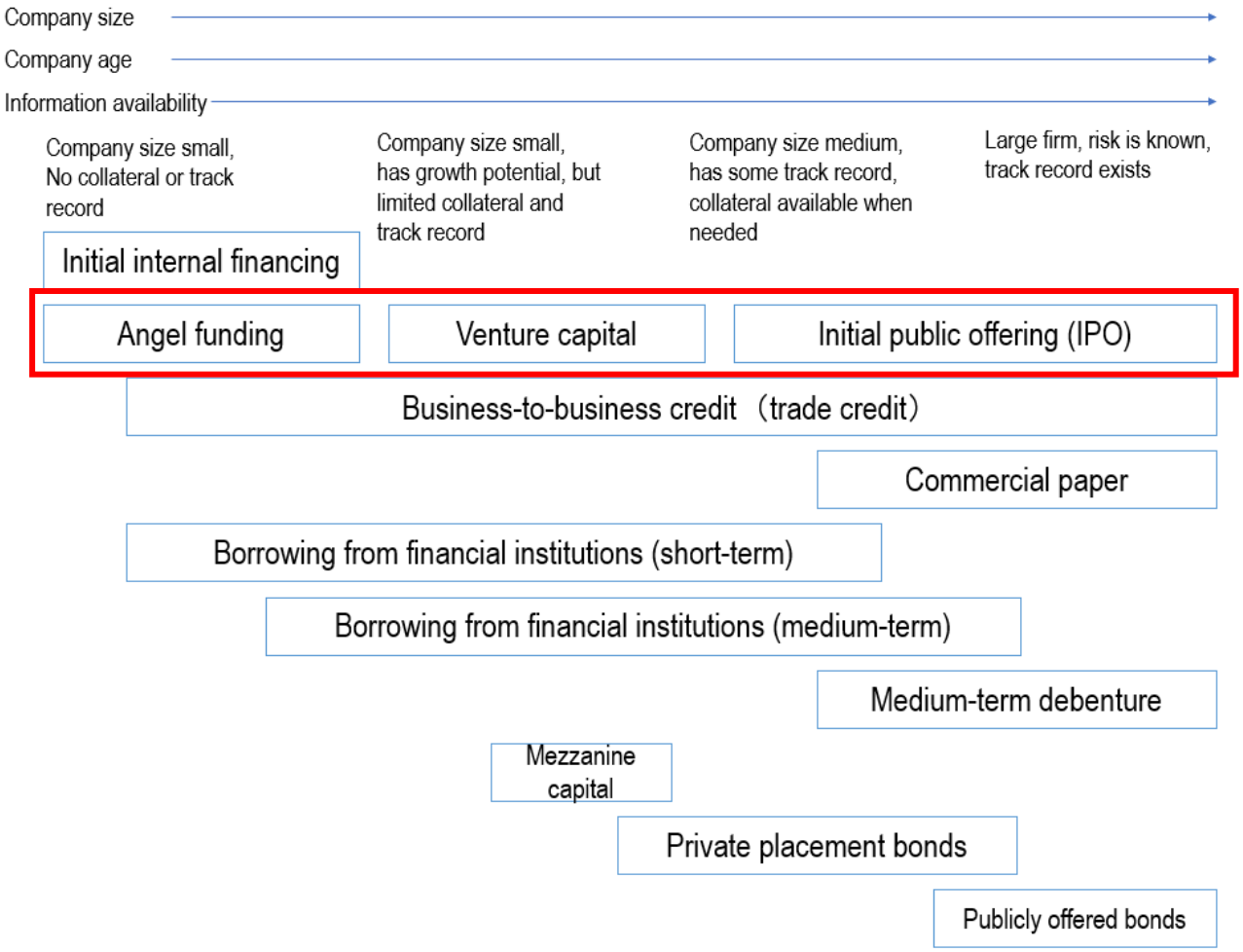
- Amount of venture capital (and angel) investment in the city (3-year average) and number of investments.
- Number of venture capitalists (and angel investors)
- Ease of access to startup loans (e.g., whether there is a loan menu for startups)

Examples of solutions:

- Pilot implementation of pitch events, acceleration programs, etc. (using them as a catalyst to support the acquisition of private-sector funding)
- Dissemination of startup information to investors (domestic and overseas)
- Establishment of public funds (including subsequent privatization, etc.)
- Formulation of fund of funds (funds for VC)
- Co-investment with private-sector funds
- Investment of funds in incubators, accelerators, etc. (operating subsidies, private sector investment finance, etc.)
- Staff training for incubators, accelerators, and other institutions

- Support for building a startup support system for universities (e.g., funds, etc.)
- Development of secondary markets for unlisted stocks after VC investment, and development of stock markets that are easy for startups to enter (e.g., former TSE Mothers, NASDAQ)
- Increase in the supply of startup loans by financial institutions (e.g., unsecured and unguaranteed loan menus) and interest subsidies by the government

<Fig. 1> (Ref.) Changes in financing since establishment of the company[5]



(8) Legal systems and policies

Rules of conduct in the organizations and societies that make up the startup ecosystem. In particular, the quality of government. This quality and efficiency

[5] Masatoshi Kato, "Economics of Startup: Understanding the Birth and Growth of New Firms," Yuhikaku Publishing, 2022

are important in terms of the level of corruption perceived by startups and others, as well as the regulatory framework of the country in general. In particular, there are four aspects: corruption, legal system, government effectiveness, and the right to speak and accountability.

Policies and governance include a variety of entrepreneurship support programs, such as tax incentives, public funding, and deregulation. The role of government can be divided into the following three categories:

- Formulation of policies and implementation of various measures to promote startup innovation.
- Formulation and administration of regulations as a regulator (including deregulation measures)
- Procurement of services, goods, etc. from startups by government departments (e.g., granting credit thereby)

Many of these policies can be implemented at the municipal government level. It is essential to develop and implement policies that better reflect the reality of the relevant community. Laws and policies need to be constantly updated to best preserve the competitiveness and growth of the ecosystem and to spread the benefits (culture, sources of competitiveness, funds, innovation) to other sectors and other parts of the country.

However, many indicators related to this are also at the national level and not at the city level.

Examples of Indicators:

- Are there any laws, policies, or relevant departments to promote startups and innovation?
- Is there a deregulated market where new products and services can be tested?
- The number of days required to complete the incorporation process and the number of agencies and departments[6] that must be visited.
- Whether there is a stock market for ventures and the size of transactions.
- Corruption Perception Index (CPI, Transparency International)
- Business climate rate, Country Risk Rate
- Quality of Government Survey[7]

Examples of solutions:

- Support for the formulation of a startup and innovation promotion act,

[6] Once a successor survey to Doing Business is conducted, we will consider utilizing it.

[7] University of Gothenburg (https://www.gu.se/en/quality-government/qog-data)

support for policy formulation and implementation (development of the entrepreneurial environment and various surveys, identification of focus sectors, formulation and implementation of specific measures, mechanisms for public procurement from startups, etc.), and support for the establishment of related departments

- Formulation of social impact indicators by startup businesses, setting of benchmarks, and support for monitoring
- Overseas ecosystem inspection and training for government personnel, etc. from related departments and agencies
- Pilot implementation of business competitions, acceleration programs, etc. by public agencies and support for the implementation (transfer of knowhow to the government)
- Simplification and expediting of company formation procedures and provision of one-stop services (OSS).
- Lease and subsidy policies for offices and equipment for incubation facilities, etc.
- Investment tax and startup tax reform (including reforms to facilitate impact investments from overseas and their recovery (overseas remittance)
- Improvement of legal systems, standards and procedures for equity investment (flexible use of convertible equity[8], Mezzanine capital[9], and class shares), relaxation of various regulations related to acceptance of foreign investment and stock options[10], etc.
- Creation of a stock market for startups and improvement of access to it (including improvement of the OTC (over-the-counter) trading environment)
- Support for listing on overseas stock markets
- Development of intellectual property related legislation and support for procedures involved in patents, etc. and their costs
- Ease of procedure for business closure and expansion of safety nets
- Eradication of corruption

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[8] A stock acquisition right created in the United States that can be converted into shares of stock in the future. Since they are not debt, companies do not have to repay the funds paid in nor pay interest. They are converted into shares at a specific conversion price when the company grows and meets certain conditions in the future.
(https://tokyo-startup-law.or.jp/magazine/category07/convertible-equity/)

[9] A financing method positioned between debt financing (borrowing from financial institutions, etc.) and equity investment (investment through common stock, etc.). Subordinated loans/subordinated bonds, preferred shares/class shares, and hybrid finance are financing methods that are subordinated in the order of repayment compared to ordinary loans (senior loans), and thus represent high risk/high return for investors.
(https://ma-navigator.com/glossaries/mezzanine)

[10] The right of an employee or officer of a stock company to acquire shares of the company's stock at a predetermined price.

- Development of an infrastructure that facilitates the provision of business, such as the granting of digital national IDs.
- Startup company information development support

(9) Culture related to entrepreneurship

Cultural attitudes, beliefs, and background toward entrepreneurship in the community. The degree to which entrepreneurship has value in society.

Cultural aspects of the startup ecosystem are considered important. Communities with positive cultural attributes toward starting a business motivate entrepreneurs and other actors to engage in high-risk business activities, while communities with negative cultural attributes create barriers to leaving stable employment to become an entrepreneur.

Culture is strongly associated with the existence of entrepreneurial success stories in the community concerned. Examples of successful entrepreneurs in the community can serve as a text for discussing the merits and possibilities of entrepreneurship and can serve as a potential career path for young people after completing higher education or as an aspiration for young entrepreneurs. This will ensure a continuous flow of new entrepreneurs and make risk-taking acceptable as a culture in the community concerned.

On the other hand, if the existing industry is in gradual decline but provides stable demand, it is difficult to foster a culture that encourages risk-taking and challenge, which is essential for a growing startup ecosystem. Even if policies are in place to promote startups, there is a concern that it will be impossible to find or develop the human resources that are necessary to that end.

As mentioned above, culture is an important element, but JICA will not implement solutions solely for this purpose, as it has been pointed out that it is very difficult to build culture through external intervention.

How common it is to start a business in that community can be measured by the number of new companies, whether sole proprietorship is a valuable career option, how respected successful entrepreneurs are, etc. (when surveys are available).

Example of an indicator:

- Number of newly registered companies per population of 1,000 people, business opening rate

Examples of solutions:

- Dissemination of examples of entrepreneurship (through brochures and

websites, holding events, etc.)
- Award and recognition system for outstanding local startups (including business plan competitions)
- Entrepreneurship education for children
- Holding of open days for startup companies and incubation facilities in the community and workplace tours

(10) Social networks

Degree of social connectedness among actors in the startup ecosystem. The linkages between businesses for new value creation.

The social network of startups creates a flow of information and allows for the effective distribution of knowledge, human resources, and capital. In order for entrepreneurs to launch and expand new businesses, they need resources such as risk capital, talented human resources, and experienced mentors. These resources are primarily accessed through social networks. For example, it has been reported that most of the risk capital invested in startups goes through the human networks of investors. Angel investors and VCs use their own networks to vet and evaluate potential investments. Meanwhile, entrepreneurs may also use their networks to secure talent with the right skills to succeed in high-growth startups.

In addition, the provision of support services by mentors through the network will significantly lower the barriers to entry for new businesses by entrepreneurs and shorten the time for market introduction. At the same time, mentors will be responsible for improving startup survival rates by encouraging entrepreneurs to interact with each other and with funders to improve startup performance. At the same time, mentors contribute deeply to the formation of trust among various stakeholders in the community toward the entrepreneurs. Conversely, mentors who are irresponsible or only offer advice can be an impediment to the development of the startup ecosystem in the community.

In addition, strong social networks in the community act as conduits for acquiring new skills and knowledge. By using networks, entrepreneurs learn from each other and share success factors and bottlenecks that accompany their growth.

Examples of indicators:
- Number of projects collaborated on for innovation
- Number of cases of collaboration between large firms and startups
- Number of communities (hubs, etc.) involved in entrepreneurship and

innovation

Examples of solutions:

- Holding of events by public agencies (that complement private-sector initiatives) (e.g., matching events between investors and mentors and startups, open innovation events, round tables (exchange of opinions), introduction of university research results, etc.)
- Matching with overseas (Japanese-affiliated) companies, investors, universities, etc.
- Attraction of overseas accelerators, VCs, and mentors

In addition, gender perspectives will be taken into account in all of the above (1) through (10), with a view to establishing indicators and implementing solutions to encourage gender-smart business (GSB) [11] promotion. The indicators will be discussed pending the formulation of the GSB promotion strategy.

Note that the startup ecosystem may be divided into three categories: cultural, social, and physical attributes, rather than the 10 elements. Of these, the physical attributes include hard elements, such as universities and other institutions of higher education and support facilities and organizations, and soft elements, such as policies that encourage entrepreneurship and markets where new products and services can be tested. The existence of open markets is an important element in providing business opportunities in the startup ecosystem. In addition, supportive institutions and organizations provide specialized assistance to startups at various stages. In particular, it is essential that experts familiar with the common challenges faced during the startup stage provide appropriate advice to individual startups. Young entrepreneurs often use incubation and co-working facilities in the early stages of their activities. These facilities play an important role in favoring startups in the community and providing them with opportunities to build human networks and obtain funding. However, it is important to note that especially in the case of facilities and services created mainly by public agencies, they must continue to ensure the success of the facility as a nominal facility, and in some cases, entrepreneurs are taken advantage of to maintain and develop the facility.

[11] A (JICA) definition of gender-smart business is also under consideration within the GSB Promotion Cluster.

[Reference]

- Professor Daisuke Kanama, Kanazawa University/Visiting Professor, University of Tokyo, “Current Trends and Future Research Agenda of Startup Ecosystem Research: Toward the Development of Ecosystems Based on Regional Characteristics,” IFI Working Paper No. 12, 2022, and comments from Professor Kanama
- Erik Stam and Andrew van de Ven（2021）”Entrepreneurial ecosystem elements.”
- Zoltan J. Acs, Erkko Autio, Laszlo Szerb（2014）“National Systems of Entrepreneurship: measurement issues and policy implications”

Appendix 4: Actual Case Examples of Startups Solving Social Issues

Examples of sector-specific issues and digital solutions to them are listed below. A wide range of social issues, such as health, finance, agriculture, and electricity, could be solved by the power of digital technology.

<Fig. 1> Examples of Sectoral Issues and Digital Solutions[1]
A wide range of social issues could be solved by the power of digital technology.

Sector	Issue	Example of Digital Solution
Medical services	Traditional medical services are centered on doctors and hospitals, and expansion is difficult and slow.	Digital solutions will increase physical and price access to healthcare and, together with AI, increase the potential for remote diagnosis and preventive care.
Financial services	Operational costs are high, and information on consumers is lacking.	Online platforms and marketplaces, big data analytics to grant credit, and the use of blockchain, etc. will increase access to markets and credit (while sometimes creating entry from other industries).
Agriculture	Farmers are isolated and work in traditional and inefficient ways.	Access to information will improve farmers' output, productivity, etc., and link farmers to high-value supply chains.
Electric power	Rural residents lack electricity due to inadequate power distribution networks.	Off-grid power solutions and inexpensive, prepaid services with electronic payments will enable rural populations to access electricity.

Below are some actual case examples of startups that are solving social issues in developing countries.

Startup Example 1: Lifestores Pharmacy (Nigeria, HealthTech)

A startup that digitizes pharmacies.

Pharmacies, not hospitals, are the front line of medical services in Nigeria. However, when patients rush there, operations are chaotic and the drugs they want are chronically out of stock.

That's where Lifestores Pharmacy comes in: a SaaS business for running pharmacies, digitized with state-of-the-art cloud-based software.

Many pharmacies in Nigeria are often mom-and-pop operations where the owners don't understand technology. Even if you create and market a SaaS service out of the blue, no one will understand it and pharmacies will not be digitized.

Lifestores Pharmacy created its own sample storefront and established a workflow for managing inventory and ordering products through software. The company has manualized these best practices and shared them with all pharmacies free of charge at first, and they came to be accepted locally. As the number of such digitalized pharmacies increases, counterfeit drugs will be prevented, fair pricing of medicines will become possible, and the pharmaceutical value chain will become more transparent.

Currently, the company has built a chain of more than 300 digital pharmacies, and they are planning to offer new services such as online terminals in their stores that will allow visitors to receive telemedicine.

Startup Example 2: Unacademy (India, EdTech)

Unacademy is a huge education platform with over 30 million registered users and more than 350,000 paying users. The content of study extends beyond programming to include preparation for entrance exams to elite universities such as the Indian Institute of Technology (IIT), courses to prepare for civil service examinations, and tutoring in hobbies such as baking sweets and playing chess.

At a tutoring school in India, hundreds of students were crammed into a classroom to take lessons from a well-known instructor. Some courses cost several hundred thousand yen, and there was no hope of private tutoring. Now, for as little as ¥2,000 per month, anyone can take a class using a smartphone.

The founder started the company by distributing educational content on YouTube for years in order to spread high-quality education, which was only available to rich urban children, to every corner of India.

Startup Example 3: Stellapps Technologies (India, AgriTech)

By attaching IoT sensors to dairy cows, the company is trying to DX India's dairy industry, which is said to employ about 70 million people across the country.

Milk accounts for 28% of India's agricultural production, but most dairy farmers are small business owners with only about two cows per person. Every morning, dairy farmers take their freshly milked cows to the dairy to be milked for the day's earnings. The problem was that the quality was not consistent.

Stellapps Technologies has developed more than 20 IoT devices and is giving them away for free to dairy farmers. The data checks everything from cow health to milk composition, humidity, and quality at every step of the production process. The dashboard provides real-time information on the status of dairy cows and raw milk. The monitoring system is marketed as "SmartMoo" to more than 200 major product companies that want to stabilize milk quality.

This “milk visualization” has enabled farmers to be paid individually, priced according to quality, whereas previously, they were only paid the same price. It is also speeding up payments to farmers. The system has already been introduced to more than 3 million dairy farmers, and loans, insurance, and other services are scheduled to be offered to excellent milk producers.

Reference:
Naoyoshi Goto and Phil Wickham, “Venture Capitalists - The Most Powerful ’King Makers’ Who Move the World,” Newspix, Inc.

Appendix 5: Effects on Job Creation

In the United States, half of all new jobs, or an average of 2.9 million per year, are created by high-growth startups[1]. The percentage of the total number of employed people are as follows in the following countries: United States (8.4%), Israel (5.4%), the U.K. (2.2%), and Germany (0.9%). Thus, startups contribute to job creation in these countries[2].

While many studies have shown that smaller firms tend to create more jobs than larger firms, a study targeting the United States revealed that many of these jobs are created by startups in the early years of their existence. Studies targeting Japan have also shown a similar trend[3].

For example, as shown in Fig. 1, only 40-60% of startups survive for five years[4], but the number of employees at the end of the first five years is large enough to make up for the number of employees laid off by businesses that went bankrupt within five years of starting up.

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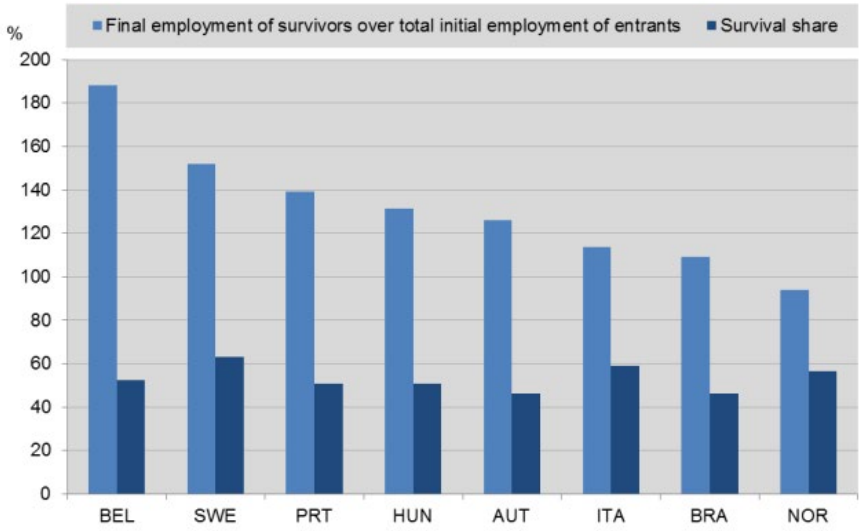
[1] Annual average for 1980-2010. NVCA-2021-Yearbook (https://nvca.org/wp-content/uploads/2021/08/NVCA-2021-Yearbook.pdf)

[2] JETRO (https://www.jetro.go.jp/biznews/2021/08/11419e9a7cd330f6.html)

[3] However, high employment growth can be achieved only by some startups. Therefore, even if policies that uniformly support startups can increase the number of startups, it will be important to determine how to support high-growth startups and to continue creating such startups. Nihon Keizai Shimbun (https://www.nikkei.com/article/DGXMZO58180180X10C20A4SHE000/)

[4] All small and micro businesses, including small businesses, as it is not possible to extract only high-growth startups

<Fig. 1> Number of employees of microenterprises (9 or less employees) 5 years after startup ÷ Number of employees at time of startup (left) including businesses that went bankrupt within 5 years of startup and the survival rate of businesses (right)[5]



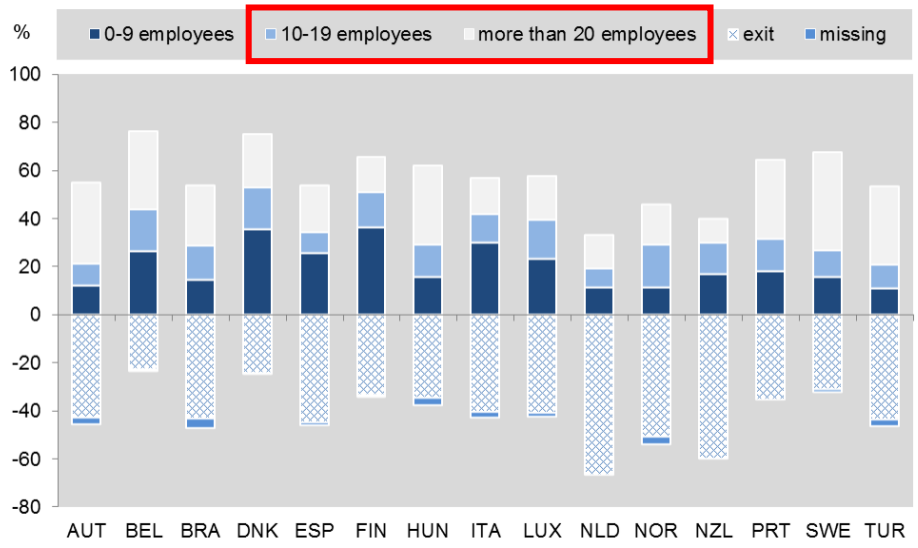
(Horizontal axis: Name of country)

In countries such as Turkey, Brazil, Sweden, and New Zealand, 7% of all jobs were created by newly established businesses that survived for at least three years. This "percentage of jobs created by surviving entrepreneurs" varies from country to country because it depends on the "percentage of entrepreneurs among all businesses," the "size of the business at the time of startup," the "percentage of businesses that start and survive," and the "degree of growth after startup." Nevertheless, some of the entrepreneurs who start a business grow significantly and have a significant impact on job creation. Such significantly growing entrepreneurs, or startups, account for 21-51% of all entrepreneurial job creation[6].

[5] OECD (https://www.oecd.org/economy/growth/Cross-country-evidence-on-start-up-dynamics.pdf)

[6] OECD (https://www.oecd.org/economy/growth/Cross-country-evidence-on-start-up-dynamics.pdf)

<Fig. 2> Contribution of Microenterprises (9 or fewer employees) to Job Creation 5 Years after Startup[7]
Supporting the startups of rapidly growing startups can contribute to job creation.



(Horizontal axis: Name of country)
∗ Vertical axis shows the breakdown of microenterprises (9 or less employees) 5 years after startup.
(what percentage of businesses employed what number of people).

However, as mentioned above, about half of the new businesses go bankrupt in 5 years, so we consider this not only as “maintenance” of employment by the same businesses, but also as “creation” of employment as startups that are accompanied by employment continue to be born one after another. However, even in the case of bankruptcy, there is significance for the startup ecosystem, including from the perspective of human resource development regarding entrepreneurs and employees.

To cite an actual example from JICA’s support, the average number of full-time employees in six startups selected from among 1,074 applicants for the NINJA Accelerator program in Nigeria, held in 2022 as part of the activities of experts designated as “Entrepreneurship Support and Innovation Promotion Advisors,” was about 20, with the largest number at 78. As such, these startups have created a large number of jobs.

In addition, although few startups disclose the number of employees and job composition, the website of Stellaps Technologies (Startup Example 3 in Appendix 4), one of the leading startups in India, lists more than 50 job positions on its website. Thus, it can be said that startups contribute to job

[7] OECD (https://www.oecd.org/economy/growth/Cross-country-evidence-on-start-up-dynamics.pdf)

creation in a variety of occupations even within a single sector or company[8].

[8] As of June 2022 https://www.stellapps.com/

Appendix 6: List of Existing and Scheduled Projects

Project name	Country	Project for Wide Area	Scheme	Status	The Dept. in charge	Including support for individual companies	Remarks
Advisor on Business Promotion	Kazakhstan		Expert	Ongoing	Economic Development Dept.		
ICT Industry Promotion Project	Uganda		Technical Cooperation Project	Ongoing	Economic Development Dept.		
Advisor for Start-up Ecosystem	Ethiopia		Expert	Ongoing	Economic Development Dept.	★	
Entrepreneurs Support and Innovation Promotion Advisor	Nigeria		Expert	Ongoing	Economic Development Dept.	★	
Institutional Capacity Development of CJCC for a Center of Development and Networking for Business Human Resources	Cambodia		Technical Cooperation Project	Finished	Economic Development Dept.	★	Program name「CJCC Accelerator Program (CJAP)」Entry fee charged, no commission fee for PoC
Institutional Capacity Development of CJCC for a Center of Development and Networking for Business Human Resources Project	Cambodia		Technical Cooperation Project	Finished	Economic Development Dept.	★	Program name「CJCC Accelerator Program (CJAP)」Entry fee charged, no commission fee for PoC
Project for Development of Entrepreneurs and Business Networking Services at CJCC Phase II	Cambodia		Technical Cooperation Project	Ongoing	Economic Development Dept.	★	Program name「CJCC Accelerator Program (CJAP)」Entry fee charged, no commission fee for PoC
Project for the Capacity Development of Business Professionals and Networking through LJI	Laos		Technical Cooperation Project	Finished	Economic Development Dept.	★	Program name「LJI SUSU project」PoC 30,000USD(max)
Project for enforcing LJI as knowledge hub for human resource development	Laos		Technical Cooperation Project	Ongoing	Economic Development Dept.	★	LJI SUSU project
Project for Capacity Development of Business Persons and Networking through Uzbekistan-Japan Center for Human Resource Development (Phase 2)	Uzbekistan		Technical Cooperation Project	Ongoing	Economic Development Dept.	★	Small-scale startup support course offered. No business competition or prize grants.
Project for Human Resource Development for Diversification of Economic Sectors through the Kyrgyz Republic - Japan Center for Human Development	Kyrgyzstan		Technical Cooperation Project	Finished	Economic Development Dept.		Training on business management, for SMEs, startups, etc.
Project for Capacity Development of Business Persons and Networking through the Kyrgyz Republic-Japan Center for Human Development	Kyrgyzstan		Technical Cooperation Project	Ongoing	Economic Development Dept.	★	Acceleration
Project of Phase II for Enhanced Function of Monoglia-Japan Center for Human Resources Development for Capacity Development and Networking of Business Persons	Mongolia		Technical Cooperation Project	Ongoing	Economic Development Dept.	★	Program name「MonJa Startup Accelerator Program in response to COVID-19(MONJA)」PoC 30,000USD(max)
Sustainable Global Business Breakthrough Ecosystem Project	India		Technical Cooperation Project	Ongoing	Economic Development Dept.		
Project on Business Development Service (BDS) Enhancement for Enterprises Growth	Ethiopia		Technical Cooperation Project	Finished	Economic Development Dept.	★	Applicable only during "Solve IT" (Business Competition, Incubation Program). Technical Assistance related to Japanese ODA Loan.
Enterprise Development Project with Kaizen	Ghana		Technical Cooperation Project	Ongoing	Economic Development Dept.	★	Kaizen+BDS+Startup support. Incubation by professional. Provided 1 month of mentoring support to 24 shortlisted companies and 6 months to 8 selected companies. Up to 30,000 GHC (≒USD5,000) for 8 companies.)as activity fee.
Project for Enhancing Enterprise Competitiveness	Kenya		Technical Cooperation Project	Ongoing	Economic Development Dept.		BDS+Startup support
The ICT Innovation Ecosystem Strengthening Project	Rwanda		Technical Cooperation Project	Finished	Governance and Peace Building Dept.	★	Support for the establishment of incubation center(co working space etc.)、incubation program.
Digital & Innovation Promotion Project	Rwanda		Technical Cooperation Project	Ongoing	Governance and Peace Building Dept.	★	Support for the operation of incubation center(co working space etc.)、incubation program.

The Project for Promotion of Artificial Intelligence Ecosystem	Jordan		Technical Cooperation Project	Ongoing	Governance and Peace Building Dept.		Improvement of platform operation capabilities to promote the utilization of AI technology, and establishment of public, private, and academia platforms to promote the utilization of AI technology (support for the entire ecosystem)
Customized Capacity building and specialized technical training in Japan for leadership and middle management government staff under the technical cooperation project Promoting the Artificial Intelli"	Jordan		Knowledge Co-Creation Program (Country Focus)	Ongoing	Governance and Peace Building Dept.		Related to the Technical Cooperation Project "The Project for Promotion of Artificial Intelligence Ecosystem"
Training for Development of SMEs and Startups for "Rapid Support for Micro and Small Enterprises Project"	Turkey		Knowledge Co-Creation Program (Country Focus)	Ongoing	Turkey Office		
Capacity development for supporting startup	Ethiopia		Knowledge Co-Creation Program (Country Focus)	Ongoing	Economic Development Dept.		Conducted in conjunction with expert "Startup Ecosystem Advisor"
Startup Creation & Innovation Ecosystem Development	Mexico		Other	Ongoing	Latin America and the Caribbean Dept.		Japan-Mexico Training Program for the Strategic Global Partnership
Data Collection Survey of supporting startup and entrepreneurs	Worldwide(Wide area)	Wide Area	Data Collection Survey	Finished	Economic Development Dept.	★	
Data Collection Survey of supporting startup and entrepreneurs	Vietnam	Wide Area	Data Collection Survey	Finished	Economic Development Dept.	★	Acceleration
Data Collection Survey of supporting startup and entrepreneurs	Indonesia	Wide Area	Data Collection Survey	Finished	Economic Development Dept.	★	Pitch event
Data Collection Survey of supporting startup and entrepreneurs	Philippines	Wide Area	Data Collection Survey	Finished	Economic Development Dept.		
Data Collection Survey of supporting startup and entrepreneurs	India	Wide Area	Data Collection Survey	Finished	Economic Development Dept.		
Data Collection Survey on Partnership for Leading Enterprises Acceleration Fund (LEAF)	Worldwide(Wide area)	Wide Area	Data Collection Survey	Finished	Economic Development Dept.		
Data Collection Survey on Partnership for Leading Enterprises Acceleration Fund (LEAF)	Indonesia	Wide Area	Data Collection Survey	Finished	Economic Development Dept.		
Data Collection Survey on Partnership for Leading Enterprises Acceleration Fund (LEAF)	Vietnam	Wide Area	Data Collection Survey	Finished	Economic Development Dept.		
Data Collection Survey on Partnership for Leading Enterprises Acceleration Fund (LEAF)	Philippines	Wide Area	Data Collection Survey	Finished	Economic Development Dept.		
Data Collection Survey on Partnership for Leading Enterprises Acceleration Fund (LEAF)	Bangladesh	Wide Area	Data Collection Survey	Finished	Economic Development Dept.		
Data Collection Survey on Partnership for Leading Enterprises Acceleration Fund (LEAF)	India	Wide Area	Data Collection Survey	Finished	Economic Development Dept.		
Data Collection Survey on Partnership for Leading Enterprises Acceleration Fund (LEAF)	Pakistan	Wide Area	Data Collection Survey	Finished	Economic Development Dept.		
Data Collection Survey on Partnership for Leading Enterprises Acceleration Fund (LEAF)	Cambodia	Wide Area	Data Collection Survey	Finished	Economic Development Dept.		
Data Collection Survey on Partnership for Leading Enterprises Acceleration Fund (LEAF)	Laos	Wide Area	Data Collection Survey	Finished	Economic Development Dept.		
Data Collection Survey on Partnership for Leading Enterprises Acceleration Fund (LEAF)	Mongolia	Wide Area	Data Collection Survey	Finished	Economic Development Dept.		
Data Collection Survey on Partnership for Leading Enterprises Acceleration Fund (LEAF)	Uzbekistan	Wide Area	Data Collection Survey	Finished	Economic Development Dept.		
Data Collection Survey on Partnership for Leading Enterprises Acceleration Fund (LEAF)	Kyrgyzstan	Wide Area	Data Collection Survey	Finished	Economic Development Dept.		
Data Collection Survey on TA Facility for Impact Investment and Ecosystem Development	Worldwide(Wide area)	Wide Area	Data Collection Survey	Finished	Economic Development Dept.		Cross-departmental team with the Governance and Peacebuilding Department. Impact investment ecosystem research, PMF support, fund framework consideration. Subsequent projects to the above.

Data Collection Survey on TA Facility for Impact Investment and Ecosystem Development	India	Wide Area	Data Collection Survey	Finished	Economic Development Dept.		
Data Collection Survey on TA Facility for Impact Investment and Ecosystem Development	Vietnam	Wide Area	Data Collection Survey	Finished	Economic Development Dept.		
Data Collection Survey on TA Facility for Impact Investment and Ecosystem Development	Indonesia	Wide Area	Data Collection Survey	Finished	Economic Development Dept.		
Data Collection Survey for Strengthening Partnership with Startups and Private Sector in Developing Countries	Worldwide(Wide area)	Wide Area	Data Collection Survey	Finished	Private Sector Partnership Dept.	★	JICA NINJA Accelerator 2021、9 week of acceleration for 15 companies, 30,000USD/company
Data Collection Survey for Strengthening Partnership with Startups and Private Sector in Developing Countries	Indonesia	Wide Area	Data Collection Survey	Finished	Private Sector Partnership Dept.	★	
Data Collection Survey for Strengthening Partnership with Startups and Private Sector in Developing Countries	Thailand	Wide Area	Data Collection Survey	Finished	Private Sector Partnership Dept.	★	
Data Collection Survey for Strengthening Partnership with Startups and Private Sector in Developing Countries	Philippines	Wide Area	Data Collection Survey	Finished	Private Sector Partnership Dept.	★	
Data Collection Survey for Strengthening Partnership with Startups and Private Sector in Developing Countries	Malaysia	Wide Area	Data Collection Survey	Finished	Private Sector Partnership Dept.	★	
Data Collection Survey for Strengthening Partnership with Startups and Private Sector in Developing Countries	Bangladesh	Wide Area	Data Collection Survey	Finished	Private Sector Partnership Dept.	★	
Data collection survey on embodying mechanism of social startup support	Worldwide(Wide area)	Wide Area	Data Collection Survey	Ongoing	Economic Development Dept.		
Data collection survey on embodying mechanism of social startup support	Vietnam	Wide Area	Data Collection Survey	Ongoing	Economic Development Dept.		
Data collection survey on embodying mechanism of social startup support	Indonesia	Wide Area	Data Collection Survey	Ongoing	Economic Development Dept.		
Data collection survey on embodying mechanism of social startup support	Bangladesh	Wide Area	Data Collection Survey	Ongoing	Economic Development Dept.		
Data Collection Survey for the Information and Communication Technology industry and startup companies promotion	Mongolia		Data Collection Survey	Ongoing	East and Central Asia and the Caucasus Dept.	★	Implemented multiple pilot projects (MonJa acceleration, etc.) to promote the ICT/digital industry and start-up companies in Mongolia
Data Collection Survey on strengthening Telangana Startup and Innovation Ecosystem and Japan-India Relations in India	India		Data Collection Survey	Finished	South Asia Dept.		Matching with local startups as part of matching and mentoring support between Japanese companies and local companies.
Data Collection Survey on Collaboration with Start-up Companies in Latin America and the Caribbean	North and Latin America and the Caribbean(Wide area)	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.	★	Pitch, Acceleration, Matching event
Data Collection Survey on Collaboration with Start-up Companies in Latin America and the Caribbean	Brazil	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.	★	
Data Collection Survey on Collaboration with Start-up Companies in Latin America and the Caribbean	Mexico	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.	★	
Data Collection Survey on Collaboration with Start-up Companies in Latin America and the Caribbean	Argentina	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.	★	
Data Collection Survey on Collaboration with Start-up Companies in Latin America and the Caribbean	Colombia	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.	★	
Data Collection Survey on Collaboration with Start-up Companies in Latin America and the Caribbean	Chile	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.	★	
Data Collection Survey on Collaboration with Start-up Companies in Latin America and the Caribbean	Peru	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.	★	

Data Collection Survey on the Possibility of Social Impact Bond in Latin America	North and Latin America and the Caribbean(Wide area)	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.		
Data Collection Survey on the Possibility of Social Impact Bond in Latin America	Brazil	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.		
Data Collection Survey on the Possibility of Social Impact Bond in Latin America	Colombia	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.		
Data Collection Survey on the Possibility of Social Impact Bond in Latin America	Peru	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.		
Data Collection Survey on human resource and infrastructure development for co-creation of the resilient society With/Post COVID-19 pandemic in Central America and the Caribbean Region	North and Latin America and the Caribbean(Wide area)	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.		
Data Collection Survey on human resource and infrastructure development for co-creation of the resilient society With/Post COVID-19 pandemic in Central America and the Caribbean Region	Mexico	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.		
Data Collection Survey on human resource and infrastructure development for co-creation of the resilient society With/Post COVID-19 pandemic in Central America and the Caribbean Region	Honduras	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.		
Data Collection Survey on human resource and infrastructure development for co-creation of the resilient society With/Post COVID-19 pandemic in Central America and the Caribbean Region	Guatemala	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.		
Data Collection Survey on human resource and infrastructure development for co-creation of the resilient society With/Post COVID-19 pandemic in Central America and the Caribbean Region	Nicaragua	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.		
Data Collection Survey on human resource and infrastructure development for co-creation of the resilient society With/Post COVID-19 pandemic in Central America and the Caribbean Region	Panama	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.		
Data Collection Survey on human resource and infrastructure development for co-creation of the resilient society With/Post COVID-19 pandemic in Central America and the Caribbean Region	El Salvador	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.		
Data Collection Survey on human resource and infrastructure development for co-creation of the resilient society With/Post COVID-19 pandemic in Central America and the Caribbean Region	Belize	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.		
Data Collection Survey on human resource and infrastructure development for co-creation of the resilient society With/Post COVID-19 pandemic in Central America and the Caribbean Region	Costa Rica	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.		
Data Collection Survey on human resource and infrastructure development for co-creation of the resilient society With/Post COVID-19 pandemic in Central America and the Caribbean Region	Cuba	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.		
Data Collection Survey on human resource and infrastructure development for co-creation of the resilient society With/Post COVID-19 pandemic in Central America and the Caribbean Region	Dominican Republic	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.		
Data Collection Survey on human resource and infrastructure development for co-creation of the resilient society With/Post COVID-19 pandemic in Central America and the Caribbean Region	Haiti	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.		

Data Collection Survey on human resource and infrastructure development for co-creation of the resilient society With/Post COVID-19 pandemic in Central America and the Caribbean Region	Saint Lucia	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.		
Data Collection Survey on human resource and infrastructure development for co-creation of the resilient society With/Post COVID-19 pandemic in Central America and the Caribbean Region	Jamaica	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.		
Data Collection Survey on human resource and infrastructure development for co-creation of the resilient society With/Post COVID-19 pandemic in Central America and the Caribbean Region	Antigua and Barbuda	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.		
Data Collection Survey on human resource and infrastructure development for co-creation of the resilient society With/Post COVID-19 pandemic in Central America and the Caribbean Region	Bahamas	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.		
Data Collection Survey on human resource and infrastructure development for co-creation of the resilient society With/Post COVID-19 pandemic in Central America and the Caribbean Region	Barbados	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.		
Data Collection Survey on human resource and infrastructure development for co-creation of the resilient society With/Post COVID-19 pandemic in Central America and the Caribbean Region	Dominica	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.		
Data Collection Survey on human resource and infrastructure development for co-creation of the resilient society With/Post COVID-19 pandemic in Central America and the Caribbean Region	Guyana	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.		
Data Collection Survey on human resource and infrastructure development for co-creation of the resilient society With/Post COVID-19 pandemic in Central America and the Caribbean Region	Grenada	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.		
Data Collection Survey on human resource and infrastructure development for co-creation of the resilient society With/Post COVID-19 pandemic in Central America and the Caribbean Region	Suriname	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.		
Data Collection Survey on human resource and infrastructure development for co-creation of the resilient society With/Post COVID-19 pandemic in Central America and the Caribbean Region	Saint Kitts and Nevis	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.		
Data Collection Survey on human resource and infrastructure development for co-creation of the resilient society With/Post COVID-19 pandemic in Central America and the Caribbean Region	Saint Vincent and the Grenadines	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.		
Data Collection Survey on human resource and infrastructure development for co-creation of the resilient society With/Post COVID-19 pandemic in Central America and the Caribbean Region	Trinidad and Tobago	Wide Area	Data Collection Survey	Finished	Latin America and the Caribbean Dept.		
Data Collection Survey on SME/Entrepreneurs Support in Tunisia	African Region (wide area)	Wide Area	Data Collection Survey	Finished	Economic Development Dept.		
Data Collection Survey on SME/Entrepreneurs Support in Tunisia	Ethiopia	Wide Area	Data Collection Survey	Finished	Economic Development Dept.		
Data Collection Survey on SME/Entrepreneurs Support in Tunisia	Ghana	Wide Area	Data Collection Survey	Finished	Economic Development Dept.		
Data Collection Survey on SME/Entrepreneurs Support in Tunisia	Kenya	Wide Area	Data Collection Survey	Finished	Economic Development Dept.		
Data Collection Survey on Startups Fund in Africa Region	African Region (wide area)	Wide Area	Data Collection Survey	Ongoing	Economic Development Dept.	★	
Data Collection Survey on Startups Fund in Africa Region	Nigeria	Wide Area	Data Collection Survey	Ongoing	Economic Development Dept.	★	

Data Collection Survey on Startups Fund in Africa Region	Kenya	Wide Area	Data Collection Survey	Ongoing	Economic Development Dept.	★	
Data Collection Survey on Startups Fund in Africa Region	Ghana	Wide Area	Data Collection Survey	Ongoing	Economic Development Dept.	★	
Data Collection Survey on Startups Fund in Africa Region	South Africa	Wide Area	Data Collection Survey	Ongoing	Economic Development Dept.	★	
Data Collection Survey on Startups Fund in Africa Region	Rwanda	Wide Area	Data Collection Survey	Ongoing	Economic Development Dept.	★	
Data Collection Survey on Startups Fund in Africa Region	Uganda	Wide Area	Data Collection Survey	Ongoing	Economic Development Dept.	★	
Data Collection Survey on Startups Fund in Africa Region	Ethiopia	Wide Area	Data Collection Survey	Ongoing	Economic Development Dept.	★	
Data Collection Survey on Enhancement of Startup Ecosystem in African Region	African Region (wide area)	Wide Area	Data Collection Survey	Finished	Economic Development Dept.	★	NINJA business plan competition in response to COVID-19 (69 companies for excellence awards in 19 African countries, up to 30,000 USD/68 companies), improvement of the quality of acceleration programs (no PoC funding).
Data Collection Survey on Enhancement of Startup Ecosystem in African Region	Uganda	Wide Area	Data Collection Survey	Finished	Economic Development Dept.	★	
Data Collection Survey on Enhancement of Startup Ecosystem in African Region	Ethiopia	Wide Area	Data Collection Survey	Finished	Economic Development Dept.	★	
Data Collection Survey on Enhancement of Startup Ecosystem in African Region	Kenya	Wide Area	Data Collection Survey	Finished	Economic Development Dept.	★	
Data Collection Survey on Enhancement of Startup Ecosystem in African Region	Cote d'Ivoire	Wide Area	Data Collection Survey	Finished	Economic Development Dept.	★	
Data Collection Survey on Enhancement of Startup Ecosystem in African Region	Zambia	Wide Area	Data Collection Survey	Finished	Economic Development Dept.	★	
Data Collection Survey on Enhancement of Startup Ecosystem in African Region	Senegal	Wide Area	Data Collection Survey	Finished	Economic Development Dept.	★	
Data Collection Survey on Enhancement of Startup Ecosystem in African Region	Tanzania	Wide Area	Data Collection Survey	Finished	Economic Development Dept.	★	
Data Collection Survey on Enhancement of Startup Ecosystem in African Region	Nigeria	Wide Area	Data Collection Survey	Finished	Economic Development Dept.	★	
Data Collection Survey on Enhancement of Startup Ecosystem in African Region	Rwanda	Wide Area	Data Collection Survey	Finished	Economic Development Dept.	★	
Data Collection Survey on Enhancement of Startup Ecosystem in African Region	Egypt	Wide Area	Data Collection Survey	Finished	Economic Development Dept.	★	
Data Collection Survey on Enhancement of Startup Ecosystem in African Region	Tunisia	Wide Area	Data Collection Survey	Finished	Economic Development Dept.	★	
Data Collection Survey on Enhancement of Startup Ecosystem in African Region	Madagascar	Wide Area	Data Collection Survey	Finished	Economic Development Dept.	★	
Data Collection Survey on Enhancement of Startup Ecosystem in African Region	Mauritius	Wide Area	Data Collection Survey	Finished	Economic Development Dept.	★	
Data Collection Survey on Enhancement of Startup Ecosystem in African Region	Botswana	Wide Area	Data Collection Survey	Finished	Economic Development Dept.	★	
Data Collection Survey on Enhancement of Startup Ecosystem in African Region	South Africa	Wide Area	Data Collection Survey	Finished	Economic Development Dept.	★	
Data Collection Survey on Enhancement of Startup Ecosystem in African Region	Angola	Wide Area	Data Collection Survey	Finished	Economic Development Dept.	★	
Data Collection Survey on Enhancement of Startup Ecosystem in African Region	Burkina Faso	Wide Area	Data Collection Survey	Finished	Economic Development Dept.	★	
Data Collection Survey on Enhancement of Startup Ecosystem in African Region	Cameroon	Wide Area	Data Collection Survey	Finished	Economic Development Dept.	★	
Data Collection Survey on Enhancement of Startup Ecosystem in African Region(2022-2024)	African Region (wide area)	Wide Area	Data Collection Survey	Finished	Economic Development Dept.	★	Research, Acceleration

Data Collection Survey on Enhancement of Startup Ecosystem in African Region(2022-2024)	Kenya	Wide Area	Data Collection Survey	Finished	Economic Development Dept.		Research
Data Collection Survey on Enhancement of Startup Ecosystem in African Region(2022-2024)	South Africa	Wide Area	Data Collection Survey	Finished	Economic Development Dept.		Research
Data Collection Survey on Enhancement of Startup Ecosystem in African Region(2022-2024)	Ethiopia	Wide Area	Data Collection Survey	Finished	Economic Development Dept.	★	Acceleration
Data Collection Survey on Enhancement of Startup Ecosystem in African Region(2022-2024)	Ghana	Wide Area	Data Collection Survey	Finished	Economic Development Dept.	★	Acceleration
Data Collection Survey on Enhancement of Startup Ecosystem in African Region(2022-2024)	Nigeria	Wide Area	Data Collection Survey	Finished	Economic Development Dept.	★	Acceleration
Survey and Research to Promote the Utilization of Science, Technology and Innovation for Solving Social Development Issues in the Africa and Sub-Saharan Africa Regions	African Region (wide area)	Wide Area	Data Collection Survey	Finished	Africa Dept.		Research on the operation of the Africa Open Innovation Challenge. Conducted PoC for private companies from Japan and third countries in Ghana, Senegal, Benin, Tanzania, Zambia, and Mozambique (not for local companies).
Survey and Research to Promote the Utilization of Science, Technology and Innovation for Solving Social Development Issues in the Africa and Sub-Saharan Africa Regions	Senegal	Wide Area	Data Collection Survey	Finished	Africa Dept.		
Survey and Research to Promote the Utilization of Science, Technology and Innovation for Solving Social Development Issues in the Africa and Sub-Saharan Africa Regions	Benin	Wide Area	Data Collection Survey	Finished	Africa Dept.		
Survey and Research to Promote the Utilization of Science, Technology and Innovation for Solving Social Development Issues in the Africa and Sub-Saharan Africa Regions	Ghana	Wide Area	Data Collection Survey	Finished	Africa Dept.		
Survey and Research to Promote the Utilization of Science, Technology and Innovation for Solving Social Development Issues in the Africa and Sub-Saharan Africa Regions	Tanzania	Wide Area	Data Collection Survey	Finished	Africa Dept.		
Survey and Research to Promote the Utilization of Science, Technology and Innovation for Solving Social Development Issues in the Africa and Sub-Saharan Africa Regions	Mozambique	Wide Area	Data Collection Survey	Finished	Africa Dept.		
Survey and Research to Promote the Utilization of Science, Technology and Innovation for Solving Social Development Issues in the Africa and Sub-Saharan Africa Regions	Nigeria	Wide Area	Data Collection Survey	Finished	Africa Dept.		
Survey and Research to Promote the Utilization of Science, Technology and Innovation for Solving Social Development Issues in the Africa and Sub-Saharan Africa Regions	Kenya	Wide Area	Data Collection Survey	Finished	Africa Dept.		
Survey and Research to Promote the Utilization of Science, Technology and Innovation for Solving Social Development Issues in the Africa and Sub-Saharan Africa Regions	Uganda	Wide Area	Data Collection Survey	Finished	Africa Dept.		
Survey and Research to Promote the Utilization of Science, Technology and Innovation for Solving Social Development Issues in the Africa and Sub-Saharan Africa Regions	Rwanda	Wide Area	Data Collection Survey	Finished	Africa Dept.		
Survey and Research to Promote the Utilization of Science, Technology and Innovation for Solving Social Development Issues in the Africa and Sub-Saharan Africa Regions	Zambia	Wide Area	Data Collection Survey	Finished	Africa Dept.		
Data Collection Survey on Assistance to Women Entrepreneurs through Improving Access to Digital Service in Africa	African Region (wide area	Wide Area	Data Collection Survey	Finished	Africa Dept.		
Data Collection Survey on Assistance to Women Entrepreneurs through Improving Access to Digital Service in Africa	Uganda	Wide Area	Data Collection Survey	Finished	Africa Dept.		
Data Collection Survey on Assistance to Women Entrepreneurs through Improving Access to Digital Service in Africa	Egypt	Wide Area	Data Collection Survey	Finished	Africa Dept.		
Data Collection Survey on Assistance to Women Entrepreneurs through Improving Access to Digital Service in Africa	Zambia	Wide Area	Data Collection Survey	Finished	Africa Dept.		

Data Collection Survey on Assistance to Women Entrepreneurs through Improving Access to Digital Service in Africa	Tunisia	Wide Area	Data Collection Survey	Finished	Africa Dept.		
Data Collection Survey on Assistance to Women Entrepreneurs through Improving Access to Digital Service in Africa	Botswana	Wide Area	Data Collection Survey	Finished	Africa Dept.		
Data Collection Survey on Assistance to Women Entrepreneurs through Improving Access to Digital Service in Africa	South Africa	Wide Area	Data Collection Survey	Finished	Africa Dept.		
Data Collection Survey on ICT Industry Development and Enhancement of Startup Ecosystem	Uganda		Data Collection Survey	Finished	Economic Development Dept.	★	PoC abour 2m yen for five companies
Basic Data Collection Survey on entrepreneur support by using AI chat bot system for launching business consultation in Ethiopia	Ethiopia		Data Collection Survey	Finished	Economic Development Dept.		New Business Ideas
Data collection survey on improvement of the investment environment and entrepreneurship in Senegal	Senegal		Data Collection Survey	Finished	Africa Dept.		
Data collection Survey on utilization of digital technology for development in North Africa	Egypt	Wide Area	Data Collection Survey	Finished	Middle East and Europe Dept.		
Data collection Survey on utilization of digital technology for development in North Africa	Tunisia	Wide Area	Data Collection Survey	Finished	Middle East and Europe Dept.		
Data collection Survey on utilization of digital technology for development in North Africa	Morocco	Wide Area	Data Collection Survey	Finished	Middle East and Europe Dept.		
Data Collection Survey of Supporting Start-ups in Europe	Serbia	Wide Area	Data Collection Survey	Finished	Middle East and Europe Dept.	★	Acceleration program
Data Collection Survey of Supporting Start-ups in Europe	Albania	Wide Area	Data Collection Survey	Finished	Middle East and Europe Dept.		
Data Collection Survey of Supporting Start-ups in Europe	Ukraine	Wide Area	Data Collection Survey	Finished	Middle East and Europe Dept.	★	Acceleration program
Data Collection Survey of Supporting Start-ups in Europe	Kosovo	Wide Area	Data Collection Survey	Finished	Middle East and Europe Dept.		
Data Collection Survey of Supporting Start-ups in Europe	Bosnia and Herzegovina	Wide Area	Data Collection Survey	Finished	Middle East and Europe Dept.		
Data Collection Survey of Supporting Start-ups in Europe	Moldova	Wide Area	Data Collection Survey	Finished	Middle East and Europe Dept.		
Data Collection Survey of Supporting Start-ups in Europe	Montenegro	Wide Area	Data Collection Survey	Finished	Middle East and Europe Dept.		
Data Collection Survey of Supporting Start-ups in Europe	Republic of North Macedonia	Wide Area	Data Collection Survey	Finished	Middle East and Europe Dept.		
Data collection survey on the Employment and Start-up Environment Surrounding Youth	Iraq	Wide Area	Data Collection Survey	Finished	Middle East and Europe Dept.		Including surveys on Startups
Situation Analysis of Startups in Sudan	Sudan	Wide Area	Data Collection Survey	Finished	Sudan Office		
Data Collection Survey for Digital Transformation Mainstreaming	Worldwide(Wide area)	Wide Area	Data Collection Survey	Finished	Governance and Peace Building Dept.	★	PoC in target countries
Data Collection Survey for Digital Transformation Mainstreaming	Uganda	Wide Area	Data Collection Survey	Finished	Governance and Peace Building Dept.	★	
Data Collection Survey for Digital Transformation Mainstreaming	Cambodia	Wide Area	Data Collection Survey	Finished	Governance and Peace Building Dept.	★	
Data Collection Survey for Digital Transformation Mainstreaming	India	Wide Area	Data Collection Survey	Finished	Governance and Peace Building Dept.	★	
Data Collection Survey for Digital Transformation Mainstreaming	Mauritius	Wide Area	Data Collection Survey	Finished	Governance and Peace Building Dept.	★	
Data Collection Survey for Digital Transformation Mainstreaming	Vietnam	Wide Area	Data Collection Survey	Finished	Governance and Peace Building Dept.	★	
Data Collection Survey for Digital Transformation Mainstreaming	Thailand	Wide Area	Data Collection Survey	Finished	Governance and Peace Building Dept.	★	

Data Collection Survey on the Usage of Medical ICT Technologies for COVID-19 Response	Worldwide(Wide area)	Wide Area	Data Collection Survey	Finished	Governance and Peace Building Dept.	★	7 PoCs in the medical field
Data Collection Survey on the Usage of Medical ICT Technologies for COVID-20 Response	Indonesia	Wide Area	Data Collection Survey	Finished	Governance and Peace Building Dept.	★	
Data Collection Survey on the Usage of Medical ICT Technologies for COVID-21 Response	Kenya	Wide Area	Data Collection Survey	Finished	Governance and Peace Building Dept.	★	
Data Collection Survey on the Usage of Medical ICT Technologies for COVID-22 Response	Brazil	Wide Area	Data Collection Survey	Finished	Governance and Peace Building Dept.	★	
Micro, Small, and Medium Enterprise Development Project (under the “Facility for Accelerating Financial Inclusion in Asia”)	Cambodia		Private Sector Investment and Finance	Ongoing	Cambodia Office	★	Up to 50,000 USD per loan
DX Start-ups Investment Project	India		Private Sector Investment and Finance	Finished	Private Sector Partnership Dept.	★	
Bio-recycling Project	Kenya		Private Sector Investment and Finance	Finished	Private Sector Partnership Dept.	★	2.5m USD investment in Sanergy (insect feed manufacturing startup)
Telangana Startup and Innovation Ecosystem Strengthening Project	India		Yen Loan	Ongoing	South Asia Dept.		
Finance for private sector	Jordan		Yen Loan	Finished	Middle East and Europe Dept.		
Capacity Development for Entrepreneurs and MSMEs Activation in African Countries(A)	Worldwide(Wide area)	Wide Area	Knowledge Co-Creation Program (Group & Region Focus)	Finished	Economic Development Dept.		
Capacity Development for Entrepreneurs and MSMEs Activation in African Countries(A)	Worldwide(Wide area)	Wide Area	Knowledge Co-Creation Program (Group & Region Focus)	Finished	Economic Development Dept.		
Capacity Development for Entrepreneurs and MSMEs Activation in African Countries(B)	Worldwide(Wide area)	Wide Area	Knowledge Co-Creation Program (Group & Region Focus)	Finished	Economic Development Dept.		
Capacity Development for Entrepreneurs and MSMEs Activation in African Countries	Worldwide(Wide area)	Wide Area	Knowledge Co-Creation Program (Group & Region Focus)	Finished	Economic Development Dept.		
Enhancement of Entrepreneurship and Startup Ecosystem	Worldwide(Wide area)	Wide Area	Knowledge Co-Creation Program (Group & Region Focus)	Finished	Economic Development Dept.		
Enhancement of Entrepreneurship and Startup Ecosystem(A)	Worldwide(Wide area)	Wide Area	Knowledge Co-Creation Program (Group & Region Focus)	Finished	Economic Development Dept.		
Enhancement of Entrepreneurship and Startup Ecosystem(B)	Worldwide(Wide area)	Wide Area	Knowledge Co-Creation Program (Group & Region Focus)	Finished	Economic Development Dept.		
Enhancement of Entrepreneurship and Startup Ecosystem(A)	Worldwide(Wide area)	Wide Area	Knowledge Co-Creation Program (Group & Region Focus)	Ongoing	Economic Development Dept.		
Enhancement of Entrepreneurship and Startup Ecosystem(B)	Worldwide(Wide area)	Wide Area	Knowledge Co-Creation Program (Group & Region Focus)	Ongoing	Economic Development Dept.		
Promotion of Women’s Business and Entrepreneurship in Africa	Worldwide(Wide area)	Wide Area	Knowledge Co-Creation Program (Group & Region Focus)	Finished	Governance and Peace Building Dept.		
Promotion of Women’s Business and Entrepreneurship in Africa	Worldwide(Wide area)	Wide Area	Knowledge Co-Creation Program (Group & Region Focus)	Ongoing	Governance and Peace Building Dept.		
Financial capacity development for SME to survive and develop in the market with COVID 19	Cambodia		Other	Finished	Cambodia Office	★	Technical support for improving financial access for SMEs and startups (holding seminars on strengthening financial statement preparation capabilities, holding matching events between companies and (M)FIs, etc.) 60,000 USD

MONJA STARTUP ACCELERATOR PROGRAM	Mongolia		Other	Finished	Mongolia Dept.	★	Acceleration program.Up to 30,000USD/company support for selected companies
Data Collection Survey for Mongolian Startup Ecosystem	Mongolia		Other	Finished	Mongolia Dept.		
Kyrgyzstan business incubation project (Phase 1)	Kyrgyzstan		Other	Finished	Tajikistan Office	★	
Data Collection of trend of impact assessment in India and support for enhancement of impact assessment system in DX Start-ups Investment Project	India		Other	Finished	India Office		Collaboration with "DX Startup Growth Support Investment Project". Support for the construction of an impact evaluation system for SU Investment Funds.
The Business Contest for Start-Up Enterprises	Bolivia		Other	Finished	Bolivia Office	★	"Project Ninja in Bolivia" Business Idea Competition for Nikkei community in Bolivia
Survey and Activities for Okinawa To Okinawa Project for the Revitalization of the Nikkei Community NINJA Promotion	Bolivia		Other	Finished	Bolivia Office	★	"Okinawa to Okinawa" Okinawa Settlement Business Workshop and Business Model Presentation
Co-Creation of an IT-Enabled Recycling Ecosystem	Nigeria		Other	Finished	Nigeria Office	★	PoC of a startup (GIVO) that conducts a recycling business using an app.
Capacity building (Acceleration) for three best Tanzanian companies selected by the business plan competition in the Data Collection Survey on Enhanecment of Startup Ecosystem in African Region	Tanzania		Other	Finished	Tanzania Office	★	Capacity building (acceleration) of three outstanding Tanzanian companies in a business plan contest conducted as part of "Data Collection Survey on Enhanecment of Startup Ecosystem in African Region"
NINJA-2 Capacity building (Acceleration) and PoC support for three best Tanzanian companies by the business plan competition in the Data Collection Survey on Enhanecment of Startup Ecosystem in African Region	Tanzania		Other	Finished	Tanzania Office	★	As the second NINJA, discovering startups in Tanzania that are tackling development issues utilizing innovative business models and technologies and holding a business competition, and implemented capacity building (3 companies) and PoC support (2 companies * 1m yen)
DXLab Operation	Worldwide(Wide area)	Wide Area	Other	Ongoing	Governance and Peace Building Dept.	★	As DX co-creation support, we design, implement, evaluate, and follow up on PoC of about 5-10m yen in connection with ODA projects (technical cooperation, yen loan, grant aid, private sector investment finance, etc.).
DXLab Operation	India	Wide Area	Other	Ongoing		★	Microfinance impact measurement management tool for "Northern Arc Capital"(supported by private sector investment finance)
DXLab Operation	Sri Lanka	Wide Area	Other	Ongoing		★	Digitizing Plastic Waste Management
DXLab Operation	Ethiopia	Wide Area	Other	Ongoing		★	Engineer Education through Safaricom Ethiopia/Sumitomo Corporation Collaboration
DXLab Operation	Laos	Wide Area	Other	Ongoing		★	Central Bank Digital Currency

Appendix 7: Investment/Loan-Related Support by JICA for Startups and Funds

While there are restrictions on how to provide financial support, JICA is seeking better ways to support startups and funds.

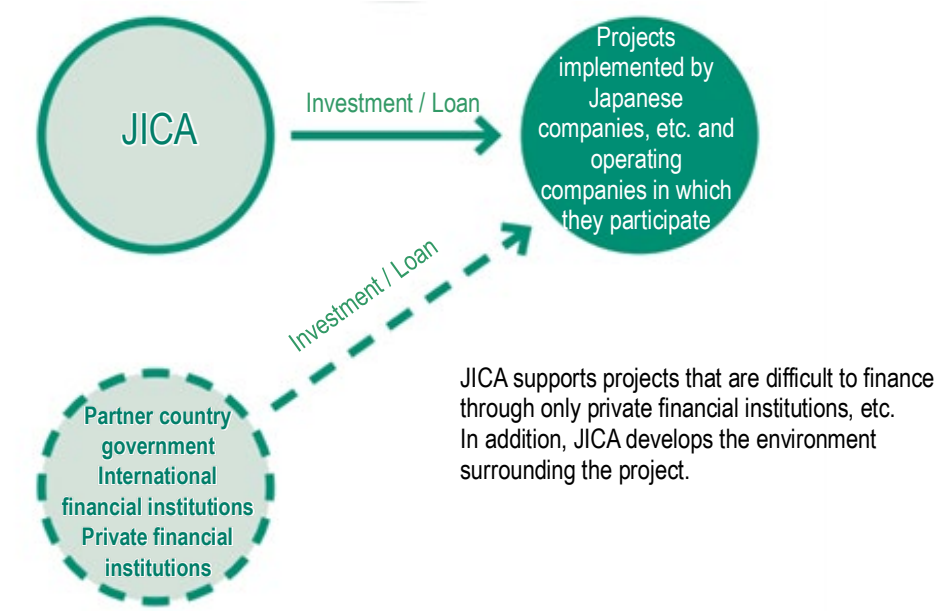
< Fig. 1> JICA's Support for Startups and Funds

Scheme Name	Project Name	Department in Charge	Characteristics, etc.
Private sector investment finance (Fig. 2)		Private Sector Partnership Department	Direct investment in startups and investment in funds are possible. However, there are restrictions on the investment ratio [1]. Target areas are (1) infrastructure and growth acceleration, and (2) SDGs (including poverty reduction and climate change countermeasures).
Grant Aid + Technical Cooperation	Methods are under consideration through the "Data Collection Survey for Materialization of Social	Economic Development Department	A mechanism is under study for private-sector funds to flow to impact investment, while JICA and developing country governments take risks. Grant aid will be provided to

[1] This applies in the case when, as of December 2022, the investment ratio is less than 25%, not exceeding the investment ratio of the largest shareholder, and not taking unlimited liability. Support through class shares, including preferred shares, etc. is also possible.

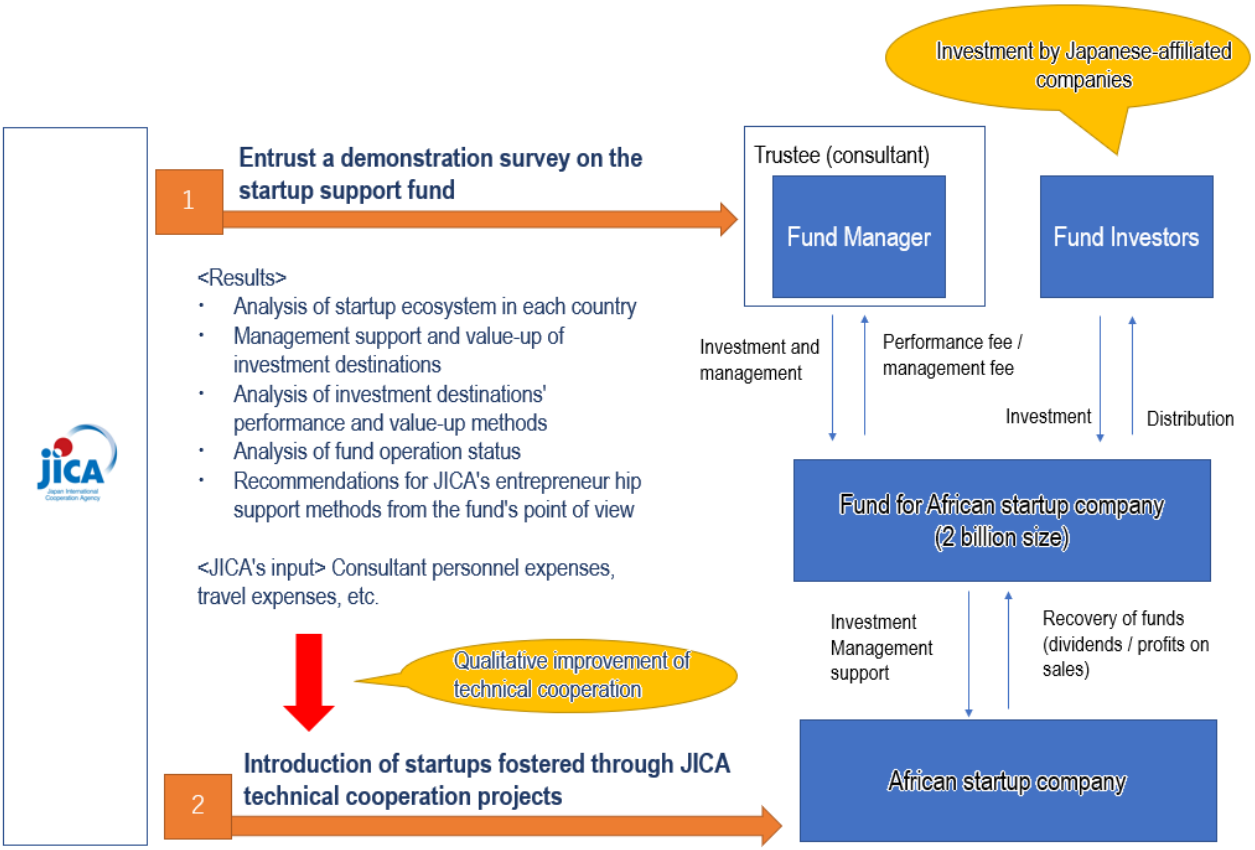
	Startup Mechanism."		investment funds to support startups, and startup ecosystem development (institutional design, policy making, and technical cooperation for individual projects) will be carried out through technical cooperation.
Data Collection Survey	Africa "Data Collection Survey on Startups Fund in Africa Region" (Fig. 3)		Surveys on funds to support startups are entrusted to venture capitalists and others targeting seed and early-stage startups. The trustee uses its own existing fund, compiles analyses at each stage of fund management, and submits reports and recommendations. However, JICA will not make any investment or loan to the fund.

<Fig. 2> Private Sector Investment Finance[2]



[2] https://www.jica.go.jp/priv_partner/case/ku57pq00002avzny-att/ppp_practices.pdf

<Fig. 3> Overview of Africa “Data Collection Survey on Startups Fund in Africa Region”



Appendix 8: Initiatives of Other Agencies

1. USAID(U.S. Agency for International Development)

- Published "The Entrepreneurship Toolkit" in 2011. It systematizes and organizes startup support methods. The reference material at the end of the book lists 101 startup support projects since 1992, indicating that the agency has more than 30 years of experience in this area (although it also includes projects targeting small business startups).

  - The Partnering to Accelerate Entrepreneurship (PACE) Initiative
    Since 2013, PACE has been implementing partnerships with more than 40 incubators, accelerators, and seed-stage impact investors around the world to promote private investment in early-stage startups and other activities (planned project size of $10 million). It is stated that under this initiative, entrepreneurs will promote innovation, create new industries, and open new markets that will lead to job creation. It is also stated that companies, including "social enterprises," will have a developmental impact in key areas such as agriculture, energy, health, and education through sustainable business models.

  - Young African Leaders Initiative (YALI)
    This is a training program for young African leaders launched in 2015. To date, 22,000 participants from 49 countries have taken the course. Each year, 700 people (ages 25-35) participate in a 6-week training program at an American university and a 3-day symposium in Washington, DC. There are regional leadership centers in Ghana, Kenya, Senegal, and South Africa. Under this program, alumni networks are organized, and funds are also provided for alumni activities.

2. GIZ(German Corporation for International Cooperation)

  - Lab of Tomorrow
    This is an open innovation program to solve social issues in developing countries. Based on requests from developing countries, teams consisting of startups, universities, other aid agencies, and VCs discuss social issues related to SDGs that are the theme of the discussions and identify specific local issues. Startups and other companies that can propose and implement business ideas to solve problems will receive an incubation program for approximately three months after submitting

applications once again. By December 2022, 17 projects have been launched, 283 companies have participated, and 35 business models have been established.

- Make-IT in Africa

  This is a project launched in 2016. Under this project, partnerships connecting development cooperation agencies, business, finance, and entrepreneurs are being tried out. In its first two years since its launch, collaboration has been conducted with businesses, financial institutions, social enterprises, and hubs in Kenya and Nigeria. Activities have been expanded to Ghana, Rwanda, and Tunisia in 2019. Provision of acceleration for more than 400 tech startups has been carried out, and policy dialogues have been implemented with government agencies in African countries to promote ICT startups. The project focuses on green tech, smart cities, and support for women entrepreneurs.

- Leverist

  Leverist is a platform that enables registered companies to propose and match business solutions to projects related to solving social issues and public procurement for development, etc. Of the more than 1,800 companies registered as of December 2022, half are from the EU and the other half are from around the world (not limited to startups). Of these, two-thirds are small and medium-sized enterprises (SMEs). More than 700 matches have been made.

3. AFD(Agence Française de Développement)/PROPARCO [1]

- AFD provides support to individual companies, indirect support through investments and loans to VCs, and bridge financing[2] for up to 24 months. Individual support is provided to pre-series A to series C startups registered in France operating in Africa, with a single investment size ranging from about 5,000 to 3 million euros. The VC fund's investment and loans are particularly focused on education, agriculture, fintech and e-commerce, but also focused on digital and energy sectors (mini-grid, off-grid, solar, etc.).

[1] AFD and Proparco share roles, with AFD being responsible for the public sector and Proparco for the private sector. Proparco's shareholders are AFD, a French government agency, and private investors (AFD holds about 80% of the shares).
[2] Short-term loans as a bridge to new financing.
(https://www.ifinance.ne.jp/glossary/finance/fin184.html)

Co-financing with other investors and minority investment is the rule[3].

- Choose Africa
  Support for startups, micro, small, and medium-sized enterprises (SMEs) in African countries; plans are to provide 3 billion euros in loans to 26,000 small enterprises, equity investments, and technical cooperation to 2,500 companies from 2018 to the end of 2021.

- Digital Africa
  Support for startups with social impact in African countries, fundraising support and public policy awareness-raising through a 130-million-euro fund to scale tech-related innovation (i.e., to make it grow), collaborating with 34 VCs and accelerators. Tech training for young people is provided, and online pitches, etc. are hosted.

4. WB (World Bank)

- As an example, the WB implemented a project in Tunisia[4] to increase access to finance for startups and SMEs. It provided equity financing[5], etc. to 280 startups and SMEs; provided grants to startups and ecosystem intermediaries; and implemented project management, capacity building, and other programs. The WB deployed projects from 2019 to 2026 at a project scale of $75 million.

5. IFC (International Finance Corporation)[6]

- The IFC provides investment projects and technical assistance to entrepreneurs and VCs with the aim of creating opportunities, industrial structural transformation, and inclusive economic growth in emerging markets. As of December 2021, the IFC has implemented investments of $16 billion in 60 operating companies and 70 VCs in 30 countries.
- The IFC has set the following as KPIs for development impact of investment projects: improved access to finance, creation of jobs, creation of markets, strengthening of corporate competitiveness, support for digitalization, and

[3] From the memos of proceedings of the "Meeting with AFD and JBCA to Exchange Opinions on Support for Startup Companies" (March 10, 2022).
[4] World Bank (https://projects.worldbank.org/en/projects-operations/project-detail/P167380)
[5] Fundraising with issuance of new shares
[6] IFC (https://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/Venture+Capital/)
For "development effects" only, see internal documents of the Private Sector Investment Finance Division, Private Sector Partnerships Department.

strengthening of finances through increased tax revenues from the private sector.

- Startup Catalyst

  This is a platform for private incubators, accelerators, seed funds, etc. to invest in startups to facilitate early-stage financing. By December 2022, funds have been invested in 19 accelerators and seed funds、which have then invested in more than 1,180 startups in 24 countries. The best practices gained through the project will be shared with the project's portfolio companies (incubators, accelerators, and funds). The platform was established for the following four objectives:

  (1) Supporting local entrepreneurs in establishing innovative businesses by providing seed funding and technical assistance
  (2) Providing access to foreign investors
  (3) Developing a local VC ecosystem
  (4) Creating highly skilled technology-related employment

- Tech Emerge

  This is a program that matches technology companies from around the world with companies in emerging markets. By setting "Health" in East Africa and Brazil, "Resilient" in India, "Cold Chain" in Nigeria, etc. as themes, the program solicits and selects companies with technologies that meet the needs based on the local innovation gap. Pilot projects (ranging from 5 to 12 months) are implemented by matching the selected companies with local companies, and if the pilots are successful, funds may be invested (as of December 2022, there is no track record of such projects). The program has been started in Brazil and East Africa (Uganda, Kenya, Ethiopia, etc.) and is expanding to West Africa (Cote d'Ivoire, Senegal, etc.).

- Scale X

  This is a program established by the IFC and the Women Entrepreneurs Finance Initiative (We-Fi). It provides incentives to accelerators that invest in women entrepreneurs to address the finance gap faced by women entrepreneurs in emerging markets. Up to $25,000 will be made available to accelerators based on the business performance of the accelerators supporting women entrepreneurs. In addition, startups of women entrepreneurs that meet the investment criteria are disseminated

through webinars and other means as best practices.

6. UNDP (United Nations Development Programme)

- Acceleration Labs (A-Labs)

  Under the strong initiative of UNDP Administrator Steiner, A-Labs was established in in 60 locations across the world in July 2019 as a joint venture between the Federal Ministry for Economic Cooperation and Development of Germany and the Qatar Fund for Development to survey and analyze local social issues and seek solutions to them in order to achieve the SDGs. As of December 2022, A-Labs have been established in 91 locations, covering 115 countries.

- UNDP Boost

  This is a 16-week online acceleration program established in 2020 for startups, SMEs, social enterprises, non-profit organizations, and academic institutions in Europe and Central Asia. It supports innovation for specific development challenges related to inequality and poverty, governance, energy, environment, resilience, gender equality, etc. The program provides mentorship, access to UNDP's networks linking 170 countries and territories, tailor-made training, equity-free (non-equity) seed funding (more than $300,000 provided by December 2022), and networking opportunities with other innovators, among other things.

7. EBRD (European Bank for Reconstruction and Development)

- The EBRD offers advice and provides investment and loans to promising startups in various countries through various advisory and investment vehicles (funds) within its private sector investment and loan operations.

  - Star Venture Programme

    This is a support program for startups, accelerators, and consultants established in 2018. The program implements such activities as workshops, mentoring, technical assistance, and collaboration with a network of investors in 12 countries, including Egypt, Jordan, Tunisia, and the Western Balkans. Mentors are mobilized to build the capacity of accelerators, and local advisors are trained to provide mentoring. To date, more than 200 early-stage companies have been supported under the program.

- Early-Stage Innovation Facility
  This is a dedicated 100-million-euro facility (10 million euros per project) established in 2014 to selectively invest in early-stage VC funds. It supports expansion of the early-stage investment market, standardization of corporate governance and other aspects of early-stage investments, and ecosystem development through knowledge sharing and technology transfer among actors in the early-stage-related ecosystem.

- Venture Capital Investment Programme
  This is a VC program established in 1991. The program implements support through investments in early- to growth-stage companies in the software, TMT (technology, media, and telecommunications), and other tech-related industries that are expected to become global leaders. Investments range from 2 million to 25 million euros per investment.

8. IDB (Inter-American Development Bank Group)

- IDB Invest (private sector)

IDB Invest finances sustainable enterprises and projects to strengthen Latin American business through (1) loans, guarantees, equity and mezzanine loans[7], and (2) advisory services. It signed $6.3 billion in new loans and mobilized $3 billion in cofinancing in 2021. IDB Invest also signed an agreement[8] with SoftBank Group International in 2019 to support startups. Strategic focus areas: productivity and innovation, value chain, gender and diversity, social inclusion and equality, and digitalization.

- IDB Lab (innovation laboratory sector)

IDB Lab supports companies with technologies that have the potential to improve economic poverty and social inequality in Latin America through investment projects and technical assistance to early-stage entrepreneurs. Track record: more than 800 companies supported and $7 million in funds approved by 2022.

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[7] A financing method positioned between debt financing (borrowing from financial institutions, etc.) and equity financing (investment through common stock, etc.). Subordinated loans, subordinated bonds, preferred shares, class shares, hybrid finance, etc., are financing methods that are subordinated in the order of repayment compared to ordinary loans (senior loans), and therefore represent high risk and high return for investors. (https://ma-navigator.com/glossaries/mezzanine)

[8] IDB (https://idbinvest.org/en/news-media/idb-group-and-softbank-group-partner-assist-startups-latin-america-and-caribbean)

- WeXchange
  This is a platform created in 2013 to support women entrepreneurs in STEM-related fields. It is the largest platform in Latin America for connecting women entrepreneurs with mentors and investors. It also holds annual forums in related countries and implements pitch competitions.

- fAIr LAC
  This is an industry-government-academia partnership established to promote relevant public policies, startups, and ecosystems, while assuming ethical and responsible use of AI technologies. Related projects are mapped and visualized. Hubs have been established in Mexico, Costa Rica, Uruguay, and Colombia.

9. KOICA (Korea International Cooperation Agency)

- As an example, in Ethiopia, KOICA implemented $10 million ($3.4 million for UNDP) in support over a 7-year period from 2020 to 2026. It plans to establish a place for training ICT human resources and entrepreneurs in ICT Park Center between 2022 and 2023. KOICA has implemented two incubation programs with Ethiopia's Ministry of Innovation and Technology (MinT) by May 2022, with a third scheduled to be implemented in FY2023, in collaboration with the UNDP (including investment in training for MinT)[9].

  - Creative Technology Solution (CTS) program
    This program was launched in 2015. By November 2022, 75 partners in 20 countries had implemented projects in such fields as health, education, environment, and digital, and KOICA raised 46.3 billion won (about $34.1 million) in development funds. Startups that have been in business for less than 10 years will be selected and receive support up to 500 million won.

  - UNICEF StartUp Lab
    This is an acceleration program for high-impact businesses to promote the achievement of the SDGs related to children and youth. KOICA supports programs of the UNICEF office in Ghana. The programs include a 6-month boot camp in Accra, a fund of up to 25,000 Ghanaian cedis for

[9] From the Ethiopia "Startup Ecosystem Advisor" report

prototyping, incubation at partner hubs, mentorship, virtual learning, guidance from UNICEF and KOICA experts, and other support from the UN.

Appendix 9: Urban Case Studies

1. Tel Aviv, Israel

Population of Tel Aviv: About 4.42 million

The Tel Aviv area of Israel is a city where about 40% of the country's population is concentrated. Tel Aviv has the highest number of startups per capita in the world, with 2,750 startups said to exist and 800-1,000 startups being launched each year. In 2021, 30 unicorns were born in 2021, and the city placed 7th in ecosystem ranking (GSER2022). Thus, it can be said that the startup ecosystem has matured there.

The country has a small population of approximately 7 million people, and **(2) demand and purchasing power** is a weakness. Therefore, entrepreneurs often use BtoB as their main business model, and especially at the later stage, they are forced to aim for overseas markets, hoping for strategic capital and business alliances with global companies rather than fundraising.

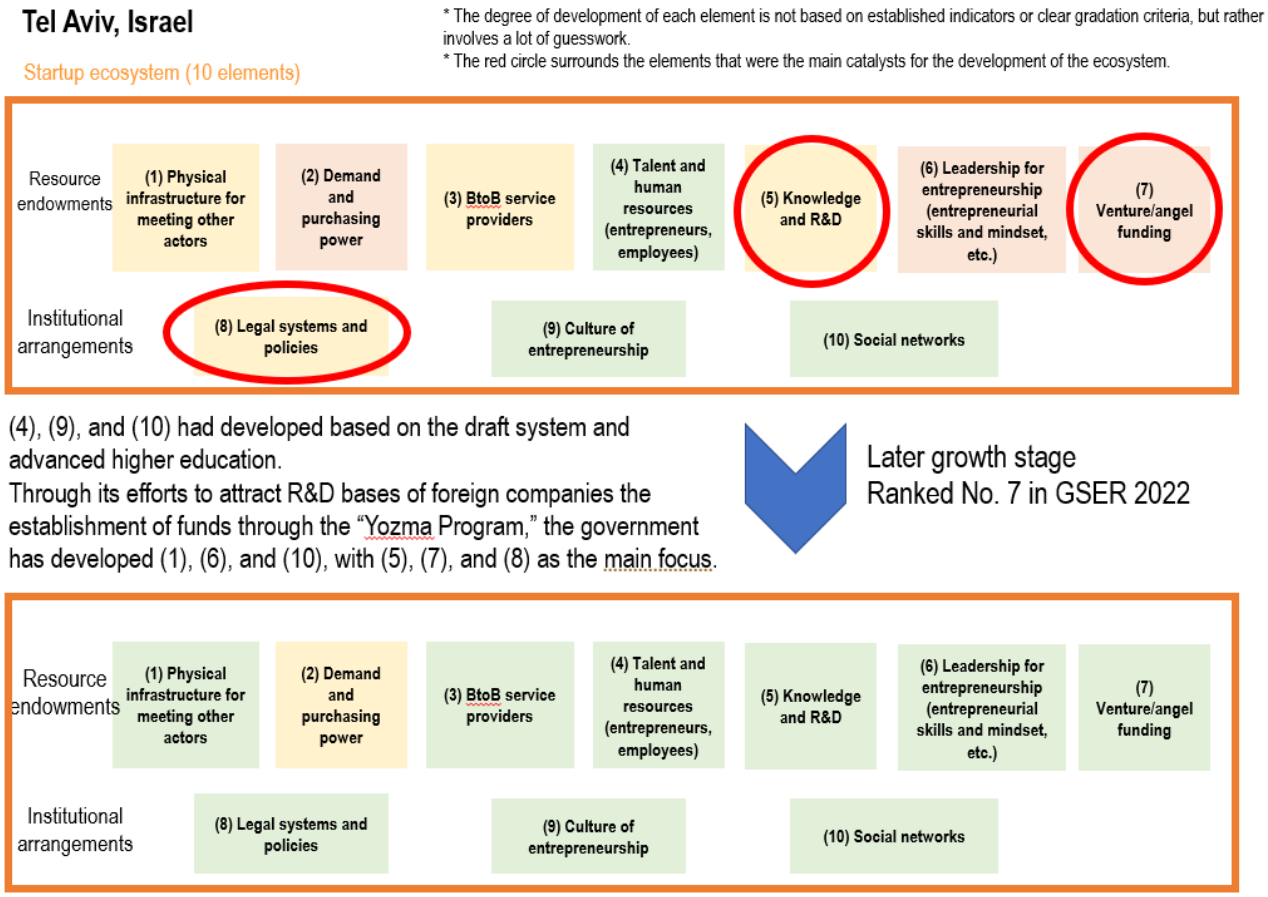
On the other hand, Tel Aviv's strengths are **(4) talent and human resources (entrepreneurs and employees), (9) a culture of entrepreneurship, and (10) social networks**. Forty-five percent (45%) of the population has a university degree, and from the age of 5 to 18, Israelis receive practical IT education ranging from software development to cyber security, and the number of engineers per population is the highest in the world. Of note is the military reserve system. After graduating from high school, men are required to serve for three years and women for two years in the military, during which time the military culture is instilled in the population. In the Israeli army, the number of upper ranks is intentionally kept small, so that lower ranks are required to make various decisions and are trained to make instantaneous judgments on difficult issues. The military also has an elite group called "Unit 8200," which is in charge of cybersecurity and collecting military intelligence-related information on the Internet. People who served in these missions have started their own businesses in the life science and cybersecurity fields. The ultra-elite "Talpiot" training program, which had an even narrower gate, produced only 650 graduates in 30 years, but those who have experienced it have become leading scholars and company founders. Reservists continue to serve in the same group on a regular basis thereafter until their mid-40s, creating lifelong connections that transcend origins, professions, etc., and can be used as a network of contacts for entrepreneurial ventures. Culturally, there are conditions such as demand for innovation due to tensions with neighboring countries, scarcity of water

resources, etc., and a mindset for approach similar to that required of startups (e.g., place priority on speed, set out a major policy and elaborate on the details later; come up with solutions using the limited resources at hand to the maximum extent possible; learn from failures, and if heading in the right direction, things can be changed very quickly) is pervasive at the national level, and there is a high tolerance for failures that will lead to the next step.

Under these conditions, **(5) knowledge and R&D** has been strengthened by attracting R&D bases of foreign companies and in other ways, and from the 1990s onward, the government's "Yozma Program" has strengthened **(7) venture/angel funding and (8) the legal system and policies**. The R&D operations of more than 500 global companies, including Intel, are based in Israel. In particular, more than 130 companies have established innovation centers in Tel Aviv, including Volkswagen, Anheuser-Bosch, Apple, and Citibank. The country ranks second in the world in terms of R&D investment as a percentage of GDP and provides financial support for joint R&D with foreign companies, among other things. In addition, TLOs are attached to 12 universities and academic institutions in the country to support the commercialization of technology seeds generated from research activities. The IMD International Competitiveness Yearbook ranks Yozma second among 60 industrialized countries in terms of whether university education is adequately meeting the demands of a competitive economy. The Yozma Program, in which the government invested $100 million, has created 10 VC funds (which have since been sold or privatized). Various policies have also been implemented, including the "Angel Act," which provides tax incentives and credits to private investors investing during the early stages; the "IPO for R&D companies" for getting these companies listed on the Tel Aviv Stock Exchange as a prelude to NASDAQ; the "Technological Incubator" grant for startups (1,500 of the 1,700 companies that received grants have grown to a certain level, and 900 have succeeded in obtaining investment from private VCs and other investors); reform of the BIRD Fund, which acts as an intermediary between Israeli companies with technology and American companies that can distribute and sell their products in the United States; and reform of the financial sector to direct funds toward venture investment. There is also extensive entrepreneurial support for Jewish immigrants from the Soviet Union and Ethiopia, as well as for immigrants from other countries in the Jewish diaspora.

It can be said that a startup ecosystem has been formed and strengthened against this cultural backdrop and the presence of human resources, as well as government policies.

<Fig. 1> Example of the development process of the 10 elements (Tel Aviv, Israel)



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・World Bank (https://data.worldbank.org/)

・2021 Corruption Perceptions Index (https://www.transparency.org/en/cpi/2021)

2. Sao Paulo, Brazil

Population of Sao Paulo: 22.62 million

The startup ecosystem in Sao Paulo, Brazil is ranked 1st in Latin America and 28th in the world.

The elements that contributed to the formation of the ecosystem are mainly **(1) Physical infrastructure for meeting other actors, (2) demand and purchasing power, (3) BtoB service providers, and (7) venture/angel funding**. Brazil has the world's fourth largest Internet population, with household Internet penetration of about 80% and smartphone penetration of about 60%. It has a domestic market of more than 200 million people and access to markets in five neighboring countries through the Southern Common Market (Mercosur). The state of Sao Paulo accounts for one-third of Brazil's total GDP and has an economic scale comparable to that of the entire country of Mexico. In 1999, the Internet penetration rate in Latin America was of 2%-3%, but as mentioned above, the attractive market environment has attracted a steady stream of domestic and foreign IT-related companies to the region. IT companies that achieved success in the past have offered a variety of services (e.g., business card and website production, online accounting services, incorporation services, etc.) at low fees, enabling startups to offer their services at low cost.

Many of the world's largest banks have their Latin American bases located in Sao Paulo, improving access to capital for companies growing in the city. Fifty-four percent (54%) of all VC investments in Latin America as a whole are concentrated in Brazil, and the amount of venture capital invested in the country has increased by a factor of about 9.6, from R$260 million in 2013 to R$2.49 billion in 2019. Government-affiliated financial institutions are also strengthening their financial support, and in addition to "Startup Brazil," in which business plans are selected and funded, and investments in private investment funds by government-affiliated financial institutions, the seed company angel co-investment fund, in which the government encourages the formation of funds specializing in seed stage companies, has become an industry topic. As improvements have also been made in the system for angel investors, further inflows of funds are expected moving forward.

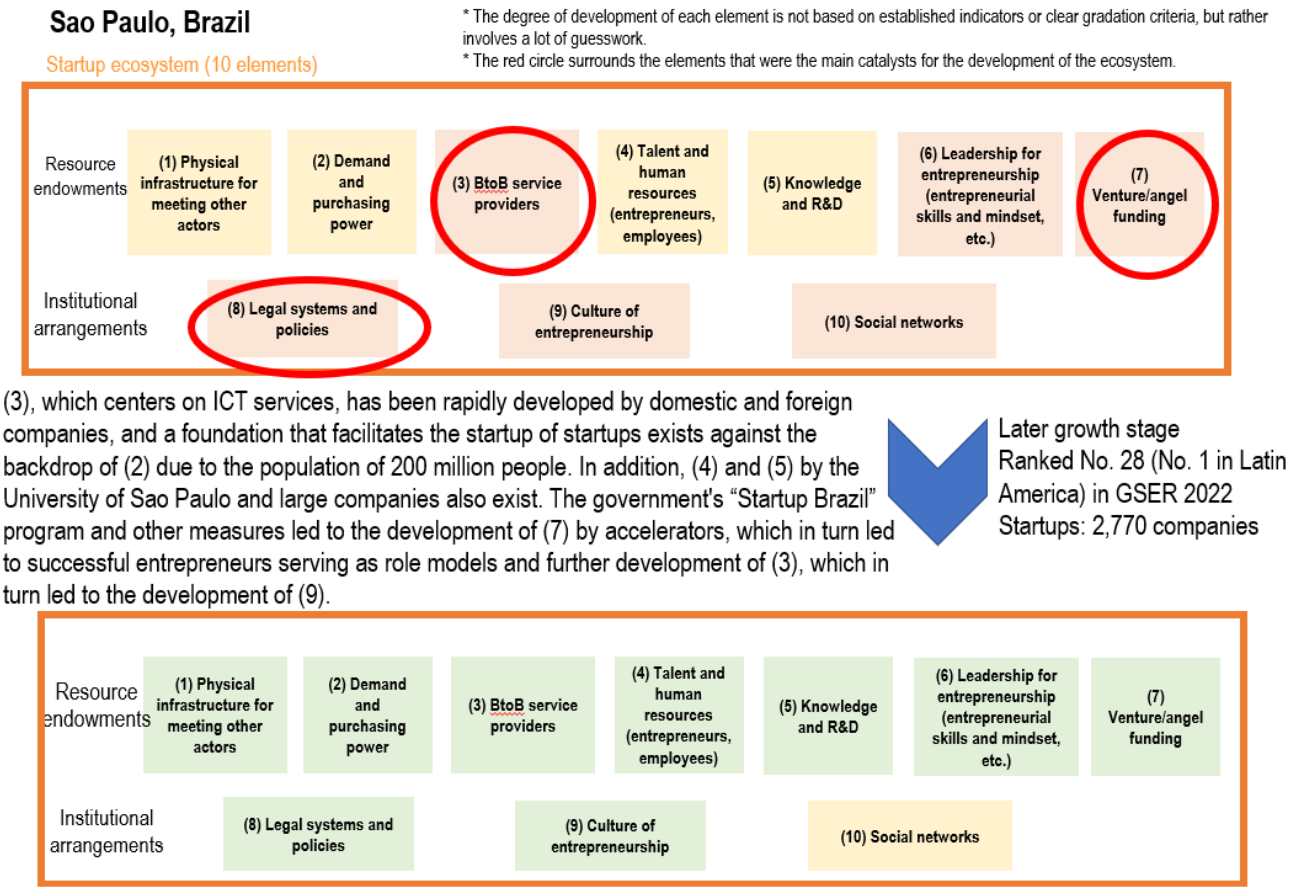
It can also be said that **(4) Talent and human resources (entrepreneurs and employees), (5) Knowledge and R&D, and (8) Legal systems and policies** also contributed to a certain extent. The University of Sao Paulo is ranked among the top 100 universities in the world and has the best educational programs in STEM

fields. There are innovation and data centers for global companies such as Microsoft, Google, and Facebook, as well as regional headquarters for Airbnb, Netflix, and Amazon. Sixty-three percent (63%) of all companies operating in Brazil are based in Sao Paulo. The government has been working to improve legislation, and the tax reform called “Simples Nacional” has reduced the tax burden, and the “Startup Act” came into effect in 2021.

(6) Leadership for entrepreneurship and (9) Culture of entrepreneurship have also developed to a certain extent. Various companies and organizations are conducting educational activities about startups at their own events, and various management methods and capital policy concepts related to startups are provided free of charge on the Internet, mainly in the United States, increasing the amount of information about entrepreneurship and making it easier to obtain information. Furthermore, while in the early 2010s, success as a salaried worker was more valuable than starting a business, the many success stories from late 2017 to 2018, including a series of large exits and the creation of unicorns, have changed the sense of value regarding entrepreneurship.

Some issues have been pointed out with regard to **(10) social networks**. There are 305 science and technology research institutes (ICTs) in the country that conduct basic and applied research in science and technology for the development of new products, services, and processes, but the lack of cooperation between companies and ICTs has been continuously pointed out. For this reason, a system has been introduced to deduct research and development expenses ordered to ICTs, etc. from corporate taxes. However, in Sao Paulo alone, there are about 300 sharing offices that promote interaction among various actors.

<Fig. 2> Example of the development process of the 10 elements



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・Naoyoshi Goto, Phil Wickham "Venture Capitalist" NewsPicks, Inc., 2022

3. Hyderabad, Telangana State, India

Population of Hyderabad: About 10.8 million

Hyderabad, the capital of Telangana, is the seventh largest city in India. The number of startups in the state has increased to about 6,600 as of 2021, and it is positioned as one of the Top 100 Emerging Ecosystems (No. 61-70) in Startup Genome's Global Startup Ecosystem Ranking. Although the startup ecosystem is not yet mature, it is expected to grow moving forward.

The strengths of India and Hyderabad, Telangana are **(5) Knowledge and R&D and (7) Venture/angel funding**. In Telangana state, there are eight universities that attract students seeking technical education (e.g., the Indian Institutes of Technology and the Indian Institute of Information Technology). There are several R&D centers involved in pharmacy, biotech, and defense. They are also strong in life sciences, producing one-third of the world's vaccines. Large, well-known global companies such as Microsoft, Apple, Google, and Amazon have established development bases there. As for funds, the amount originating from Japan's VCs is ¥300 billion to ¥400 billion yen per year, while that in India is ¥1.4 trillion to ¥1.5 trillion. Chinese-affiliated operating companies such as Alibaba and Tencent have invested hundreds of billions of yen; Singapore's private equity funds and Western venture funds have invested tens of billions of yen, and Western companies such as Amazon have also made advance investments in India. Meanwhile, there is a particular lack of players to supply funds of about $10,000 to $100,000 needed to transition from the startup stage to the growth stage. Although local investors are emerging in Telangana, there are few private funders in the state for early-stage startups, and the hurdles to raising funds from investors in other states are high, and government support is inadequate, resulting in a gap between supply and demand for funds. Therefore, there are plans for frameworks such as the Telangana State Startup Fund (T-Fund) and T-SEED, in which the state government establishes the funds and makes investments.

The startup ecosystem in India made a breakthrough in September 2016, and the turning point was when telecommunications companies launched a "geo-revolution" that disrupted the price of data communications by offering free 4G high-speed Internet service for six months, resulting in the strengthening of the **(1) physical infrastructure for meeting other actors**.

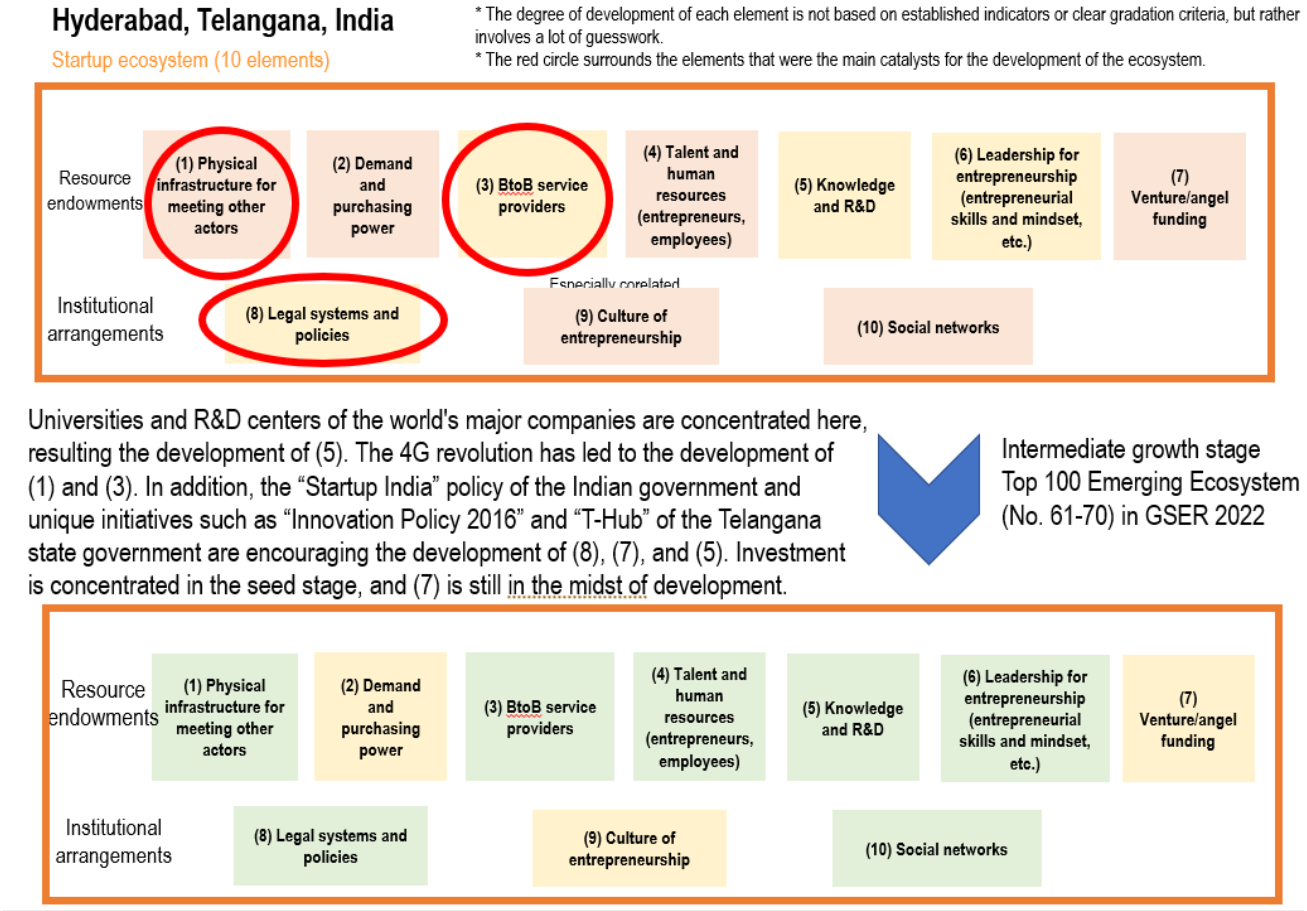
Furthermore, regarding **(8) Legal systems and policies**, India has been trying since 2016 in "Startup India" to incorporate the power of foreign countries to promote investments in digital technology and to form an ecosystem. In addition,

making the “Telangana Innovation Policy 2016” a cornerstone of its innovation policy, Telangana is working on employment subsidies, performance grants, patent spending subsidies, and foreign market cost subsidies, among other initiatives. Also, as the state’s initiatives, Telangana is also involved in T-Hub, the largest incubation facility in India (established within the Indian Institute of Information Technology and run by the state government and three universities (Indian Institute of Information Technology, Indian School of Business, and National Law School of India University)); the Research and Innovation Circle of Hyderabad (RICH), which supports the commercialization of research results of more than 200 companies through collaboration with more than 15 partners, mainly in the space, agricultural and life science sectors; and T-works, India’s largest prototyping center.

Regarding **(2) Demand and purchasing power**, India’s GDP per capita is currently $2,277 (WB 2021), but India is expected to grow moving forward, as in particular, Hyderabad is becoming more attractive as a consumer destination, along with the rising incomes of the Telangana residents, and with IKEA opening its first store in India in Hyderabad in 2018.

Regarding **(4) Talent and human resources (entrepreneurs and employees)**, India has both strengths and weaknesses. English is a semi-official language in India, and the country has produced technology professionals with a strong background in science and mathematics. They have been commissioned to develop software for many US companies, but many talented people have left for the United States and other countries. The number of university students studying in the United States follows China’s at 100,000 (Japan has about 5,000), and many of these students go on to become executives in large corporations and educational institutions after studying abroad, but the state also faces fierce competition for human resources from other states and multinational companies. The state government supports local idea-stage startups with an employment subsidy of INR 10,000 (about ¥17,000) per employee for the first year, but more such support may be needed.

<Fig. 3> Example of the development process of 10 elements (Hyderabad, Telangana, India)



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・World Bank (https://data.worldbank.org/)
・2021 Corruption Perceptions Index (https://www.transparency.org/en/cpi/2021)

4. Nairobi, Kenya

Population of Nairobi: About 5.33 million

Kenya's startup ecosystem has experienced impressive growth over the past decade. Startup funding across Africa surpassed $1 billion in 2018. Of that amount, Kenya was the largest source of funding in Africa with $348 million. Investment has grown at a rapid pace, nearly quadrupling compared to 2016, when it was $92.7 million. In 2021, the amount of investment in Kenya was the fourth largest on the African continent, following Nigeria, South Africa, and Egypt. Nevertheless, Kenya continues to occupy an important position.

One of the factors of this breakthrough is the presence of **(1) physical infrastructure for meeting other actors** and **(3) B to B service providers** among the 10 elements, specifically, the diffusion of ICT and mobile money. The number of cell phone subscriptions is 104% of the population, indicating that Kenya has entered the era of two cell phones per person. Also, the number of Internet users exceeds 90% of the population, indicating the widespread use of ICT. The government is developing a nationwide fiber optic backbone to improve Internet access, and mobile Internet speeds are said to be the fastest in Africa.

In addition, the number of mobile money users in Kenya now accounts for about 70% of the population, and the total transaction value in 2018 amounted to about ¥4 trillion, nearly 50% of Kenya's GDP. The spread of ICT has fostered the conditions for tech startups to flourish, and the spread of mobile money has created business opportunities for a wide range of people, including those in the informal sector. Against this backdrop, startups focused on solving Kenya's various social issues are flourishing[1].

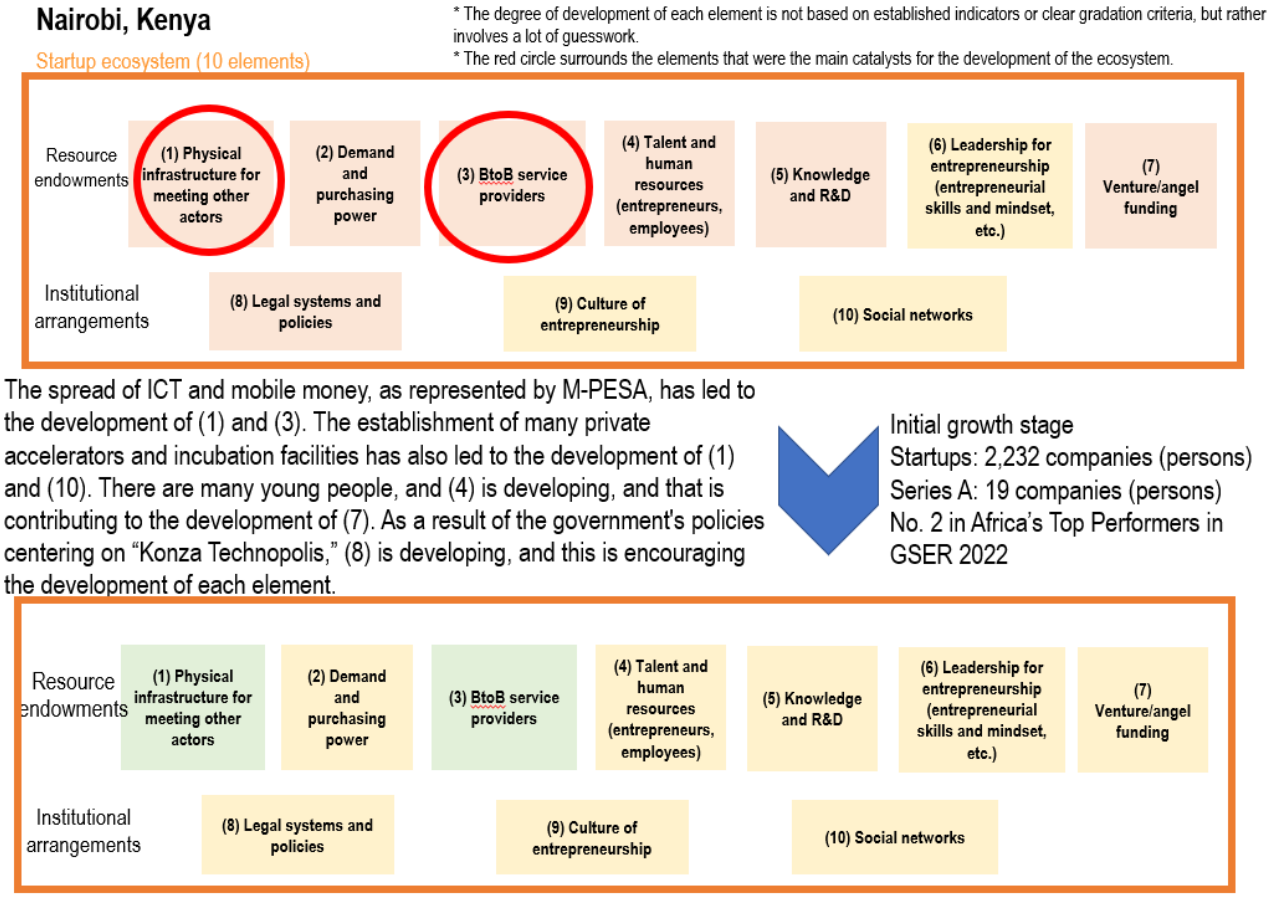
The next element that contributed to the development of the ecosystem is **(10) social networks**. The Kenyan ecosystem has been primarily private-sector driven, with incubators and accelerators such as GrowthAfrica, Nailab, iHub, and Nairobi Garage contributing significantly to the ecosystem's development[2]. Incubators, accelerators, and other organizations that support startup growth, as well as domestic innovation hubs, are increasing. Kenya's innovation hubs consist of a variety of support systems and facilities for entrepreneurs, with numerous services available, including incubators, accelerators, university-led hubs, makerspaces, technology parks, and co-working spaces. Since many investment firms are based in Kenya, it can be said that there is an environment

[1] JETRO (https://www.jetro.go.jp/biz/areareports/special/2019/0702/6075cf1a266f82c9.html)
[2] Report on the Completion of Data Collection Survey (Phase I) Related to the Promotion of Startup Ecosystem Formation in the African Region

that is conducive to building networks not only with the startups themselves, but also with the people involved, including those on the periphery of the startups.

Government support has also played a major role in the revitalization of ecosystems in Kenya. In addition to the ongoing development of a nationwide fiber optic backbone, strengthening of **(8) Legal systems and policies** is underway, including the establishment of "Konza Technopolis" as a global standard technology hub (a smart city project to attract ICT and medical industries); the implementation, with World Bank cooperation, of an entrepreneur support system for strengthening innovation and the entrepreneurship ecosystem led by the Ministry of Industrialization, Trade and Enterprise Development; and the formulation of ICT policies and the establishment of a data protection and personal data protection law.

<Fig. 4> Example of the development process of 10 elements (Nairobi, Kenya)



Based on the above, it can be concluded that in Nairobi, Kenya, the startup ecosystem has been activated by the following elements among the 10 elements as facilitating factors: **(1) Physical infrastructure for meeting other actors, (3)**

BtoB service providers, (8) Legal systems and policies, and (10) Social networks. Meanwhile, solutions for **(5) Knowledge and R&D and (7) Venture/angel funding** are required moving forward, such as improving the seed round funding environment and strengthening R&D hubs.

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