

World

**DATA COLLECTION SURVEY
ON TA FACILITY FOR IMPACT
INVESTMENT AND ECOSYSTEM
DEVELOPMENT**

FINAL REPORT

December 2022

Japan International Cooperation Agency (JICA)

Dream Incubator Inc.

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Chapter 1. Project overview

1-1 Background

Private sector-centered financial flows in the developing economies have overtaken ODA in volume since about 20 years ago. With the growing importance of the role of private finance and the \$2.5 trillion annual financing gap to deliver the Sustainable Development Goals (SDGs), the mobilization and catalytic role of ODA has been a long-standing issue.

To optimize the limited source of funds and achieve the SDGs efficiently and effectively, innovations that apply cutting-edge science and technology are the Ace card. It is expected that the private sector will accelerate the achievement of the SDGs by promoting technological innovations and new business models through business activities. In the developing countries, however, the business environment (including access to funds) is never ever favorable for entrepreneurs and early-stage startups looking for innovative, high-risk business models. Nevertheless, in recent years, private companies and investors in and outside of Japan have been accelerating their expansion into developing countries with the aim of starting new businesses. Those companies and investors explore business models that help reach the SDGs on their own. Incorporating solutions to social issues into the said models through social impact investments, ESG investments, etc. is also part of the trend.

In such a circumstance, with the implementation of the “Information collection research on the support for African entrepreneurs” project, JICA has started to engage in fund establishment and management support aiming at startups in the seed and early stage in Africa where contractors are general partners. In Asia, a supporting framework for entrepreneurs, startups, and small and medium-sized enterprises (collectively called “startups and others”) is being studied under the “Data collection research on public-private finance for fostering entrepreneurs and SMEs” project in collaboration with private foundations, funds, and international organizations that have track records in the field of social impact investment. This project studies a scheme in which JICA and the governments of developing countries take the risks that private investors fear to act as a catalyst for private funds through technical assistance projects and grant aid programs. As a result, the private finance will flow into social impact investments. Three main issues become evident during the process of studying the said scheme, namely, ① The realization of TA facilities to provide support for startups and others to establish or expand their businesses, ② The study of an efficient startup ecosystem building method, ③ The establishment of objective impact measurement and evaluation schemes (non-monetary social and economic benefits generated by the said businesses). In addition to these, there are many Japanese companies and research

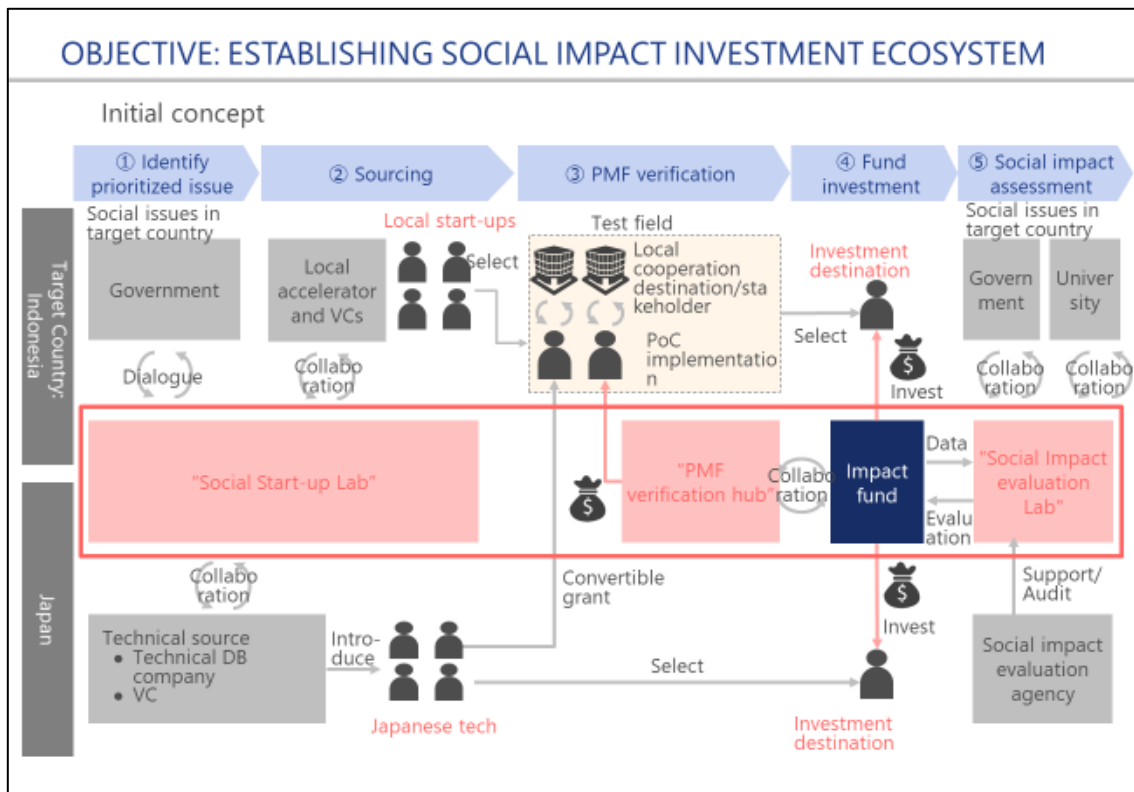
institutes having innovative technologies that can create significant social impact if used by startups and others in their businesses. If a system is established to effectively and efficiently match these technologies with startups and others in developing countries, it will help Japanese companies with their overseas expansion, contribute to the application of Japanese technology, and generate social impact in the developing countries.

As the coronavirus pandemic goes global, the presence of entrepreneurs who set up businesses with new technologies or outside-the-box ideas in areas of healthcare, public health, and agriculture (especially food and nutrition related fields) is expected to help build a more resilient society that can mitigate the negative impact or become less susceptible to the pandemic.

This project empirically studies specific methods to address increasingly apparent issues through the “Data collection research on public-private finance for fostering entrepreneurs and SMEs” project, matches Japanese technologies with startups and others in the developing world, build an ecosystem, and contributes to the realization of effective TA facilities that support JICA’s framework of social impact investment funds (through TA projects and grant aid programs) and the ecosystem building.

1-2 Research purpose

This research project covers India, Vietnam, and Indonesia, Bangladesh (countries with different ecosystem development stages). In the world after coronavirus, new businesses that employ new technologies or outside-the-box approaches are more important than ever before. The purpose of this project is to study in details how the future TA facilities should function under different ecosystems, roles and functions that government bodies can play, and the ecosystem building methodologies through the matching of innovative technologies (including those held by Japanese companies) and startups and other stakeholders in developing countries in the areas of healthcare, public health, and agriculture (food products, nutrition, etc.) with a lot of room for the adoption of potential Japanese technologies (including attempts to adopt digital technologies in these areas to overcome challenges) and the support for the formulation of business development plans for local startups and implementation support for proof of concepts.



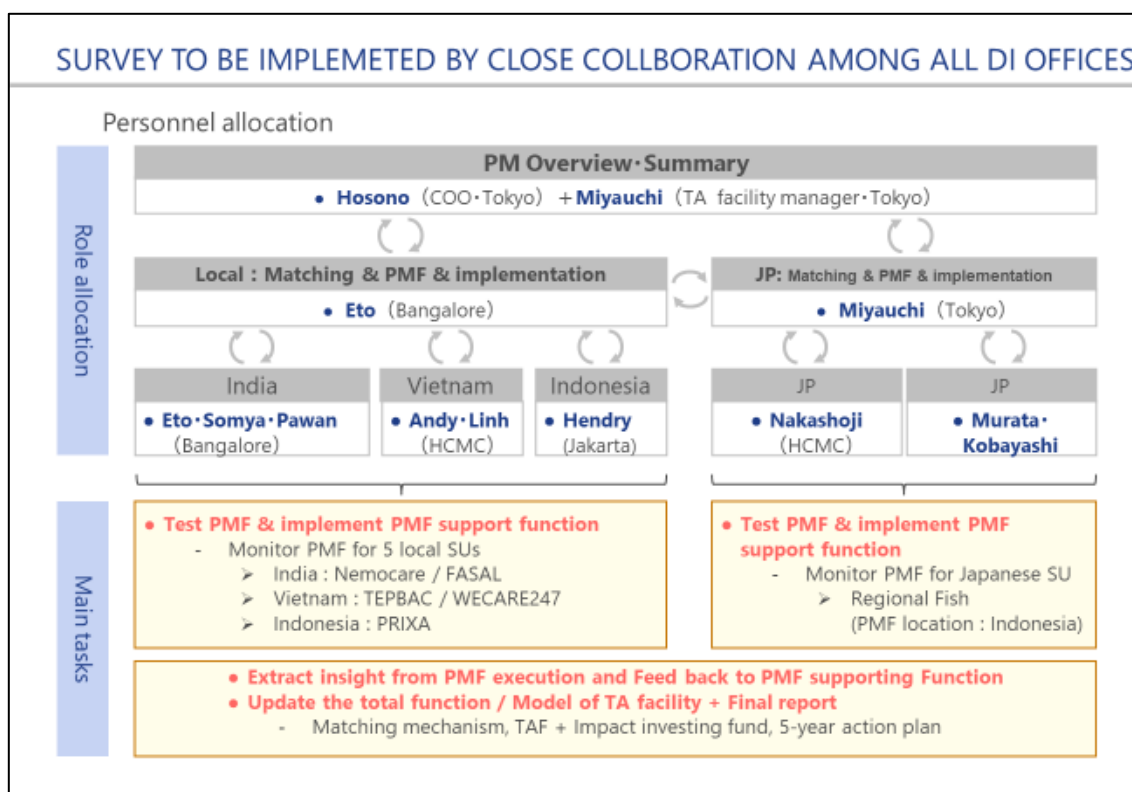
【Figure 1-2-1: The target ecosystem to achieve (proposal)】

1-3 Research coverage

India, Vietnam, and Indonesia, 3 countries with a certain size of middle-class population, are chosen as the target regions of this project based on their market size and population, which are the premises of social impact investment fund establishment. In India, the building of startup ecosystem varies greatly by region. Since Telangana has been implementing startup ecosystem building policies led by the state government, both phases of the project will include Telangana as the target region for research. We will add Bangladesh to the list of countries for research studies and fund launch considerations since the market is relatively nascent with limited presence of the private sector compared to India, underlining the necessity of government supports for ecosystem building. Also, the Japanese government brings a strong presence to the government of the country.

1-4 Project team organization

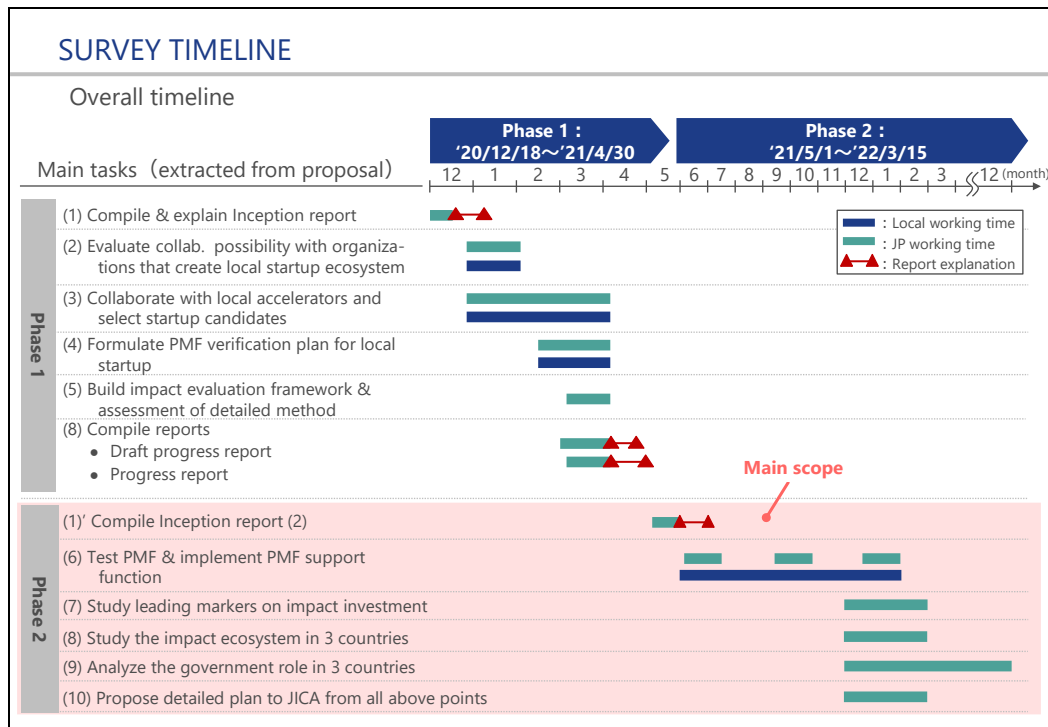
This project is delivered by Dream Incubator Inc. (DI). Our core business is focused on setting up funds, providing management and startup support, forming public-private partnerships, building unique business models for solving social issues, and producing new businesses with a high-level integration of strategy consulting and incubation (fund investment and startup investment in and outside of Japan). Details of the project team organization are shown below.



【Figure 1-4-1: Project team structure】

1-5 Project timeline

This project will take place in 2 major phases. Phase 1 is from November 2020 through April 2021. Phase 2 is from May 2021 through March 2022. The overall work breakdown structure is presented in the following figure.



【Figure 1-5-1: Activity schedule】

1-6 Summary of research results

With the ultimate goal of building an ecosystem for the aforementioned startups and technologies in mind, we begin Phase 2 with the startup selection (2), an ongoing process from Phase 1. The functions 2. and 5. (see figure below) studied in the first phase of this project are updated accordingly based on specific results from PMF verification activities (3) and knowledge derived from there. And on top of that, we take this project as the starting point to remodel the current supporting framework JICA has for startups and others with a new social issue interpretation and quantification framework incorporated in a flexible manner during the study. A study and analysis is done to understand global trends of impact investment ecosystem and roles expected of governments, while answering the question of what roles JICA could play in the formation of impact investment ecosystems in Vietnam, Indonesia, and Bangladesh.

5 FUNCTIONS TO FORM ECO-SYSTEM FOR SOCIAL IMPACT CREATION				
Five major functions surrounding social impact investment (DI's view)				
Function	Issues in target country	Directions	In charge	
T A ↓ Fund ↓ T A ↓ * Product Market Fit	① Identifying Important issues	<ul style="list-style-type: none"> Unclear prioritization of issue of focus Insufficient external disclosure 	Agree with local gov. on the fund's social issue of focus <ul style="list-style-type: none"> Identify prioritized issues through negotiation with JICA and local gov. Agree the targeted SDGs Disclose the future goal 	JICA+ Total gov.
	② Sourcing	<ul style="list-style-type: none"> Fragmented tech info Hard to tell which tech holder has what technology 	Sourcing tech that can solve social issues <ul style="list-style-type: none"> List up JP tech by cooperating with tech database companies Cooperate with local accelerator to source potential local start-ups 	
	③ PMF*	<ul style="list-style-type: none"> Not enough capital for PoC Limited access to local potential customers 	PoC support + monitoring <ul style="list-style-type: none"> Introduce PoC partner Provide PoC capital (\$200k~500k per PoC) 	
	④ Fund investment	<ul style="list-style-type: none"> Almost no JP impact fund invests globally Private capital waiting for catalyst 	Investing in potential start-ups <ul style="list-style-type: none"> Ticket size:\$0.5~2M per investment Not only PMF candidate 	
	⑤ Social Impact evaluation	<ul style="list-style-type: none"> Social impact evaluation is costly Adjustment required for local conditions and gov. direction 	Supporting social impact evaluation <ul style="list-style-type: none"> Mainly handled by JICA to support the fund's social impact evaluation Cooperate with local gov. and universities 	对象国政府 JICA+

【Figure 1-6-1: Required functions for impact investing】

The following section will provide a summary of policy updating for each function and a range of possible roles that JICA could take in the impact investment ecosystems in three countries of study (Vietnam, Indonesia, Bangladesh).

1) PMF verification and development of PMF support functions

2. Sourcing







In the first phase of the project, we identified major public policy goals and social problems in the 3 countries of focus (India, Vietnam, and Indonesia) regarding 3 sectors (healthcare, public health, and agriculture) and proceeded to a comprehensive and multilayered screening process to evaluate potential domestic and overseas startups as well as Japanese technology holders. Throughout the process, we have collaborated closely with different ecosystem stakeholders such as venture capitalists and accelerators in and outside Japan and utilized the Japanese tech and patent database of Astamuse. As of the end of this phase, 15 promising Japanese and foreign startups were selected for further consideration.

In the second phase, 15 startup candidates were shortlisted to 6 prominent participants by JICA and DI experts based on the degree of contribution to the target social issues, the promises of their business models, and the portfolio balance of the concerned industries and countries.

3. PMF support

Since July 2021, DI has provided the 6 selected startups with PMF support, i.e., providing funding under subcontract agreements and working together with them on the PMF design and implementation. DI members with broad experience in strategy consulting and new business development also hold monthly monitoring meetings with these startups to confirm the progress and offer a multifaceted support for their PMF implementation. JICA also participated in the regular meetings when needed and had open-minded discussions on possible future expansion of this research project within a wider framework context.

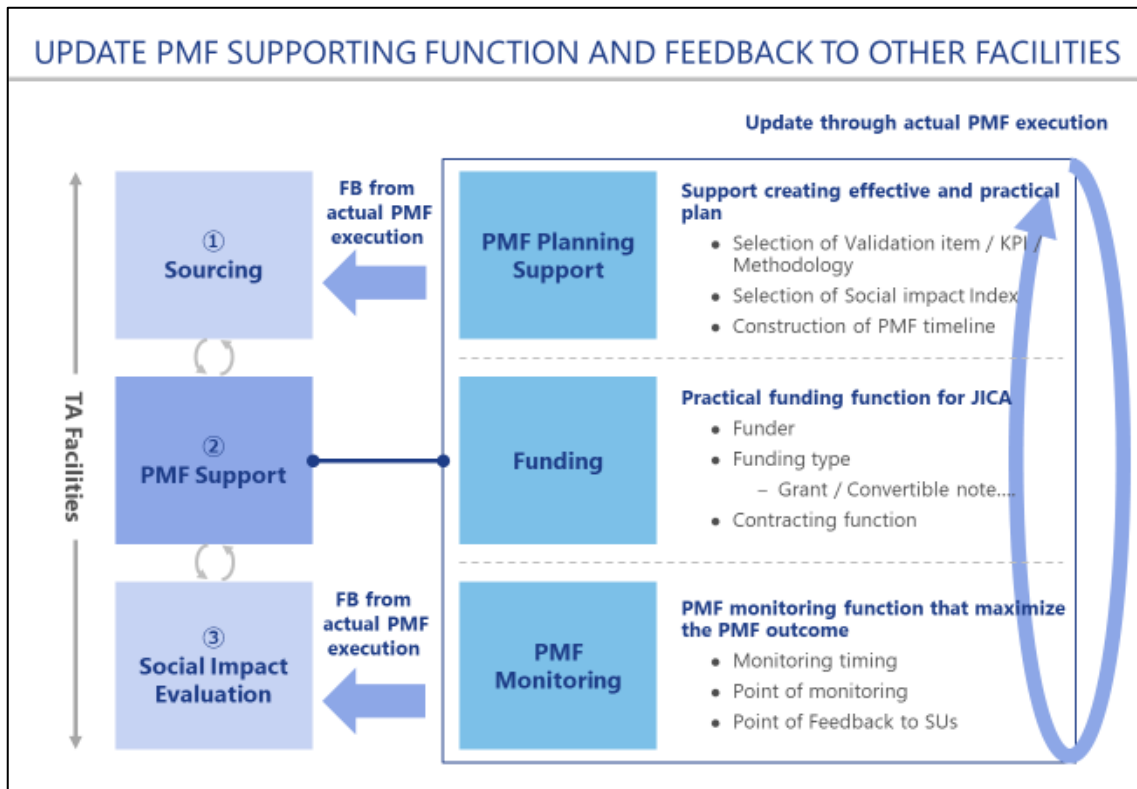
PMF support for 6 selected companies was completed at the end of January 2022, and PMF verification and impact measurement for all 6 companies are completed. COVID-19 travel restrictions have severely affected the agriculture and healthcare sectors, the areas of our study. Hence, a Japanese company with overseas travel plans, in particular, was unable to travel to Indonesia and forced to make major changes to its project activity timeline. However, it has successfully managed to respond to the crisis in a flexible manner with different settings and material imports from Indonesia necessary for the PMF.

ALL 6 SU's PMF WERE TOTALLY SUCCEEDED					
PMF Monitoring schedule					
Start-up (SU)		Summary	Highlights		
			January	February	
IDN	Regional Fish	Some part of PMF were failed but recovering <ul style="list-style-type: none"> Visit IND in Dec 	 <ul style="list-style-type: none"> G.E. for shrimp Visiting IND for Biz-development 	<ul style="list-style-type: none"> Preparation for the final report 	
	PRIXA	PMF plan on track <ul style="list-style-type: none"> To complete reporting in Feb 	 <ul style="list-style-type: none"> Completed implementation campaigns both B2B/B2C 	<ul style="list-style-type: none"> Completing reporting and social impact measurement 	
VTN	We care 247	PMF plan on track <ul style="list-style-type: none"> Slight delay due to Covid-19 lockdown 	 <ul style="list-style-type: none"> Successfully launched app on Apple & Android Completed 1 training session with 50 caregivers 	<ul style="list-style-type: none"> Completing implementation phase Submitting final report 	
	TEPBAC	PMF plan on track <ul style="list-style-type: none"> Slight delay due to Covid-19 restriction 	 <ul style="list-style-type: none"> Completed 7 seminars, 8 1:1 Trainings Installed 36 devices 	<ul style="list-style-type: none"> Completing the last 5 device installation Submitting reports 	
IND	Nemo care	PMF plan on track <ul style="list-style-type: none"> Usability studies almost completed 	 <ul style="list-style-type: none"> Usability studies ongoing Private Hospitals onboarded 	<ul style="list-style-type: none"> Usability studies to be completed Final report preparation 	
	FASAL	PMF plan on track <ul style="list-style-type: none"> Slight delay due to weather conditions 	 <ul style="list-style-type: none"> Phase 4 completed Submission of final report done 	<ul style="list-style-type: none"> N.A 	

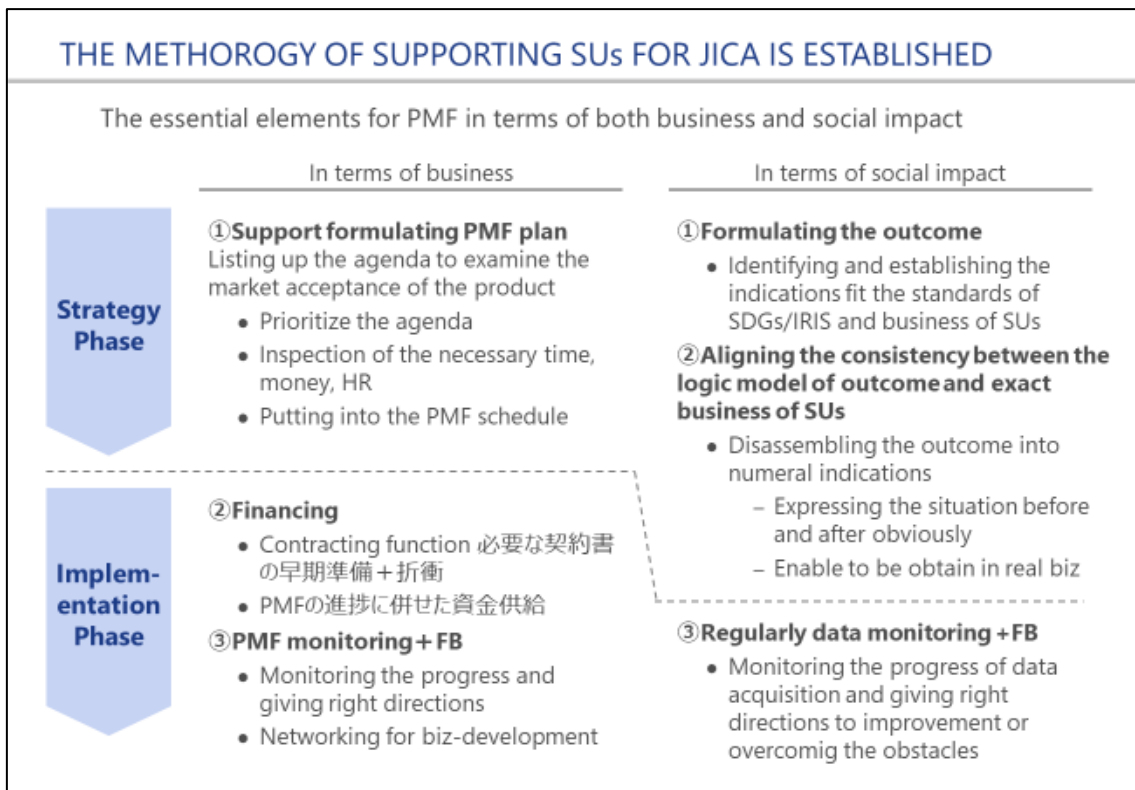
【Figure 1-6-3: Overview of the PMFs of 6 startups in Phase 2】

The actual implementation of PMFs has helped determine specific functions of PMFs and it is observed that having the 3 functions as shown in the following figure is essential. The PMF planning support function (i.e., function A) is meant to define verification items for the marketability and product acceptability as well as verification timelines. This function at the same time will help build a quantitative framework for measuring any social impact the PMF is able to generate. The PMF funding and management function (i.e., function B) is to confirm whether the PMF is being implemented according to the pre-determined schedules and to flexibly allocate PMF funds as the work progress requires. The PMF monitoring function (i.e., function C) will perform periodical progress checks and provide business development guidance, advice, and local partnership opportunities for its participants. During the actual PMF verification, we noticed that the construction of an impact measurement framework for (A) PMF planning function was particularly significant. There were a number of cases where data planned at the beginning of the PMF and data collection method did not go well with the actual growth stage where the startup company was in. Specifically, it was difficult to regularly obtain data that were initially intended to acquire, and the calculation logic initially built was not able to measure sufficient impact data during the PMF. Therefore, we were required to change to use data naturally obtainable from actual business during the PMF verification period, and to reset the final outcome. The following

diagram provides an overview and relevant details around PMF support functions required for business operation and impact measurement.



【Figure 1-6-4: Outline of PMF supporting functions】

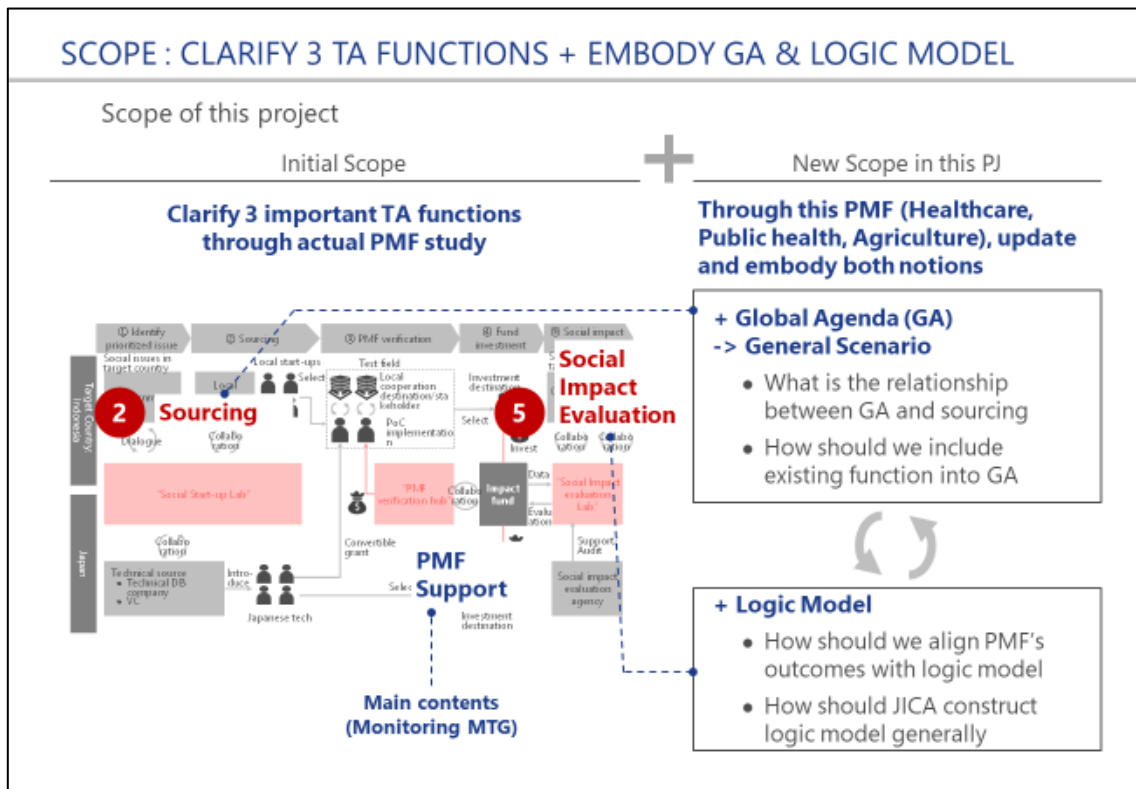


【Figure 1-6-5: Details of PMF support function】

2) TA facility updates

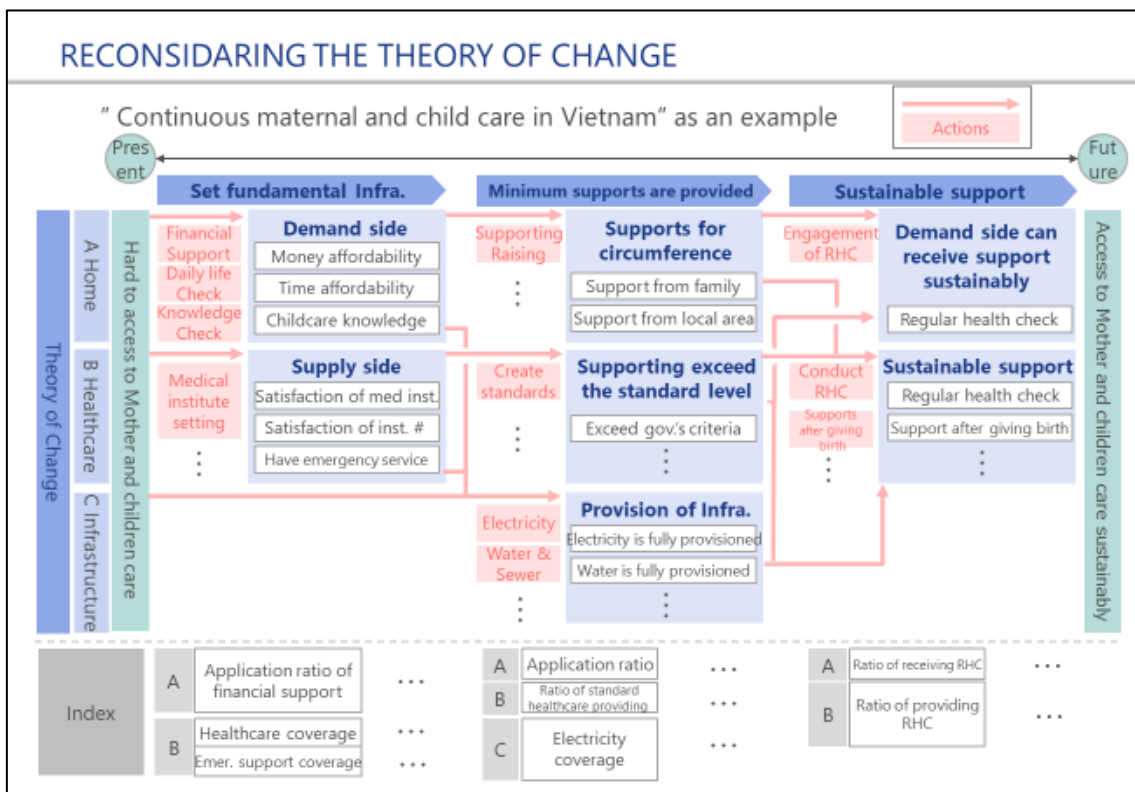
2. Updates on sourcing + 5. Updates on social impact evaluation

In Phase 2, we updated the contents of 2 functions: Sourcing (2) and Social impact evaluation (5) based on insights and knowledge obtained from actual PMF verification activities. The purpose of 2. and 5. updates is to make them in line with JICA’s Global Agenda and Logic Model by properly aligning the PMF verification outcomes of DI with these 2 notions.

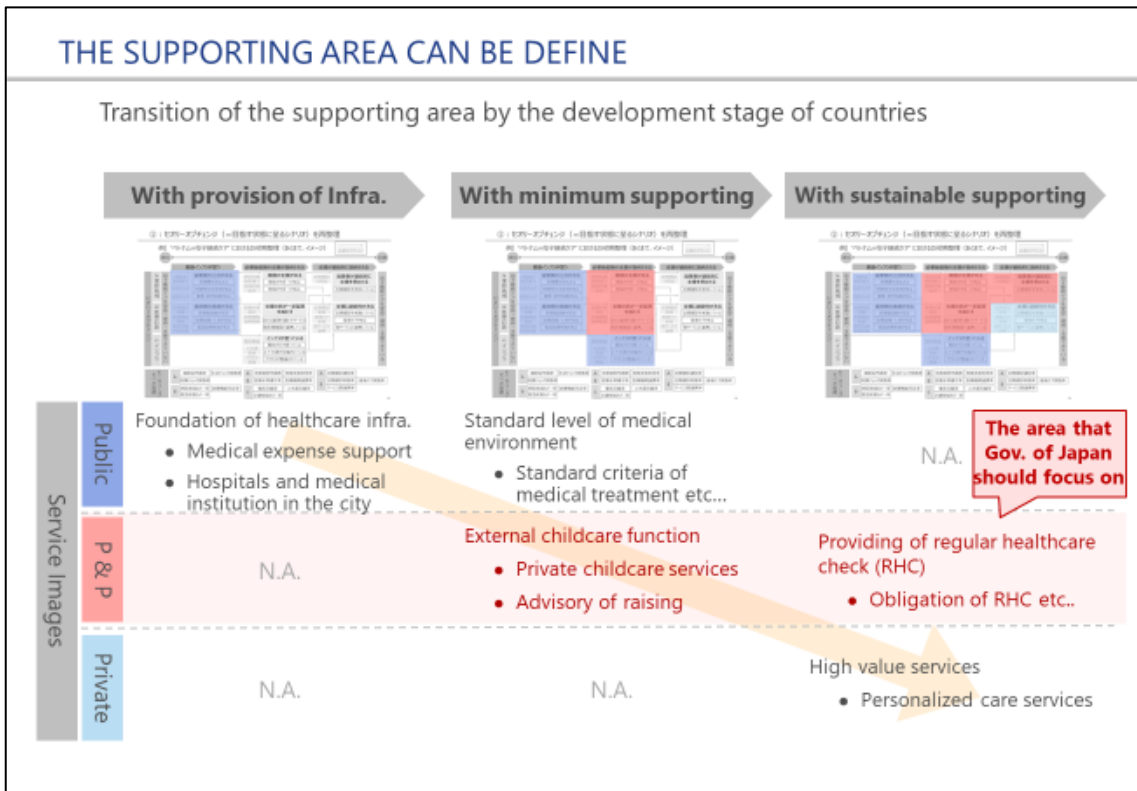


【Figure 1-6-6: TA facility update policy】

As for 2. Sourcing, we have re-designed the Theory of Change of the healthcare sector for an example, in line with JICA's Global Agenda and according policies for collaborating with the private sectors, especially start-ups. The figure below shows the outline of the Theory of Change and overview of public-private partnership areas. With a top-down examination of measures that will bring about changes in the Theory of Change, and categorizing key actors/promoters according to development stage of each country, JICA will be able to have a big-picture view as to major policies for potential actors to collaborate with in each country.



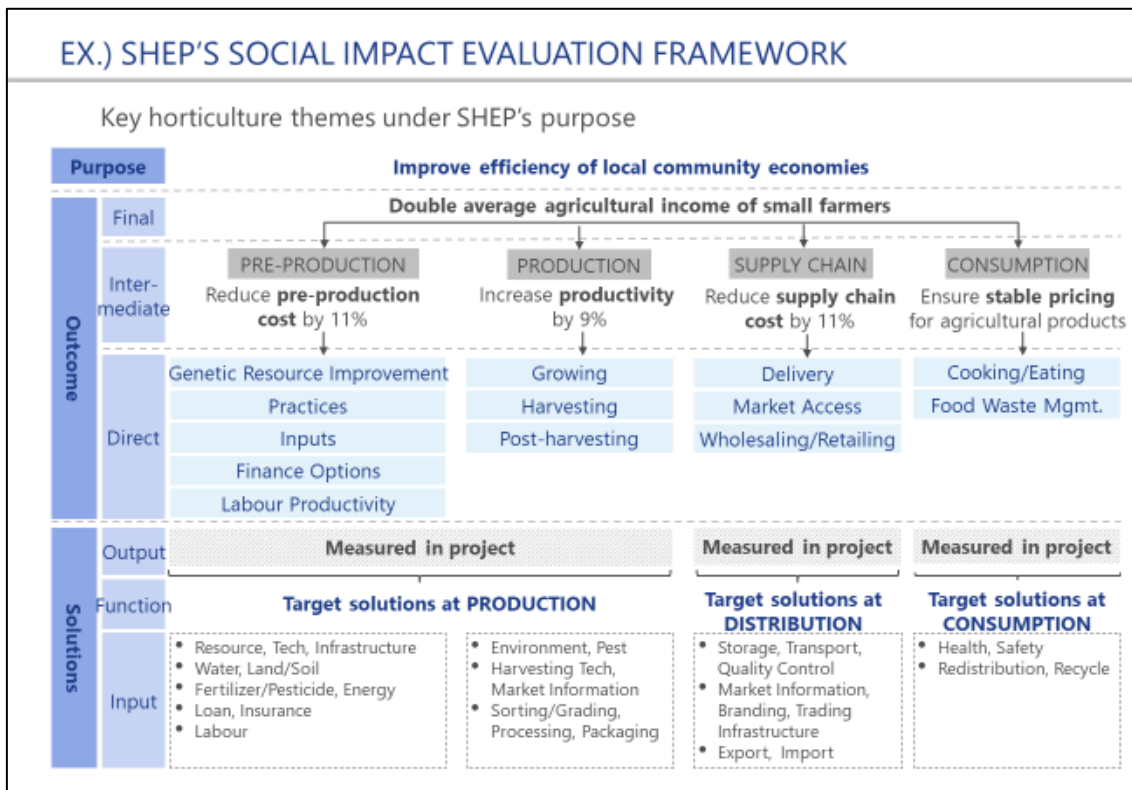
【Figure 1-6-7: Example of Theory of Change in the healthcare sector】



【Figure 1-6-8: Approach to the identification of public-private partnership areas】

In addition, in terms of social impact evaluation (5), it is necessary to determine what quantitative impact each measure described in the Theory of Change would have on the Global Agenda Cluster. The following diagram illustrates the approach to logic model in the agriculture sector with an example of quantitative final outcome setting method for each cluster as well as target value assignment method by supply chain. It will be necessary to design a logic model for each Global Agenda and Cluster, and to identify quantitative causal relationships of JICA-supported businesses.

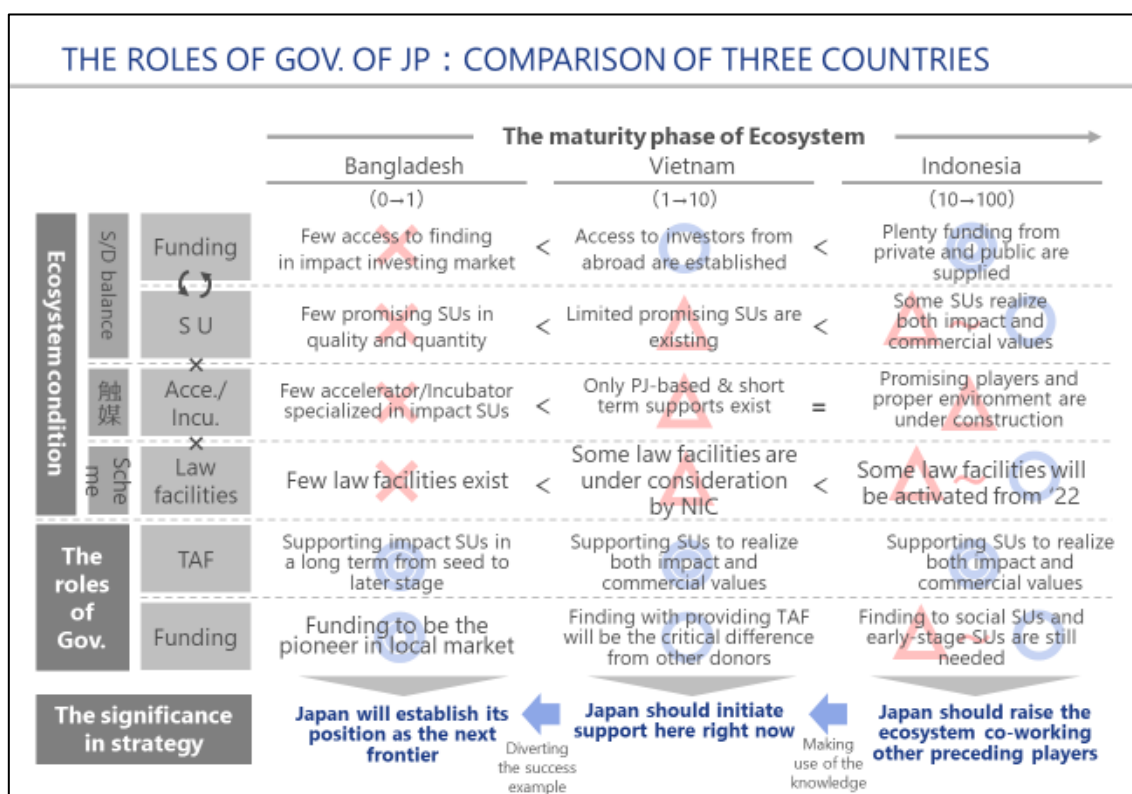
EX.) SHEP'S SOCIAL IMPACT EVALUATION FRAMEWORK



【Figure 1-6-9: Approach to logic model in the agriculture sector】

3) JICA's possible roles in the 3 countries of study

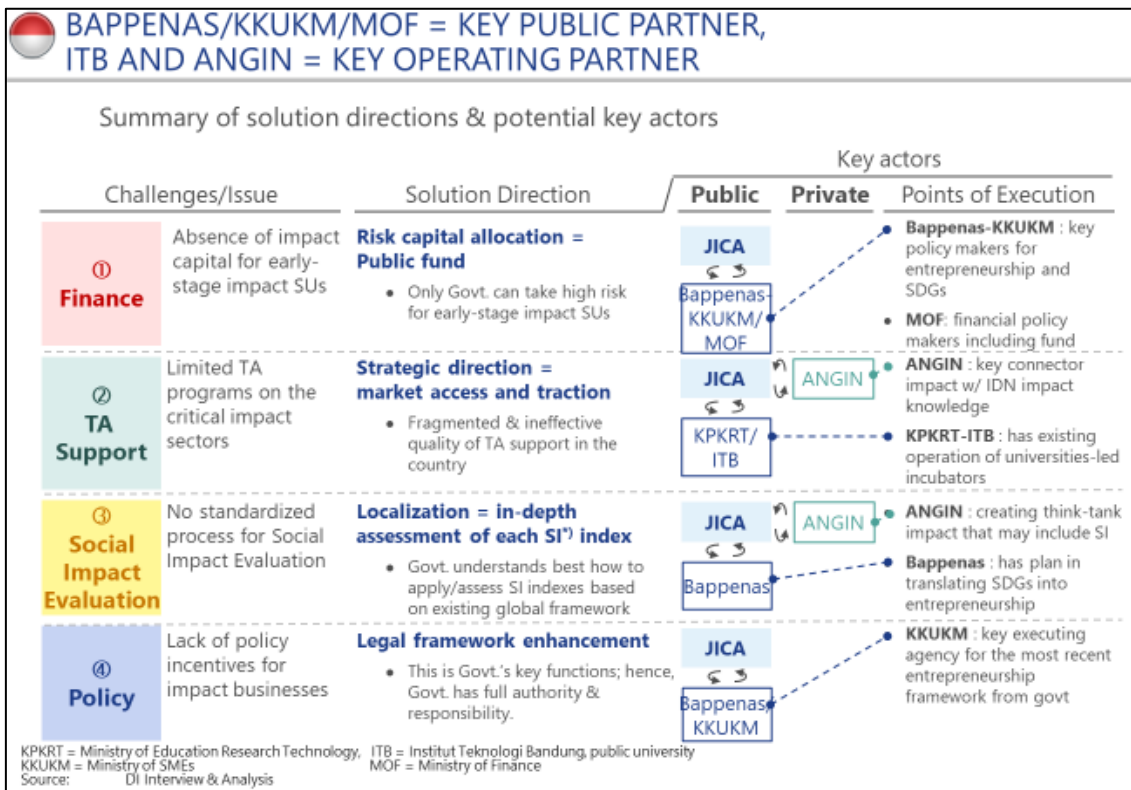
Chapter 3 has identified the current status and challenges of impact investment ecosystems in 3 countries of study (Indonesia, Vietnam and Bangladesh). JICA's possible roles and positions should be determined after absolute and relative evaluation of the current status and issues of each country's ecosystem, not the same support will be available to all. The following figure shows the current status of each country's ecosystem based on the latest research findings, possible roles of JICA associated with each situation, and strategic positions in each region.



【Figure 1-6-10: JICA's roles in 3 countries of study】

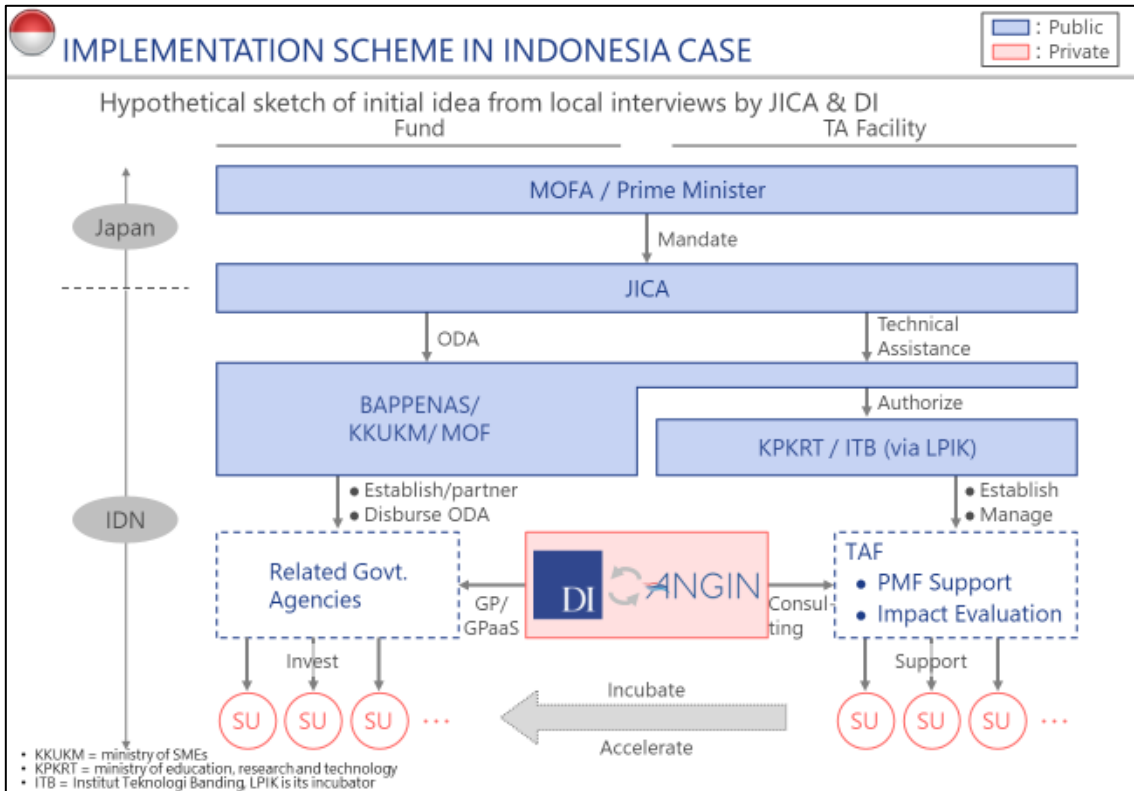
The 3 target countries are listed according to their ecosystem development stage: Bangladesh → Vietnam → Indonesia. Each ecosystem is evaluated from 3 viewpoints of: supply-demand balance (status of capital supply and funded SUs), catalyst (accelerator and incubator), framework (legal framework for impact investment).

For example, issues in Indonesia's market are around (1) capital supply, (2) TA facility, (3) social impact evaluation, and (4) government policies. The following figure summarizes our proposed measures and partnership schemes to solve these issues.



【Figure 1-6-11: Issues and possible solutions for Indonesia’s ecosystem】

In terms of (1) capital supply and (4) government policies, the lack of funds for early-stage impact SUs and investment incentive policies for impact start-ups is a major problem. A government-backed fund dedicated for early-stage impact start-ups could be an answer for (1), and tax exemption on social impact investment and investment returns should be considered as an option to tackle (2). Both of these options are associated with government policies for start-ups, and therefore, promising partners of JICA include KKUKM (the Ministry of Cooperatives and Small and Medium Enterprises) and BAPPENAS (the Ministry of National Development and Planning) which is responsible for promoting national innovation. Challenges associated with (2) TA facility and (3) social impact evaluation are closely connected: a limited PMF support for sectors with inherent social problems (agriculture, healthcare, public health, etc.) and an absence of a standardized impact measurement methodology. The Ministry of Education and Technology (KPKRT) responsible for leading university-led innovation with in-depth knowledge of SU innovation, the Institut Teknologi Bandung (ITB) - a national university affiliated with KPKRT, and the aforementioned BAPPENAS could be JICA’s promising public-sector partners. On the other hand, ANGIN with its broad relationship with start-ups and investors in the region could be a potential private-sector partner. Details of possible partnership schemes are summarized in the figure below.

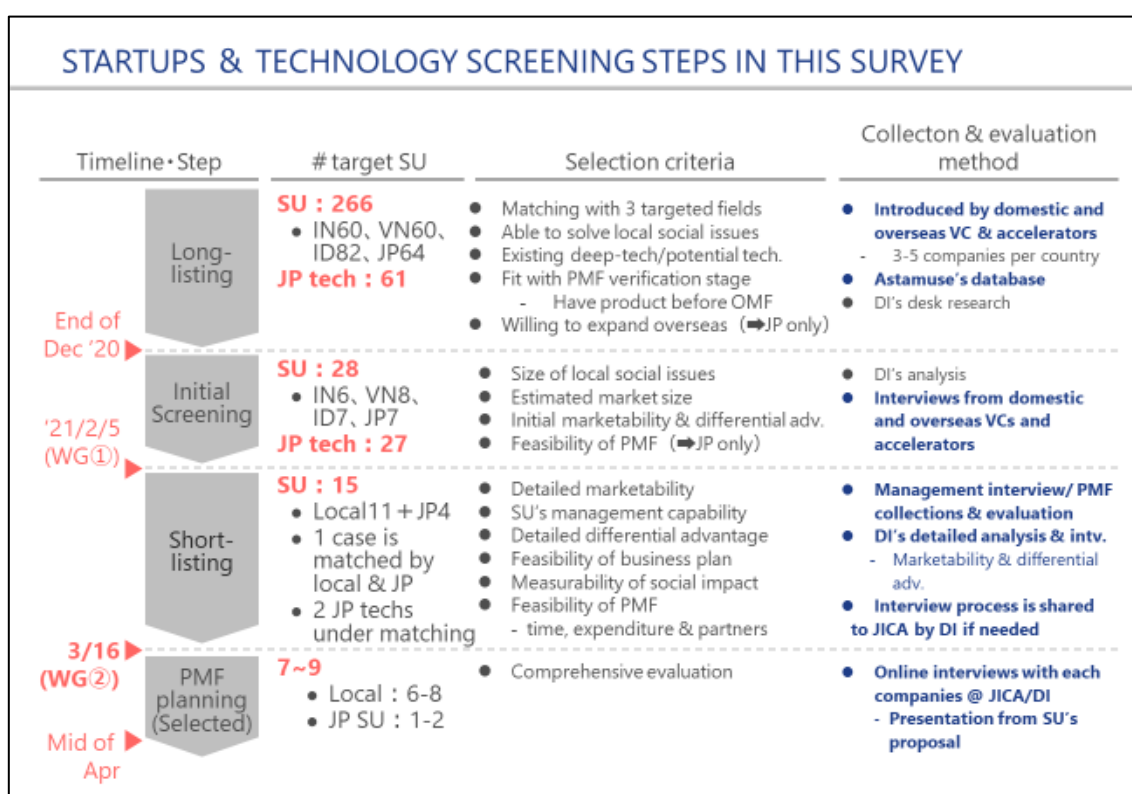


【Figure 1-6-12: JICA’s possible positions and proposed partnership scheme in Indonesia】

Chapter 2. PMF verification supporting activities

2-1 PMF participants

After Phase 1, 6 candidates were selected and 2 companies were semi-selected. Only 6 with confirmed selection results become PMF participants for this project after detailed discussions with JICA.



【Figure 2-1-1: Overview of PMF candidate selection process (duplicate figure)】

The 6 selected startups made plans for their PMF schedules, test items and required budget, and submitted them to JICA and DI. DI formulated budget plan accordingly.

ALL 6 PMFs BUDGET PLANNINGS ARE SUCCESSFULLY COMPLETED

Overview of PMF plans in phase 2

		PMF Budget	PMF Overview		
		(Million JPN)	Main Contents	Breakdown of Budget	Timeline
PMF overview & Budget	Prixa (Indonesia)	15.7	<ul style="list-style-type: none"> ✓ Quality improvement w/Med-institutions ✓ Product's marketability validation 	<ul style="list-style-type: none"> ¥ 60M~ ¥ 90M~ 	<ul style="list-style-type: none"> '21/7~'21/9 '21/8~'22/1
	TEPBAC TOR (Vietnam)	12.3	<ul style="list-style-type: none"> ✓ Educate Fishery institutions ✓ Introduction of devices to capital cities 	(¥ 12.3M~)	~'22/1
	WECARE247 (Vietnam)	13.3	<ul style="list-style-type: none"> ✓ Educate staffs by experts ✓ Automatize IT Apps 	(¥ 13.3M~)	~'22/1
	Fasal (India)	13.0	<ul style="list-style-type: none"> ✓ Reduction of pesticide, fertilizer ✓ Validate cost benefit per acre 	<ul style="list-style-type: none"> ¥ 60M~ ¥ 60M~ 	<ul style="list-style-type: none"> '21/5~'21/9 '21/9~'22/1
	Nemocare (India)	10.9	<ul style="list-style-type: none"> ✓ Specify the potential customers ✓ Validation of β ver products 	<ul style="list-style-type: none"> ¥ 30M~ ¥ 70M~ 	<ul style="list-style-type: none"> '21/7~'21/11 '21/7~'22/1
	Regional Fish (Japan)	19.6	<ul style="list-style-type: none"> ✓ Conduct mutation to 2 species ✓ Qualitative and quantitative interview to potential customers 	(¥ 19.6M~)	'21/7~'22/1
Total Budget		84.8			

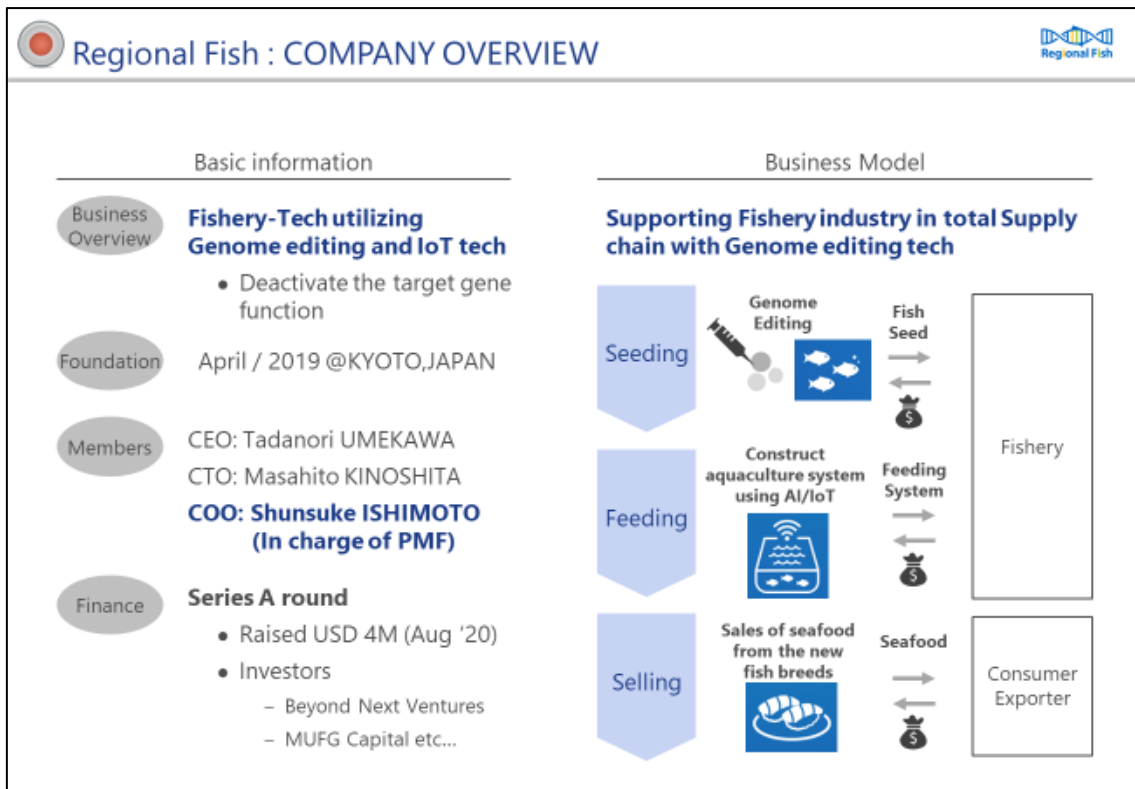
Completed the contracting with 5 startups (except PRIXA)

【Figure 2-1-3: PMF overview and necessary budget of 6 participants】

The corporate profile of each startup is shown below.

Regional Fish

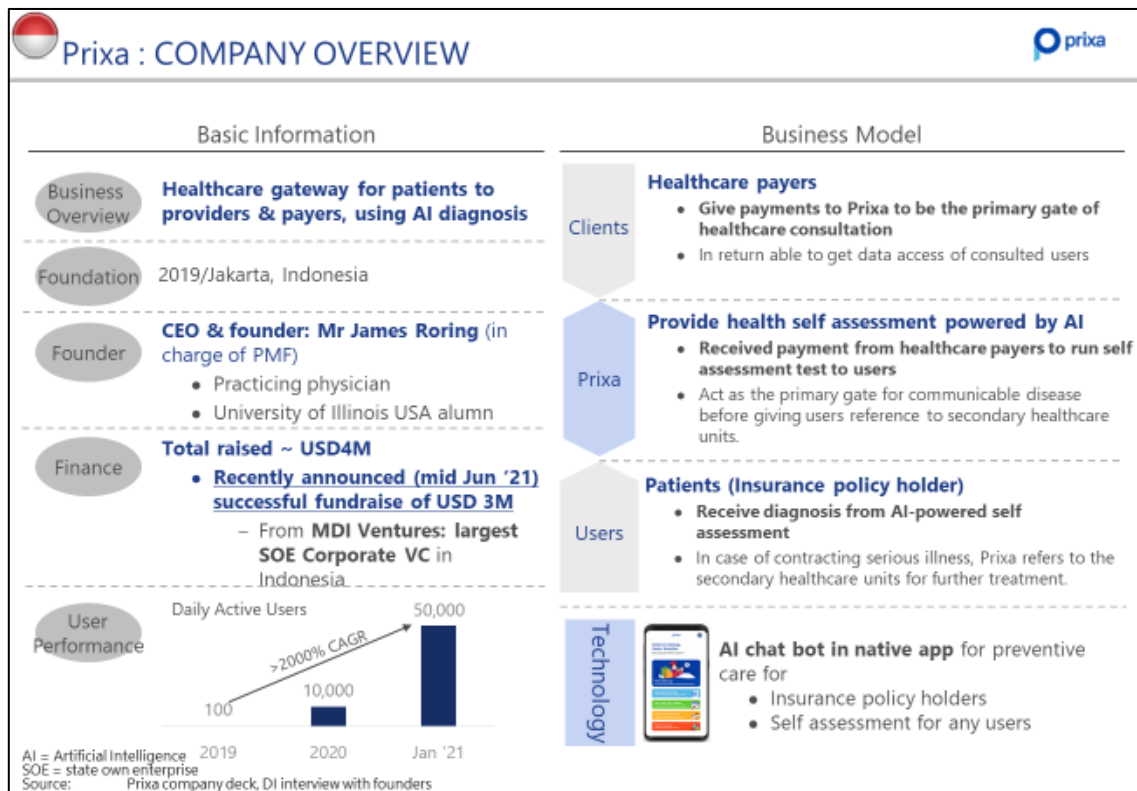
Regional Fish has a technology to genetically modify some marine species enabling enhanced resistance to diseases and higher yields. Their main objective of running this PMF experiment is to verify the effectiveness of such technology and the marketability of genetically modified pangasius and whiteleg shrimp (*Litopenaeus vannamei*) farmed in Indonesia.



【Figure 2-1-4: Company profile of Regional Fish】

PRIXA

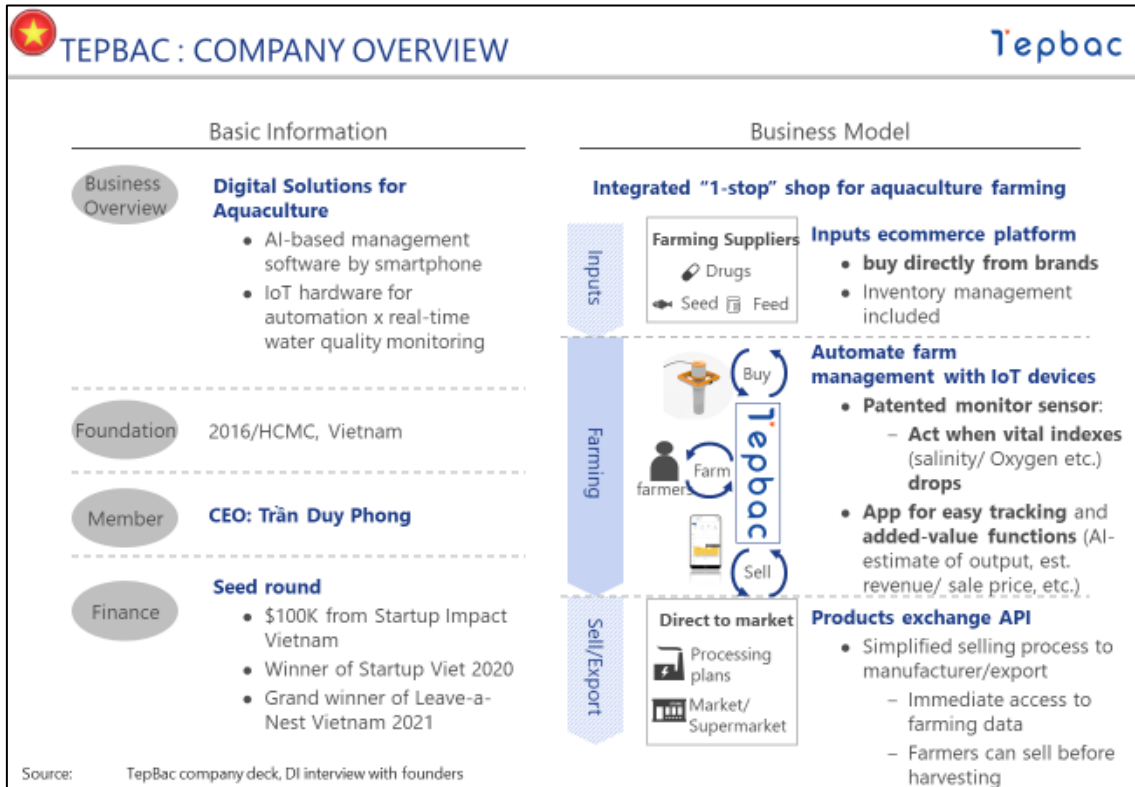
PRIXA provides its customers and health facilities with an AI-enabled automatic medical consultation app. With this app, the company aims to facilitate access to advanced health care in Indonesia. In this PMF experiment, PRIXA will work to identify potential functions for their app users.



【Figure 2-1-5: Company profile of PRIXA】

TEPBAC

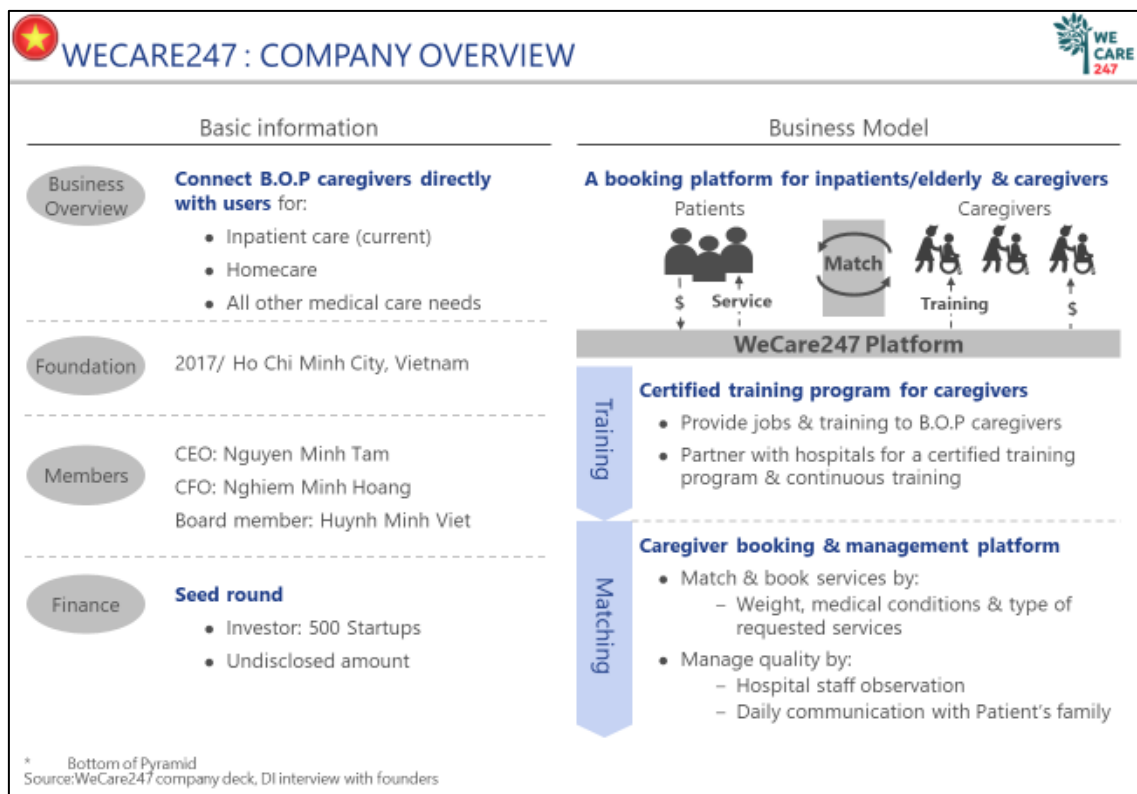
TEPBAC provides digital solutions that can improve the productivity for Vietnamese aquaculture farmers. Specifically, TEPBAC offers IoT devices to automatically control water quality and other relevant factors of aquaculture farms. They join this PMF experiment to verify the market potential of these IoT devices through farmer educational activities and discover products the market demands.



【Figure 2-1-6: Company profile of TEPBAC】

WECARE247

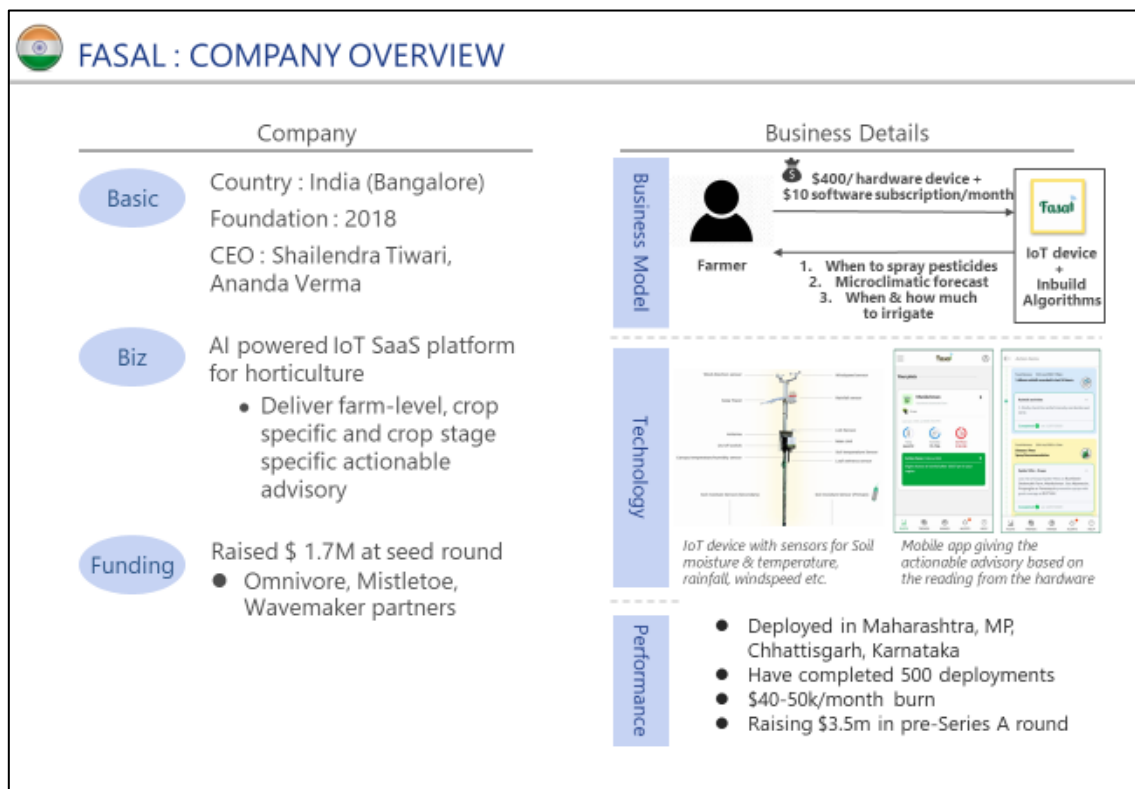
WECARE247 launches a medical nursing matching platform to pair health workers with people in need in Vietnam. WECARE247's strength lies in their capability to train and provide high-quality caregivers. This PMF experiment, including caregiver training activities and patient interviews, is their opportunity to discover how their current platform should evolve into from the market potential and product acceptability perspectives.



【Figure 2-1-7: Company profile of WECARE247】

FASAL

FASAL is an Indian company aiming to increase farming productivity using IoT devices. With soil moisture, temperature, and other weather conditions on farms being visualized, their products allow automatic analysis of fluctuations in crop yields and provide actionable advisory for future cultivation. This PMF experiment will help verify their pricing and which extent of service delivery and product functions their users may need.



【Figure 2-1-8: Company profile of FASAL】

NEMOCARE

With the aim of reducing infant mortality rates in India, NEMOCARE provides devices and analytical instruments for automatically monitoring vital signs of newborns. They will verify the market potential and product acceptability of this device by supplying the product to health facilities through this PMF experiment.

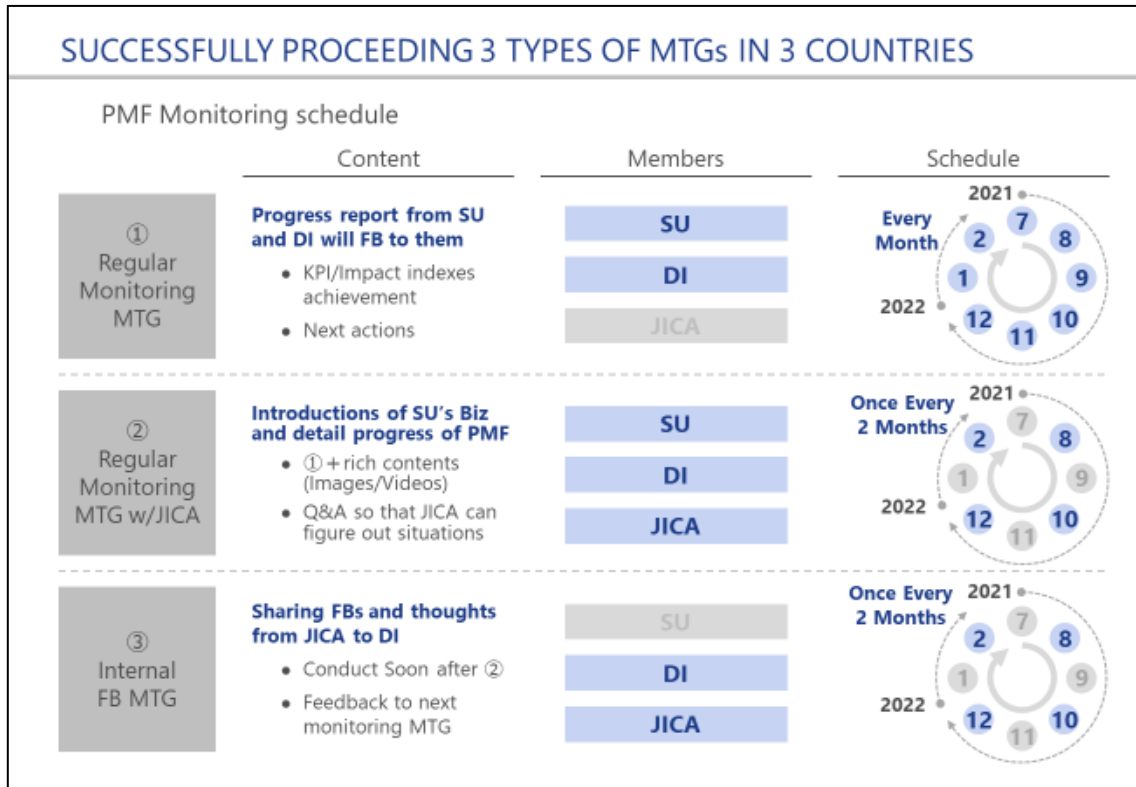


[Figure 2-1-9: Company profile of NEMOCARE]

2-2 PMF implementation methodology

On JICA/DI side

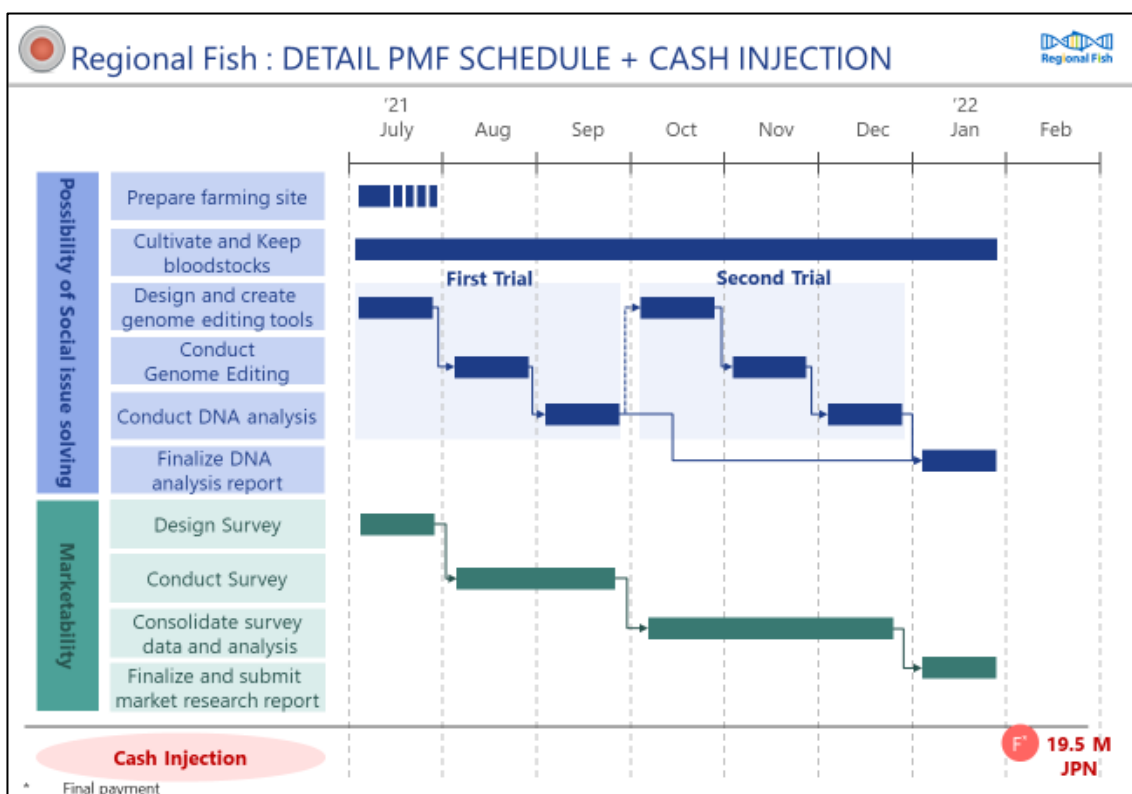
Although the 6 participants proceed with the PMFs on their own, DI and JICA also have regular project monitoring meetings (MTGs) with them. 3 kinds of meetings are set up to confirm their work progress with timely feedback.



【Figure 2-2-1: The 3 types of monitoring meetings】

REGIONAL FISH

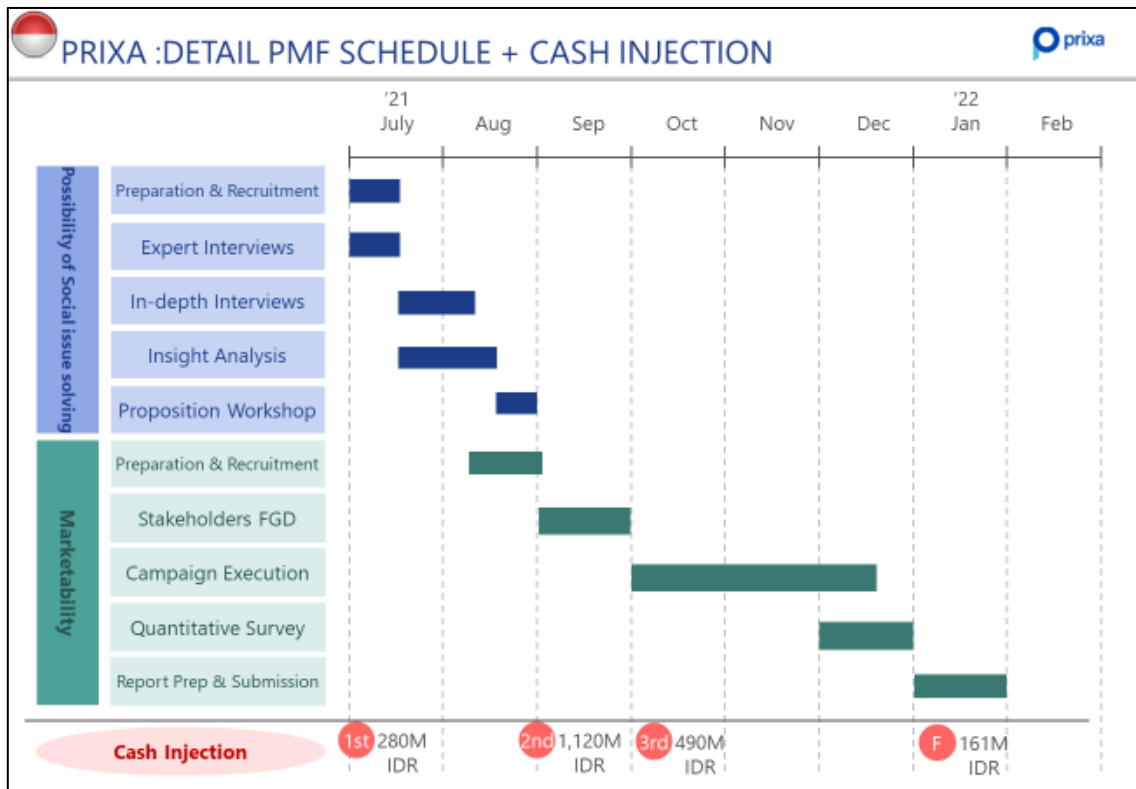
Regional Fish planned to implement two technological verifications of Pangasius and Vannamei shrimp in Indonesia (first verification: July-September 2021, second verification: October-December 2021) according to PMF plans. Regional Fish partnered with local player ARUNA to set up a fishpond in Situbondo, an eastern part of Indonesia, with the aim of verifying the variation and implementation of their breeding technology in the local aquaculture environment. Marketability verification with online and offline surveys have also been conducted with the participation of local consumers and producers to verify the acceptability (e.g., desired selling prices) of improved aquacultured species. One-off PMF funds were disbursed in February 2022 when all the plans were accomplished.



【Table 2-2-3: PMF schedule of Regional Fish】

PRIXA

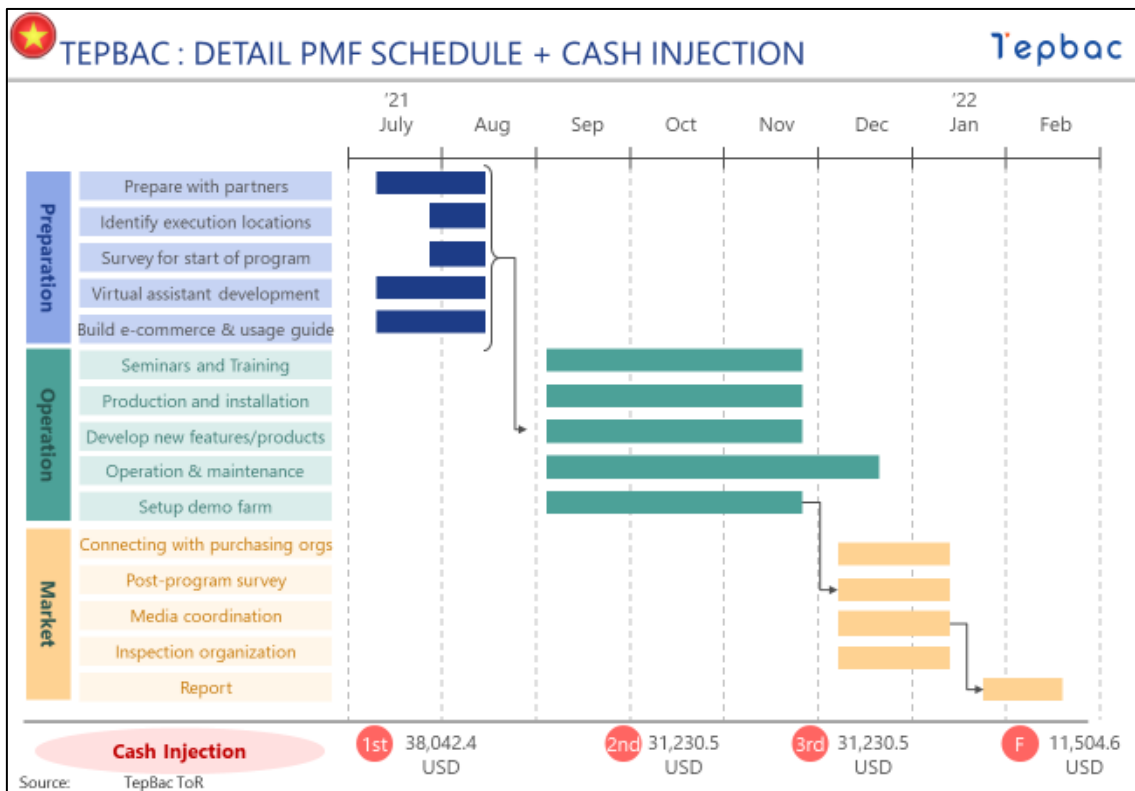
Due to COVID-19 impact, PRIXA had to undertake most of its PMF activities online. PRIXA's technological verification placed emphasis on the optimization of prototype application for target consumers and businesses. Focus group interviews with several users, including insurance companies, have been used as a tool for verification. The purpose was to verify service acceptability in BtoB sectors through interviews with target client companies. PMF funds were disbursed in 4 installments based on PMF commencement date and verification results of the marketability and technological aspects.



【Table 2-2-4: PMF schedule of PRIXA】

TEPBAC

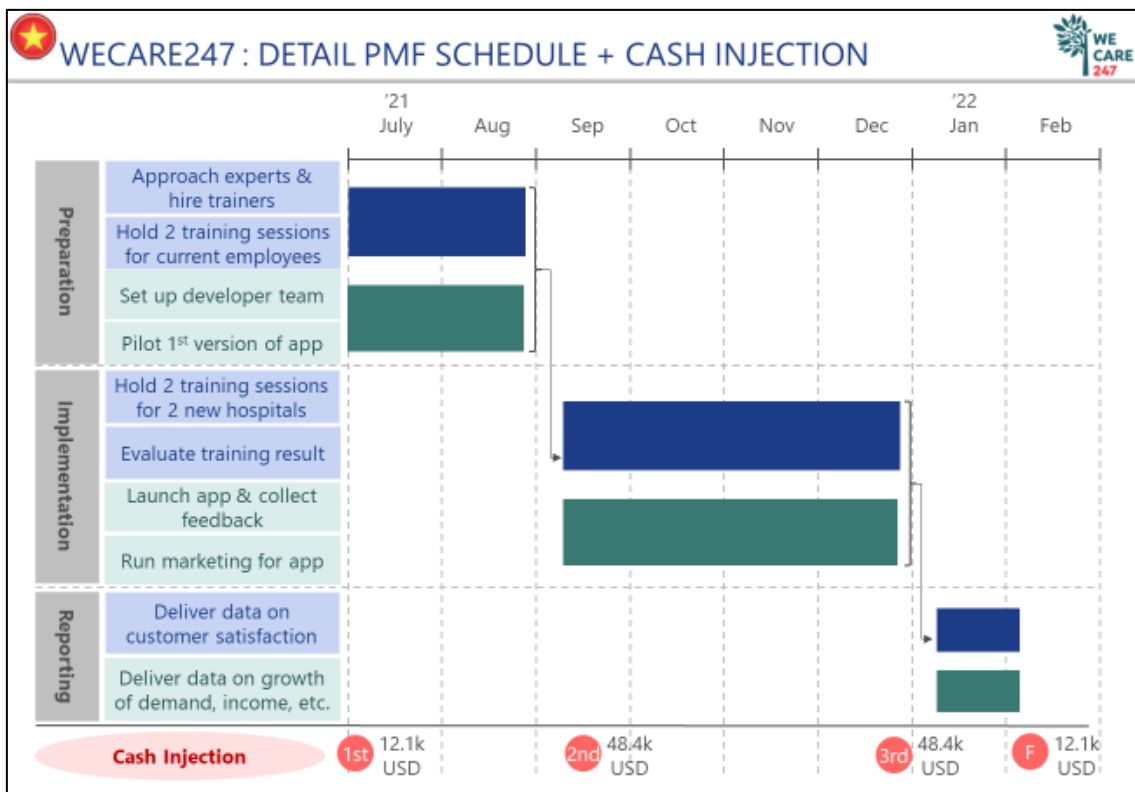
TEPBAC's technological verification, conducted from September 2021, was mainly aimed at improving their new products, EC (sales of a range of aquaculture related equipment and products) and IoT devices. Marketability verification is done through hands-on educational seminars targeting potential fisherman users upon the completion of technological verification. PMF funds were disbursed in 4 installments based on PMF commencement date and verification results of the marketability and technological aspects.



【Table 2-2-5: PMF schedule of TEPBAC】

WECARE247

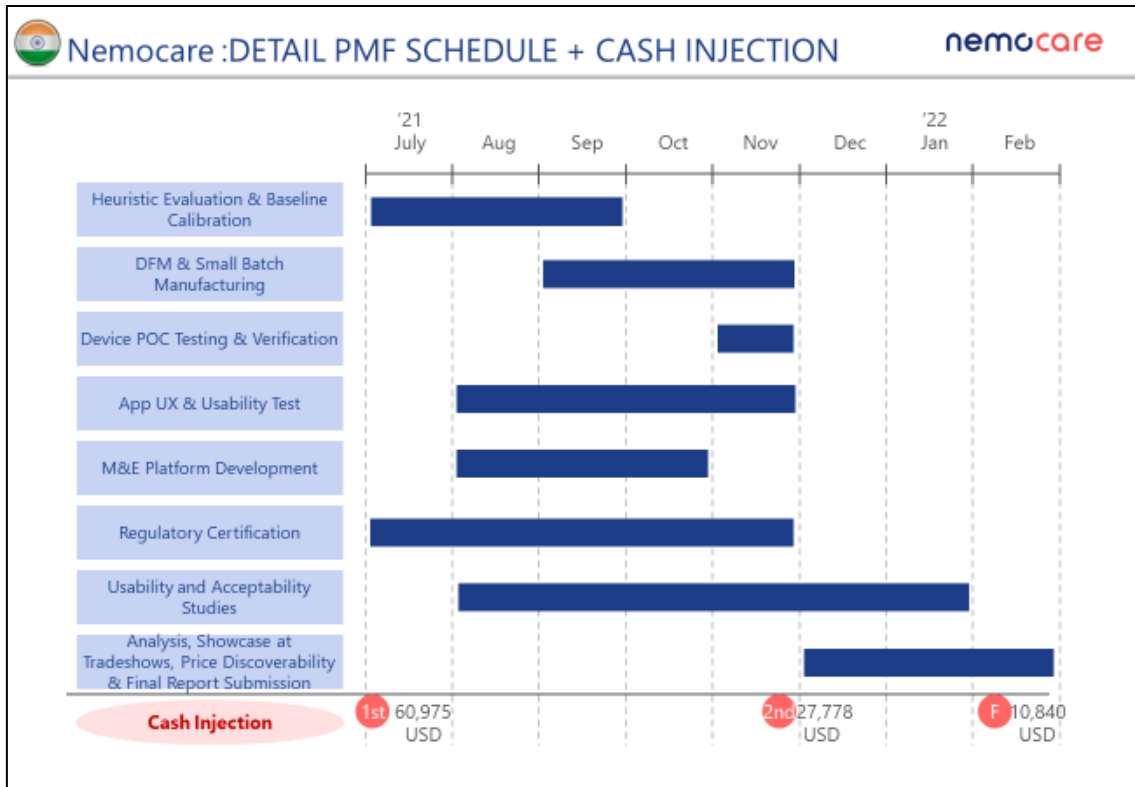
WECARE247’s technological verification focused on developing training programs for their caregivers. To be specific, they developed requirements for training materials to ensure that caregivers can deliver high-quality online healthcare services as well as training materials that would satisfy those requirements. The main objective of marketability verification was to verify the acceptability of a caregiver-patient matching platform through interviews and other means. The company's PMF plan was developed for both verifications to be done at the same time, and mutual feedback would enable WECARE247 to optimize product development. PMF funds were disbursed in 4 installments for PMF preparation, implementation, and reporting as shown in the figure below.



【Table 2-2-6: PMF schedule of WECARE247】

NEMOCARE

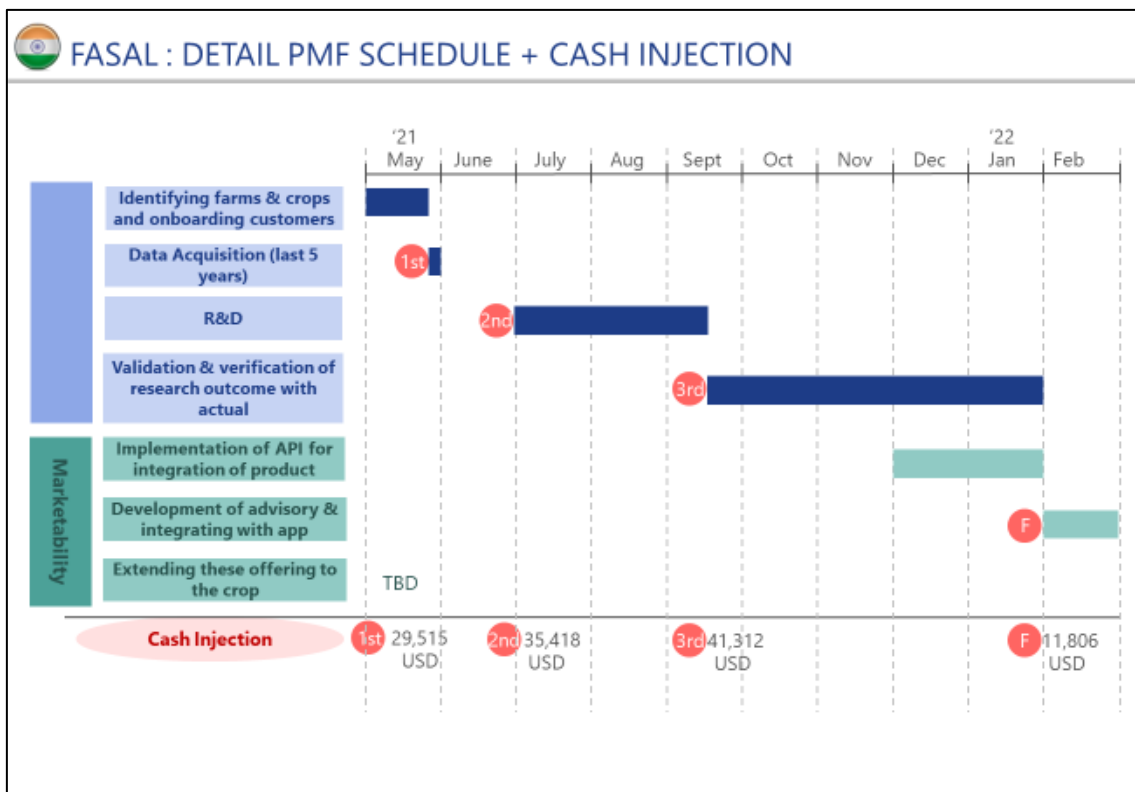
NEMOCARE's technological verification focused on MVP (Minimum Viable Product) of a medical device being developed for infants, conducted through interviews to identify consumer demand and actual use of the device. The marketability verification was done in small hospitals based on the verified MVP. And, PMF funds were disbursed according to PMF commencement date and deliverables of MVP verification and actual demonstration at hospitals.



【Table 2-2-7: PMF schedule of NEMOCARE】

FASAL

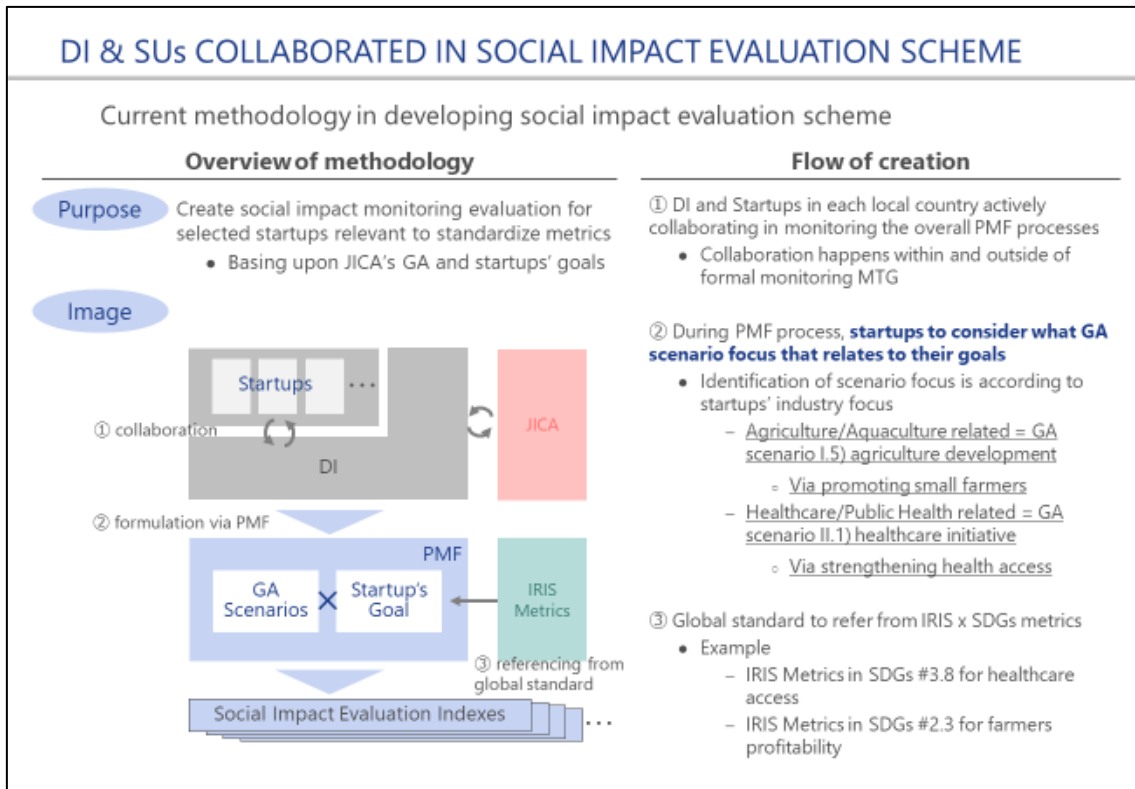
FASAL's technological verification was dedicated to developing IoT devices for farmers and a software for analyzing and displaying data and analysis results obtained from the said devices. The marketability verification's purpose was to confirm whether this technology can help increase yields and cut costs for farmers using the technology. PMF funds were mostly used for the technological verification, disbursed in 4 installments until the completion of the marketability verification, which was undertaken concurrently with the technological verification in the latter phase of the project.



【Table 2-2-8: PMF schedule of FASAL】

2-3 Social impact evaluation methodology

DI uses social impact metrics that are aligned with the common social return metrics and KPIs of each startup company. See the following figure for our methodology.



【Table 2-3-1: Social impact evaluation framework】

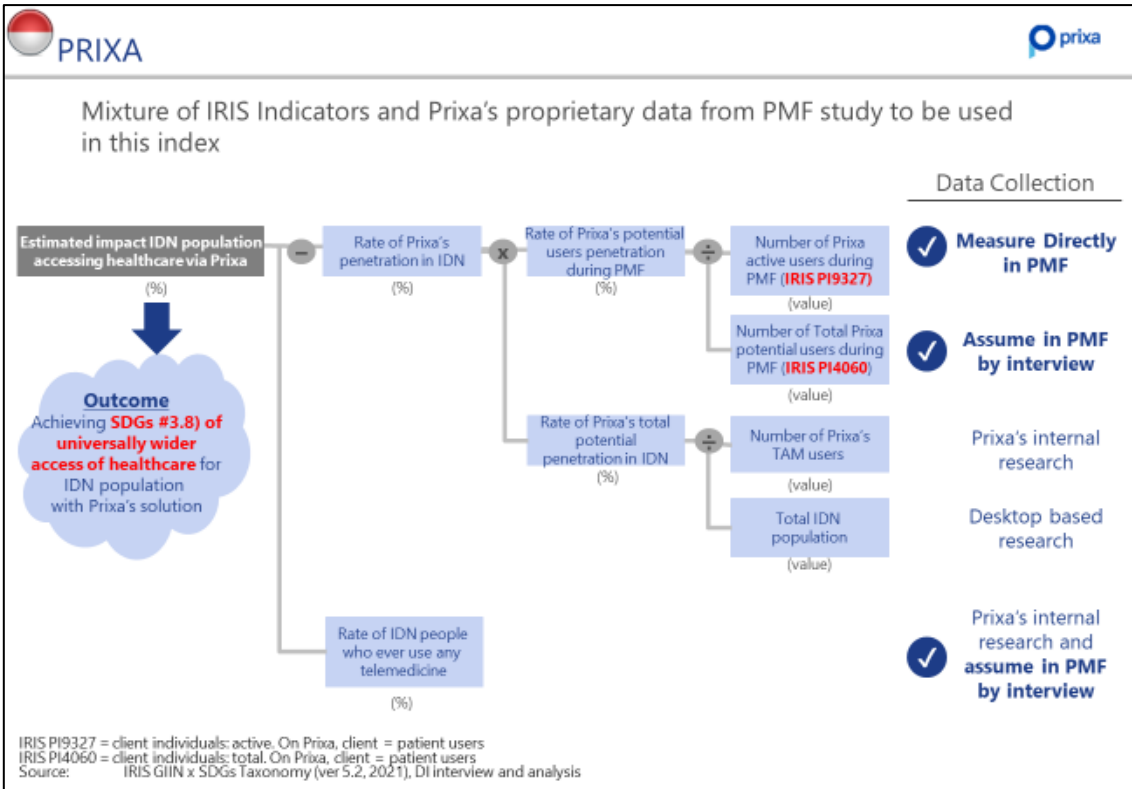
A summary of social impact metrics of each startup company is described in the following figure. One example of social impact evaluation structure (of PRIXA) is also included.

UPDATED THE SOCIAL OUTCOME WITH STARTUPS

Updated version of Social outcomes that each SU treats

Start-up (SU)		Outcome	Reference	Main Metrix
IDN	Regional Fish	Firmer profit improvement <ul style="list-style-type: none"> Based on 2 species in PMF, assume RF's contributions 	IRIS's definition <ul style="list-style-type: none"> % Revenue from Social/Environmental Products 	<ul style="list-style-type: none"> Sales Price, Variable Cost, Fixed cost in firmer Acceptance rate
	PRIXA	Good quality healthcare access <ul style="list-style-type: none"> Based on patients accessing the PF 	IRIS's definition <ul style="list-style-type: none"> Universal Health Coverage 	<ul style="list-style-type: none"> # patients(users) usage Completion rate
VTN	Weicare 247	<ul style="list-style-type: none"> Better access to healthcare Increase caregiver income Increase hospital/patient satisfaction 	<ul style="list-style-type: none"> SGD Target 3.8 SGD Target 3c IRIS+ PI7163 	<ul style="list-style-type: none"> #Trained caregivers, potential mandays Caregiver income Satisfaction ratio
	TEPBAC	Improvement of aquafarmers' profitability <ul style="list-style-type: none"> Based on profit of aquafarmers 	IRIS's definition <ul style="list-style-type: none"> Client Income & % Revenue from Social/Environmental Products 	<ul style="list-style-type: none"> Change in Avg. Revenue, Avg. Cost, Avg. Income Acceptance rate
IND	Nemo care	Evaluate mainly by 2 metrics <ul style="list-style-type: none"> New-Born Impact Caregivers Impact 	<ul style="list-style-type: none"> 40%Rule 	<ul style="list-style-type: none"> No. of lives touched No. of hours saved
	FASAL	Farmer profit improvement <ul style="list-style-type: none"> Increase in income, 	IRIS's definition <ul style="list-style-type: none"> Pesticide usage, 	<ul style="list-style-type: none"> Sales Price, Variable Cost, Fixed cost in firmer Acceptance rate

【Figure 2-3-2: Social impact metrics of 6 startups】



【Figure 2-3-3: Social impact evaluation structure of PRIXA】

2-4 PMF results

Although the PMF implementation is strongly affected by COVID-19, all 6 companies successfully completed their PMF verifications. See the below figures for PMF result summary of each participant. One company that has changed its PMF plan is Regional Fish. Due to the impact of COVID-19, Regional Fish has abandoned its original plan of traveling to Indonesia and decided to conduct the PMF in Japan with necessary materials imported from Indonesia.

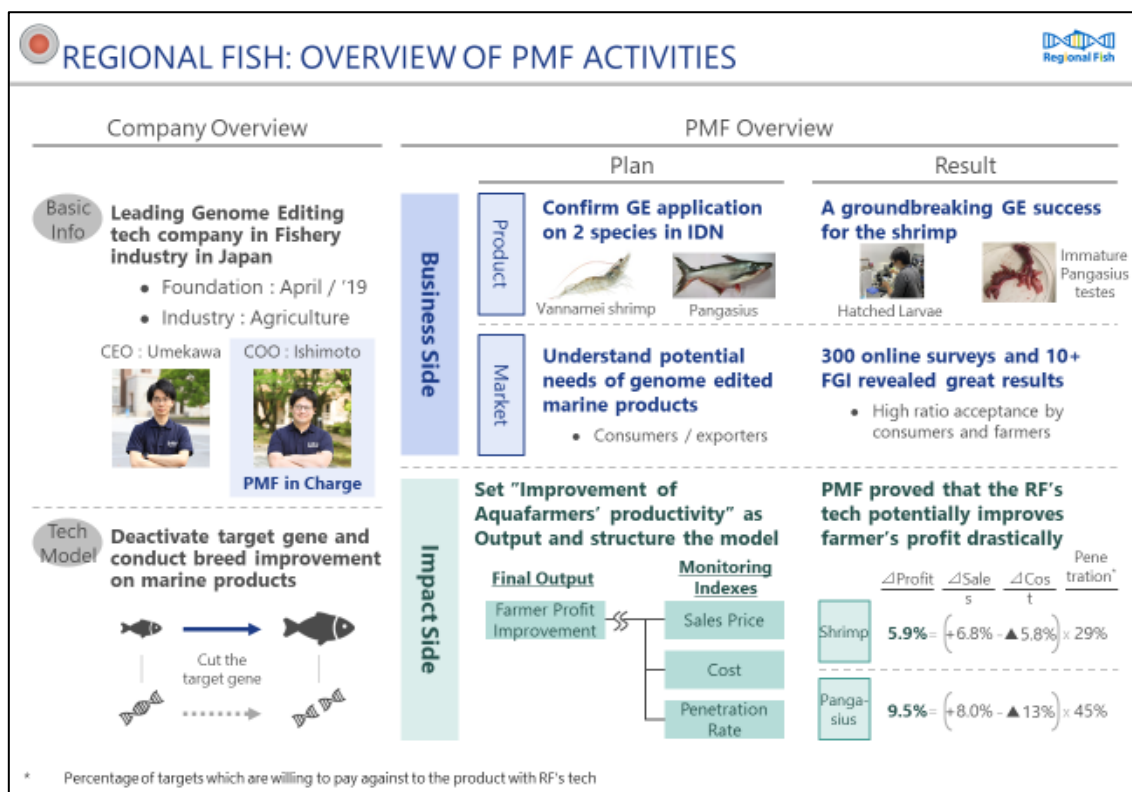
ALL 6 SU's PMF WERE TOTALLY SUCCEEDED					
PMF Monitoring schedule					
Start-up (SU)		Summary		Highlights	
				January	February
IDN	Regional Fish	Some part of PMF were failed but recovering <ul style="list-style-type: none"> Visit IND in Dec 		<ul style="list-style-type: none"> G.E. for shrimp Visiting IND for Biz-development 	<ul style="list-style-type: none"> Preparation for the final report
	PRIXA	PMF plan on track <ul style="list-style-type: none"> To complete reporting in Feb 		<ul style="list-style-type: none"> Completed implementation campaigns both B2B/B2C 	<ul style="list-style-type: none"> Completing reporting and social impact measurement
VTN	Wecare 247	PMF plan on track <ul style="list-style-type: none"> Slight delay due to Covid-19 lockdown 		<ul style="list-style-type: none"> Successfully launched app on Apple & Android Completed 1 training session with 50 caregivers 	<ul style="list-style-type: none"> Completing implementation phase Submitting final report
	TEPBAC	PMF plan on track <ul style="list-style-type: none"> Slight delay due to Covid-19 restriction 		<ul style="list-style-type: none"> Completed 7 seminars, 8 1:1 Trainings Installed 36 devices 	<ul style="list-style-type: none"> Completing the last 5 device installation Submitting reports
IND	Nemo care	PMF plan on track <ul style="list-style-type: none"> Usability studies almost completed 		<ul style="list-style-type: none"> Usability studies ongoing Private Hospitals onboarded 	<ul style="list-style-type: none"> Usability studies to be completed Final report preparation
	FASAL	PMF plan on track <ul style="list-style-type: none"> Slight delay due to weather conditions 		<ul style="list-style-type: none"> Phase 4 completed Submission of final report done 	N.A

【Figure 2-4-1: Result of 6 startups participating in the PMF study】

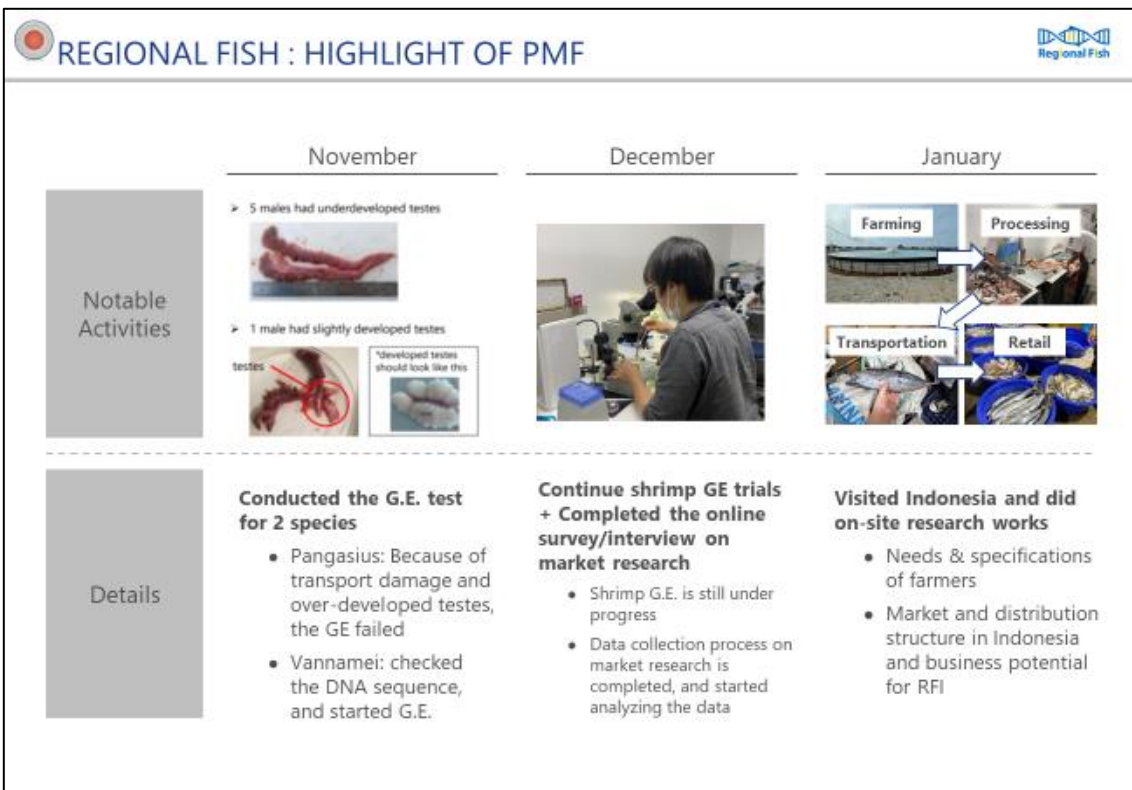
The result of 6 PMF participants is shown above.

Regional Fish

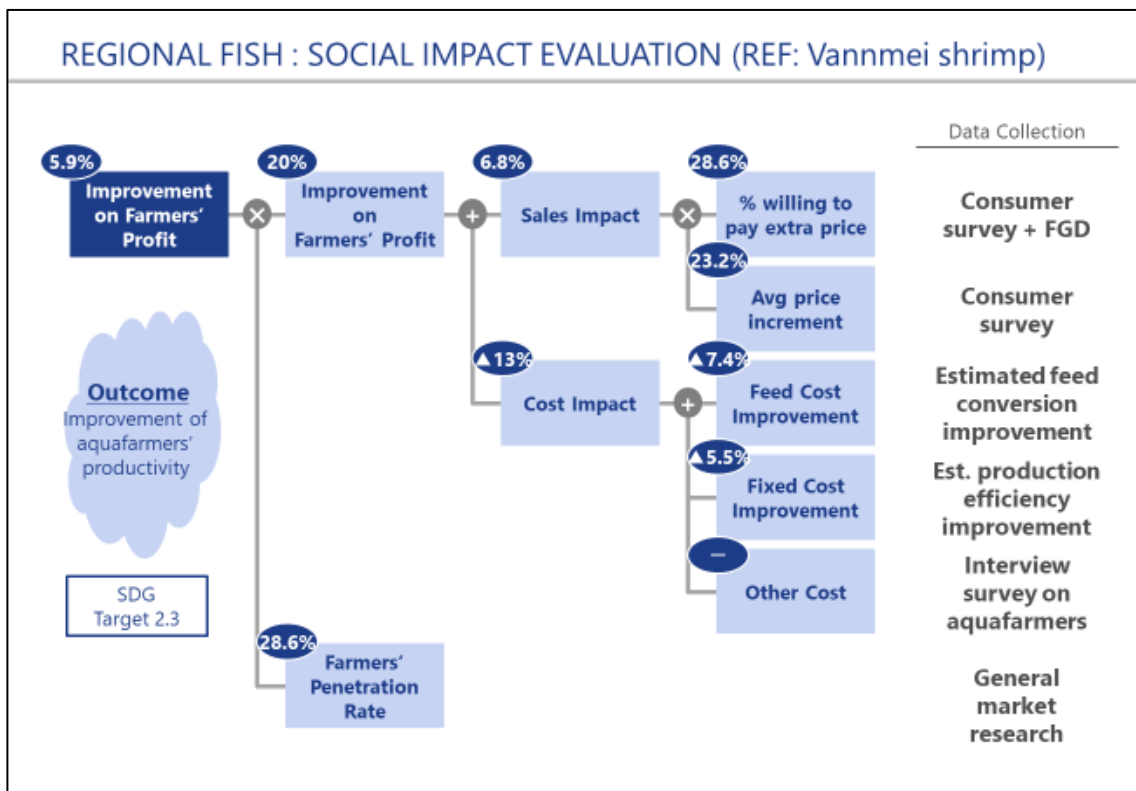
Regional Fish were unable to proceed with their planned travel trips due to the impact of COVID-19 in Indonesia. However, they managed to change their PMF plan by importing Pangasius from Indonesia and implementing PMF verification using shrimp with similar genetic information. Unfortunately, the Pangasius test failed. Some improvement for Vannamei shrimp was successful. Their PMF was completed in January 2022 as the company's PMF staff visited Indonesia to verify the acceptability of their technology in the country after the COVID-19 infection cases have been stabilized. They also managed to measure social impact indicators, and confirmed that the PMF has increased income of aquafarmers of Indonesian shrimp and whitefish by 5.9% and 9.5% respectively, taking into account potential penetration rate and price acceptability of the technology. Below is a summary of the company's PMF, its most recent PMF activities and social impact evaluation methodology.



【Figure 2-4-2: PMF result summary of Regional Fish】



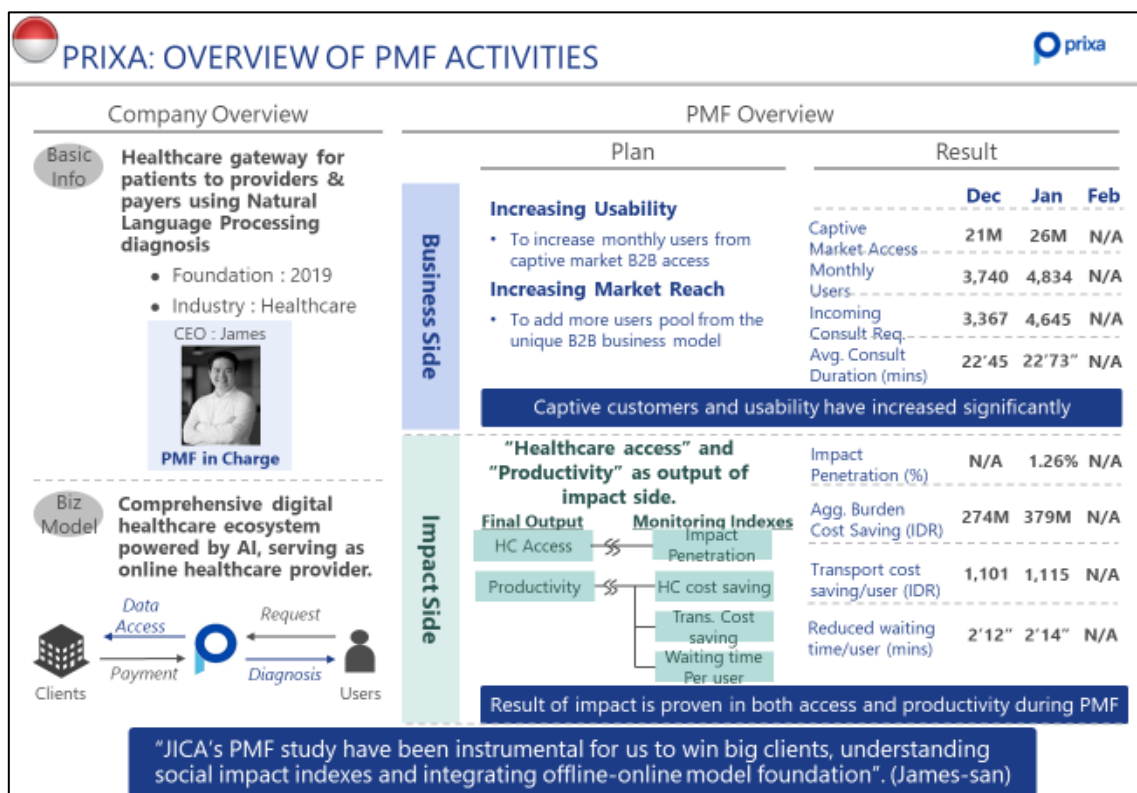
【Figure 2-4-3: PMF overview of Regional Fish】



【Figure 2-4-4: Regional Fish social impact evaluation】

PRIXA

Despite the COVID-19, PRIXA was able to implement most of its PMF verification online and complete the PMF without delay. While online diagnostic services are usually from BtoC business, PRIXA is aiming to expand its BtoB business mainly in partnership with insurance companies. Therefore, one of the business' milestones is the collaboration with major local insurance companies. They have actively expanded the business by forging alliance with BRI (which has 10 million policy holders in the country) and accomplished more than what they had anticipated in the first place. The company's social impact indicators were healthcare access, cost savings, travel expense savings, and reduced waiting time. All four impact indicators were measured with high clarity (see details in the attachment). The following is a summary of the company's PMF, its most recent PMF activities and social impact evaluation methodology.



【Figure 2-4-5: PMF result summary of PRIXA】

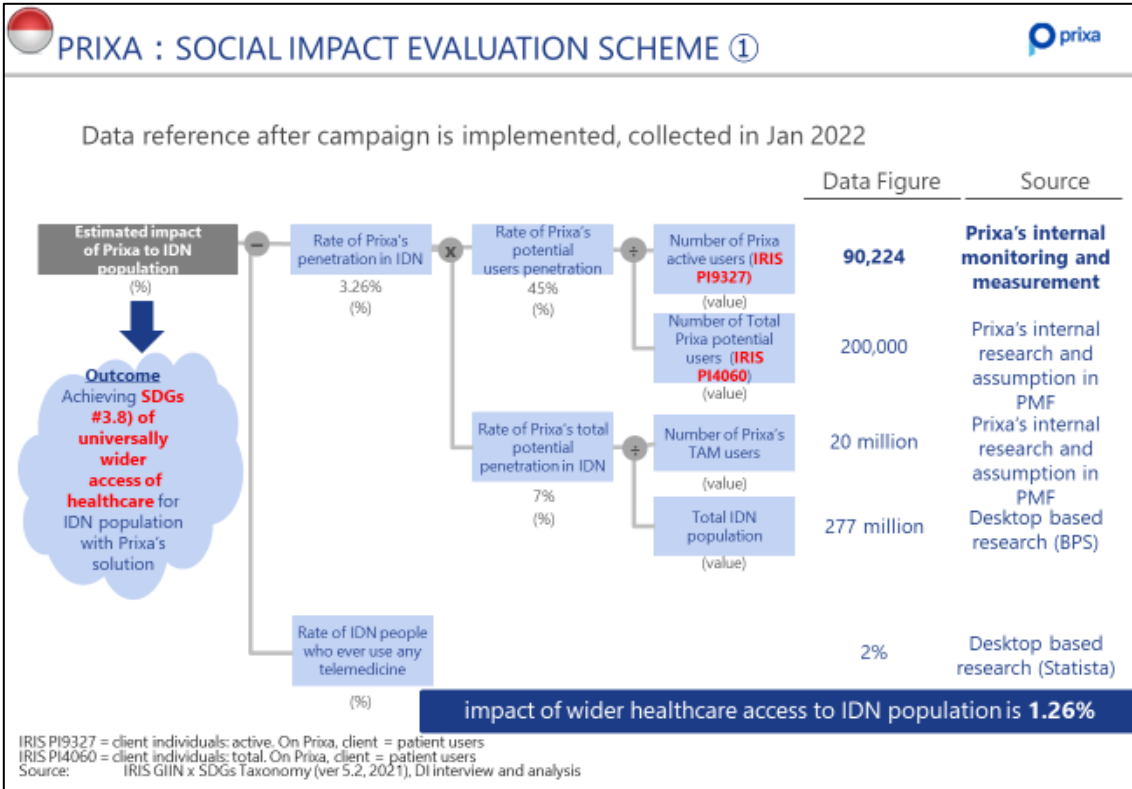
PRIXA : PMF ACTIVITIES's HIGHLIGHT			
	December	January	February
Notable Activity	Continuation of campaign implementation <ul style="list-style-type: none"> Acquisition of B2B insurance customer Health webinar series for B2C 	Completed implementation campaigns and piloting offline-online model for future expansion <ul style="list-style-type: none"> Content marketing to increase brand image Working with K24 drugstore chain for offline pilot 	Reporting preparation, maintaining captive market B2B <ul style="list-style-type: none"> 4 B2B clients acquired during PMF <ul style="list-style-type: none"> 10 B2B clients under integration 26 million captive market users acquired during PMF
Images	<p>B2B client acquisition activities</p>	<p>Content marketing at major local news site Drugstore chain partner example</p>	<p>User marketing activities in early 2022</p>

【図 2-4-6 : PMF overview of PRIXA】

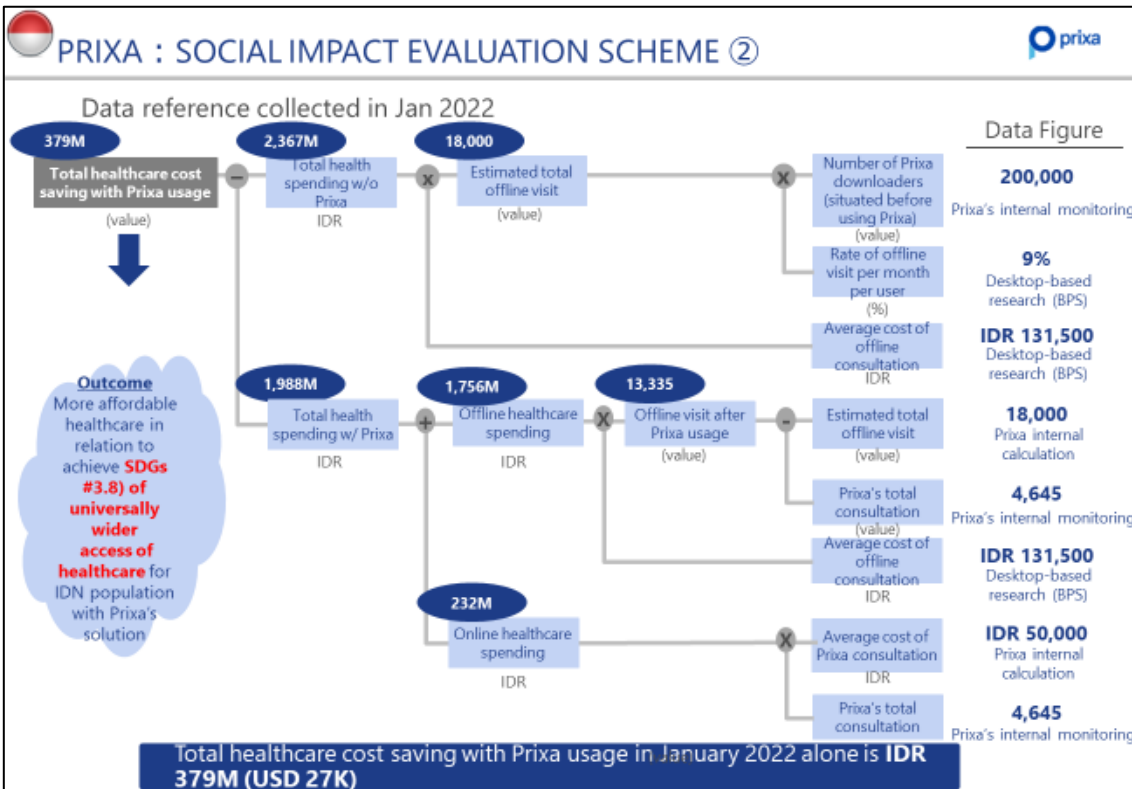
SOCIAL IMPACT METHODOLOGY SUMMARY			
Overview of social impact indexes outcomes and methodology during PRIXA's PMF			
	Description	Approach	Impact Index and Results
Widen Access	Measuring how wide is an impact from using PRIXA as a telemedicine <ul style="list-style-type: none"> To compare with any current usage of telemed 	Using difference (Δ) of usage between PRIXA and any telemedicine in local country <ul style="list-style-type: none"> using unit of percentage penetration among population 	① impact index of PRIXA penetration rate in IDN population <ul style="list-style-type: none"> At Jan 22: 1.26%
	Measuring unit of economics in productivity result by using PRIXA <ul style="list-style-type: none"> To compare with traditional HCS 	Using difference (Δ) of between PRIXA and traditional healthcare visit <ul style="list-style-type: none"> Unit of total healthcare cost saving Unit of transport cost saving Unit of time saving 	② impact index of total healthcare cost saved <ul style="list-style-type: none"> At Jan 22: USD 27K ③ impact index of transport cost saved per user <ul style="list-style-type: none"> At Jan 22: USD 0.1 ④ impact index of time saved per user <ul style="list-style-type: none"> At Jan 22: 2min 14 seconds

HCS = health care service

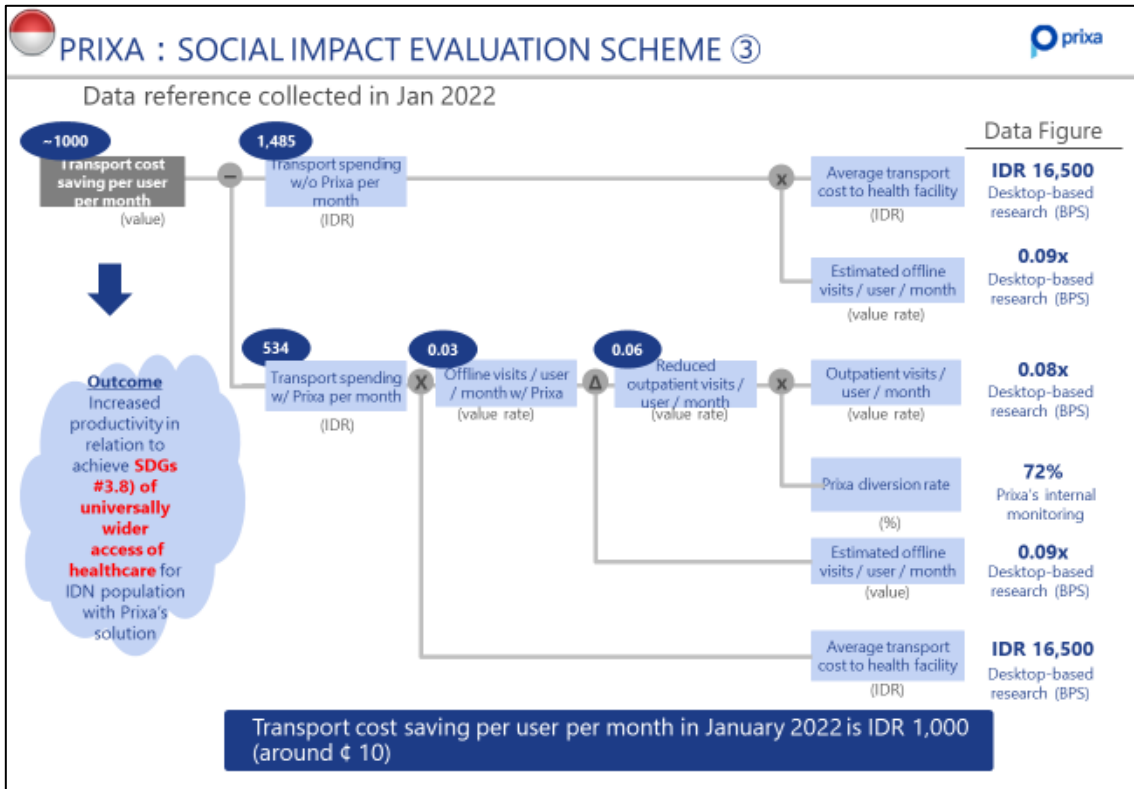
【Figure 2-4-7: PRIXA social impact evaluation(1/5)】



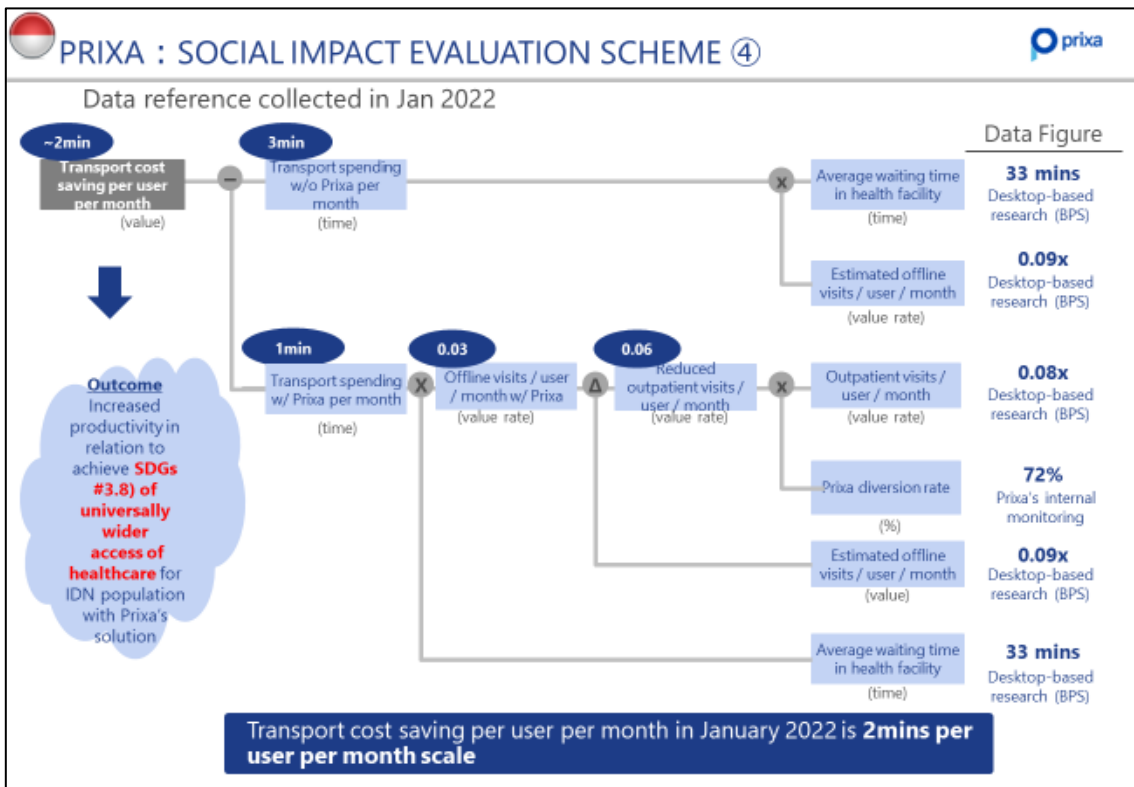
【Figure 2-4-8: PRIXA social impact evaluation (2/5)】



【Figure 2-4-9: PRIXA social impact evaluation (3/5)】



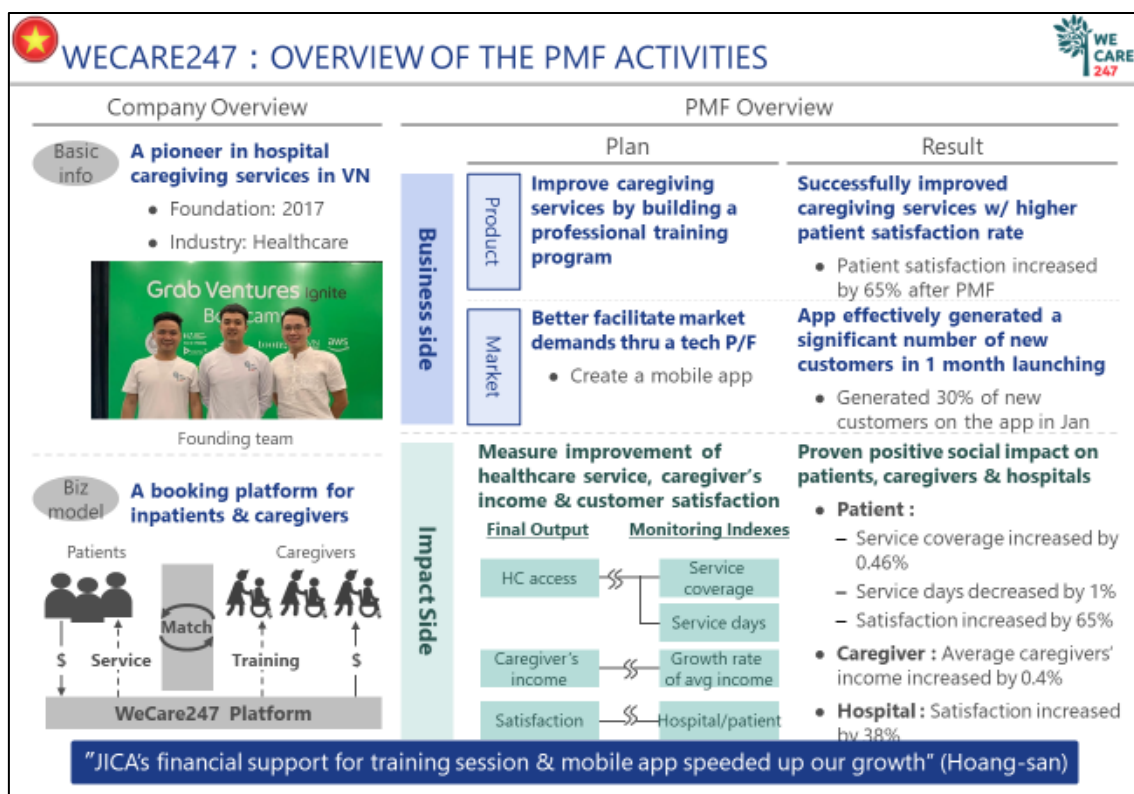
【Figure 2-4-10: PRIXA social impact evaluation(4/5)】



【Figure 2-4-11: PRIXA social impact evaluation (5/5)】

WECARE247

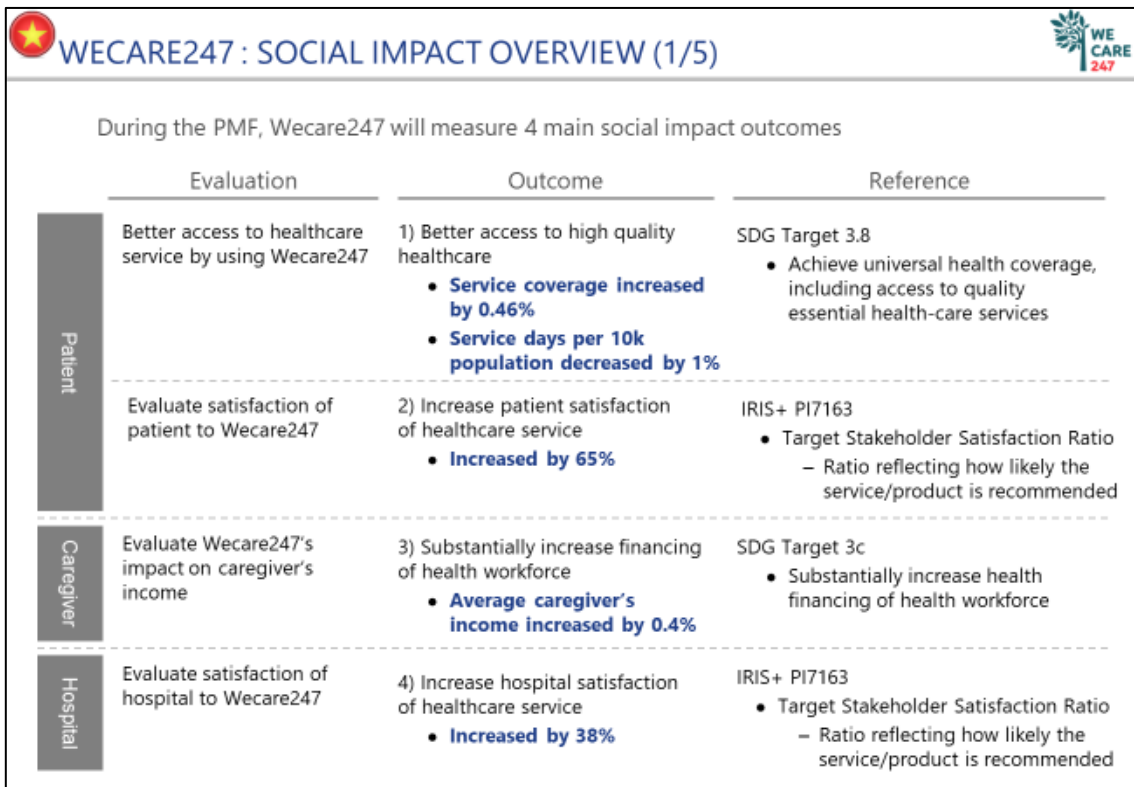
WECARE24 PMF was initially difficult due to Covid-19, characteristics of the country where it was undertaken, Vietnam, and business sector being healthcare. However, with flexible measures such as switching education programs for caregivers from offline to online mode, the company was able to complete its PMF verification. The application developed during PMF for caregiver and patient matching was launched in January 2022 and successfully raised the company's new user base by over 30% in a month. While access to healthcare was the main social impact indicator, they also set more business-oriented impact indicators such as caregiver income and user satisfaction, and successfully measured and evaluated each indicator as summarized below. The following is a summary of the company's PMF, its recent PMF activities and social impact evaluation methodology.



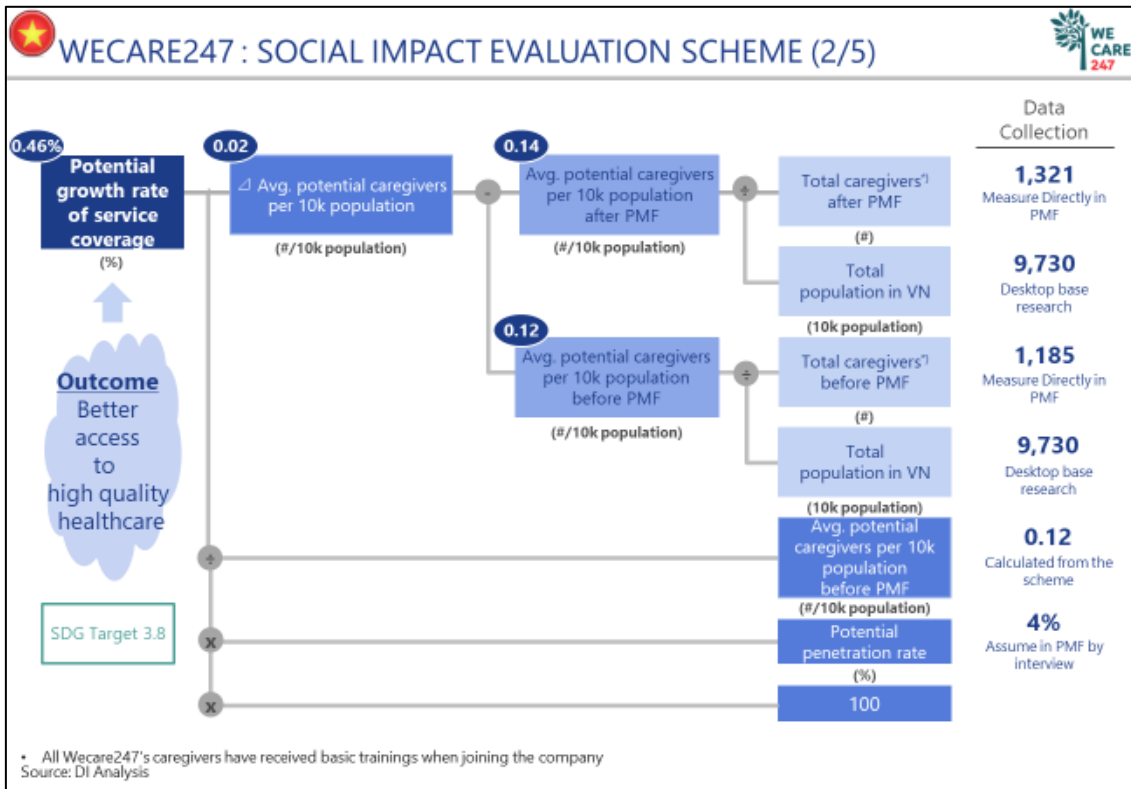
【Figure 2-4-12: PMF result summary of WECARE247】



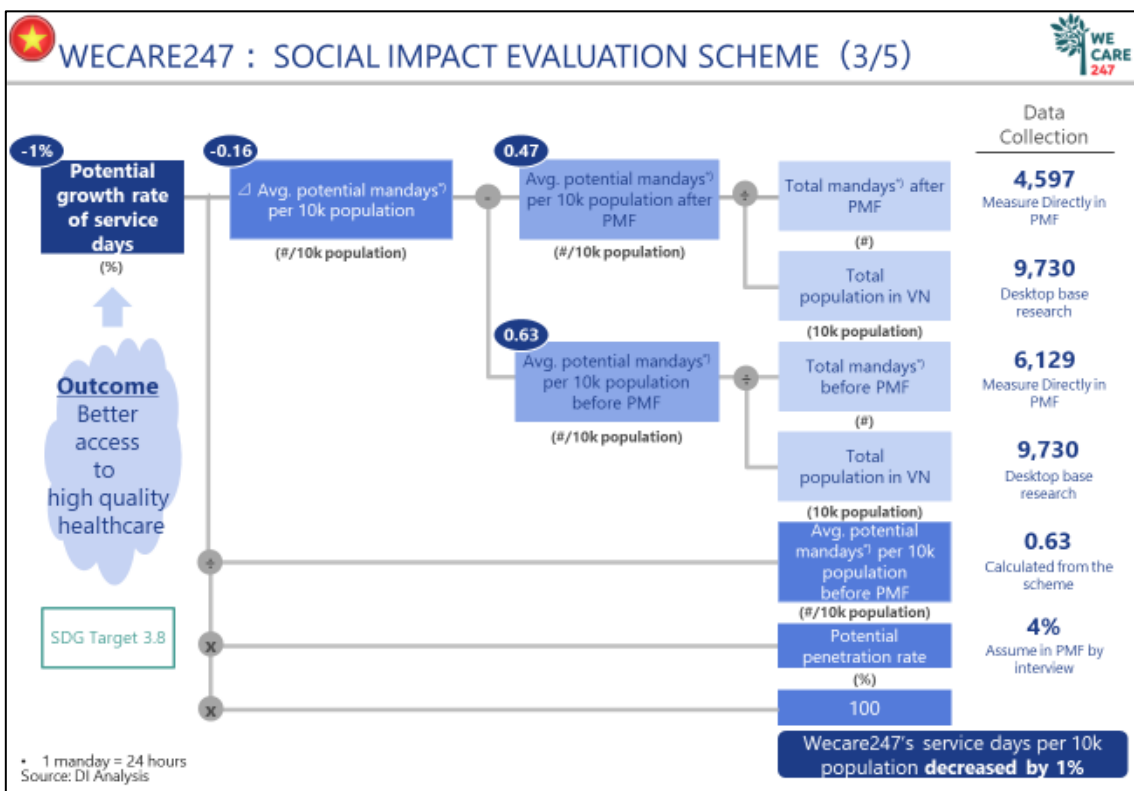
【Figure 2-4-13: PMF overview of WECARE247】



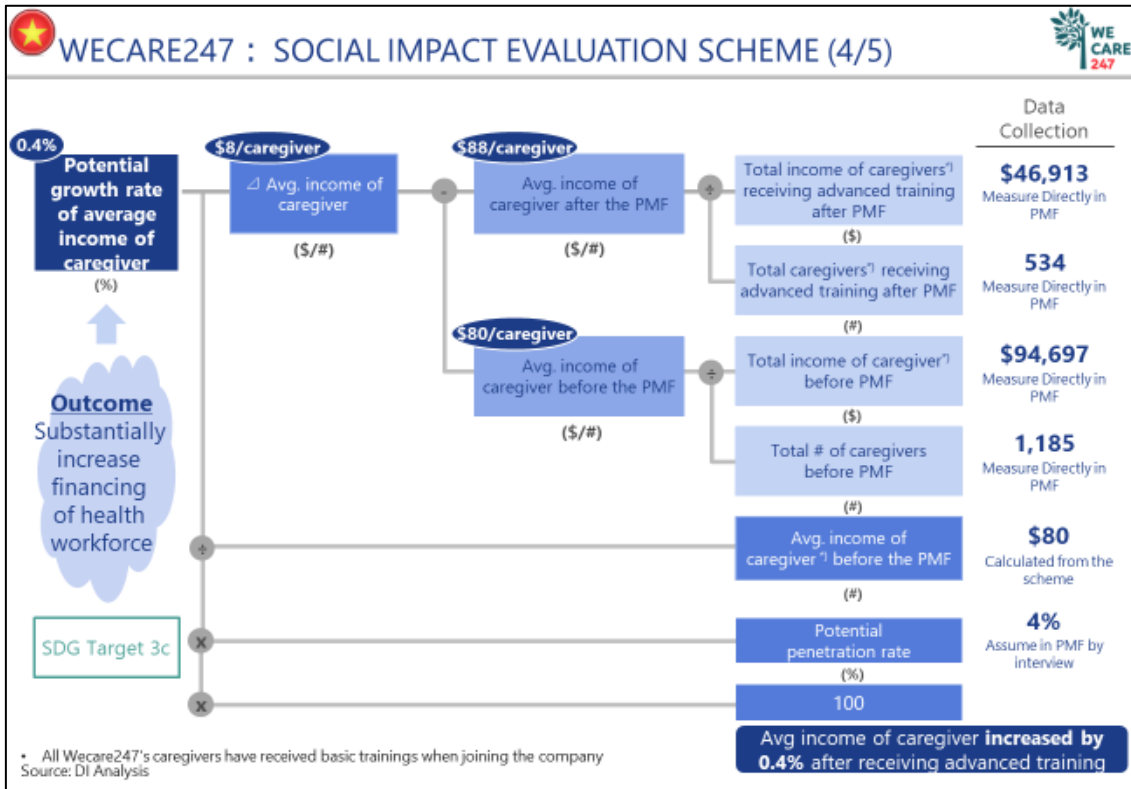
【Figure 2-4-14: WECARE247 social impact evaluation (1/5)】



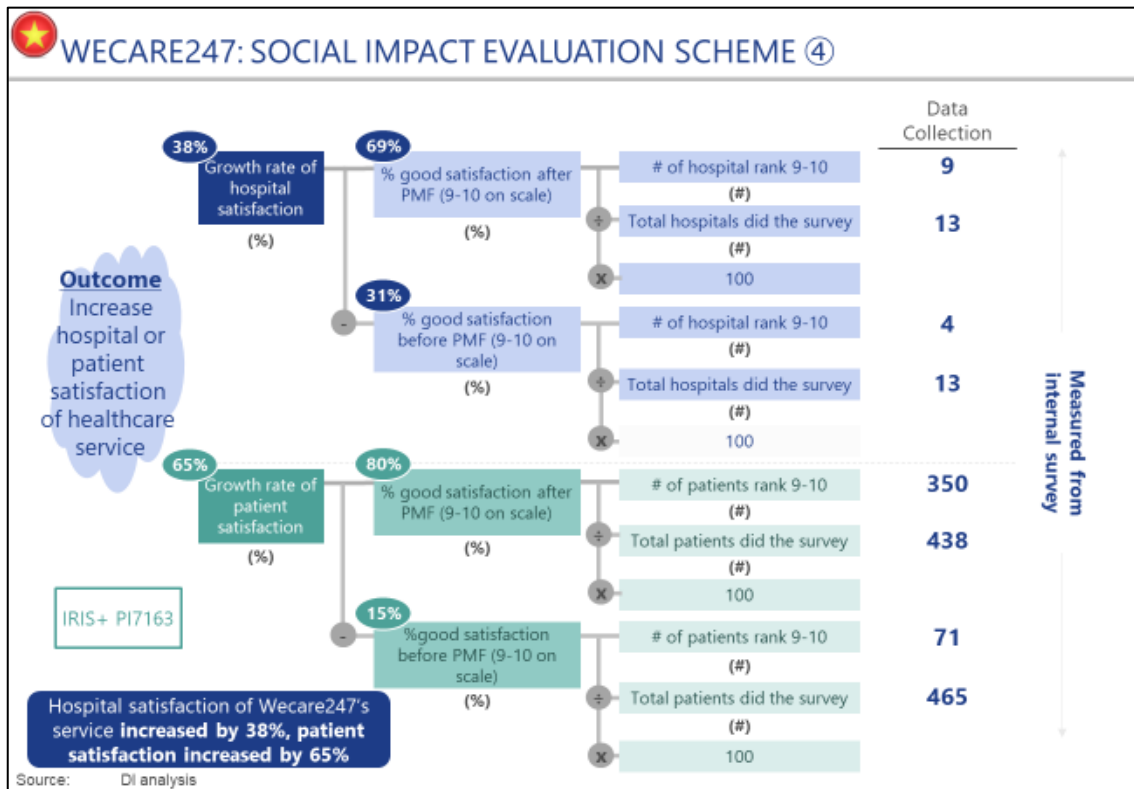
【Figure 2-4-15: WECARE247 social impact evaluation (2/5)】



【Figure 2-4-16: WECARE247 social impact evaluation (3/5)】



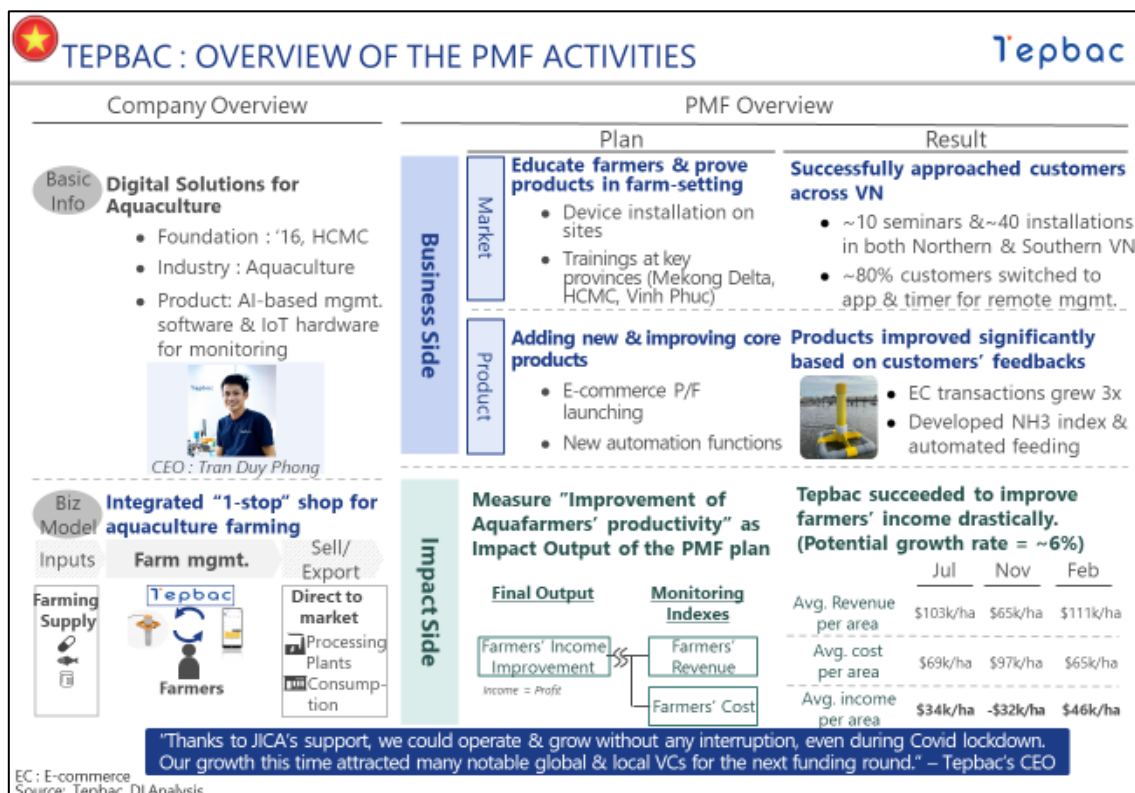
【Figure 2-4-17: WECARE247 social impact evaluation (4/5)】



【Figure 2-4-18: WECARE247 social impact evaluation (5/5)】

TEPBAC

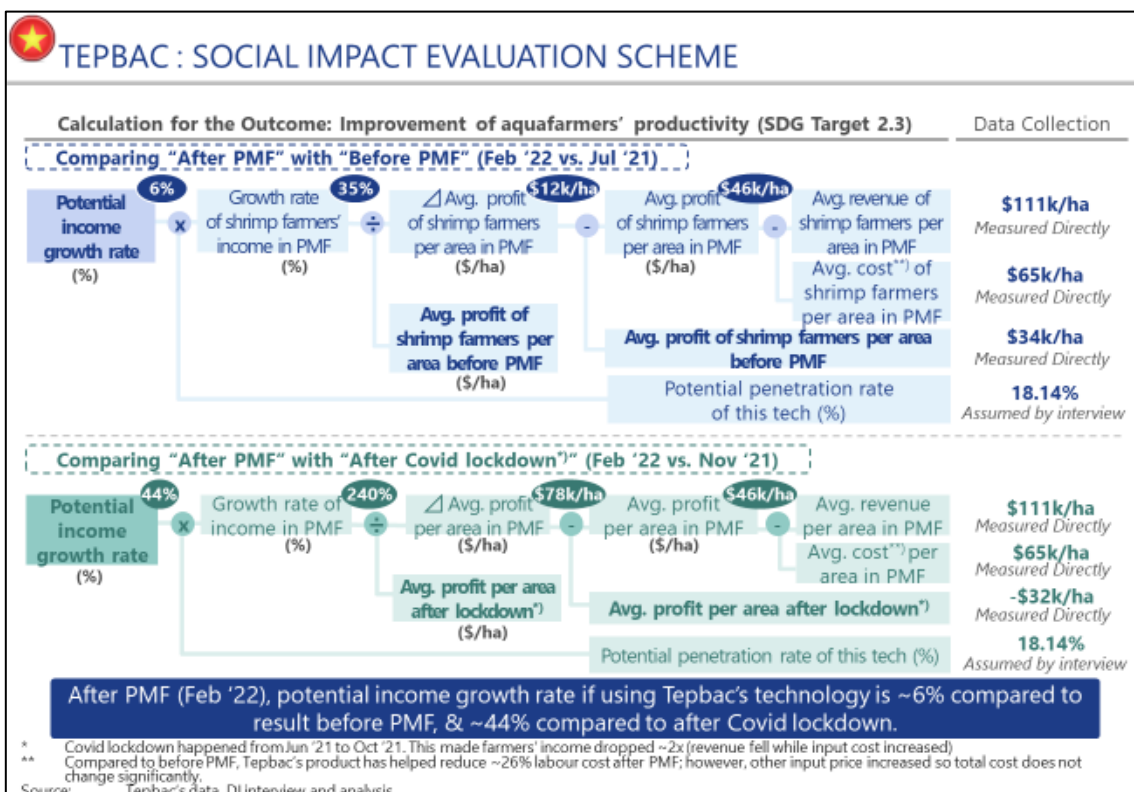
TEPBAC was also affected by lockdowns in Vietnam, but was able to complete its PMF verification without delay. The company's most significant PMF achievement was the EC launch for aquafarmers and device improvements. As it is an advanced technology in the country, they were able to organize seminars for information-sharing/education purposes to potential users – one of the success factors of the PMF. Similar to Regional Fish, their focused social impact indicators were productivity enhancement and aquafarmers' income increases. The same scheme could increase income of aquafarmers in the country by more than 6%. The following is a summary of the company's PMF, its most recent PMF initiatives and social impact evaluation methodology.



【Figure 2-4-19: PMF result summary of TEPBAC】



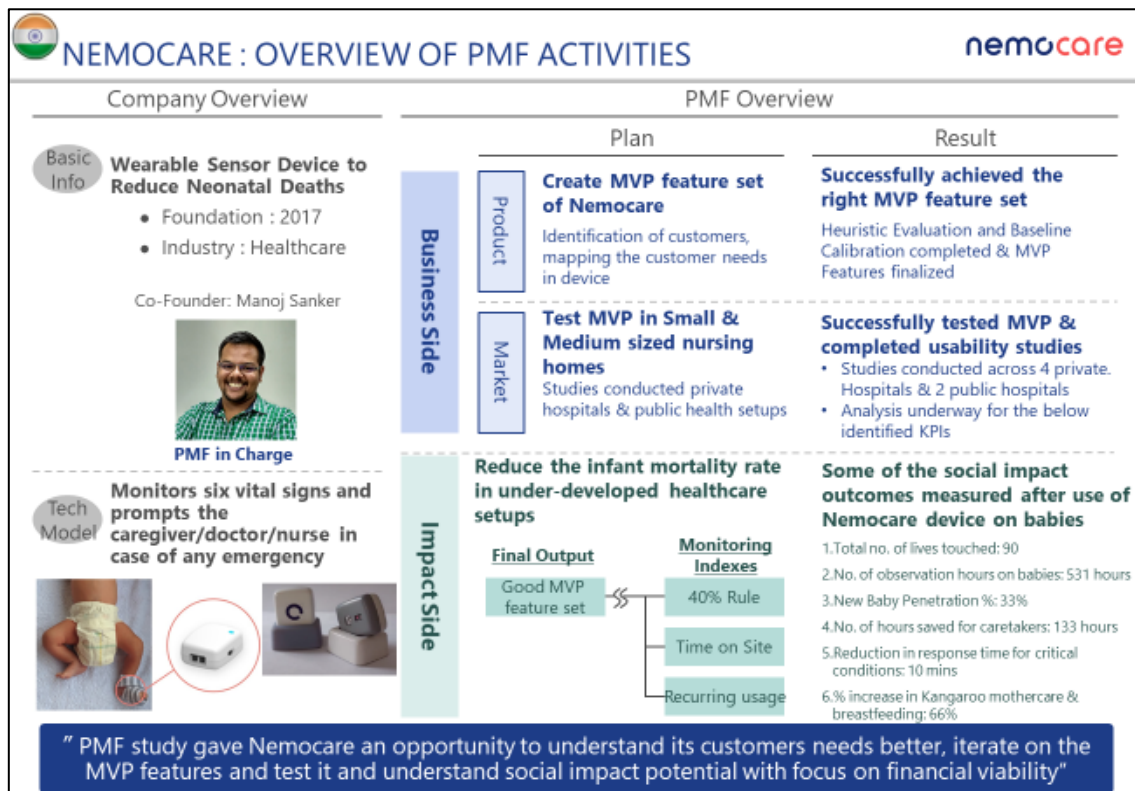
[Figure 2-4-20: PMF overview of TEPBAC]



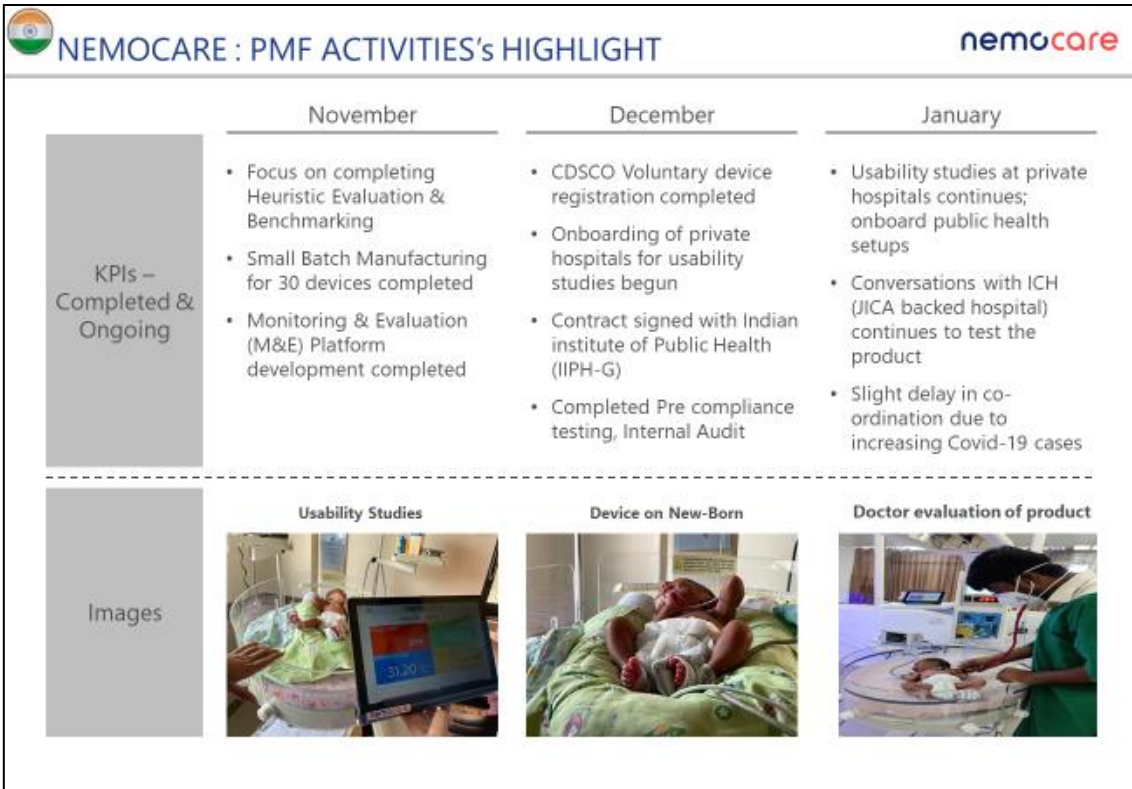
[Figure 2-4-21: TEP BAC social impact evaluation]

NEMOCARE

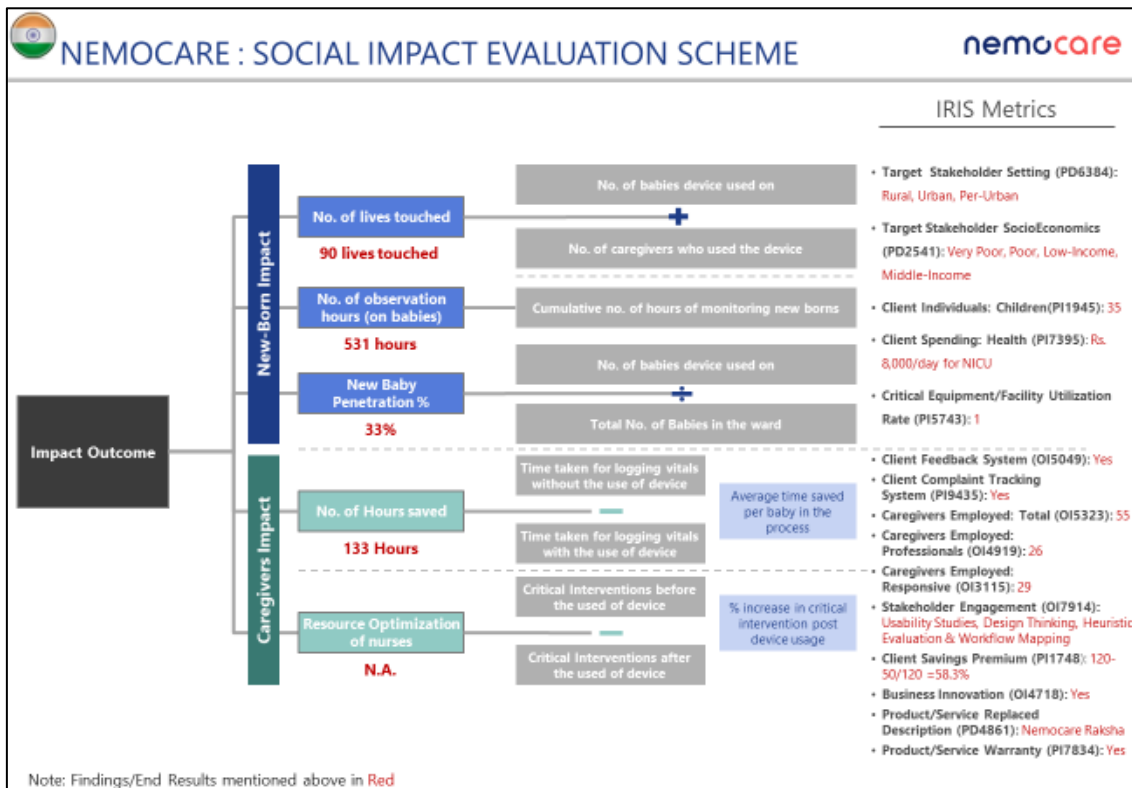
NEMOCARE's PMF verification was considered the most successful in this study. NEMOCARE provides a service for obtaining, analyzing, and alerting on vital information of newborns by attaching IoT devices to them, and with this demonstration, MVP of their service was a nearly completed. During PMF verification, device data display and the incorporation of doctor/nurse operations were optimized. The fundamentals of a practical and socially meaningful business have been built. In order to verify the marketability, 4 private hospitals and 2 public hospitals were engaged. NEMOCARE selected two types of indexes: for new born babies and for hospitals. NECAMORE completed the collection of data for both of them and calculated the impact numerically. The following is a summary of the company's PMF, its most recent PMF initiatives and social impact evaluation methodology.



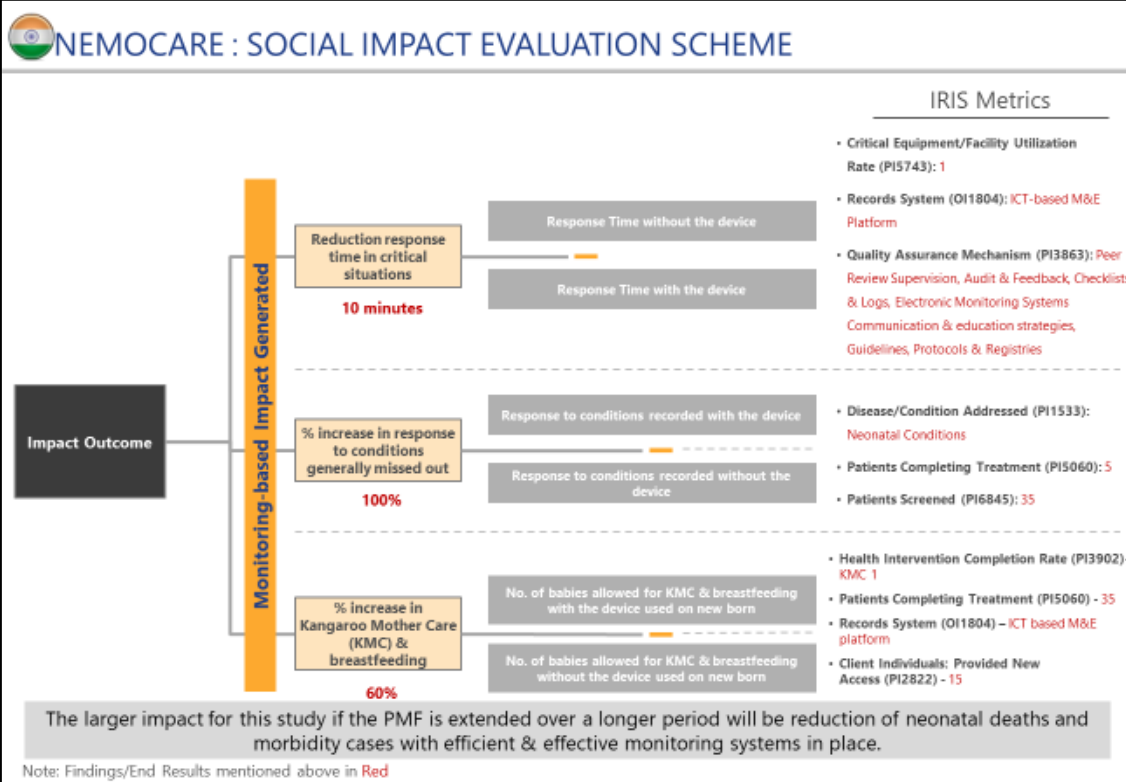
【Figure 2-4-22: PMF result summary of NEMOCARE】



【Figure 2-4-23: PMF overview of NEMOCARE】



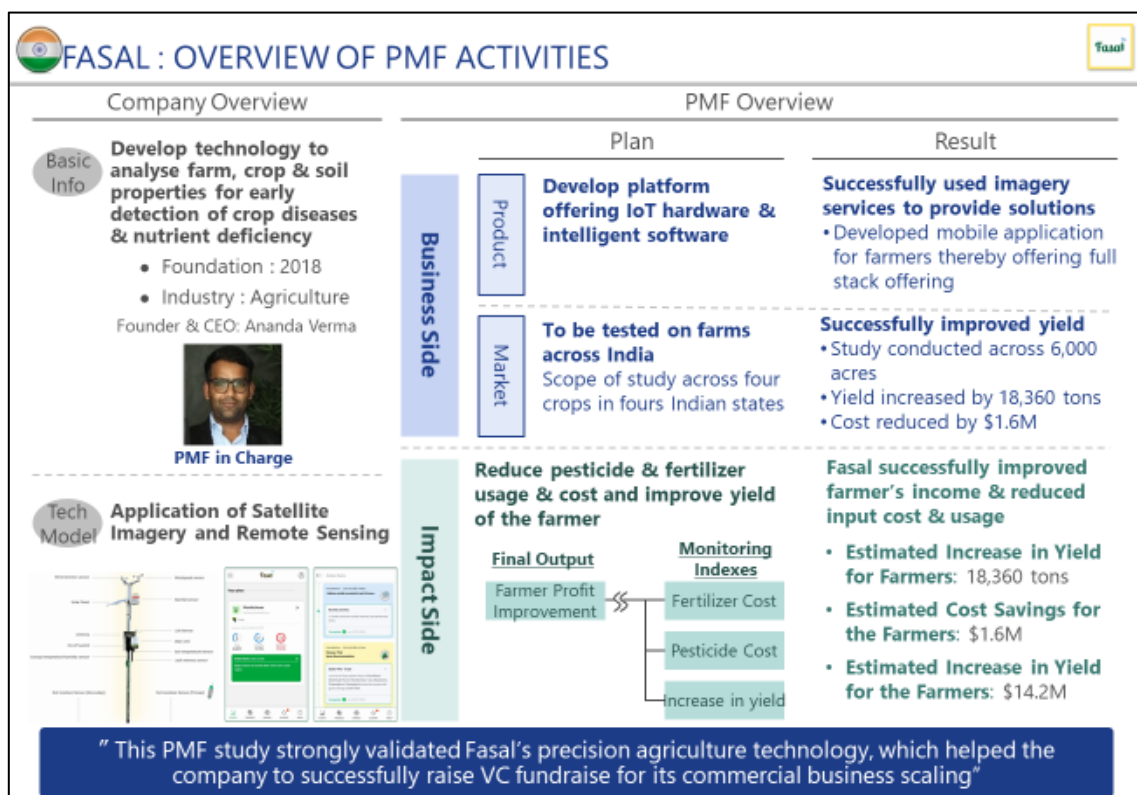
【Figure 2-4-24: NEMOCARE social impact evaluation (1/2)】



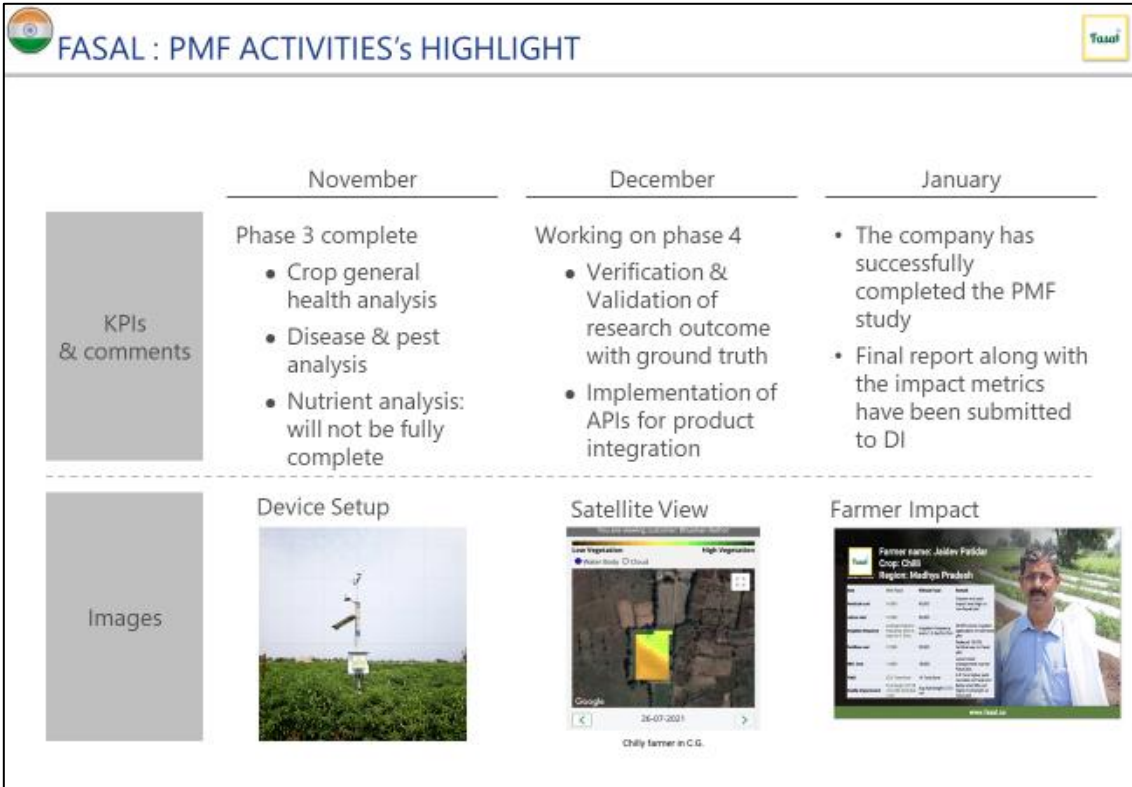
【Figure 2-4-25: NEMOCARE social impact evaluation (2/2)】

FASAL

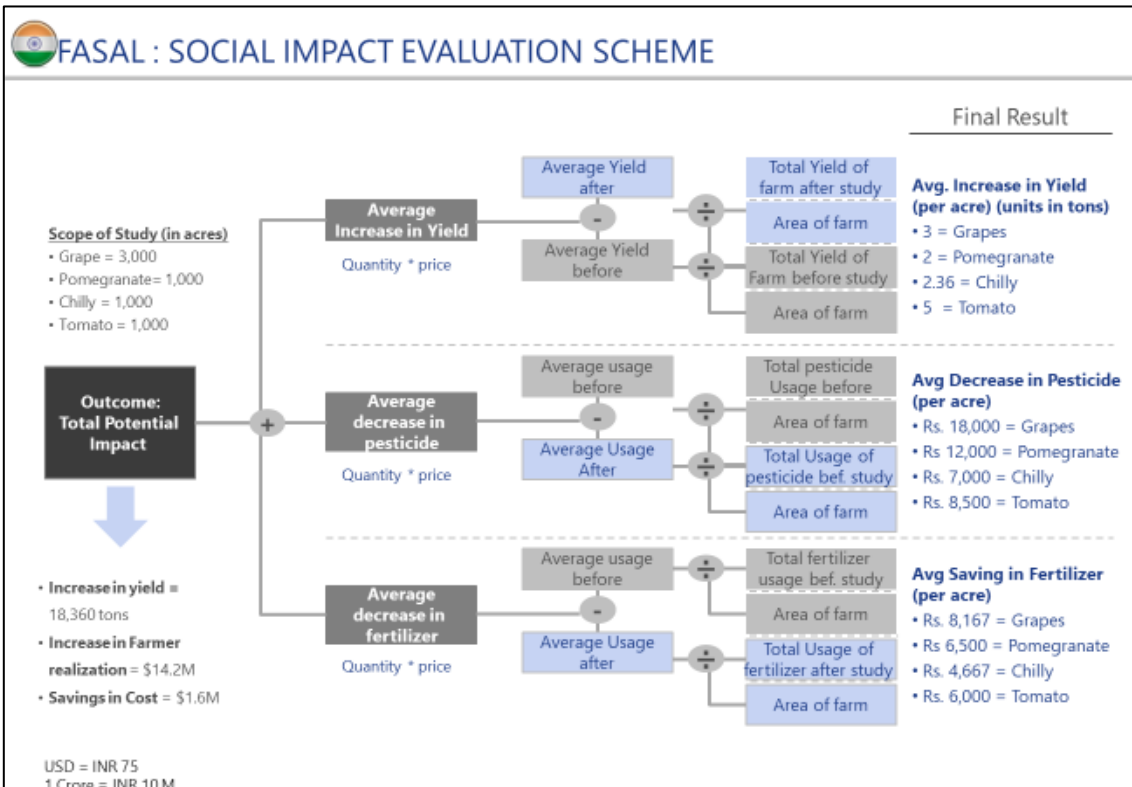
FASAL completed the PMF verification items early. Technical-wise, the company improved their software UI/UX to enhance user-friendliness and succeeded in increasing yield and reducing costs for farmers with their service. They also managed to measure PMF-induced impact with key indicators being yield increases and fertilizer/pesticide cost savings. In addition, it should be noted that the results of this PMF made a significant contribution to their Pre-Series A funding. Below is a summary of the company's PMF and their most recent PMF activities and social impact measurement methodology.



【Figure 2-4-26: PMF result summary of FASAL】



【Figure 2-4-27: PMF overview of FASAL】



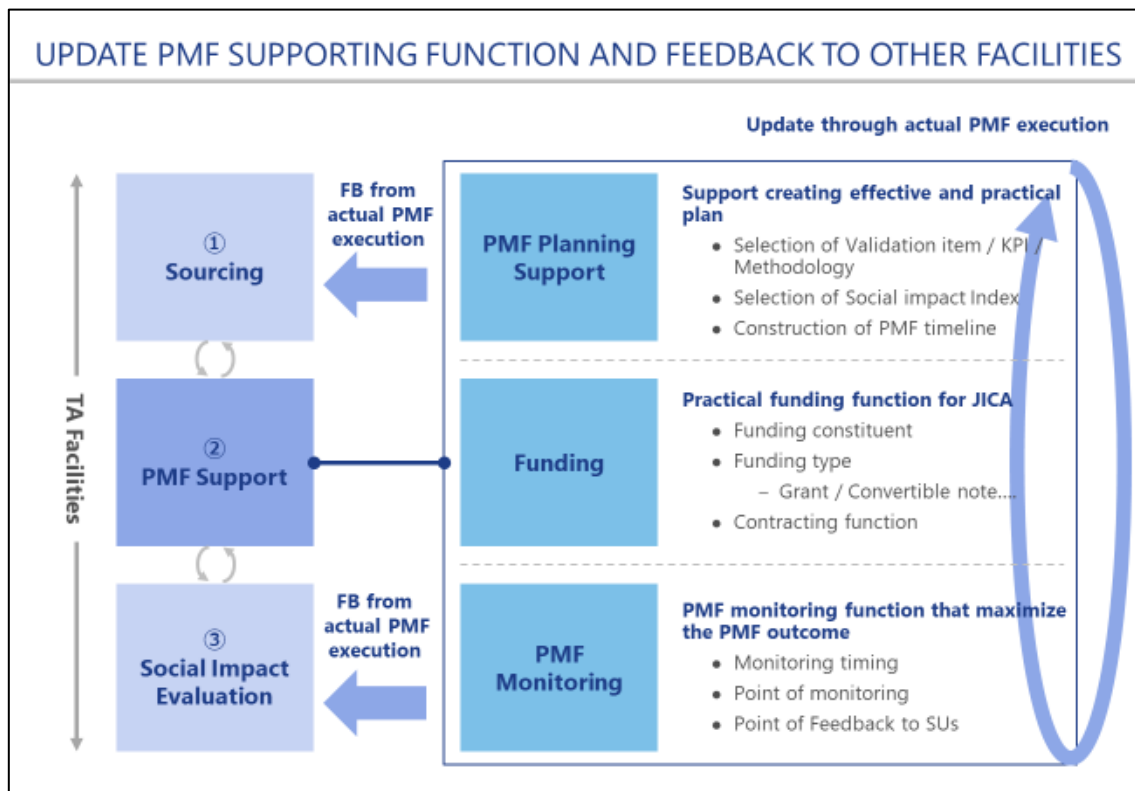
【Figure 2-4-28: FASAL social impact evaluation】

2-5 Learning from PMF verification and function updating policies

As mentioned in the previous section, DI has provided PMF support to 6 startup companies and received their feedback on our PMF support. The main results and function updating policies with the startups' feedback reflected are outlined below.

Interview method

At the monthly progress monitoring meetings, all of the 6 startups are interviewed about the PMF supporting functions. The below figure summarizes our interview standpoints (i.e., PMF functions).



【Figure 2-5-1: Overview of PMF functions】

Summary of feedback

DI received startups' feedback on the 3 functions shown in the above figure, namely (A) PMF planning function, (B) Funding function, and (C) PMF monitoring function. The following figure shows their impressions and comments concerning these 3 functions.

(A) STRATEGIC INTERPRETER IS STRONGLY NEEDED IN PLANNING PHASE		
PMF Planning Support : Feedbacks from SUs and Update Orientation		
	Feedback from SUs	Point of Improvement
PMF Planning support	Validation item & KPI selection <ul style="list-style-type: none"> " Feedback from DI as a strategic consultant strongly helped us to create KPI and Validation items " (Reginal Fish) " Got help in identifying the new KPIs which were earlier more towards PMF and not much towards impact" (Nemocare) 	No
	An interpreter's function is really needed and we should reconsider the framework of evaluation scheme <ul style="list-style-type: none"> " To create the good scheme, people who can understand both social evaluation scheme and business scheme. Besides, meanings of numerical evaluation are little bit weak for startups and I think we should update time frame and evaluation scope (not only for PMF scope)" (Reginal Fish) 	No update for this PMF study but should reconsider when a fund created
	PMF timeline construction & update <ul style="list-style-type: none"> " Working with JICA, Wecare247 becomes more professional & efficient because we set KPI & deadline as well as require them to report on their progress" (Wecare247) " Very flexible and speedy DI's support" (Nemocare) 	No

【Figure 2-5-2: Summary of feedback concerning PMF planning support】

(B) FUNDING SCHEME & OPERATION ARE WELL OPITIMIZED		
Funding: Feedbacks from SUs and Update Orientation		
	Feedback from SUs	Point of improvement
Funding	JICA's fame and networks are strongly contributing <ul style="list-style-type: none"> " Fame of JICA is strongly contributing to our activities. Every healthcare entities in India knows JICA" (Nemocare) " Because JICA support us, we could potentially collaborate with governmental agency like JETRO and this can help us go to oversea market" (Reginal Fish) 	No
	No strong feedback on this part <ul style="list-style-type: none"> " Purpose of money using is well define comparing to VC, we can create the clear plan" (Nemocare) 	No
	Speed of contracting and funding are well valued <ul style="list-style-type: none"> "Fastest grant scheme comparing to others " (Nemocare) " Initial contracting and posting went smoothly" (FASAL) " If funding or contact process speed up, it would be great" (Wecare247) 	No

【Figure 2-5-3: Summary of feedback concerning funding】

(C) THIS PMF FUNCTION CAN BE UNIQUE & INDISPENSABLE SUPPORTING		
PMF Monitoring : Feedbacks from SUs and Update Orientation		
	Feedback from SUs	Point of improvement
Monitoring Timeline	<p>Monthly monitoring is bit too much for SU</p> <ul style="list-style-type: none"> • "Wecare247 is a full group of serial entrepreneurs with easy working style; therefore, they are not familiar with regular progress update and report." (Wecare247) • "Monthly MTG is too much for SU in initial stage" (TEPBAC) 	We should modify the time frame of monitoring MTG
Point of Feedbacks	<p>JICA's and DI's feedbacks contribute to SU holistically</p> <ul style="list-style-type: none"> • "We could well structure the plan through this monitoring MTG and this output can be good indicator for other investor to assess whether PMF is proceeding" (Nemocare) • "Appreciate for giving proper direction monthly" (FASAL) 	No
Others Collaboration with JICA etc...	<p>Networking is one of the unique function</p> <ul style="list-style-type: none"> • "Networking and collaboration activities are more important for us (60% weightage) than getting the funds (40% weightage)" (FASAL) • "In terms of future valuation, oversea activities are really important so JICA's support is quite meaningful for us" (RF) 	We can consider the framework of how JICA can help SUs

【Figure 2-5-4: Summary of feedback concerning PMF monitoring】

The feedback of the startups concerning each and every function is extremely positive with the following 3 highlights:

- The understanding of both social solutions and actual business activities
- Flexible PMF support + funding by JICA and DI
- JICA's network in each country

Especially, the local network with its benefit confirmed by most startups makes JICA stand out among other venture capitalists and development agencies.

During the course of PMF monitoring activities, some common areas for improvement and 2 suggestions regarding our PMF support function have been revealed. The following part describes our findings as well as our proposed directions and solutions to address them. In this PMF experiment, we did not find any common issues shared within each target country or sector, but issues commonly found in PMF activities of all start-ups.

1) Managing delay and change of PMF plan

The COVID-19 pandemic has forced most start-ups to make some changes to their original PMF plans. In particular, they were unable to visit their target companies and consumers which resulted in unavoidable PMF delays, changes in some PMF verification items, and the submission

of alternative deliverables. While the PMF experiments have been made possible through flexible changes in the startups' PMF plans, the circumstance also necessitated a flexible response from the PMF monitoring party. We have particularly taken a closer look at PMF verification items to re-examine the possibility of implementing the PMF experiments with a fewer number of man-hours performed and managed to make changes to the deliverables in a flexible manner. Such event will inevitably occur when we are to provide business support to start-ups with business plans that might be changed in a short period of time, not only limited to the current pandemic.

2) Issues related to social impact measurement

One of the most heard comments is that it is difficult for the PMF timeline to coincide with social impact measurement efforts. This is due to the following 2 reasons.

- ① Due to the short duration of PMFs, there is a limited number of metrics that can be measured and calculated during that short period;
- ② Since verification items within the PMF experiments are constituent parts of these startups' business, there will be a gap between the actual impact the startups have on society and the social impact generated within the PMF framework.

In this PMF initiative, we have addressed both ① and ② above by having the start-ups organize their impact metrics in as large a framework as possible. We also advised the start-ups to measure and submit separate reports for impacts achieved through this PMF and in other areas. In the future, it would be advisable for JICA to support impact investment ecosystems in the same way, by taking into account the overall picture of start-up business and time frame for impact measurement before the beginning of start-up selection, business support, and social impact measurement processes.

3) Contribution to SUs with social impact measurement

Startup interviews have revealed that the startups participating in the PMF were able to pitch their business in a quantitative manner to potential investors with impact indicator setting and measurement, which in turn could benefit their fundraising. It is not an overstatement to say the PMF outcomes actually contribute to the growth of the startup companies, not only in PMF verification period, but also in a medium term.

Chapter 3. Research studies related to impact investment ecosystem

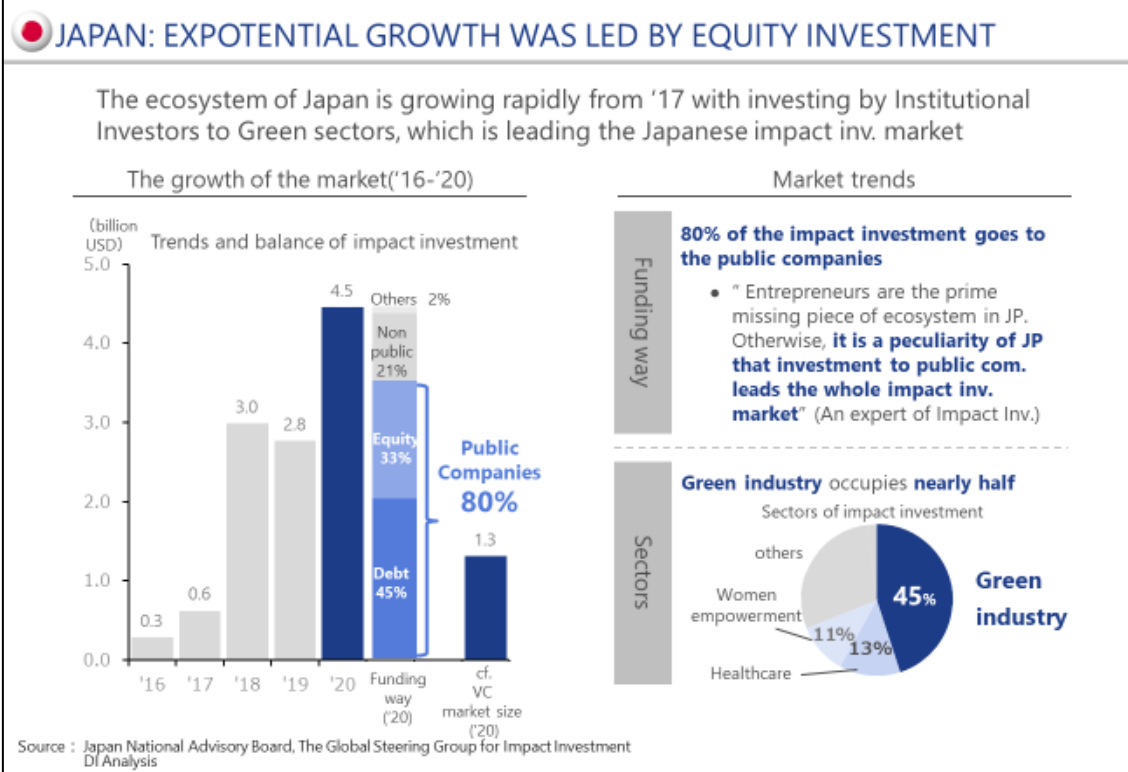
3-1 Impact investment ecosystem trends

JICA is studying to develop an assistance framework for building impact investment ecosystem in three countries in Southeast and South Asia (Vietnam, Indonesia, and Bangladesh) in cooperation with the local governments around 3 functions, i.e., the search and business matching of potential start-up companies with ability to generate social impact (1), providing necessary support for start-up companies in PMF and other activities (2), and social impact measurement, assessment, and management (3). Besides, a function of providing funds specifically for impact investments is also offered. JICA will collaborate with private companies in the existing ecosystem, the local governments, government-related organizations to deliver these functions. Therefore, by carefully looking at leading countries in Southeast and South Asia in which the impact investment ecosystems have been structured to a certain extent, we can gain insights into the process of ecosystem development and government roles. In this study, we have included Japan and India as leading markets for our research and analysis of impact investment ecosystem. The following is an overview of our research conducted in these countries, focusing on three main issues: establishment process of impact investment market, key stakeholders of the ecosystem, and transition of roles of the governments in line with each ecosystem development stage.

3-1-1 overview of impact investment ecosystem in Japan

Japan's impact investment ecosystem has been growing significantly in recent years as demonstrated in the figure below. Unlisted stocks have been the main driver of impact investment since the market's dawn, with direct investments made into unlisted companies or impact investments made via funds. The market witnessed a rapid growth in 2018, mainly due to the market participation of institutional investors and increased investments in listed company stocks.

Listed stocks and bonds are dominant investment options, accounting for 80% of the impact investment market in terms of value. As businesses have become increasingly concerned about the sustainability of their business activities for corporate social responsibilities, they tend to easily secure budget for sustainability setting it aside from others. In light of the above, investments into listed company stocks are expected to further increase in the future. Nearly half of the total impact investments are in global environment related sectors, such as climate change and renewable energy, followed by the healthcare sector and fields of women empowerment.



【Figure 3-1-1: Japan’s impact investment ecosystem overview】

3-1-2 Key stakeholders in the impact investment ecosystem of Japan

The figure below shows key players in the impact investment ecosystem of Japan. The impact investment market actors across the flow of impact investment capital are funders, intermediaries, and users. Stakeholders are classified into three categories by their role: (1) Market participants, (2) Market facilitators, and (3) Market regulators.

1. Market participants

Key stakeholders include institutional investors, banks, and foundations. Institutional investors are the major drivers of the overall market. Their focus is making impact investments into listed stocks, mainly those of small and medium-sized companies. The first example of an institutional investor entering the impact investment market was Dai-ichi Life Insurance Company's investment in unlisted stocks. This investor invested in unlisted companies engaged in healthcare business, sustainable materials, financial support for developing countries with the aim of creating structural changes in society, such as improving quality of life and developing platforms to reduce medical costs through advanced technologies under their “ESG investing” policy. The company has invested 6 billion yen into funds and 30 billion yen in listed stocks (as of August 2021). There are a few examples of direct investments made by institutional investors into unlisted companies.

Following institutional investors, banks are the impact investment market leader with many impact investments made into listed companies' debts. Shinsei Bank, Limited, together with Mizuho Bank, Ltd. and the Social Innovation and Investment Foundation, have established the Investment Limited Partnership Japan Impact Investment II under a joint GP management structure to invest in unlisted companies engaged in businesses related to childcare, nursing care, and new working styles. In addition to individual investments, they also conduct trials to visualize the impact created by the fund. Besides the Social Innovation and Investment Foundation, the Sasakawa Peace Foundation is also involved in impact investing activities.

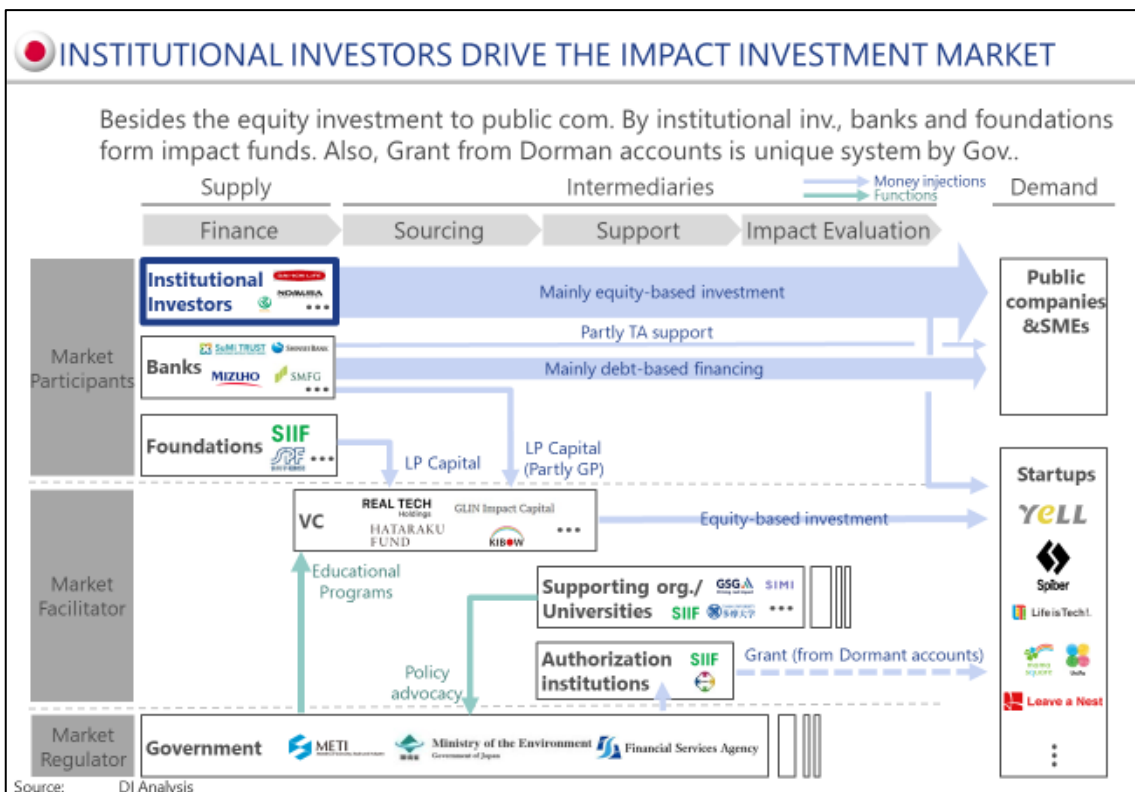
2. Market facilitators

Major stakeholders include VCs, academic institutions, government-backed development assistance organizations such as incorporated associations and foundations, with the largest VC fund being REAL TECH Holdings Co., Ltd., which was funded by venture companies and securities companies. The Global Steering Group for Impact Investment (“GSG”), the Social Innovation and Investment Foundation (“SIIF”), and the Social Impact Management Initiative (“SIMI”) are three representatives of government-backed organizations supporting the development of impact investment ecosystem of the country. GSG conducts research studies, knowledge sharing, and networking activities, while SIIF serves as the executive office for the government study sessions and works to distribute subsidies through the introduction of dormant account utilization system established under the Cabinet Office. SIMI provides the government with impact metrics proposals and promotes domestic networking activities. In the world of academics, the Tama University Center for Social Investment was founded in 2018 as the very first think tank solely focusing on social finance in Japan. Its activities span a range of areas including the development of policy recommendations in conjunction with the National Advisory Board members under the Global Steering Group for Impact Investment (GSG), impact investing stakeholder engagement in educational and networking activities via online seminars. Starting 2019, Ritsumeikan University has operated its own social startup support platform “RIMIX” with a view to solving social problems through capable human capital development. RIMIX provides elementary to postgraduate students with SDGs education programs and hands-on learning experiences sponsored by JAFCO Group, Sony, among others. Also, the said university has launched a billion-yen “Ritsumeikan Social Impact Fund” to help foster student entrepreneurs.

3. Market regulators

Major ministries involved in impact investment are the Ministry of the Environment, the Financial Services Agency, the Ministry of Economy, Trade and Industry, and the Cabinet Office. One of the systems led by the Cabinet Office and the Financial Services Agency is the system for

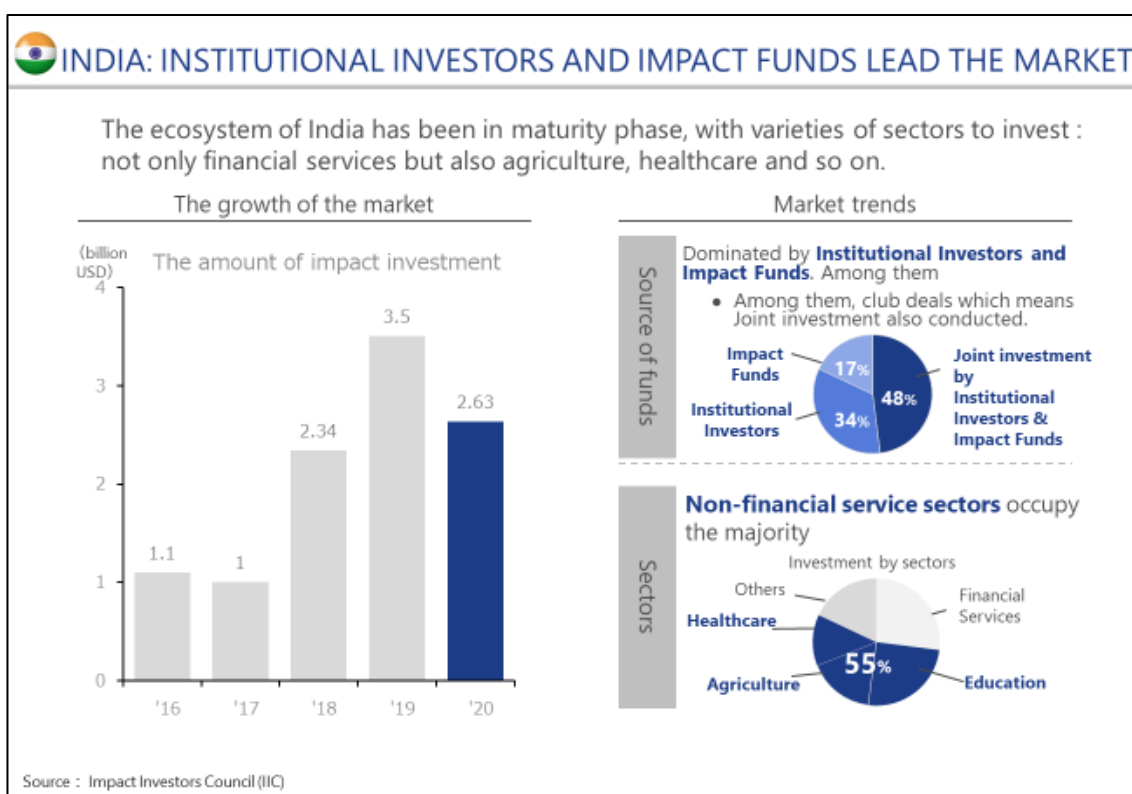
utilizing dormant deposit accounts. With the implementation of the Act on the Utilization of Dormant Deposits in 2019, dormant deposits that have not been used for more than 10 years can be used for activities supporting communities that are facing declining activation and other social difficulties. Currently, dormant deposits are only used for subsidies due to concerns about public criticism regarding losses incurred from dormant deposit uses. On the other hand, since the program has already been launched for three years, it is possibly the time to study the possibility of using the funds for non-subsidy purposes. In addition, the Financial Services Agency has been holding study sessions for financial market participants and government officials in collaboration with the GSG since 2020. Starting 2020, the Ministry of the Environment has also been holding various related study sessions.



【Figure 3-1-2: Details of impact investment ecosystem of Japan】

3-1-3 Overview of the impact investment ecosystem of India

The impact investment market and ecosystem in India has reached its maturity stage. Institutional investors and impact funds play a central role in the ecosystem functioning, getting on board with the entire process, from capital injection to impact evaluation. The vast majority of investees across the impact investment ecosystem are startups who often receive direct investment from institutional investors and impact funds. And, recent years have seen a shift of focus in their investment portfolios from financial sectors toward non-financial sectors.



【Figure 3-1-3 Overview of India’s impact investment ecosystem】

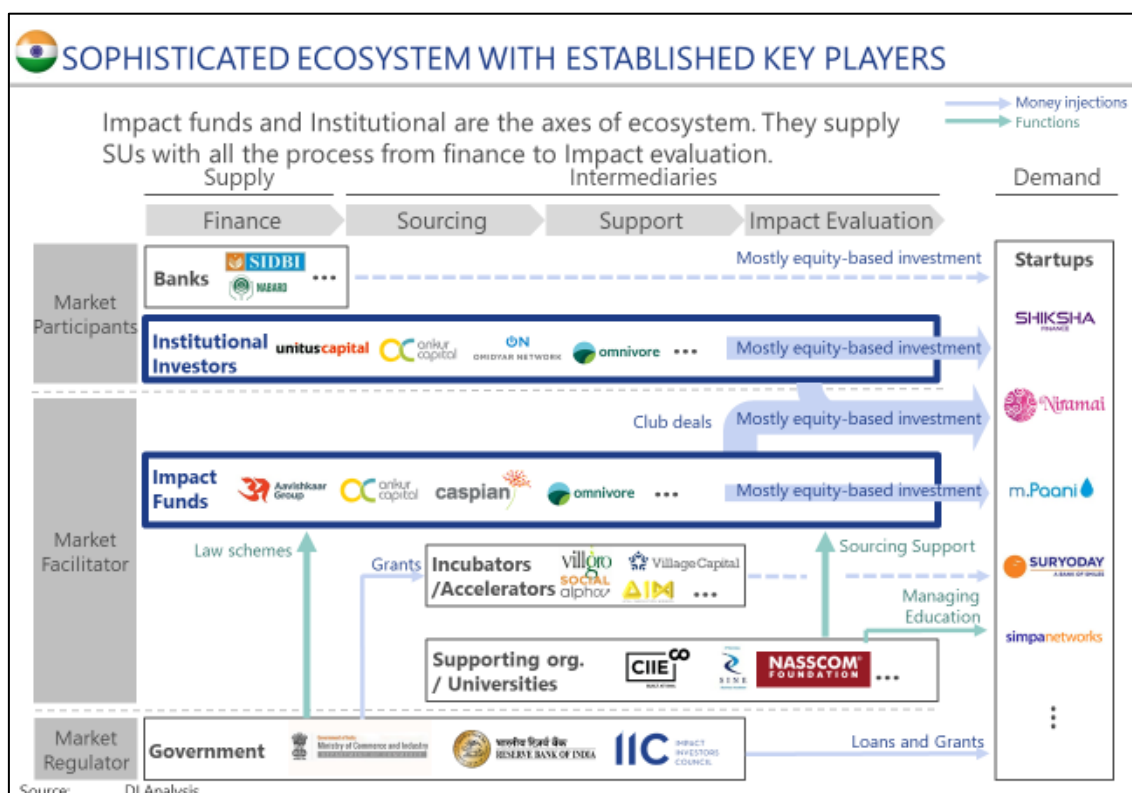
3-1-4 Key stakeholders in the impact investment ecosystem of India

As stated above, institutional investors and impact funds remain the central players in the country’s impact investment ecosystem. Co-investments by these two types of investors are referred to as “Club deals”, and the access to these investment opportunities is only made possible through referrals by institutional investors and impact funds as most of such co-investments are not publicly available to the general investment market. More than half of impact

investment in India comes from these co-investments alone, then when added with stand-alone investments by either institutional investors or impact funds, will make up nearly all of India's impact investment amount in total.

Aavishkaar Group, one of the largest impact investment funds in India, is the most important stakeholder in the ecosystem. The company has been making investment in social impact-oriented businesses since 2001 when the market was still very nascent in India. They now offer a full range of support from startup investment to deal sourcing, impact creation and measurement.

CIIE and SINE also play an important role in India's impact investment ecosystem, with CIIE providing management education for startups and SINE providing deal sourcing support for impact funds, thereby contributing to a more vibrant ecosystem.



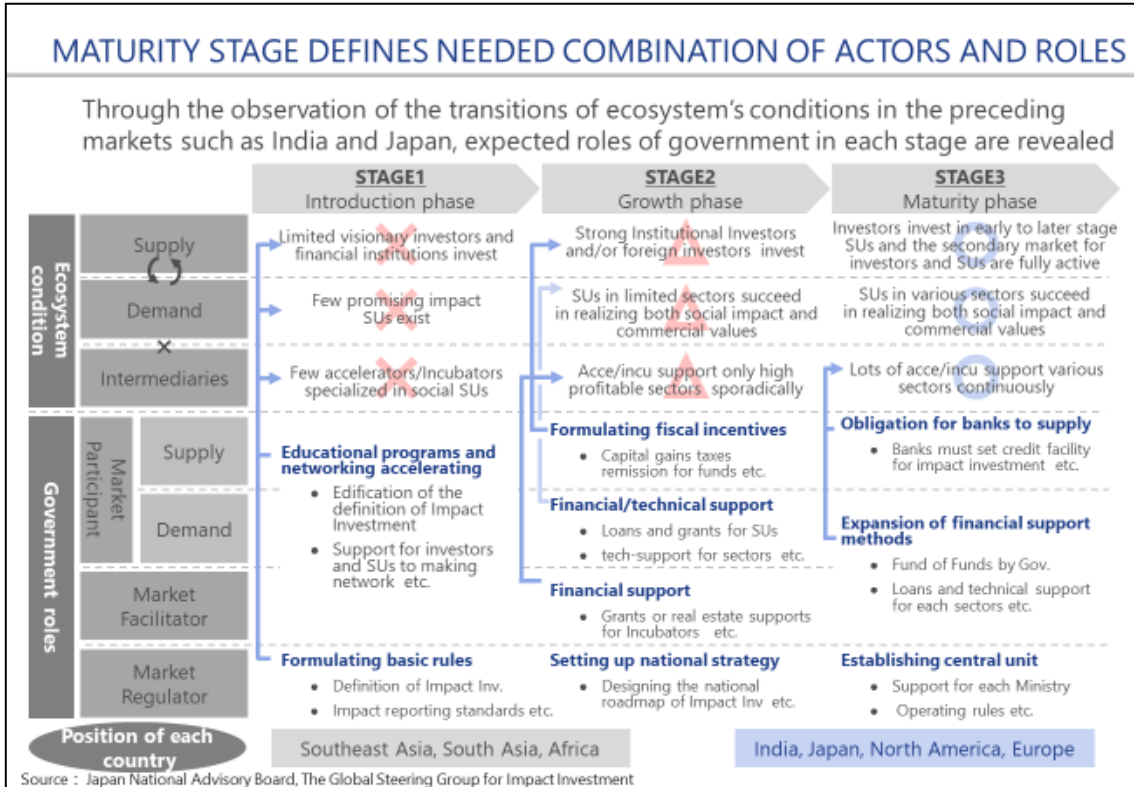
【Figure 3-1-4: India's impact investment ecosystem in details】

3-1-5 Hypotheses on growth stages of impact investment market

Based on developmental trajectories of leading markets in impact investment, i.e., Japan and India, a hypothesis around growth stages of an impact investment market has been formulated. The 3 stages of growth are: 1. Introduction phase, 2. Growth phase, and 3. Maturity phase.

- 1 In the introduction phase of the market, social impact-driven investors actively seek to engage potential investees in launching socially impactful projects. To form an impact investment deal, both funders and funding recipients should have the intention to create impact. However, when the market remains in this stage, it is rare for a business in need of funding to be fully aware of the fact that what they are doing actually creates social impact. Hence, impact investors need to influence their investees with this approach in order to mutually agree on the concept of creating social values. VCs in Japan and impact funds in India played these roles respectively. Plus, accelerator and incubator functions are nearly non-existent in this stage, and even if available, these activities remain dispersed/fragmented.
- 2 During the growth phase, enabled by large-scale capital injections from big investors, as relentless capital inflows to a wide range of investment destinations continuously, the number of impact investment market participants grow rapidly. The primary driver of growth in impact investment market in Japan is institutional investors' market entry, while in India it is investment to domestic impact funds from foreign investors. Dai-ichi Life became Japan's first institutional investor to make social impact investment in 2017, followed by Sumitomo Mitsui Trust Holdings in 2017 and Resona Asset Management in 2021. For India, foreign capital inflows indirectly contribute to the robust growth of the country's impact investment market, for example Shell Foundation's capital contribution to impact fund Aavishkaar Group in 2012.
- 3 In the maturity stage, impact investment market sees more capital inflows together with business support options, resulting in ecosystem stakeholder diversification. Impact funds have also attracted foreign investors, for example the investment from Europe's Tridos Bank and TII to India's impact fund Aavishkaar Group in 2017 described above. Such foreign capital flows into impact funds enable access to continuous support for sectors that had experienced difficulty in finding one, and as a result of this, the diversification of sectors engaged in India's impact investment ecosystem occurs. In 2010, when India's impact investment ecosystem was still in its infancy, financial services made up about

90% of the market's investment portfolio, but by 2019 when the ecosystem started to mature, this number fell to about 40% as other investees in various sectors such as agriculture, healthcare, and technology came to the market.



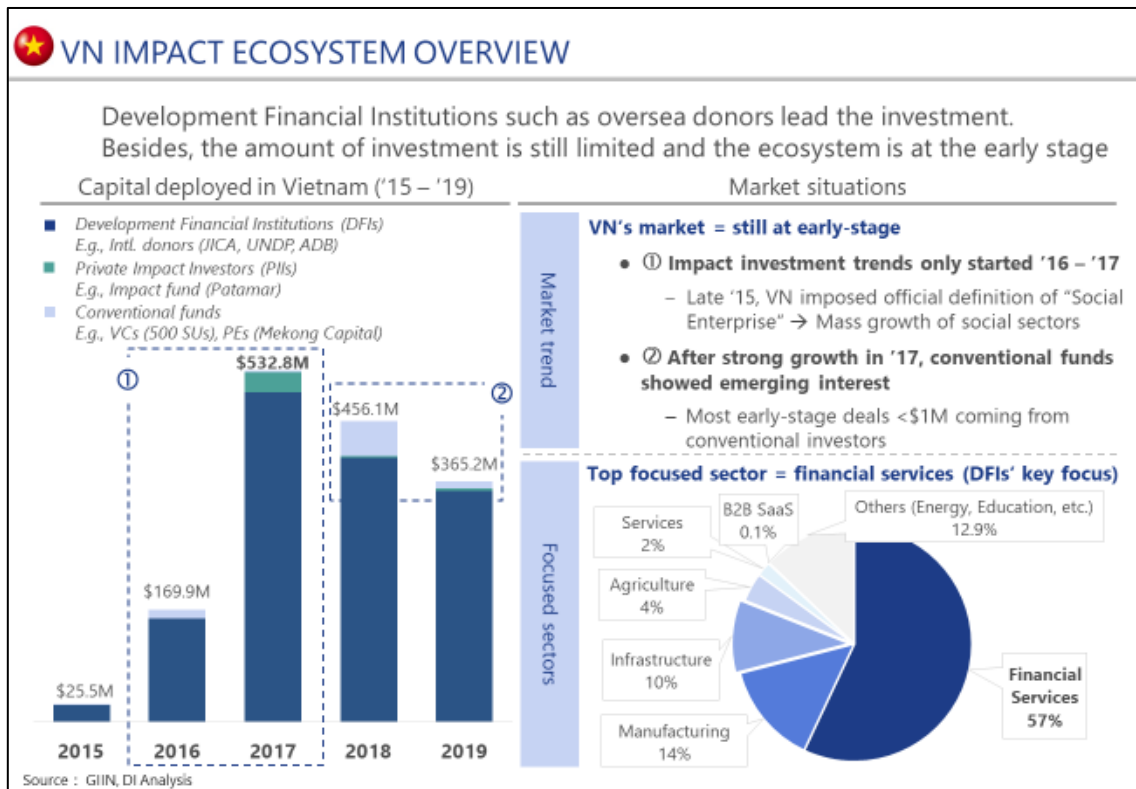
【Figure 3-1-5: Hypotheses on growth stages of impact investment ecosystem】

3-2 Current status and challenges of impact investment ecosystem in developing countries

As mentioned in 3-1, this section will provide an understanding of the current status of impact investment ecosystem in Vietnam, Indonesia, and Bangladesh and issues to be addressed through such situation analysis. The study will focus on three main aspects with according explanations for the three countries: Recent development progress of impact investment ecosystem, overview of activities of key ecosystem players, and issues identified through our analysis.

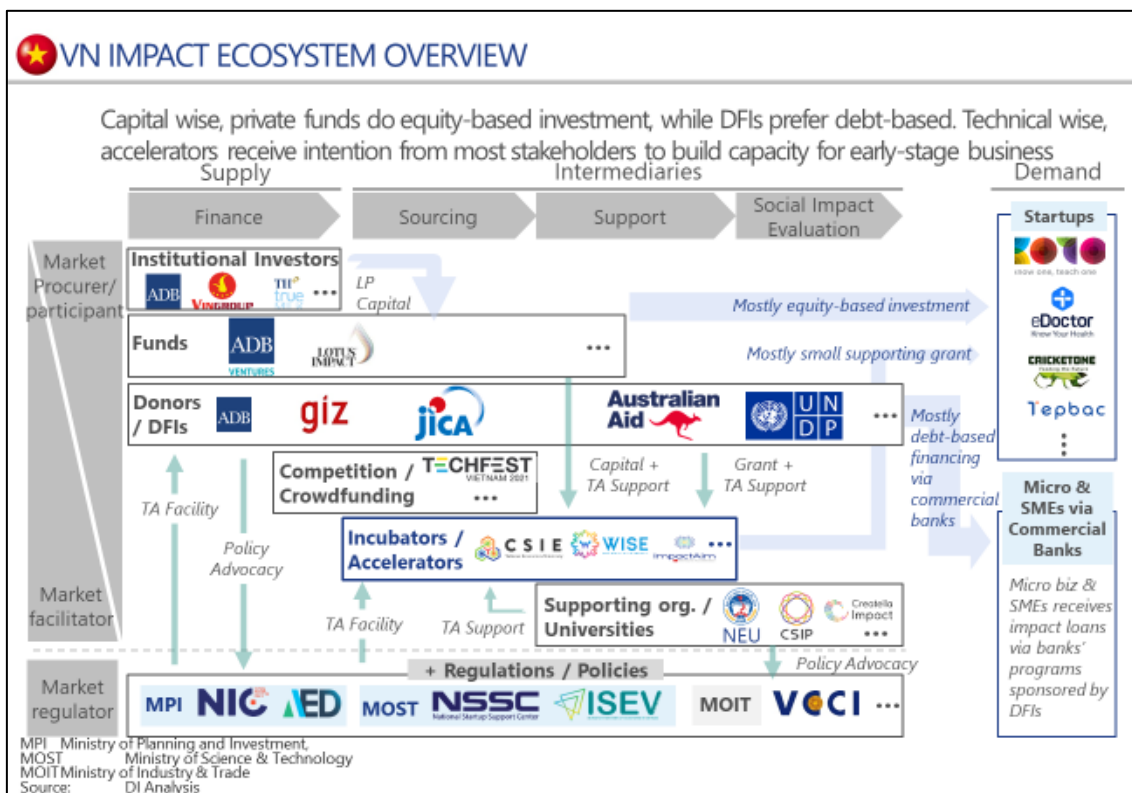
3-2-1 Current status and challenges of impact investment ecosystem in Vietnam

In Vietnam, impact investment has been growing since 2015, with the investment amounting to XX billion yen per year according to most updated reports. The market still remains in its infancy. The year 2016-2017 added momentum to cooperation and support from international donors (JICA, UNDP, ADB, etc.) to local banks. Since then, only some VCs and other players started investing in the ecosystem. Also, impact investments made by international donors aim at small and medium-sized enterprises who solve local social issues via banks, and do not mean direct impact investments made into start-ups.



【Figure 3-2-1: Development status of impact investment ecosystem in Vietnam】

The following figure provides an overview of the ecosystem in Vietnam by function/main function.



【Figure 3-2-2: Overall picture of the impact investment ecosystem in Vietnam】

In Vietnam, incubators and accelerators are currently the core presence of the ecosystem, receiving investments from institutional investors, funds, and donors. Especially, CSIE, founded in 2017, is a leading player in the country's ecosystem that has supported more than 20 impact start-ups thus far.

INCUBATOR UNDER UNIVERSITY : CSIE UNDER NEU 

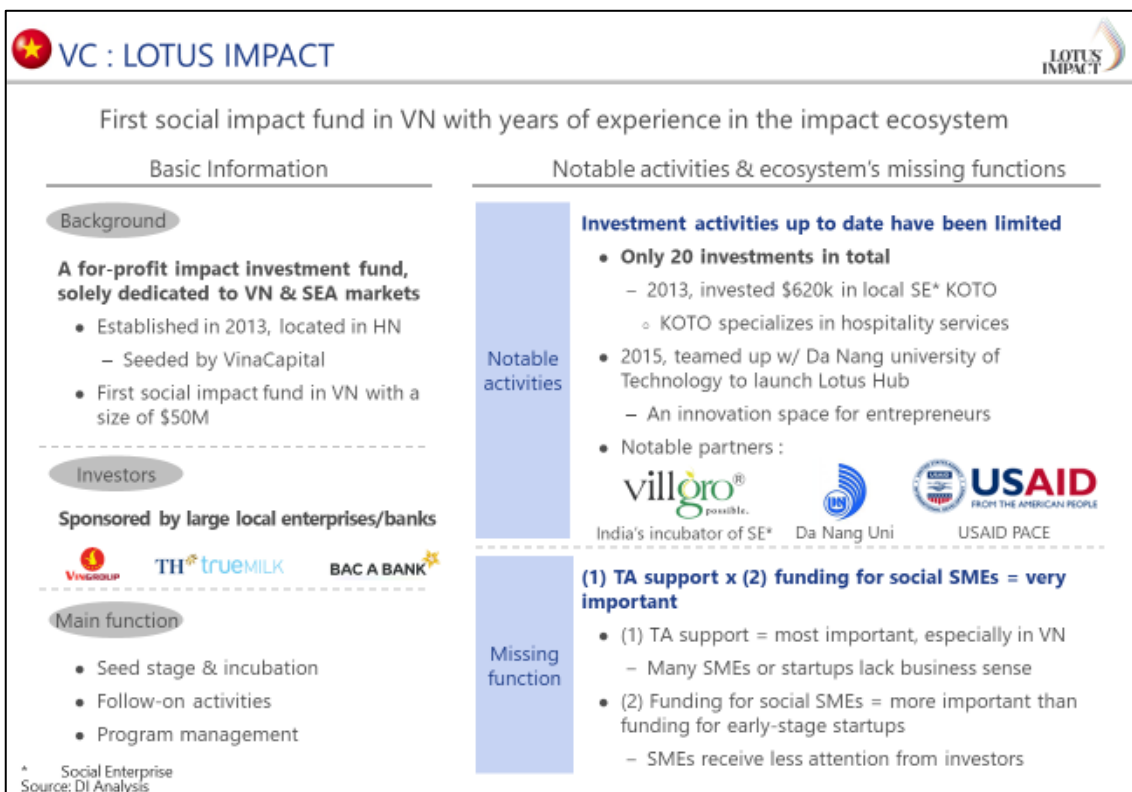
A leading university social business incubator in VN

Basic Information	Notable activities & ecosystem's missing functions
<p>Background</p> <p>Centre for Social Innovation & Entrepreneurship</p> <ul style="list-style-type: none"> Established Feb 2017, Hanoi Incubation center Founder & Director: Thang Truong <hr/> <p>Main function</p> <p>VN's social impact ecosystem builder</p> <ul style="list-style-type: none"> Incubator under university <ul style="list-style-type: none"> A university hub supports social innovation in SEA regions <hr/> <p>Track record</p> <ul style="list-style-type: none"> 10 projects completed 20 impact SUs incubated <ul style="list-style-type: none"> Notable CSIE portfolio: <div style="display: flex; align-items: center; gap: 10px;">    </div>	<div style="display: flex; align-items: center;"> <div style="background-color: #e0e0ff; padding: 5px; writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold;">Notable activities</div> <div style="margin-left: 10px;"> <p>CSIE actively creates innovative learning environment for social startups in VN</p> <ul style="list-style-type: none"> 09/2021: Organized NEURON, an incubation program with theme "Tech for impact" 2018-2021: Joined Youth Co:Lab Viet Nam as partner <ul style="list-style-type: none"> Key feature: SGDs Innovation Incubator Project leads: UNDP & Citi Foundation </div> </div> <div style="text-align: center; margin: 10px 0;">  <p><Youth Co:Lab VN announcement ceremony in 2019></p> </div> <div style="display: flex; align-items: center;"> <div style="background-color: #e0e0ff; padding: 5px; writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold;">Missing function</div> <div style="margin-left: 10px;"> <p>Ineffective & short-term impact incubation program = most challenging issue</p> <ul style="list-style-type: none"> Other missing function: <ul style="list-style-type: none"> No standardized social impact measurement Lack of risk capital for early-stage SUs to scale Lack of coordination between impact stakeholders Investor-unfriendly policy </div> </div>

Source: CSIE's website, DI interview

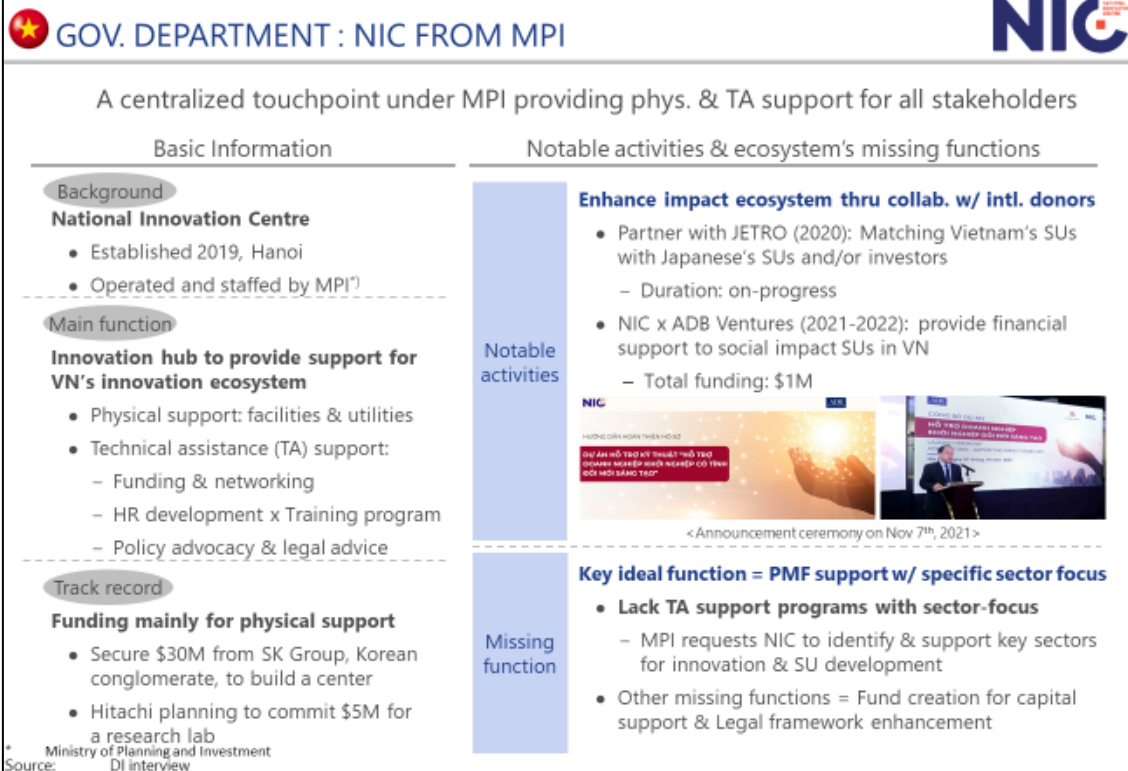
【Figure 3-2-3: CSIE profile and some examples of their initiatives】

There are several investors involved in impact investing. A notable example is Lotus IMPACT, an investee of Vingroup and also one of the country's largest conglomerates. Founded in 2013 as the first VC firm in Vietnam, Lotus IMPACT invests and incubates seed-to-early-stage impact start-ups with around 5 billion yen of fund size. One of its most significant investments was made in 2013 into KOTO, a non-profit company that provides vocational training services in the country. The USD 610k investment strongly demonstrates the company's intention to support social impact start-ups.



【Figure 3-2-4: LOTUS IMPACT profile and some examples of their key initiatives】

While the private sector is the leader in investing in and nurturing start-ups, the government also aims to develop an environment for the ecosystem and provide necessary support for private players. One of the leading organizations is NIC operating under the Ministry of Planning and Investment (MPI) of Vietnam. NIC was established in 2019 with the aim of building an impact investment ecosystem in Vietnam and supporting stakeholders in the ecosystem through two main service offerings: office space for start-ups' operations and soft services such as networking, educational support, and system design. NIC is also actively collaborating with external parties. For example, they worked with JETRO to do business matching of Vietnamese and Japanese start-ups in 2020 and with ADB Ventures to invest in impact start-ups starting from 2021. NIC's initiatives are summarized in the following figure.

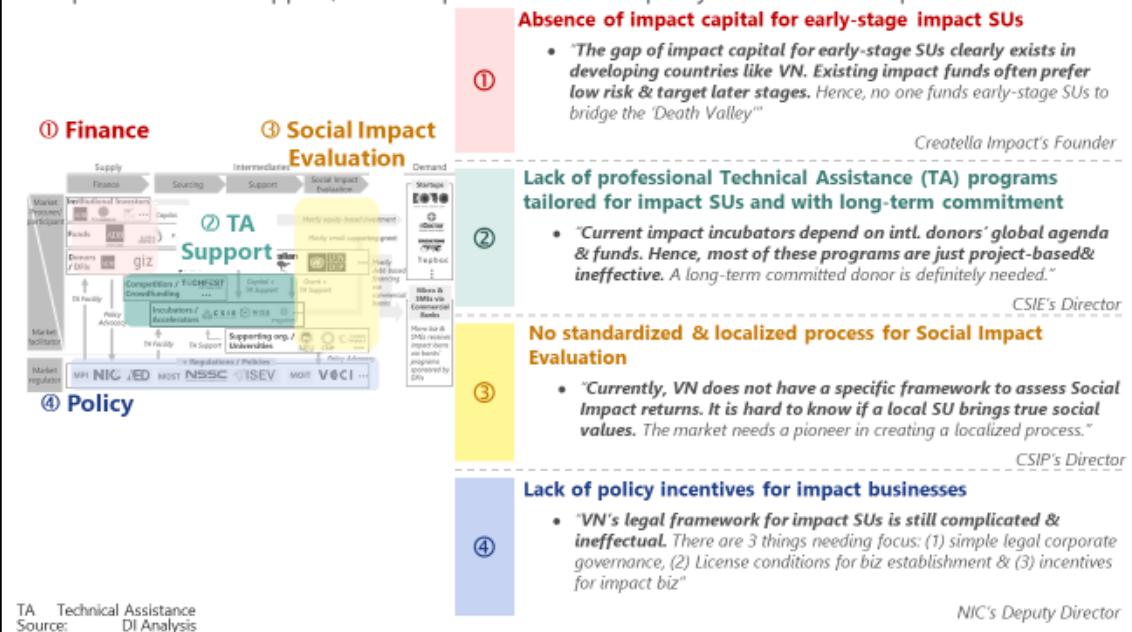


【Figure 3-2-5: NIC profile and some examples of their key initiatives】

We have deepened our understanding of the ecosystem and challenges in Vietnam through interviews with key stakeholders. Challenges in Vietnam's impact investment ecosystem can be grouped into 4 main categories as shown in the figure below.

CHALLENGES IN VIETNAM'S IMPACT INVESTMENT ECOSYSTEM

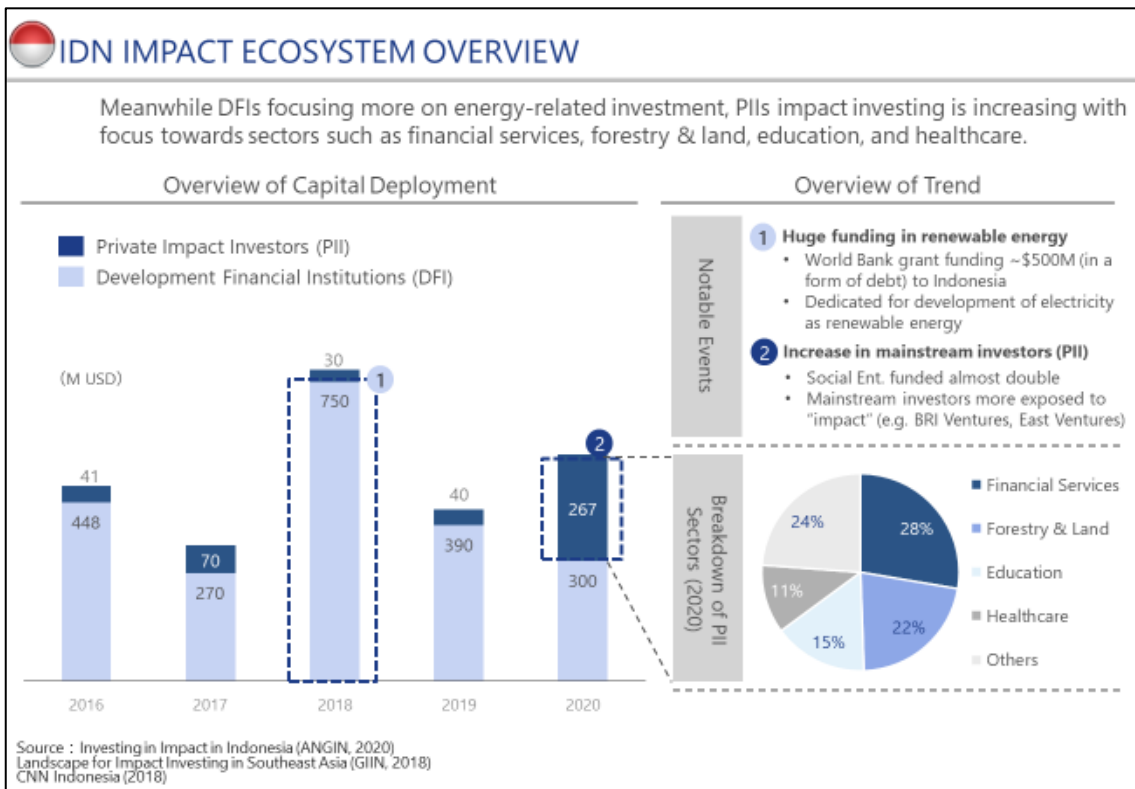
There are 4 key challenges remained in Vietnam's ecosystem. They relates to early-stage capital, professional TA support, social impact evaluation & policy incentives for impact business



【Figure 3-2-6: Vietnam's impact investment ecosystem challenges】

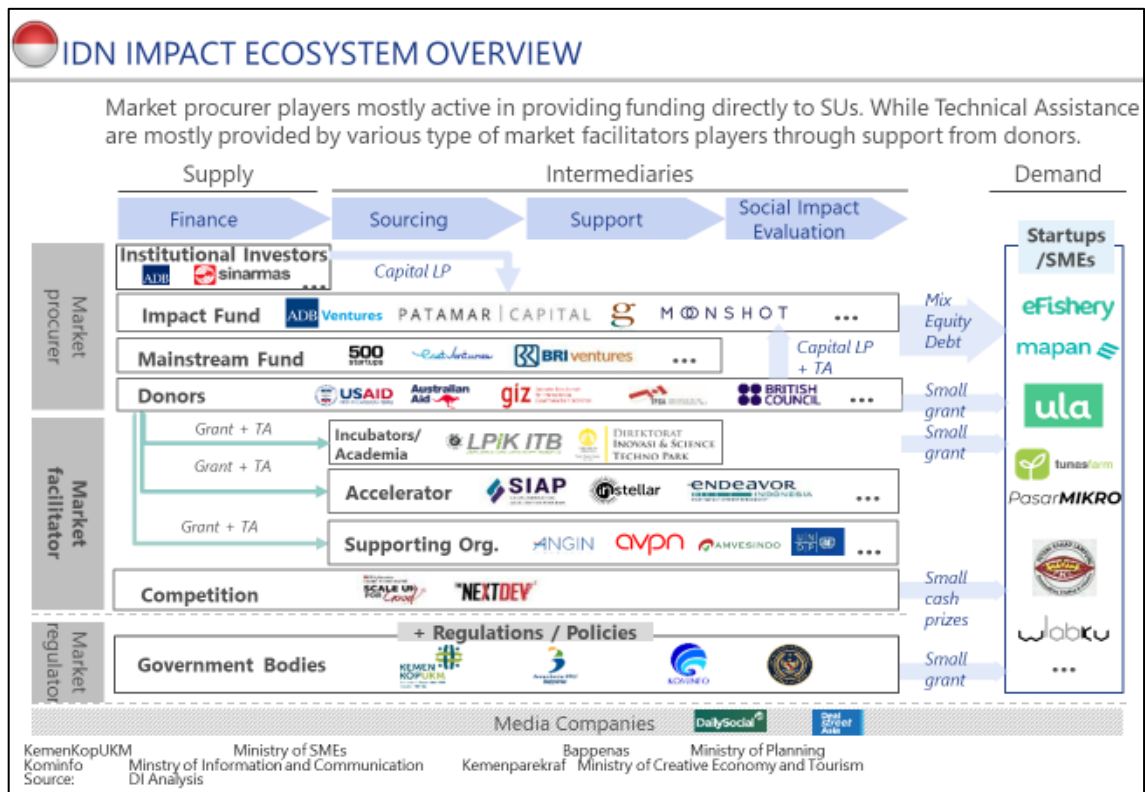
3-2-2 Current status and issues of Indonesia’s impact investment ecosystem

Indonesia's impact investment ecosystem has witnessed rapid growth in recent years. In 2018, the World Bank invested USD 50 million in the renewable energy sector, leading to a dramatic growth in the market, followed by an upsurge in investment from foreign funds in forest and financial sectors in 2020. On the other hand, the contribution of domestic investors in the investment market is relatively small since most of the capital comes from foreign funds and foreign donors. There is a very limited number of successful startups due to a lack of acceleration function and barriers to funding high-risk early-stage impact startups; consequently, the market now faces structural problems.



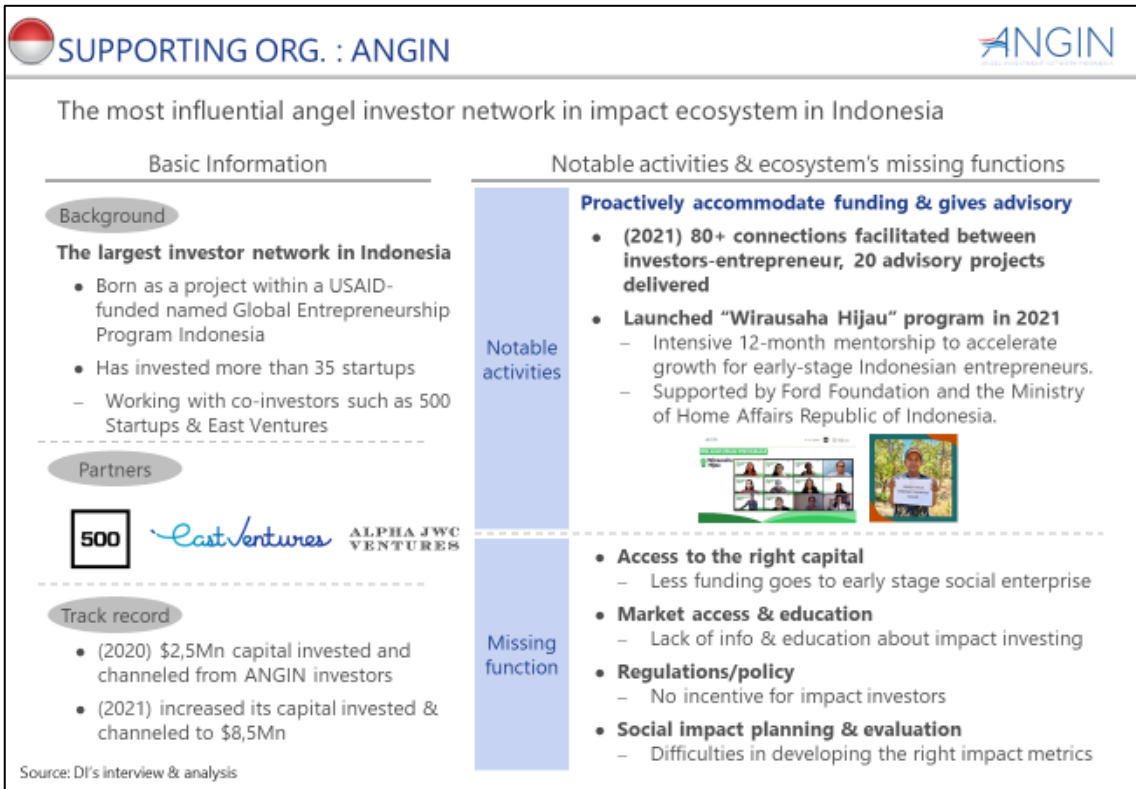
【Figure 3-2-7: Development of Indonesia’s impact investment ecosystem】

The following figure provides an overview of Indonesia's ecosystem by function and main function.



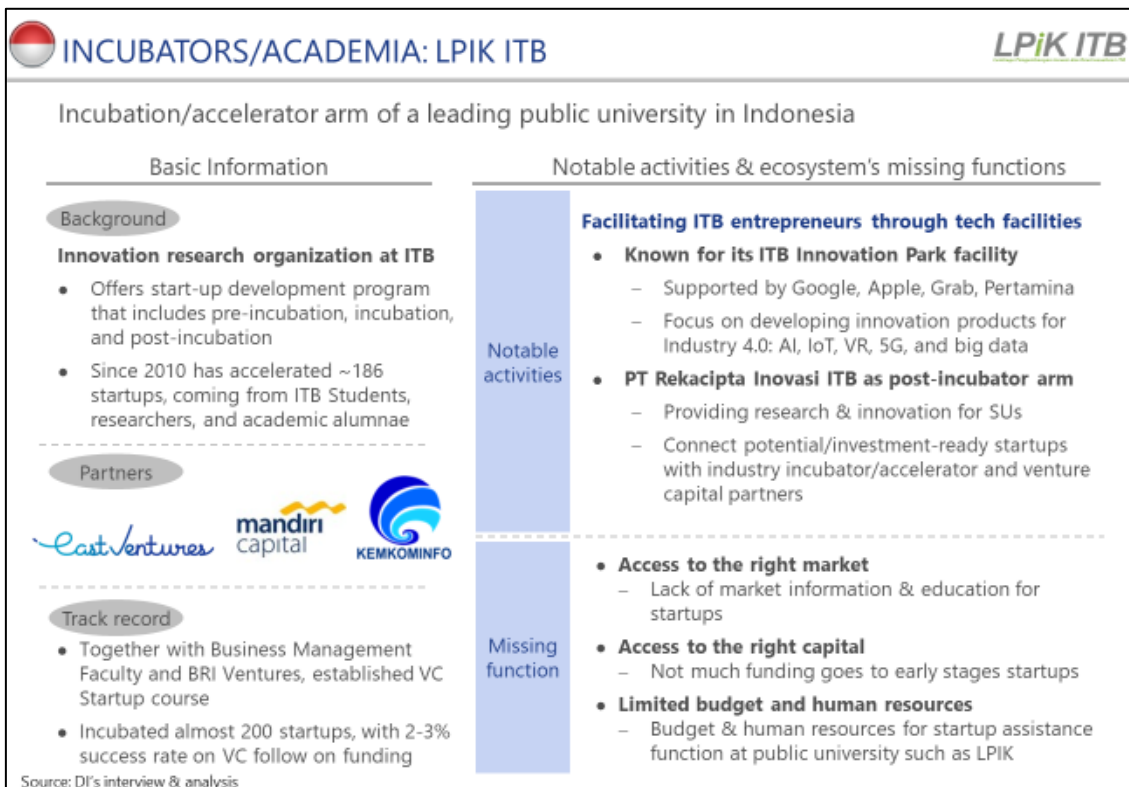
【Figure 3-2-8: Overview of Indonesia's impact investment ecosystem】

Supporting organizations play the most important role in Indonesia's impact investment ecosystem. An example is ANGIN who receives financial and technical assistance from the U.S. development agency USAID to fulfill accelerator functions such as acting as an intermediary between investors and startups, fostering startup growth, etc. See the following figure for some activities of ANGIN.



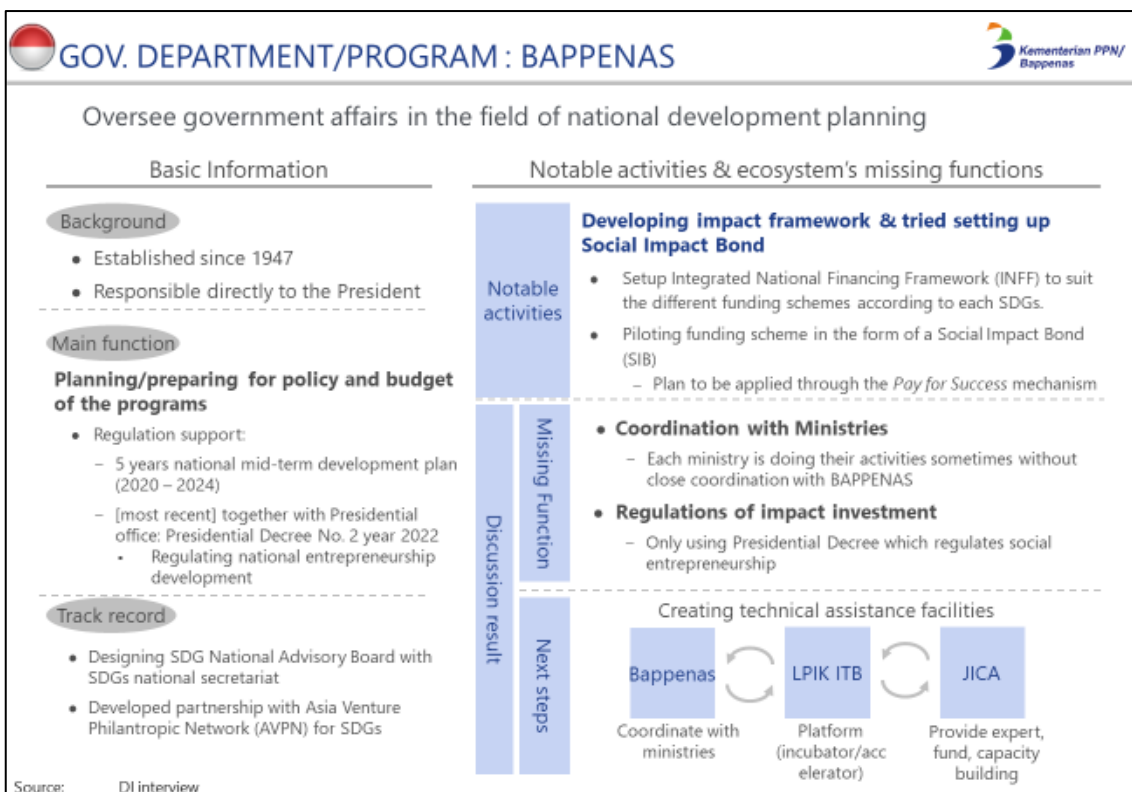
【Figure 3-2-9: ANGIN profile and examples of some key initiatives】

Another example of an accelerator and incubator is the LPIK of the Bandung Institute of Technology (ITB). LPIK has supported nearly 200 startups founded by students, researchers, and alumni since 2010. The success rate of these startups is, however, only around 2-3%. Reasons for failure include a lack of market information, human resources, and funds.



【Figure 3-2-10: LPIK ITB profile and examples of some key initiatives】

BAPPENAS, a government agency directly under the President, also plays a key role in the ecosystem, being in charge of institutional design and setting budgets with an aim of increasing the number of startups in the country. The organization has built a framework with optimal financial schemes for each sector. The figure below summarizes BAPPENAS' efforts.



【Figure 3-2-11: BAPPENAS profile and examples of some key initiatives】

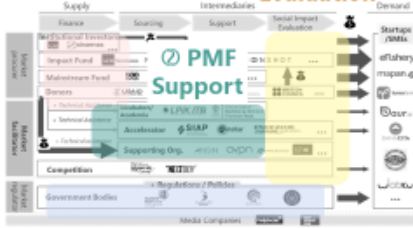
In addition, we have conducted some interviews with a number of key stakeholders to understand the country's impact investment ecosystem and its challenges. Our interview results show 4 main issues as depicted in the figure below: (1) Limited capital for high-risk early-stage impact startups due to heavy reliance on foreign investors, (2) Lack of knowhow due to limited scope of support for startups, (3) No standard rules for impact measurement, and (4) Lack of incentive policies for impact investment.

IDN IMPACT INVESTMENT ECOSYSTEM CHALLENGES

Similar key concerns in the like of Vietnam, mainly in terms of capital for early-stage SUs, TA for PMF support, social impact evaluation, and policy incentives.

① Finance

③ Social Impact Evaluation



④ Policy

Absence of de-risking capital for early-stage impact SUs

①

- "Apart from majority of impact investors are foreign players, the **focus is more towards growth/late stage due to their risk appetite levels that may not be able to match early stage SUs**"

ANGIN Impact Investment Director

Limited Technical Assistance (TA) programs focusing on PMF stage and founder quality/knowledge

②

- "Trend of aspiring founders not only in Greater Jakarta but education city like Bandung is high, however the **quality and ability in matching market needs and market expansion is still low, even our incubator lacks such resources.**"

LPIK ITB, General Director

No standardized process for Social Impact Evaluation

③

- "One of major challenges in social impact evaluation is **difficulty in communicating the metrics and localizing them to the portfolio SU's level**"

Patamar Capital, Partner

Lack of policy incentives for impact businesses

④

- "Understanding fiscal support such as tax is difficult, I think Govt should play deeper role in providing capacity building esp. in Tier 2,3 areas where entrepreneurs don't have right access to"

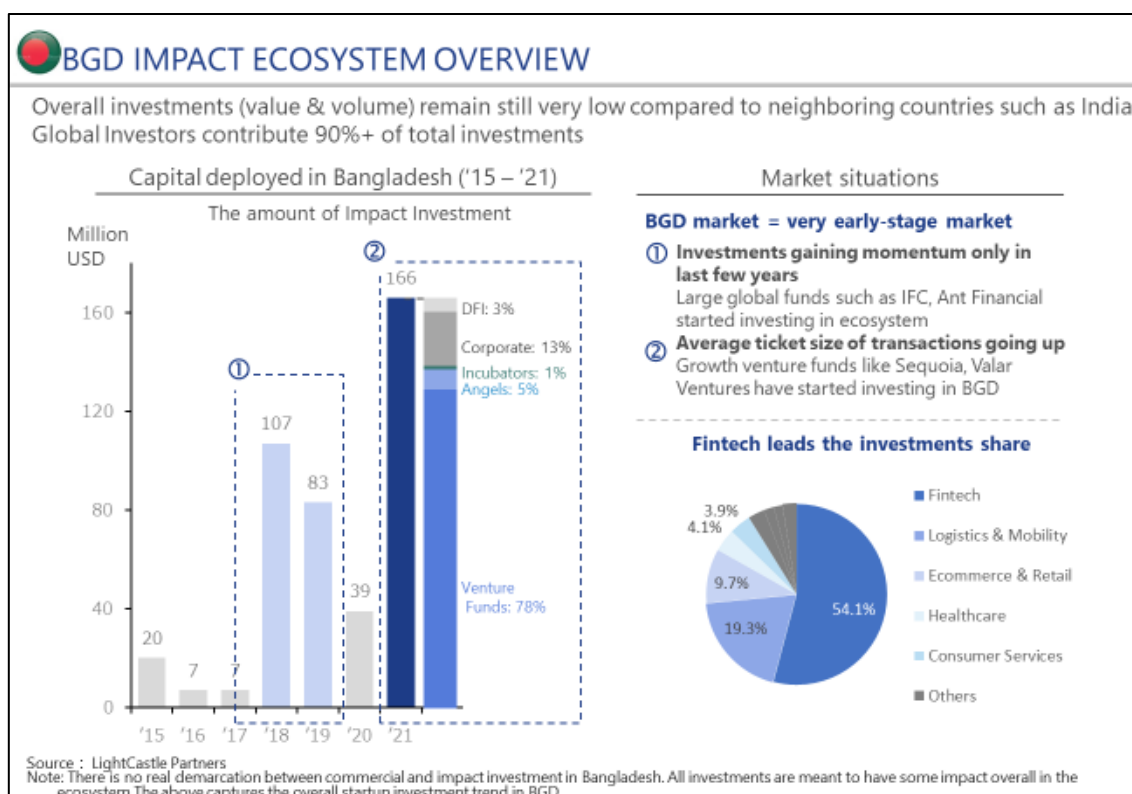
Gayo Capital, Partner/Cofounder

TA Technical Assistance
Source: DI Analysis

【Figure 3-2-12: Indonesia's impact investment ecosystem issues】

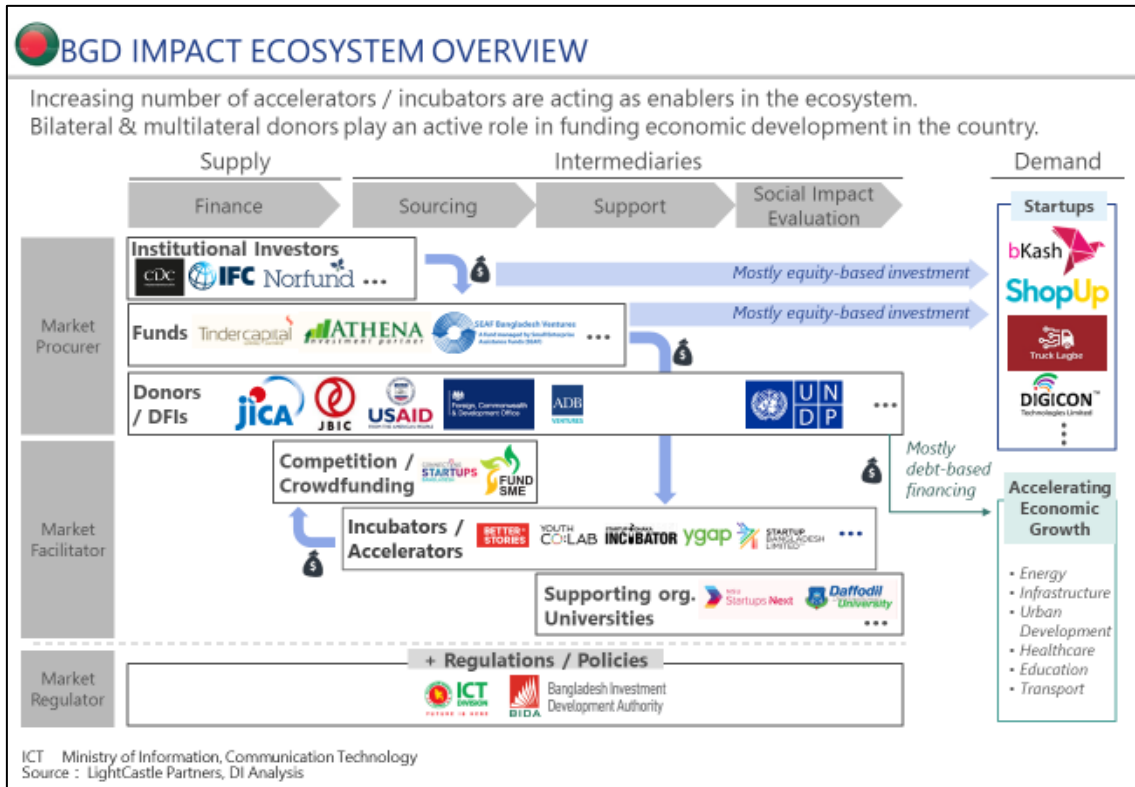
3-2-3 Current status and issues of Bangladesh’s impact investment ecosystem

The impact investment ecosystem in Bangladesh is still in its early stages. The market was fully activated in 2018 with the entry of International Finance Corporation and Ant Financial (China). Since 2018, over 90% of impact investment have been made by foreign investors. With the exception of some domestic funds, most domestic investors are not capable of joining the market due to their lack of experience and knowledge. Meanwhile, there are more and more accelerators and incubators collaborating with universities to help startups accelerate their growth. Early signs of startup development supports are also observed. However, the biggest challenge for fostering a startup ecosystem is that young people are more likely to migrate to other countries than to start their own business back home.



【Figure 3-2-13: Development of Bangladesh’s impact investment ecosystem】

An overview of the ecosystem in Bangladesh, categorized by function and main function, is shown in the figure below.



【Figure 3-2-14: Overview of Bangladesh’s impact investment ecosystem】

Direct investment from foreign institutional investors and foreign funds made into startups is the most prominent channel of capital inflow in the entire ecosystem. IDLC - a non-bank institutional investor that makes great contribution to Bangladesh's economic development, and BANGLADESH ANGELS who owns the first angel investor network in the country are among the few domestic investors in Bangladesh. See the following figures for some of their key activities.

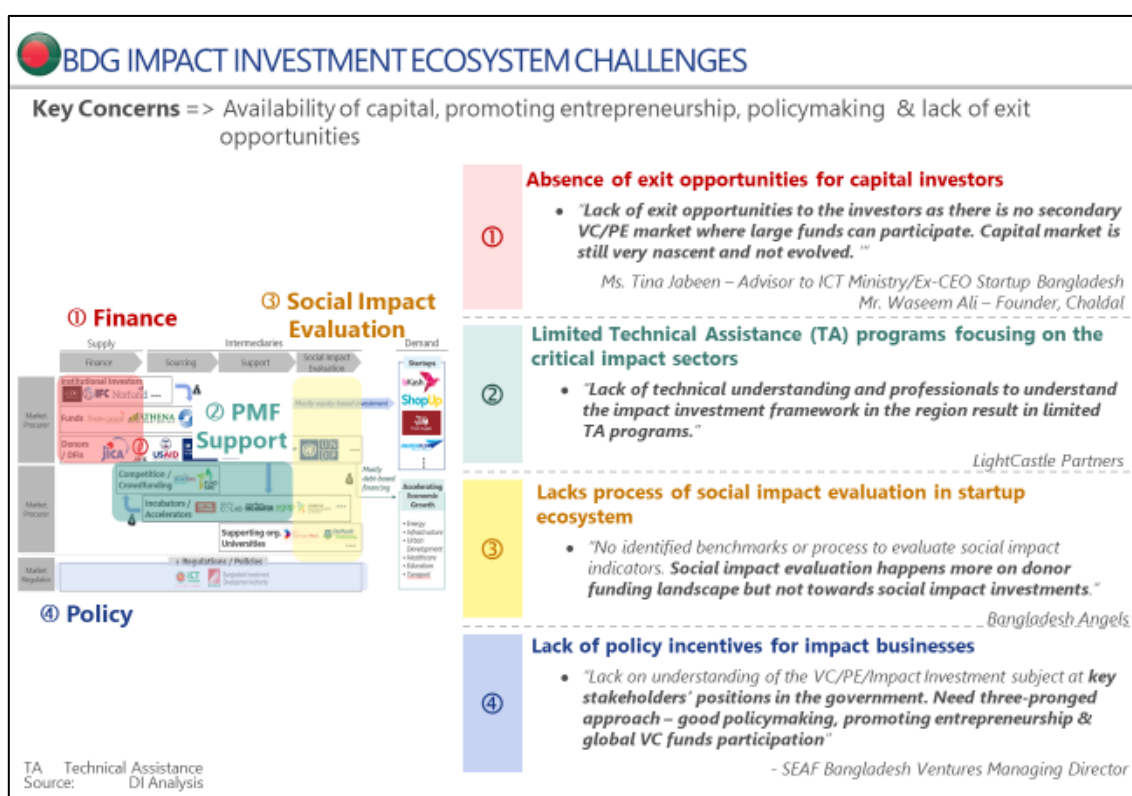


【Figure 3-2-15: IDLC profile and examples of some key initiatives】



【Figure 3-2-16: BANGLADESH ANGELS profile and examples of some key initiatives】

We have conducted some interviews with a number of key stakeholders to understand the country’s impact investment ecosystem and its challenges. Our interview results show 4 main issues as depicted in the figure below: (1) Absence of buyers in VC/PE market during startup scale-up period, (2) Support for startup ecosystem development is limited to specific sectors, (3) No standard rules for impact measurement, and (4) Lack of incentive policies for impact investment.



【Figure 3-2-17: Bangladesh’s impact investment ecosystem issues】

3-3 Regulatory support for Vietnam’s impact investment ecosystem

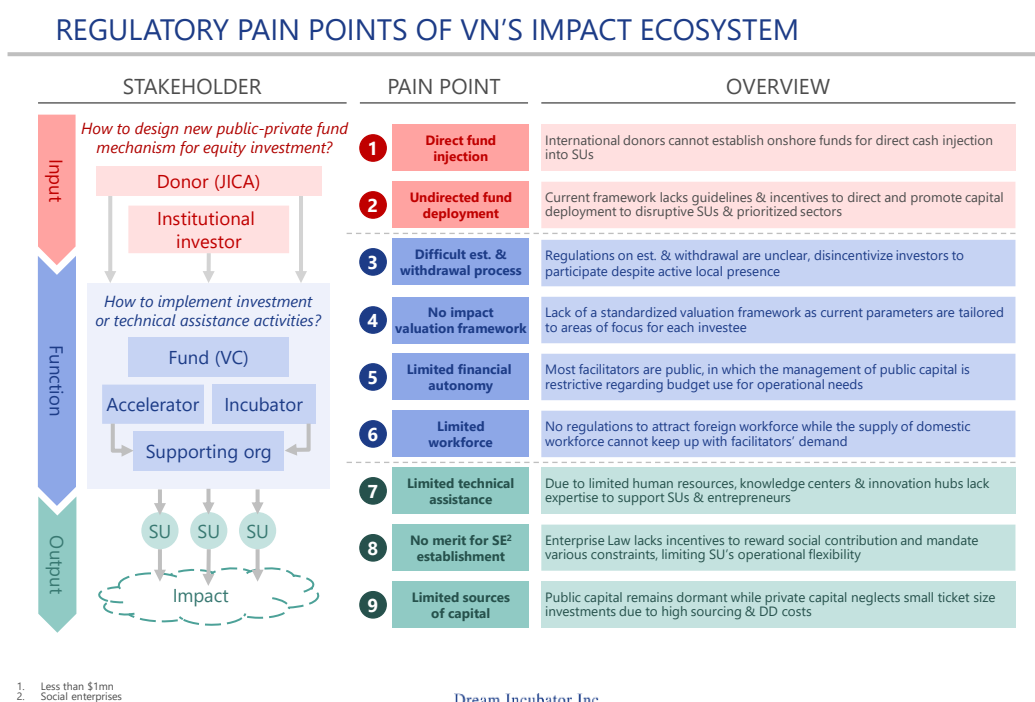
As mentioned in Figure 3-2-6, 1 of 4 key challenges of Vietnam’s impact investment ecosystem is the lack of policy incentives for impact businesses as the government has little actions and long-term vision in creating an encouraging environment for social impact businesses. Based on this finding, JICA has collaborated with DI to further understand the legal barriers hindering Vietnam’s impact investment ecosystem and support the Vietnamese government in improving its legal framework.

The research comprises 2 key parts: ① *Baselining and Case study* and, ② *Prioritization and Solution directions*. In Part ①, we will analyze Vietnam’s current regulatory pain points through 3 steps: (i) develop pain point hypotheses via desk research, (ii) verify hypotheses via interviews

with key stakeholders, and (iii) diagnose pain points' root causes by referencing current policies. Relevant case studies will be referred to develop applicable solution directions for all pain points. In Part ②, we will pinpoint current regulations, identify priority levels, select relevant stakeholders, and propose suitable solution directions for pain points.

3-3-1 Overview of current regulatory pain points

Pain points are structured into 3 segments: ① *Input*, ② *Function*, and ③ *Output*. ① *Input* represents the capital inflow from international donors and investors such as JICA. ② *Function* describes the processing of capital inflow by funds and facilitators, such as incubators, accelerators, etc., to provide business support for startups in the form of financial and TA. Lastly, ③ *Output* suggests the capital outflow into startups as well as any positive results from addressing social issues. We summarized 9 key regulatory pain points of Vietnam's impact investment ecosystem as shown in Figure 3-3-1.



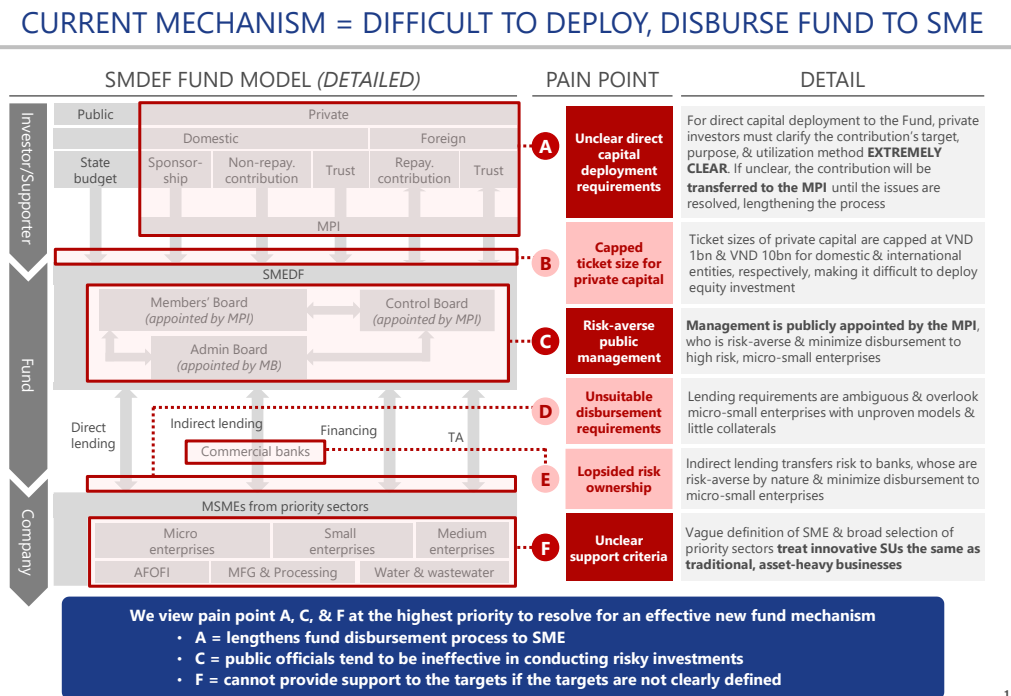
【Figure 3-3-1: List of regulatory pain points】

3-3-2 ① *Input* pain points

① For *Input*, there is currently no mechanism for international donors to directly inject funds into Vietnam for equity investment. Specifically, according to Decree No. 114/2021/ND-CP and Decree No. 91/2015/ND-CP, as foreign public capital is considered ODA, which is defined as public goods and requires public supervision, investment using public goods is extremely

restrictive because it cannot have losses. For example, Article 22, Decree No. 91/2015/ND-CP requires that enterprises with public equity shall be responsible for conserving and developing the state invested capital, using measures such as buying asset insurance, setting aside provisions against certain risks such as devaluation of inventories, bad debts, devaluation of financial assets, etc. This restriction is unsuitable for JICA to deploy its ODA for equity investment into high-risk startups. Furthermore, the current regulatory framework lacks guidelines and incentives to direct and promote fund inflow toward disruptive / impact startups and prioritized sectors. Hence, despite a promising economic outlook, these pain points are causing Vietnam to miss out on a huge inflow of foreign capital from international donors. To solve these pain points, it is critical to design a new public-private fund mechanism by studying the existing model, understanding and solving its pain points to enable equity investment from international donors into startups.

The *Small and Medium Enterprise Development Fund* (“SMEDF”) is the best available case study as it is currently the largest SME fund with blended capital. Established in 2014 under Decision No. 601/QD-TTg, SMEDF is a wholly state-owned fund under the *Ministry of Planning and Investment* (“MPI”) that supports SMEs from priority sectors via debt financing and TA. As shown in Figure 3-3-2, SMEDF has 6 pain points that cause it to be ineffective in deploying and disbursing funds to SMEs.



【Figure 3-3-2: Pain point of SMEDF】

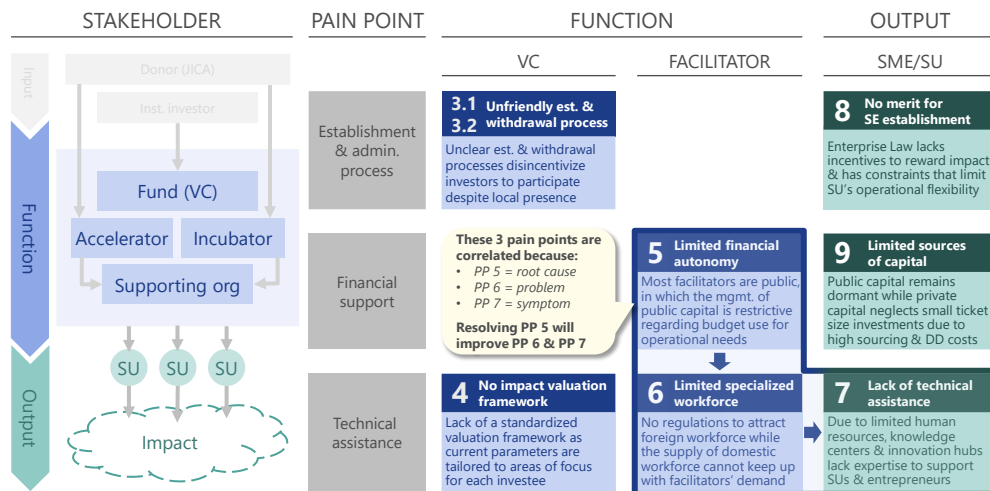
We view pain points ①, ③, and ⑥ as the highest priority to create a new and effective public-private fund mechanism. For pain point ①, Circular No. 08/2020/TT-BKHDT, which lengthens the fund disbursement process to SMEs as private investors must explicitly clarify their capital's context, purpose, target, expected results, etc., if they would like to deploy their capital into SMEDF. If the clarification for these requirements is unclear, the capital will be transferred to the discretion of the MPI and Ministry of Finance ("MOF") and requires further clarification. Once these requirements are clearly clarified by the investors and approved by the MPI and MOF, these parties will then disburse the capital to the SMEDF. For pain point ②, even if private investors are allowed to deploy their capital, the ticket size is capped at VND1bn and VND1bn for domestic and international investors. For pain point ③, under Decree No. 39/2019/ND-CP, SMEDF personnel is publicly and directly managed by the MPI. Public officials tend to lack experience in managing high-risk investments. For pain point ④, lending requirements for SMEDF overlooks micro-and-small enterprises as it requires them to have proven business models and sufficient collaterals to receive fund. Furthermore, during the indirect lending process (pain point ⑤), banks are responsible for evaluating and disbursing funds to startups on behalf of the SMEDF, requiring banks to carry default risk. As risk averse enterprises, banks will then naturally prioritize bigger, traditional companies with proven business models, sufficient collaterals and ignore innovative SMEs and startups. Lastly, for pain point ⑥, Decree No. 80/2021/ND-CP and treats innovative startups similar to traditional businesses due to vague identification criteria. For example, micro-, small-, and medium-enterprises are identified based on the average number of employees who participate in social insurance, total capital or total revenue. Startups, on the other hand, are defined by qualitative criteria such as the production, sale of products derived from inventions, useful solutions; must be created from trial production projects, prototypes and technology completion; win national, international prizes for entrepreneurship, etc. These identification criteria are not uniform and made it difficult for investors to clearly define between traditional businesses and innovative startups. Hence, SMEDF cannot provide support to the right targets if the targets are not clearly defined.

3-3-3 ② *Function* and ③ *Output* pain points

② *Function* and ③ *Output* are analyzed simultaneously because funds, facilitators, and startups face similar difficulties regarding the establishment and other administrative processes, financial support, and TA, as shown in Figure 3-3-3. ② *Function* focuses on the implementation of investment and TA activities of funds and facilitators to startups (③ *Output*).

FUNCTION & OUTPUT: OVERVIEW

Function – facilitators require much more support to accelerate the ecosystem’s growth
Output – incentivize social contribution while diversifying capital sources for SU



Dream Incubator Inc.

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【Figure 3-3-3: *Function* and *Output* pain points】

Foreign funds usually face administrative bottlenecks because regulations on fund establishment and fund remittance are unclear, thus, disincentivizing their participation in Vietnam’s investment ecosystem. VC funds have no juridical person under Decree No. 38/2018/ND-CP, which also leads to a lengthy and unclear fund establishment process under the Securities Law – No. 54/2019/QH31. Furthermore, funds remittance policy under Circular No. 186/2010/TT-BTC and other regulations are unattractive and strict because foreign investors are double taxed during the remittance process while being strictly regulated by the State Bank of Vietnam (“SBV”), who work closely with the MOF to monitor activities from foreign investors. For example, transactions regarding capital contribution and transfer, offshore loan disbursement and repayment, profit remittance, etc., must be implemented via a direct investment capital account (“DICA”) opened at a credit institutions authorized by the SBV.

Facilitators’ budget flexibility is limited under Decree No. 60/2021/ND-CP as most facilitators are domestic and have public equity. This limited financial autonomy minimizes TA for both facilitators and startups because it creates a restrictive environment where facilitators are not able to spend based on their operational needs. This made it difficult for public facilitators to attract foreign experts while restricting their ability to deepen their expertise to support startups. Limited financial autonomy is *the root cause* that leads to *the problem* of a limited specialized workforce because facilitators lack the capital to attract foreign experts while the supply of domestic

workforce cannot keep up with their demand. Consequently, this leads to *the symptom* which affects the quality of TA from facilitators for startups and entrepreneurs. Hence, facilitators may be considered the most important stakeholder in Vietnam's investment ecosystem, acting as an intermediary / catalyst to promote and accelerate the ecosystem's development.

For ③ *Output*, impact startups also face operational and financial challenges. Current regulations, specifically the Enterprise Law – No. 59/2020/QH14, treat social enterprises similarly to traditional businesses. Social enterprises receive similar tax incentives as traditional enterprises and are required to comply with stricter mandates that limit their operational flexibility. For example, social enterprises must clearly register the purposes, or social issues they are trying to solve during registration. During their operations, social enterprises must use at least 51% of the annual post-tax profit for re-investment to achieve their registered targets. Furthermore, they cannot use donations for purposes other than covering administrative expenses and operating costs and resolving the social and environmental issues registered. This provides no merit for entrepreneurs to register as a social enterprise, and thus, disincentivize social impact from business activities. Moreover, there are limited sources of capital to financially support social enterprises and startups. Public capital from state-owned enterprises (“SOE”) remains dormant under Joint Circular No. 12/2016/TTLT-BKHHCN-BTC while private capital tends to neglect small ticket size investment into early-stage startups due to high sourcing and due diligence costs. For example, despite the Joint Circular requiring SOEs to extract 3-10% of income to support SciTech activities, these enterprises must adhere to Decree No. 91/2015/ND-CP to conserve state capital and public goods if they want to invest into innovative startups, which is extremely difficult and restrictive for high-risk, venture capital investment activities. Moreover, startups lack indirect support in the form of tax incentives (Circular No. 96/2015/TT-BTC) and TA subsidies (Decree No. 80/2021/ND-CP). For example, Article 11 and Article 12, Circular No. 96/2016/TT-BTC allow projects in the field of SciTech to be entitled to a preferential tax rate of 10% for a period of 15 years or tax exemption of 4 years and a 50% tax reduction for the next 9 years. However, this type of tax support is usually irrelevant for innovative startups, who tend to prioritize growth over profitability. Moreover, under Article 22, Decree No. 80/2021/ND-CP, while startups are supported regarding the use of facilities, IP counseling, legal counselling, technological assistance, advanced training, networking, these types of support remain limited and the fees covered are usually capped.

3-3-4 Prioritization and solution direction of pain points

PRIORITIZE FUND EST. FOR INT’L DONORS & SUPPORTING FACILITATORS

Capital inflow from int’l donors & support from facilitators will accelerate the ECST1’s growth

PAIN POINT	OVERVIEW	IMPT. ²	SOLUTION DIRECTION	FS ³
① Indirect fund injection	Int’l donors cannot est. onshore funds for equity inv.	🎯	Engage NIC to modify Decree No. 94/2020 to experiment new fund mechanism via regulatory sandbox	SD ⁴ was directly proposed by NIC who is highly open to change
② Undirected fund deployment	Regulations does not promote capital to SUs & prioritized sectors	🎯	Engage NIC to filter list of prioritized sectors based on Circular No. 13/2015 & provide clearer definition of SUs from Article 20 – Decree No. 80/2021	
③ Difficult est. & withdrawal process	Unclear E&W process disincentivize funds’ participation	⚠️	Discuss with NIC to modify Decree No. 38/2018 to accept VC as juridical person & ease fund withdrawal process	Improve process clarity by filtering unnecessary steps
④ No impact valuation framework	Absence of impact valuation framework devalues SE	❌	JICA & AED could collaborate with impact funds to develop impact valuation framework	VN Govt does not prioritized the impact sectors
⑤ Limited financial autonomy	Public facilitators have limited FA to spend State budget			SD directly involves w/ public goods . However, NATEC is currently drafting a decree to resolve this pain point
⑥ Limited workforce	Limited regulations to attract foreign talents	🎯	Discuss with NATEC to modify Decree No. 60/2021 to grant public facilitators higher financial autonomy to budget & spend based on their operational needs	
⑦ Limited technical assistance	Entrepreneurs & SUs lack specialized TA hubs & centers			
⑧ No merit for SE establishment	Enterprise Law provides no merit for SE registration	⚠️	Engage AED to modify Article 10 – Law No. 59/2020 to grant more incentives & eliminate restrictive mandates	VN Govt does not prioritized the impact sectors
⑨ Limited sources of capital	Limited financial support from public & private capital sources	🎯	Discuss with NATEC (Joint Circular No. 12/2016) to enable equity investment from SOEs & NIC (Circular No. 96/2015) to implements more suitable indirect support	SD directly involves w/ public goods

■ Very high priority ■ High priority ■ Medium priority ■ Low priority

1. Ecosystem Importance
 2. Feasibility
 3. Solution direction

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【Figure 3-3-4: Prioritization and solution direction of pain points】

For each pain point, we have pinpointed current regulations, identified priority levels based on (i) the overall importance for the ecosystem development and (ii) lobbying feasibility, selected relevant stakeholders and proposed suitable solution directions. We have concluded that *Input* pain points ①, ②, and *Function and Output* pain points ⑤, ⑥, ⑦ are the most important and should be *very highly* prioritized. Capital inflow from international donors will stimulate the ecosystem’s development and supporting facilitators will equate to supporting other participants (i.e., funds, startups, and entrepreneurs).

In the short-term, pain points ④ and ⑧ relating to social enterprises should be least prioritized due to the Vietnamese government’s low priority on impact sectors. However, the Enterprise Development Agency (“AED”) is the most suitable stakeholder to solve impact-related pain points due to their deep experience working with international donors and DFIs in organizing such programs. For example, the AED’s ISEE-COVID is a support program between AED and the United Nations Development Programme (“UNDP”) where both sides collaborate with facilitators and other third parties to provide financial support and TA to social enterprises.

In terms of relevant stakeholders, National Innovation Center (“NIC”) and National Agency for Technology Entrepreneurship and Commercialization Development (“NATEC”) are the most suitable bodies to resolve prioritized pain points. NIC is a unit under the MPI responsible for supporting and developing Vietnam’s startup and innovation ecosystem. For pain point ① and

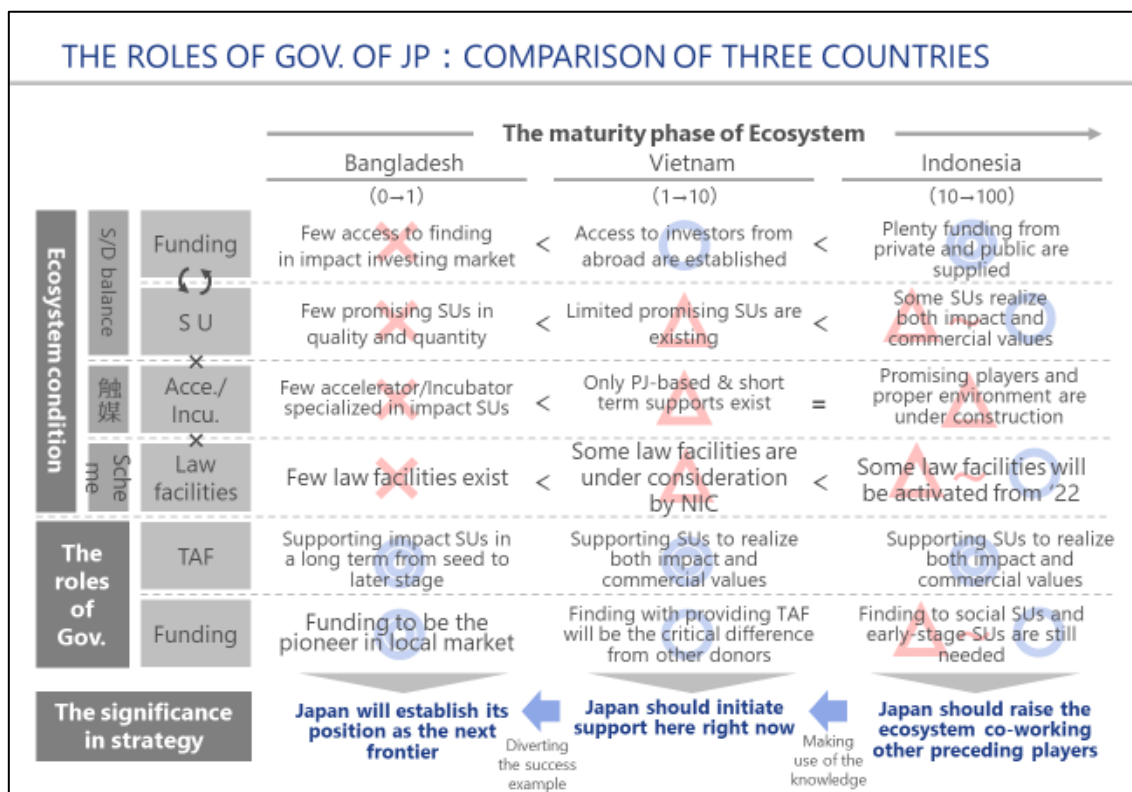
②, NIC is open toward exploring different options to implement a new public-private fund mechanism and enable equity investment from international donors and a potential option is via a regulatory sandbox, relating to Decree No. 94/2020/ND-CP, Circular No. 13/2015/TT-BKHDT, and Decree No. 80/2021/ND-CP. Moreover, pain point ③ relating to Decree No. 38/2018/ND-CP should be prioritized due to its high feasibility.

NATEC is a unit under the Ministry of Science and Technology (“MOST”) responsible for the management of the technology market and the support and development of science and technology (“SciTech”) enterprises. NATEC has a strong track record in lobbying, specifically to formulate and revise SciTech regulations and supporting SciTech enterprises. Currently, NATEC is drafting a decree to resolve *Function* pain points ⑤, ⑥, ⑦ to grant higher financial autonomy for state-owned facilitators. For pain point ⑨, discussion with both NATEC and NIC is necessary to modify Joint Circular No. 12/2016/TTLT-BKHHCN-BTC and Circular No. 96/2015/TT-BTC, respectively.

Chapter 4. JICA’s necessary actions in impact investment ecosystem

4-1 JICA’s positions and roles in impact investment ecosystem

Chapter 3 has identified the current status and challenges of impact investment ecosystems in 3 countries of study (Indonesia, Vietnam and Bangladesh). JICA’s possible roles and positions should be determined after absolute and relative evaluation of the current status and issues of each country's ecosystem, not the same support will be available to all. The following figure shows the current status of each country's ecosystem based on the latest research findings, possible roles of JICA associated with each situation, and strategic positions in each region.



【Figure 4-1-1: JICA's roles in 3 countries of study】

The 3 target countries are listed according to their ecosystem development stage: Bangladesh → Vietnam → Indonesia. Each ecosystem is evaluated from 3 viewpoints of: supply-demand balance (status of capital supply and funded start-ups), catalyst (accelerator and incubator), framework (legal framework for impact investment).

In Bangladesh, the investment ecosystem for traditional startups has just begun to form, let alone the one for social impact. Thus, the ecosystem for impact investment remains undeveloped in terms of supply-demand balance, catalytic function, and legal framework development. The situation requires JICA to be deeply involved in the ecosystem, starting from creating social impact start-ups, and at the same time, JICA should become a pioneer in offering public funds to this high-risk nascent ecosystem.

And in Vietnam, the impact investment ecosystem has just started. While the money flowing into the ecosystem is increasing with public finance from foreign donors, the number of good social start-ups that match those investments is limited. Though the support for impact start-ups is available from local accelerators and incubators, just project-based support cannot create a large number of excellent start-ups. For this reason, JICA's strategic direction should be to increase quality investees, i.e., high-quality impact start-ups and secure investment opportunities in these

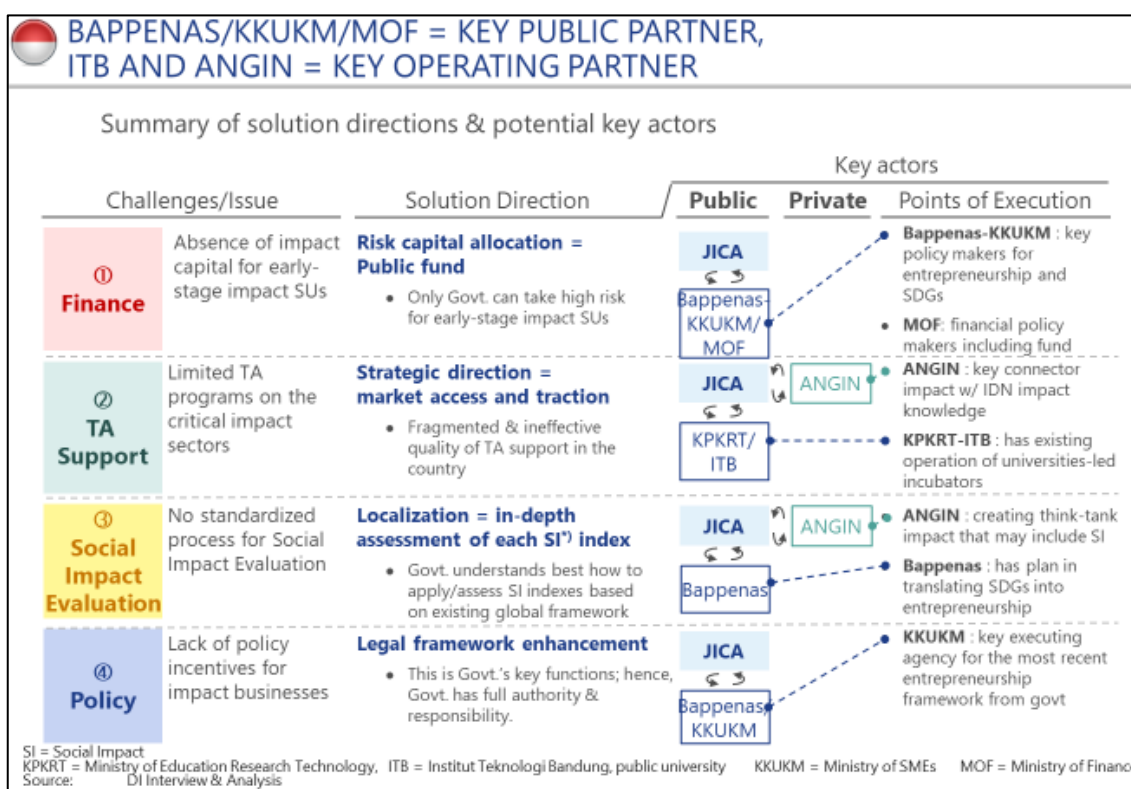
businesses. Given this, it is desirable to establish TA facilities in cooperation with promising local accelerators and incubators and to launch a government-backed fund later on.

Indonesia, the last country in the list, has a more developed ecosystem compared to Vietnam's, with an ample supply of funds and legal framework in place. However, their ecosystem faces the same issues as in Vietnam's. The lack of good impact start-ups is hindering the sustainable development of the entire ecosystem. Thus, JICA should collaborate with leading local players (e.g., ANGIN) and consider launching a medium- to long-term fund to further growth of the ecosystem.

Based on discussions made thus far, JICA's overarching strategy in the 3 countries is: build a track record in Indonesia by working with their leading players, provide extensive support to Vietnam, which will be soon at its most critical stage of ecosystem development, and enter Bangladesh as a first mover to secure a solid position in the market as a donor. The following sector will briefly summarize measures that JICA should take in each country to realize the said strategy.

4-1-1 JICA's possible positions and roles in Indonesia

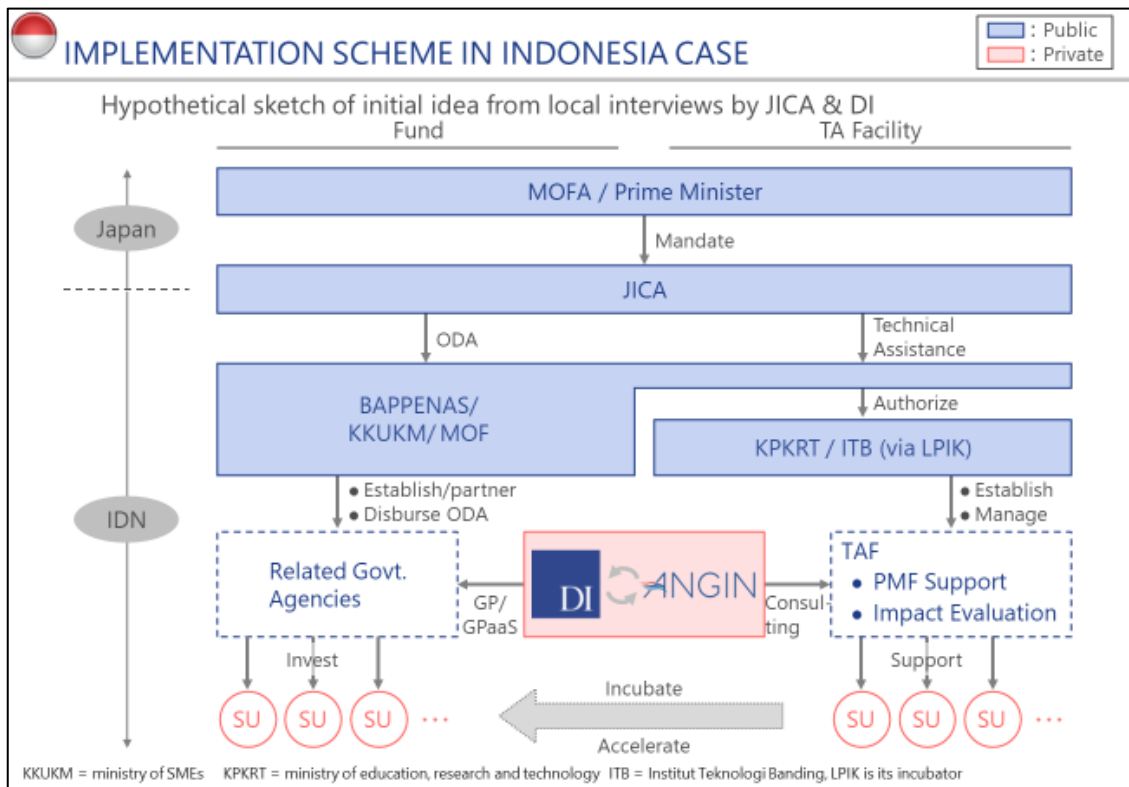
As mentioned above, issues in Indonesia's market are around (1) capital supply, (2) TA facility, (3) social impact evaluation, and (4) government policies. The following figure summarizes our proposed measures and partnership schemes to solve these issues.



【Figure 4-1-2: Issues and possible solutions for Indonesia's ecosystem】

In terms of (1) capital supply and (4) government policies, the lack of funds for early-stage impact start-ups and investment incentive policies for impact start-ups is a major problem. A government-backed fund dedicated for early-stage impact start-ups could be an answer for (1), and tax exemption on social impact investment and investment returns should be considered as an option to tackle (2). Both of these options are associated with government policies for start-ups, and therefore, promising partners of JICA include KKUKM (the Ministry of Cooperatives and Small and Medium Enterprises) and BAPPENAS (the Ministry of National Development and Planning) which is responsible for promoting national innovation. Challenges associated with (2) TA facility and (3) social impact evaluation are closely connected: a limited PMF support for sectors with inherent social problems (agriculture, healthcare, public health, etc.) and an absence of a standardized impact measurement methodology. The Ministry of Education and Technology (KPKRT) responsible for leading university-led innovation with in-depth knowledge of SU

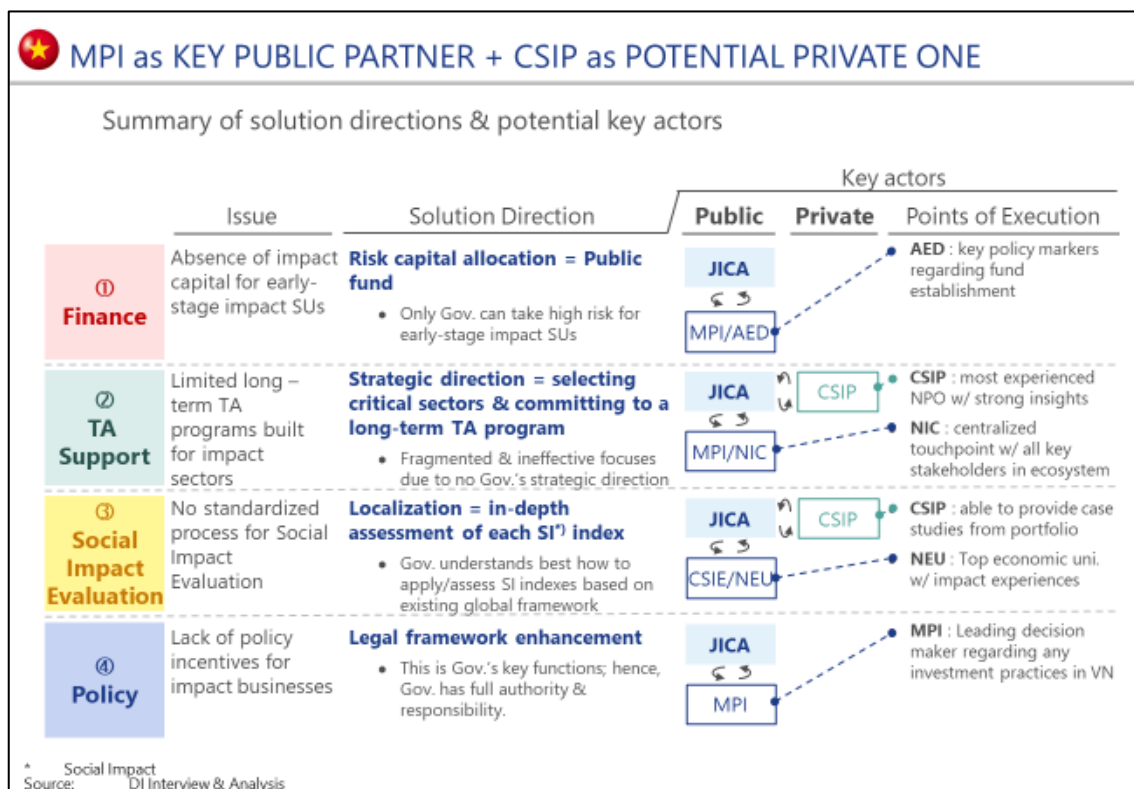
innovation, the Institut Teknologi Bandung (ITB) - a national university affiliated with KPKRT, and the aforementioned BAPPENAS could be JICA's promising public-sector partners. On the other hand, ANGIN with its broad relationship with start-ups and investors in the region could be a potential private-sector partner. Details of possible partnership schemes are summarized in the figure below.



【Figure 4-1-3: JICA's possible positions and proposed partnership scheme in Indonesia】

4-1-2 JICA's possible positions and roles in Vietnam

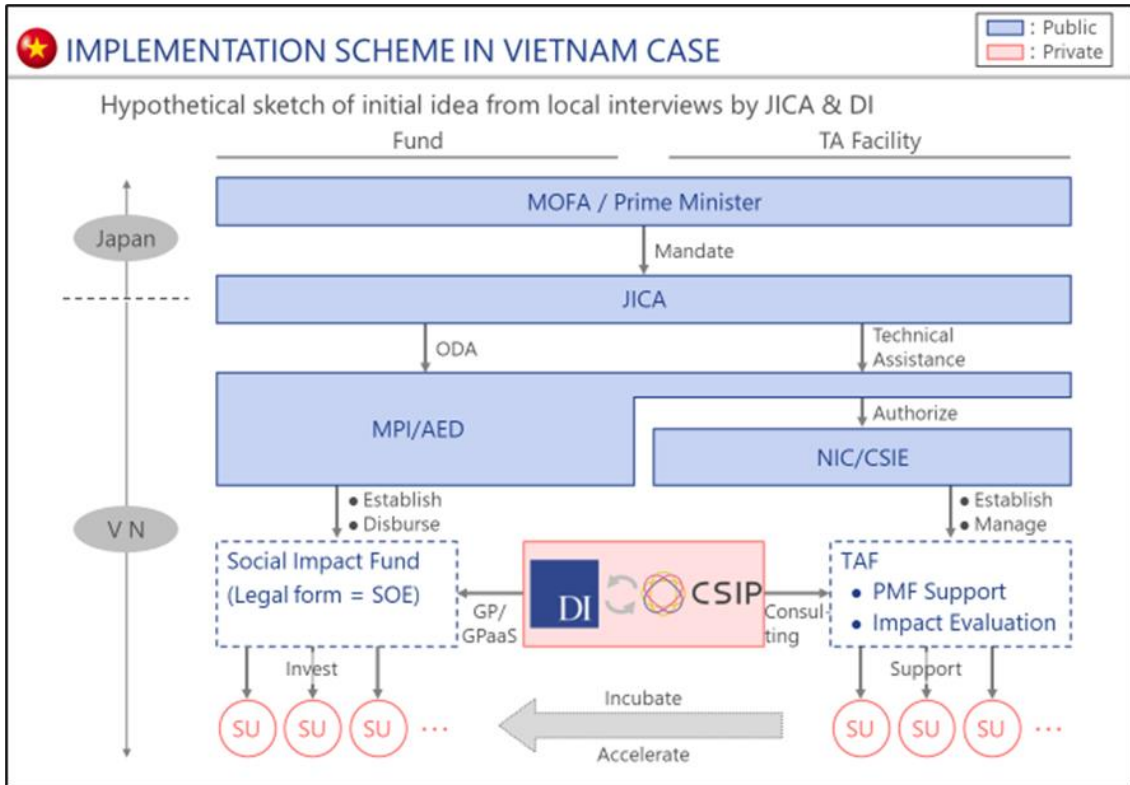
Similarly, as stated in “4-1-1 JICA's possible positions and roles in Indonesia”, Vietnam’s ecosystem faces the same issues: (1) capital supply, (2) TA facility, (3) social impact evaluation, and (4) government policies. The following figure summarizes our proposed measures and partnership schemes to solve these issues.



【Figure 4-1-4: Issues and possible solutions for Vietnam’s ecosystem】

In terms of (1) capital supply and (4) government policies, major problems are the same as in Indonesia: the lack of funds for early-stage impact start-ups and investment incentive policies for impact SUs. A government-backed fund dedicated for early-stage impact SUs could be an answer for (1), and tax exemption on social impact investment and investment returns should be considered as an option to tackle (2). Both of these options are associated with government policies for SUs, and therefore, promising partners of JICA include the Ministry of Planning and Investment (MPI) and its Agency for Enterprise Development (AED). Challenges associated with (2) TA facility and (3) social impact evaluation are: dispersed support for impact SUs and the absence of a standardized social impact evaluation methodology. To address issue (2), NIC which operates under MPI and provides facilities and partial PMF support to social impact SUs, and CSIP, which has been supporting social SUs for many years, are potential partners. As for issue

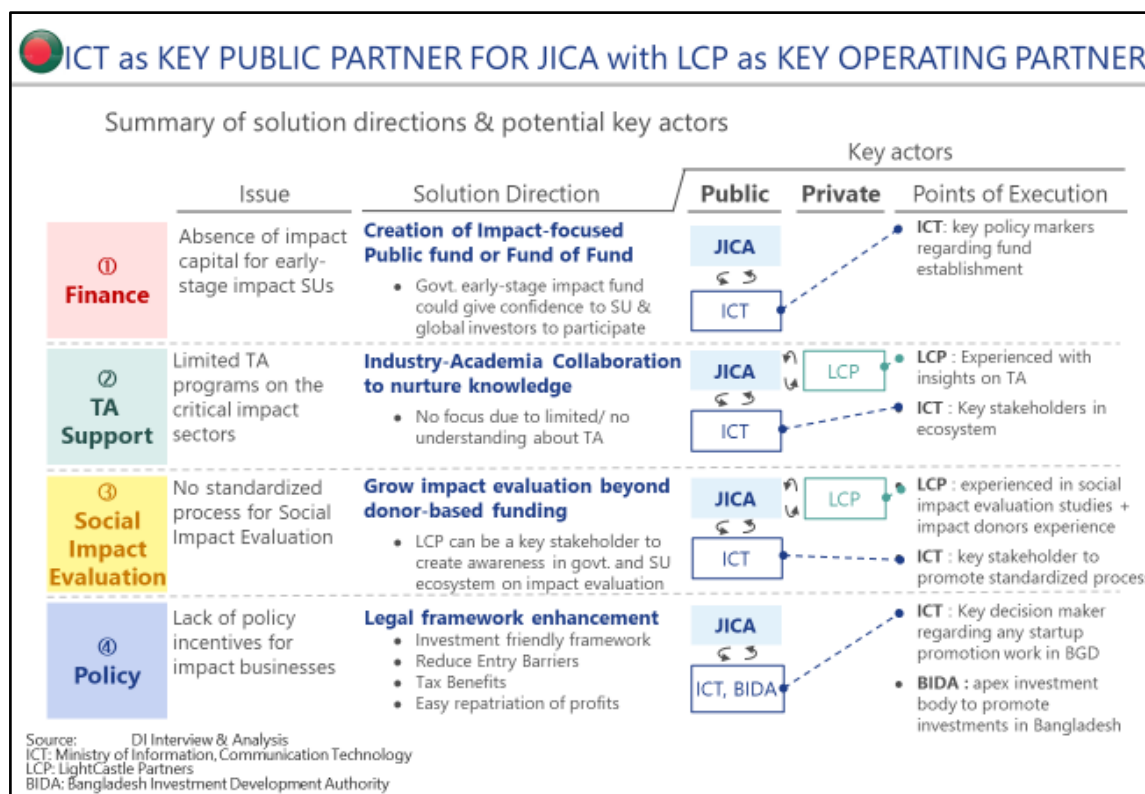
(3), a collaboration with NEU (the National Economics University) – a leading institution in impact measurement in Vietnam and the CSIP could enable practical impact measurements in line with actual business of SUs. Details of these possible collaboration schemes are summarized in the figure below.



【Figure 4-1-5: JICA’s possible positions and proposed partnership scheme in Vietnam】

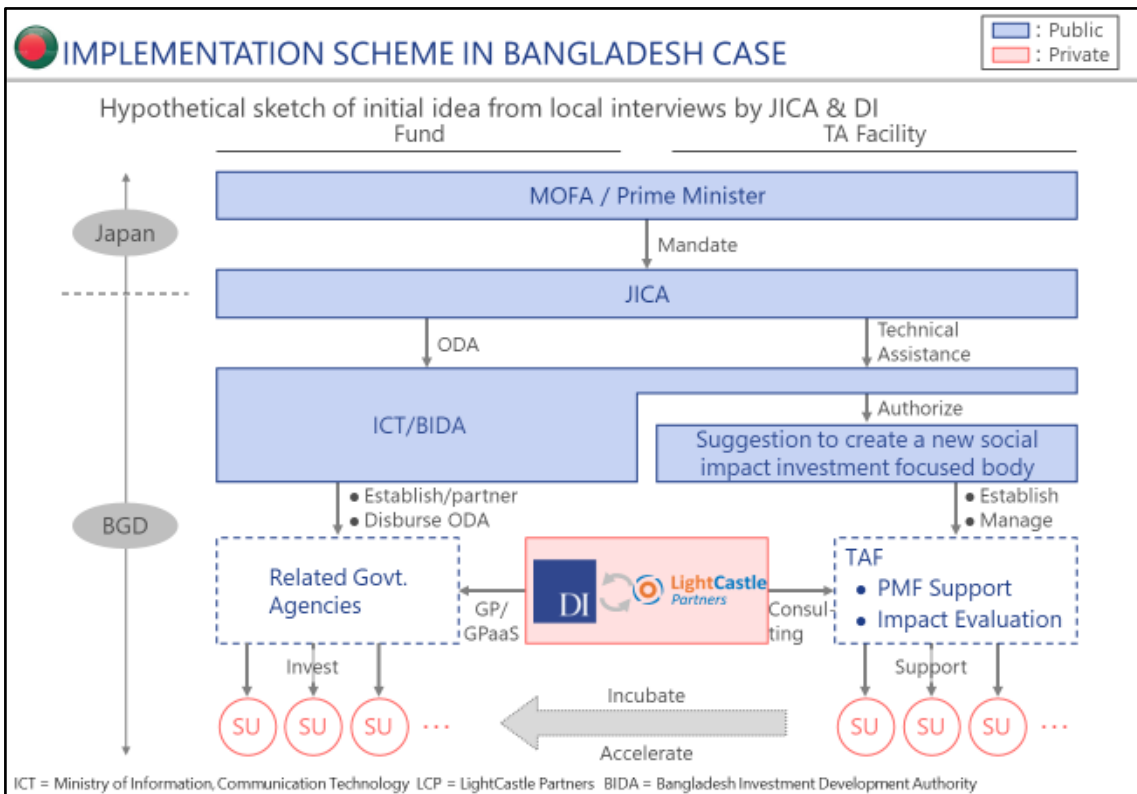
4-1-3 JICA's possible positions and roles in Bangladesh

Similarly, as stated in “4-1-1 JICA's possible positions and roles in Indonesia”, Bangladesh’s ecosystem faces the same issues: (1) capital supply, (2) TA facility, (3) social impact evaluation, and (4) government policies. The following figure summarizes our proposed measures and partnership schemes to solve these issues.



【Figure 4-1-6: Issues and possible solutions for Bangladesh’s ecosystem】

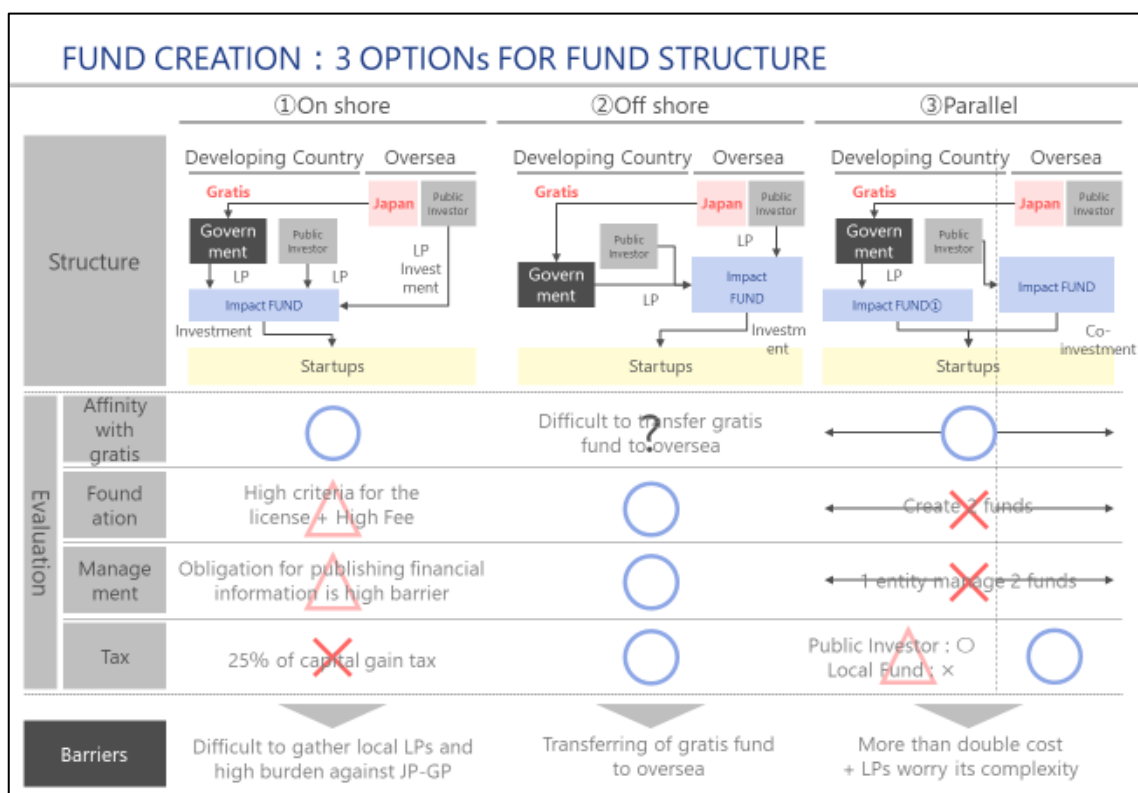
Bangladesh, most of the ecosystem functions necessary for impact investment development are non-existent. Therefore, it is necessary to resolve issues and build partnerships from scratch with regard to (1)-(4). While focused problems and approaches to problem solving are generally the same as those in Vietnam, the number of potential partners will be relatively limited because even a traditional VC ecosystem is yet to be in place. A particularly promising public-sector stakeholder is the country’s Information and Communication Technology Division (ICT) – a SU policy maker, and a promising private-sector partner will include Light Castle Partner, an experienced player in social impact assessment.



【Figure 4-1-7: JICA’s possible positions and proposed partnership scheme in Bangladesh】

4-2 Design of grant impact investment fund

We consider 3 options for the design of impact investment fund based on grant framework. The first option is 1. Onshore pattern: setting up a fund within investment target countries. The second option is 2. Offshore pattern: setting up a fund outside investment target countries such as Cayman Islands, Singapore, or Dubai. The third option is 3. Parallel pattern: setting up a fund both in and outside of investment target countries.



【Figure 4-2-1: 3 options of fund structure】

In this study, we have compared and evaluated the aforementioned fund structures from 4 perspectives: compatibility with grant framework, hurdles of establishment, management and operation, and tax efficiency. The onshore pattern is a good match with grant aid, which is a plus of this pattern compared to the others. However, the establishment, management and operation, tax efficiency aspects of this model may not always be optimal, increasing the burden for GP and thus recruiting LP in investment target countries might be difficult sometimes. The offshore pattern is the most suitable structure in terms of fundraising and management; however, detailed studies are required to determine if it can fit into the framework of grant aid. The parallel pattern is a good match for grant aid. However, as it requires the establishment of two funds, which duplicates the cost of establishment and operation and increases the complexity of fund structure.

This factor may discourage some investors.

Fund structure should be detailed in consultation with many stakeholders. We should consider how and to what extent challenges of each option can possibly be addressed as well as the willingness of GPs and LPs to participate when such issues are resolved.

Particularly for the realization of the onshore fund structure, it will be important to heighten the engagement willingness of GPs and LPs by acquiring as many measures as possible, through consultations with the governments of target countries, such as lowering the bar of GP license acquisition, fund's financial reporting obligations, clarification of legal interpretation of financing instruments prevalent in the US and China, reduction or exemption of capital gains taxes.

DETIAL DISCUSSTION FOR FUND CREATION / MANAGEMRNT / TAX					
		①Onshore		②Offshore (Singapore)	
		Register in VNM	Register in IDN	Register in SGP	Register in local
FUND Creation	GP License	JP-GP is difficult to take license ● Financial license/2 years experience/2 years positive profit is required	Take time and expense ● ~ 1 year ● \$4M paid-up capital is required	Low cost and easy ● Capital : \$0.2M ● ~0.5year	n.a.
	Local team	2 experienced residents are required	2 experienced residents are required	2 experienced residents are required	n.a.
Management	Financial reporting to Government	Q / Y Publicized	Q Non-publicized	Y Non-publicized	n.a.
	Legal	Obscure	Obscure	Clear	Obscure
TAX	Capital Gain tax	20% : selling stock +5% : Share to LPs	25%	0%	VNM : 0.1% of selling price IDN : 0%
	Tax exemption	JP-LP	←—————→	Exist	—————→
		VNM/IDN-LP	←—————→	Not exist	←—————→
					←—————→

【Figure 4-2-2: Supplemental explanation of license acquisition hurdles, management and operation, tax efficiency】

4-3 Three updates of TA facilities

4-3-1 The direction of updates

The TA facility update is conducted from the perspective of how the current Global Agenda and Logic Model of JICA should be interpreted within the framework of this PMF study and start-up support. Detailed discussions are being held with JICA's agriculture and health insurance departments based on our initial study results with Vietnam's agriculture sector (SHEP and Southeast Asian food supply chain) being selected for pilot study.

DI SELECTED SHEP¹⁾ & FOOD VALUE CHAIN AS A PILOT FIELD

List of Global Agenda

国連SDGs	国連SDGsの日本語	ポイント
I. 経済成長	経済的繁栄 (Prosperity) 経済的繁栄、社会福祉	● 経済的繁栄の促進
1. 経済成長	国連SDGsの17番目の目標。経済的繁栄、社会福祉、持続可能な開発のための目標。経済的繁栄、社会福祉、持続可能な開発のための目標。経済的繁栄、社会福祉、持続可能な開発のための目標。	● 経済的繁栄の促進 ● G 経済的繁栄の促進
2. 質の高い雇用	国連SDGsの8番目の目標。質の高い雇用、持続可能な開発のための目標。質の高い雇用、持続可能な開発のための目標。質の高い雇用、持続可能な開発のための目標。	● 質の高い雇用の促進 ● 質の高い雇用の促進
3. 産業、イノベーション	国連SDGsの9番目の目標。産業、イノベーション、持続可能な開発のための目標。産業、イノベーション、持続可能な開発のための目標。産業、イノベーション、持続可能な開発のための目標。	● 産業、イノベーションの促進 ● 産業、イノベーションの促進
4. 質の高い教育	国連SDGsの4番目の目標。質の高い教育、持続可能な開発のための目標。質の高い教育、持続可能な開発のための目標。質の高い教育、持続可能な開発のための目標。	● 質の高い教育の促進 ● 質の高い教育の促進
5. 健康と福祉	国連SDGsの3番目の目標。健康と福祉、持続可能な開発のための目標。健康と福祉、持続可能な開発のための目標。健康と福祉、持続可能な開発のための目標。	● 健康と福祉の促進 ● 健康と福祉の促進
6. 清潔な水と衛生	国連SDGsの6番目の目標。清潔な水と衛生、持続可能な開発のための目標。清潔な水と衛生、持続可能な開発のための目標。清潔な水と衛生、持続可能な開発のための目標。	● 清潔な水と衛生の促進 ● 清潔な水と衛生の促進
7. 再生可能エネルギー	国連SDGsの7番目の目標。再生可能エネルギー、持続可能な開発のための目標。再生可能エネルギー、持続可能な開発のための目標。再生可能エネルギー、持続可能な開発のための目標。	● 再生可能エネルギーの促進 ● 再生可能エネルギーの促進
8. 持続可能な消費と生産	国連SDGsの12番目の目標。持続可能な消費と生産、持続可能な開発のための目標。持続可能な消費と生産、持続可能な開発のための目標。持続可能な消費と生産、持続可能な開発のための目標。	● 持続可能な消費と生産の促進 ● 持続可能な消費と生産の促進
9. 気候変動対策	国連SDGsの13番目の目標。気候変動対策、持続可能な開発のための目標。気候変動対策、持続可能な開発のための目標。気候変動対策、持続可能な開発のための目標。	● 気候変動対策の促進 ● 気候変動対策の促進
10. 公平な社会	国連SDGsの10番目の目標。公平な社会、持続可能な開発のための目標。公平な社会、持続可能な開発のための目標。公平な社会、持続可能な開発のための目標。	● 公平な社会の促進 ● 公平な社会の促進
11. 持続可能な都市とコミュニティ	国連SDGsの11番目の目標。持続可能な都市とコミュニティ、持続可能な開発のための目標。持続可能な都市とコミュニティ、持続可能な開発のための目標。持続可能な都市とコミュニティ、持続可能な開発のための目標。	● 持続可能な都市とコミュニティの促進 ● 持続可能な都市とコミュニティの促進
12. 持続可能な消費と生産	国連SDGsの12番目の目標。持続可能な消費と生産、持続可能な開発のための目標。持続可能な消費と生産、持続可能な開発のための目標。持続可能な消費と生産、持続可能な開発のための目標。	● 持続可能な消費と生産の促進 ● 持続可能な消費と生産の促進
13. 気候変動対策	国連SDGsの13番目の目標。気候変動対策、持続可能な開発のための目標。気候変動対策、持続可能な開発のための目標。気候変動対策、持続可能な開発のための目標。	● 気候変動対策の促進 ● 気候変動対策の促進
14. 海洋資源の持続可能な開発	国連SDGsの14番目の目標。海洋資源の持続可能な開発、持続可能な開発のための目標。海洋資源の持続可能な開発、持続可能な開発のための目標。海洋資源の持続可能な開発、持続可能な開発のための目標。	● 海洋資源の持続可能な開発の促進 ● 海洋資源の持続可能な開発の促進
15. 陸域生態系の持続可能な開発	国連SDGsの15番目の目標。陸域生態系の持続可能な開発、持続可能な開発のための目標。陸域生態系の持続可能な開発、持続可能な開発のための目標。陸域生態系の持続可能な開発、持続可能な開発のための目標。	● 陸域生態系の持続可能な開発の促進 ● 陸域生態系の持続可能な開発の促進
16. 平和と公正	国連SDGsの16番目の目標。平和と公正、持続可能な開発のための目標。平和と公正、持続可能な開発のための目標。平和と公正、持続可能な開発のための目標。	● 平和と公正の促進 ● 平和と公正の促進
17. パートナーシップ	国連SDGsの17番目の目標。パートナーシップ、持続可能な開発のための目標。パートナーシップ、持続可能な開発のための目標。パートナーシップ、持続可能な開発のための目標。	● パートナーシップの促進 ● パートナーシップの促進

Point of Consider

DI selected SHEP & Food value chain in Vietnam as a pilot field

- Agriculture is one of the focus of this PMF activities
- Plus, DI Vietnam has long terms experiences in this field

In this field, DI updated General Scenario & Logic Model

- **1) General scenario (GS)**
 - Structure General scenario with business aspects and find out root issue
 - Include SU's as solutions
- **2) Logic Model**
 - Based on General scenario, create a numerical model in this field

1) Smallholder Horticulture Empowerment & Promotion

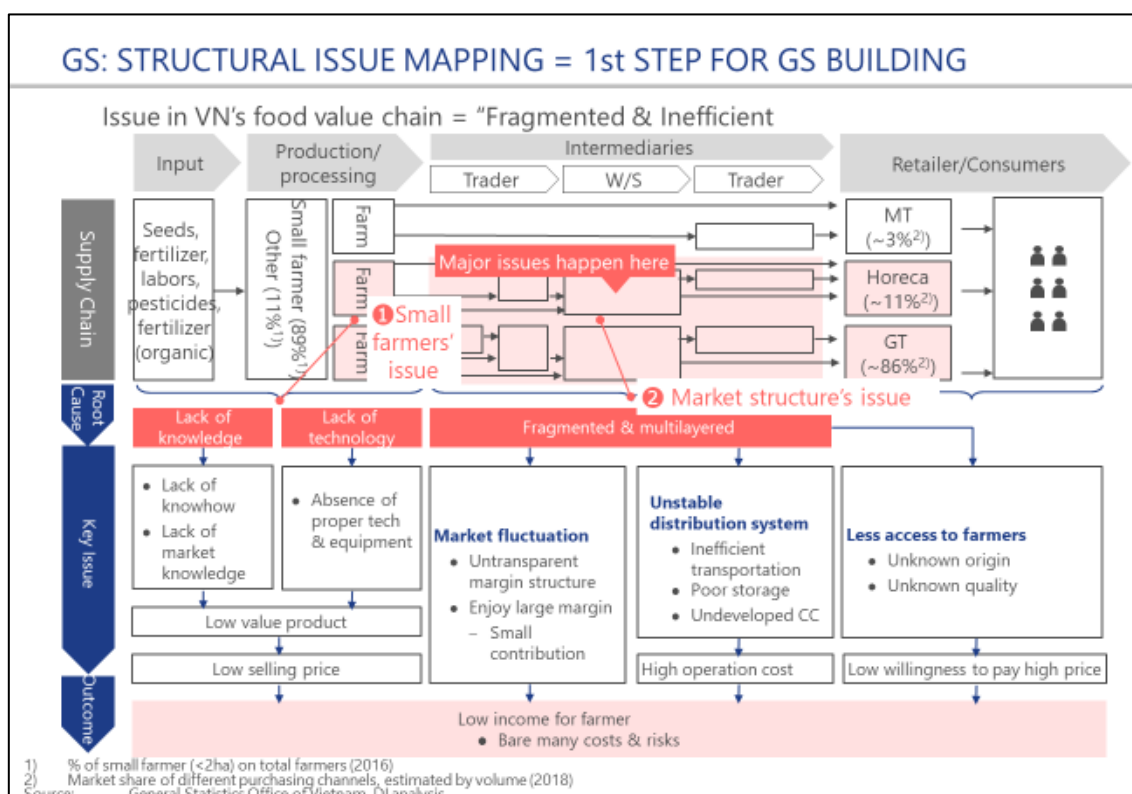
【Figure 4-3-1: Pilot TA facility update areas】

4-3-2 Updates of the sourcing function

The updates of the sourcing function are carried out in 3 major steps: Step 1) Identify major problems in the target fields, Step 2) Define directions for tackling each challenge, Step 3) Identify a list of Japanese and overseas companies that fit the solutions. We have conducted a pilot study in the agriculture sector in Vietnam through these 3 steps with the Global Agenda being hypothetically employed in a medium- to long-term perspective.

Step 1: Identify major problems in the target fields

We have identified 2 major problems in the supply chain in Vietnam: 1. Challenges of small farmers and 2. Fragmentation and multilayered distribution intermediaries. These issues are examined closely from Step 2. See the following figure for more details.



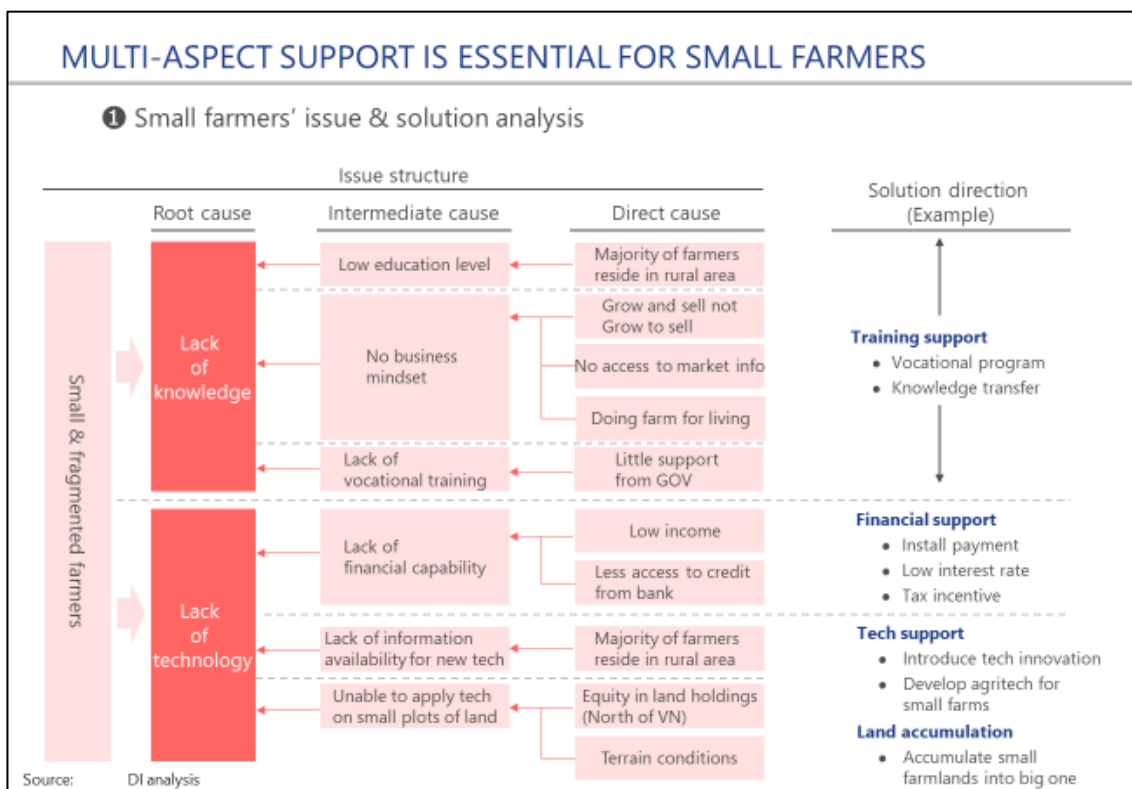
【Figure 4-3-2: Structural issue mapping in Vietnam's agriculture】

Step 2: Directions for tackling each challenge

The 2 issues found in Step 1 are analyzed and discussed to identify possible solutions.

1. Challenges of small farmers

The following figure shows (1) challenges faced by small farmers, (2) an analysis of problem background, and (3) proposed solutions.



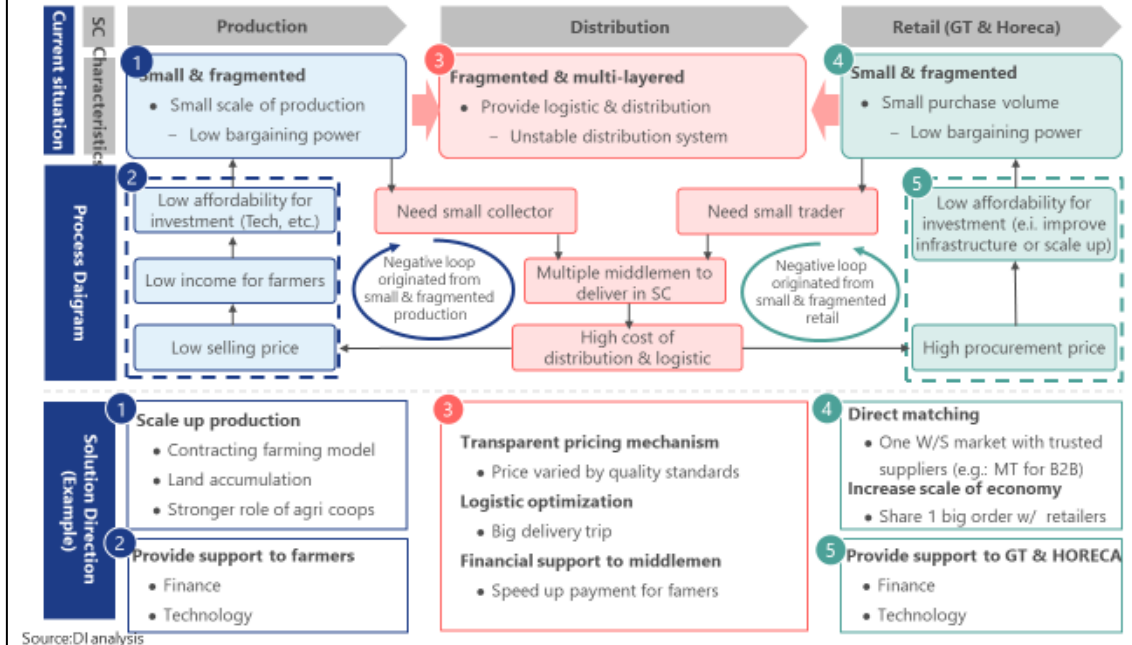
【Figure 4-3-3: 1. Challenges of small farmers and directions for tackling those issues】

2. Fragmentation and multilayered distribution intermediaries

The following figure shows (2) problem structure of the fragmentation and multilayered distribution intermediaries and proposed solutions. A reason for this problem is a negative loop originated from both fragmented production and fragmented retail distribution spectrums centered around an intermediary distribution pillar, causing a multi-layered market structure as a result.

ENDS' ISSUES CAUSE MULTI-LAYERED STRUCTURE IN NEGATIVE LOOP

② Market structure's issue & solution analysis



【Figure 4-3-4: 2. Fragmentation, multilayered intermediaries and possible solutions】

Step 3: Examples of players with business models tackling each challenge

The following are examples of Vietnamese start-ups that align with proposed solution directions discussed in Step 2.

JICA CAN IDENTIFY PLAYERS AFTER DEFINING THE SOLUTION DIRECTION					
List of players with biz model solving the farmer's issue					
Solution direction	Type of company	Name	Biz Model	Fundamental Info	DI's analysis
Training Support	Local SU	Agriion	Social platform for Agri	Less popular	Few training support for farmer <ul style="list-style-type: none"> • Training activities are often a part of product promo • Only GOV enterprises have initiative
	VN Enterprise	Agriculture Viettel	Call center for farmer	A service from Viettel	
	JP Enterprise	Smart Agri	Info sharing platform	A project from VNPT	
Financial Support	Local SU	Kilimo Finance	Lending platform for farmer	Easier loan assessment	Limited financial tools for farmer <ul style="list-style-type: none"> • Traditional banks provide limited loan amount & hard assessment • Few SUs try to solve financial disadvantage for farmer
	VN Enterprise	Agribank	Commercial bank for Agri	Many farmers w/o collateral	
	VN Enterprise	VBS ¹⁾	GOV policy bank	Hard loan assessment	
Tech Support	JP Enterprise	People's Credit Fund	A hybrid of banking and CS ¹⁾	Loan amount is limited	Numerous Agri Tech players compared to other segments <ul style="list-style-type: none"> • Conglomerate entered agri industry • Many agri tech SUs were born
	Local SU	Mimosa Tek	IoT based urban agri solution	Provide tech consultation	
		Mismart	Pesticide spraying drone	Applied on VinEco farm	
		Hachi	Remote farm monitoring P/F ²⁾	Backed by VN Silicon Valley	
	VN Enterprise	Smart Agri	IoT smart farm platform	A project of VNPT	
		Thaco	Agri machinery producer	A conglomerate entered Agri	
		ELCOM	High-tech agriculture	One of 500 largest enterprises	
Yamabiko		Cutter & sprayer producer	Leading player in JP		
JP Enterprise	Kubota	Heavy equipment producer	Largest player in JP		
	Yanmar	Heavy equipment producer	One of the largest maker in JP		

1) Cooperative system, 2) Platform
Source: DI analysis

【Figure 4-3-5: 1. Examples of players with business models solving farmer's issues】

JICA CAN IDENTIFY PLAYERS BY DEFINING THE SOLUTION DIRECTION (1/2)

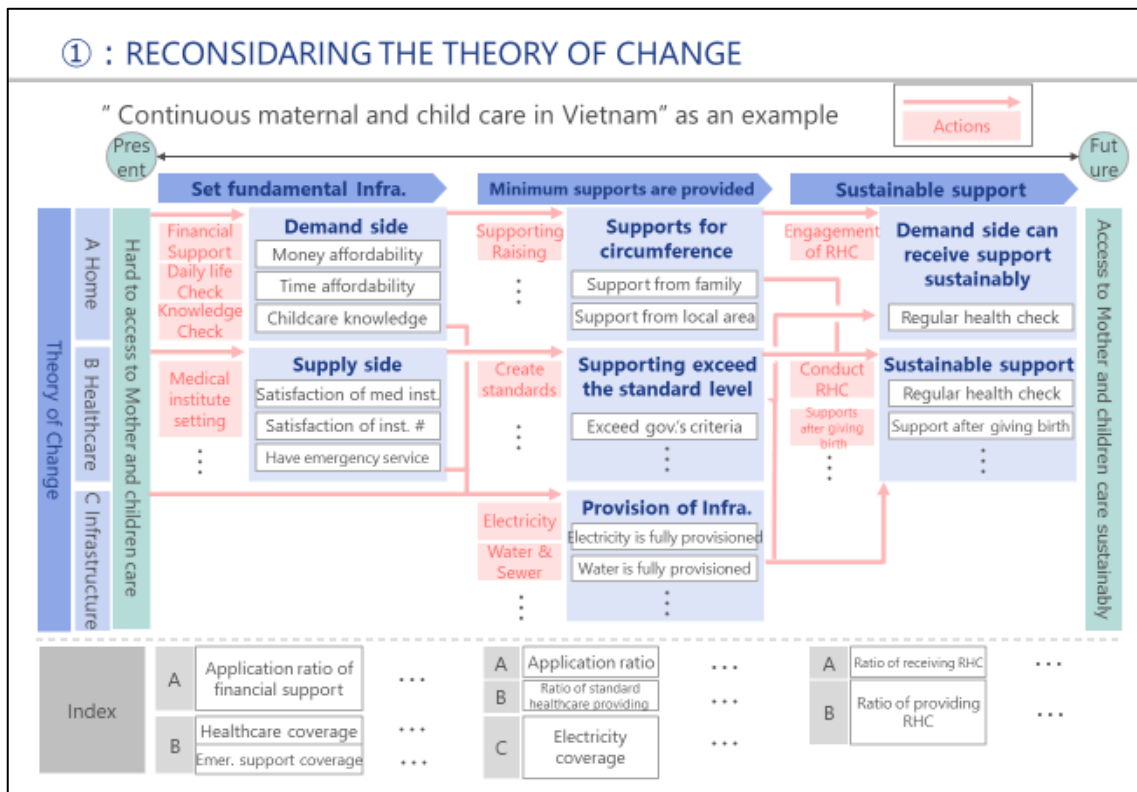
List of players with biz model solving the market structure's issue					
Solution direction	Type of company	Name	Biz Model	Fundamental Info	DI's analysis
Scale up production	Local SU		N/A		Scaling up production requires strong financial capabilities <ul style="list-style-type: none"> • Only few enterprises have capabilities <ul style="list-style-type: none"> - Work w/ agri coop - Accumulate land
	VN Enterprise	VinEco	Smart cleaning farm	Owned by Vin Group - Masan	
		FLC Ecofarm	High-tech farm	Owned by FLC group	
		Delco farm	High-tech applied agriculture	Owned by Delco Group	
JP Enterprise		N/A			
Transparent pricing mechanism & Direct matching	Local SU	Kamereo	F&B business supplier	Price is publicly listed	Lack of players for B2B <ul style="list-style-type: none"> • Majority of direct matching players are SM or B2C P/F²⁾ • Limited SUs connecting farmers & retailers
		Foodmap Asia	Connect farmers w/ consumers	Invested by Wavemaker	
		Foodhub	Fresh-food-to-table platform	Backed by ThinkZone	
		V-Garden	High quality HRC supplier	Apply CC delivery	
	VN Enterprise	Vinmart	Direct supply from VinEco	Fast growing	
		Saigon Coop	Direct supply from local farmers	Biggest SM ¹⁾ chain	
		Bach Hoa Xanh	Direct supply from local farmers	Owned by Mobile World	
	JP Enterprise	Aeon	Sourcing from trusted suppliers	JP quality SM ¹⁾	
		Fujimart	Sourcing from trusted suppliers	Owned by Sumimoto corp	
		Citimart	Sourcing from trusted suppliers	Owned by Aeon + Dong Hung	

1)Supermarket, 2)Platform
Source: DI analysis

【Figure 4-3-6: 2. Examples of players with business models solving the market structure's issues】

A different approach to sourcing function is to categorize expected conditions indicated in JICA's Global Agenda into stages then identify possible scenarios and solutions to realize those.

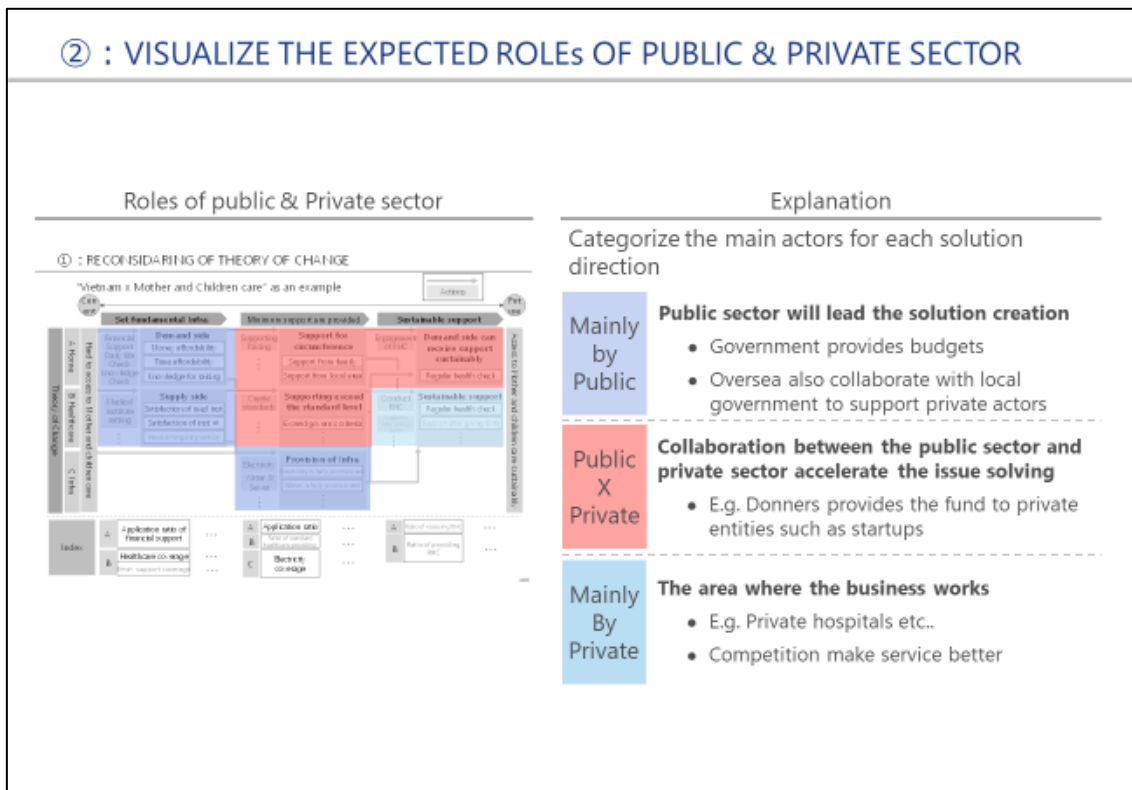
The theory of change is described in the figure below, with an example regarding continuous maternal and child care in Vietnam's healthcare sector.



【Figure 4-3-7: Theory of change in Vietnam’s continuous maternal and child care】

Within the overall solution, actors promoting initiatives in each specific area are categorized into 3 patterns: (1) areas where the public sector is the primary promoter, payer, entity in charge, either through its own financial resources or in collaboration with donors from other countries; (2) areas where development support can be accelerated through private-sector collaboration, such as public-private-funded projects and public-build-and-private-operate/private-sector-awarded national projects; and (3) areas for private-sector-driven business.

② : VISUALIZE THE EXPECTED ROLES OF PUBLIC & PRIVATE SECTOR

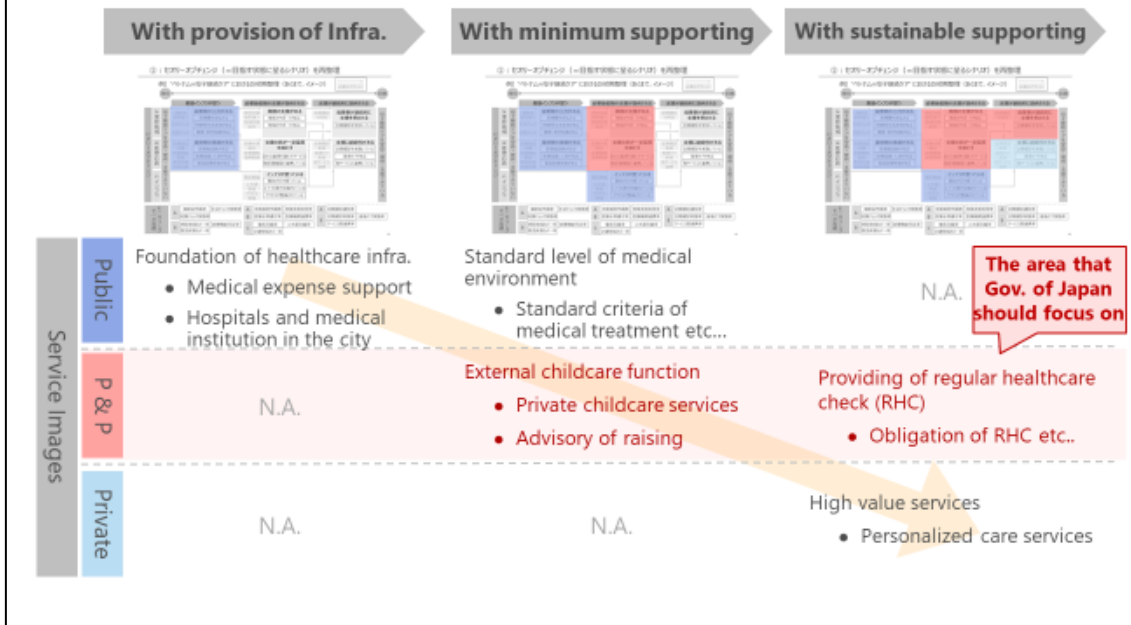


【Figure 4-3-8: Categories of actors/promoters in each solution area】

By categorizing the status of solutions by country, it is possible to define solution areas according to development status of the target country. This would allow the identification of target business and focused support options in areas where the public sectors and private sectors collaborate.

THE SUPPORTING AREA CAN BE DEFINE THROUGH ①&② FRAMEWORKS

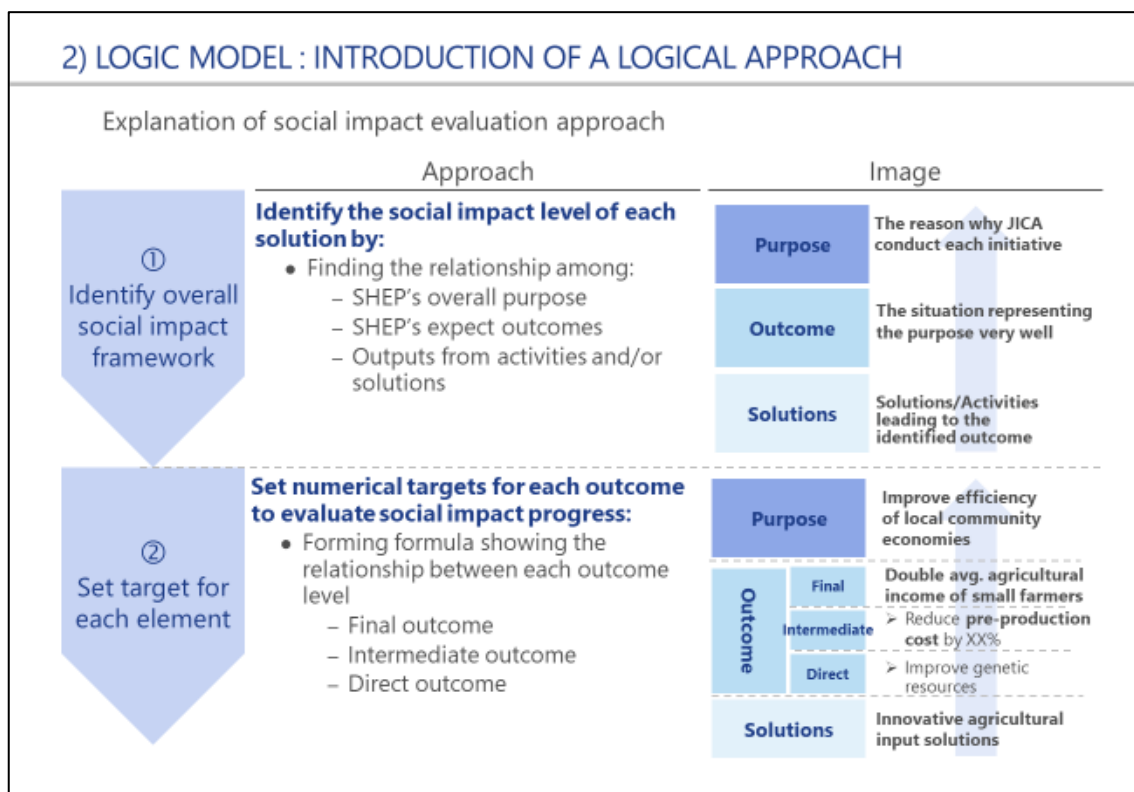
Transition of the supporting area by the development stage of countries



【Figure 4-3-9: Solutions corresponding to each economic development status and key promoters】

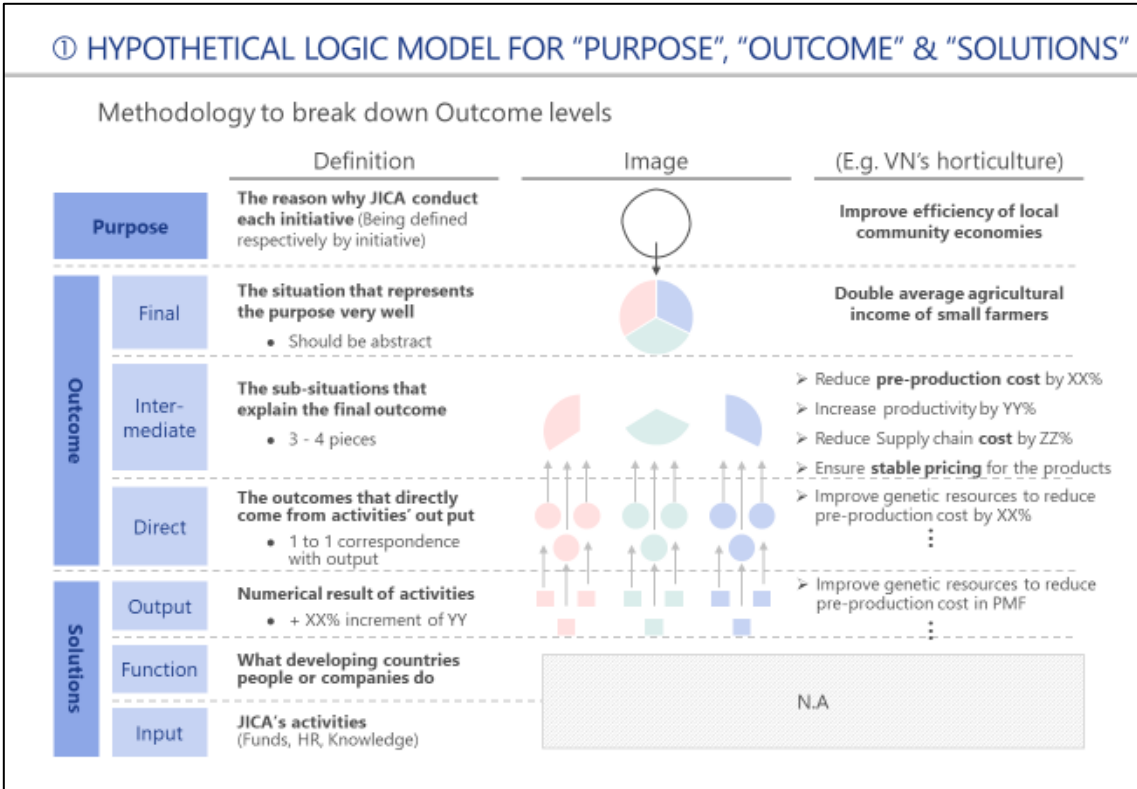
4-3-3 Updates of the social impact evaluation

In addition to the social impact evaluation by 6 startups, we also study a systematic method for visualizing outcomes of the startups following JICA’s Logic Model. There are 2 major steps for this: 1. Structuring of the logic model, and 2. Setting detailed quantitative indicators.



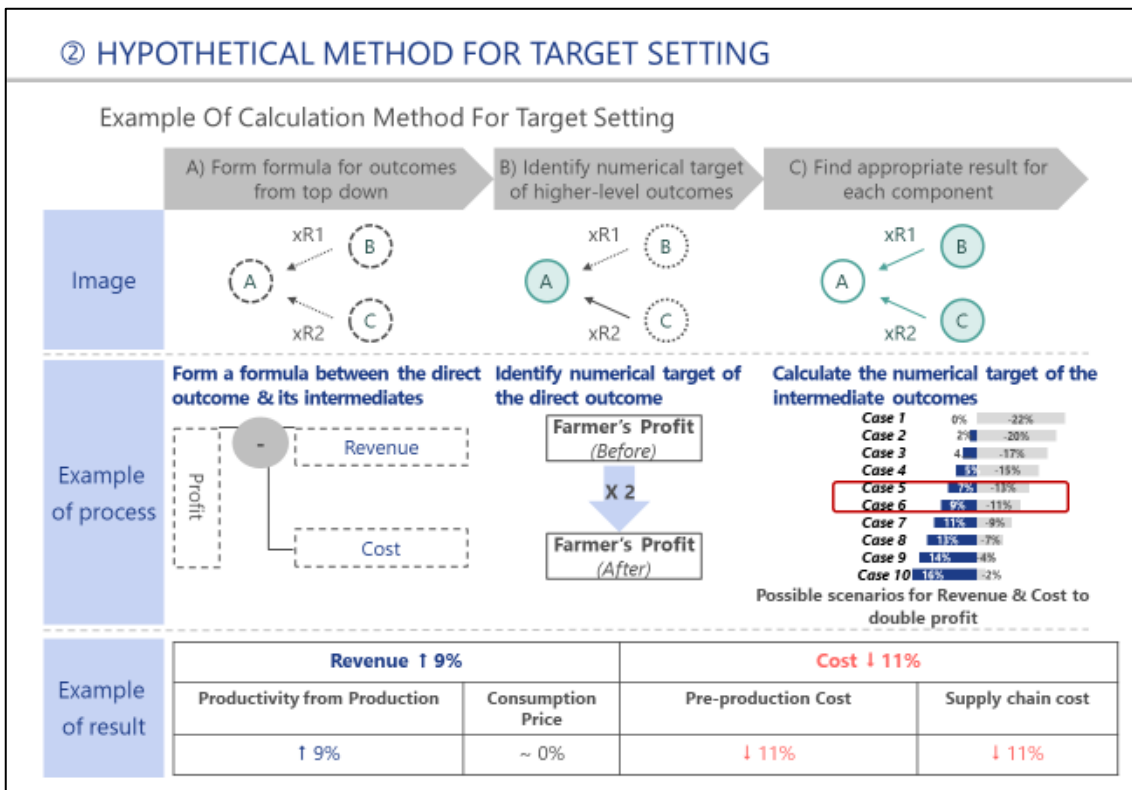
【Figure 4-3-10: Logic model approach】

To organize the structure of the said logic model, we depict the relationship between important concepts "Purpose," "Outcome", and "Output" with a specific example given in the agriculture sector in Vietnam in the figure below. In this case, the "Purpose" is to improve financial situation of small farmers, and the final "Outcome" is to double the profit of farmers.



【Figure 4-3-11: The arrangement of concepts in the logic model and an example in Vietnam's agriculture】

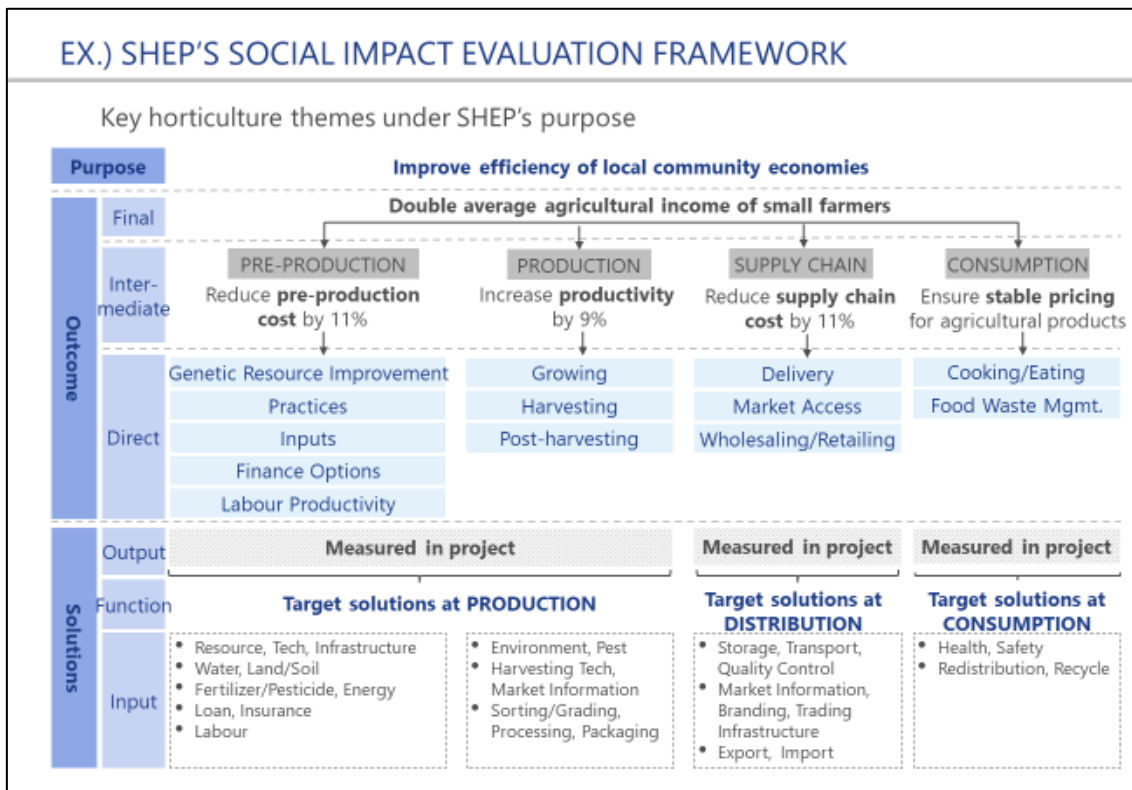
The following figure shows how we break down and quantify the ultimate goal of "doubling profits".



【Figure 4-3-12: Breakdown of the ultimate goal and examples】

In this case, the final goal is broken down through 3 steps: A) Setting the final goal, B) Setting quantitative results of the final goal, and C) Setting numbers of smaller components. The profit (A) can be broken down into sales and costs. The assumption of "doubled profit" (B) is applied; and finally, the distribution of sales and costs is quantified to satisfy (B). This quantification is only a model case, so it would be preferred to set specific numerical values in line with quantitative targets of each country when building future logic models. The following figure shows a combination of the General Scenario and the Logic Model studied to date for the agriculture sector in Vietnam.

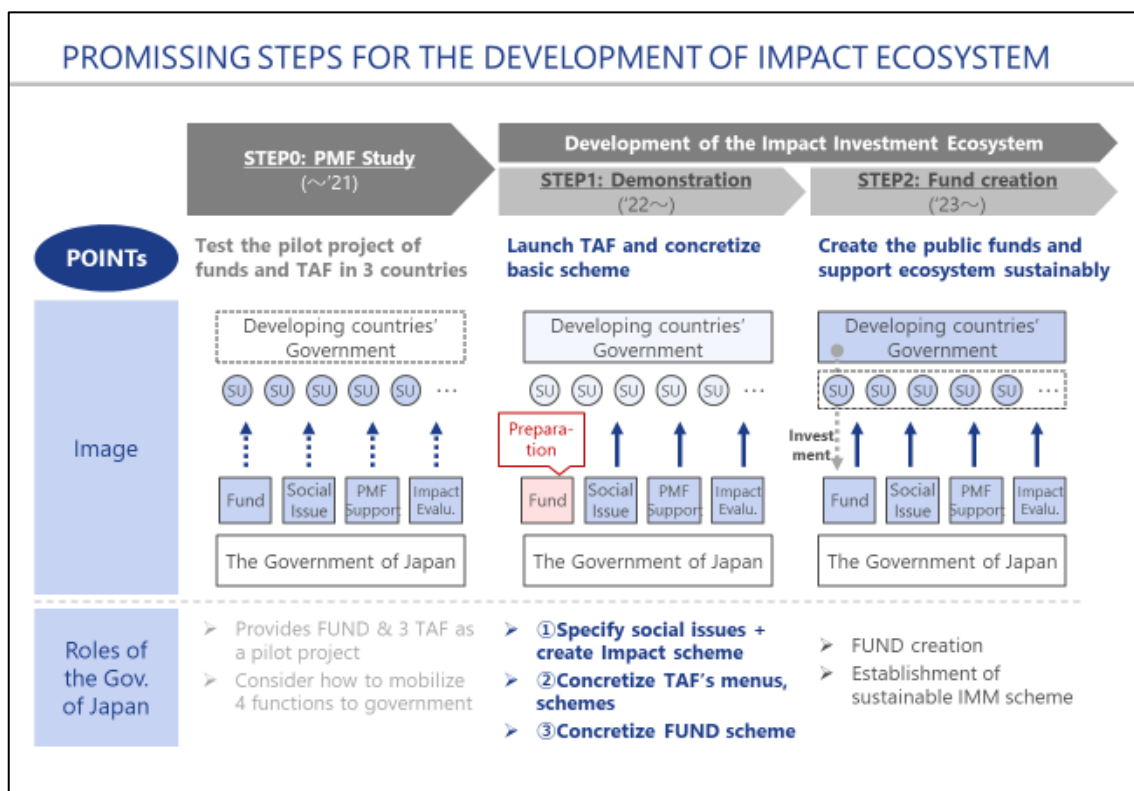
EX.) SHEP'S SOCIAL IMPACT EVALUATION FRAMEWORK



【Figure 4-3-13: Overview and example of the logic model in Vietnam's agriculture】

4-4 JICA's strategy for impact investment ecosystem in the next 5 years

Functions JICA can provide to impact investment ecosystem are funding (historically, grant funds) and 3 TA facilities. Based on discussions conducted thus far, JICA's strategic steps are summarized as follows.

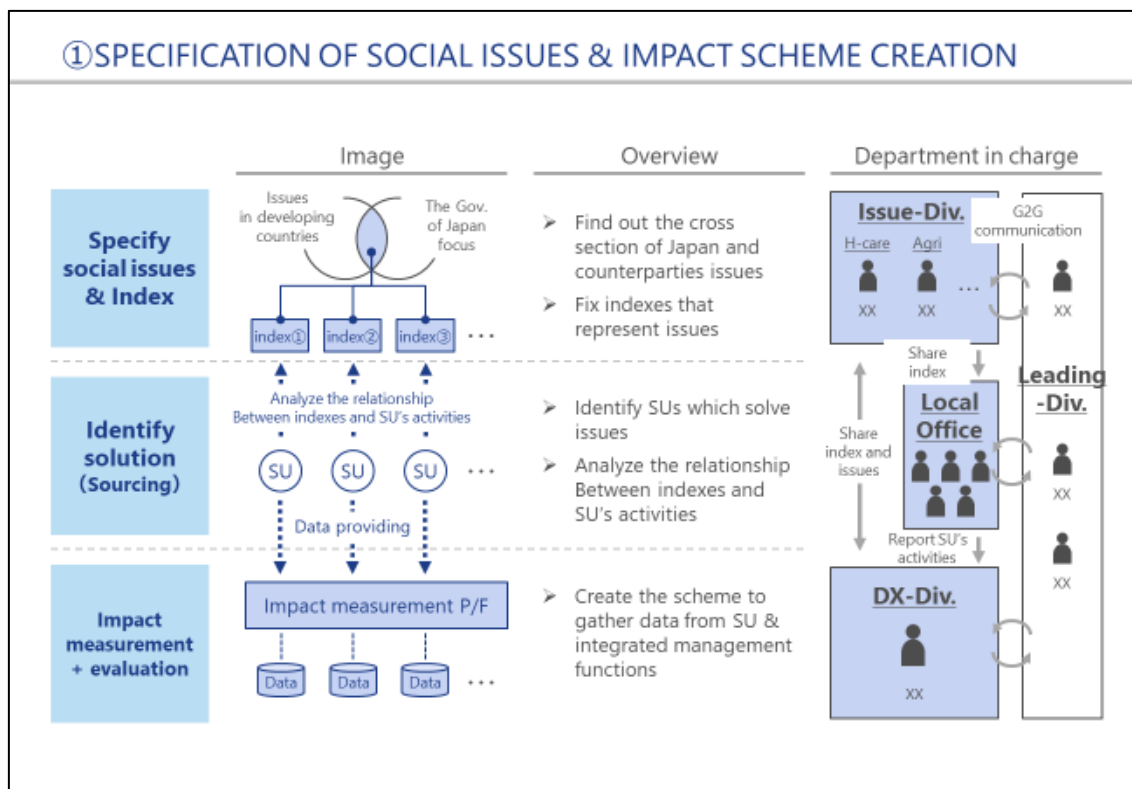


【Figure 4-4-1: Strategic steps of the Government of Japan (proposal)】

These steps are broadly divided into three categories: STEP 0 - PMF verification, STEP 1 - Provision of 3 TA facilities, STEP 2 - Fund establishment. STEP 0 is included in the scope of this study, which requires finalizing the requirements for funding function and 3 TA facilities that are being piloted in 3 countries (Vietnam, Indonesia, and India). The requirements for 3 TA facility functions are being finalized. In STEP 1, it is important to conduct pilot tests to verify whether these 3 TA facilities are actually functioning in target area, which requires collaboration among multiple departments of JICA. The following is a summary of how the 3 TA facilities should be implemented.

Sourcing function + impact measurement scheme

The sourcing function requires the identification of focused issues of both JICA and partner governments, the search of start-ups that can provide solutions to these issues, and a framework to measure and evaluate impact based on quantitative data provided by start-ups. The following figure summarizes a rough image of how these functions should be allocated within JICA.

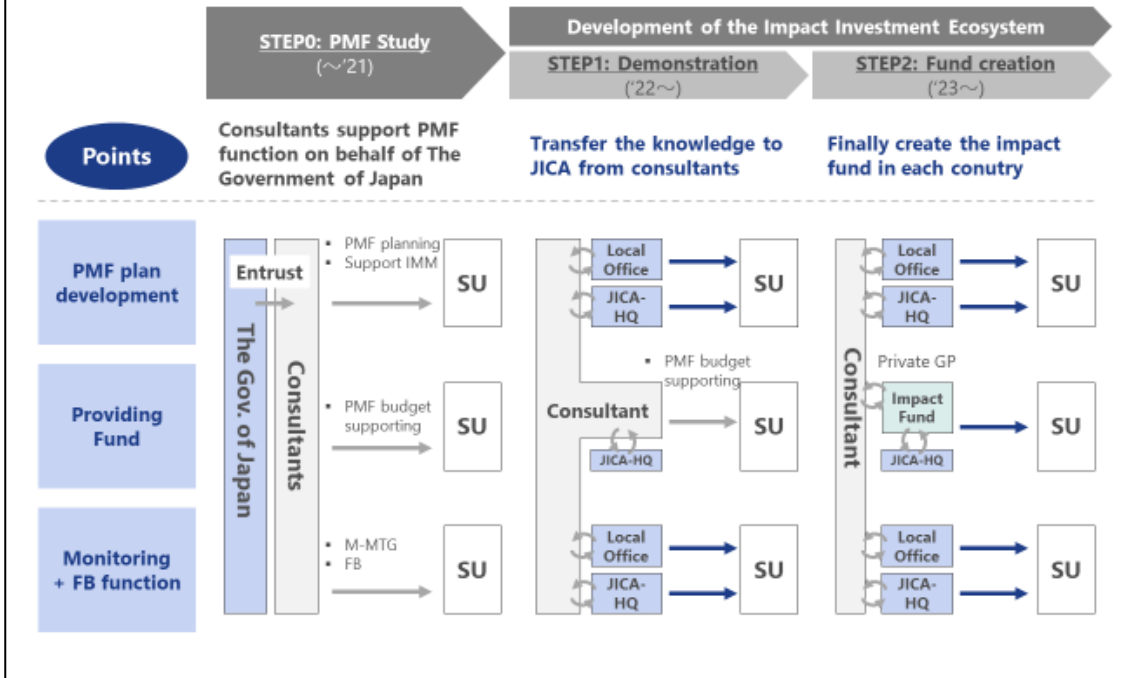


【Figure 4-4-2: 1. Identification of focused issues + Impact measurement scheme】

Building a foundation for PMF support

As mentioned in Section 2-5, PMF support function covers PMF plan formulation, funding, monitoring + FB. In the PMF verification of this study, this function has been performed by Dream Incubator in close collaboration with JICA. From the understanding of the current status and challenges of impact investment ecosystems in 3 developing countries, it is evident that the function plays an important role especially in mid- to long-term. It is also essential for JICA to secure this function to gain a competitive advantage in the ecosystem. The following figure provides a rough image of how JICA should acquire these functions in different stages.

② CONCRETIZE TAF MENU AND SCHEME



【Figure 4-4-3: Establishment of a foundation for 2. PMF support (DI's initial proposal)】