India
Information Technology, Electronics and Communications Department,
Government of Telangana

Data Collection Survey on Strengthening Telangana Startup and Innovation Ecosystem and Japan-India Relations in India

Final Report

December 2022

Japan International Cooperation Agency

Deloitte Tohmatsu Financial Advisory LLC.
Deloitte Tohmatsu Venture Support Co., Ltd.

Table of Contents

Diagram List

Abbreviation

Abbreviation	Official Name / Overview
APAC	Asia-Pacific
BoP	Base of the Pyramid
BPL	Below-Poverty-Line
BtoB	Business to Business
BtoC	Business to Customer
CIE	Centre for Innovation & Entrepreneurship
CoI	Commissionerate of Industries
ESG	Environmental, Social, Governance
EVs	Electric Vehicles
GIP	Grassroots Innovation Policy
HR	Human Resources
IAs	Telangana State Implementing Agencies
IIT-H	Indian Institute of Technology, Hyderabad
IIIT-H	Indian Institutes of Information Technology, Hyderabad
IMM	Impact Measurement and Management
INR	Indian rupees
IRR	Internal Rate of Return
ISB	Indian School of Business
ITE&CD	Information Technology, Electronics & Communications Department
JETRO	Japan External Trade Organization
KPI	Key Performance Indicators
MoU	Memorandum of Understanding
MSEs	Micro and Small sized Enterprises
NALSAR	National Academy of Legal Studies and Research
NARI	Nari Assistance Revival of Industry
NASSCOM	National Association of Software and Services Companies
NDA	Non-disclosure agreement
NGO	Non-government organization
NPA	Non-Performing Asset
NPL	Non-Performing Loans
ODA	Official Development Assistance
PE	Private Equity
PFS	Pay-for-success
PMM	Project Management Meeting
PoC	Proof of Concept
PWDs	Person With Disabilities
R&D	Research and Development
RICH	Research and Innovation Circle of Hyderabad

SBC	Suction Ball Coregulators
SDGs	Sustainable Development Goals
SIB	Social Impact Bond
SICJ	Social Innovation Concierge for Japan
SIP	Social Innovation Policy
SMEs	Small and Medium sized Enterprises
SNIST	Sreenidhi Institute of Science and Technology
SROI	Social Return on Investment
STEAM	Science, Technology, Engineering, Art, Mathematics
SUs	Startups
TASK	Telangana Academy for Skill and Knowledge
TG	Telangana State
Third-party DD	Third-party Due Diligence
T-Hub	The largest incubation facility in the state, serves as the main hub for innovation activities and industry-government-academia collaboration in Telangana.
TIHCL	Telangana Industrial Health Clinic Ltd
TIP	Telangana Innovation Policy 2016
TOC	Theory of Change
TPOs	Training & Placement Officers
TS-iPASS	Telangana State Industrial Project Approval and Self-Certification System
TSIC	Telangana State Innovation Cell
TSIIC	Telangana State Industrial Infrastructure Corporation Ltd
T-Works	The largest prototyping center in India. Provides incubation and skills development services in addition to prototyping
VC	Venture Capital
WE	Women Enterprise
We Hub	Providing financial and technical support for the development of female entrepreneurs

1. Overview of the study

(1) Objectives

In order to support the Indian Government in its efforts to create more employment opportunities, this study examines ways to unlock the potential and strengthen the functions of the startup and innovation ecosystem, which is already forming a foundation to support the expansion of startups (hereinafter SUs), which are growing quickly and playing an important role in creating new jobs. The project considers measures to draw out the potential of the startup innovation ecosystem, whose foundation is already being formed, and to strengthen its functions. The startup and innovation ecosystem refers to a system in which players related to startups and enablers (entrepreneurs, government and donors, large companies, investors, educational institutions, accelerators, etc.) form complementary relationships, mainly on a city basis, and startups are continuously established and grow. It then refers to a system in which sustainable innovation and economic growth are possible.

Specifically, using the Telangana State as a model case, the project intends to strengthen measures to increase the added value of the startup and innovation ecosystem in India, improve the management capacity of the government in this ecosystem. It also intends to create a bridge for Japanese companies (mainly SUs and new business teams of large companies) to enter emerging countries in collaboration with the state government.

In order to serve as a bridgehead for Japanese companies (mainly SUs and new business teams of large companies) to enter emerging markets, the project includes   research and study on strategies for emerging markets, products and services, and extract lessons through pilot activities.

(2) Target area

The target area of this study is Telangana State located in the southeast part of India. Telangana is an internationally acclaimed state for its performance and the state government is taking a lead in forming and managing the startup and innovation ecosystem. Information Technology, Electronics & Communications Department (ITE&CD) of Telangana and the related institutions under the ITE&CD are mainly responsible for the formation and management of the startup and innovation ecosystem in Telangana State, and these agencies are the main counterparts for this study.

(3) Structure of the Study Team

Deloitte Tohmatsu Financial Advisory (DTFA), which has extensive track records and experience in consulting projects with private companies and government agencies as well as JICA's technical and financial cooperation projects through the International Development Advisory unit leads this project, while Deloitte Tohmatsu Venture Support (DTVS), which specializes in startup support both in Japan and in overseas and provides consulting services to the central and local governments, deploys personnel with expertise and experience. Moreover, Deloitte India also joins this project and support local activities such as implementation of interviews with stakeholders and pilot activities in India.
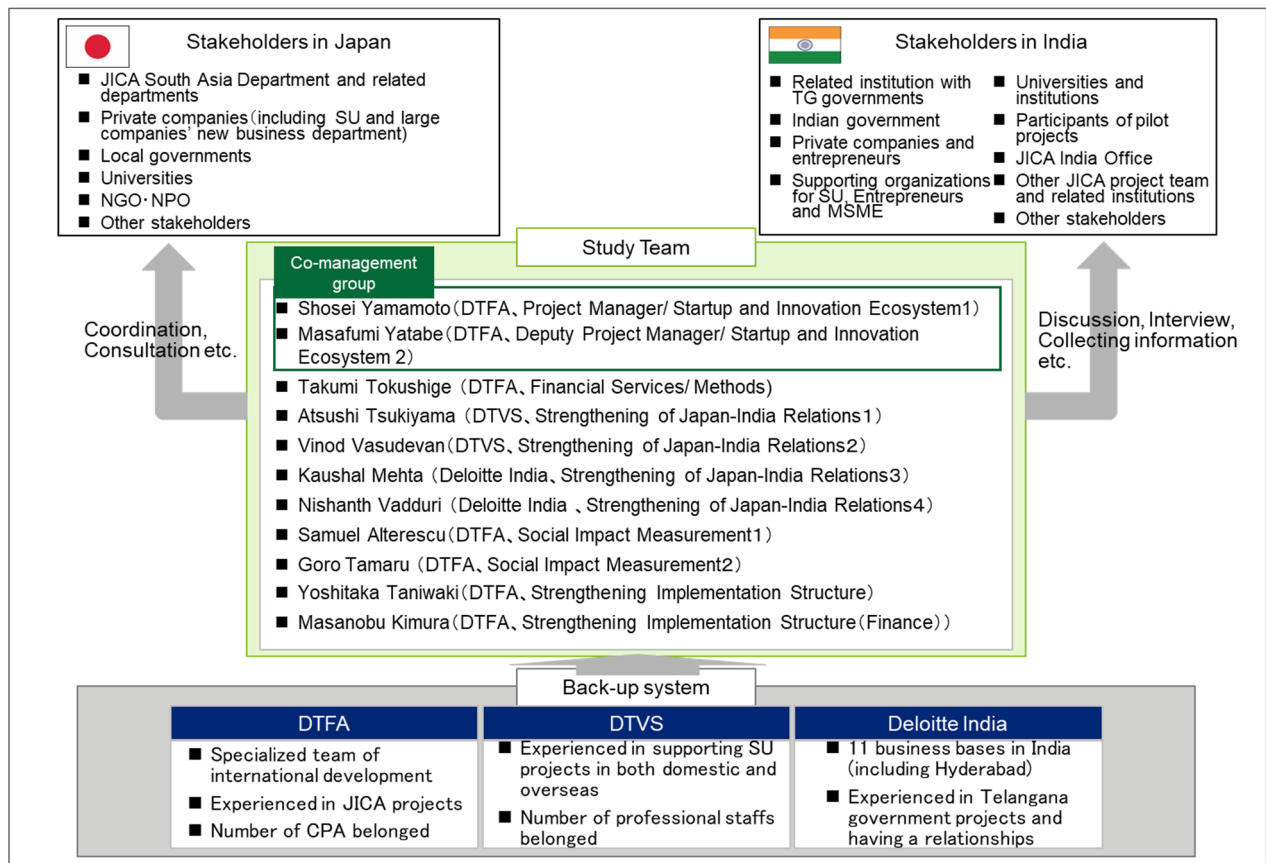
Figure 1 Implementation structure

(4) Implementation plan

Placing Telangana as a model case, the objectives of this study are to strengthen the functions and implementation structure of the startup and innovation ecosystem in India, to examine and pilot specific measures for employment creation, industrial promotion, strengthening of Japan-India relations and additional value creation, and thereby to examine the possiblity of formulating JICA's technical cooperation, grants and ODA Loan Project. To achieve these objectives in an effective and efficient manner and within the limited timeframe, the JICA Study Team will carry out the study in accordance with the following basic principles (technical and operational).

Technical Principles

1. Propose and pilot measures for the strengthening of functions and implementation structure and for additional value creation based on the analysis of innovation and startup ecosystem

2. Establish a service platform which serves as a foothold for business expansion of Japanese companies into the Indian market and beyond

3. Keep in mind the smooth implementation of ODA Loan Project being planned after the study

4. Establish and reinforce relationships with key stakeholders

5. Make full use of knowledge on international good practices for benchmarking

Operational Principles

1. Minimize the effect of COVID-19 and establish post-COVID-19 operations

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2. Set up an optimal team structure to realize project implementation as well as service provision both in Japan and in India
3. Combine thorough planning and flexible review
4. Constitute the Study Team with experts on each field, placing international development, startup / entrepreneur support, and India at the core

Figure 2 Basic principles for the study

In accordance with the above principles, the Study Team will carry out the study in accordane with the process shown in the figure below. If it is determined that the process or principles need to be revised during the study, we will promptly consult with JICA and respond flexibly and promptly.

As of 3rd February 2022, , the project period was extended in consultation with JICA from February 2022 to December 2022 for the following reasons:

- Social Innovation Concierge for Japan (SICJ) as part of activities for Strengthening of Japan-India relations
  - ➢ Additional man-hours have become required to support more Japanese companies that expected in response to their strong interest in SICJ.
  - ➢ The period of the project needed to be extended as a self-sustaining implementation structure both in India and in Japan has not been established due to the continued online activities with the effect of the COVID-19 pandemic.
- Social impact measurement as part of activities for Additional Value Creation
  - ➢ The period of the project needed to be extended as there has been some delay in the activities as more time has been required due to the continued online activities with the effect of the COVID-19 pandemic.
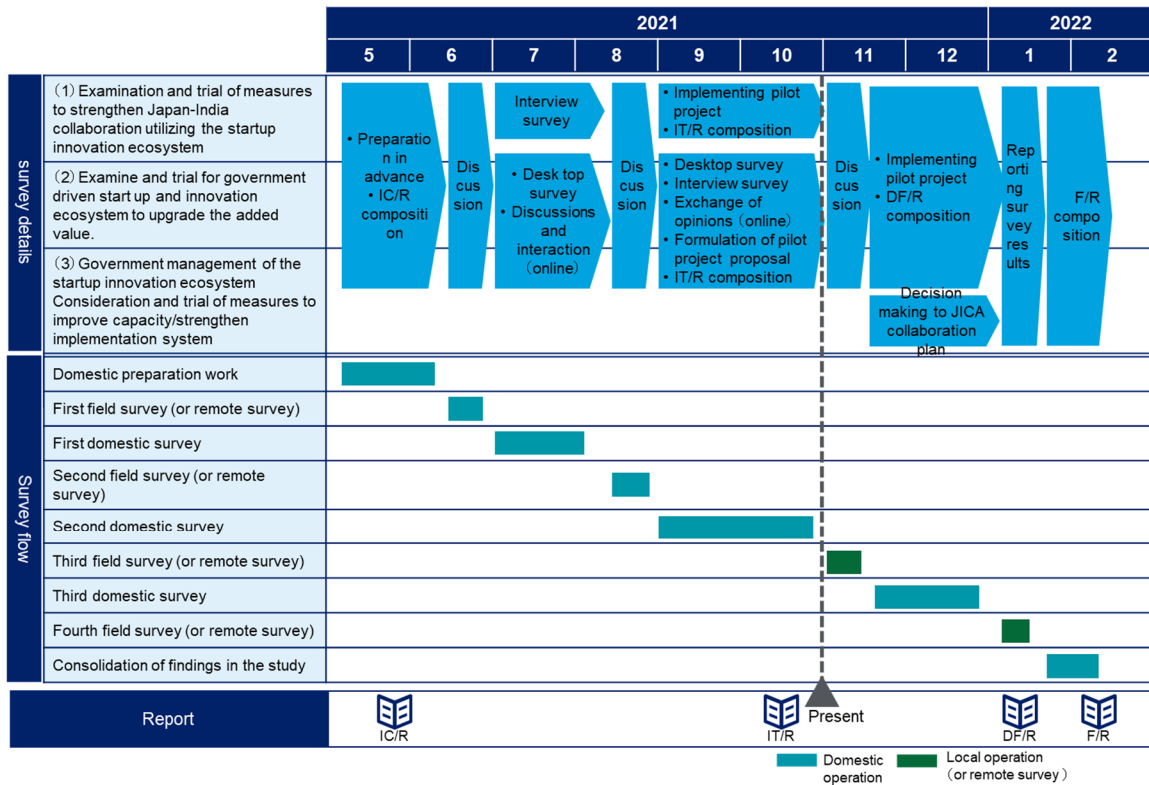
Figure 3 Overview of work process

<Alternative methods for domestic operations during the period when travel is not possible due to the effects of the COVID-19 >

It has been unable to travel to the site since the start of the study until July 2022, and the Study Team had discussions with the Telangana Government with online interviews. The survey was conducted through on-site travel in August and November 2022, while continuing to conduct online meetings from August 2022 onward.

The assignment plan is shown in the following table.

Figure 4 shows an assignment plan with a Gantt-style schedule (FY2021 months 5–12, 1–3; FY2022 months 4–12) and man-month (MM) totals.

Local Activities

In charge	Name	Company	Grade	MM 2021 Local	MM Total Local
Project Manager/ Startup and Innovation Ecosystem1	Shosei Yamamoto	Deloitte Tohmatsu Financial Advisory LLC	3	0.93	0.93
Deputy Project Manager/ Startup and Innovation Ecosystem2	Masafumi Yatabe	Deloitte Tohmatsu Financial Advisory LLC	2	0.00	0.00
Financial Services/ Methods	Takumi Tokushige	Deloitte Tohmatsu Financial Advisory LLC	3	0.00	0.00
Strengthening of Japan-India Relations 1	Atsushi Tsukiyama	Deloitte Tohmatsu Venture Support Co., Ltd.	3	0.93	0.93
Strengthening of Japan-India Relations 2	Vinod Vasudevan	Deloitte Tohmatsu Venture Support Co., Ltd.	3	0.00	0.00
Strengthening of Japan-India Relations 3	Kaushal Mehta	Deloitte Touche Tohmatsu India LLP	3	0.00	0.00
Strengthening of Japan-India Relations 4	Nishanth Vadduri	Deloitte Touche Tohmatsu India LLP	4	0.00	0.00
Social Impact Measurement 1	Samuel Alterescu	Deloitte Tohmatsu Financial Advisory LLC	4	0.00	0.00
Social Impact Measurement 2	Goro Tamaru	Deloitte Tohmatsu Financial Advisory LLC	4	0.00	0.00
Strengthening Implementation Structure	Yoshitaka Taniwaki	Deloitte Tohmatsu Financial Advisory LLC	3	0.00	0.00
Strengthening Implementation Structure (Finance)	Masanobu Kimura	Deloitte Tohmatsu Financial Advisory LLC	5	0.00	0.00
Sub Total				**1.86**	**1.86**

Domestic Works

In charge	Name	Company	Grade	MM 2021 Domestic	MM Total Domestic
Project Manager/ Startup and Innovation Ecosystem1	Shosei Yamamoto	Deloitte Tohmatsu Financial Advisory LLC	3	5.64	5.64
Deputy Project Manager/ Startup and Innovation Ecosystem2	Masafumi Yatabe	Deloitte Tohmatsu Financial Advisory LLC	2	1.05	1.05
Financial Services/ Methods	Takumi Tokushige	Deloitte Tohmatsu Financial Advisory LLC	3	4.15	4.15
Strengthening of Japan-India Relations 1	Atsushi Tsukiyama	Deloitte Tohmatsu Venture Support Co., Ltd.	3	6.16	6.16
Strengthening of Japan-India Relations 2	Vinod Vasudevan	Deloitte Tohmatsu Venture Support Co., Ltd.	3	8.50	8.50
Strengthening of Japan-India Relations 3	Kaushal Mehta	Deloitte Touche Tohmatsu India LLP	3	2.60	2.60
Strengthening of Japan-India Relations 4	Nishanth Vadduri	Deloitte Touche Tohmatsu India LLP	4	2.60	2.60
Strengthening of Japan-India Relations 5	Rintaro Kubo	Deloitte Tohmatsu Venture Support Co., Ltd.	5	3.50	3.50
Social Impact Measurement 1	Samuel Alterescu	Deloitte Tohmatsu Financial Advisory LLC	4	2.89	2.89
Social Impact Measurement 2	Goro Tamaru	Deloitte Tohmatsu Financial Advisory LLC	4	2.98	2.98
Strengthening Implementation Structure	Yoshitaka Taniwaki	Deloitte Tohmatsu Financial Advisory LLC	3	4.07	4.07
Strengthening Implementation Structure (Finance)	Masanobu Kimura	Deloitte Tohmatsu Financial Advisory LLC	5	3.00	3.00
Sub Total				**47.14**	**47.14**

Deliverable (Reports) (Marked with △ and name of report): △ IC/R, △ IT/R, △ IT/R, △ F/R

Total	Local 49.00	Domestic 49.00

Explanatory note — ■ Local Activities; □ Domestic Works

IC/R＝Inception Report
IT/R＝Interim Report
DF/R＝Draft Final Report
F/R ＝Final Report

Figure 4 Assignment plan

2. Current status and challenges of startup and innovation ecosystem in Telangana

(1) Current status of startup and innovation ecosystem in Telangana

In Telangana, with the foundation of the IT industry, the policies and measures led by the state government have been implemented and infrastructure has been developed particularly in Hyderabad, the state capital. This has contributed to the formation of startup and innovation ecosystem and made Telangana a strong rival of Bengaluru.

The state government has promoted the formation of startup and innovation ecosystem in a comprehensive manner in accordance with its "Telangana Innovation Policy 2016" (hereinafter referred to as "TIP"), which was formulated through consultations among the key stakeholders from the industry, government, and academia. Telangana has T-Hub, the largest incubation facility established in the campus of IIIT-H and operated by the state government and three universities including IIIT-H, ISB and NALSAR. It literally functions as a hub for the community of startups and those supporting them, and active collaborations are happening there.

While TIP sets out the visions and aspirations of Telangana and Hyderabad to become one of global innovation hubs, it presents five pillars and concrete measures based on those pillars as areas to be prioritized in the medium term as described in the diagram below. The Telangana Government initially placed emphasis on the development of infrastructure, as represented by the establishment and operation of T-Hub, as well as that of human resources through a wide range of training and incubation/acceleration programs. These efforts aimed at increasing the number of startups with potential for growth and resulted in the number of startups from approximately 200 at the time of establishment of Telangana State in 2014 to over 6,600 companies as of June 2021[1]. They also contributed to bringing Telangana into Top 100 Emerging Ecosystems in the Global Startup Ecosystem Ranking by Startup Genome.

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[1] Source: The figure as of 2014 is from an interview with the Telangana Government, while the one as of 2021 is from "Presentation for Investment Opportunity in Telangana, India" by the Telangana Government

	Major initiatives
Pillar 1 — Physical Infrastructure and Program Management Capabilities	➢ Infrastructure • Develop 1 million sq.ft. of work space dedicated to start-ups in the next 5 years • Partner will 20 global accelerators/incubators to build facilities in PPP mode • Build 2 incubators in Tier II locations of the State ➢ Program management (ease of doing business in Telangana) • Reducing the time to set-up a business to 12 days or lesser • Hassle free system for obtaining construction, electricity and property registration permits • Establishing favourable labour and intra-state goods movement regulatio
Pillar 2 — Funding Models & Capital	➢ Financing through Fund-of-Funds ➢ Launch early-stage investing vehicle T-Fund (Telangana Innovation Fund) ➢ Launch seed-stage investing vehicle T-SEED fund* ➢ Launch Phoenix Fund to support entrepreneurs who have attempted at least one venture previously
Pillar 3 — Human Capital	➢ Provision of gap year and grace marks and attendance to student entrepreneurs ➢ Organize International Startup Culture and Exchange Programme ➢ Obligation for all state departments to set up Innovation Zones ➢ Mandatory scheme of internship/apprenticeship in the last year of the course
Pillar 4 — Engagement with Industry	➢ Establish Advisory Council consisting of a group of industry veterans and assignment of Chief Innovation Officer ➢ Attract large corporates striving for innovation and support them in setting up incubators/accelerators
Pillar 5 — Rural and Social Enterprises	➢ Set up a "Rural and Social Enterprise" incubator/accelerator ➢ Set up outposts of T-Hub built in Tier II cities of Telangana ➢ Create a specific "Impact Fund" that will focus on rural and social enterprises ➢ Partner with leading entities such as World Bank, WHO etc. to fund and support projects with social cause in Telangana

*While TIP states T-SEED is for seed-stage startups, the framework currently being planned is for early growth to growth stage startups.

Source：Telangana Innovation Policy 2016

Figure 5 Five pillars and measure under Telangana Innovation Policy 201

(2) Challenges of startup and innovation ecosystem in Telangana

As stated above, with strong initiative by the Telangana Government based on the five pillars, there has been a steady progress in the formation of startup and innovation ecosystem in Telangana. Nevertheless, there are still challenges for further growth of the ecosystem. Interview with stakeholders revealed that major challenges include an increased supply of funding particularly to startups in pre-seed and seed stage, expansion of infrastructure to accommodate the rapid increase of startups from 200 to 6,660. Also, it has been pointed out that universities such as IIT-H and IIIT-H are making efforts but struggling to commercialize the outcome of R&D activities and that collaboration with corporates could also be further promoted. Examples of collaboration with universities and corporates include collaborative research in IIT-H with corporates such as Honeywell, Intel, Boeing and others. There are also cases of collaboration between the Centre for Innovation & Entrepreneurship (CIE) at IIIT-H and Tata Group with respect to research and PoC activities for commercialization in the area of Artificial Science.

Thanks to the policies for investment promotion through a range of deregulation and incentives by the state government as described in the table below, global IT giants such as Google, Apple, Facebook, and Amazon established large-scale bases in Hyderabad, and Telangana is ranked No.3 in India as of 2019 for its favorable business environment. Yet, there is still a room for further improvement particularly to attract more companies from overseas.

Table 1 Outline of Major Initiatives for Investment Promotion by Telangana Government

Name	Outline
Industrial Policy and T-IDEA	■ "Meet or Beat Policy"：offers opportunities that will either match or supersede any package offered anywhere in the world for industries ■ Minimum inspections
Telangana State Industrial Project Approval and Self-Certification System（TS-iPASS）	■ Allows self certification-based system for approvals ■ Single window for various clearances required for setting up industries ■ Covers around 40 types of approvals, provided by 23 departments for establishment and operation of enterprises ■ Time limits set for each approval with a maximum of 30 days
Other incentives	■ Tax and GST subsidies ■ Power subsidies ■ Investment capital subsidies ■ Land incentives

Source: Material prepared by Telangana Government and its website

In addition, considering 21 million out of the total population of 35 million in Telangana are residents of districts outside Hyderabad, there is a need to minimize the gap between Hyderabad and the provincial districts and also to identify and develop untapped talents scattered in those areas.

The Telangana Government has already taken specific measures to deal with these challenges. As for the infrastructure, it will soon complete significant expansion and upgradation of T-Hub, which will make it the largest incubation facility in the world. T-Hub was established in 2015 within the campus of IIIT-H and has been operated through collaboration among the Telangana Government and three universities including IIIT-H、ISB and NALSAR. Since its inception, T-Hub has functioned as core facility for incubation in the startup and innovation ecosystem in Telangana. Not only has it offered co-working space at a reasonable price but also it has produced outcomes through operation of acceleration programs, organization of events and facilitation of international collaboration with global ecosystems.

Table 2 Major Programs for Startup Support at T-Hub

Category	Name	Outline
Acceleration Program	LAB32	● Three-month-long seed-accelerator program ● Focus on business model refinement through customized workshops, consulting sessions and bootcamps to achieve agreed-upon business goals ● Latest program aims to nurture startups working on innovative solutions to bring social and economic impact
	T-Angel	● Three-month intensive investment acceleration program ● Focus on enabling startups to get investment-ready through online group sessions, bootcamp, and individual

		support to refine business plans and pitch decks. It also offers opportunities to pitch to investors
Event	BioAsia	● Annual conference conducted to drive innovation in the life science industry and to bridge the gap between science and business. This event brings together Startups, industry players and researchers together and allows Startups to showcase their ideas.
Collaboration with Global Ecosystems	T-Bridge	● Support Indian startups with exposure and access to international markets, assessment, revalidation and strengthening of products as well as access to global mentors/domain experts ● Enables international startups expanding into the Indian markets (focused on B2B and B2G businesses) It provides guidance in setting up market and scaling opportunities in India

Source: T-Hub Website

Table 3 Major Outcomes of T-Hub

Startups impacted: 1,100+	Funding raised by cohort startups: INR 1,860 crore+	Exclusive programs: 100+	Events: 850+	Corporations approached: 430+
Jobs enabled by program startups: 1500+	International connects: 390+	Countries curated innovative startups: 40+	Attendees in virtual sessions: 3,500+	T-Hub visitors: 110,000+

Source: T-Hub Website

As for the expansion of T-Hub (Phase II), although there was a significant delay due to the spread of COVID-19, it was officially inaugurated at the end of April 2022, and major functions and operations have been transferred from the previous premise.
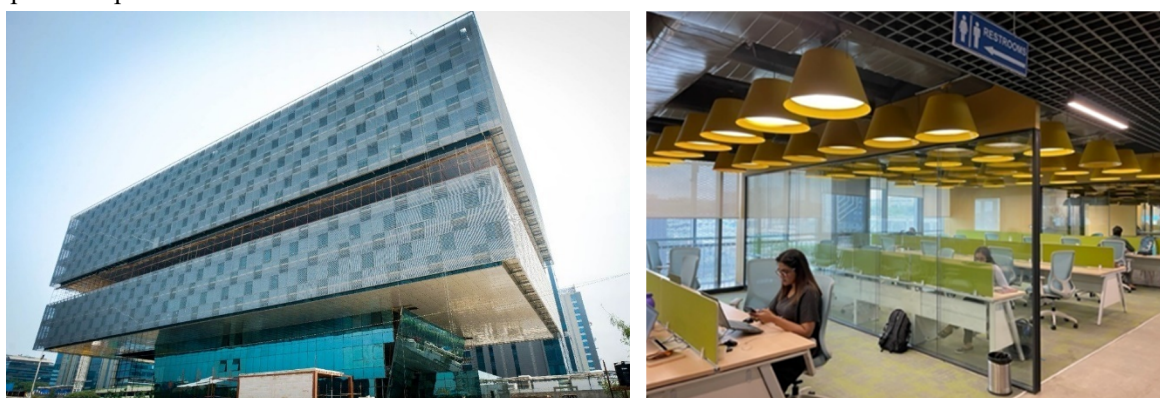

Figure 6   Exterior and Interior of T-Hub Phase2 Building

With regard to the access to funding for startups, the following figure describes the categorization of source of funding across growth stages of companies in India. It shows a shortage of players who provide funding particularly in the size of 10,000 to 100,000 US Dollars which is necessary for transition from the launch of

business to growth, and it is considered that this holds true for Telangana from the interviews with state government.

Table 4 Categorization of Source of funding

Indicative range (USD)	Small amount	Approx. 0.5K	Approx. 1K	Approx. 10K	10K～100K	Approx. 100K～1M	Approx. 2M
Mode of funding	Equity	Loan	Loan	Loan		Equity	Equity
Term	Short	Short	Short-Medium	Short-Medium		Long	Long
Collateral	No	No	Yes/No	Yes/No		No	No
Growth Stage	Start of business - Launch	Start of business - Launch	Start of business - Launch	Launch-Growth		Launch-Growth	Growth – Matured
Major provider of funding	Entrepreneur (Self-financing), friends	Microfinancing institutions	Banks other than commercial banks such as Regional/Rural Banks, Urban Coorporative Banks, public financing schemes	SME financing schemes in banks and nonbank financial institutions, public financing schemes		Public/private subsidies, public loans, angel investors, incubators, accelerators	VC
Major target	• MSME • Startups (Pre-seed)	• MSME • Startups (Pre-seed)	• MSME • Startups (Pre-seed)	• SME • Startups (Seed)	• SME • Startups (Seed)	• Startups (Seed-Early)	• Startups (Later)

Source: IFC "Financing India's MSMEs", SIDBI, Crunchbase, Pitchbook

The players in the private sector that may bridge this gap include impact investors who not only look at financial returns but also place equal emphasis on social impact. The following table describes some of major players who operate in Telangana.

Table 5 Major Impact Investors operating in Telangana

Name	Outline	Headquarters	Organizational Category	Target Growth Stage
Unitus Capital	Investment bank established by Unitus Lab, an international non-profit organization in July 2008	Asia-Pacific (APAC)	Investment Bank	N/A
Caspian Impact Investments	Private equity firm that invests in businesses creating financial and social values	Asia-Pacific (APAC)	Private Equity Firm	Early
Villgro	Venture capital that specializes in incubation and seed to early-stage social startups	Asia-Pacific (APAC)	N/A	N/A
Social Alpha	Incubator fund that has an office in Bengaluru	Asia-Pacific (APAC)	Accelerator, Incubator	Seed
Lok Capital	Investment company that makes long-term investments. Provides business support to investees	Asia-Pacific (APAC)	Micro VC	Early
Acumen	Non-profit venture fund that applies entrepreneurial approaches to solve global poverty	Greater New York Area, East Coast, Northeastern US	Entrepreneurship Program, Venture Capital	Early - Later

Source: Materials prepared by Telangana Government and websites of each organization

The state government has also established funds, as described in the table below, to invest in and support the

startups that have high potential for growth but are unable to raise funds from private investors such as banks due to high risks.

Table 6 Outline of T-Fund and T-SEED

Name of Program	Telangana State Startup Fund (T-Fund)	T-SEED
Objective	To provide sustainable funding support to start-ups across India and especially in Telangana based on the stage of the startups	To enhance the availability of capital for startups in the state.
Sponsor	Telangana State Government	T-Hub Capital and Consultants LLP (An LLP to be incorporated)
Fund Manager	T-Hub	T-Hub Capital and Consultants LLP (An LLP to be incorporated)
Trustee	N/A	IL & FS Trust Company Limited
Target	Sector agnostic widely covering the following: Sector: Healthcare, Life Science, Social impact and rural innovation, Agri-tech, Auto-tech, Renewable energy, Logistics Technology: AI, Blockchain, IoT	Sector: Healthcare, IT/ITES Products and Services Stage: Early growth stage and growth stage companies targeting B2B and B2C products and services
Mode of funding	Equity	Equity
Fund Size	1,000 Crore Rupees	250 Crore Rupees 50 Crore Rupees
Ticket Size	N/A	1 to 5 Crore Rupees
Investment Period	12 years	7 years
KPI	N/A	Hurdle rate: 12%、Target IRR : 25% P.A
Exit Strategy	N/A	The fund shall look to exit over a 5 to 7 year horizon through sale to VC/PE, buyback or strategic sale.

Table 7 List of companies supported by T-Fund

Company Name	Sector	Amount（India Rupee）
Perspect.ai	HR	10 million
TurboHire	HR	10 million
Lauriko	Healthcare	2.5 million
Millet Bowl	Healthcare	2.5 million
Bluecopa	Finance	6 million

Source: Interview with T-Hub and companies' website

In addition to the individual challenges mentioned above, there is a more fundamental challenge, which is to establish a comparative advantage over other advanced ecosystems in India and abroad. The elements that could be a differentiator include the focus on innovation leveraging social issues as well as the creation of a business environment that could overwhelm that of other states in India, to be led by the strong initiative of the Telangana Government.

While there are various analytical frameworks related to startup and innovation ecosystem, the following diagram provides a framework centered on players and resources.
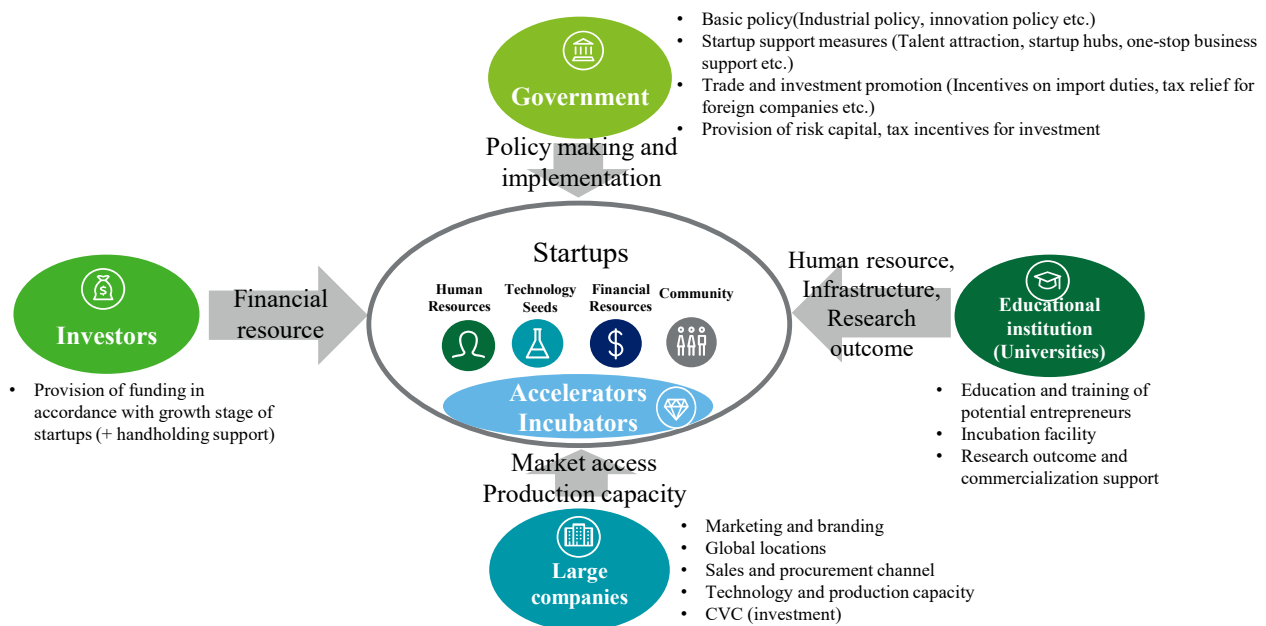
Source: "Data Collection Survey of Supporting Startup and Entrepreneurs: Final Report"

Figure 7 Analytical framework of startup and innovation ecosystem centered on players and resources

An ecosystem in which startups continuously and autonomously emerge and grow is formed where supporting players such as "Government", "Large companies", "Educational institutions (Universities)" provide startups with necessary resources such as "Human resources", "Technology seeds" and "Financial resources" and at the same time establish a community that connects such players and resources.

Bengaluru (Karnataka State), which is often cited as a leading ecosystem in India, has advantage particularly in terms of human resources and financial resources. The former is backed by the accumulation of talents based on the history of the state being a key location for the military industry as well as the presence of R&D centers of global companies related to the development of the IT and software industry.

In Telangana as well, while the state-wise proportion of IT export is still limited to a little more than 10%, Microsoft and Amazon opened the largest overseas R&D center, and other global companies such as Apple, Intel, Google, IBM and Samsung have also expanded their business. Also in terms of human resources, the state is the host of some the most prestigious academic institutions in India such as IIT-H and ISB, and Telangana is catching up with Bengaluru.

One of the strengths of Telangana lies in the strong leadership by the state government in building a startup and innovation ecosystem, and its continuous leadership and involvement of ecosystem players could contribute to creating comparative advantage over other states. As mentioned earlier, the Telangana Government formulated TIP and has implemented a range of measures based on the five pillars such as infrastructure development and human resource development at a high pace, which resulted in its ranking on the ease of business. In line with these efforts, the Telangana Government has placed a focus on innovation from social issues, which is not necessarily shed light in other states, and intends to create an international hub in the domain.

With regard to the creation of innovation from social issues, the Telangana Government formulated Social Innovation Policy as well as Grassroot Innovation Policy, which aims to change the structure of tackling social issues unilaterally by the government to a more sustainable one which is based on collaboration with a wide

range of stakeholders including social innovators and entrepreneurs. Specifically, the Telangana Government intends to apply the "Hub and Spokes" model, which is to create district-level ecosystems along with the largest hub in Hyderabad. It is planned that a space in which activities to develop solutions for social issues are to be promoted through creation of sandboxes, where regulations are relaxed within a specific area and timeframe to enable startups to test innovative solutions. While the Telangana Government is to implement the plan on its own, it also plans to include these activities in the ODA Loan Project being planned after this study and further accelerate the efforts based on SIP and GIP.

With respect to the business environment, there have been efforts for improvement such as relaxation of regulations, creation of one-stop services and provision of handholding support catering to the individual needs of companies expanding into Telangana. By making further progress in these efforts, the business environment, which is already ranked as one of top performers, could lead to an overwhelming status. In this study, through the trial of SICJ as part of a measure to strengthen Japan-India Collaboration, the Telangana Government and JICA are striving to strengthen and upgrade these services and at the same time to promote currently stagnant business expansion of Japanese companies into India.

In addition, as an effort to create additional value of the startup and innovation ecosystem in Telangana, activities to develop an innovative financing model as well as a framework of social impact assessment are being implemented in this study. All of the activities above are intended to enhance the comparative advantage of the ecosystem in Telangana. The progress of these activities as well as lessons learned from this study and recommendations are detailed in the following sections.

3. Results of the study
(1) Strengthening of Japan-India relations for startup and innovation ecosystem
Clarification and detailed design of SICJ goals and strategies

In order to have a common understanding with the Telangana Government about what should be realized through the SICJ and for what purpose such activities should be carried out, in the initial stage of the study, intensive discussions were held with the Government on the objectives (goals) to be pursued through the SICJ and the means (strategies) to achieve them. The results of the discussions are as follows.

Table 8 Goals and Strategies of SICJ

Item	Overview
Ultimate Goal	To make Telangana a global hub for social innovation and social impact
Goal	To maximize Japanese companies' interest in Telangana in terms of both outbound and inbound, leading to concrete actions by Japanese companies *If Telangana can provide highly satisfactory services to Japanese companies, SICJ can also be applied to other foreign companies and can be a powerful tool for attracting investment.
Strategies	■ Target Large companies as well as startups from Japan ■ Priority areas

	Agriculture
	Life science
	Financial services (Banks, Insurance, etc.)
	Mobility (Especially EVs)
	Clean technology
	■ Points for differentiation for Telangana and attraction to Japanese companies (See the below Figure) The Telangana Government can provide the following value with active team with deep understanding of business activity proved by one of the best business environments in the country and by actively appointing talents from the private sector to important roles of the government. This can be achieved by government with excellent capability to take the lead in creating a place where talent, knowledge, business seeds, and capital for social innovation can come from around the world, with the goal of creating 5,000 social business enterprises in 5 years, centered on the T-Hub, one of the largest incubation facilities of its kind in the world. ➢ To be able to find sources of innovation and business ➢ To be able to implement new technology, products or services ➢ To be able to identify trustworthy partners ■ Details of specific services A general list of services is shown in the Figure below, whereas for this pilot, services will be decided based on each company's needs.

Figure 8 Differentiators of SICJ
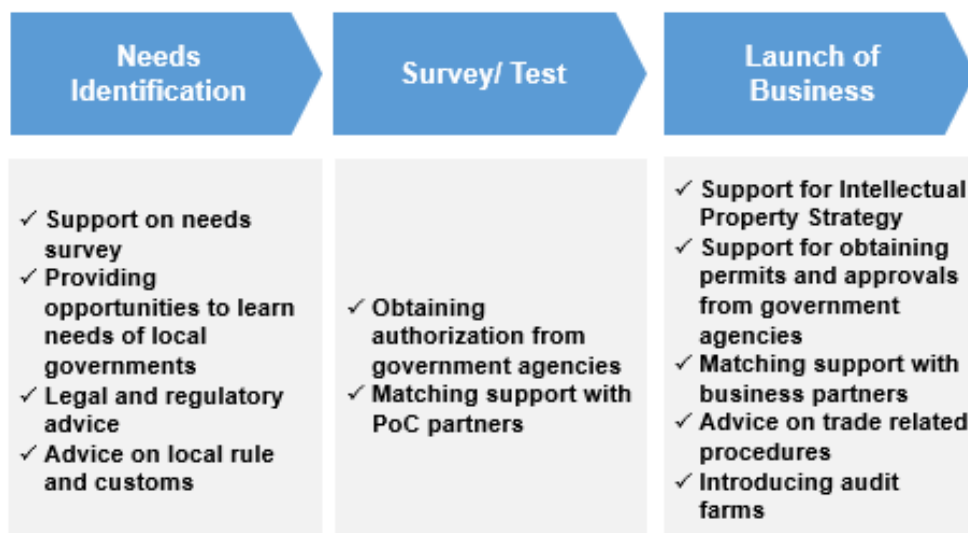
Figure 9 Services Provided in SICJ (Example)

While Telangana (and Hyderabad, the capital of the state) is less known in Japan compared to Bengaluru and Delhi, in order to promote SICJ to Japanese companies, it is essential to clarify and communicate the selling points of Telangana in addition to the attractiveness of SICJ itself. For this reason, the Study Team interviewed individuals working in foreign companies operating in Telangana and officers in the Telangana Government who are engaged in attracting foreign companies. Through these interviews the Study Team collected information regarding why foreign companies expand into Telangana and why Telangana is attractive to foreign companies. The findings are as follows:

Table 9 Interview results regarding the reasons for foreign companies to invest in Telangana

Company Name/Organization Name	Interviewee	Answer (Key points)
Telangana Government	Mr. Gopalkrishnan VC, Director for Automotive	・The Government has a Director for each industry with specialized knowledge and experience, and the Director directly responds to inquiries from companies. ・For investments larger than a certain size, Telangana provides tailor-made support to the companies that invest, depending on their needs. ・High level officials are deeply committed to supporting SUs by going to startup events and introducing large companies directly. ・TASK provides skill training for free to potential employees. ・Satisfaction rate is high among companies that have invested once, and 24% of investment in the state comes from reinvestment.
	Mr. Praveen PA, Director, for Aerospace Industry	・Government officials are committed to supporting companies and working to build close relationships with them. One of the evidence of this is that many of the government officials provide

	and BFSI	their contact information publicly. ・One of the advantages compared to other ecosystems is that employees can have a house close to their workplace and take less time to commute. ・One of the reasons to have many large factories is that the ground is strong and earthquakes are unlikely to occur.
	Mr. Amarnath Reddy Chief Relations Officer (CRO)	・Ranked #1 amongst all states for quality of life for 5 consecutive years ・Low attrition rate (about half of Bengaluru) ・Abundant IT talents; Hyderabad's share of IT sector employment across India has jumped from 10% to 33% ・Many companies start small and then expand their investments gradually. Intel started with 150 employees, but increased to 1500 in 2 to 3 years.
Providence Health & Services(*1)	Mr. Murali Krishna, former country head of India	・The Ease of Doing Business is one of the reasons we decided to enter Telangana. It is significant that the time and labor required for obtaining various licenses, approvals and land acquisition can be devoted to the main business. ・It is very helpful that Jaysh Ranjan and other high-level government officials are close to us and that they understand what companies are doing and what we want. ・Access to talented human resources, the SU ecosystem in digital technology, infrastructure (Airports, roads, etc.), low rent and low cost of living are also important factors.
D.E.Shaw(*2)	Mr. Madhu Poomalil, former Managing Director	・The reason to come to Telangana is (1) the infrastructure for IT companies is in place and (2) support from state governments is available. State governments in particular are close, accessible and responsive. It was very helpful that they also supported in the approval procsedures required by the central government. ・Compared to other large cities, Hyderabad is a better place for employees to live and this is also an important factor in terms of housing, living costs, transportation and infrastructure.

* 1: Catholic medical organization based in the United States, established in 1859. It employs approximately 120,000 people worldwide. It operates more than 50 hospitals and more than 800 clinics.

* 2: Investment fund management company based in the United States, established in 1988. It employs 1,900 people worldwide. It has approximately $ 55 billion in assets under management (as of June 2021).

Needs survey to Japanese companies

A needs survey was conducted for startups and major enterprises with which either the Study Team or JICA was connected and interested in expanding into India or Telangana State. The main purpose of the survey was to collect information to examine the support contents of SICJ and to promote SICJ pilot acitivities to these comapnies. Their potential support needs for SICJ identified through the survey are as follows.

Explanations given at the survey are as follows.

✓ The center of the world's economic growth is shifting from developed countries to emerging countries such as India, and global companies, in particular, are increasingly utilizing emerging countries not only as manufacturing bases but also as development bases for services and products.

✓ JICA has a pipeline through its various Official Development Assistance schemes, providing various types of support to projects implemented by the Indian central and state governments.

✓ In particular, with the government of Telangana, a new service SICJ: Social Innovation Concierge for Japan is being developed to support Japanese start-ups and new businesses that are challenging the Indian market and emerging markets.

✓ The SICJ is planning to conduct a pilot activity in the future and would like to have your time to listen to the interests of the SICJ.

Table 10 Results of Needs Surveys to Japanese Companies

Company name	Company Profile	Support needs
Sagri	Year Founded: 2018 Number of employees: 20 (Japan HQ and Indian branch) Sagri builds a data platform based on satellite data with AI and compartmentalization technologies to provide solutions to issues in the agricultural sector in Asia and environmental sector in the world.	Matching with local business partners, preparation and implementation of PoC to create use cases in Telangana State, which is the first step of service expansion throughout India.
Doreming	Year Founded: 2015 Number of employees: 8 The company provides "Doreming", a one-stop system that covers attendance management, payroll calculation, and bank transfers, providing new financial services for developing countries and financial refugees.	Examination of local laws and regulations, interviews with local state governments, and matching with local business partners to develop and introduce an electronic payment and new tax collection system using the company's daily payroll solution for employees.
OPExPARK	Year Founded: 2019 Number of employees: 20 The company develops and operates OPeLiNK, an intraoperative information fusion platform that enables visualization of the surgical process, and develops OPeDrive, which enables recording and editing of surgical videos and case study, for the purpose of creating digital textbook contents in hospitals/medical offices by integrating the surgical recording function of OPeLiNK and the learning function of opeXpark site.	Examination of local laws and regulations, needs survey with potential customers, and matching with local business partners to develop opeXpark, the company's service for local physicians.
Yasec	Year Founded: 1939 Number of employees: 140	Matching with local business partners to expand sales channels in India for Saction Ball

	The company's main products include various specialized machine tools for factory automation, heat exchangers for ships and power generation plants, and lubrication equipment for industrial machinery and marine engines. The company also operates in the medical equipment field.	Coagulators(SBCs) with proven track records in Japan

Promotional events

Based on the results of discussions with the Telangana Goverment, interviews with relevant personnel, and needs surveys to Japanese companies, the study team held the following promotional event to promote the attractiveness of SICJ and Telangana to Japanese companies and to further attract them to the pilot.

Table 11 Promotion Event Overview

Date and time	2021/07/28 (Wed) 18:00 ~ 20: 00 (Japan Time)
Format	Online (Zoom Webinar)
Public relations	Use the Morning Pitch e-mail magazine of our group, Use of SNS using the Group's internal network, use of JICA's e-mail magazine, etc.
Speakers	Invest Telangana : Ms. Aishwarya Chakkilam JICA: Mr. Takuro Takeuchi, Director, South Asia Department, South Asia Division Deloitte Tohmatsu Venture Support : Mr. Atsushi Tsukiyama
Agenda	1. Opening and Explanation of Purpose 2. Greetings from the host 3. Overview of JICA Support Services for Telangana Development 4. Social Innovation and Startups in Telangana Introduction, Q & A on initiatives related to ecosystem,s and examples of foreign companies expanding into Telangana State 5. Explanation and Q & A on how to apply for JICA's support services 6. Questionnaires and Closing
Number of registration/ participants	102 persons/67 persons
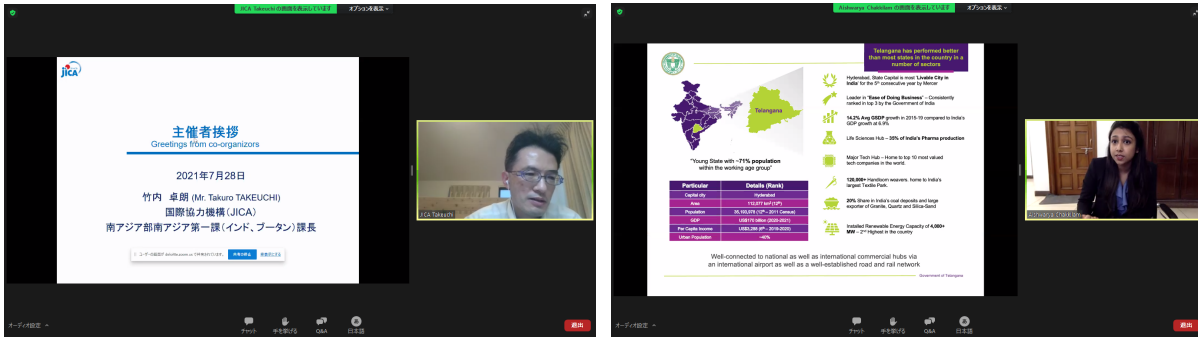
Scenes of the event

A questionnaire was sent out to the event participants, and 9 participants responded. Of those, 77.8% (the sum of responses (1) and (2)) expressed satisfaction with the event. 22.2% said they would definitely use the SICJ.

Table 12 Questionnaire Results

Question	Q1. What is your satisfaction with today's seminar?	
Percentage of Responses (9 responses)	① Quite satisfied	22.2%
	② A certain degree of satisfaction	55.6%
	③ Fair	22.2%
	④ A bit dissatisfied	0%
	⑤ Quite dissatisfied	0%
Question	Q2. Would you like to use SICJ (Social Innovation Concierge for Japan), the support service for startups and new businesses, introduced at today's seminar?	
Percentage of Responses (9 responses)	① I'd definitely to use it.	22.2%
	② I want to consider it.	55.6%
	③ I haven't thought about it yet.	22.2%

The main questions and answers during the event are as follows.

Table 13 Highlight of Interactions in Q&A session

#	Questions	Answers
1	What are some specific examples of foreign companies entering the market of Telangana State and what kind of support did the state government provide?	(Invest Telangana, Chakkilam) We knew from the media that a textile company was facing difficulties in another state, so we approached them. Handholding support was provided in all processes. For example, the governemnt arranged chartered planes, guided them to the textile industry park, supported the matching of industry stakeholders, and provided customized package support to the company by carefully listening to their requests. The company was pleased with the support and recently announced an additional investment of several billion rupees.
2	How do you measure the social	(RICH, Ajit) It's an important but very difficult point. To measure the social

	impact of business?	impact of the business, we utilize indicators such as the number of jobs created and the number of people benefited in the community.
3	Please tell me if there is a case of collaboration between a startup in India and a startup abroad.	(RICH Ajit, Invest Telangana Chakkilam) As examples of collaboration between Indian startups and overseas startups, there have been 2 such cases : in blockchain and coronavirus vaccine.

At the event, application guidelines as well as application documents shown in the Figure below were explained and call for application to SICJ's pilot was announced.

■ **Pilot Period**
➢ September to November 2021 (for approximately 3 months)

■ **Priority Areas**
➢ Agriculture
➢ Life science
➢ Financial Services (Banks, Insurance, etc.)
➢ Mobility (especially EVs)
➢ Clean technology
  *Applicants may apply to areas other than priority areas, but priority will be given to the above-mentioned areas for selection.

■ **Application Requirements (Required to meet all of the following)**
➢ During the pilot period (September to November 2021), participants will be requested to be commited to the activities with **seriousness and promptness** (It is a plus if the applicant is considering establishing a office in Telangana in the future).
  *Travel to the site is not required.
➢ Participation by those with decision-making mandate and is capable of communication in English

■ **Period for Application**
➢ From Wednesday, July 28, 2021 to Tuesday, August 10 at 23: 59

■ **Notes**
✓ It is not necessary to prepare a report, but cooperation in public relations of this project can be requested.
✓ It is not requiered to transfer to JICA the ownership of the materials and equipment procured by the selected companies during the pilot period, nor to require the licensing of the pilot results, nor to request the transfer to JICA of intellectual property rights.
✓ **If there are many applicants, selection process will take place.** Please note that the evaluation results will not be disclosed at all.

Figure 10 Application Guidelines for the SICJ pilot

> ■ **We will send you an application form by email after this seminar, so if you are interested, please send your application form to the email address provided.**
>
> **1. Application form (about 2 sheets in A4 size)**
> - Applicant Information (Name, mail address and phone number)
> - Organization Overview (Name, URL, date of establishment, number of employees)
> - Motivation to expand to India and Background (within 200 words)
> - Outline of business, product and technology (up to 450 words)
> - Business and product/technology development stage (optional)
> - Sales and introduction of products and technologies
> - Activities during the pilot period and expected supports from SICJ (up to 300 words)
>
> **2. English PowerPoint with the following information (optional)**
> ➢ Outline of business and products and technologies and benefits for Telangana
> ➢ Expectations for the SICJ
> *Use of existing materials is recommended to minimize the time and effort. Up to 5MB, PDF version is recommended for attachments

Figure 11 Application Documents for the SICJ pilot

However, there was no application received. The possible causes and the measures to be taken were analyzed and considered as follows.

■ Possible reasons for the number of applications
- ✓ The lead time to the start of the pilot activities was too short to allow sufficient time for internal decision making in the applicants.
- ✓ Since this was a pilot acitivity, potential applicants would like to decide whether to participate or not after seeing some concrete outcomes.
- ✓ Due to the small number of startups attending the event (large companies tend to be slow to make decisions)

■ Measures to be taken for the next time
- ✓ Establish opportunities for individual briefings for companies interested in SICJ through questionnaires
- ✓ Make use of the results of this pilot activity. For example, to include case studies in the presentation
- ✓ Reserve a certain lead time between application and start of the activities of SICJ

As a follow-up, we sent out an e-mail survey to the event participants regarding their interest in SICJ and the expected timing to use the service. Of the five respondents, one replied that the company would like to use the service within six months, and another replied that the company would like to consider it in the future, although the desired timing is yet to be decided. The remaining three respondents responded that they were not considering using the service at this time.

Pilot activity

As a result of the needs assessment survey and the individual approach to a wide range of companies interested in expanding their business to India and Telangana, certain companies manifested its intrest in joining in the pilot activity and those companies were selected based on a comprehensive evaluation in consulting with the Telangana Government, in terms of the degree of match with the needs of Telangana Government, the level of commitment to the local market entry, and the affinity with the support expected from the SICJ. A 16-month pilot activity was implemented from September 2021 to December 2022.

Period of Support

To support as many companies as possible with limited resources, the support period was divided into three cohorts. At the end of each cohort, the degree of achievement of the initially set goals was reviewed together with the participating companies. Companies that were identified to have no additional support needs were considered as "graduated" and new companies were recruited and selected for their slots. Due to the shortage of the resources of Telangana government, it sometimes took a certain amount of time to assign dedicated mentors. Therefore the actual period of support for each selected company sometimes deviated from the set period for each cohort. The support period for each company is described below, along with an overview of the support.

- ✓ Cohort1: September 2021 - February 2022
- ✓ Cohort2: March 2022 - July 2022
- ✓ Cohort3: August 2022 - December 2022

How to implement

For the pilot activity, mentors were assigned to each company. As shown in the Figure below, mentors were requested to attend interviews with relevant stakeholders as much as possible while meetings with mentors were conducted at important timings of the program to confirm the progress of the activities. In addition, by assigning a mentor both from Telangana Government and the survey team, it served as the opportunity for the mentors from Telangana Government to learn how to communciate with Japanese companies.

Figure 12 How to Implement the Pilot Activity for SICJ

Mentors in charge

The mentors from the Telangana Government and the Study Team for each participating company are as follows.

Table 14 Mentors List for Participating Companies[2]

Company Name	Mentor from Telangana Government	Mentor from Study Team
Companies with ongoing support in the pilot activity for SICJ as of 14th Oct, 2022		
AI Medical Service	Sushmitha Sundar（RICH）	Rintaro Kubo
NEC	Sushmitha Sundar（RICH）	Rintaro Kubo
SCALA	Bhubesh Kumar（RICH） Shanta Thoutam（Telangana Government, Chief Innovation Officer）	Vinod Vasudevan
Doreming	Shanta Thoutam（Telangana Government, Chief Innovation Officer）	Vinod　Vasudevan
Yasec	Shakthi Nagappan 　（Telangana Government Director for Life Sciences and Pharma） Sushmitha Sundar（RICH）	Atsushi Tsukiyama
【Companies which have already "graduated" from the pilot activity for SICJ as of 14th Oct, 2022】		
INDIGITAL	Prannay Nalla（TSIC）	Vinod Vasudevan
OPExPARK	Paridhi Gupta（RICH） Ajit Rangnekar（RICH）	Rohan Wadhwa
Sagri	Bhubesh Kumar（RICH）	Rohan Wadhwa
Company A	Rama Devi(Emerging Technology Wing)	Atsushi Tsukiyama

Mentor roles and guidelines

In order to appeal to Japanese companies on the occasion of the official launch of SICJ in the future, the role of mentors is extremely important in fulfilling the expectations of Japanese companies through the pilot activity and producing concrete results. Therefore, explanatory meetings were held for each mentor to explain the expected roles of the mentor and its guidelines as shown in the Figures below.

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[2] Listed in Japanese alphabetical order of companies' name

Figure 13 Expected Role of Mentors
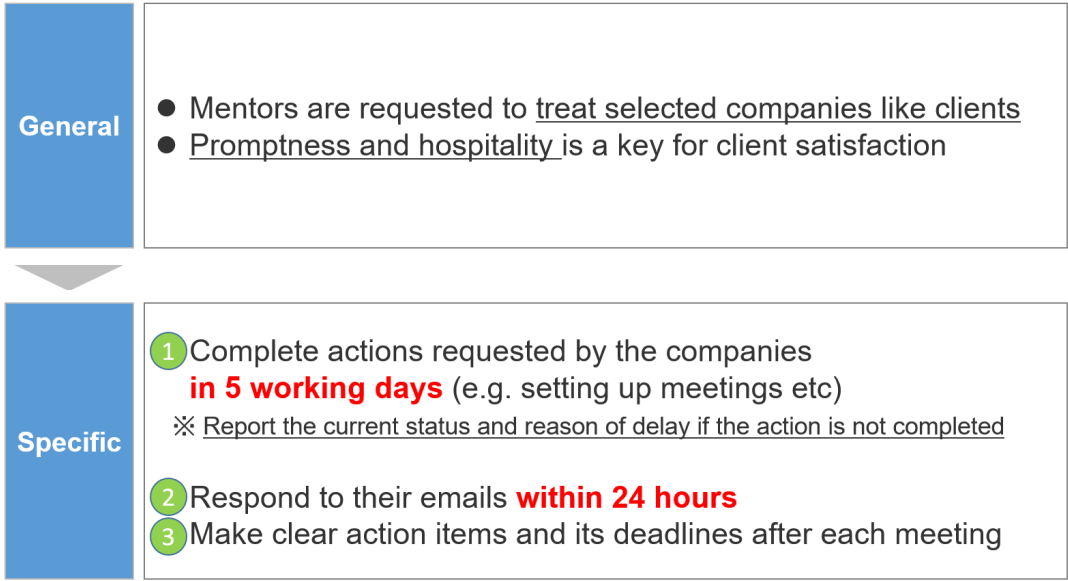
Figure 14 Guidelines for Mentors

Monitoring

In order to carry out activities efficiently in a short period of time, in addition to periodic meetings between mentors and participating companies, weekly meetings between JICA and the Study Team and regular meetings attended by key members of the SICJ team of the Telangana Government, and JICA (Project Management Meeting: PMM）were set up. Through these meetings, information is shared and communicated with the respective stakeholders.

In these meetings, Monitoring sheet was used to follow up the progress. The sheet listed the most recent

action items, the person in charge, and the deadline for implementation according to the activity goals, and visualized the current progress in colors. When delays occurred, they were raised as agenda for Project Management Meeting as necesarry, and appropriate measures were discussed and actions were taken in order to improve the situation in a timely manner.

Company Name	Activity	Action	Person/Team in Charge	When to start	When to finish	Status
A社		To open an banking account for potential PoC	Mr. Vinod, Study Team	26-Sep	31-Oct	On time
		To follow up the discussion with B	Mr. Vinod, Study Team	26-Sep	16-Nov	On time
B社	PoC	To manage/implement PoC	Mr. Vinod, Study Team	8-Jun	31-Oct	On time
	Business model brush up	To elaborate a tentative revenue model and to do a competitive landscape research	Mr. Vinod, Study Team	22-Aug	15-Oct	On time
C社	Partner identification	To arrange meetings with potential partners	Mr. Tsukiyama, Study Team	1-Sep	31-Oct	On time

Figure 15 Monitoring Sheet

■**Overview of each company's activities**

The following is a summary of the activities (company profile, support period, goals, support contents, outputs, and future plans) of each participating company in this pilot activity.

【Companies with ongoing support in the pilot activity for SICJ as of 14th Nov, 2022[3]】
  ➢   AI Medical Service

Company Overview	Established: 2017 Number of employees: approx. 70 (as of September 2022) Development and deployment of AI (artificial intelligence) to support diagnosis with images for endoscopy, including in the field of gastric cancer.
Support Period	May 2022 - December 2022
Goal(s) within the SICJ	A plan to conduct a PoC at a local hospital is formulated and an agreement with a local partner for the deployment of AIM's diagnostic imaging solution

[3] Listed in Japanese alphabetical order of companies' name

	for the detection of gastric cancer is researched in order to expand to Indian market.
Details of Support	① To conduct research on the possibility of entering the Indian market. ② To search for and negotiate with hospitals that have facilities capable of conducting PoC of AIM's products.
Implementation Status (Output)	① Research on market size, competitive environment, and local laws and regulations was conducted, and the output was shared with AIM. The interviews with regulatory expert and consulting company (Freyr Solutions) were conducted. ② AIM was introduced to AIG Hospital, one of India's leading hospitals in the field of gastroenterology, via Telangana Government, and face to face demonstration and a meeting was conducted in Telangana with chairman and other relevant doctors of AIG, where their interest for potential collaboration was confirmed. Besides, an offline demonstration and meeting was organized with Yashoda Hospitals, one of the major private hospital groups in Telangana, and their interest in AIM's solution was confirmed.
Future Plans	・Full-scale PoC will be conducted after 2023 taking into account AIM's own resources. ・Based on the face to face discussion with AIM in November, AIM will elaborate a proposal for collaboration and will be presented to AIG soon. ・ AIM will also study way of collaboration with Yashoda Hospitals.

➢ NEC

Company Overview	Established: 1899 Number of employees: 21,350 (non-consolidated, as of March 31, 2022) (1) Social Public Business (providing IT systems, network systems, etc. for local governments, medical institutions, electric power companies, etc.), (2) Social Infrastructure Business (providing large-scale mission-critical systems, network systems, etc. for governments, public offices, etc.), (3) Enterprise Business (providing IT solutions for private sector customers in the manufacturing, distribution, service, and financial industries), and (4) Network Service Business (providing IT solutions for telecommunications companies and network services). (4) Network Services Business (providing telecommunications carriers with equipment necessary for network construction, infrastructure systems for operation and management, operation services, etc.), (5) Global Business (providing services for overseas markets, such as Safer City, Public Safety, Digital Government, etc.) ・In the state of Bihar, India, the company has been conducting a pilot project to reduce the risk of lifestyle-related diseases such as diabetes by providing regular health checkup services using health workers in cooperation with Bihar Government.

Support Period	June 2022-December 2022
Goal(s) within the SICJ	A plan is developed and agreed with local partners to implement PoC of NEC's solution in Telangana.
Details of Support	・Feedback was provided on the business plan by the Research and Innovation Circle of Hyderabad (RICH), a mentor of Telangana Government. ・3 local partner candidate companies/NGOs were introduced via RICH, and support was provided for preparations for discussions on collaboration possibilities, for facilitation on the day of the discussions, and for organization of points to addressed for PoC. ・Support was provided to coordinate and facilitate discussions with a local partner and Telangana State government to conduct PoC.
Implementation Status (Output)	・Through discussions with the three companies, bottlenecks and points to be improved were identified with respect to the draft verification plan for PoC. ・NEC's intention was confirmed to move forward with discussions to conduct a PoC in collaboration with one of the companies introduced　(NDA has been signed between NEC and the potential partner). ・Presentation was made to the Health Department of the Telangana State government on the details of the demonstration experiment discussed with Company B and confirmed their interest in the experiment.
Future Plans	・Based on the discussion with the Health Department of the Telangana State government in November, 2022, NEC will elaborate detailed proposal of PoC and trys to agree with relevant stakeholders by the end of December. ・From January 2023 onward, PoC will be conducted by NEC based on the verification plan.

➢　SCALA

Company Overview	Established: 1991 Number of employees: 58 (non-consolidated, as of June 30, 2022) ・Main business is the development of business support software, such as website construction support and automated voice response systems. The company is active in M&A and business alliances to secure competitiveness in cloud services. ・In 2021, overseas business division was established and focuses on new businesses that use IT to solve social issues in the priority fields of healthcare, agriculture, and education. In the agriculture field, the "Digital Agricultural Cooperative Platform Construction Project Based on Farmers' Credit Scoring," promoted by SCALA, has been selected by JETRO for the "Asia DX Promotion Project in ASEAN-Japan," and is being implemented with local partners.
Support Period	March 2022-December 2022

Goal(s) within the SICJ	① Partners are identified for the development of support services for farmers in India, which SCALA is currently demonstrating in the ASEAN region.
Implementation Status (Output)	Three startups have been identified as potential local partners and discussions are on-going for potential PoC.

> Sensyn Robotics

Company Overview	Established: 2015 Number of employees: 119 (as of September 30, 2022) Developing a service that combines software with drones and other devices that collect data to automate equipment inspections and workplace management at power transmission towers, plant facilities, factory roofs, etc., and offering the service on a subscription basis to companies in the petrochemical, steel, electric power, and construction industries.
Support Period	October 2022-December 2022
Goal(s) within the SICJ	① Potential local customers for solar panel inspections (potential PoC sites) and business partners for sales channel expansion have been matched. ② Potential partner attributes in India are identified and Drone market research was also provided for business development.
Details of Support	The following support was provided for ① above. ・Drone Federation of India, a non-profit industry organization leading the building of the drone industry in India, was introduced and communication assistance was provided. The following support is to be provided for ② above. ・Candidate partner attributes in India are to be sorted out and a list of candidate companies is to be compiled. ・Research on laws and regulations for business development in India is to be provided.
Implementation Status (Output)	・For ① above, an interview with Drone Federation of India was held. Drone Federation of India has verbally agreed to introduce the candidate companies as a potential partner for future business development. ・For ② above, a timeline and method of proceeding by December 2022 for listing candidate partner companies and conducting regulatory surveys were agreed upon.
Future Plans	・For ① above, DFI is scheduled to introduce candidate partner companies from mid to late November 2022. As for other candidate partner attributes, as soon as the list of companies is completed, approaches will be made in cooperation with DFI as appropriate. ・For (2) above, the listing of potential partner companies is scheduled to be completed by December 2022, and a legal and regulatory survey is scheduled

	to be conducted to present issues that need to be addressed.・From January 2023 onward, it is assumed that the company will proceed with its own business development in accordance with the timeline agreed-upon.

> Doreming

Company Overview	Established: 2015The company developed Doreming, a one-stop system for time and attendance, payroll, and transfers. Doreming provides new financial services to developing countries and financial refugees.
Support Period	February 2022-December 2022
Goal(s) within the SICJ	① PoC is conducted to introduce electronic payment and a new tax collection system using Doreming's daily payroll solution for employees.② Local partners are identified to conduct the above PoC.
Details of Support	The following support was provided for ① and ② above.・Coordination and implementation of meetings with the Telangana State Industrial Infrastructure Corporation (TSIIC) of Telangana Government for the implementation of PoC (a proposal for PoC was prepared but did not materialize).・Support in brushing up the proposal to make it more acceptable to the Telangana government. (The introduction of a new tax collection system was positioned as a medium- to long-term goal and to start with PoC of a daily salary payment solution and electronic money payment.)・Introduction to one of the major banks (Axis Bank) through the former Director for Fintech of T-Hub.・Coordination of follow-up meeting with the bank when the person in charge of Doreming traveled to India.・Support to brush up PoC proposal and facilitate a meeting in Telangana with the above bank.
Implementation Status (Output)	・Connections have been established with a major Indian private bank, and discussions are ongoing for the implementation of PoC.・Connections with key persons of fintech and startup ecosystem in Telangana State
Future Plans	・Based on the feedback from Axis Bank in the meeting in Telangana in November, 2022, Doreming will elaborate detailed proposal and continue discussion for the PoC・After January 2023, the company will conduct PoC on its own as agreed.

> Yasec

Company Overview	Establishment: 1939Number of employees: 140 (as of March 31, 2022)

	・Main products are various types of specialized machine tools for Factory Automation, heat exchangers for ships and power generation plants, and lubricators for industrial machinery and ship engines. The company expanded into the medical equipment field as well. ・In the medical equipment field, Yasec is developing products such as suction ball coregulators (SBCs), which can be used in surgical procedures.
Support Period	September 2021-December 2022 *Yasec participates in the project ENGINE (Endeavour for Next Generation of Interventional Endoscopy) promoted by Professor Seiichi Nakajima of Osaka University Graduate School of Medicine, who also introduced Yasec to SICJ and is involved in Yasec's activities in this pilot.
Goal(s) within the SICJ	① Local partner is identified to expand sales channels in India for SBCs with proven sales performance in Japan. ② To obtain permits and licenses for sales in India through the local partner.
Details of Support	The following support was provided for ① and ② above. ・Communication support such as interpretation during meetings with mentors from Telangana Government. ・Introduction of a distributor (MedFlow) affiliated with a local hospital group as candidate for a local partner through the above mentor, and coordination of interviews, and communication support. ・Support for sending product samples. (Coordination with local shipping companies, consignees, etc.) ・In light of the lack of progress, interviews were held with five new potential local partners (BL Lifesciences, Drug Mart, SMRA International/XavierMed, INCUMED, and Yashoda Hospitals) to confirm their interest in the product and to introduce them to Yasec. ・Coordination of interviews and communication support with one of the above companies (SMRA International/XavierMed) with high priority. ・Communication support with a local doctor from Yashoda Hospitals who will use the product samples and cooperate in writing a report on the usefulness of the product. ・Support for shipping product samples (coordination with local shipping companies, consignees, etc.)
Implementation Status (Output)	・Negotiations are on-going with one potential local partner. ・Coordination is on-going with local doctor to complete a report on the usefulness of the product in November 2022.
Future Plans	・In November 2022, face to face meeting was held between the potential local partner and study team to clarify discussion points and timeline for potential collaboration, where yasec took part online. Based on the output of the meeting, the discussion between both parties will continue.

【Companies which have already "graduated" from the pilot activity for SICJ as of 14th Nov, 2022[4]】

➢ INDIGITAL

Company Overview	Establishment: 2020 Number of employees: 7 (as of September 2022) The company provides services for globalization and digitalization to Japanese companies through the following support. ・To support remote software development in India. ・To dispatch and secondment of IT personnel to India. ・To support remote co-creation with Indian companies.
Support Period	March 2022 - August 2022
Goal(s) within the SICJ	To approach Training & Placement Officers (TPOs) of major universities in Telangana for setting up courses in order to match companies and Indian university students for employment by conducting courses on Japanese technology, culture, business practices, etc.
Details of Support	・Advice was provided on how to approach Training & Placement Officers (TPOs) at universities with which INDIGITAL wishes to partner. ・A briefing session was held for Training & Placement Officers (TPOs) of 18 major universities in Telangana State in May 2022 through Telangana Government. ・Directly approach was made to TPOs of universities that were not able to participate in the above briefing sessions through Telangana Government and those which showed their interest were introduced to the INDIGITAL.

➢ OPExPARK

Company Overview	Year Founded: 2019 Number of employees: 20 The company develops and operates OPeLiNK, an intraoperative information fusion platform that enables visualization of the surgical process, and develops OPeDrive, which enables recording and editing of surgical videos and case study, for the purpose of creating digital textbook contents in hospitals/medical offices by integrating the surgical recording function of OPeLiNK and the learning function of opeXpark site. The company provides opeXpark, educational service to share recorded surgical information through OPeLiNK and OpeDrive.
Support Period	September 2021 - March 2022
Goal(s) within the SICJ	① To conduct a needs assessment of OPExPARK service for local physicians. ② To identify legal issues related to the development of local services.
Details of Support	For ① above, the following support was provided. ・Online survey was conducted to local physicians through a mentor in

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[4] Listed in Japanese alphabetical order of companies' name

Telangana Government.

・Online demo was coordinated with doctors who responded positively to the survey (it was not materialized due to difficulty to make appointments with doctors online).

・Telangana Government called for more doctors to cooperate for the online demonstrations (it was not materialized due to conflicting dates and times).

② The following support was provided.

・The mentor from Telangana Government conducted a research and confirmed that there seemed to be no major legal issues regarding their products at that time.

・To obtain an endorsement that there is no issues in terms of practices on regulations, a meeting was coordinated and conducted with an expert (Symbiorph Clinical Trialogy, consulting company related to licensing in the healthcare sector) through Telangana Government.

Implementation Status (Output)	For ① above, the results of online questionnaires were collected from local doctors regarding the needs assessment. For ② above, the company obtained feedback by expert on legal issues and established a network of experts for future expansion.
Future Plans	・The company continues to conduct needs assessments (including offline demonstrations to physicians), taking advantage of opportunities to travel to the region (as of June 2022).

➢ Sagri

Company Overview	Established: 2018 Sagri provides a data platform that merges satellite data with AI and plot technologies to promote solutions to issues in the Asian region in the agricultural sector.
Support Period	September 2021 - March 2022
Goal(s) within the SICJ	① To conduct a small-scale PoC on crop management to create a use case in the state of Telangana in preparation for the introduction of the service by the state government to expand the business throughout India. ② To identify local partners to conduct the above PoC.
Details of Support	The following support was provided for ① and ②. ・Advice on how to approach Telangana Government to introduce the service through a mentor from Telangana Government. ・Introduction of AgHub, an incubation facility specializing in agri-startups at Telangana State Agricultural University (Prof. Jayashankar Telangana State Agricultural University), and support in coordinating the content and terms and conditions for the implementation of PoC. ・Support for the donation and other conditions for the implementation of PoC.

	・Approach to private companies that Sagri shortlisted
Implementation Status (Output)	For ① above, an agreement was not reached with AgHub and PoC was not materialized. ① Study team approached several persons for one of the companies (Kaveri Seed Company) but was unable to obtain positive responses.
Future Plans	Sagri already has expanded its business in other states in India and will continue to leverage its resources and network to expand its business further in India (as of March 2022).

(2) Additional value creation for startup and innovation ecosystem
1) New financial services and financing methods

In this project, we work on the consideration for improving the government's financing system and new financing methods as measures for additional value creation for startup innovation ecosystem in Telangana State. Especially in the work on new financing methods, it is assumed to perform a trial to convert the potential of company's future financial performance into score (hereafter, "financial scoring") by using data that have not been utilized traditionally like entrepreneur's payment history of utility charges and training records in addition to traditionally utilized data like financial information in the process of screening prospective startups. Financial scoring with such traditionally unutilized data, as well as social impact scoring (to be described later), means to develop a new measurement that supports screening process for startups or entrepreneurs who have difficulty in access to finance due to absence of collateral or operating track records.

By the timing of this interim report, we proceeded with the study based on the process set for the work above (See the figure below). The current status of the study is described as below.

Process for consideration of new financial services and financing methods

Process	Contents
A) Collecting information / Discussion	• Discuss the survey direction with JICA / Telangana state government based on the information collected
B) Grasp for the current status of additional value opportunities	• Investigate startup innovation ecosystem led by the government with other ecosystems in other major countries and examine high-value-added financial services and financing methods
C) Review of the current status of credit assessment, loan disbursement and monitoring	• Review the current process / organization/ operation for credit assessment, loan disbursement, monitoring and recovery • Consider possible improvements necessary for implementing the measures and methods discussed in D).
D) Consideration for the development of systems related to risk assessment	• Consider how unutilized data can be capitalized on in risk assessment • Formulate trial plan for developing financial scoring model

Figure 16 Operational process for examining new financial service and financing methods

A) Collecting information / Discussion

As preparation for the subsequent process C) and D), we discussed with JICA and the Telangana Government the concept of new financial scoring framework and how we proceed with consideration for developing the framework, after collecting information on the overview of the government's existing efforts to assist startups in the state.

a) Concept of scoring framework (Overview and the positioning of finacial scoring）

First, we established a common understanding of the concept of new scoring framework with JICA and the Telangana Government, that is, overview of scoring framework and the positioning of finacial scoring. As shown in the figure below, in the new scoring framework, it is assumed that a company (as a candidate to be invested in) is assessed with two axes, namely (i) Financial score and (ii) Social impact score. Finacial score represents a company's potential of financial growth, probability of the financial performance as well as personality of the entrepreneur / CEO, and is expected to be used for more objective assessment of the company, more appropriate investment judgement and improvement in startup's access to finance. On the other hand, social impact score represents the social impact of a company, which is understood as the size of the impact,

contribution to address the issue, and feasibility. (See the subsequent section " 2) Social impact evaluation " for further details.)

Also, it is commonly understood that scoring framework (i.e. how to use scoring) can be designed depending on the government's investment policy, including on whether allowable minimum level is set or not. For example, the government can set the investment target as the companies that have difficulty in the access to private funding but exceed the minimum threshold to be determined by the government, namely who have potential to achieve a certain level of finanacila performance or social impact.

(i) Financial Score:	This score represents potential of financial growth, probability of the financial performance, and personality of the entrepreneur/CEO.
(ii) Social Impact Score:	This score represents the social impact of a startup, understood as the size of the impact, contribution to address the issue, and feasibility
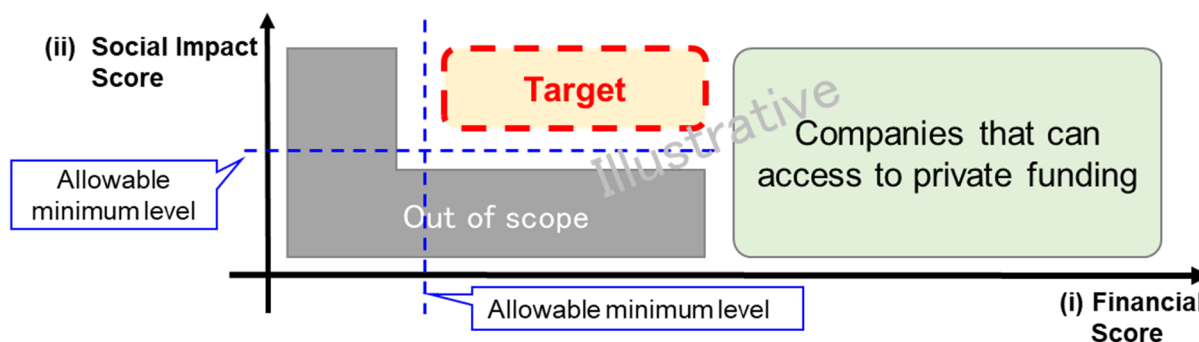
Figure 17 Two axes in the new scoring framework

b) How to design financial scoring

For how to design financial scoring, a common understanding was established with JICA and the Telangana Government that we would consider an innovative scoring model by capitalizing on the alternative data that can complement the data that has traditionally been used for borrower assessment in financial institutions such as banks, that is, financial information, business model information and personality of entrepreneurs. (Hereafter referred to as "Unutilized data".) It can be meaningful to consider capitalizing on unutilized data since startups or Micro and small sized enterprises (MSEs) are assumed to have limited financial information stored or have those information with low quality even if they have.
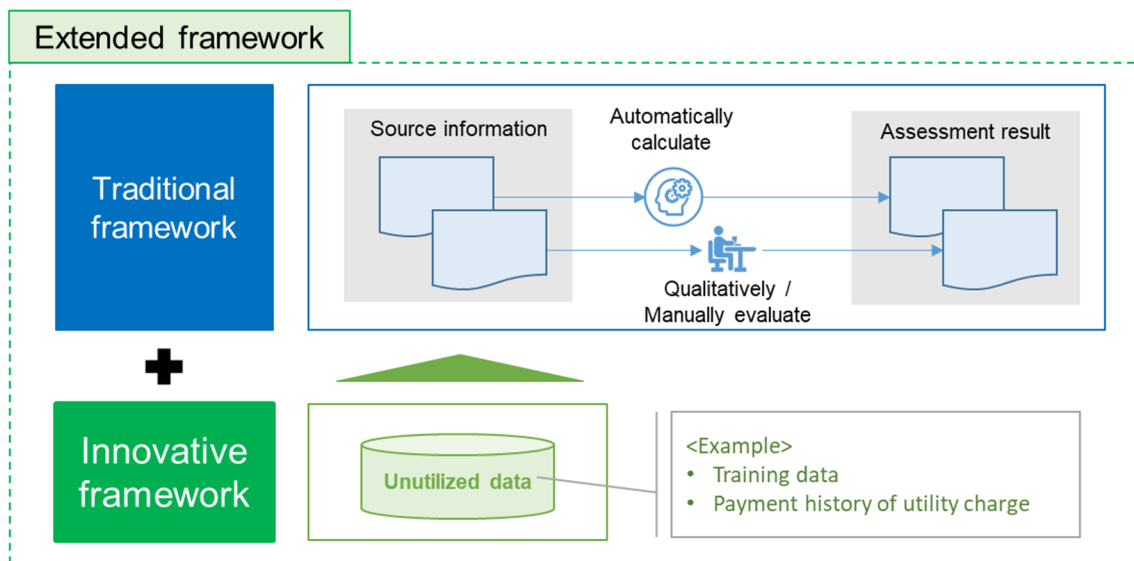
Figure 18 How to design financial scoring

(*) One example could be Satellite data for agricultural companies. The data provides the status information of agricultural land and makes it possible to estimate future yield and their revenue, therefore can be used for financial scoring of them as complementary information for financial information or business model information.
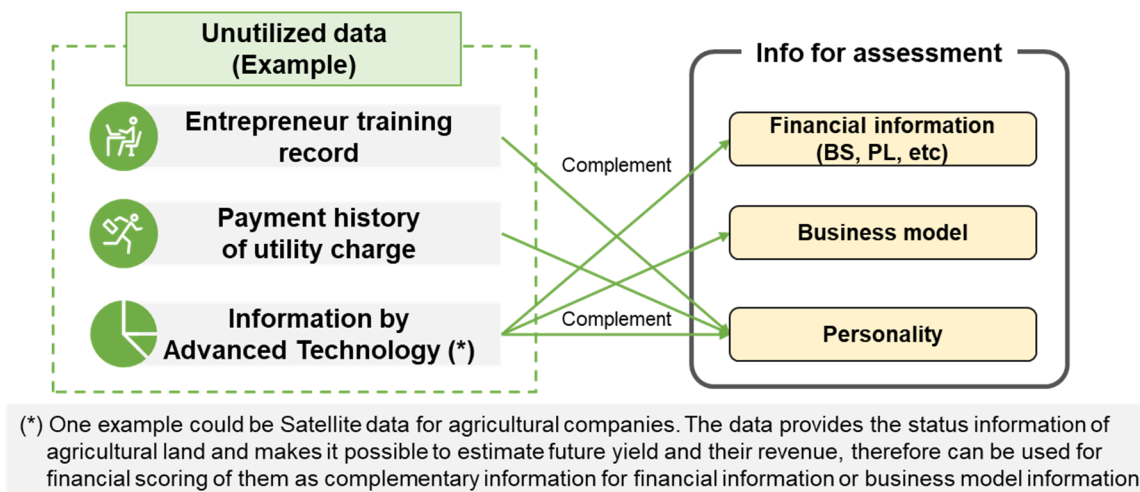
Figure 19 Example of how utilized data complements the data traditionally used in banks' borrower assessment

c) How to proceed with consideration for financial scoring design

Through discussion on how to proceed with consideration for financial scoring design, we firstly established common understanding that appropriate design varies with funding instrument (product) and target segment (such as stages in company's lifecycle, industry, etc.) assumed in the financing subproject/initiative. As shown in the figure below, for example, the viewpoint in assessing companies depends on whether the product is debt or equity, therefore what financial score represents should vary with product. Also, available data scope can be different depending on whether target segment is startups who have limited business history and financial information or Small and Medium sized enterprises (SMEs) who have business history to some extent, and on which industry target segment is.
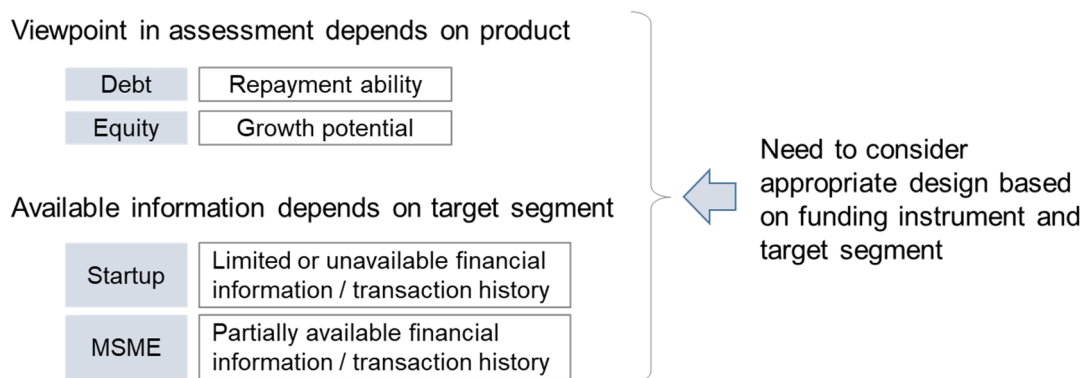
Figure 20 Notes in considering design of financial scoring

Secondly, we discussed how to proceed with consideration for financial scoring design taking into account that there are some subprojects (planned to be implemented in the ODA Loan Project) and Initiatives (planned/implemented by the government independently) in the government or its related institutions that could provide financial support to startup (See the details in the table below). As a result of discussion, it was agreed that we select one from those subprojects/Initiatives and consider the design precedingly assuming target segment and product specifically for that one. This is because target segments and products are actually different among those subprojects/Initiatives and the design should be considered for each of them separately.

Table 15 Existing subproject/Initiative in the Telangana Government and their target segments/products

<Subprojects on finance>

SP#	Subproject	Implementing Agency	Target	Product
GS-P9	Setting-up a dedicated Grassroot Innovation Fund (GIF)	TSIC	Seed	Debt/Grant
GS-P11	Dedicated Scale-up Fund	TSIC	Seed	Debt
GS-P12	Dedicated Support Fund for women-led MSMEs	We Hub	MSME	Grant
GS-P16	Creation of Corpus Fund for "Telangana Industrial Health Clinic Limited (TIHCL)"	TIHCL	MSME	Debt
SS-P5	Dedicated Support Fund for social impact start-ups	T-Hub	Social Enterprise	Debt/Grant

<Funding initiatives in INNOVATION POLICY 2016>

Initiative	Content	Target	Product
T-Fund (Telangana Innovation Fund)	Early stage investing vehicle, launched in collaboration with leading global investors and T-Hub.	Early	Equity
T-SEED	Fund for early stage to work on research discoveries, college project ideas etc.	Early-Growth	Equity
Phoenix Fund	Fund for identifying and attracting entrepreneurs who have attempted at least one venture previously.	Experienced Entrepreneur	Equity

Under the policy described above, it was discussed which subproject / initiative to select. As the initial stage of this survey activity, it was agreed that we select and consider the financial scoring design for the subproject

"GS-P16", in which basic structure and concept for financial support are established and financing activities are already started, in line with the recommendation from the Telangana Government. In other words, it is confirmed that we conduct the study in the operational process C) and D) for Telangana Industrial Health Clinic Limited (TIHCL), a finance company founded by the government that implements GS-P16.

However, as will be described later in C), in the process of the investigation on TIHCL, it turned out that (i) the target of TIHCL's financial support does not necessarily focus on startups, so it is not consistent with this survey's original intent to improve access to finance for companies who have growth potential, and that (ii) the track record of TIHCL's financial support is scarce, so it is not realistic to build a scoring model in the short term. Thus, the survey target was reviewed, and it was agreed among the parties concerned that the survey target would be switched to T-Hub, which was newly proposed by the Telangana Government, and the survey and examination of C) and D) would be carried out.

d) Example of financial scoring design

Furthermore, financial scoring design in case of utilizing "Entrepreneur training record" was shared with JICA and the Telangana Government as an example, for the purpose of promoting common understanding of financial scoring design and its effect. Entrepreneur training record is the information on entreperneurs' performance / behavior in certain training programs that they participate in and such information can complement the information on their personality . (Actually it is necessary to assess whether entrepreneur training record can be utilized for each subproject/initiative.)

The following figure shows the example of design and its potential effect, assuming that the product is debt. It is considered that entrepreneur training record could be utilized to identify companies who are likely to repay without delinquency in future, by storing the data continuously on the training records and repayment history of companies that the government actually provides with loans, analyzing the relationship between both data and improving framework for assessing repayment ability (via introducing personality score or enhancing personality scoring method). At the same time, training records could also be utilized to incubate prospective startups, by analyzing what kind of training fosters companies who are likely to achieve high financial performance / repayment without delinquency in future and improving the contents / methods of training. Although there are some operational requirements to update the framework continuously as data is stored more, potential merit of utilizing training record was shared with the Telangana Government.
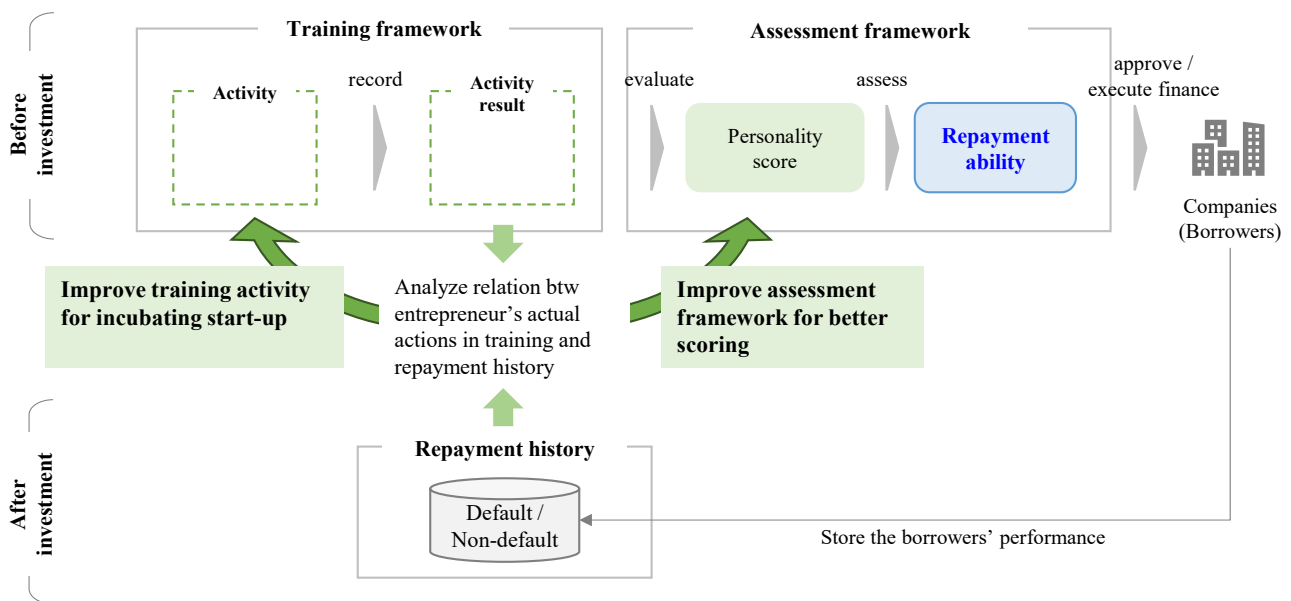
Figure 21 Merit of utilizing "Entrepreneur training record" (In case of debt product)

B) Grasp of the current status of additional value opportunities

A survey of government finance support systems in other countries was conducted with the aim of obtaining insights for startup finance support by the Telangana Government. The project targeted four countries including Singapore, Israel, the United States, and the United Kingdom, which have successfully created startup ecosystem.

The following tables show the results of a financial and tax incentives provided by the government to startups in each country. All the countries are working on support with a clear purpose, and it is considered that there are differences in the types of support due to differences in the purpose and resources available for each country. In Singapore, support is provided by centralizing the contact points for the purpose of fostering industries with relatively low competitiveness. In Israel, support systems and measures are designed for the purpose of conmercializing R&D outcomes. In contrast, in the United States and the United Kingdom, government ministries and agencies are providing large-scale support for R&D-type startups with possiblities of business applications. For details of the survey results, please refer to the attached document "Government finance support systems for startups in other countries".

Meanwhile, in Telangana, although the framework of entrepreneur support itself is being considered, number of financial support already executed so far is limited to 10+ cases for the companies in manufacturing industry with financial difficulties (including support for female entrepreneurs in the manufacturing industry in some cases). Thus, it is still in the initial stage as an initiative. In the future, it will be necessary to design a system and build an effective system in line with the purpose of financial support when starting full-scale efforts.

Table 16 Government support system for startup in tax in four countries

#	Types of support	Singapore	Israel	US	UK
1	Credit guarantee	✔	-	✔	✔
2	Co-investment scheme by government & private companies	✔	-	-	✔
3	Investment in startup/venture via fund of funds	✔	-	✔	✔
4	Grant	✔	✔ (Obligation in some cases)	✔	✔
5	Commission fee	-	-	✔	✔
6	Loan	-	-	-	✔

Table 17 Government support system for startup in funding in four countries

#	Types of support	Singapore	Israel	US	UK
1	Incentive in tax to investor	✔	-	✔	✔
2	Incentive in tax to startup	✔	-	✔	✔

C) Review of the current status of credit assessment, loan disbursement and monitoring

Considering the discussion result with JICA and the Telangana Government mentioned in A) above, we investigated the current status of financial support in TIHCL and T-Hub, which is described for each in terms of a) Overview of organization, b) Product in financial support, c) Operation and organization for loan support and d) Track records of financial support as follows.

Financing Activities of TIHCL

a) Overview of organization

TIHCL is a finance company founded in April 2018 promoted by the Telangana Government, providing holistic support to MSEs in the manufacturing industry in the state. For those enterprises that have financial difficulty or that are managed/owned by woman entrepreneur, TIHCL provides financial support with loan as well as non-financial support including consulting, handholding, diagnostic reporting, discussion with existing lender and establishing of revival package. Their long-term goal is to improve the ecosystem surrounding the industry so that the incidence of financial difficulty can be prevented.

Table 18 Overview of TIHCL

Name of organization	Telangana Industrial Health Clinic Limited
Founded	April 2018
Objective	To provide a holistic support to the Micro and Small enterprises in the manufacturing space that have financial difficulty
Long Term Loans & Advances (as at 31st March 2020)	27,295,363 Rs
Interest from Loans (for year ended 31st March 2020)	1,757,628 Rs
Share Capital (as at 31st March 2020)	100,260,000 Rs

Source : Created by Study Team based on TIHCL's Annual Report 2020-2021

In additon, TIHCL also works on providing enterpreneurs with various support by holding events including awareness programs, seminars, training, etc. in cooperation with other industrial bodies / associations.

b) Product in financial support

TIHCL has 10 products in their financial support as shown in the table below (All products are for manufacturing MSEs). While seven out of them (i. to vii.) are revival / rehabilitation products for companies in financial difficulty, the rest three are products for women companies (viii. to x.). For revival / rehabilitation products, TIHCL selects one of the seven products suitable for applicants in their appraisal process.

Table 19 TIHCL's products in financial support

Classification	Product	Explanation
Revival and rehabilitation for stressed SMEs	i. Critical Amount Funding (CAF)	TIHCL provides loan facility for repayment of critical amount in existing bank loan to stressed enterprises, which would prevent them slipping into NPA.
	ii. Credit Facilitation –Co-Lending-Margin Loans	TIHCL provides the supplementary finance required by new enterprises in cluster locations at the stage of business commencement, at concessional rate of interest.
	iii. Overdue Bill Purchase	TIHCL provides finance to entrepreneur on bills which are overdue for payment after discounting with bank.
	iv. Revival & Rehabilitation-Margin Loans	In cases where the entrepreneur is unable to bring in the additional margin money required by the bank for revival, TIHCL may grant a soft loan repayable along with bank finance for rehabilitation / revival.
	v. Stressed Asset Financing (SAF)	TIHCL would approach the unit's Bank to off-load the asset along with the collateral securities if any held by them towards that

			account.
	vi.	Bridge Finance	This product covers extending finance for short term to those stressed manufacturing MSEs of Telangana State against investment subsidies pending for release due to budgetary constraints.
	vii.	Ti-PRAS	This product supports the revival of sick unit by providing waiver/deferment of power dues and penalties.
Women Entrepreneur Schemes	viii.	NARI (Nari Assistance Revival of Industry)	TIHCL identifies the problems of the enterprise in diagnostic study and support them along with handholding.
	ix.	WE (Women Enterprise) Loan	TIHCL provides financial assistance to existing manufacturing enterprises managed and owned by women entrepreneur.
	x.	SWASHAKTI (for new units)	TIHCL provides financial assistance to new manufacturing enterprises managed and owned by women entrepreneurs.

Source: Created by Study Team based on TIHCL's response to questionnaire and Annual Report 2019-2020

c) Operation and organization for loan support

TIHCL's operation related to providing loan support is divided into the seven processes as shown in the figure below. After receiving application for requesting loan support from MSEs, [1] proposal is originated and following workflow is set into action. [2] Collecting information necessary for appraisal of applicant is done including application form, KYC, financial information, etc. [3] Based on TIHCL's internal credit policy and other guidelines, appraisal of the proposal is done in terms of eligibility, financial inforamtion, projections, external report, etc. [4] The proposal is also examined in terms of risk management and risk mitigation measures are taken as needed. [5] In case the proposal is brought forward for sanction (approval) as a result of appraisal, it is placed to sanctioning authority for considering sanction and final decision is made (Sanction or Denial). For credit limit equal to or less than 50 million Rs, COO is the sanctioning authority. On the other hand, for credit limit above 5 million Rs, the proposal is analyzed in Credit Committee before sanctioning authority. Once Credit Committee convinced of the credit worthiness of the proposal, the proposal is recommended to MD & CEO as sanctioning authority. [6] In case the proposal is sanctioned, loan is disbursed after confirmation of terms and conditions with applicants and documentation. [7] Afterward, TIHCL conducts monitoring for borrowers continuously and provides them with handholding when necessary.

Figure 22 Process flow in TIHCL related to loan support

In addition, the formation for implementating these processes [1] to [7] is shown in the table below.

Table 20 Formation for implementing loan operation process in TIHCL

	[1]〜[4]		[5]	[6]	[7]
	Loan Processing *	Loan Assessment	Sanction	Loan Disbursement	Loan Administration **
Executive	X	X		X	X
Vice President	X	X		X	X
Chief Admin				X	
Chief Operating Officer		X	X		X
MD & CEO			X		X

(*)   Including collection of required documents / information prior to loan assessment

(**) Including Monitoring, Collection and Handholding

As for the processes from [2] to [4] above, the information shown in the figure below is collected and used for evaluation.

Preliminary validation
- Identification of Borrower and to ensure they are within our Target Group of Manufacturing MSE
  - Identification of borrowers may be from different sources including Industry Associations, District Industries Centers, Primary lending banks, etc.
- Brief History of the Account
- Brief Profile of the Promoter and the Unit, etc.

KYC
- To obtain and verify related KYC documents like Aadhar, PAN Card, Udyam Registration, etc.
- Visit to Units and Promoter's residence, etc.

Obtaining required documents
- Loan Application
- Financial statements for the required period / CMA data
- Receipts confirming payment of statutory payments
- Existing Banking arrangements
- Views of the primary bank / FI on the Unit.
- NOC from the existing banks / FIs, etc.

Unit visit
- Capacity Utilization
- Achievement of Breakeven production levels
- Availability of skilled manpower
- Supply Chain mechanism
- Availability of required infrastructure
- Pollution control permissions

Analysis on financial viability (including capability to generate cash flows and to repay)
- Sector Analysis
- Analysis of Credit Bureau reports
- Demand for the Product and Market Potential
- Order Book position
- List of Top Buyers and Suppliers
- Existing Marketing arrangements
- Analysis of Financials – Audited Financial Statements, Provisional Financial Statements and CMA data for future estimates / projections.

- Establishing financial viability by reviewing DSCR / Interest Coverage Ratio / DE Ratio. TOL /TNW, etc.
- Availability of security – Primary / Collateral, personal guarantees
- Pending Statutory Dues, if any, and impact of the same on the functioning of the Unit. Plan of action to clear the pending dues.

Risk identification and mitigation
- Various risk elements, specific to Credit Risk and Market Risk (with mitigants for those risk elements)

Figure 23 Information used for evaluation in loan screening at TIHCL

d) Track records of financial support

The number of references requesting for financial or non-financial support to TIHCL amounts to 294. However, the number of references requesting for financial support (loan support) is 37, and those with loan sanctioned is only 14 out of them.

Out of the 294 references, those requesting for non-financial support including consulting, handholding and diagnostic reporting (such as advice on handling stress conditions / loan restructuring, diagnostic analysis of companies by looking into their location, machinery / manufacturing process, entrepreneur's family and so on through on-site visit) amounts to 257.

Table 21 Breakdown of the references for requesting financial or non-financial support to TIHCL

#	Explanation			Number of references (**)
1	Reference received			294
2		Out of 1 above, references involved funding		37
3			Out of 2 above, references sanctioned	14
4			Out of 2 above, references denied	23
5		Out of 1 above, references not involved funding		257
6	Priority Release (*)			194
7	Total			488

(*) In specific cases where companies are experiencing stress conditions, Telangana State Government releases the incentives / subsidies on Priority basis. For those cases, TIHCL conducts a detailed study and recommends if the entrepreneur / company deserves for disbursement of incentives on priority. "Priority Release" in the table above means the number of cases where TIHCL conducted such study. (Priority Release does not mean TIHCL's financing support.)
(**) Numbers are at the time of Deloitte's receiving this information (September 2021).

Financing Activities of T-Hub
a）Overview of organization

T-Hub is an innovation intermediary and business incubator based in Hyderabad, Telangana, India. It has been operated based on a partnership between the Telangana Government and three academic institutions (IIIT-H, ISB and NALSAR) in Hyderabad, providing Indian and international startups with access to technology, talent, mentors, customers, companies and investors.

As illustrated in the figure below, T-Hub has three main business units. The Flagship Incubation Division provides assistance through providing mentorship and other services. The T-Hub Corporate Innovation Division introduces investors to startups to help bridge the gap between startups and businesses through intermediation. The T-Bridge Program supports global startups entering the Indian market and vice versa.

T-Hub Main Business Units

Flagship Incubation Division (Lab32)	• Boost the incubates to smoothen the often-rocky path of entrepreneurs
T-Hub Corporate Innovation Division	• To bridge the gap between startups and corporate
(T-Bridge Program)	• Help global startups expand into the Indian market

Figure 24 Main business units of T-Hub

b) Products for financial support

As illustrated in the figure below, T-Hub offers two main funding products. The first one, seed financing is offered in the range of 35,000-140,000 USD, while the second one, debt financing is capped at 35,000 USD. The fund size is 700,000 USD.

T-Hub Fund Information and Financing Products

Seed and Debt Financing Fund	• Fund Size 700,000 USD		
		Seed Financing	• 35,000-140,000 USD
		Debt Financing	• up to 35,000 USD
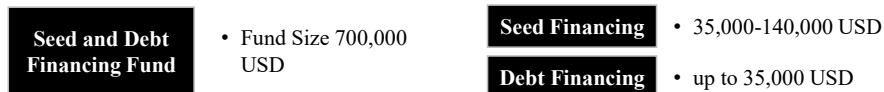
Figure 25 T-Hub Fund Information and Financing Products

c) Operation and implementation structure for financial support

As can be seen from the figure below, the four steps of the business process are identified: primary screening, secondary screening, third-party DD, and capital commitment.

Start-up Assessment Process

Non-Binding Arrangement | Binding Arrangement

Initial Screening (T-Hub) | Secondary Screening (Investment Committee) | Third Party DD | Capital Commitment | Transfer of Funds

Relevant Factors Considered
• Market size of the business, the idea
• Capabilities of the founders and the
• Technology to execute on the idea
• Employees
• Feasibility of proposed milestones
• Traction
  • if pre revenues: number of users, pilots performed
  • If post revenues: conventional financials

• There is technical and financial DD
• The DD providers is generally nominated by the lead investor.
• There are no initiatives to form partnerships with them in the near future.

• The funds are committed once the DD results are appealing.

T-Hub

Figure 26 Screening Process for T-Hub's Financial Assistance

Factors considered in the primary and secondary screenings include: market size of the business, the idea, founder capabilities, technology to execute ideas, employees, and the feasibility of proposed milestones. If the startup already has a trackable business background, metrics such as the number of users, the pilots executed, financial plan, etc. are being considered.

Third party DDs are divided into technical and financial DDs. DD providers are usually nominated by major investors. It is confirmed beforehand that there is no initiative to form partnerships with third party DD providers in the near future.

Funds are committed to startups that have appealing third party DD results. Upon this step, T-Hub enters into a binding agreement.

d) Track records of financial support

As depicted in the figure in section c) above, eight startups were evaluated as of August 2022, five of which have been funded by T-Fund.

As it can be seen from the figure below, it was confirmed that T-Hub also has an abundant track record financial suppot to startups through intermediation.

Source: T-Hub website, interviews, desktop research

Figure 27 T-Hub record of financial support

D) Consideration for the development of systems related to risk assessment

The development of systems related to risk assessment was considered, taking into account the current status of financial support in TIHCL and T-Hub investigated in C) above.

In this project we organaized unutilized data candidates that can be capitalized on in TIHCL and T-Hub, assuming to develop financial scoring model with unutilized data in the future. This organization work consists of the two steps, that is, a) to identify unutilized data candidates and b) to narrow down the candidates into ones that can be utilized in TIHCL and T-Hub. The result of those steps is described below.

At the initial stages of this project, the development of the financial scoring model as trial effort was assumed on the premise that there are track records of financing support to some degree and related data is accumulated in database. However, as mentioned above, it turned out that it is difficult to implement the "trial plan" to develop scoring model since the data accumultaed by TIHCL and T-Hub is insuffient.

a) To identify unutilized data candidates

Firstly, we identified unutilized data candidates with reference to the recent use cases in untraditional credit scoring, assuming not to limit users to TIHCL and T-Hub. For indentification, documents published by the World Bank and other authorities and existing knowledge in Deloitte were referred to. The result of identification is described in the table below.

Table 22 Candidates of unutilized data

#	Classification			Type of Unutilized data *	What to complement **		Assumed constraint
					Financial info / Biz model	Personality	
1	Transaction data	Cashflow data	Obtained from third party	Sales/Purchase history	X	—	Used only for Agriculture / Construction / Retailer
2				Cash in-out history	X	—	—
3				Payment history of utility charge	—	X	—
4				Payment history of mobile phone fee	—	X	—
5		Non-Cashflow data		Mobile Call/SMS/Location history	—	X	—
6	Non-Transaction data		Obtained internally	Entrepreneur training record	—	X	—
7				Psychometric test	—	X	—
8			Obtained from third party	Credit history from credit bureau	X	X	—
9				SNS	X	X	—
10				Relation with stakeholder	X	—	Not available for MSEs
11				Satellite data	X	—	Used only for Agriculture

*   : For the types of unutilized data, identified by Deloitte with reference to the following public documents

   - World Bank "CREDIT SCORING APPROACHES GUIDELINES" (2019)

   - Hong Kong Monetary Authority "Alternative Credit Scoring of Micro-, Small & Medium-sized Enterprises" (2016)

**   : There are three kinds of typical information used for assessing creditworthiness of borrowers in banks, namely "Financial information", "Business model information" and "Personality of entrepreneur". This column indicates which information of the three each unutilized data can complement. (When applicable, the cell is marked with "X".) Note that unutilized data can be (i) information attributable to company and/or (ii) information attributable to entrepreneur, and that "Financial information" and "Business model information" can be complemented by (i) and "Personality of entrepreneur" by (ii).

b-1) To narrow down the candidates into ones that can be utilized in TIHCL

As a next step, we narrowed down the unutilized data candidates into ones that can be utilized in TIHCL. In the process of narrowing down, the following aspects were considered; (i) whether the data candidates are suitable for TIHCL's target segment and (ii) whether the data candidates are available in TIHCL.

In terms of (i), we have to take into account that TIHCL's main target to support is MSEs in the manufacturing industry that have financial difficulty. Considering that #1 and #11 are not suitable for manufacturing industry and that it is not realistic for information vendors to provide information on #10 for MSEs, #1 / #10 / #11 were excluded from the candidates. For (ii), we asked TIHCL whether the rest of candidates is available from third party and obtained their response that #3 and #4 are expected to be available. As a result of this narrowing down process, it turned out that #3 and #4 are the unutilized data that can be utilized in TIHCL. (Note that although we treated #6 and #7 out of scope for query to TIHCL on availability from third party because they have to be obtained internally, they are also considered as the unutilized data candidates that can be utilized in TIHCL.)

Table 23 Result of narrowing down unutilized data that can be utilized in TIHCL

#	Type of Unutilized data	Process to narrow down		Result
		(i) Suitability for target segment	(ii) Availability from third party	
1	Sales/Purchase history	No		
2	Cash in-out history		No	
3	Payment history of utility charge			○
4	Payment history of mobile phone fee			○
5	Mobile Call/SMS/Location history		No	
6	Entrepreneur training record		(Obtain internally) *	○
7	Psychometric test		(Obtain internally) *	○
8	Credit history from credit bureau		No **	
9	SNS		No	
10	Relation with stakeholder	No		
11	Satellite data	No		

* : #6 and #7 have to be obtained internally, so we treated those data out of scope for query to TIHCL on availability from third party.

** : TIHCL explained that "Credit history from credit bureau" is not available for most companies while it is referred to for assessing loan applicants if obtained.

b-2) To narrow down the candidates into ones that can be utilized in T-Hub

Also, we narrowed down the unutilized data candidates into ones that would be obtainable and usable by T-Hub.

Table 24 Result of narrowing down unutilized data that can be utilized in T-Hub

Unutilized Data Examples

Unutilized data	How it can be obtained?		Data Source
	Internally	Externally	
Cash in-out history		○	Bank Account
Payment history of utility charge		○	
Sales/Purchase history		○	
Payment history of mobile phone fee		○	
Mobile Call/SMS/Location history		○	Telco Company
Entrepreneur training record	○		T-Hub
Psychometric test		○	Third Parties
Credit history		○	Credit Bureau
SNS		○	SNS platform
Relation with stakeholder		○	

It was reported by T-Hub that they would consider accumulating entrepreneur training records that can be obtained internally, taking into account data availability. Well-quantified indicators related to entrepreneur training records can lead to valuable insights in the future.

However, as many of such indicators are subjective, it would be necessary to address the associated biases. In addition, there are proven use cases of alternative data presented above when it comes to credit scoring models, however no known use case of entrepreneurial training records has been confirmed as of now. Thus, it is desirable to assess whether such data would be useful for scoring on a pilot basis.

Specifically, indicators such as passion, coachability (attitude to accept and learn from feedback), adaptability, and engagement can be considered as subjective ones. On the other hand, objective indicators entail scores and attendance at classes among many others. As for other indicators, as shown in the figure below, whether or not they have goals, whether or not they break down their goals into small steps, whether or not they have strategy for achieving it, and whether or not their purpose is achieved, can be considered among others. Such indicators can be grasped in the form of an interview, which would require a certain degree of ingenuity in terms of formulating the questions.

These metrics were communicated as examples to T-Hub, and it was also advised to T-Hub as one trial example that a pilot would be conducted to quantitatively evaluate personality traits. The direction of future efforts will be examined within T-Hub.
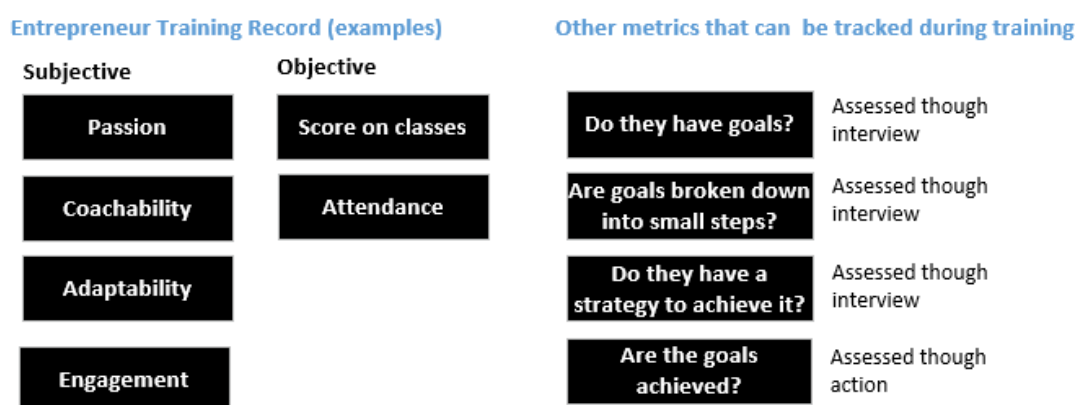
Figure 28 Example of metrics to be accumulated as training records

After that, the Study Team continuously discussed with the members of T-Hub investment team the possiblity ofdeveloping a scoring model incorporating the above metrics based on training data. As a result of the discussion and further consideration in T-Hub, the following draft framework was presented as a draft.

Metrics	Sub Metrics	Measurable Indicator	Weightage in %
Financials	• Traction • Financial Data • YonY growth • Funding	• Current and past 2 years revenue. • Financial Projections (2 years) • Past funding • Current commitments.	50%
Passion	• Subject Knowledge • Past experience • Training undertaken • Time spent v/s growth	• Education Qualifications • Experience / Expertise (no.of years) • Date of incorporation of the company vs the growth (yony)	15%
Coachability/ Adaptability	• Ability to listen and adapt • Mentor Relation	• Growth during the program • New projects/ New initiatives • Mentor feedback	10%
Engagement	• Attendance in the program • Regular sessions • Follow up • Participation in events/ workshops.	• No. of program sessions • No. of mentor sessions	10%
Milestones	• No. of milestones planned and achieved • Time frame set	• Milestones achieved • Time vs no. of milestones	15%

Figure 29 Draft Framework incorporating Metrics to Evaluate Entrepreneurs' Personality

The above draft evaluation framework was in line with the initial intention in the sense that it incorporates metrics that break down the personality of entrepreneurs while placing certain weightage on quantitative metrics such as financial information including traction, growth rate, and past funding that have been traditionally considered for evaluation. Meanwhile, as some challenges were observed in conducting the actual scoring, the Study Team provided feedback as summarized in the table below.

Table 25 Feedback on Draft Evaluation Framework

Item	Feedback
Overall	➢ Linkage between metrics and sub-metrics should be clearer. ➢ Scale and scoring method are to be considered at the sub-metrics level, assuming scoring is to be conducted at this level. ➢ Weightage among different sub-metrics is to be considered. ➢ Weightage could be adjusted depending on the startups to be targeted in a specific funding scheme. ➢ Better to clarify what data to be used and when to collect them for each indicator.
Passion	➢ No indicator found that corresponds to "training undertaken" sub-indicator. It could be the number of training, but there needs to be criteria for the type or content of training to be counted. ➢ Time spent v/s growth – already covered in Financials (YonY growth)?
Coachability/Adaptability	➢ "Growth during the program" is to be clarified on what to measure and what data is to be used.

	➢ Assuming "New projects/ New initiatives" is selected as an indicator to measure "ability to listen and adapt", it could include the case where the startup made a pivot taking the advice/feedback provided during the training even if it is not entirely a new project. ➢ How to quantify "Mentor feedback" to measure mentor relation is to be clarified.
Engagement	➢ The number of sessions could be replaced with other indicators such as attendance rate since the number of required sessions could be different by each startup and make it difficult to make comparison. ➢ Indicators such as "submission of deliverables" or "degree of work done agreed with mentor" could be useful to measure how seriously the startup is engaged in the training.
Milestone	➢ As the number of milestones could differ by each startup, the indicator should be the percentage of milestones achieved rather than the absolute number of milestones.

T-Hub indicated that it would consider the above feedback to refine and operationalize the framework. Nevertheless, it also pointed out the issue of data availability and consent from startups to use the data and that it would require further consideration while reviewing the process of pilot program related to the development of social impact scoring model explained in the section below.

As for the status of discussion within the Telangana Government, in addition to the issue of data availability mentioned above, the fact that not all startups that apply for financial support attend training programs by T-Hub or external parties could be a challenge in developing a scoring model based on training data.

Achievements, challenges and solutions

a) **Achievements**

As explained above, the Study Team has examined the possiblity of introducing new financing methods as measures for additional value creation for startup and innovation ecosystem in Telangana State.

New financing methods intended to improve financial access for entrepreneurs and startups that have faced difficulties in fund raising. This was to be realized by quantifying the likelihood of future financial performance using data that have not been utilized traditionally in addition to the data that have traditionally been considered such as financial information in the process of screening prospective startups. The fact that a common understanding with the Telangana Government with respect to the importance of such efforts as well as continuous discussions on the evaluation framework which led to the drafting of initial draft can be recognized as major outcomes of this study.

Also, it is also an importance outcome of the study that, as a basis for the development and operationalization of the scoring framework, the Study Team was able to grasp the current status of business processes, implementation structure, and track records at TIHCL and T-Hub as well as that of data collection including consideration of the possiblity of the use of unutilized data. Meanwhile, there is a gap with the outcome originally envisaged in terms of the progress of the project since the implementation of trial plan was not realized since the pre-conditions were not satisfied due to unavailability of existing data that could be utilized for the trial, necessity to form agreement

among the stakeholders in Telangana State to utilize data as well as the challenges described in (b) below. This will require follow-up by the Telangana Government in consideration of the proposed solutions.

b）**Challenges and solutions**

Despite the achievements above, challenges have also been identified. The most imminent one is the necessity to reach agreement among the stakeholders in Telangana State on the use of training records as unutilized data. Other challenges include refinement of scoring framework, establishment of implementation structure for accumulation of data, and consideration on operationalization of scoring framework. Proposed solutions for these challenges are summarized in the following table.

Table 26 Challenges and Proposed Solutions on Financial Scoring

Challenges	Proposed Solutions (Draft)
Necessity to reach agreement on the use of training records as unutilized data	➢ To discuss options among stakeholders such as conducting scoring targeting the startups that have participated in T-Hub training or considering the possibility of looking at training records at external organizations and make decisions
Refinement of scoring framework based on the initial draft	➢ To review metrics, sub-metrics and measurable indicators and identify required data and data points in consideration of feedback from the Study Team ➢ To conduct scoring of several startups based on the refined framework on a pilot basis and identify challenges
Establishment of implementation structure for accumulation of data for the use of training records	➢ To organize the method of data collection based on the required data to be defined in the scoring framework ➢ To explain to the startups participating in training programs on the scoring framework and gain understanding on the collection and use of data
Consideration on operationalization of scoring framework	➢ To consider how to use the scoring framework depending on the target in finance programs by the Telangana Government as well as those to be implemnted under ODA Loan Project, particularly in relation to the social impact scoring framework

2）Social impact measurement

Understanding of Telangana State's progress for social impact measurement

As part of the new scoring model and in considering the framework of social impact measurement along with the financial scoring, the Study Team confirmed Telangana State's current progress in designing and implementing social impact measurement in the startup ecosystem. As a result, it was found that the Telangana Government intends to attract foreign investments from large corporations and investors from industrialized countries such as Japan. Impact measurement and management (IMM) of social startups in the Telangana Government will contribute to achieving this objective. Although hundreds of social startups in Telangana State

actively contribute to solving social issues, foreign investors or investors not based in Telangana may experience significant challenges in identifying their impact. This is a missed opportunity in encouraging foreign investments to Telangana. The Telangana Government has expressed its interest in developing a social impact measurement framework, such as a social impact score card. This score represents the social impact of a social enterprise or startup, understood as the size of the impact, contribution to address the issue, and feasibility. This framework should serve as a tool translating the startup impact in a language understood by investors, thus functioning as a "common language" for investors and startups. The framework may enable to score and compare the social impact created by startups based on standardized measurement. The Figure below shows the role of such a measure.
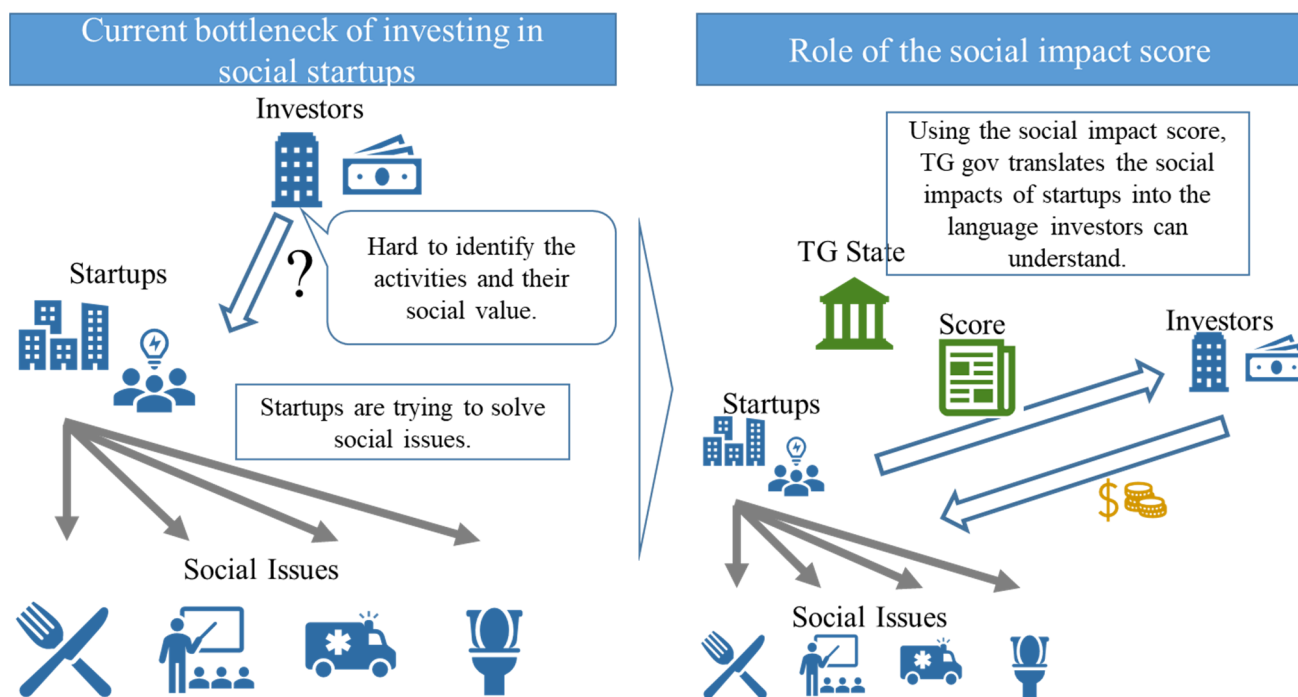
Figure 30 Current bottleneck of investment and the role of social impact measurement

Through discussions with the Telangana Government, the Study Team identified a number of initiatives taken by the State for social impact measurement. However, there was no standardized approach, which led to agreeing that the next step should be developing IMM framework for Telangana State and piloting IMM with real data from social startups. The concept of the IMM pilot has been discussed and agreed with the State. Rather than creating the final version of IMM approach for the social innovation ecosystem, the output of this assignment should focus on building the framework and on providing lessons learned from the pilot cases.

Components of social impact

Components of social impact used for the scoring depend on the design of the framework. The Study Team introduced two approaches to the Telangana Government: the impact statement approach and the ESG (Environmental, Social, Governance) framework approach. While the former approach focuses on the assessment of impacts created/expected to be created, the latter focuses on ESG risk assessment and is easier to implement with large entities rather than startups. Since the Telangana Government wishes to measure the impact of social startups, the Study Team proposed to adopt the impact statement approach. More specifically,

61

the study team proposed to leverage the "Five dimensions of impact" framework. This framework is well established and widely used in the IMM community. As shown in the figure below, the social impact is formed by five components, of which three are used for the social impact score. The three components are utilized for the evaluation of the size of the impact, contribution to address the issue, and feasibility.
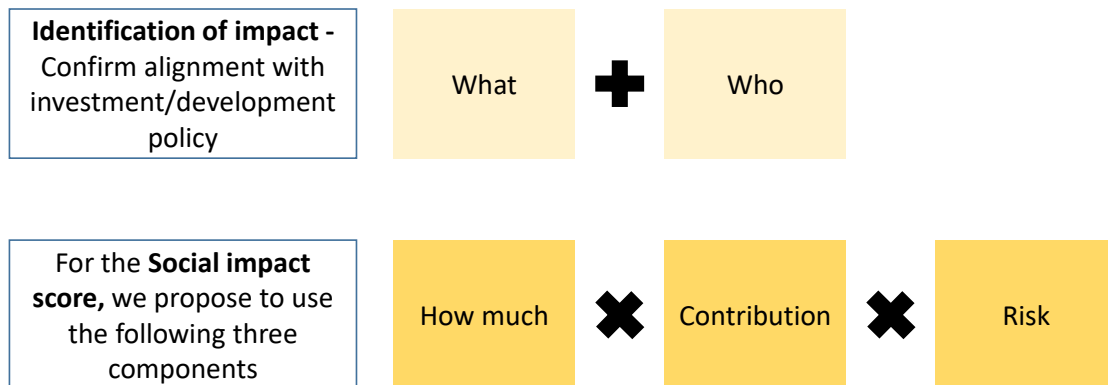
Figure 31 Five dimensions of impact

There are two preliminary components, "What" and "Who" components, which are used for the social impact score. They do not impact the score, but provide information required to score other categories. "What" is used to identify the impact and its importance to the customer (beneficiary). "Who" aims at identifying the beneficiaries of the impact created by the startup.

The social impact score is composed of the remaining three components; "How much", "Contribution", and "Risk". "How much" identifies the size of impact and can be broken down into three sub-components, which are "Scale", "Depth", and "Duration". "Scale" measures the number of people impacted. "Depth" shows the extent of the impact by comparing impact to baseline. "Duration" relates to the period during which the stakeholders receive the outcome.

"Contribution" identifies startups' role in achieving the impact. For example, when the impact could have happened without the startups, their contribution is estimated as very limited.

"Risk" aims at identifying to what extent the impact is likely to happen. As the following figure shows, the Impact Management Project identifies 9 types of risk, which can be categorized into three main categories. Some of the risks can be mitigated by Telangana State's support.

Category			Type	Description of the risk
(A) Measurement			Evidence risk	The probability that insufficient high-quality data exists to know what impact is occurring.
(B) Realizing positive impact	Capacity to mobilize external resources		External risk	The probability that external factors disrupt the ability to deliver the impact.
			Stakeholder participation risk	The probability that the expectations and experience of stakeholders are misunderstood or not taken into account.
	Internal capacity		Execution risk	The probability that the activities are not delivered as planned and do not result in the desired outcomes.
	Continuity		Drop-off risk	The probability that positive impacts does not endure.
			Endurance risk	The probability that the required activities are not delivered for a long enough period.
	Business model and efficiency		Alignment risk	The probability that impact is not locked into the enterprise model.
			Efficiency risk	The probability that the impact could have been achieved with fewer resources or at a lower cost.
(C) Negative impact			Unexpected impact risk	The probability that significant unexpected negative impact is experienced by people and the planet.

Figure 32 Type of risk

Need of benchmark setting

To assess all of the five components, business plans, impact statement and benchmarks should be used to inform investment decisions as shown in the following Figure. Depending on the evidence required, there may be a need to develop those. For example, startups can provide business plans and impact statement. However, the State needs to set up its own benchmarks.
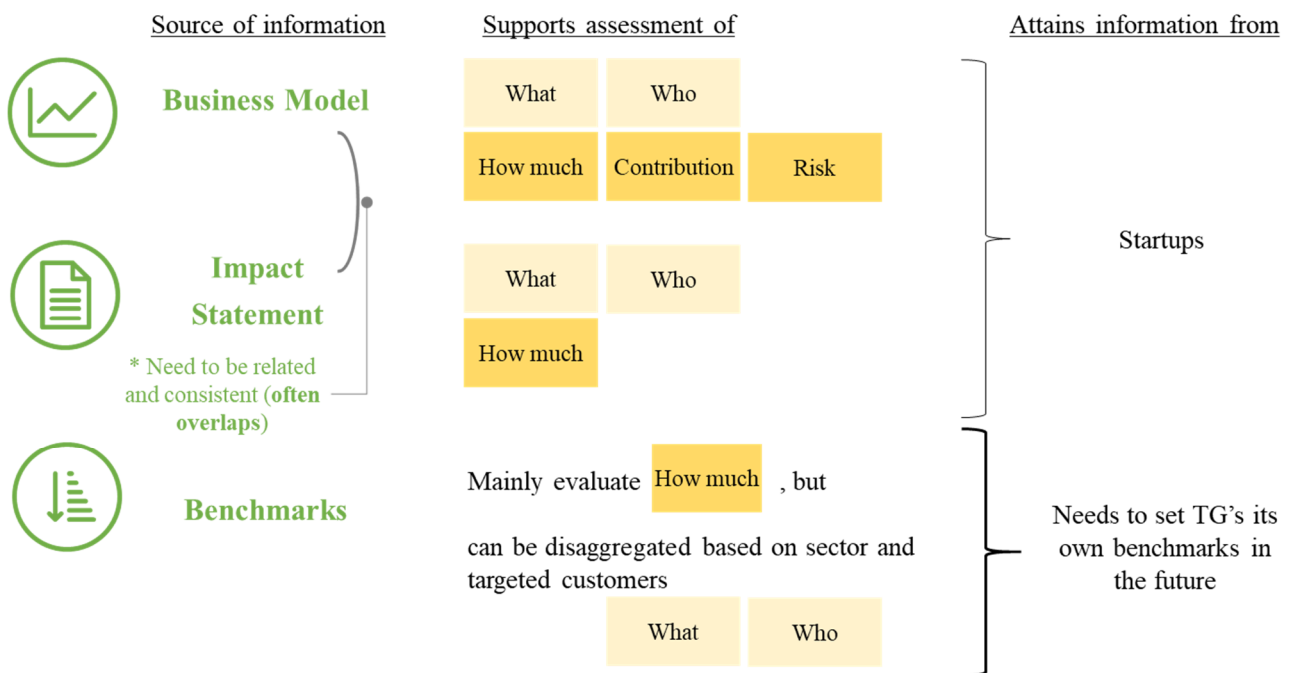
Figure 33 Source of information for the evaluation of five components of social impacts

Benchmarks are used by investors to understand the performance of a potential investment. This is a common

practice to compare financial performance and is also preferred to understand and compare social impact performance. When the performance of an investment target is better than the benchmark, investors are likely to invest in the target company. When the performance is lower than the benchmark, then investors are unlikely to invest of may engage with the company to improve the performance before investing or upon investment. Unlike financial benchmarks, there are very few commonly accepted benchmarks for social impact, and they do not cover a wide range of sectors. Benchmarks reflect investors' values, priorities and restrictions. Geographic and sectoral diversity matter as well (benchmark are sector and geography specific). In addition, collecting quality data is also challenging. Hence, the Telangana State needs to build up their own benchmarks through discussion and engagement rather than relying on existing benchmarks.

In a survey conducted by GIIN in 2019, the need for and importance of impact benchmarks were widely recognized among investors. Over 80% of investors recognized benchmarks as a challenge. Furthermore, more than 90% investors sought to obtain benchmarks for social impact.

Discussions with the Telangana Government also showed that socially responsible investors and sustainable investors could be good partners for the State. As highlighted in the following Figure, Telangana State's main target as potential users of this framework are not well-experienced impact investors, but investors who are interested in investing in social startups with scarce experience in impact investment practices. Due to their limited experience and lack of impact benchmarks, it is assumed is that these investors are facing difficulties in making investment decisions based on the impact claimed by startups. This may result in lessened opportunities for investment and reduced financing to the startups in Telangana. This analysis and the need of developing the State's own benchmarks were agreed with the Telangana Government.
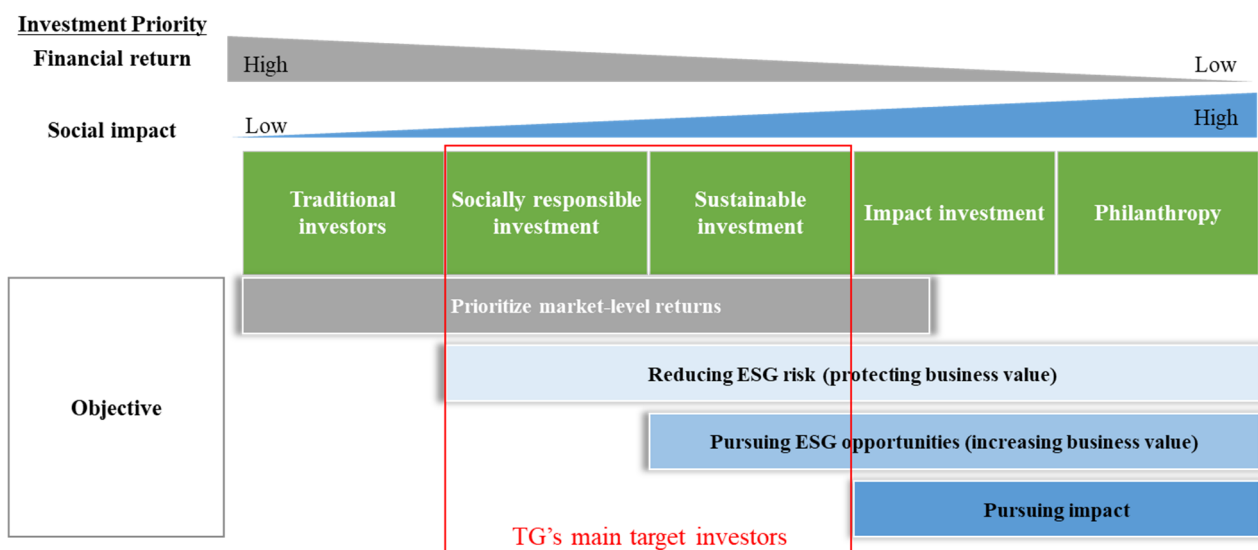
Figure 34 Investor segmentation and the Telangana State's main target

Update on the benchmark development led by the Telangana Government

The Telangana Government started developing its own benchmark. Telangana State's objectives in terms of social impact need to be first assessed, and associated decision makings are required. Clarifications in the impact scoring operational level are also important. The Telangana Government raised multiple operational questions and the Study Team clarified key points by explaining components of social impact and principles of impact scoring along with introduction of case studies. Some examples of the questions and the responses from the

Study Team are listed below.

[Questions raised from the Telangana Government]

1. How do we ensure that our priority sectors get preference?
2. Should startups that have a high financial score receive the benefits?
3. How do we prioritize startups within the same sector?
4. How do we distinguish between longevity and depth? Will they be directly proportional in most cases?
5. How do we arrive at the scoring for the "Contribution" dimension if there is a lack of data availability?
6. How does the "Risk" dimension translate into weightage?
7. How the measurement of "Depth" should be carried out?

[The Study Team's answers to the questions from the Telangana Government]

1. How do we ensure that our priority sectors get preference?
   ➢ [Answer] The framework needs to be linked with an investment policy from the State, making clear what your policy objectives are. This is why the alignment between your policy and the What + Who is essential.
2. Should startups that have a high financial score receive the benefits?
   ➢ [Answer] Not necessarily. It depends on 1. your investment objectives, 2. the investment landscape in TG State. Again, the investment policy is key. Key points to consider for an investment decision in the public sector may include additionality, in addition to financial score and social impact score. The investment decision should come from the following process:
      1. Alignment with investment policy
      2. Financial score and Social impact score
      3. Performance against investment policy and benchmarks
      4. Investment decision (Conduct investment or engagement with startups for performance improvement)
3. How do we prioritize startups within the same sector?
   ➢ [Answer] This is the objective of the "How much" indicator, which is going to determine the size of the impact of a potential startup depending on its sector and segment.
4. How do we distinguish between longevity and depth? Will they be directly proportional in most cases?
   ➢ [Answer] Those are different indicators. Depth looks at the qualitative impact (change in number of meals for example), while duration looks at how long the impact will last.
5. How do we arrive at the scoring for the "Contribution" dimension if there is a lack of data availability?
   ➢ [Answer] The contribution dimension mainly consists in assessing if the impact would have happened without the startup. Assessing this requires having a look at the market: are there any other players (e.g. State, startups, civil society, projects) that are providing similar impact or planning to. Lack of data availability may thus come from 1. lack of information on size of impact, or 2. who are beneficiaries from the impact, which can be addressed through interviews.

6. How does the "Risk" dimension translate into weightage?

  ➢ [Answer] The risk assessment should be part of your due diligence process, with a clear scale depending on the importance of the risk. The score might change depending on the probability of the risk happening.

7. How the measurement of "Depth" should be carried out?

  ➢ [Answer] This depends on the purpose of the measurement. Theory of Change (TOC) is often used to detect important indicators and to describe intended systemic change. Among various potential "depth" indicators, you need to choose a few key indicators based on investment policy/purpose. Three case examples are introduced in the following.

    [Case 1] In 2013, the New York State government launched a Social Impact Bond (SIB) to improve employment and recidivism rates among formerly incarcerated men, in order to enhance public safety and reduce the fiscal costs associated with incarceration. $13.5 million in impact investment capital was raised from over 40 private investors and foundations. The funds enabled the Center for Employment Opportunities (CEO), a nonprofit employment service agency, to expand its evidence-based programs. New York State is using a "pay-for-success" (PFS) contract, where taxpayer resources are used to pay investors only if the performance thresholds are reached. Impact measurement was needed to evaluate the effectiveness of the employment service program and to justify the payment to the program. Three outcome metrics were adopted; (1) average number of days incarcerated per person during the observation period (performance thresholds: 36.8 days per person); (2) income in the fourth quarter following release from prison (performance thresholds: not provided); (3) number of those who start a CEO transitional job during the observation period, approximately 3 years after releasing from prison (performance thresholds: 5% increase). These metrics were selected based on the alignment with the State's policy objectives and CEO's TOC.

    [Case 2] Acumen has been investing in clean, affordable energy solutions in Africa more than a decade. As of the reporting in 2017, $22.1 million Acumen had invested has enabled 20 early-stage companies to provide 81 million people with high-quality, affordable light, power, and improved cookstoves. From 2014, Acumen uses Lean Data, a customer-centric, technology-based approach to impact measurement. They collect real data from their end-users to properly measure their impact of investing and to keep improving their benchmark. Based on the impact measurement purpose and Acumen's Theory of Change in this investment, five indicators were selected. The indicators on lighting and power companies are; (1) improvement in quality of life; (2) increased hours of daily light; (3) proportion of customers using product/service for income generation; (4) change in hours of daily study; (5) improved safety (perception). The benchmark of each indicator is set as follows; (1) 60%; (2) 1.2 hours; (3) 20%; (4) 0.7hour; (5) 50%. Similarly, five indicators and benchmark on cookstove companies are set and Acumen encourages the companies to outperform the benchmark; (1) improvement in quality of life (60%); (2) no product stacking (the family is not using other cookstoves) (45%); (3) didn't own improved cookstove before (71%); (4) time savings (7 minutes); (5) improved safety (perception) (50%).

Five Indicators

♥ Improvement in quality of life
   (Acumen's benchmark: 60%)

♦ Increased hours of daily light
   (Acumen's benchmark: 1.2 hours)

$ Proportion of customers using
   product/service for income generation
   (Acumen's benchmark: 20%)

📖 Change in hours of daily study
   (Acumen's benchmark: 0.7 hours)

🔒 Improved safety (perception)
   (Acumen's benchmark: 50%)

Acumen's benchmark comparison of energy enterprises
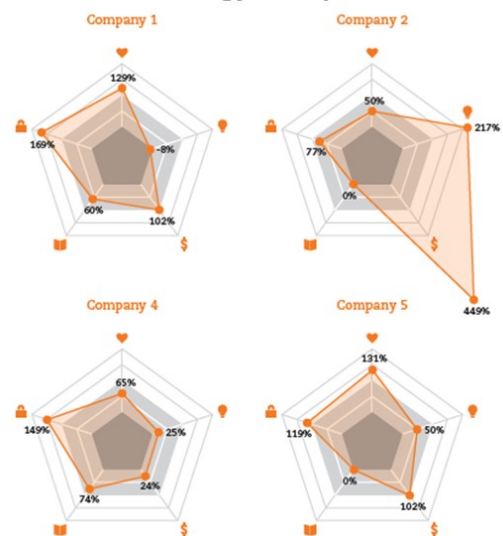
Figure 35 Acumen's benchmark indicators on lighting and power companies

Five Indicators

♥ Improvement in quality of life
   (Acumen's benchmark: 60%)

≋ No product stacking (the family is not
   using other cookstoves)
   (Acumen's benchmark: 45%)

✔ Didn't own improved cookstove before
   (Acumen's benchmark: 71%)

● Time savings
   (Acumen's benchmark: 7 minutes)

🔒 Improved safety (perception)
   (Acumen's benchmark: 50%)

Acumen's benchmark comparison of energy enterprises
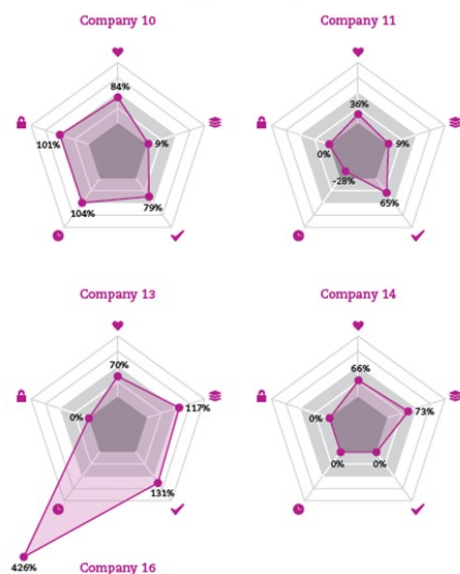
Figure 36 Acumen's benchmark indicators on cookstove companies

[Case 3] In Mexico, diabetes has become the leading cause of death, with more than 14 million people living with the disease. This situation places an immense burden on the healthcare system. The cost per patient is estimated at US$ 911 per year, which can easily increase up to US$ 3,000 once there are complications. If treated privately, 79% of the population in the base of the pyramid (BoP) cannot afford to pay these out of pocket expenses. Clinicas de Azucar's (CDA) innovative model was designed to use state-of-the-art technology to make diabetes care efficient, low-cost and accessible for everyone. CDA

first targeted high income to lower middle socioeconomic levels. However, low and very low-income groups were left out. CDA decided to test new models and to bring a viable business model up to scale to reach these groups. Impact investors have used result-based financing to finance CDA. Concretely, the scheme aims to reward and incentivize CDA to increase the penetration of diabetes services to the poorest while maintaining top quality of services by piloting new approaches to scale and serve this hard to access population group. The mechanism is based on two metrics and will award payments on improving growth and success rates in the treatment of the poorest patients.

1.

Figure 37 Clinicas de Azucar's impact metrics

Based on the information provided from the Study Team, the Telangana Government is developing its social impact scoring model and selecting indicators. From a long list of more than twenty startups, the Telangana Government selected five startups in a few key sectors such as education and healthcare in consideration of priority of the Telangana Government, data availability and willingness to cooperate in the pilot activities (refer to Appendix1).   While initial plan was to develop a benchmark, through discussions the Telangana Government and the Study Team decided not to do so due to limited data availability. As an alternative, the Telangana Government and the Study Team decided to implement a pilot program for clarifying what perspectives are lacking and/or concerns to be addressed for evaluating each indicator to establish the social impact score card by utilizing the data collected from the selected 5 startups.

Implementation and results on the pilot program for establishing social impact score card

In the pilot program, the Telangana Government and the Study Team scored 5 startups based on the aforementioned five components of the social impact which is summarized in the Figure below.

Components	Indicator	Sub-indicator	Overview
What	Sectoral priorities	Priority sector	• Alignment with TG State's investment portfolio priority sectors (Education, Healthcare, Agriculture)
		SDGs	• Existence of SDGs which startups claim to be contributing
Who	Beneficiaries needs	Location of Stakeholder	• Whether the beneficiaries locate in urban or suburb area
		Stakeholder characteristics	• Alignment with TG State's priority beneficiaries (BPL, Women, PWDs, Farmers, Students)
How much	Impact potential	Number of beneficiaries	• Number of people who receive the benefit of the product and/or service of startups (Both directly and indirectly)
		Depth	• Degree of change experienced by the stakeholder • Simplified TOC method was used for impact measurement method
Contribution	Efficiency and effectiveness	Total investment	• The total amount of investment the startups received from investors
		Cost per impact unit	• "Total investment" divided by the "Number of beneficiaries"
	Additionality	Customer base size	• Maximum market potential for the startups • Rural population in the Telangana State is applied when data is unavailable through soundings
		% customer base served	• "Number of beneficiaries" divided by the "Customer base size"
Risk	Risk		• Assessed the importance (score 1-3) and likelihood (score 1-3) for each aforementioned 9 types of risk with full score being 69

Figure 38 Indicators and sub indicators and its overview to score five components of social impact

The result of trial scoring for 5 startups are as in the Table below, and the following are the preconditions for the scoring:

1. All indicators were scored either 0 or 1 in order to simplify the threshold due to limited time and data for the pilot program.
2. Since the Telangana Government and the Study Team agreed upon that risk level will be assessed by the certain committee or jury in the finalized social impact score card, the temporary score was calculated in the pilot program. Threshold was set as 50% (35 out of 70) in which more than 50% were scored 0 while less than 50% were scored 1.
3. Efficiency and effectiveness was not scored in the pilot program. There are two reasons. The first is the startups were negative in disclosing information on total investment due to its high confidentiality. The second is the low importance in terms of investment decision-making was recognized through the feedbackd from the social impact investors.

Table 27 Scoring results for 5 startups in the pilot program

Name of the startup	Sector	Sectoral priorities	Beneficiaries needs	Impact potential		Additionality	Risk	Total score
				# of beneficiaries	Depth			
		Priority: 1 Non Priority: 0	Priority: 1 Non Priority: 0	More than 50k: 1 Less than 50k: 0	Deep change: 1 Marginal change: 0	More than 1%: 1 Less than 1%: 0	Less than 35: 1 More than 35: 0	
Next Skills 360	Education	1	1	0	1	0	0	3
Urdhvam Environment Technologies Pvt. Ltd.	Agriculture	1	1	1	1	0	0	4
Kisanwala	Agriculture	1	1	1	1	0	0	4
Hesa	Healthcare	1	1	0	1	0	1	4
BigOHealth	Healthcare	1	1	1	1	0	0	4
Maximum score		1	1	1	1	1	1	6

This section will provide some remarks for each of the five components.

Regarding the "What" indicator, which is "Sectoral priorities", since all five startups were in the prority sector for the Telangana State, they were scored 1. For subindicator "SDG", although data was collected from startups at certain level, due to difficulty in evaluating objectively and its small impact on the scoring results, the Telangana Government and the Study Team agreed to exclude this subindicator for scoring.

"Who" indicator, which is "Beneficiaries needs", was also scored 1 for all five since the targeted beneficiaries were all located in the suburb and recognized as vulnerable group including Below-Poverty-Line (BPL), women, Person With Disabilities (PWDs), small-sized farmers, and students.

"Impact potential" indicator for "How much" has two subindicators. The threshold was set as 50,000 people for "Number of beneficiaries" and relative evaluation of either deep or marginal change measured by simplified TOC method for "Depth" due to time and data constraints over the discussion between the Telangana Government and the Study Team. There are two main points that need to be considered for this indicator, which are setting the threshold for "Number of beneficiaries" and decision on which impact measuremnt methods to be applied. Since there are no official indicator for the former, absolute evaluation seems to be difficult. Therfore, the Telangana State needs to collect data on competitors of the startups (i.g. startups at similar stage operating in the same field) and the number of beneficiaries for those competitors for relative evaluation. The latter is currently ongoing discussion in the Telangana State, however, it is assumed that either Expected Return method, in other words Social Return on Investment (SROI) method being the representative example, or well-developed TOC method are to be applied at this point. While SROI method which is to monetarize the value makes it easier to compare with others, it holds risks of unfairly penalize interventions depending on the complexity of tackling issues and inexact results due to heavy dependence on data. On the other hand, TOC method has advantages of familiarity and easier identification of casuation for investors, while difficulty to identify the indicators, unexpected results by its simplicity and relatively less comparative than SROI method could be considered as disadvantages. The required data would significantly change depending on which methods to be used, this discussion point will planned to be at the highest priority which details will be mentioned in later section.

The two subindicators for "Contribution" are "Customer base size" and "percentage of customer base served". The score was based on the latter with the threshold of 1%. However, mainly because all five startups were in the pre-seed to early stage, all of them were below 1% and scored 0.

The result of temporary scoring for "Risk" is described in the Table below. Both the Telangana Government and the Study Team individually assessed the likelihood of each type of risks mentioned in the Table below by utilizing the data collected from the startups and through desktop research, which was followed by discussion

between the two sides to compare the scores and reach agreement on the final scores. The discussion points and threshold for each type of risk are as follows:

1. External risk was defined as events that cannot be predicted such as natural disasters, pandemic, change of regulations, economic downturn, and technological advancement.
2. For Stakeholder participation risk, the "Stakeholder" was limited to direct beneficiaries and excluded indirect ones.
3. The threshold for Endurance risk was existance of follow-ups after the delivery of service and the finite of resources but the time period for endurance should be considered for more specific threshold.
4. The threshold for Drop-off risk was the prospective of continuous financial support from the investors.
5. The threshold for Alignment risk was the sustainable and physical existance of investment return from the startups.
6. Efficiency risk was assessed by comparing the similar products and/or services provided by startups at the similar stage.
7. The threshold for Unexpected impact risk was the possibility of negative effect on sectors other than social aspect such as environment and economy.

Table 28 Scoring results for risk assessment

Type of risk	a. Importance		Next Skills 360		Urdhvam Environment		Kisanwala		Hesa		BigOHealth	
			b. Likelihood	Score(*)	b. Likelihood	Score	b. Likelihood	Score	b. Likelihood	Score	b. Likelihood	Score
Evidence risk	Medium	2	1	2	1	2	1	2	2	4	2	4
External risk	Medium	2	2	4	3	6	2	4	1	2	2	4
Stakeholder participation risk	Medium	2	2	4	1	2	2	4	2	4	2	4
Execution risk	High	3	1	3	2	6	1	3	2	6	2	6
Endurance risk	High	3	2	6	2	6	1	3	1	3	3	9
Drop-off risk	High	3	3	9	2	6	1	3	1	3	3	9
Alignment risk	High	3	1	3	2	6	2	6	2	6	2	6
Efficiency risk	Medium	2	2	4	2	4	2	4	1	2	1	2
Unexpected impact risk	High	3	1	3	1	3	2	6	1	3	1	3
Total score (maximum 69)				38		41		35		33		47
Score translation for the scoring model（above 35 = 0, less than 35 = 1）				0		0		0		1		0

*Score = a times b

Although the finalization is yet to be implemented, below points have been completed as achievement of the social impact scoring in this project. Moreover, the roadmap for mid- and long-term development of social impact scoring part as a whole is illustrated in Figure 39.

i. Establishing a common understanding of social impact framework.
ii. Developing the initial impact scoring model.
iii. Testing the initial impact scoring model. (pilot program)
   →Results are shown in Table 24. As a summary, due to simplified threshold setting, the difference in total score was scarce with the average score of 3.8. The difference in the score was only seen in the indicators of "Number of beneficiaries" and "Risk".
iv. Communicating with startups and investors on the initial impact scoring model for improvements.
v. Identifying the challenges to finalize the impact scoring model and proposals for solution.
   →Details are written in "4. Lessons and recommendations" section.

Done within this project

1. Establishing a common understanding

I. Sharing general framework on IMM*1

II. Sharing the past and current consideration on the scoring in the TG state

2. Developing investment criteria and policy

I. Setting priority sectors/areas for the study

II. Development of investment criteria and scoring components in the prioritized sectors

III. Review the scoring tool and detail it

IV. Development of the investment policy

3. Testing the impact scoring framework (pilot program)

I. Collecting data from SUs

II. Getting feedback from SUs to the framework

III. Revising the scoring components

4. Identifying challenges for finalizing framework

I. Discussing what need to be concerned to finalize the framework

II. Developing roadmap for finalization

III. Revising and expanding the scoring approach to wider sectors/areas

IV. TOC guidelines and mentoring

5. | 1 year after | Establishment of finalized TSISC

I. Approaching to challenges identified during the pilot program

II. Involving investors for finalizing

6. | 3 year after | TSISC becomes the "common measure"

I. Accommodate more SUs to the registry

II. If needed, improve points that emerged during application

7. | 5 year after | TG State being pioneer of social innovation hub

I. Spread the TSISC to other states in India and/or other countries as best practice

Figure 39 Roadmap for mid-long-term development of social impact scoring part as a whole

Table 29 Scoring table for the pilot program

Name of Startup	Sectoral priorities Sector	Score	Beneficiaries needs Stakeholder characteristics	Score	Impact potential Number of beneficiaries	Score (size)	Depth	Score (Depth)	Total score	Additionality Customer base size (market potential)	% customer base served	Score	Risk Risk level	Score	Total score
		Priority - 1 Non Priority - 0		BPL,Women,PWDs,Farmers,Students - 1 Others - 0	more than 50K- 1 less than 50K- 0		Deep change - 1 Marginal change - 0				less than 1% - 0 more then 1% - 1		less than 35 - 1 more than 35 - 0		
Next Skills 360	Education		1 BPL, Students	1	16,000	1	0 40% increase awareness in computational thinking ; 15 mins for a student who hasnt used computer to code immediately		1	50 billion rupees	Less than 0.01%	0	38	0	3
Urdhvaan Environment Technologies Pvt. Ltd.	Agriculture		1 Farmers	1	156,140	1	1 Improving water quality and water security		2	36 million borewells	0.005%	0	41	0	4
Kisanwala	Agriculture		1 Farmers	1	155,000	1	1 increase in income and yiel		2	500 million people	0.03%	0	35	0	4
Hesa	Livelihoods		BPL; Farmers; 1 Women	1	3,039,000	1	0 Increase in income of hesaath's (indirect beneficiaries); Increase in reach for SME		1	500 million people	0.60%	0	33	1	4
BigOHealth	Healthcare		1 BPL, Women	1	30,150	1	1 Saved 10 million rupees worth of money of the target beneficiaries		2	33 billion dollars	>1%	0	47	0	4

Feedback from social impact investors

Regarding the result above, a meeting was held in Tekangana State whose details are summarized in the table below. In the meeting, the Telangana State and the Study Team received feedback from the social impact investors and social impact NGO (hereafter social impact investors) on how to improve the scoring model and what points should be further considered.

Table 30 Interviewees and participants of the meeting with social impact investors

Date	18 August 2022 (10:30 am to 1:00 pm) Indian Standard Time
Venue	T-Hub 2.0 Boardroom / Zoom
Interviewees	● **Telangana Government/TSIC** ● **TSIC** ● **T-Hub** ● **Impact Investor** ● **United Way Hyderabad (NGO)** ● **JICA South Asia Department South Asia Division 1** ● **JICA India Office**
Participant	● **Deloitte Japan** Shosei Yamamoto, Vinod Vasudevan, Atsushi Tsukiyama, Nanako Ueda (on Zoom) ● **Deloitte India** Nishanth Vadduri

In general, the social impact investors commented that the current scoring model was quite well-balanced and captures necessary metrics. However, feedback was provided to refine the model with a view to operationalizing the framework. The main points are as follows:

1. Defining "social startups"
   ➢ There needs to be agreement within the Telangana Government on the definition of "social startups"(e.g. Stage, target beneficiaries etc). Otherwise, the target could be quite broad and any startups could claim themselves as social startups. This point has been in discussion within the Telangana State where although the stages for startups have not been specified, broad definition is to be set as 1. startup that contributes to the societal and environmental changes in both short and long term, and 2. startup that targets under/marginalized group of people.

2. Defining "Impact"
   ➢ It should be defined specifically for each startup and validation on the baseline definition (number of beneficiaries) and methodology for definition will need to be made. Also, numbers should be evidence-based. This point has been in discussion within the Telangana State whose details were mentioned above about the SROI and TOC method could be the potential methodologies.

3. Weightage of social impact score and financial score
   ➢ This could be adjusted depending on the target such as the stage of startups (e.g. more weightage to be given to social impact score for early, pre-revenue stage and vice-versa for post-revenue stage). The details are described in the 4. Lessons and recommendations but the score weight of financial and social could be variable depending on whether the grants (mostly for idea level startups) or the loans (mostly for seed to early-stage startups) will be provided.

4. Setting the range of the score
   ➢ Ingredients are in the current scoring model, but how to score needs to be brushed up. For example, qualitative items could be scored for scale of 0 or 1, while quantitative one for scale of 1-10 leading to differentiate the total score among the startups.
5. Considering feedback from the communities
   ➢ Startups should get feedback from the beneficiaries and their communities as their perceptions on social impact could be different from that of startups. It should be clarified what benefits they are delivering to the communities and what others are doing as well.

(3) Improve the management capacity of the government / strengthen implementation structure for startup and innovation ecosystem

In order for the Telangana Government, which has led the development of startup and innovation ecosystem in Telangana, to keep leading its further development, strengthening of management structure is needed. Considering more than 30 subprojects with the involvement of 9 implementing agencies are being planned for the ODA Loan Project that will be planned to start after this study, it is also indispensable to improve the implementation structure including system/procedure and identify issues.

In order to identify and improve issues related to the management structure, the existing information on the Telangana Government based on the study conducted by JICA has been summarized as follows, and the current implementation structure has been described. Furthermore, in order to confirm the latest information on the subprojects planned under the ODA Loan Project and to supplement the existing information, additional surveys were conducted with the Telangana Government and each Implementing Agency (IAs) for the subprojects. This report provides an overview of each IA, and details of the findings, including implementation structure, processes, and the projects similar to subprojects, are provided in the Appendix2 and 3.

The structure of Implementing Agencies

There are 9 Implementing Agencies (IAs) where subprojects are implemented in total, and those agencies are as follow.
   ➢ T-Hub
   ➢ We Hub
   ➢ T-Works
   ➢ Telangana State Innovation Cell (TSIC)
   ➢ Telangana Academy for Skill and Knowledge (TASK)
   ➢ Research and Innovation Circle of Hyderabad (RICH)
   ➢ Telangana State Industrial Infrastructure Corporation Ltd (TSIIC)
   ➢ Telangana Industrial Health Clinic Ltd (TIHCL)
   ➢ Commissionerate of Industries

The Study Team have been gathering information on the outline of each IAs, organizational structure (departmental structure and number of staff) and budget allocations, and it is shown in this report. In addition, The Study Team collected the information on the year of establishment of each IAs, competent ministries, and composition of departments through the study from the previous phase, and it is shown in the table below.

Table 31 Outline of Implementing Agencies (as of November 2020)

	T-Hub	We Hub	T-Works	Telangana State Innovation Cell (TSIC)	Telangana Academy for Skill and Knowledge (TASK)	Research and Innovation Circle of Hyderabad (RICH)	Telangana State Industrial Infrastructure Corporation Ltd (TSIIC)	Telangana Industrial Health Clinic Ltd (TIHCL)	Commissionerate of Industries
Established year	2015	2017	2017	2017	2014	2014	2014	2016	1947
Which department of the state government they belong to.	ITE&C	ITE&C	ITE&C	ITE&C	ITE&C	The Industries & Commerce Department of the TG State Government	The Industries & Commerce Department of the TG State Government	The Industries & Commerce Department of the TG State Government	The Industries & Commerce Department of the TG State Government
Organizational structure (Departments)	CEO ・Startup Innovation ・Corporate Innovation ・Ecosystem Innovation ・Corporate Suppot	CEO ・Incubation ・Ecosystem ・Operations	CEO ・Operations ・Prototyping ・Talent ・Ecosystem ・Partnerships ・S&M, Incubation, Funding	CIO(Chief Innovation Officer) ・Senior Advisor ・Head Innovation Office ・Program Manager ・Senior Innovation Fellows ・Innovation Fellows ・Part-time Fellows	CEO ・HR&A ・AR ・SE&P ・OSD	Director General ・Food and Agriculture ・Life Science ・Business Development	Board of Director Chairman ・Personel&Admin ・Engineering ・Public Relations ・Asset Management ・Lands ・Local Authority ・Finance ・Projects ・Legal ・RTI&Internal Audit ・Secretariat ・IT ・Zonal Office	Board of Director CEO ・Operations(Loan, Technology) ・Administration	Additional Director ・Accounts ・Ministerial Staffs ・Technical Staffs

The organizational structure in general has been confirmed from existing information, the actual flow from the start of the subprojects to the implementation of the subprojects, the roles of each department in charge, and the status of budget implementation (budget management structure) have been studied through interviews to the Telangana Government.

- ➢ T-Hub
  - ✧ Overview of the organization and mission
    - ✓ It is the largest incubation facility in the state and serves as the main hub for innovation activities and industry-government-academia collaboration in Telangana.
    - ✓ In subprojects under ODA Loan Project, T-Hub will also provide support for the construction of facilities and procurement of equipment that directly support startups, capacity building, and market access.

  - ✧ The budget for the latest five years (FY2016-2020)
    FY2016 Budget 11.28 Cr, Expenditure 11.28 Cr
    FY2017 Budget 10.93 Cr, Expenditure 10.93 Cr
    FY2018 Budget 14.19 Cr, Expenditure 14.19 Cr
    FY2019 Budget 14.64 Cr, Expenditure 14.64 Cr
    FY2020 Budget 12.04 Cr, Expenditure 12.04 Cr

  - ✧ Number of Staff
    36 staff (26 full-time, 10 interns) (as of October 2021) decreased from 44 staff (as of November 2020)

  - ✧ Roles of each department (KPIs or goals and missions)
    - ✓ Startup Innovation: Impact 750 Startups
    - ✓ Corporate Innovation (CI): Positioning as top CI program in India and Be go to partner for CI in Hyderabad
    - ✓ Ecosystem Innovation: Top platform for Indian startups to go global
    - ✓ Marketing: (1) Top Innovation Hub in India, (2) Top Corporate Innovation Program in India, (3) Go-to-partner for Innovation in Hyderabad, and (4) Thought leadership for Startup Innovation Model

  - ✧ Number of Startups supported and the results of fundraising
    Total number of startups supported so far: 1430 startups
    The result of FY2020: 650 startups
    Total amounts of funds of startups supported so far: INR 1,860 Cr
    Top 5 startups fundraised: (1) 75 million USD (company name: My Gate), (2) 69 million USD (SPAC) (company name: Blue Semi), (3) 50 million USD (company name: Gayam Motor Works), (4) 37 million USD (company name: Stellapps Technologies), (5) 28.4 million USD (company name: GoBOLT)

◇ Assesments and evaluations on trainees' capacities in the capacity building projects
   Evaluation of the performance or progress is executed throughout the program- either monthly or fortnightly through a feedback form and progress on the performance.

◇ T-Hub standard implementation process of projects
   ① Call for Applications from eligible companies
   ② Evaluation of the startups using the framework established for each program.
   ③ Identify the gaps in targets and skills with each company to resolve issues
   ④ Develop growth plan with performance tracking mechanism
   ⑤ Based on the above growth plan, implement training programs
   ⑥ Showcase business overview, training results, and funding (if investors attend, etc.) through presentations by trained startups

◇ Subprojects under ODA Loan Projects
   ✓ SS-P2 "Setting up of 2000 sqft. of dedicated space for social enterprises in the 5 IT Towers (Warangal, Karimnagar, Mahbubnagar, Nizamabad, Khammam)." : It is mixture of both-Equipment procurement would include basic office facilities for the start-ups or students to work on their platforms /solutions.
   ✓ SS-P4 "Installation of Social Impact Zone on 8th and 9th floor of T-Hub Phase 2 with a comprehensive social impact ecosystem for tech start-ups." : 'Setting up the space and layout in. Requirements such as Innovation labs for the corporate CSR teams, dedicated space for national and international social impact non-government organizations.
   ✓ SS-P5 "Dedicated support fund for social impact start-ups" : Providing and support fund for social impact startups
   ✓ SS-P7 "Corporate Innovation Program for the Japanese Ecosystem" : Corporate Innovation Program is a structured year long program inviting entrepreneurs from other geographies to solve social impact problems of the Japanese corporates. The program is targeted at social impact start-ups which meets the requirements of the Japanese Corporate CSR teams.
   ✓ SS-P8 "T-Bridge program for the Japanese Ecosystem." : The program will act as a gateway for startups to enter the Japanese ecosystem and provide support on capacity building and market access.

◇ Implementation process of subprojects (Finance)
   ① Applications from startups for funding are received by Investment Committee analysts and initially screened by the analyst and Investment Manager
      Applicants can apply throughout the year
      Criteria: Quantum of funds requested. Sector focus. Years in operation. ARR and revenue figures. Core technology.
   ② Investment Director, who has experience and knowledge in investment, makes a decision on whether to approve or disapprove the proposal. Disapproved proposals are placed on hold by the Investment Advisory Committee
      The Investment Committee meets twice a month to decide whether to provide loans or grants

③ T-Hub manages the fund and disburse funds to the startups.

④ The investment team lead by the investment manager and supported by the CEO of T-Hub supervises and monitors the startups growth after funding.

Investment Manager and the Legal team evaluate each funding project

*Check points (Team, Market Size, Unique advantage and capability to execute, Financial growth, Business Growth)

✧ Implementation process for projects include business trips to districts outside Hyderabad

✓ Name of the subprojects assumed to include business trips: SS-P2 "Setting up of 2000 sqft. of dedicated space for social enterprises in the 5 IT Towers (Warangal, Karimnagar, Mahbubnagar, Nizamabad, Khammam)"

✓ Objective: Focus would be on building a strong community at each of the 5 locations. Each of the location would be having a dedicated team along with scouted partners

✓ Cost: Travel cost is an estimated 4% of the total expenditure.

✓ Decision making: The decision making regarding the travel shall be made by the CEO of T-Hub or any person authorized through him

✧ The results and outcome of other projects similar to subprojects (Refer to the Appendix2 for details)

✓ Start-up India seed fund： T-Hub has been awarded with a start-up seed fund to support start-ups moving to the next stage. T-Hub's team and the INCUBATOR SEED MANAGEMENT COMMITTEE (ISMC) together will disburse these funds among the start-ups.

Similar projects for each subproject

✓ SS-P2：The Covid-19 Innovation Challenge

It is an ideation program aimed to empower student innovators to get mentorship from renowned subject matter experts, transforming ideas into business propositions under the aegis of T-Hub and CCMB (The Centre for Cellular & Molecular Biology).

✓ SS-P4：Digital India Scaleup Program

The Ministry of Electronics and Information Technology has partnered with T-Hub to create scale up opportunities for the Hardware/IoT start-ups in India. This one-of-a-kind partnership will strive to create the next level innovation ecosystem for the existing ideas, prototypes, start-ups, and incubators.

✓ SS-P5：Start-up India seed fund (Raising Young Innovation Through Conceptual Research Experience: REC)

The objective of the scheme is to support and fuel early-stage funding in startups. The fund is offered as convertible debt rather than loans.

✓ SS-P7：Road To Shine

Road To Shine is a human-centred innovation program for India's young engineers who want to drive innovation and shape the future. This program is co-hosted by Hiroshima Prefecture Japan and T-Hub.

✓ SS-P8：Mobility Challenge

This challenge provided select start-ups an opportunity to execute a paid Proof of Concept, mentorship, and opportunity to become a business partner of Maruti Suzuki

- ➢ We Hub
  - ✧ Overview of the organization and mission
    - ✓ We Hub provides financial and technical support for the development of female entrepreneurs
    - ✓ In subprojects under ODA Loan Project, We Hub will also provide support for female entrepreneurs through capacity building and financing.

  - ✧ The budget for the latest five years (FY2016-2020)
    FY2016 Budget NA, Expenditure NA
    FY2017 Budget NA, Expenditure NA
    FY2018 Budget 0.24 Cr, Expenditure 0.62 Cr
    FY2019 Budget 3.04 Cr, Expenditure 1.71 Cr
    FY2020 Budget 4.10 Cr, 2.61 Cr

  - ✧ Number of Staff
    22 staff (18 full-time, 4 project based) (as of October 2021) increased from 6 staff (as of November 2020)

  - ✧ KPI for We Hub
    Each project has its own set of organizational and individual KPIs that match the timeline of each project.

  - ✧ Number of Startups supported and the results of fundraising
    Total number of startups supported so far: TBC
    The result of FY2020: 224 startups (Supported separately 186 enterprises which are according to the definition of government of India MSME – The registered units)
    Total amounts of funds of startups supported so far: INR 8.5 Cr
    Top 5 startups fundraised: INR 4.00 Cr in total

  - ✧ Assesments and evaluations on trainees' capacities in the capacity building projects
    Depending on the program being run and the partner in the project, metrics are drawn out before the project starts. We also run a baseline and ends line analysis to check for the effectiveness of the program.

  - ✧ Subprojects under ODA Loan Projects
    - ✓ GS-P2"Creation of 66 Model Innovation Schools over next 5 years": To facilitate the creation of student innovators in Telangana, it is critical that we provide the right stimulus, infrastructure for the students in the school itself. Thus, we aim to convert 66 government schools of Telangana into model schools.
    - ✓ GS-P12"Dedicate Support Fund for women-led MSMEs": This fund is for women-led MSMEs. The funds would be used to help MSMEs with enterprise establishment and scale-up, Marketing

and branding materials, automate their production processes through the introduction of a technological component and to help them reach newer market opportunities.

- ✓ SS-P3"Girls/ Women in STEAM and Entrepreneurship": 'The sub-project will focus on both schools and colleges.to provide exposure though specific courses, hackathons, and Hands-on workshops to get more women sensitized to the field of STEAM.

- ✦ Implementation process of subprojects (Finance)
  - ① For each project, a core team is assigned with a program manager and project coordinators.
  - ② An eligibility criteria/applicant profile is defined as per the program and accordingly, applications are called for through social media channels and local news media - depending on the target audience.
  - ③ For every program at WE Hub, a detailed outreach strategy is prepared. The application form so created at each stage will be circulated in the defined channels. Depending on the program, applicants have to submit their company incorporation certificates, GST Registration number, Bank statements, ITR for the year and P&L/Balance Sheet documents and any other licenses as per the sector of the firm.
  - ④ An evaluation matrix is created to review and shortlist the applicants along with external stakeholders. Based on the consolidated remarks, applications are approved. External Stakeholders refer to sector specific subject matter experts and mentors.
  - ⑤ Investment Advisory Committee approves the funding, and We Hub makes the grants payments (by instalments) and manages the payment. The instalments are defined based on defined goals and milestones. This will be on a case-to-case basis and will depend on the sector and scale of the entrepreneur in question. The first round of installment will be for 50% of the defined project cost. Based on the deliverables achieved and utilization certificate shared, the remaining fund will be disbursed. There will be a minimum of two tranches for the payment and a maximum of three tranches.
  - ⑥ The accounts and finance team at WE Hub will be in charge of the fund disbursement and ensuring that the statutory compliances are met.
  - ⑦ Phase wise timelines are created for each subproject along with Key Performance Indicators. Half yearly assessments are carried out accordingly.

    About "phase"

    1st phase: The first phase containing a timeline of 6 months consists of identification of the entrepreneurs and giving them the required handholding support to establish their enterprise.

    2nd phase: The second phase of the project with a timeline of 3 months is focused towards building strategies to increase the market reach of the concerned enterprise.

    3rd phase: The third phase of 3 months, is focused on ensuring that the internal processes of the organization are streamlined.
  - ⑧ Internal Monitoring and Evaluation is based on the metrics defined for each project. External M&E is conducted based on the projects and where external funding agencies (Source of funding (varies by project)) are involved. The monitoring and evaluation of the program is dependent on the entrepreneur's advancement with respect to revenue, product quality or diversification, market access, external investments and employee numbers.

- ✦ The results and outcome of other projects similar to subprojects (Refer to the Appendix2 for details)
  - ✓ We-Hub have started work on several subprojects which were outlined in the project such as policy framework, EDPS, Grant activity among others. The projects are ongoing, and results will be due in the next 3 weeks.

  Similar projects for each subproject
  - ✓ GS-P2、SS-P3：The student Entrepreneurship Pillar

    We-Hub have engaged with 2,237 students so far between the age group of 13-23. The project has started December 2021 and is expected to be completed by March 2022.
  - ✓ GS-P12：An 18 Month program

    The 18-month program of revolving fund is being implemented which will complete its 18 month in April. Under this INR 10 lakh is allocated to 5 Women led MSMEs; as they needed working capital support after first wave of Pandemic. The success rate is almost 97%, which refers to the functioning of the above mentioned MSMEs and their efficiency to payback in 3 installments after 18th month to some more selected entrepreneurs (revolving fund will be passed on to the next entrepreneur)

- ➢ T-Works
  - ✦ Overview of the organization and mission
    - ✓ It is the largest prototyping (trial production of hardware and software）center in India. It provides incubation and skills development services in addition to prototyping.
    - ✓ In subprojects under ODA Loan Project, T-Works will implement projects on building infrastructure, skill development and products development.

  - ✦ The budget for the latest five years (FY2016-2020)

    FY2016　No budget

    FY2017 Budget 0, Expenditure 0.89 Cr

    FY2018 Budget 2.30 Cr, Expenditure 1.72 Cr

    FY2019 Budget 1.50 Cr, Expenditure 1.91 CrFY2020 Budget 3.38 Cr, Expenditure 3.08 Cr

  - ✦ Number of Staff

    27 staff (as of October 2021) increased from 21 staff (as of November 2020)

  - ✦ KPI for T-Works
    - ✓ Equipment usage(%): Percentage of time that machines in T-Works are in use. This is a primary metric that reflect the usage of the prototyping tools and machinery.
    - ✓ Number of solution seekers: Number of inbound queries to T-Works seeking product prototyping and development assistance. This reflects T-Works visibility and is an outcome of customer success.
    - ✓ Number of Prototypes: Number of prototypes or parts shipped.
    - ✓ Number of successful products through in-house R&D: Number of products developed using in-house R&D funds that reach the intended user.

✓ Revenue generated through products and services: The income generated through sales of in-house products and services.

✧ Number of Startups supported and the results of fundraising
Total number of startups supported so far: over 161 startups (mentoring 91, prototype 50 over, development products 20)
The result of FY2020: TBC
Total amounts of funds of startups supported so far: No results because T-Works does not implement incubation program.
Top 5 startups fundraised: The following are the fundraising results by companies that have used T-Works programs;
1. Skyroot Aerospace – 11 million USD
2. Adonmo – 3.3 million USD
3. RACENergy – 2 million USD
4. Althion – 0.27 million USD
5. Jarsh Innovations – 0.14 million USD

✧ Assesments and evaluations on trainees' capacities in the capacity building projects
✓ Tool usage (Example: Software design tools such as CAD, Equipment such as 3D printing)
Pre-Program: For intermediate and advanced courses, a baseline assessment will be carried out prior to program. During and after program: Design and fabrication assignments during and after the course.

✓ Process and Methodology (Example: Product Design and Prototyping)
It will be asessed through working prototypes, and participants will provide Lessons Learnt presentation.

✧ Implementation process of subprojects (Standard process)
① The Solution Seekers (potential participants) will submit the query to Marketing & Communications team of T-Works.
② Marketing & Communications team will send it to Solutions team, and Solutions team check the requirement of each document.
③ If it passes the process of Solutions team, Tech team will evaluate the feasibility by technical points.
④ If it passes the technical evaluation, Solutions team and Tech team will have discuss the project doable.
⑤ If it passes the project doable, Tech team will prepare SoW (Statement of Works), and directors will approve the SoW and finalize costing.
⑥ After the approval, Project team will appoint the Solution Seeker(participants) and do monitoring by the end of the project.

- ✧ Subprojects under ODA Loan Projects
  - ✓ GS-P5 "5 Mini T-Works in 5 Districts of the proposed IT Towers": Building construction and procurement of minimal interiors, furniture for mini T-Works in order to conduct an action and learn prototype creatinon in rural area for grassroot innovators.
  - ✓ GS-P7 "Rural Innovation Development Program (RIDP) at T -Works, Hyderabad": Provide innovation development program including in mentoring for any Grassroot Innovator coming from any channel
  - ✓ SS-P15 "Design and Development of low cost medical devices": To develop medical device products with innovators.

- ✧ Implementation process of subprojects (Capacity Develpoment)
  - ① PROMOTION (Implementation partner: Telangana State Innovation Cell(TSIC): Collaborate with organisations such as Palle Srujana and the National Innovation Foundation (NIF) to promote the program. Use relevant online and offline channels to spread awareness.
  - ② APPLICATION: Applications will be accepted in the form of a short video demonstration of the innovation. This must be supported by video testimonials from at least two past or present users.
  - ③ SELECTION AND AWARDS：A selection panel of representatives from T-Works, nominees from partner organisations and stakeholders will shortlist top 10 entries. Top three will be awarded a cash prize. All ten will be offered admission into the fully funded support program.
  - ④ PRODUCT DEVELOPMENT：T-Works will provide funding, technology and design support, and prototyping and fabrication assistance over a period of 12 months.
  - ⑤ SCALING: T-Works will collaborate with partners to take the product to market.

- ✧ Implementation process of subprojects (Infrastructure)
  - ① A committee will be constituted by T-Works to assess sites for establishment of mini T-Works.
  - ② Project implementation and monitoring will be put in place with inputs and contribution from host institutions and partners.
  - ③ In terms of the procurement process of contractors, equipment procurement process is governed by procurement policy of T-Works Foundation. Equipment with value above INR 250,000 is procured through an open tender. The tender process is overseen by the Tender Committee. Member of the Tender Committee (as of February 2022):
    1. CEO, T-Works (Committee chairperson)
    2. Scientist, Research Centre Imarat- Defence Research and Development
    3. General Manager, Telangana State Technology Services
    5. Chief Engineer, TSIIC
    6. Director, T-Works

- ✧ Procurement Process based on "T-WORKS FOUNDATION PURCHASE POLICY"

- ✓ Equipment Procurement Process is governed by procurement policy of T-Works Foundation. Equipment with value above Rs.2,50,000 is procured through an open tender. The tender process is overseen by the Tender Committee.

① Creation of Purchase Requisition (PR): User department shall raise material indent as per their requirements (i.e., Materials /Consumables/Bought Outs/Services/Capital items) which contains the details such as Purchase requisition Number, Name of the item /product. Specifications/Drawings, Quantity& Unit description, Expected Delivery date of the item/product.

② The Procuring Entity should take following decisions to initiate Procurement within 10 working days of receipt of the intent from the user Department.

- ✓ **Identification of Suppliers – For purchases under Rs. 2.5 Lakh**

③ After final Approval of PR by Purchase Committee concerned as mentioned above, it shall check for any existing Purchase Order (PO) with the vendors of same material. If any PO exists, orders should be placed. In case no PO exists then the Purchase Dept. shall initiate supplier search and later float RFQ (Request for quotations) with identified vendors.

④ Quotation Comparison Statement (QCS) is prepared by the Purchase dept. and suppliers are short listed for negotiations. Short listed suppliers are invited for negotiations.

⑤ Based on the discussions of terms and conditions during negotiation with all the selected vendors, the Purchase department should finalize the Vendor after considering the proposed changes in respective vendor's quotations. The Purchase Department from its Vendors should collect and maintain the related documents, and then purchase order will proceed.

- ✓ **Procurements exceeding the threshold of Rs. 2.5 lakh: Tender**

The standard bidding documents (SBD) would be complete and implement a tender. In addition, the tender process is overseen by the Tender Committee.

① Open Tender (including Online Tender)

   Open Tender Enquiry (OTE) or Global Tender Enquiry (GTE))

② Limited Tender Enquiry (LTE)

✧ The results and outcome of other projects similar to subprojects (Refer to the Appendix2 for details)
Similar projects for each subproject

- ✓ GS-P5: Procuring tools, machinery and related infrastructure for Phase-1 of the prototyping centre
- ✓ GS-P7: Rural Innovation Development Program
  In the case of Biopot, which T-Works are supporting through this project, T-Works supported a 14 year-old female student to make a prototype, which led to job creation in a rural village.
- ✓ SS-P15: Affordable and accessible healthcare devices
  Through this program, GE Appliances have been developing Oxygen Concentrator and have maintained oxygen concentration of 90% or more without any issues for more than 200 hours. This has led to the creation of jobs in the assembly of machinery, the provision of healthcare, and the creation of markets through collaboration with local companies in the design of equipment.

- ➤ TSIC
  - ✧ Overview of the organization and mission
    - ✓ Promoting the culture of innovation and entrepreneurship in Telangana, promoting innovation in government agencies and departments, and fostering an innovation culture at the school level
    - ✓ In subprojects under ODA Loan Project, TSIC will provide various types of projects in terms of capasity development, fainance and infrastructure.

  - ✧ The budget for the latest five years (FY2016-2020)
    FY2016 Budget N/A
    FY2017 Budget 0.74 Cr, Expenditure Not answer
    FY2018 Budget 0.71 Cr, Expenditure Not answer
    FY2019 Budget 1.12 Cr, Expenditure Not answer
    FY2020 Budget 2.60 Cr, Expenditure Not answer
    Since the scale of the organization was small from 2017 to 2020, the budget was allocated together with T-Works and We Hub. From 2021, an independent budget was officially allocated as TSIC.

  - ✧ Number of Staff
    14 staff (as of October 2021) increased from 11 staff (as of November 2020)

  - ✧ Roles of each department (KPIs or goals and missions)
    TSIC is a section 8 company and has defined KPIs as an organization and for each of its team members. The following is an abstract of the main objectives for each section.
    - ✓ Sustainability and Scalability: To develop & facilitate the process of prototype and product development among innovators in the state of Telangana., To support ideas which have high potential to impact population of Telangana State on scale, To facilitate market access for innovators and entrepreneurs, etc.
    - ✓ Grass roots Innovation: To formulate, initiate and execute Village Innovation Challenge 2022 in at least 2 districts of Telangana, To monitor Start-ups Telangana's Mentor Portal and Recognition process, To revive the Grassroots Advisory Committee and formally launch the revised version of the Grassroot Innovation Framework (GIF), To formally recognise at least 75 innovators through the Innovator Recognition Form, etc.
    - ✓ Innovation in Education: To Enable the school community of Telangana to become Problem Solvers and Solution Finders by equipping them with design thinking skills, Life Skills and Entrepreneurial Skills in order to nurture the innovation culture, To Enable the College community of Telangana to become Problem Solvers and Solution Finders, nurture as change makers in order to address diverse social challenges., To set up an Advisory/Mentor Committee for Innovation in Education vertical comprising of Academia, Researchers, Government Officials and Teachers for designing and implementing efficient interventions, etc.
    - ✓ Social Innovation: To forge collaborations and exemplify Telangana based social innovators and start-ups, To provide a support ecosystem for the Social Startups in Telangana through mentorship, market access and government connect, To increase the Telangana Social Start-up

Network (TSSN) database, curate programs to facilitate the social start-ups based on their individual requirements, etc.

- ✓ Diffusion of innovations and marketing: To strategize TSIC's position and enhance the organisation's work at national-level through a forum - World Innovation Day 21st April 2022, To set standard processes for Media & Communication vertical, To set up and execute call communication structure for beneficiaries for the SSR 2020
- ✓ Program Operations and Admin: TSIC team defines result oriented Goals /objectives/ outcomes/output, TSICs systems strengthened and prepared well to scale up the operations, o ensure timely administrative support for all the TSIC team members, etc.

✧ Number of Startups supported and the results of fundraising
Total number of startups supported so far: it launched Telangana State Startup portal by TSIC and so far has recognized 243 startups
The result of FY2020: Unspecified
Total amounts of funds of startups supported so far: With the launch of Telangana State Startup portal, TSIC is planning to follow-up on funds raised by startups that received support.
Top 5 startups fundraised: Unspecified (one of TSIC's flagship programs, 8 startups received a market access worth INR 0.80 Cr)

✧ Assesments and evaluations on trainees' capacities in the capacity building projects
TSIC assess the impact created by these training sessions by conducting pre and post surveys with appropriate questions in place. TSIC have partnered with Verdentum who is a leading Impact Measurement organization to coordinate and track impact created by our flagship School Innovation Challenge 2020.

✧ Implementation process of subprojects (Including business trip to district)
TSIC will assign a Single Point of Contact (SPOC) to coordinate with T-JICA PMU team which will be set up for implementing the subprojects under the ODA Loan Projects, and in turn this SPOC will be empowered to take decisions by working closely with the respective IA leader(s) and also work with internal resources as needed.

✧ Subprojects under ODA Loan Projects
- ✓ GS-P1"Regular Innovation Yatras, Sodha Yatras, outreach events, briefings, sensitization workshops, and exploratory research.": The objective of the program was to build the capacity of the existing innovators at the district level and creating awareness around the available opportunities in the state.
- ✓ GS-P4"State-wide scouting, exhibition, recognition of new and existing Grassroot Innovators through Village Innovation Challenges and Intinta Innovator Exhibition for the next 5 years.": Intinta Innovator exhibition aims to scout, exhibit, and recognize existing grassroot innovations. Village Innovation Challenge aims to create new grassroot innovators out of the village youth.
- ✓ GS-P6"Network for Promotion of Grassroot Innovation (NPGI) & Committee for Promotion of Social and Grassroot Innovation (CPSGI)": During the first two years, this sub-project focusses on

creation of the Committee for Promotion of Social and Grassroot Innovation and piloting the Network for Promotion of Grassroot Innovation (NPGI). The framework once in place would then be easily scaled-up by the efforts from the stakeholders of NPGI, just like the E-Cell activation that had happened organically in the past.

- ✓ GS-P8"Exposure visits, trainings and academic programs for Grassroot Innovators (maximum of 20 in a financial year)": Provide a program go exposure visits, trainings and academic programs for Grassroot Innovators

- ✓ GS-P9"Setting-up a dedicated Grassroot Innovation Fund (GIF) of ₹ 100 Cr ($14.3 MM).": Taking Innovation from one stage to another stage involves testing of ideas in practice. At this stage investment in prototypes and pilots is required to get ideas off the ground. Public funding will encourage co-funding by the foundations and other private organizations around the specific issues.

- ✓ GS-P10"District Procurement Fund for procurement of Grassroot Innovation Products": Supporting the initial procurement of such innovations by the District Administration, and it will be an advantage to the innovator and further helps in access to other markets and reach larger customers.

- ✓ GS-P11"Dedicated Scale-up Fund": Supporting innovators by providing investments funds

- ✓ GS-P18"Setting-up of a pioneering educational institute for student Grassroot Innovators": The Innovation Institute aims to become an institution that provides experimentational and innovative curriculum in a practical way to young students who wants to take grassroot innovation as a way of life.

- ✓ SS-P1"Creation of 4 sandboxes on the lines of Kakatiya Sandbox of Nizamabad.": To create the Sandboxes on the model of Kakatiya Sandbox of Nizamabad, and providing a chance to raise matching grant from the government.

- ✓ SS-P6"Government Mentorship Program for 20 government departments in the next 5 years.": Through the Government Mentor Program, we are not aiming to leverage Business Skills of the government officials, but rather their decades of experience in providing welfare schemes, understanding the need of the customer in a very detailed way, and the knowledge as to what might work as a solution.

- ✓ SS-P9"To create T-JICA, an interactive platform with details about all the projects actively supported by JICA.": To create T-JICA, an interactive platform in order to collaborate with Japanese ecosystem.

- ✦ Implementation process of subprojects (Capacity Development)
  - ① For every subproject, an advisory committee will be identified to advice on the contours of the project and assess the project progress.
  - ② An explicit website with the project details and application form will be built to initiate a call for application.
  - ③ Marketing strategies will be defined to reach out to the target audience for them to apply within the set deadlines.
  - ④ A jury to evaluate the received applications and evaluation criteria will be defined before we close on the applications window. Multiple screenings will be done to identify the cohort applicants.

⑤ Also, Subject Matter Expert professionals will be hired to manage, and they will put together a disbursement & monitoring machinery under the able guidance of the advisory committee.

✧ Implementation process of subprojects (Finance)

The orders are issued by ITE&C Department to promote the innovators and startups with Grassroot and Rural impact. It describes the objective, types of incentives, grants, eligibility criteria, application process, monitoring and evaluation etc. for easy implementation of the financial projects.

① TSIC has a Grassroot Advisory Committee (GAC) that plays a consultative role to advise on the vision, goals and approach/strategy for the grassroot and social innovation ecosystem in Telangana.

The committee will advise on the criteria of recognizing the innovators and will provide recommendations on various schemes, grants, to be provided to the Innovators and the startups with grassroot/rural impact.

The Grassroot Advisory Committee is composed of members from the Government, Academia and the Industry. The CIO of TSIC will be the Convener of the Committee.

② An online application form will be provided, and applicants will submit it to the TSIC Fund Team along with a video or photo of the technology, etc. for which they are applying.

③ 100 companies/organizations will be shortlisted by the Fund Team based on 8 basic evaluation criteria*, including whether they meet eligibility requirements and whether they are innovative.
*evaluation criteria:1) Is it a valid application, 2) Is it from a Telangana resident, 3) Is it for a local community issue, 4) Is it innovative, 5) Is it feasible and scalable, 6) Is it likely to have an impact on the local community, 7) Is it innovative enough to be prototyped, 8) Viability & Scalability

④ Based on the short list, the Grassroot Advisory Committee will narrow down the top 25 companies and organizations based on the following four criteria: 1) potential impact on the local community, 2) innovation that can be prototyped, 3) Viability & Scalability, and 4) judges' scores.

⑤ Provide grants or loans through the Investment Manager, with final approval by the Investment Advisory Committee, and managed (including monitoring and evaluation) by the Investment Manager.

⑥ Grants are disbursed and monitored using the "grant utilization sheet" submitted quarterly by the startups. Loans are disbursed based on milestones agreed between TSIC and the companies.

✧ Implementation process of subprojects (Infrastructure)

① Establishment of Steering Committee. Composed of Academia, NGOs, Experts, CIO, CEO TASK, and DG RICH. 2 project staff and 2 interns will be assigned.

② Establishment of an Advisory Committee (advising the Steering Committee)

③ Identify land and location to build the Innovation Institute.

④ A steering committee and an advisory committee will be formed to guide the construction process.

⑤ TSIIC procure consultants, contractors, materials and equipment , and monitor the implementation.

⑥　Execute the construction of the Innovation Institute

⑦　TSIC oversee and evaluate projects.

❖ To fulfil the requirements for environmental and social considerations
The project is being carried out in accordance with "the Local Authority Approval for Construction".

❖ The results and outcome of other projects similar to subprojects (Refer to the Appendix2 for details)
Similar projects for each subproject
  ✓ GS-P1：T-Innovation Yatra 2020
    It provides a 4-day journey that aimed to make participants explore the real-time frugal innovations and expand their knowledge beyond the horizons of traditional ideation. 120 youngsters have been sensitised through exposure to Grassroots Innovators, Idea validation Bootcamp.
  ✓ GS-P4：Village Innovation Challeng
    Village Innovation Challenge is an attempt to nurture the mindsets of Unemployed Rural Youth through the approach of establishing a culture of Innovation. 400 youngsters in total from diverse academic backgrounds have been made aware of Frugal Innovation & Sustainable Problem-Solving skills.
  ✓ GS-P6：As of December 2022, no further response was received; will need to be confirmed in the future.
  ✓ GS-P8：Social Media Workshop for Grassroots Innovators
    A 3-day Social Media workshop has been conducted for 10 Grassroots Innovators with Market-ready solutions that aimed to turn the innovators into storytellers of their own innovation journey by sensitizing them on Twitter, Facebook, Instagram. They have also been sensitised on designing posters and videos through various softwares.
  ✓ GS-P9, GS-P10, GS-P11：Telangana State Innovations with Rural Impacts Incentives (TSIRI)
  ✓ GS-P18：NA
  ✓ SS-P1：Kakatiya Sandbox
    The 1st Sandbox came up in Hubli, Karnataka more than 15 years ago, and Kakatiya Sandbox has stayed in operations for more than 8 years. It mainly supports agriculture, micro-enterprises, startups and skilling, and has established a hub in the northern region of Telangana to provide infrastructure.
  ✓ SS-P6: Government Mentor Program
    This project is already implemented, and GMP has successfully broken the systematic cultural barriers between Startups and Government through their mentorship programme where startups understand how bureaucracy works and government officials are introduced to the potential of emerging technologies in solving citizen-centric problems around governance.
  ✓ SS-P9: The Telangana State Startup portal
    The TSIC has already launched the Telangana State Startup portal to engage and support startups. It has been providing mentoring startups and so far, has recognized 243 startups.

- ➢ TASK
    - ✧ Overview of the organization and mission
        - ✓ Management of training programs aimed at improving skills in industry and support for matching companies with human resources.
        - ✓ In subprojects under ODA Loan Project, TASK will provide a project to develop entrepreneurial human resources in rural areas is planned.

    - ✧ The budget for the latest five years (FY2016-2020)
        FY2016 Budget 1.76 million USD, Expenditure 2.22 million USD
        FY2017 Budget 1.83 million USD, Expenditure 1.95 million USD
        FY2018 Budget 1.18 million USD, Expenditure 1.43 million USD
        FY2019 Budget 2.33 million USD, Expenditure 2.23 million USD
        FY2020 Budget 2.07 million USD, Expenditure 0.83 million USD

    - ✧ Number of Staff
        72 staff (as of October 2021) decreased from 88 staff (as of November 2020)

    - ✧ Roles of each department (KPIs or goals and missions)
        KPIs for each organization are set for each of the seven Focus Areas. In addition, KPIs are set separately for each position, such as project manager and accounting manager.
        KPIs for each organization are described below.

        Investor Expectation:
        1. Establish TASK Center in Nizamabad, Sircilla Districts
        2. Periodic Branding on Vale Created through TASK through various mediums
        3. Expand to new domains – Life Sciences, Pharma, IT Emerging Technologies, Aerospace
        4. MOU's periodic monitoring

        Academic Relations:
        1. 85% Existing Colleges Renewal and 10% new colleges to the added
        2. TASK awareness session to be completed in every registered colleges
        3. Every Registered college to be offered at least one skilling program a year
        4. Principals/TPO meet for the year
        5. 20% increase in Faculty Development Programs

        Soft Skilling:
        1. Professors of Practice sessions to cover 60% of TASK Registered colleges
        2. Basics of English + 1 new skill pilot to enhance reach across Rural Districts
        3. Expand Reach of Aptitude & Reasoning Sessions

        Technology Skilling:
        1. Renewal of existing partnerships with a 10% growth on last year skilling numbers
        2. 2 Emerging Technology service offering to be included
        3. Technical Skilling Calendar for the year to be published on a quarterly basis

        Internships, Placement Drive & Finishing Schools:

1. 20% growth in numbers over last year placements, internships, industry visits and placement drive

2. 30% growth in Finishing School numbers over last year

Government Focused Initiatives:

1. ESDM Skilling – Meet targets allocated to us

2. GIGW guidelines compliance, 80G, FCRA & 12 A Exemptions

3. TASK Portal and Mobile App uptime 90%

TASK Team Development:

1. Standardized Role / Job Descriptions to be in place

2. Annual yearly appraisals

3. Need based training

◇ Number of Startups supported and the results of fundraising

Total number of startups supported so far: 33 Startups (Another information, from 2014 to 2019, the Technical Entrepreneurship Program (TEP) supported more than 2000 startups.)

The result of FY2020: N/A

Total amounts of funds of startups supported so far: TASK is not into raising funds.

Top 5 startups fundraised: N/A (As part of TEP in the past TASK was able to help create about 10 startups. As an example, one of the startups Jarsh Innovations was able to raise INR 1.2 Cr (or 1.61 million USD).

◇ Assesments and evaluations on trainees' capacities in the capacity building projects

The training is adopted with polls, surveys, and assignments on every module during and after the capacity-building training.

◇ Subprojects under ODA Loan Projects

✓ GS-P3"Setting-up Innovation and Entrepreneurship Development Cells (IEDC) in 200 rural colleges of Telangana.": Aiming to create 75,000 rural/social entrepreneurs in the next five years, 200 universities will provide entrepreneurship programs to rural youth in Telangana.

◇ Implementation process of subprojects

· The subproject will be monitored by the TASK's steering committee headed by CEO TASK.

· The regional PMU's shall monitor the project at a regional level.

· There would be weekly updates, fortnightly traffic-light report, monthly reporting as well as well as a quarterly review.

· This will be run with the help from the existing staff of TASK; 1 Senior PM, 1 Team Lead, 3 Contributors

· Regional PMU staff will supplement. In addition we are also planning an advisory board which will guide and support us with the program

- ✧ The results and outcome of other projects similar to subprojects(Refer to the Appendix for details)
  - ✓ GS-P3：The i4TS program, which focuses on social innovation and rural entrepreneurship, is online for rural youth. A subproject of the ODA Loan Project is also scheduled to be implemented within this program (details are currently being checked) , and batch2 is conducted the from Feburuary 2022.

    They launched the program jointly with Head Held High Foundation and with multiple ecosystem partners – IIT Hyderabad; IIIT Hyderabad; T-Hub; WeHub; TSIC; T-Works; RICH; ISB; NIT Warangal; TIE Hyderabad; TSAT; GiAN; Global Alliance for Mass Entrepreneurship (GAME); JNTU; Kakatiya Sandbox; & SRiX.
  - ✓ The example of the i4TS program

    1. iEAP：

    TASK felt that before we take about entrepreneurship, it was important to start with an 'Innovation and Entrepreneurship Mindset Development' program, which was offered to over 7000 youth over a period of 5 weeks. We also linked the program with the SDG's and decided to focus on 5 areas - Healthcare; Education, Skills and Employment; Green Economy; Agriculture & Improving last mile access (i.e. 1 area per week). Each session comprised of one hour live bilingual session (interactive with activities & case video's followed by an expert explaining problems in the SDG area for the week. This was the concluded with a half an hour session with two entrepreneurs who have been working in that area.

    2. iEDP (Innovation and Entrepreneurship Development Program：) :

    There are 12 sessions for providing entrepreneurship program including problem Identification,Problem solving, Data analysis, Introduce and review Mission Model Canvas, Getting pitch ready.

- ➢ RICH
  - ✧ Overview of the organization and mission
    - ✓ Established in 2017 to create powerful synergies among research institutions, academic institutions, industry and entrepreneurs.
    - ✓ Support for the commercialization of research results from more than 200 target companies mainly in the space, agriculture and life sciences fields through collaboration with more than 15 external partners
    - ✓ In subprojects under ODA Loan Project, RICH will provide an initiatives related to agriculture and life sciences and collaboration projects between related organizations.

  - ✧ The budget for the latest five years (FY2016-2020)

    FY2016 Budget N/A (RICH was set up in the year 2017, Hence, 2016 budget information isn't applicable.)

    FY2017 Budget 1.21 Cr, Expenditure 1.21 Cr

    FY2018 Budget 1.53 Cr, Expenditure 1.45 Cr

    FY2019 Budget 0.35 Cr, Expenditure 1.37 Cr

    FY2020 Budget 4.87 Cr, Expenditure 1.29 Cr

- ✧ Number of Staff

  7 staff (As of October 2021. 2 additional staff after November 2021) increased from 5 staff (As of November 2020)

- ✧ Roles of each department (KPIs or goals and missions)
  - ✓ Organizational qualitative KPI
    1. To onboard the Research-Academic institutions, incubators, industries, Government agencies and connecting them towards fostering innovation that solves the problems in the society
    2. To forge business alliances and partnerships towards transforming research into impactful and thus create viable solutions that generate wealth, employment and create social good
    3. Facilitate transfer of disrupting technology interventions to address societal problems
  - ✓ Employees' organizational KPI is based on their divisional KPI.

- ✧ Number of Startups supported and the results of fundraising

  The result of FY2020:200 startups

  Top 5 startups fundraised: INR 15 Cr

- ✧ Subprojects under ODA Loan Projects
  - ✓ SS-P10 "To reduce malnutrition among the rural, tribal populations of Telangana": Providing support and capacity building training for startups producing nutritious foods with governments.
  - ✓ SS-P11 "To develop practical, easy to use, cost effective solutions for water and waste management for urban poor in Hyderabad.": providing solutions for a critical vulnerable zone in Hyderabad in terms of water and waste management
  - ✓ SS-P12 "To reduce vector-borne diseases in Hyderabad through scientific vector control measures": Develop a comprehensive vector-control protocol involving all the identified technologies. These technologies will be implemented in one of the identified water bodies in Hyderabad.
  - ✓ SS-P13 "To create an AI-based, easy to use solution - DHARA WASH": This is a pilot phase of the project and to develop a solution technology in terms of WASH.
  - ✓ SS-P14 "To build a demonstration cum experimentation facility for small farmers and small Agri manufacturers to improve farm productivity.": The proposed facility will be established and managed fully by RICH. RICH will involve the research institutes, academic organizations, industry associations for specific activities focused in promoting agro-innovations

- ✧ Standard implementation process of project
  - ✓ Project Proposals jointly prepared by RICH
  - ① The sector Directors and the leadership at RICH identify problem statements for each sector and reach out to varied stakeholders including research/academic institutions, industry, startups, NGOs and government entities to formulate a project to solve the identified problem.

② Detailed deliberations are held between RICH and participating organizations on the scope and viability of the project.

③ The proposed solution is evaluated on the basis of following factors: Technical strength, Usability, Product differentiation, Market potential, Readiness, Unique attributes and Impact potential.

④ Each project undertaken by the company will have a dedicated committee consisting of key senior members of the participating organizations of that project who will oversee the activities and monitor the progress of the respective project.

✓ Proposals received by the RICH:

① RICH receives the proposals for from startups, Research-Academic institutions, Incubators, Industries, Government Agencies in Food & Agriculture and Lifesciences sectors.

② These are initially reviewed by the vertical head in RICH.

③ It appraised and selected by a designated evaluation committee.
Evaluation Committee.
For every sector, RICH onboards subject matter experts relevant to the domain and the project. The committee consists of about four members from the private sector, researchers, government officials, etc., according to sector.

④ The vertical head monitors the implementation.

✧ The results and outcome of other projects similar to subprojects (Refer to the Appendix2 for details)
Similar projects for each subproject

✓ SS-P10 : Project for creation of RT-PCR test kit
No detailed information on the project was provided by RICH as of December 2022.

✓ RICH has conducted a short-term baseline study on the nutrition status of women and adolescent girls in Vikarabad, district of Telangana, supporting the project SS-P10. Results of the study are alarming, and the subject need immediate nutritional interventions.

✓ SS-P11、SS-P12、SS-P13、SS-P14 :
"City Cluster Project"
The idea that led to its establishment was to create an organization that would connect various research institutes and create a place where each could collaborate.
"BioAsia"
This rapidly evolving superfluid market is putting pressure on the life sciences (LS) companies to change their business models and personalize their products and services. The question life sciences companies must address urgently is how they should be preparing themselves for the coming future.

➤ TSIIC

✧ Overview of the organization and mission

✓ Responsible for the development of infrastructure in Telangana, including the development of industrial areas.

✓ In subprojects under ODA Loan Project, TSIIC will provide an infrastructure development such as industrial park development.

◇ The budget for the latest five years (FY2016-2020)

FY2016 Budget 1,203.77 Cr, Expenditure 881.48 Cr

FY2017 Budget 1,008.65 Cr, Expenditure 827.89 Cr

FY2018 Budget 1,434.61 Cr, Expenditure 792.07 Crr

FY2019 Budget 818.19 Cr, Expenditure 752.17 Cr

FY2020 Budget 805.31 Cr, Expenditure 540.88 Cr

◇ Number of Staff

84 staff (as of October 2021) decreased from 98 staff (as of November 2020

◇ Number of Startups supported and the results of fundraising

N/A. (TSIIC focuses on developing infrastructure. It does not support SU directly.

◇ KPI

N/A

◇ Standard implementation process of projects

  ✓ Procurement Process of Consultants and Contractors

    (Led by Projects Wing for Consultants and Engineering Wing for Contactors)

  ① RFP is prepared

  ② RFP is placed for open bidding

  ③ Proposals received are evaluated based on technical and financial criteria

  ④ Lowest bidder based on criteria in RFP is selected and letter of award is issued.

  ⑤ Work is taken up by the Consultant/Contractor

  *Selection of Contractors is undertaken through online tendering system (e-procurement)

  ✓ Quality Management

  TSIIC gives its opportunity to its Contractors the opportunity to procure based on the technical specifications/Product specifications provided in the Technical Scope of works and ensures quality of work through its constant check at 4 stage level i.e.

  ① Inspection by Manager at site

  ② Inspection by Zonal Manager

  ③ Inspection by Head Office officials

  ④ Third Party Checks by a third-party quality consultant.

  ✓ **Implementation structure to fulfill the requirements for environmental and social considerations**

  Environmental Clearance is obtained as per The EIA Notification 2006

  • Below 50 Hac: Environmental Clearance is **not required**

    1. Consent for Establishment (CFE) is obtained

    2. Engaging the Environmental Consultant through Tenders (RFP)

3. Submission of CFE Form through TS-iPASS + meeting with CFE Committee

4. CFE obtained

*TS-iPASS: Telangana State Industrial Project Approval and Self- Certification System

- 50 Hac and above: Environmental Clearance is **required**

1. Engaging the Environmental Consultant through Tenders (RFP)

2. Collection of Data & preparation of Form –I, Prefeasibility report & submission to TSPCB/MoEF&CC*

   *TSPCB/MoEF&CC: Telangana State Pollution Control Board および Ministry of

   Environment, Forest and Climate Change

3. Approval of TOR

4. Baseline data study (3 months)

5. Preparation of Draft EIA Report, submission for Public Hearing as required

6. Final EIA Report submission to SEAC

7. Environmental Clearance is issued by SEIAA (State or Union territory Level Environment Impact Assessment Authority (SEIAA)) based on recommendation by SEAC

✧ Subprojects under ODA Loan Projects
   ✓ GS-P13"Zaheerabad- National Investment Manufacturing Zone (NIMZ)": Zaheerabad NIMZ is proposed to be developed as an integrated manufacturing cluster with allied technical infrastructure (institutes, R&D centres, laboratories, testing & certification facilities, tool rooms, training centres etc.,) and social infrastructure (including housing, education, health, recreation, leisure etc.,).
   ✓ GS-P14"Kakatiya Mega Textile Park at Warangal": The Kakatiya Mega Textile Park at Warangal offers industrial space for Textile and Apparel Industry with state-of-art manufacturing facilities and integrated common infrastructure.
   ✓ GS-P15"Development of MSE Parks": Targeted 17 industrial areas will be developed for SMEs in Telangana State.
   ✓ SS-P16"Setting-up of Common effluent treatment plant with zero liquid discharge (ZLDs).": Setting-up of Common effluent treatment plant at 5 Industrial parks in Telangana.

✧ The results and outcome of other projects similar to subprojects (Refer to the Appendix2 for details)
   Similar projects for each subproject
   ✓ GS-P13, GS-P14, GS-P15, SS-P16：
   ・ Fab City

   ✓ SS-P16
   ・ Mega Food Park
     The primary objective of the Mega Food Park is to provide modern infrastructure facilities for the food processing along the value chain.

- Khammam

- TIHCL
  - Overview of the organization and mission
    - ✓ Providing microfinance and consultation services to SMEs that are in short of funds
    - ✓ In subprojects under ODA Loan Project, TIHCL will also provide a financial support to MSMEs in an expanded structure.

  - The budget for the latest five years (FY2016-2020)
    FY2016 Budget NA, Expenditure NA
    FY2017 Budget 0.22 Cr, Expenditure 0.95 Cr
    FY2018 Budget 0.52 Cr, Expenditure 1.76 Cr
    FY2019 Budget 0.69 Cr, Expenditure 2.21 Cr
    FY2020 Budget 1.24 Cr, Expenditure 1.95 Cr

  - Number of Staff
    9 staffs（as of February 2022）

  - Roles of each department (KPIs or goals and missions)
    The KPIs are for staff members only for appraising their performance on yearly basis based on certain parameters.　However, the following are the major objectives of the Organization:
    - ✓ Help the MSEs in revival and rehabilitation through effective guidance and timely supplementation of financial resources.
    - ✓ Identify the strategic partnership firms for creating a comfort zone to the banks to revive the MSEs so that the units come out of the NPA status
    - ✓ Facilitation to MSEs to access equity through SME Exchange
    - ✓ Promoting a Comprehensive Financial Service Team with Accredited Consultants providing all kinds of measures to uplift MSEs, including but not limited to diagnostic assistance, consulting services in finance, marketing, branding, co-branding, etc.
    - ✓ Help conducting Techno-economic Valuation studies when the viability of the functioning of MSE faces the threat.
    - ✓ Expand the financing channel available to MSEs to resolve issues relating to working capital.

  - Number of companies supported and the results of fundraising（as of February 2022）
    ・Total number of startups supported so far: 705 MSMEs in 2022 to 2022
    The result of FY2020: 426 MSMEs

    ・Total amounts of funds of startups supported so far: NA
    Top 5 startups fundraised: NA

  - Assesments and evaluations on trainees' capacities in the capacity building projects

TIHCL training programs are basically to spread awareness about bank finances / incipient sickness / restructure etc. based on the needs of the target audience by way of Exit Tests.

✧ Subprojects under ODA Loan Projects
 ✓ GS-P16"Creation of Corpus Fund for "Telangana Industrial Health Clinic Limited (TIHCL)": TIHCL has been conceptualized to address the gaps in rejuvenating the manufacturing MSMEs as effective engines of industrial growth.

✧ Implementation process of subprojects (Finance)
 ✓ TIHCL is a lean organization and does not have divisions.
 ✓ In general, the executives receive, screens and processes the applications. VP /COO verify / recommends, and MD approves.

✧ The results and outcome of other projects similar to subprojects (Refer to the Appendix2 for details)
 ✓ GS-P16: The following are similar projects.
  · NARI (Nari assistance revival of industries)
  · Revival and Rehabilitation (Margin Loans)
  · Loan Products document was sent earlier.
   Major products are
   Bridge Finance: A bridging arrangement till govt approved financial incentives are received.
   Margin Funding: To fund the margin to be brought by the borrowers.
   Critical Asset Funding: To save the units from falling under NPA category with other FIs.
   The outcome of our funding varies.
   They are generally:
   Immediate relief from the stress situation and time to recoup
   Utilization of funds for working capital / reduction of other term debts till the Govt provided incentives are received and the loan gets closed.
   Funds are put to use to take care their immediate needs and repayments are being made promptly on on-going basis.
   Funds are used to take care of their immediate needs but could not come out of stress and repayments are delayed.

➢ Commissionerate of Industries
 ✧ Overview of the organization and mission
  ✓ Support for MSMEs to establish a base in Telangana
  ✓ In subprojects under ODA Loan Project, Commissionerate of Industries will also provide a support for MSMEs to establish and enhancing MSMEs after establishment.

 ✧ The budget for the latest five years (FY2016-2020)
  FY2016 Budget 114.67 Cr, Expenditure 114.41 Cr
  FY2017 Budget 124.37 Cr, Expenditure 124.10 Cr
  FY2018 Budget 126.16 Cr, Expenditure 126.13 Cr

FY2019 Budget 495.20 Cr, Expenditure 494.92 Cr

FY2020 Budget 511.11Cr, Expenditure 510.77 Cr

✧ Number of Staff

280 staff (As of October 2021) increased from 269 staff (As of November 2020)

✧ KPI for Commissionerate of Industries

Organizational KPIs are set by divisions etc. Individual KPIs are based on divisional KPIs

✧ Number of companies supported and the results of fundraising
- ✓ Supported companies (2016-2021)
  - Supported Number: over 10,000 companies
  - Amount of Funds: INR 1,370 Cr
- ✓ Supported companies (2020-2021)
  - Supported Number: over 9,752 companies
  - Amount of Funds: INR 222.49 Cr (719 companies)
  - Top 5: TBC

✧ Assesments and evaluations on trainees' capacities in the capacity building projects

The measurement is needs assesment by program attendees

✧ Implementation Process of subprojects (Standard process)
- ✓ The standard process of implementation is combination of automation and intensive one to one interaction offering mentoring support to the project right from concept to completion. Like womb to tomb.
- ✓ DICs in the Districts have entrepreneur guidance cell (EGC) in the Districts is manned by a technical officer, generally IPO who is a technically qualified officer with sufficient exposure to industries. He/she is assisted by a staff member who is generally a graduate/PG .
- ① This cell is supported by bank of project reports/ DPRs as per requirement of the District.
- ② The first level of interaction takes at this level where the entrepreneur gets to germinate his idea with the support of data of District / DPRs and feedback the idea about a project. After the idea is firmed up it is given the shape of project with the help of EGC. Screening is carried out with the help of banker and few of the veteran entrepreneurs who assess the idea and give feedback.
- ③ Here additional support is added to the project by adding components of Government like funding under various schemes of Government, incentives, exemptions of various kinds to make the project more bankable.
- ④ Basing on the economic and practical assessment, project is submitted to the financial institution in the form of DPR.
- ⑤ This project is monitored in various for a DCC, DIPC etc to push it for sanction and grounding in time bound manner to avoid cost overruns on account of delays.

⑥ Once project is approved it gets in the system of TSiPASS where all necessary statutory approval are facilitated in time bound and transparent mode. Here onwards the project is monitored and mentored in manner it fulfils the objective womb to tomb.

✦ Subprojects under ODA Loan Projects
✓ GS-P17 "Revival of District Industries Centres of Telangana and the commissionerate of Industries to focus on MSMEs. To make them the nodal agency for capacity building of the MSMEs, Trainings, Exposure Visits; Transition Program for MSMEs.": Supporting the MSME that has been established, it is the mandate of the DICs to register, train, hand hold, conduct EDPs, assist in bank loans, incentives etc to the MSMEs.

✦ Implementation Process of subprojects (Infrastructure)
✓ Structure
① Infrastructure subproject is handled by altogether different set of professionals who are made available to the project by Government at different levels, different sets of professionals and for different set of infrastructure projects.
② Infrastructure projects like Industrial corridors, Common effluent treatment plants , upgradation of existing industrial estates, MSE-CDP projects, improving infrastructure , infrastructure support to stand alone units are handled by TSIIC
③ Infrastructure projects like Dry ports are handled by specialized body Telangana State trade promotion council which is into export promotion and trade promotion

✓ Process
① Application, appraisal and implementation is done by these agencies at various levels, there is separate officer assigned for each of the activities and a separate monitoring authority for each activity.
② There is a separate authority for monitoring at District level and state level.
③ The overall monitoring of all projects handled by the above agencies will be done by Director of Industries.
④ Modernization and restructuring of DIC along with other related infrastructure improvement is handled by DIC with support of District Collector and team of professionals from different Departments at District level

✦ Regulations on infrastructure project
✓ There is transparent and legally approved procurement policy in place for each of the activities, which is approved by Government. This includes procurement guidelines such as "CVC vide NO. F1/1/2021/PPD dated 29.10.21, GFR 2017" and "Manual for procurement of consultancy and other services 2017"
✓ **Local purchases of small values and where local suppliers exist:** Procured at competitive prices by obtaining at least three quotes and going with lowest ones duly checked for quality, thereby ensuring cost and quality

- ✓ **Specialized items like Computers, electronic items etc.:** Procured through Telangana State Technical Services (TSTS)
- ✓ **Procurements beyond certain value:** e-tendering is done and where international expertise and in high value tenders even global tendering is resorted to

- ✧ The results and outcome of other projects similar to subprojects (Refer to the Appendix2 for details)
  - ✓ GS-P17：Micro and Small Enterprises － Cluster Development Program
  - ✓ They plans to conduct the activities to the remaining area in the same way as activities in existing targetted area. The outcomes in districts in extending services to entrepreneur in setting up their units is good. The performance of each of the Districts in terms of achievement of their targets is 100% and above. The penetration of the programme to interior places is equally good as per the feedback. The quality of services has been of good standard and was reaching to hither to unreached.

The latest information on the subprojects under the ODA Loan Project

Regarding the subprojects, overview of the part of projects that have been changed from the original plan are provided.

- ➢ T-Works(GS-P7：Rural Innovation Development Program)

  Before: Implementation Budget; Operation cost INR 12.50 Cr、Equipment cost 0

  After: Implementation Budget; Operation cost INR 0.60 Cr、Equipment cost INR 11.90 Cr

  Reason of changes: T-Works have received support from government and corporate. Given these recent developments, there is a proven need to invest a significant portion of the funds towards prototyping tools, machinery, and related infrastructure. The three primary sources of income generation for T-Works are equipment rentals, prototyping services, and product design and development services – all of which will be enabled by investment in tools and machinery.

- ➢ T-Works(SS-P15：Affordable and accessible healthcare devices)

  Before: Implementation Budget; Operation cost INR 12.0 Cr、Equipment cost 0

  After: Implementation Budget; Operation cost INR 0.60 Cr、Equipment cost INR 11.40 Cr

  Reason of changes: T-Works have received support from government and corporate. Given these recent developments, there is a proven need to invest a significant portion of the funds towards prototyping tools, machinery, and related infrastructure. The three primary sources of income generation for T-Works are equipment rentals, prototyping services, and product design and development services – all of which will be enabled by investment in tools and machinery.

Successful cases of existing projects by Implementing Agencies

Among the results of the project by Implementing Agencies so far and understood the specific evaluation points, Study Team describe the details of the projects similar to the subprojects of the ODA Loan Project to be implemented in the future.

Table 32 The list of successful cases of existing projects by IAs

Name of IAs	The name of similar projects
We Hub	● PROJECT HER & NOW
T-Works	● MFH 2018, 2019
TSIC	● T-200 Bootcamp
TASK	● Technology Entrepreneurship Program
TSIIC	● Hyderabad Pharma City
TIHCL	● Revival and Rehabilitation (Margin Loans)

➢ We Hub

Name of project	Project HER & NOW, GIZ (Incubation and Acceleration Programs for Women Entrepreneurs)
Outline	Provide incubation and acceleration programs for female entrepreneurs in India with the aim of supporting aspiring and existing female entrepreneurs in India.
Implementing year	2018-2021
Implementation structure	Donor Counterpart → (Technical assistance) → We Hub → (Support) → female entrepreneurs
Evaluation	KPIs are set for the purpose of encouraging women's participation in entrepreneurial activities and contributing to economic growth in Telangana, including market access, sales trends, ability to receive investment, number of employees, and product quality and diversification.

➢ T-Works

Name of project	Maker Faire Hyderabad 2018 & 2019 (Large-scale exhibition on manufacturing)
Outline	Through large-scale exhibitions, it provides a platform for artists, scientists and engineers to showcase their inventions, creativity, design and technology.
Implementing year	2018-2019
Implementation structure	Government Industries → (Sponsor) → T-Works → (Support) → Startups, Educational institutions, Students Partner Institutions
Evaluation	・It was able to achieve quantitative targets such as the number of participants, increased awareness, and the number of partner companies. ※There were 15,000 and more than 10,000 participants in MFH 2018 (3-day event) and MFH 2019 (1-day event), respectively.

➢ Telangana State Innovation Cell (TSIC)

Name of project	T-200 Bootcamp (10-day Bootcamp for entrepreneurs)
Outline	10-day bootcamp with expert sessions on idea validation, prototyping, business plan, marketing, investment, and intellectual property helps target startups grow.
Implementing year	2020
Implementation structure	Innovation Ecosystem in Telangana → (Providing budget, Introduce experts) → TSIC → (Support) → Startups
Evaluation	・The competition rate in selecting participants is high as support is offered only to 10% of the target ideas. ・100% of participants have completed the program, and all participants are active entrepreneurs.

➢ TASK

Name of project	Technology Entrepreneurship Program (Entrepreneurship program for engineering students)
Outline	A one-year, semi-virtual entrepreneurship education program for engineering students will guide engineering students in creating technology-driven products and services and foster entrepreneurship.
Implementing year	2014-present
Implementation structure	TASK → (subsidy) → Implementing Institutions (ISB) → (Support) → Students
Evaluation	It helps entrepreneurial students to launch new ventures and all participating students learn both soft and hard skills so that they can demonstrate value in large and middle-small enterprises.

➢ Telangana State Industrial Infrastructure Corporation Ltd (TSIIC)

Name of project	Development of FLO Park in Sultanpur Industrial Park in Hyderabad (Establishment of Special Women-only Business Zones in Hyderabad)
Outline	Supporting the establishment of the first female-only industrial area in Telangana, planned within the Stampur Industrial Estate in Hyderabad, through the development of all infrastructure facilities including water supply, electricity, drainage and road networks.
Implementing year	2020

Implementation structure	Telangana Government → Financial Support etc. → TSIIC → Support → FLO and companies established through the program
Evaluation	・ It has already allocated 26 plots to female entrepreneurs via FLO and is building units. ・ About 700 jobs (direct and indirect) were created to mainly women (the percentage of women was about 70%). ・ The expected investment is INR 40 Crore ($5.71 MM).

> Telangana Industrial Health Clinic Ltd (TIHCL)

Name of Project	Revival of Stressed Micro & Small units under Bridge Finance Scheme
Implementing Agencies	Telangana Industrial Health Clinic Ltd (TIHCL)
Purpose	Providing bridge loans and related support to SMEs classified as non-performing loans (NPL) by financial institutions and unable to receive necessary additional loans to support their business continuity and revitalization
Target	M/s Akanksha Apparel Exports (ready-made clothing retailer)
Year	After April 2018
Outline	Provision of hands-on financial support, including bridge loans and loan repayment
Structure（Process）	TIHCL has implemented the providing bridge loans in a timely manner and supporting the business continuity of MSMEs by appropriately determining that the cause of the fund shortfall of the target company was "temporary" due to delays in accounts receivable collection, temporary increase in cost burden, etc.
Evaluation	The bridge loan and related assistance enabled the target company to repay the maturing debt and continue its business

4. Lessons and recommendations

(1) Strengthening of Japan-India relations for startup and innovation ecosystem

■ **Analysis of the results of interviews with Japanese companies and the Telangana government**

The following is the overview and an analysis of the results of interviews conducted with Japanese companies and Telangana government officials who participated in the pilot activities.

✓ Results of Interviews with Japanese Companies
  > Level of satisfaction with participation in SICJ (on a 5-point scale of 1 to 5)
    ✧ 4 points: 6 companies
    ✧ 3 points: 1 company
    ✧ 2 points: 1 company
    ✧ No answer: 1 company

- ➢ Good points of SICJ's support
  - ✦ Program design
    - The system is compatible with the highly uncertain Indian market and easy to participate without too much requirement for application (multiple answers).
    - Credibility was gained from the Indian side by communicating the fact that the company was participating in a program led by JICA and the Telangana government.
  - ✦ Operation
    - The support was not limited to simply matching, but included assistance in designing necessary actions in light of the objectives and hand-holding support and advice on building business hypotheses (multiple answers).
    - Appropriate network was provided, such as decision makers of potential business partners (multiple answers).
    - Communication assistance with local stakeholders and flexible support were provided by bridge talents who understood the business environment in both India and Japan (multiple answers)
    - Research on markets, competition, and regulations that we could not have done on our own was provided both from the desktop and through interviews (multiple answers).
    - The level of local startups could be found out through interviews, etc.
- ➢ Points to be improved of SICJ's support
  - ✦ Program design
    - It would be very helpful to have a person on the ground from the SICJ side who can work in Telangana, since the ability to deploy people on the ground greatly affects the progress of the project (multiple answers)
    - It would be very helpful that the SICJ can cover the cost of research and travel to the project site (multiple answers).
    - Since to travel physically is extremely important to move foward the project, it would be nice to have support in coordinating appointments during the travel (multiple answers).
    - A longer period of support would be appreciated. Or, instead of a uniform period, it would be nice to have flexibility, such as on a result basis or milestone basis (multiple answers).
    - A hold-holding business-side support would be appreciated, as in India the difficulty of acquiring customers is higher than in developed markets, and more sophisticated strategy formulation and execution are required.
  - ✦ Operation
    - As a result of delay in starting the project, it was difficult to allocate internal resources at the right timing, which affected progress of the project (multiple answers).
    - If matching with a potential local company or Telangana government agency was not successful, it would be helpful to have other options to choose potential partners more easily (multiple answers).
    - For facilitating the progress of the project, it would have been helpful if the division of roles between JICA, the Telangana Government, and the Study Team had been more clearly defined.
    - It would be nice to have more interactions with the mentor in charge from the Telangana

Government.
- It would be appreciated if there is an way-out of SICJ such as preferential treatment for participation in other programs by JICA based on the results of this program.
- It would be great to have support in follow-up communication so that the cause can be identified, as it is common in India for the other party to suddenly lose communication without knowing what caused the breakdown of discussions.
- More discussion opportunities with the study team would have been helpful.

➢ Difficulties in conducting business and PoC in India
✧ Building trust with business partners
- The level of difficulty in creating contacts and deepening relationships with local stakeholders (especially government agencies) is higher than in other countries. When there is a change in the person in charge, there is insufficient handover and communication costs get higher (multiple answers).
- In India, it is necessary not only to present a picture of mid- to long-term goals, but also to show concrete steps to get there and clarify as much as possible what is required from the partner.

✧ Business decisions based on regional characteristics and current trends
- Since customs and business environment differ from state to state, respective customization is necessary for expansion within India. (multiple answers)
- It is difficult to determine the right time to deploy resources due to rapidly changing market conditions, such as the introduction of new regulations.
- Solutions that are not fully developed technically are difficult to attract the attention of local stakeholders in India, and technology must be proposed in a complete form.

✓ Results of Interviews with the State Government
➢ Points to be improved of SICJ support
✧ Program design
- In the current pilot activity, sometimes it took time to assign mentors, and the start of the activities took a long time in some cases. In addition, each mentor belonged to a different organization and provided support individually, making it difficult to manage overall progress. In the future, it would be more appropriate to provide support by utilizing the support framework of T-Bridge, an interactive overseas expansion support program provided by T-Hub.

✧ Operation
- In order to advance project into India, it is important to have a local partner or a local subsidiary that can represent the company in the country. In this regard, it is advisable to confirm in advance whether the company already has a local presence or intends to establish a local subsidiary on selection of companies for support. Especially in the healthcare area, it is not possible to obtain a license or permition without a local partner.
- Although Covid-19 had an impact, face-to-face communication is important at the timing of project launch. Since local partners are not on a volunteer basis but solely for business purposes, it is difficult to get them to work actively unless appropriate incentives can be offered after building a relationship of trust.

■ **Analysis of commonalities among companies that achieved their initial goals and those that did not**

The following is an analysis of the commonalities between the companies that participated in the current round of pilot activities and those that did not achieve their initial goals.

✓ Commonalities among companies that have achieved their initial goals
  ➢ Individuals with extensive business experience in India are assigned to the project.
    ✧ Companies that were able to assign a person with extensive business experience in India to implement this pilot activity were able to achieve greater results. While being able to communicate in English is a minimum requirement, it is not enough to ensure smooth project implementation. It is necessary that a person who understands well Indian business culture becomes a contact point and moves things forward with reminders and reminders at the necessary time with sense of respect.
  ➢ Trusting relationships with Indian partners have been built through physical visit.
    ✧ Companies that were successful in building trusting relationships with their Indian partners by traveling to India at key points during the service trial period to communicate face-to-face with stakeholders were more successful than those that were not.
  ➢ Proposal and request to the Indian partners were clear-cut.
    ✧ Companies that were able to provide concise and easy-to-understand explanations and proposals based on a clear understanding of their own strengths, what they wanted to accomplish, and the benefits that this would bring to the Indian partners tended to be successful. In addition, companies that avoided open queries, sought opinions from the Indian side after clarifying their own position even on a hypothetical basis, clarified the division of roles between their company and the Indian side, and communicated their requests to the other side concisely and clearly were able to manage the project more smoothly.

✓ Commonalities among companies that have not achieved their initial goals
  ➢ There are communication challenges such as difficulty in speaking English and lack of understanding of how to do business in India.
    ✧ Companies that had difficulty communicating in English, or companies that were able to communicate in English, but were unable to communicate smoothly with their Indian counterparts due to a lack of understanding of local business customs or lack of consideration for local partners, found it difficult to achieve their initial goals.
  ➢ Low priority/ insufficient consideration of priorities with respect to the expansion to the Indian market
    ✧ The companies that did not prioritize expansion to India as a priority or did not have idea of prioritizing internally were unable to allocate the necessary manpower, financial resources, etc., to fully achieve their initial goals.
  ➢ Lack of resources from the Telangana government's side
    ✧ There were some cases of delays in the progress of the project due to the ill health of mentors and transfers of mentors. This was due to the fact that since this was a pilot activity, no special budget or personnel measures were allocated in the state government and the mentors involved

had to do the related tasks adding on to their existing duties.

■ **Suggestions for improvement for the future program**

The following are suggested improvements for the future program, based on an analysis of commonalities among companies that achieved their initial goals and those that did not, as well as an analysis of the results of interviews with Japanese companies and the Telangana State government.

✓ Program Design
  ➢ To hire and train bridge talents who are familiar with Japanese companies and Indian business.
    ◇ To assign a person who is well versed in Indian business to the project is a high hurdle for a Japanese company, it is desirable for the project side to handle this issue. Specifically, the following options can be considered: to hire an outside consultant who understands Japanese business practices and can provide support to the Japanese company, stationing him or her on the ground; to select suitable candidates within the Telangana State government and by using JICA's training scheme, grooming personnel who can bridge between Japan and Telangana State within the State Government.
  ➢ To strengthen the Telangana State government's support system
    ◇ To ensure that budgetary and organizational measures are in place at the Telangana State government side. If possible, it would be desirable to design incentives (e.g., KPIs for performance evaluation) for mentors in Telangana to be actively involved in the SICJ, in cooperation with the state government.
    ◇ A system will be put in place to ensure that support can continue in the event of unforeseen circumstances by working more closely with the management of the Telangana State government so that if the mentor is unable to respond, a higher or lower level person can provide immediate back-up.
    ◇ Considering the above, it may be a good idea to utilize existing program such as T-Hub's T-Bridge, which, according to the T-Hub CEO's explanation in November 2022, provides a system for exchanging engagement letters with mentors, financial incentives (payment of rewards), setting KPIs, and a review system from the supported companies.

Table 33　Overview of T-Bridge

Overview	Based on T-Hub's policy of promoting innovation in startups, large corporations, academia and government, T-Bridge is designed to connect overseas and India in terms of both market and technology in order to support the scale-up of startups. Its support is provided in two ways; from overseas to India as well as from India to overseas.
Offerings	The program has four platforms; "Start-up Platform", "Corporate Platform", "University Platform", and "Government Platform", and provides services in three aspects; Market Access, Technical Bridge, and Capacity Building.
Support to international startups	Among the above service menus, T-Bridge provides the following support for overseas startups. ・Support for growth stage startups Six-week program to support market access to India. Mentors and industry experts

	will interact with startups during the program
	➢ India Market Readiness (2 weeks, online)
	➢ Localization (2 weeks, online)
	➢ Pitch event (1 day, offline)
	・Support for early stage startups
	   1) **Support for product development**: Guidance and advice from industry and product experts as well as the right to use tools and facilities necessary for product development are provided. It is conducted on a cohort basis with a hybrid of online and offline. Support period is 100 days and can be extended by 2 weeks.
	
	   2) **Support for market access**: Support for needs and product verification, business model verification, customer discovery, Go-to-market strategy, operation readiness, business culture integration is provided, customized according to the field and stage of the startup. It is conducted on a cohort basis and support period is 180 days.

Achievements	・Delivered more than 10 market access programs with South Korea , USA, Canada , Australia , MENA regions, Brazil etc ・Supported 200+ International startups through Indian market access interventions

◆ It is important to have a mentor pool of external regulatory experts (e.g., consultants specializing in regulatory licensing and approval) in a field such as healthcare, where clearing regulatory issues is critical to business development, and to establish a system that allows for free consultation on basic issues.

➢ Extension of Period and Scope of Support
  ◆ In the current pilot activity, support period was set at 5 to 6 months per cohort, with the possibility of extension depending on the degree of target achievement, but as a result, more than half of the supported companies were provided with support for two or more cohorts. Given this situation, it is desirable to provide support for a period of at least one year. The main reason for this is that it took time for them to start up their activities and advance their businesses via online.
  ◆ It is desirable to provide hand-holding support for business aspects by extending the support period. In the current service pilot, many companies needed support for the initial stage of business development, i.e., matching with a local partner and subsequent PoC on technology. In this regard, some companies commented that the difficulty in developing business in India lies in the verification of business aspects beyond the initial stage (e.g., customer segmentation and customer acquisition require different strategies from those in developed markets).

➢ Way-out for Support
  ◆ To effectively expand the business, it would be desirable for SICJ to introduce or provide information on other programs that provide support for business phases such as the " Business Verification Survey with the Private Sector" scheme of JICA.

- ✓ Operation
  - ➢ Recommendation of local travel for building trust with Indian partners
    - ✧ In order to build a relationship of trust with the partner and promote the project smoothly, it is recommended to visit the site and communicate face-to-face with the local partner at the timing of important decision-making as early in the project as possible. Although on-site travel is not a requirement, participating companies should be informed of the fact that companies that have traveled to the site and communicated face-to-face have achieved better results, as there are certain limitations in conducting online negotiations that involve important decisions such as the content of the demonstration experiment, division of roles, and sharing of costs.
    - ✧ Although there were voices from the companies to request funding support for on-site travels, if it is difficult to do so in light of the SICJ's objective of providing values except for financial aspects, it would be desirable to explain the importance of travel and confirm their willingness to travel to the site at the selection process.
  - ➢ The following items should be confirmed in the selection of companies
    - ✧ Internal priorities for expansion into the Indian market are being discussed and the company has indicated a willingness to work as a high priority.
    - ✧ Companies should be sympathetic to Telangana's support and its proactiveness
    - ✧ Participants must be proficient in English and have decision-making authority for expansion in India.
  - ➢ The following items should be confirmed in the selection of companies and in the brushing up of proposals
    - ✧ The objectives to be achieved through SICJ are clear.
    - ✧ The division of roles in the implementation (especially what is required by the Indian side) and the benefits to each stakeholder are clear.
    - ✧ Approximate cost estimation for activities are done, and the company is willingness to bear their part.

(2) Additional value creation for startup and innovation ecosystem

Mid-long term milestones after the program

Building a benchmark based on data will require time and should be achieved step by step. For instance, one of the leading investors in the social IMM community, Acumen, invested 10+ years to develop its own benchmarks and still in the process of improving them. In the pilot activity, the Study Team proposed to support Telangana State in setting its own benchmarks, which will serve as a common reporting framework to enable the identification of social impact performance such as a social impact score card. The Study Team aimed to support Telangana State in identifying issues by implementing a pilot program using the framework instead of developing the benchmarks.
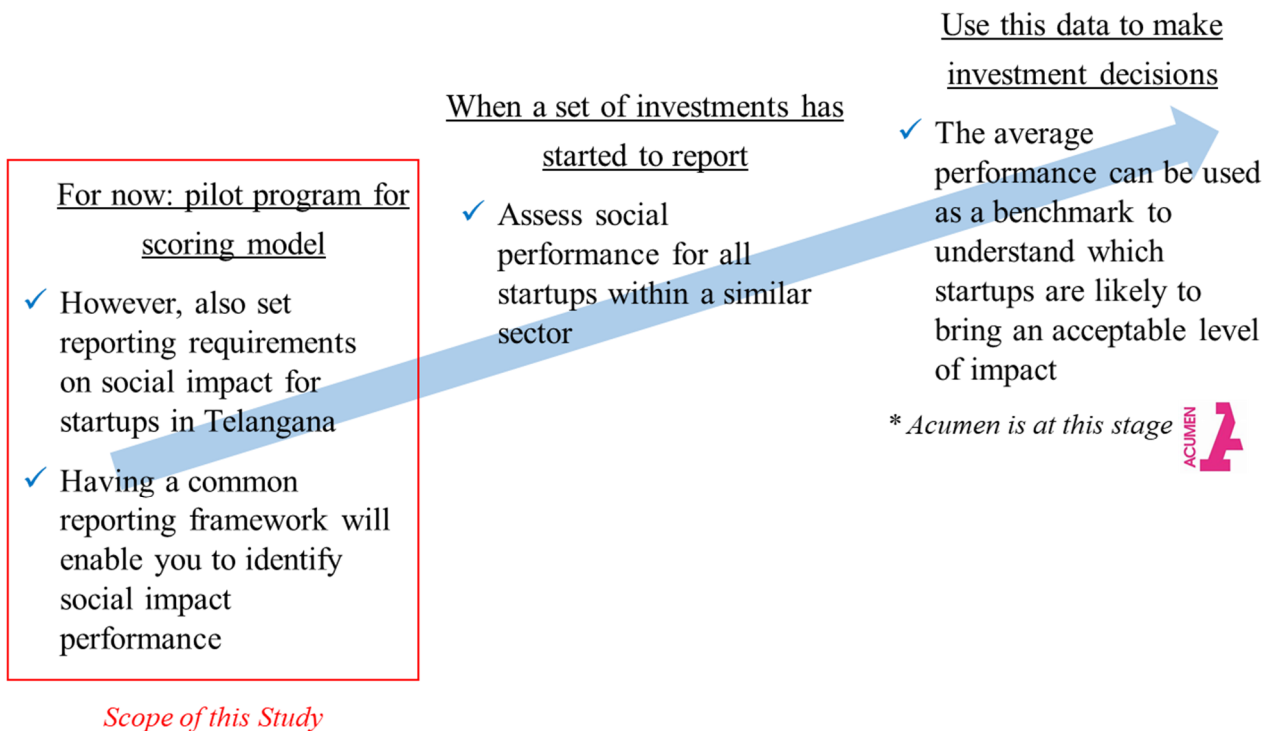
For now: pilot program for scoring model

✓ However, also set reporting requirements on social impact for startups in Telangana

✓ Having a common reporting framework will enable you to identify social impact performance

Scope of this Study

When a set of investments has started to report

✓ Assess social performance for all startups within a similar sector

Use this data to make investment decisions

✓ The average performance can be used as a benchmark to understand which startups are likely to bring an acceptable level of impact

Acumen is at this stage

Figure 39 Roadmap to obtaining a benchmark based on data

Although most of the indicators for social impact scorecrad are fixed, the Telangana State will need to continue assessing the further details such as the threshold and range setting. In the below Figure, the milestones for 1 year, 3 years and 5 years after the program are illustrated with vision and tasks for acheivement so that the Telangana State can proceed independently.

	1 year later	3 years later	5 years later
Vision	Establishment of finalized Telangana Social Innovation Scorecard (TSISC)	TSISC becomes the "common measure" of social impact scoring among stakeholders resulting in more funding opportunities for SUs especially in the pre-seed to early stage	TG State to be recognized in India and internationally as a leading social innovation hub
Tasks to achieve vision	• Approaching to challenges identified during the pilot program • Involving investors for finalizing	• Accommodate more SUs to the registry • If needed, improve points that emerged during application	• Spread the TSISC to other states in India and/or other countries as best practice
Breakdown of tasks	• Details in Fig.43	• Develop and launch TSISC platform (ex. workflow of data collection, create strategy, cap. building of SU) • Incorporating FB from the beneficiaries	• Research on actual impact of & awareness towards TSISC • Develop promotion strategy (ex. SNS, partnership with academic inst., seminars)

Figure 40 The milestones for 1 year, 3 years and 5 years after the program with its vision and tasks

Regarding the milestones for 1 year, below figure shows the details on what the scoring model should aim st in 1 year.

	As-Is	To-Be
Target	• Social startups in general and all stages	• Social startups in priority sectors • Target growth stages are defined
Definition	• Certain concepts and indicators are not clearly defined	• Clear definitions given to key concepts and indicators
Scoring	• Binary scoring (0/1) for all indicators resulting in little difference in total scores	• Ranges and thresholds are set for indicators that can be quantifiable (e.g. number of beneficiaries)
Accessibility	• Terminologies for social impact experts are used often without clear explanation	• Simple wordings are used that are easy for non-experts to understand • A rule book for scoring is ready
Usage	• Initial pilot with 5 startups is conducted	• Comprehensive pilot with more than 20 startups conducted

Figure 41 Breakdown of the ideal scoring model in 1 year

Below summarizes the challenges identified during pilot program and proposed solutions, which need to be considered for finalizing the social impact scoring card to embody the ideal above in the next coming year.

113

	Challenges		**Proposals for solution**
Build institutio nal capacity	Vague definition of "social startups" and TOC for TG State (What social issues TG state is prioritizing)	▶	• Define "social startups" and "TOC for TG state" (prioritizing social issues)
	Limitation on data collection availability due to lack of capacity for both TG state/startup	▶	• Consider alternative indicators for the case of limited data availability • Organize data collection items and data points (building capacity of TG state) • Capacity building of startups[*1]
	Limited credibility of data	▶	• Request for information on data source
Refine scoring model	Difficulty to compare among different startups	▶	• Select priority sectors for scoring
	Little difference in total score	▶	• Set a wider range for each indicator referring to international good practices • Set weightage among indicators
	Difficulty to set threshold (especially for "Impact potential" & "Additionality")	▶	• Set up an advisory committee and seek inputs
	Difficulty for startups in understanding the model including terminology	▶	• Simplify definitions and descriptions • Prepare a rulebook/SOP

*1: Implementation to be done in 3-year timeframe

Figure 42 Challenges identified during pilot program and proposed solutions

The challenges can be classified into 2 categories namely "building institutional capacity" and "refining scoring model". Below Figure shows the timeline for the breakdown of tasks mentioned in Figure 40 and proposal for solutions in Figure 42. In order to prevent the termination of the project, setting up a meeting with investors every quarter is proposed.

	Immediate (Nov-Dec 2022)	1st quarter (Jan-Mar 2023)	2nd quarter (Apr-Jun 2023)	3rd-4th quarter (Jul-Dec 2023)
Refine scoring model	• Select priority sectors for scoring • **Fix and simplify definitions and descriptions of all indicators** • Prepare a rulebook	• Set threshold and range for each indicator • Plan and conduct pilot activity based on revised scoring model	• Identify points for improvement and reflect them in the scoring model	• Decide usage of the model for specific programs and adjust weightage of social and financial scores
Build institutional capacity	• **Establish an advisory committee** • Define "social startups"	• Define "TOC for TG State" • Consider alternative indicators in case of limited data availability	• List down the items to build the capacity of the startups	• Organize internal training on the usage of TSISC (especially for those who will be engaged in finance subprojects under Loan Project)
Involve Industry experts	• Set up meetings to ask questions and obtain inputs	• Set up meetings to ask questions and obtain inputs	• Set up meetings to ask questions and obtain inputs	• Set up meetings to ask questions and obtain inputs

End of JICA study

Figure 43 Breakdown of tasks to achieve 1 year after vision

As a result of an intense discussion with the Telangana State during the Study Team's visit in November 2022, it was agreed that the most prioritized tasks will be dealed with within the year of 2022. While main points are as follows, more details such as responsible party, timeline, and level of priority are described in attached file named "Action plans" attached as the Appendix1:

➢ To simplify the terminology and descriptions used in the scoring model and prepare a rule book to make it more startup-friendly

➢ To establish an advisory committee with experts on social impact measurement

The implementation structure in Telangana State to work on the scoring model including the above mentioned advisory committee will be as in the diagram below.
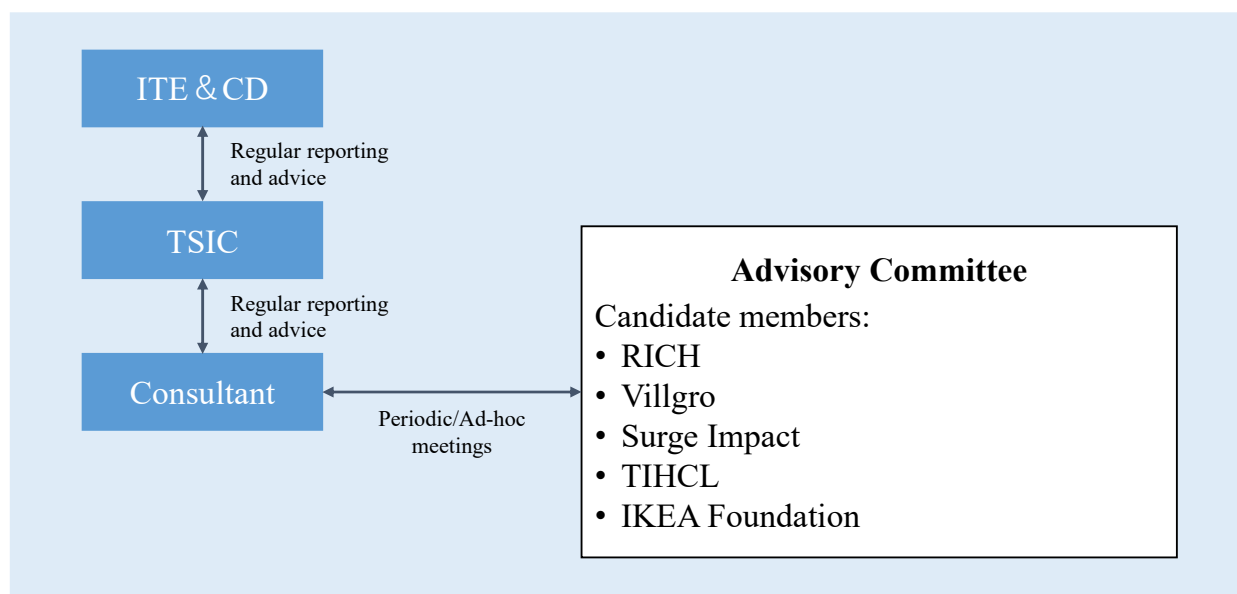
Figure 44 Implementation structure to develop scoring model after this study

Within the 1st quarter, "defining the TOC for Telangana State" under "Build institutional capacity" is one of the most imminent and fundamental points from mid-long-term perspective. The reason for setting the TOC for Telangana State is to crystalize the prioritized social issues to be approached for Telangana State. There are 2 advantages for setting the TOC. The first is to create a reliable focal point that all stakeholders can always reflect on to proceed the project smoothly. The second is to maintain the coherence of scoring model despite of the high employee turnover which is characteristic of the Telangana State. The main point for the former would be difficulty to compare and setting the threshold and range. Setting the threshold and range is especially difficult for "Impact potential" and "Additionality", below and Table 33 provide more details and some guidelines so that Telangana State could independently proceed the future action plans.

1. Impact potential - Number of beneficiaries
   - The threshold shall be set relatively by comparing other competitors in the similar field and at the same stage. Thus the Telangana State will need to collect data on below.
     i. Other startupss operating in the same field
     ii. Number of beneficiaries for those competitors
   - Clarify the definition of beneficiaries including the range since the "beneficiaries" and the "service users (payers)" could be different.
2. Impact potential – Depth
   - The threshold shall be set.
   - First scenario: Selecting SROI method
     i. Select approaches to calculate "total present value". Examples could be consumer surplus approach including travel cost approach, hedonic approach, contingent valuation approach, and substitution approach.
     ii. Based on the selected approach in i., identify what additional data need to be collected from the startups. For example, willingness to pay for the service, actual price of the service, actual amount of usage of the service, estimated price of the land with/without the service,

amount of potential financial damage if the service did not exist, and business/social benefit cash flow.

> Second scenario: Selecting TOC method
>> i. Creation and submittion of TOC with evidence by the startups should be mandatory.
>> ii. Evaluation indicators should be assessed and decided for TOC submitted by the startups.
>>> 1. Quantative indicators
>>> 2. Logical issue analysis and roadmap for acheivement and its viability
>>> 3. Transparency of the evidence data

3. Additionality - Customer based size
> Define the "customer base size" including the unit since customers and beneficiaries are not always the same and it could affect the percentage customer base served indicator.
> If using the number proposed by the startups itself, the evidence must be transparent and the Telangana State needs to evaluate the viability.
> Consider the options of indicator when customer based size cannot be disclosed by the startups. For instance, number of all rural farmers in India or only limiting to those who don't have internet access.

Table 33 Way forward points with their priority and targeted deadline

Indicator	Sub-indicator	Points to clarify	Objective	Targeted deadline
Impact potential	Number of beneficiaries	The threshold for this indicator shall be set relatively by comparing other competitors in the similar field and at the same stage. TG state will need to collect data on 1. Other organizations operating in the same field, and 2. # of beneficiaries for those competitors.	Depending on absolute or relative evaluation, the score would significantly change. Since there are no official indicator for # of beneficiaries and TG state is able to collect data on competitors' beneficiaries, relative threshold was made as a choice.	3rd quarter (Jul-Sep 2023)
		Clarify the definition of beneficiaries including the range (direct, indirect)	To differentiate from "service users". Not always the beneficiaries are the service users (payers). The range could significantly effect the threshold decision making.	1st quarter (Jan-Mar 2023)

		Depth	(If using Expected return method(SROI)) Select approaches (Ex. questionnaire survey approach, hedonic approach, financial damage approach, cash flow approach) to calculate "total present value"	To set the threshold.	2nd quarter (Apr-Jun 2023)
			(If using Expected return method(SROI)) Based on the selected theory, identify what additional data (Ex. Willingness to pay for the service, Actual price of the service, Actual amount of usage of the service, Estimated price of the land with/without the service, Amount of potential financial damage if the service did not exist, Business/Social benefit Cash flow) need to be collected from the SUs.	To set the threshold.	2nd quarter (Apr-Jun 2023)
			(If using TOC method) Creation and submittion of TOC by the startups should be mandatory. (This process will only be applied to startups that match with the definition of "social startups" by the TG State.)	To set the threshold.	2nd quarter (Apr-Jun 2023)
			(If using TOC method) Clarify the TOC of each startups. To be more specific, clarify the most serious social issues and how that could be solved through their service. Quantative indicators （ex.	To set the threshold.	2nd quarter (Apr-Jun 2023)

		salinity of the soil decreased by -% to -% which led to improve produtivity by -%) are preferable. (ex. Evaluation indicators for TOC submitted by the startups should be assessed and decided based on existing guideline. Below indicators are some proposal. 1.Quantative indicators 2.Logical issue analysis and roadmap for acheivement and its viability 3.Transparency of the evidence data)		
Additionality	Customer base size	Define the "customer base size" since customers and beneficiaries are not always the same and it could affect the % customer base served indicator.	To calculate % customer base served.	2nd quarter (Apr-Jun 2023)
		If using the # proposed by the SU itself, the evidence must be transparent and TG state needs to evaluate the viability.	To differentiate the customer based size (beneficiaries that are viably able to reach) from ambicious goal of startups.	1st quarter (Jan-Mar 2023)
		Consider the options of indicator when customer based size cannot be disclosed by the startups (Ex. # of all rural farmers in India who don't have internet access) The unit of the indicator must be fixed. (Ex. People, money)	To set the threshold.	final quarter (Oct-Dec 2023)

Usage of Social impact scorecard

As mentioned previously, the initial purpose of establishing the social impact score card was to approach the issue that especially startups at the seed and/or early stage have difficulties in finance procurement due to financial assessment in which the social aspect needs to assessed as well when selecting the startups for financial aid. However, through the discussion between the Telangana State and the Study Team discovered other potential usage of social impact scorecards as shown in the below Figure.
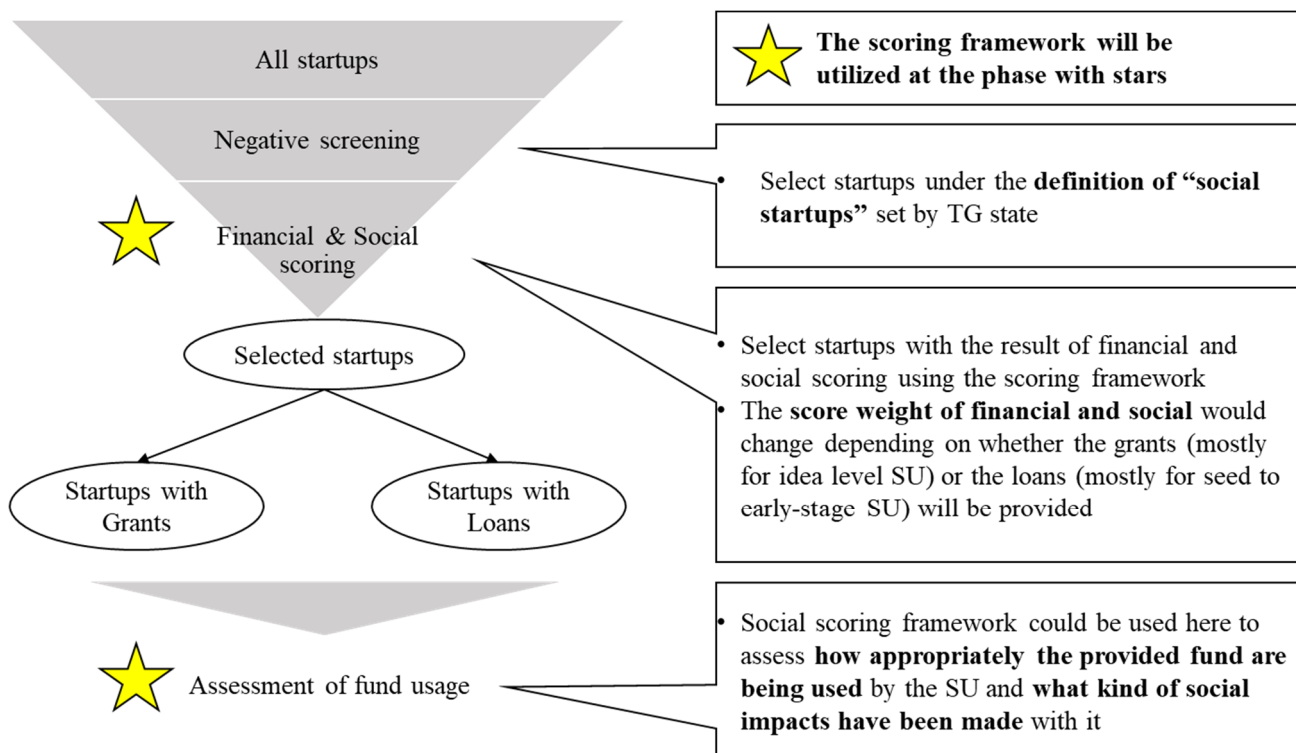

Figure 45 The usage of social impact socre card

(3) Improve the management capacity of the government / strengthen implementation structure for startup and innovation ecosystem

In Telangana, with a view to the implementation of the ODA Loan Project after this study and so as to consider how to improve the management structure including the supervision of IAs, it is necessary to grasp the overall picture of the startup and innovation ecosystem, check operational processes and extract the gaps between the ideal form and the current status as well as risks.

The Study Team organized and looked into the information collected throughout the previous and current phase of the projects. This required the Project Team to grasp more comprehensively the organizational structure of the IAs and track records related to the projects similar to the subprojects being planned in the ODA Loan Project as well as more detailed information on operational processes in the state government and the IAs (Refer to the Appendix3).

Specifically, the Study Team is conducted 1) information collection on organizational structure, track records, goal setting and 2) confirmation of operational processes along the category of four components (a. capacity development, b. infrastructure, c. finance, d. market creation). Each of these considerations is discussed

below.

① IAs

> T-Hub

The organization has about 40 staffs, has no budget balance problems, and has a track record of providing support to startups and other companies, including funding support. They set KPI as an organization, and have a framework to check the outcomes before, during, and after the training program when they provide training projects. As for the ODA Loan subprojects, two market creation projects and one financing project are planned to be implemented, and no particular problems have been identified at this point. T-Hub has a system in place to manage progress, monitor projects and post-financing, and report to the PMU.

> We Hub

It has operated as an independent organization since 2018 and currently has about 20 staffs. Its budget is increasing every year, and it supports both startups and SMEs, and those companies that have received assistance have also been successful in raising funds. KPIs are set for each project basis for both the organization and the individual. Baselines and end-lines are confirmed when training projects are provided. Two capacity building and one financing are planned to be implemented in the ODA Loan subprojects, and there are no specific concerns regarding the implementation process and structure.

> T-Works

It has operated as an independent organization since 2017, with approximately 30 staffs. Expenditures exceeded budget only in 2019, but when combined with other years' budgets, this was balanced out. The company has a track record of providing support to startups, and companies that have used T-Works programs have been successful in raising funds. The company also has a framework for measuring the outcomes of KPIs and training projects. One market creation project, one capacity building project, and one infrastructure project are planned for the ODA Loan subprojects. Operation, maintenance, and monitoring will be carried out by T-Works and Mini T-Works, with roles and responsibilities assigned to each.

> TSIC

Since 2018, the organization has 14 staffs, and the budget is increasing. There are approximately 250 startups in the Telangana State Startup portal operated by TSIC. KPIs set for each sector, and a framework for checking outcomes before and after training when training projects are provided. In terms of subprojects, two market creation projects, five capacity building projects, one infrastructure project, and three finance projects are planned to be implemented. It should be noted that while the TSIC has a small staff, it is responsible for the largest number of projects among the IAs, and that the department in charge is set up at the timing when the ODA Loan subproject is implemented. In addition, it will take one to two years to select land, construct buildings, hire personnel, and perform other basic tasks after ODA Loan Project is approved, so it is important to note the progress of the project.

- TASK

  There are about 70 staffs in the organization, and budget revenues and expenditures have varied from year to year, with negative or positive balances. The organization has a track record of providing support to startups, as well as funding support to startups that have participated in programs implemented by TASK. KPIs are set for each organizational unit and position. A framework for checking the outcomes after the training is implemented. One capacity building project is planned to be implemented in the ODA Loan subproject, and the management and monitoring structure has already been discussed, but it should be noted that it will be organized after the start of ODA Loan Project.

- RICH

  The organization started in 2017 and has 7 staffs. There are no issues with budget balance, and the company has a track record of supporting startups. Organizational and individual KPIs are set for each department they belong to. Five market creation projects are planned to be implemented in the ODA Loan subprojects. There are no particular concerns, but it should be noted that the monitoring system will be organized after the start of ODA Loan Project.

- TSIIC

  It is responsible for the development of infrastructure within Telangana State, including the development of industrial areas, and has about 80 staffs. Although its budget is larger than other IAs, there are no issues with budget balance. The structure and regulations for the implementation of infrastructure projects are organized. Four infrastructure projects are planned to be implemented in the ODA Loan subprojects, and it would appear that some processes, such as consultant selection, are already underway.   There are no particular concerns, but since engineers work on multiple programs, it was difficult to determine at this time how many engineers would be involved in a subproject. It is likely that additional personnel will need to be added to implement the ODA Loan subprojects, and the assignment of engineers will need to be confirmed after the start of the project.

- TIHCL

  The organization has 9 staffs and provides micro-loans and consultation services to MSMEs and women entrepreneurs, mainly in the manufacturing industry, who are short of funds. The expenditures are large against the budget. The organization does not set KPIs, but it has set key goals and evaluation indicators for staff levels. There is a test at the end of the trainings provided. One finance project is planned to be implemented in the ODA Loan subproject. TIHCL is currently considering changes to the existing structure, such as expanding it by hiring more staff or requesting a consultant to conduct some of the screening, so confirmation will be required after the start of ODA Loan Project.

- Commissionerate of Industries

  This organization has 280 staffs and there is no issue with budget balance. The company has a track record of supporting startups and has also provided funding directly to companies. KPIs for

the organization are set according to departments, and individual KPIs for staff in each department are set according to the KPIs of the departments. The evaluation will be conducted in accordance with the program for training provided. One infrastructure development project will be implemented under the ODA Loan subproject, which will be carried out in collaboration with TSIIC. Regarding operation and maintenance and monitoring, there are no particular concerns with a system in place to use the IT platform etc.

② The category of four components
- ➢ Capacity Development
  - ✓ It was confirmed that each IA has a framework for checking the outcomes of training provided.
  - ✓ The follow-up structure after the project needs to be confirmed after the start of ODA Loan Project.

- ➢ Infrastructure
  - ✓ There is a track record of infrastructure projects, and various regulations and approval systems have been established as Telangana Government.
  - ✓ Structure for fulfillment of environmental and social responsibility: Regulations established and followed to ensure compliance.

- ➢ Finance
  - ✓ There are organizations having experience in providing funds under grants (T-Hub, TSIC, CoI, etc.) and loans (TIHCL), and the structure/team for dealing with the funds has been confirmed.
  - ✓ Summary of existing projects: details to be confirmed and included in the Appendix2.
  - ✓ Plans for subprojects where existing project results do not exist: TSIC has no loan experience, but detailed plans are made regarding implementation structure and process.

- ➢ Market Creation
  - ✓ It was confirmed that each IA has a framework for checking the outcomes of training provided.
  - ✓ The follow-up structure after the project needs to be confirmed after the start of ODA Loan Project.

Based on the information that the Study Team have collected so far, the following points should be noted when managing the ODA Loan Project and subprojects that are scheduled to be implemented in the Project.

- ➢ Overall ODA Loan Project
  1. Implementation of Regular Progress Management Meetings
  During the study, Project Management Meeting (PMM) was held every other week online between the Telangana Government, JICA, and the Study Team, which made it possible to share the latest progress status of each task and discuss follow-up items and requests with the Telangana Government in an appropriate and timely manner. It should be noted that the ODA Loan Project

differs from this study in that the Telangana Government will be the main entity of project implementation. However, it is considered that regular meetings among the parties concerned, led by a consultant to be employed in the ODA Loan Project, will help to understand the situation and resolve issues, which will lead to smooth implementation of the project.

As of this report, it has been confirmed that Project Management Unit (PMU, hereinafter referred to as "central PMU") , which will be tasked to manage and monitor the progress of the ODA Loan Project, will be established within ITE&CD, in which Project Manager and other members will commmunicate and coordinate with IAs and relevant stakeholders. On the IAs side as well, despite differences in details such as members composition, a PMU will be set up at each IA, which will regularly collect the information of the progress of each subproject and report to the central PMU.

2. Risk Management

In the process of conducting data collection on the implementation structures, there were cases where the timeline for collecting and organizing information was delayed because responses could not be obtained from each IA by the set deadline for collecting questionnaires. In particular, for TSIIC, which deals with infrastructure and thus has a large project scale and involves many stakeholders, there were cases where the decision-making and approval process for issuing a response in writing within the organization took time. In consideration of this situation, it is necessary to build a system to prepare for risks by sharing with the government of Telangana in advance recognition of the risks involved in project implementation (e.g., personnel changes, political and economic changes, etc.), as well as to respond to project progress delays by preparing options in advance when planning the project.

➢ Subprojects

1. Centralized management of multiple implementing agencies (IAs)/subprojects

The ODA Loan Project to be implemented after this study is planned to include 34 subprojects to be implemented by 9 IAs. All of the IAs are under the Information Technology, Electronics and Communications Department (ITE&CD) of the Telangana Government, which will contribute to smooth coordinatation and the centralized management of the project. This study has mainly focused on the IAs that are actually responsible for implementation of the subprojects, but it is also important to confirm how ITE&CD will coordinate with each IA after the start of the ODA Loan Project in light of the implementation process, and to encourage the Telangana Government to develop the necessary structure.

2. Confirmation of personnel structure and assignment

In connection with 1. above, the Study Team collected information on the staffing structure, organizational implementation structure, and implementation process envisioned for each IAs in this survey, and a certain number of respondents indicated that they plan to determine staffing and set up the organization at the start of the ODA Loan Project. Therefore, it is necessary to confirm immediately after the actual start of the project whether the personnel for each IA has been assigned as planned and whether the project is being implemented with the expected structure and process. In particular, TSIC, which plans to implement 11 subprojects, and the Commissionerate of Industries,

which has little experience in similar work, will need to carefully check the status of their organizational arrangements.

3. Conducting periodic progress confirmation and performance reports
Periodic report from each IA on the progress and performance of their subprojects can be utilized for risk management and public relations purposes. The implementation of a monitoring structure to collect information on a regular basis, with the frequency and content of confirmations shared and agreed upon with each IA in advance, will support the smooth implementation by each IA.

5. Recommendations on further cooperation by JICA

This section presents concepts of recommendations on follow-up activities for existing JICA projects such as technical cooperation and financial assistance as well as on the formulation of new projects.

(1) Follow-up acitivities

1) Cooperation on Enhancement of Effectiveness of SICJ in ODA Loan Project

In the ODA Loan Project planned to be implemented after this study, SICJ will be officially launched and fully operationalized. Through this study, lessons have been learned that both 1) continuous follow-up on Japanese companies and 2) facilitation of communication between Japanese companies and the Telangana Government as well as local partners would be indispensable.

While it is currently planned that the Telangana Government will take a lead in the provision of services, further assistance and training will be necessary, particularly for a certain period of time after the launch of the service, to ensure that it meets the level of service required by Japanese companies and smooth communication in English. Hence, the Study Team consulting services be provided in the ODA Loan Project to cater to the above needs and transfer skills to the Telangana side, particularly to the mentors who will be the main counterpart for the Japanese companies. This will contribute to smooth implementation of the ODA Loan Project as well as the maximization of impact of assistance.

2) Coordination between SICJ and Private Sector Partnership Projects

In relation to 1) above, creation of synergies through coordination bewteen SICJ and Private Sector Partnership Projects implemented by JICA, particularly "SDGs Business Supporting Surveys" could be considered. Both programs share the objective of solving social issues in developing countries through assitance to Japanese companies in expanding their overseas businesses. Meanwhile, there is a difference in terms of the form of assistance. While "SDGs Business Supporting Surveys" provides funding support to Japanese companes for their activities for business expansion in the form of study commissioned by JICA, SICJ focuses on hands-on support to the activities led by Japanese companies such as Proof of Concept rather than funding support.

In the pilot activities of SICJ conducted in this study, JICA and the Study Team provided thorough explanation on the differences above beforehand, most of the companies participated in the program with a clear understanding of the scope of service. Nevertheless, there was a case in which lack of funding of PoC stood as a bottleneck and the activity was halted.

Taking the above into consideration, SICJ could be upgraded to a program that fulfill the needs of Japanese companies through coordination with SDGs Business Supporting Surveys. As for the form of coordination, it could be an idea to give certain priority to the companies that participated in SICJ in the selection of

companies for SDGs Business Supporting Surveys, on the assumption that they submit necessary application documents and reports. Likewise, the companies participating in SDGs Business Supporting Surveys could have the needs for hands-on support and they could be referred to SICJ, and this could create synergies between the programs and enhance the effectiveness of assistance.

3)   Assistance in Refinement of Scoring Model and Implementation Structure

With regard to the development of innovating scoring model, as mentioned in 3.(2), it is expected that the Telengana State will take a lead in the refinement and operationlization of the scroing model. While the Study Team made best efforts to propose concrete steps so as to enable the Telangana State to   ,

1.   Project concepts related to tasks for 1 year after vision
- ➢ Research required for setting threshold for "Impact potential - Depth". In the project, the Telangana State can test all possible approaches for total present value calculation and impact measurement methods in order to analyze cost-benefit and applicability for the social impact score card.
- ➢ Technical assisstance for introducing database/platform for the social imapct score card. The technology of high security information database/platform can be provided by a Japanese company aiming to expand their business globally.

2.   Project concepts related to tasks for 3 and 5 year after vision
- ➢ Project for supporting the launch of social impact score card database/platform. The contents could be the following:
  - i.   Organizing the workflow of data collection from startups
  - ii.   Developing the strategy for accommodating more numbers of startups in the social impact score card database/platform
  - iii.   Capacity building for startups (e.g. implementing TOC workshops)
- ➢ Research project on awareness among Indian and Japanese investors on the social impact score card. It could improve and diverse the utilization of the score card and its database/platform.
- ➢ Research project on the TOC development and its result of social impact for selected startups. This project will select 3 to 5 startups and dive deeper on how those startups set their TOC and how they are actually impacting the society. The results could brush up the "Impact potential" indicator especially the "Depth" for the social impact score card as well.

(2)   Concept of New Projects

As noted earlier, in terms of strengthening Japan-India relation, one of the key findings from this study is the importance of personnel who can bridge the companies in two countries with profound understanding of their difference in business practices, characteristics and needs. It is considered that this will apply not only to SICJ but also to business collaboration between the two countries in general. With this in mind, the Study Team proposes to formulate a project to develop those personnel who play a bridging role and increase the number of such personnel. In the proposed project, Telangana could be placed as a model case as relevant efforts including SICJ have already been initiated.

Potential targets could include state government officials who have expertise in specific industries or technical domains and could serve as mentor in the projects related to Japan-India collaboration. Students or researchers from universities and academic institutions that will be major sources of human resources could

also be an option.

With regard to the activities, in addition to lectures and workshops related to business with Japanese companies, some on-site activities such as short-term internship in Japanese companies to provide practical knowledge and experience. While these would lay a foundation, if the participants can have an opportunity to work on SICJ activities during the project, they will be able to learn the factors that make collaboration successful (or unsuccessful) in real settings. Furthermore, allowing Japanese companies to recruit those who have demonstrated good performance during the project could be beneficial both for Japanese companies in terms of securing high-skilled human resources on the one hand, and for Indian participants in terms of employment opportunities for them.

In IIT-H, in addition to cooperation in terms of infrastructure, JICA has implemented a scholarship program entitled "the Project for Future Researchers at IITH to Enhance Network Development with Scholarship of Japan (FRIENDSHIP) Phase 2", to establish a sustainable platform for academic and industrial collaboration between India and Japan. The program is open to up to 10 graduates or those who are to graduate from master's programs. While making best use of insights from the program, the proposed project could expand the target and scope of activities so that synergetic effects of assistance through multiple projects could be achieved. When we are to approach universities and academic institutions as partners, it could be done through RICH which have a strong network with those institutions in the state and understanding of the needs of Japanese companies through existing mentors involved in SICJ.

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Appendix1：(1) Scoring results

Name of Startup	Sectoral priorities		Beneficiaries needs		Impact potential					Additionality			Risk		Total score
	Sector	Score	Stakeholder characteristics	Score	Number of beneficiaries	Score (size)	Depth	Score (Depth)	Total score	Customer base size (market potential)	% customer base served	Score	Risk level	Score	
							Threshold								
	Priority - 1 Non Priority - 0		BPL,Women,PWDs,Farmers,Students - 1 Others - 0		more than 50K- 1 less than 50K- 0		Deep change - 1 Marginal change - 0				less than 1% - 0 more then 1% -1		less than 35 - 1 more than 35- 0		
Next Skills 360	Education	1	BPL, Students	1	16,000	0	40% increase awareness in computational thinking ; 15 mins for a student who hasnt used computer to code immediately	1	1	50 billion rupees	Less than 0.01%	0	38	0	3
Urdhvam Environment Technologies Pvt. Ltd.	Agriculture	1	Farmers	1	156,140	1	Improving water quality and water security	1	2	36 million borewells	0.005%	0	41	0	4
Kisanwala	Agriculture	1	Farmers	1	155,000	1	increase in income and yie	1	2	500 million people	0.03%	0	35	0	4
Hesa	Livelihoods	1	BPL; Farmers; Women	1	3,039,000	0	Increase in income of hesaathi's (indirect beneficiaries); Increase in reach for SME	1	1	500 million people	0.60%	0	33	1	4
BigOHealth	Healthcare	1	BPL, Women	1	30,150	1	Saved 10 million rupees worth of money of the target beneficiaries	1	2	33 billion dollars	>1%	0	47	0	4

Appendix1：(2) Action Items

Action Plan					
Minutes points	**Action item**	**Responsibility**	**Timeline**	**Level of priority**	**Remarks**
In India, most of Startups are 1st generation, they only have ideas but they do not have business skillset. Converting idea to prototype and extending it into the market is the big achievement for them. In such situation, assessment indicators must be easy to understand for Startups.	To review and simplify assessment indicators and descriptions	Deloitte (with inputs from Sri Priya)	2022/12/31	High	
Risk assesment should be defined in a simple wordings	To review and simplify wordings for risk assessment	Deloitte (with inputs from Sri Priya)	2022/12/31	High	Sri Priya will come up with the suggestions both discussing with the committee
We should have rule book and define the format and depth of the answer for this scoring model.	To prepare rule book/SOP and define the format and depth of the answer for this scoring model.	Deloitte, TSIC	2022/12/31	High	To be reviewed continuously
Currently, the no of beneficiaries contains current status and future provision. But it must be separated. There should be two columns for number of future total target customers and number of current customers.	To separate the columns for current status and future projection	Deloitte	2022/12/31	High	
LGBTQ should be added as prioritize stakeholder. Telangana state should be the first state to adapt this aspect.	To add LGBTQ as priorized stakeholder	Deloitte	2022/12/31	High	Including LGBTQ into telangana state policy needs to be discussed with Prinspal Secretary
We will define "social impact startup" along with the committee aligning with the TG's vision and mission and global practice. After that, the difference of social impact entrepreneur and traditional entrepreneur also will be defined.	To discuss and agree on the definition of social impact startups	Sri Priya (with inputs from Advisory Committee)	2022/12/31	High	
When, what and how TOC is used for asses the depth of indicator, should be defined properly. We will do the study for that. Especially "what" and "when" are urgent to be clarified.	To set up a meeting with Villgro (impact investor) to deepen understanding on the application TOC model in the Indian context	Sri Priya	2022/12/31	Medium	Nanako san has the study of ToC based on the reference, however it is suggeted to discuss with Villgro to understand more on the Indian market to apply the ToC model
Binary scoring has difficulties for making difference in total score and importance of each indicator. It should have range and weight depending on startup growth stage. The startup stage also must be defined (POC/prototype/ seed stage/early stage/ revenue making) *categories of startups to be defined according to the global standard.	to define ranges and thresholds for each indicator. Ranges shall be defined in each sectors or stages of the startups	Sri Priya (with inputs from Advisory Committee)	2023/3/31	High	To be discussed in the Advisory Committee
We will list down the items to build the capacity of the startups. For example, we will introduce awareness of TOC etc.	To list down the items to build the capacity of the startups	Sri Priya	2023/6/30	Medium	

Suggestion Items
・ **We should form a committee for scoring model. The committee must be formed by different stakeholders who has different sight (members to be proposed)**
・ **The pilot study should be implemented with more startups (around 30 startups)**
・ Social impact startups sustainability and scalability in the market also should be considered.
・ Clarity of business can be used for first screening. If founders do not have it properly, they will be trained and will go to next stage after that.
・ SROI would be difficult due to the lack of data availability. We will adapt the impact measurement method which will be identified/suggested by committee.
・ This model will be used for grant, loan and equity funding. But some customization is needed depending on the type of funding.
・ Currently, equity funding is not envisaged in the subprojects. But to achieve the vision of Telangana State (create social impact startup ecosystem), equity should be included in this program so that the supporter can be a stakeholder of the startups.
・ Startup founder should take the decision of financial assistance schemes. We will add one column for type of financial assistance (grant, loan, equity) and the scores should be calculated based on that.

Appendix1：(3) SU List

Startup Name	Sector	Sub-sector	One Liner	Website
Next Skills 360	Education	EdTech	Manufacturer of software coding based educational kits	https://www.nextskills360.in/
Hesa	Livelihoods	Rural Tech	Correspondent banking solutions	https://hesa.co/
Urdhvam Environment Technologies Pvt. Ltd.	Water	Agriculture	Improving irrigation and drinking water quantity and quality of dried up / low-yielding borewells.	http://www.borecharger.com/
Avayaa kin care	Assistive Care	Assistive Tech	India's only 360 degree AI & IoT technology enabled personalized senior care platform providing Helath, Daily and Social needs assiatance to Independent elders. A one stop solution to all elder care needs.	https://www.anvayaa.com
MyUdaan	Assistive Care	Accessability	SPECIAL MOBILITY Solutions for Elderly & PwD's. A single epi-center app connecting Technology, Product & Services creating India's first Mobility ecosystem	https://www.myudaanstore.com
Mego	Food	Nutrition	Next Generation Smart Snacks with absolutely No Nonsense Ingredients	https://www.megoindia.com
Cydee	Energy	Solar Energy	We at Cydee are on a mission of making developing countries safer. We help responsible government and private organisations help optimise illumination as per standards resulting in a upto 40% Monetary and 30% energy saving.	
Innogle	Agriculture	Agritech	Use of IoT and AI for fishing and ocean activities	https://www.innogle.com/
Mowo Social Initiatives	Women Empowerment	Livelihoods	Enable Women in Mobility Services	https://www.mowo.in
Marut Drones	Agriculture	Agritech	Provides drone-based precision agriculture services	https://www.marutdrones.com/
Kisanwala	Agriculture	Tech	Online platform offering multi-category crop inputs	https://kisanwala.com/
Big0Health	Healthcare	Tech	Provider of an online doctor appointment booking platform	https://www.bigohealth.com/
Makspay	Finance	FinTech	AI- enabled platform for consumer and business loans targeted for street vendors	https://makspay.com/
Milletbowl	Food	D2C	Alternative food for nutrition - all Millet protein shake and snacks	https://www.milletbowl.com/
Bintix	Sustainable	Waste Managen	Door-step dry waste collection solution provider generating consumption insights	https://www.bintix.com/
Nemocare	Medical	Tech	Wearable device for monitoring infants	https://nemocare.in/
Aadha Trip	Supply Chain	Tech	Optimisation of empty trucks	https://aadhatrip.in/
Smart Terra	Water	Deeptech	AI-powered operational intelligence for water utilities	https://www.smartterra.io/
Genrobotics	Smart City	Robotics	Provider of sewer cleaning robots	https://www.genrobotics.org/
MistEO	Climate Change	Tech	mistEO is a CLIMATE RESILIENCE company providing climate change adaption know-how and technologies to private enterprises and governments to overcome the cost of climate change.	https://www.megoindia.com
blockapps.ai	Medical	Tech	PredAID – Global Virtual Pathology Lab for Cancer Screening & Diagnosis	blockapps.ai

S.No.	Project Numbering	Sub-Projects	QuestionA) All tested, Partially tested or New	Questions B) Implementing agency in charge of the Policy Statement	Other relevant parties involved	KPI for monitoring of project implementation	KPI for mid- to long-term impact assessment	Project name similar to Sub-project	Overview of the project similar to Sub-project	Project Budget	Target (entrepreneur, startup, MSME etc.)	Number of the target (entrepreneur, startup, MSME etc.)	Outcome/Output	Follow-up
1	GS-P1	Regular Innovation Yatras, Sodha Yatras, outreach events, briefings, sensitization workshops, and exploratory research.	Partially Tested	TSIC	We Hub, and Private organizations	a) The number of registrations for individual programs. 300 registrations for District Innovators meet-up series, 500 for Telangana Innovation Yatra, and 1000+ for Shodha Yatras. We aim to reach a yearly registration of 500 for District Innovators Meet-up, 1000 for Telangana Innovation Yatra, and 1000+ for Shodha Yatras. b) The number of participants is another measure of our impact and success. So far, we had 150 participants in the district innovators meet-up series, 120 participants in TIY, more than 1000 participants in Shodha Yatras. This, we want to increase to a yearly number of 300 participants for district innovators meet-up series, 250 participants in TIY, more than 1500 participants in Shodha Yatras.	To be provided	T-Innovation Yatra 2020	Telangana State Innovation Cell in collaboration with Kult Nizamabad conducted Telangana Innovation Yatra (TIY), a 4-day journey that aimed to make participants explore the real-time frugal innovations and expand their knowledge beyond the horizons of traditional ideation.		Students from state Universityies	120 students from 50 state universities	· 50 innovative ideas in 4 days, 30 of which received active mentoring and scale-up support · Introduce 120 attendees to Telangana's startup ecosystem · Five mentor organizations provide mentoring · A total of 120 participants were selected from among 500 applicants, and 10 organizations cooperated to implement the program, which attracted considerable interest. · The field programme had 4 routes, covering all 33 districts in Telangana, with a route length of up to 4000 km, allowing for a large-scale programme involving external agencies	
2	GS-P2	Creation of 66 Model Innovation Schools over next 5 years	New	We Hub	TASK	To be provided	a) Sustainability of 75% of the 66 Model Innovation Schools even after the 5 years of active intervention by We Hub. b) Creation and stabilizing of a school committee to maintain and ensure the continuous functioning of the innovation centers/labs. c) Ensuring that at least 50% of the students from these schools are engaged in STEAM-related projects/courses.	The student Entrepreneurship Pillar	The project includes; Preincubation Program with student start-ups from women colleges	8,500 INR/ student (approximately 850,000INR in total)	students	2237	We are presenting running a Preincubation Program with 50 student start-ups from 6 women colleges across Telangana. 74 students are being trained in Data Science in collaboration with WiDS (Stanford University) and MathWorks from International schools from 3 states including Telangana in India.	NA
3	GS-P3	Setting-up Innovation and Entrepreneurship Development Cells (IEDC) in 100 rural colleges of Telangana.	New	TASK	--	a) The number of innovations created yearly. b) The number of teams that are offered incubation support by T-Hub, We Hub.	To be provided	i4TS Program Technology Entrepreneurship Program iMake: IOT Maker Space	i4TS; i4TS is a program focused on Social innovation and Rural entrepreneurship. This program was implemented online to ensure that the youth in the remote districts of Telangana would benefit from this program. Technology Entrepreneurship Program; Entrepreneurship training for students	NA	Student, Potential Entrepreneurs	i4TS; iEMP (one of the components of i4TS): over 7,000 youth Ideathon: 1000 ideas are selected from 5000 ideas iEDP: Top 500 ideas selected under the ideathon Technology Entrepreneurs	14TS; iEMP: The program with the SDG's and decided to focus on 5 areas - Healthcare; Education, Skills and Employment; Green Economy; Agriculture & Improving last mile access are offered in 5 weeks (i.e. 1 area per week) . Each session comprised of one hour live bilingual session. iEDP: conducted 12 sesions (Program identification, zproblem solving, All about data, Data analysis, MMC, Getting pitch ready) The first round resulted in four startups, with one going to commercialization. Technology Entrepreneurship Program; A startup "JARSH tech" is the most successed startup from the program	NA
4	GS-P4	State-wide scouting, exhibition, recognition of new and existing Grassroot Innovators through Village Innovation Challenges and Intinta Innovator Exhibition for the next 5 years.	Partially Tested	TSIC	District Administration, Palle Srujana, DATA, Telangana Information & Technology Association (TITA)	Village Innovation Challenge a) The number of villages with active participation. b) Participation in large youth and the presence of diverse academic backgrounds. . c) Identification of problems that don't need the intervention of Govt. or Administration to ideate for innovative solutions. a) The total number of applications received from the Grassroot Innovators. We aim to receive 5000 applications in the next 10 years of the Intinta Innovator Exhibition. b) The total number of innovations that were exhibited across the state of Telangana during Independence Day. We aim to exhibit around 3500 Grassroot Innovations in the next 10 years. c) The number of stakeholders involved in the execution of the sub-project. We want to continue to scale this number based on the adopted execution strategy on a year-on-year basis. d) The number of citizens who visited the exhibition stalls across the state. Approximately 100,000 people visited the Intinta Innovator		Village Innovation Challenge	Village Innovation Challenge is an attempt to nurture the mindsets of Unemployed Rural Youth through the approach of establishing a culture of Innovation. The challenge aims to take the culture of innovation by inculcating Design Thinking & Innovation among the youth of the village, making the youth & sarpanch aware of the frugal approaches, enable an activity-based participative method among the villagers.		Unemployed Rural Youth	400 youngsters in total from diverse academic backgrounds	400 youngsters in total from diverse academic backgrounds have been made aware of Frugal Innovation & Sustainable Problem-Solving skills, with 15 village teams going through the full process of challenge, while 8 village teams have been able to conceptualise an innovative idea for the identified problem statement.	

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5	GS-P5	5 Mini T-Works in 5 Districts of the proposed IT Towers	New	T Works	--	a) Number of hours of usage of equipments/infrastructure by grassroot innovators, makers, local industries, MSMEs. b) Number of grassroot innovators using the facility. c) Workbench Occupancy d) Number of grassroot innovators participating in the Skill development & Talent development programs. e) Number and duration of Skill development programs for grass root innovators. f) Number of Hardware prototype developed for rural innovators.	To be provided	Procuring tools, machinery and related infrastructure for Phase-1 of the prototyping centre	T-Works has proceeded to procure equipment and related infrastructure (Rs.10 Cr for 78,000 sq ft prototyping centre coming up in Hyderabad).	Rs.10 Cr (Additional Rs.30 Cr is being raised)	Infrastructure		78,000 sq ft prototyping centre, The floor planning, shopfloor designs, machinery selection, placement and adjacency have been carried out and are in the implementation phase.	
6	GS-P6	Network for Promotion of Grassroot Innovation (NPGI) & Committee for Promotion of Social and Grassroot Innovation (CPSGI)	New	TSIC	T Works	a) The number of institutes networked through NPGI. b) The number of stakeholders created in each district in the process of formation of NPGI. c) The number of HNI's with a stake in the NPGI and CPSGI.	d) The number of patentable innovations coming through the NPGI. e) The number of grassroot enterprises that are generated through NPGI	NA						
7	GS-P7	Rural Innovation Development Program (RIDP) at T Works, Hyderabad	New	T Works	TSIC	a) Engineering prototypes: 20 per year b) Manufacturable Products: 5 per year (RIDP would aim to take around 20 promising grassroot innovators every year and help them make a world-class engineering prototype. 5 of these engineering prototypes shall be further refined into manufacturable, market-ready products.)	e) The number of grassroot enterprises that are generated through NPGI	Rural Innovation Development Program - Biopot/Biopress	Productised invention by rural innovators from Chintalakunta village, Gadwal Dricicit, Telangana Partnered with GE Appliances who have sponsored plant and machinery for mass manufacturing.	NA	rural innovator (a 14-year old student of Zilla Parishad High School (ZPHS))	1	Development of a machine that can churn out 500 biodegradable pots for use in nurseries	
8	GS-P8	Exposure visits, trainings and academic programs for Grassroot Innovators (maximum of 20 in a financial year)	New	TSIC	TASK	a) The number of innovators considered by the CPSGI for academic trainings, exposure visits. b) The number of innovators sent for academic trainings, exposure visits. c) The mapping of the skill growth of the innovators.	c) The mapping of the skill growth of the innovators.	Social Media Workshop for Grassroots Innovators	A 3-day Social Media workshop has been conducted for 10 Grassroots Innovators with Market-ready solutions that aimed to turn the innovators into storytellers of their own innovation journey by sensitizing them on Twitter, Facebook, Instagram. They have also been sensitised on designing posters and videos through various softwares.		Grassroots Innovators with Market-ready solutions	10 Grassroots Innovators with Market-ready solutions		
9	GS-P9	Setting-up a dedicated Grassroot Innovation Fund (GIF) of ₹ 100 Cr ($14.3 MM).	New	TSIC	T-Hub	a) The number and amount of Grants, and working capital loans disbursed to Innovators. b) The customer size, turn-over, revenue of the enterprises funded. c) Market Capitalization.	b) The customer size, turn-over, revenue of the enterprises funded. c) Market Capitalization.	Telangana State Innovations with Rural Impacts Incentives (TSIRI)		30 lakhs INR	Startups	18	The project is ongoing and still to be seen. 1st trench is done.	
10	GS-P10	District Procurement Fund for procurement of Grassroot Innovation Products	New	TSIC	District Administration	a) The amount of local procurement at the district level on a yearly basis. c) The amount of innovations procured by the state line departments.	b) The number of societal issues that the procurement impacted.	Telangana State Innovations with Rural Impacts Incentives (TSIRI)		30 lakhs INR	Startups	18	The project is ongoing and still to be seen. 1st trench is done.	
11	GS-P11	Dedicated Scale-up Fund	New	TSIC	--	a) The amount disbursed yearly. b) The recovery success rate. c) The combined annual turnover of the MSMEs established through the Scale-up Fund.	c) The combined annual turnover of the MSMEs established through the Scale-up Fund.	Telangana State Innovations with Rural Impacts Incentives (TSIRI)		30 lakhs INR	Startups	18	The project is ongoing and still to be seen. 1st trench is done.	
12	GS-P12	Dedicate Support Fund for women-led MSMEs	New	We Hub	--	To be provided	a) Ensuring that at least 60% of enterprises engaged in the program are able to automate their production processes through the introduction of a technological component. b) Enabling at least 50% of the enterprises to reach newer markets. c) Ensuring that at least 70% of enterprises are equipped to increase their rates of employment.	An 18 Month program	Revolving fund for Women led MSME which completes in 18 months	40 lakhs INR	Women led MSME	12	INR 15 lakhs is allocated to 6 Women led MSME; s as they needed working capital support after first wave of Pandemic. The success rate (the functioning of the above mentioned MSMEs and their efficiency to payback in 3 installments after 18th month to some more selected entrepreneurs) is almost 97% An additional balance of INR 25 lakhs will be disbursed in this financial year, possibly in Q4 provided the availability of eligibility candidates.	The revolving fund will be passed on to the next entrepreneur. MSMEs selected in the first phase will serve on the next phase's Committee, which will evaluate them and advise the selected

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13	GS-P13	Zaheerabad- National Investment Manufacturing Zone (NIMZ)	New	TSIIC	--	To be provided	a) The number of grassroot innovators/rural innovators based out of the SME Parks. b) Direct employment generated. c) Quantum of the private investment from the SMEs.	Fab City Mega Food Park, Khammam	Mega food park: The primary objective of the Mega Food Park is to provide modern infrastructure facilities for the food processing along the value chain. The main feature of the Scheme is a cluster based approach. The scheme will be demand-driven, and will facilitate food processing units to meet environmental and safety standards.	Mega food park; 109.59 Cr INR	MSME		Mega food park; The expected outcome is increased realization for farmers, creation of high quality processing infrastructure, reduction in wastage, capacity building of producers and processors and creation of an efficient supply chain along with significant direct and indirect employment generation.	
14	GS-P14	Kakatiya Mega Textile Park at Warangal	New	TSIIC	--	To be provided	a) The number of grassroot innovators/rural innovators based out of the SME Parks. b) Direct employment generated. c) Quantum of the private investment from the SMEs.	Fab City Mega Food Park, Khammam	Mega food park: The primary objective of the Mega Food Park is to provide modern infrastructure facilities for the food processing along the value chain. The main feature of the Scheme is a cluster based approach. The scheme will be demand-driven, and will facilitate food processing units to meet environmental and safety standards.	Mega food park; 109.59 Cr INR	MSME		Mega food park; The expected outcome is increased realization for farmers, creation of high quality processing infrastructure, reduction in wastage, capacity building of producers and processors and creation of an efficient supply chain along with significant direct and indirect employment generation.	
15	GS-P15	Development of MSE Parks	New	TSIIC	--	To be provided	a) The number of grassroot innovators/rural innovators based out of the SME Parks. b) The direct employment generated. c) Quantum of the private investment from the SMEs.	Fab City Mega Food Park, Khammam	Mega food park: The primary objective of the Mega Food Park is to provide modern infrastructure facilities for the food processing along the value chain. The main feature of the Scheme is a cluster based approach. The scheme will be demand-driven, and will facilitate food processing units to meet environmental and safety standards.	Mega food park; 109.59 Cr INR	MSME		Mega food park; The expected outcome is increased realization for farmers, creation of high quality processing infrastructure, reduction in wastage, capacity building of producers and processors and creation of an efficient supply chain along with significant direct and indirect employment generation.	
16	GS-P16	Creation of Corpus Fund for "Telangana Industrial Health Clinic Limited (TIHCL)	New	TIHCL	--	a) Number of MSMEs who recovered after the active deployment of TIHCL. b) The recovery rate and amount.	a) Number of MSMEs who recovered after the active deployment of TIHCL	NARI (Nari assistance revival of industries) Revival and Rehabilitation (Margin Loans)	Bridge Finance: A bridging arrangement till govt approved financial incentives are received. Margin Funding: To fund the margin to be brought by the borrowers. Critical Asset Funding: To save the units from falling under NPA category with other FIs.	NARI: 0.4 Cr INR Revival and Rehabilitation: 20,696,461 INR (amount disbursed)	MSME	NARI: 2 Revival and Rehabilitation: 14	On going (Expected outcomes are; Immediate relief from the stress situation and time to recoup Utilization of funds for working capital / reduction of other term debts till the Govt provided incentives are received and the loan gets closed)	NA
17	GS-P17	Revival of District Industries Centres of Telangana and the commissionerate of Industries to focus on MSMEs. To make them the nodal agency for capacity building of the MSMEs, Trainings, Exposure Visits; Transition Program for MSMEs.	New	Commissionerate of Industries	District Administration, DIC	a) The number of MSMEs established by the active intervention of DIC. b) The number of participants in the promotional activities. c) Number of DIC officials sent for industrial exposure visits. d) The number of transition programs, training programs, exposure visits conducted. e) The size of the MSME network created and enhanced year-on-year.	a) The number of MSMEs established by the active intervention of DIC e) The size of the MSME network created and enhanced year-on-year.	Micro and Small Enterprises – Cluster Development Program	Scope of the scheme; Diagnostic Study Resourcing of Technology Facilitating the transfer of technology from producer to end user. Setting up of Common Facility Centres(CFCs). R & D needs Organising workshops, Seminars, Training and Study visits for quicker diffusion of technology across the cluster of small enterprises.	Diagnostic Study - Maximum cost Rs. 2.50 lakhs. Soft interventions - Maximum cost of project Rs. 25.00 lakh, with GoI contribution of 75% (90% for Special Category States and for clusters with more than 50% women/micro/village/SC/ST units)	Infrastructure	NA	MSE -CDP have been implemented in a time bound manner and are functional like aero space park, pharma park etc have been major draw for all the industries across the globe.	
18	GS-P18	Setting-up of a pioneering educational institute for student Grassroot Innovators	New	TSIC	TASK, T-Hub, WE Hub, RICH, T Works	a) To establish centre of excellences within Grassroot Innovation to evolve as a leader of Grassroot Innovation. 36 b) To develop a transformative educational model for Grassroot Innovation with high replayability. c) The number of patents coming out of the faculties, students, alumnus. d) The number of partnerships created year-on-year.	b) To develop a transformative educational model for Grassroot Innovation with high replayability. c) The number of patents coming out of the faculties, students, alumnus.	NA						

S.No.	Project Numbering	Sub-Projects	QuestionA) All tested, Partially tested or New	Questions B) Implementing agency in charge of the Policy Statement	Other relevant parties involved	KPI for monitoring of project implementation	KPI for mid- to long-term impact assessment	Project name similar to Sub-project	Overview of the project similar to Sub-project	Project Budget	Target (entrepreneur, startup, MSME etc.)	Number of the target (entrepreneur, startup, MSME etc.)	Outcome/Output	Follow-up
19	SS-P1	Creation of 4 sandboxes on the lines of Kakatiya Sandbox of Nizamabad.	New	TSIC	Kakatiya Sandbox of Nizamabad	To be provided	a) The number of farmers, artisans, micro-entrepreneurs directly impacted. b) The amount of employment generated. c) The number of students skilled and counseled. d) The number of social start-ups produced. (This will be a KPI which can be measured only after a substantial year of operation of the Sandboxes.)	Kakatiya Sandbox	Demand-driven Programs Structured Experimentation Cost-sharing model with stake-holders Leveraging Technology for Scale		Students Rural youth Micro Enterprenuer Farmers Startups	1.5M+ Students Skilling for Employability: 25,000 Student (65,000 students over 5 years.) 5000 Micro-Entrepreneurs 90K farmers	2 Million Lives-Skilling, Livelihood and Healthcare Programs $50M/year-incremental income generated from High Enrollment from Women in Skilling and Micro Entrepreneurship High Enrollment from Women in Skilling and Micro Entrepreneurship Effective and collaborative network of resources	
20	SS-P2	Setting up of 2000 sqft. of dedicated space for social enterprises in the 5 IT Towers (Warangal, Karimnagar, Mahbubnagar, Nizamabad, Khammam).	New	T-Hub	TSIC, We Hub, RICH	a) 2 Program per month: Monthly ideathon and other programs to gather and grooming ideas.	b) Scale 250+ idea level social start-ups. c) To produce 10 solutions through the 5 social impact spaces for the perusal and implementation by the local administration and the government	The Covid-19 Innovation Challenge	It is an ideation program aimed to empower student innovators to get mentorship from renowned subject matter experts, transforming ideas into business propositions under the aegis of T-Hub and CCMB (The Centre for Cellular & Molecular Biology).	11.5 lakhs INR	Students	20 selected applications' ideas got tested (out of 300 participants)	· Delivered 1st of kind program and is benefiting the other program as well (T-Tribe is getting Rs. 200,000 as part of it) · 2 Webiniar and 2 Interactive sessions · 75 NPS from the current Corporate Survey partners · Idea Canvas got tested	NA
21	SS-P3	Girls/ Women in STEAM and Entrepreneurship	Partially Tested	We Hub	--	a) Partner institutions engaged: Engaging with 5 schools and 5 colleges every year. Each school will be handheld for three years. A total of 30 institutions will be covered under this program. b) Assessing query rate: Assessing if at least 10% of the 300 candidates per partner institute can to raise questions. c) Recorded data for change in aspirations: Tracking aspirations through targeted interventions and feedback. Based on technical feedback and questionnaires filled periodically (One every 3 sessions) d) Grounding of Clubs, societies: Creation of 1 Clubs and societies in each of the schools and colleges engaged. These will in turn act as vehicles for maintaining the sustenance of the initiative. e) Trackable metrics for Drop Offs: Measuring Drop Off Rate and Success Rate YoY (Starting from Year 1)	To be provided	The student Entrepreneurship Pillar	The project includes; Preincubation Program with student start-ups from women colleges	8,500 INR/ student (apploximately 850,000INR in total）	students	2237	We are presenting running a Preincubation Program with 50 student start-ups from 6 women colleges across Telangana. 74 students are being trained in Data Science in collaboration with WiDS (Stanford University) and MathWorks from International schools from 3 states including Telangana in India.	NA
22	SS-P4	Installation of Social Impact Zone on 8th and 9th floor of T-Hub Phase 2 with a comprehensive social impact ecosystem for tech start-ups.	New	T-Hub	--	e) Operationalize Social Design Thinking Labs for co-creating 10 solutions for national and global problems. f) Training 200 Managers: Incubator manager training for 200 social impact incubator managers with a playbook and network. g) Build a mentor pool of 200 global mentors. h) 6 Service Providers: Enable strong service provider relationships to save costs and promote efficiency.	a) Scale 300 start-up through space connects, and access to funding. b) Impact 3000 start-ups throughout India. c) 20+ Japanese start-ups impact through space. d) 15+ other International start-ups impact through the space.	Digital India Scaleup Program	The Ministry of Electronics and Information Technology has partnered with T-Hub to create scale up opportunities for the Hardware/IoT start-ups in India. This one-of-a-kind partnership will strive to create the next level innovation ecosystem for the existing ideas, prototypes, start-ups, and incubators.	1.7 Crore INR	Hardware/IoT start-ups	12 startups (Originally 13 but 1 startup got acquired amidst the programme)	Achieved cohort valuation of 716 Crore INR (approx.) with a growth rate of 446% (Cohort Valuation at the start of the programme 131 crore INR)	NA
23	SS-P5	Dedicated support fund for social impact start-ups	New	T-Hub	VCs and LPs	a) 6 Partners: Recognising and partnering with 6 different domestic and international partners for enabling and supporting social impact start-ups b) Understanding thoroughly the investment thesis of social impact investors across the board c) 1 co-innovation lab: Build a co-innovation lab with other partners working in climate tech. d) Set up a 100 Cr multi-partner fund with LP's from across the globe with aligned interests. e) Operationalise and invest from the 3 funds while continually working with the portfolio to enable their scale and growth.	To be provided	Start-up India seed fund	The objective of the scheme is to support and fuel early stage funding in startups. The fund is offered as convertible debt rather than loans.	5 Cr INR for 3 years (rolling fund)	Student innovator	1800 student innovators from academic institutions worked on 600 ideas	The 30 innovative projects were shortlisted for advanced mentoring	Maximum 50 lac per startup offered, 2 investments and 2 in pipeline are implemented

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24	SS-P6	Government Mentorship Program for 20 government departments in the next 5 years.	Partially Tested	TSIC	Government Departments	a) The number of start-ups getting introduced to the Government and their progress in each stage. b) The number of Policymakers getting sensitised with upcoming technologies and start-ups. c) The number of Point of Contact/Work orders. d) The number of officials who mature to become interested in the innovation & start-up after initial sensitization. We want to reach a 25% success rate on this KPI	To be provided	Government Mentor Program (GMP)	The Government Mentor Program (GMP) is an initiative envisioned to build familiarity with the Government by bringing officials from relevant departments to mentor startups. It is believed that startups work on innovative solutions that have the potential to reform existing processes and services. The goal of GMP is to assist entrepreneurs eyeing the Government as a client to establish connections and seek mentorship from relevant Government officials. The applications from startups are invited based on the problem statements published by the departments 1.The applicants are selected by a panel consisting of government officials and industry experts 2.Startups are mapped to respective HODs/Officials of the departments to further explore the co-creation 3.Officials dedicate three months to the selected start-ups and mentor them by having weekly calls on discussing goals/priorities and monthly meetup for addressing the issues.		Government officials from relevant departments to mentor startups		1.GMP has successfully broken the systematic cultural barriers between Startups and Government through their mentorship programme where startups understand how bureaucracy works and government officials are introduced to the potential of emerging technologies in solving citizen-centric problems around governance. 2.GMP has also created a sustainable process for procurement of new-age social startups by government bodies; Hyderabad based startup RHPD Solutions is procured by Telangana State Traffic Police Department to manage traffic signals by Google maps' real-time data. 3.GMP has brought a behavioral change in the Government's perception towards startups. The mentors as well as other government departments in the state started viewing startups as a legitimate choice as a partner and/or vendor to solve pertinent social problems. Several state government bodies including T-Hub and Emerging Technologies wing have implemented similar programs and facilitated procurement of 25+ startups by Government bodies.	
25	SS-P7	Corporate Innovation Program for the Japanese Ecosystem	Completely Tested	T-Hub	Japanese Corporate CSR teams	a) T-Hub will be doing 1 corporate accelerator program in a year. b) Corporate customers to get access to at least 75 start-ups (social impact start-ups) in the acceleration programs. (Note - For some very niche challenges lower numbers of applications are pre-agreed and accepted with corporate). c) Corporate will be able to get the benefit of either 2 PoC work extensions OR 1 investment into start-ups in any program which is larger than 6 months tenure.	To be provided	Road To Shine	Road To Shine is a human-centred innovation program for India's young engineers who want to drive innovation and shape the future. This program is co-hosted by Hiroshima Prefecture Japan and T-Hub.	3.5 lac INR	young engineers	T-Hub received around 1273 registrations, 74 applications, 20 participants and 5 finalists.	T-Hub received around 1273 registrations, 74 applications, 20 participants and 5 finalists.	5 finalists are currently working with 5 Hiroshima companies.
26	SS-P8	T-Bridge program for the Japanese Ecosystem.	Completely Tested	T-Hub	Japanese startups interested in Indian market, Indian startups interested in Japanese market, implementing partners and funding partners	b) Participation in 3 global start-up events & 1 Indian start-up summits every year.	a) T-Hub aims to enable market access for 15 Indian start-ups to Japan Ecosystem and 75 Japanese start-ups to India market for the next five years through 5 International exchange programs i.e. 5 T-bridge.	Mobility Challenge	This challenge provided select start-ups an opportunity to execute a paid Proof of Concept, mentorship, and opportunity to become a business partner of Maruti Suzuki	7 lakhs INR (pilot approach)	Startups	6 startups	2 winning startups received a POC grant of 10 lakhs INR each	NA
27	SS-P9	To create T-JICA, an interactive platform with details about all the projects actively supported by JICA.	New	TSIC	T-Hub, T Works, We Hub, TASK, RICH, T Works, CoI, TIHCL, TSIIC, Central T-JICA PMU	a) The expression of interest received from the Japanese ecosystem on the platform. b) The monthly traffic volume on the platform	To be provided	Telangana State Startup portal	The TSIC has already launched the Telangana State Startup portal to engage and support startups. TSIC is also building another interactive platform to engage and support teachers across the state, especially to sensitize them about Innovation, Design Thinking, and Entrepreneurship. Similarly, an interactive platform with details about all sub-projects will be created for efficient project management.		startups	NA（every startups can register their own to the portal.	Telangana State Startup portal, from launch in Sep 2021, has been providing mentoring startups and so far, has recognized 243 startups, covered grievance redressal for 300 startups.	
28	SS-P10	To reduce malnutrition among the rural, tribal populations of Telangana.	New	RICH	ICRISAT, World Vegetable Center, ICMR-NIN, ICAR-NRCM	Quantitative Indicators b) No. of tribal districts to be covered under the project: 1 c) Tribal population to be benefitted: 2600 d) No. of cereal food processing units to be established: 1 e) No. of meat processing units to be established: 1 f) No. of nutrition rich crop varieties to be introduced: 5 g) No. of improved fodder hybrids/varieties to be introduced: 5 h) No. of seed kits to be distributed: 2000 i) No. of improved animal breeds to be introduced: 6 (3-poultry, 3-goats/sheep) j) No. of nutri-rich foods to be formulated and introduced: 3 k) No. of farmer trainings to be conducted: 6 l) No. of capacity building programs on food technology and processing unit management: 2 m) No. of nutrition education programs to be conducted: 2 n) No. of Digitally Enabled Extension Representatives (DEER) to be trained: 10	o) Percentage reduction in anaemia among target population: 80% p) Percentage of target population showing improvement in overall health status: 80% Qualitative Indicators: a) Nutrition amelioration protocol developed under the project, used by the Department of Health, Medical & Family Welfare and Tribal Welfare Department, Government of Telangana and other states. b) Extension of nutrition improvement project to other tribal regions of the state c) Increased income to target beneficiaries from the production and supply of nutri-rich foods to the government-run nutrition programs	NA						

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29	SS-P11	To develop practical, easy to use, cost effective solutions for water and waste management for urban poor in Hyderabad.	Partially Tested	RICH	ASCI	To be provided	a) Operational metrics: • Amount of waste processed • Utilization factors of equipment installed b) Economic metrics: • Cost of processing waste for each waste stream c) Impact/ Quality of life (Health) metrics: d) Volume metrics: • Size of the population impacted e) Value metrics: • To be developed in consultation with civic authorities f) Partner organization metrics: • Number of partners supported • Scaling impact during the course of the project (CAGR)	City Cluster Project BioAsia	City Cluster Project The provincial government established RICH in 2017. The idea that led to its establishment was to create an organization that would connect various research institutes and create a place where each could collaborate. I presented the idea to PSA (Office of the Principal Science Advisor to the Government of India) in Delhi in 2018 and they liked the idea. Later, in 2019, PSA proposed a similar initiative that led to the creation of similar institutions in 9 cities across the country. BioAsia This rapidly evolving superfluid market is putting pressure on the life sciences (LS) companies to change their business models and personalize their products and services. The question life sciences companies must address urgently is how they should be preparing themselves for the coming future. BioAsia 2020 explores the capabilities that Life sciences companies should invest in Today to thrive and create value Tomorrow.		BioAsia BioAsia 2020 will bring together the global industry leaders, researchers, policy makers, innovators, and investors together on one platform to deliberate on adapting business models today to catering to the changes of tomorrow.		BioAsia RICH lobbied for the creation of a section for life sciences startups.	
30	SS-P12	To reduce vector-borne diseases in Hyderabad through scientific vector control measures.	Partially Tested	RICH	CSIR-IICT, CSIR-NEIST, IIT-H, IIIT-H, National Vector Borne Disease Program	Quantitative Indicators a) No. of cities in Telangana to use real-time data collection systems to record the spread of vector-borne diseases: 5 b) No. of water hyacinth-based paper making units: 1 c) No. of water hyacinth-based composting units: 1 d) Heat map on 30 mosquito breeding sites for Hyderabad developed e) Forecasting model for vector-borne diseases (for 10 years) for Hyderabad developed f) No. of mosquito adult tracking IoT devices to be deployed: 30 g) Imaging technology with algorithms for drone-based estimation of mosquito larva developed and tested h) Protocol for using semio-chemicals to control mosquito breeding standardised i) Scientific pesticide formulations and spray schedules standardised, which could be used across the country j) No. of lakes to be deployed with bioremediation technology: 1 k) No. of lakes to be completely brought under	Quantitative Indicators a) No. of cities in Telangana to use real-time data collection systems to record the spread of vector-borne diseases: 5 b) No. of water hyacinth-based paper making units: 1 c) No. of water hyacinth-based composting units: 1 d) Heat map on 30 mosquito breeding sites for Hyderabad developed e) Forecasting model for vector-borne diseases (for 10 years) for Hyderabad developed f) No. of mosquito adult tracking IoT devices to be deployed: 30 g) Imaging technology with algorithms for drone-based estimation of mosquito larva developed and tested h) Protocol for using semio-chemicals to control mosquito breeding standardised i) Scientific pesticide formulations and spray schedules standardised, which could be used across the country j) No. of lakes to be deployed with bioremediation technology: 1 k) No. of lakes to be completely brought under bio-larvicide vector control: 10 l) No. of lakes to be sprayed with improved pesticide formulations: 185 m) No. of community participation programs to be conducted: 10 n) Percentage reduction in the incidence of vector-borne diseases: 30% Qualitative Indicators a) Effective use of real-time data by public health authorities b) Use of heat map by urban development planning activities c) Use of ten year forecast on outbreak of vector borne diseases for Hyderabad d) Use of scientific approaches in public health management by other municipalities	City Cluster Project BioAsia	City Cluster Project The provincial government established RICH in 2017. The idea that led to its establishment was to create an organization that would connect various research institutes and create a place where each could collaborate. I presented the idea to PSA (Office of the Principal Science Advisor to the Government of India) in Delhi in 2018 and they liked the idea. Later, in 2019, PSA proposed a similar initiative that led to the creation of similar institutions in 9 cities across the country. BioAsia This rapidly evolving superfluid market is putting pressure on the life sciences (LS) companies to change their business models and personalize their products and services. The question life sciences companies must address urgently is how they should be preparing themselves for the coming future. BioAsia 2020 explores the capabilities that Life sciences companies should invest in Today to thrive and create value Tomorrow.		BioAsia BioAsia 2020 will bring together the global industry leaders, researchers, policy makers, innovators, and investors together on one platform to deliberate on adapting business models today to catering to the changes of tomorrow.		BioAsia RICH lobbied for the creation of a section for life sciences startups.	
30	SS-P12													
31	SS-P13	To create an AI-based, easy to use solution - DHARA WASH (Digital Home-based Artificial Intelligence enabled Real-time Appropriate interventions for Water, Sanitation and Hygiene)	Partially Tested	RICH	PHFI/IIPH-Hyderabad, Dept. of Health, Medical and Family Welfare, Gov't of Telangana, Intel, Honda, Microsoft Research, Dr.Reddy's Foundation, Lepra Society, American Leprosy Mission	a) Population covered b) Number of localities covered c) Number of health promotion campaigns conducted d) Reduction in the number of vector-borne disease cases e) Innovative technologies utilised in the project (type and number)	To be provided	City Cluster Project BioAsia	City Cluster Project The provincial government established RICH in 2017. The idea that led to its establishment was to create an organization that would connect various research institutes and create a place where each could collaborate. I presented the idea to PSA (Office of the Principal Science Advisor to the Government of India) in Delhi in 2018 and they liked the idea. Later, in 2019, PSA proposed a similar initiative that led to the creation of similar institutions in 9 cities across the country. BioAsia This rapidly evolving superfluid market is putting pressure on the life sciences (LS) companies to change their business models and personalize their products and services. The question life sciences companies must address urgently is how they should be preparing themselves for the coming future. BioAsia 2020 explores the capabilities that Life sciences companies should invest in Today to thrive and create value Tomorrow.		BioAsia BioAsia 2020 will bring together the global industry leaders, researchers, policy makers, innovators, and investors together on one platform to deliberate on adapting business models today to catering to the changes of tomorrow.		BioAsia RICH lobbied for the creation of a section for life sciences startups.	

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32	SS-P14	To build a demonstration cum experimentation facility for small farmers and small Agri manufacturers to improve farm productivity.	New	RICH	ICRISAT, ICAR-IIMR, PJTSAU, ICAR-IIRR, IIIT-H	Indicated in the activites	Quantitative Indicators a) No. of Agri SMEs to be incubated: 250 b) No. of SMEs to have office at NAREC: 120 c) No. of SMEs expected to use lab facilities and production facilities: 65 d) No. of foreign companies to be soft landed: 25 e) Funds to be mobilised for SMEs: $7.5 million f) No. of turn-key consultancy projects: 10 g) No. of training programs to be conducted: 24 h) No. of collaborative projects: 4 i) Increase in technology adoption percentage in Telangana: 20% j) No. of farm families benefitted: 50,000 k) No. of agro innovations introduced: 50	City Cluster Project BioAsia	City Cluster Project The provincial government established RICH in 2017. The idea that led to its establishment was to create an organization that would connect various research institutes and create a place where each could collaborate. I presented the idea to PSA (Office of the Principal Science Advisor to the Government of India) in Delhi in 2018 and they liked the idea. Later, in 2019, PSA proposed a similar initiative that led to the creation of similar institutions in 9 cities across the country. BioAsia This rapidly evolving superfluid market is putting pressure on the life sciences (LS) companies to change their business models and personalize their products and services. The question life sciences companies must address urgently is how they should be preparing themselves for the coming future. BioAsia 2020 explores the capabilities that Life sciences companies should invest in Today to thrive and create value Tomorrow.		BioAsia BioAsia 2020 will bring together the global industry leaders, researchers, policy makers, innovators, and investors together on one platform to deliberate on adapting business models today to catering to the changes of tomorrow.		BioAsia RICH lobbied for the creation of a section for life sciences startups.	
32	SS-P14						l) No. of international partnerships (Universities, Research institutes, and Private companies): 10 m) No. of SMEs to be trained on IT technologies: 450 n) No. of patents to be filed: 40 o) No. of direct/indirect employment to be generated: 2000 p) Revenue to be generated within project period: INR 57.16 M Qualitative Indicators a) Facility at NAREC used by all stakeholders including small farmers, Small Agricultural Manufacturers, Seed companies, Agri-Biotech companies and government agencies b) Setting up three satellite centers of NAREC in Nizamabad, Karimnagar, and Warangal c) Similar tinkering labs could be established in other states.							
33	SS-P15	Design and Development of low cost medical devices.	New	T Works	RICH, District Medical Administration	a) Number of medical device products designed and developed: at least two per year similar to the mechanical ventilators. b) Number of low-cost medical devices deployed in the medical facilities such as government hospitals, clinics, etc - at least 20 per year.	To be provided	Affordable and accessible healthcare devices	Designed and developed oxygen concentrators developed with emphasis on reliability, quality, and local manufacturing and support. Procured by GE Appliances, to be donated to those in need.	NA	MSME (GE Appliances)	1	Desing and development of oxygen (O2) concentrators	
34	SS-P16	Setting-up of Common effluent treatment plant with zero liquid discharge (ZLDs).	New	TSIIC	--	a) The number of industries that use CETP. b) The reduction in water pollution level in the surrounding areas.	To be provided	Mega Food Park, Khammam	Mega food park: The primary objective of the Mega Food Park is to provide modern infrastructure facilities for the food processing along the value chain. The main feature of the Scheme is a cluster based approach. The scheme will be demand-driven, and will facilitate food processing units to meet environmental and safety standards.	Mega food park; 109.59 Cr INR	MSME		Mega food park; The expected outcome is increased realization for farmers, creation of high quality processing infrastructure, reduction in wastage, capacity building of producers and processors and creation of an efficient supply chain along with significant direct and indirect employment generation.	

Telangana Startup and Innovation Ecosystem Strengthening Project

Discussion Paper
for Support for Project Formulation

December 2022

Deloitte Tohmatsu Financial Advisory LLC.

Deloitte Tohmatsu Venture Support Co., Ltd.

Contents

Review of each executing agency's overview and subproject update

The overview of each implementing agency has been compiled based on the responses to the questionnaire. Follow-up is underway on some missing information.

Overview of each implementing agency (as of July 31, 2022)

T-Hub

- Number of staff: 36
- budget execution in 2020
  income 12.04 Cr
  expenditure 12.04 Cr
- Number of start-up support
  1,400 in total
- KPI setting: Yes
- Measurement of training
  outcomes: Yes
- Accomplishments of similar
  projects: Yes

We Hub

- Number of staff: 22
- budget execution in 2020
  income 4.10 Cr
  expenditure 2.61 Cr
- Number of start-up support
  224 in 2020
- KPI setting: Yes
- Measurement of training
  outcomes: Yes
- Accomplishments of similar
  projects: Yes

T-Works

- Number of staff: 27
- budget execution in 2020
  income 3.38 Cr
  expenditure 3.08 Cr
- Number of start-up support
  161 in total
- KPI setting: Yes
- Measurement of training
  outcomes: Yes
- Accomplishments of similar
  projects: Yes

TSIC

- Number of staff: 14
- budget execution in 2020
  income 2.60 Cr
  expenditure NA
- Number of start-up support
  243 in total
- KPI setting: Yes
- Measurement of training
  outcomes: Yes
- Accomplishments of similar
  projects: Yes

TASK

- Number of staff: 72
- budget execution in 2020
  income 2.07 million USD
  expenditure 0.83 million USD
- Number of start-up support
  33 in total (2,000
  entrepreneurs)
- KPI setting: Yes
- Measurement of training
  outcomes: Yes
- Accomplishments of similar
  projects: Yes

RICH

- Number of staff: 7
- budget execution in 2020
  income 4.87 Cr
  expenditure 1.29 Cr
- Number of start-up support
  200 in total
- KPI setting: Yes
- Measurement of training outcomes:
  Na
- Accomplishments of similar projects:
  Yes
  （None for SS-P10 project）

TSIIC

- Number of staff: 84
- budget execution in 2020
  income 805.31 Cr
  expenditure 540.88 Cr
- Number of start-up support
  None
- KPI setting: No
- Measurement of training
  outcomes: Na
- Accomplishments of similar
  projects: Yes

TIHCL

- Number of staff: 9
- budget execution in 2020
  income 1.24 Cr
  expenditure 1.95 Cr
- Number of MSE support
  705 in total
- KPI setting: Yes
- Measurement of training
  outcomes: Na
- Accomplishments of similar
  projects: Yes

Commissionerate of Industries

- Number of staff: 208
- budget execution in 2020
  income 511.11 Cr
  expenditure 510.77 Cr
- Number of start-up support
  10,000 in total
- KPI setting: Yes
- Measurement of training
  outcomes: Yes
- Accomplishments of similar
  projects: Yes

The contents of the sub-projects in Japanese ODA loan project are generally unchanged from the initial proposal, and the details of the newly added projects for TSIIC are currently being confirmed.

changes to subprojects

T-Hub	We-Hub	T-Works	TSIC	TASK
• None	• None	• Only the budget breakdown has changed (no change to the total amount or project outline).	• None	• None

RICH	TSIIC	TIHCL	Commissionerate of Industries

• None	• No change on GS-P13, GS-P15, SS-P16.
	• There is change on GS-P14
	  budget increase (INR189.55 Cr -> INR 300 Cr)
	  --> **No change**
	• New additional projects --> **No change**
	➢ Hyderabad Pharma City
	➢ Logistic Park & Dry ports
	➢ Setting up of Resource Centres within DICs Campus
	➢ Industrial Infrastructure Development Fund
		• None	• None

Details of project implementation

TSIC

We understand that the main implementation processes and structures are common regarding finance subprojects by TSIC

TSIC: Implementation structure for finance subprojects (1/3)

Proposed Subprojects

- **GS-P9   Setting-up a dedicated Grassroot Innovation Fund (GIF) of ₹ 100 Cr ($14.3 MM).**
- **GS-P10   District Procurement Fund for procurement of Grassroot Innovation Products**
- **GS-P11   Dedicated Scale-up Fund**

Standard implementation process answered in the questionnaire

Instructions for supporting grassroots and rural innovators and start-ups have been formally issued by ITE&C and will be implemented based on these instructions.

The instructions specify project objectives, grant types and amounts, eligibility criteria, application procedures, monitoring and evaluation methods.

TSIC implementation structure answered in the questionnaire

- **TSIC Foundation (The Investment Manager will be after ODA Loan approval)**

TSIC Foundation has been established as the governing body for fund-type subprojects implemented by all implementing agencies and will function as the Investment Manager as Japanese ODA loans are implemented. The organization will have one or two staff members and experts in fund and grassroots projects will be assigned. The Investment Advisory Committee and the Investment Manager's Board of Directors oversee the Investment Manager. TSIC does not have its own financial institution.

- **Grassroot Advisory Committee (GAC) (The Investment Manager will be assigned be after ODA Loan approval)**

Grassroot Advisory Committee (GAC) plays a consultative role to advise on the vision, goals and approach/strategy for the grassroot and social innovation ecosystem in Telangana. The committee will advise on the criteria of recognizing the innovators and will provide recommendations on various schemes, grants, to be provided to the Innovators and the startups with grassroot/rural impact. The Grassroot Advisory Committee is composed of members from the Government, Academia and the Industry. The CIO of TSIC will be the Convener of the Committee.

- **Investment Advisory Committee (GS-P9, GS-P10, GS-P11, GS-P12, SS-P5) (The Investment Manager will be assigned be after ODA Loan approval)**

One TSIC project manager and two staff members will be responsible for GS-P9, GS-P10 and GS-P11.

The Sub-PMU of TSIC's subprojects will be established before subprojects start.

The diagram below summarizes our understanding of the implementation structure for finance subprojects by TSIC

TSIC: Implementation structure for finance subprojects (2/3)

Implementation structure
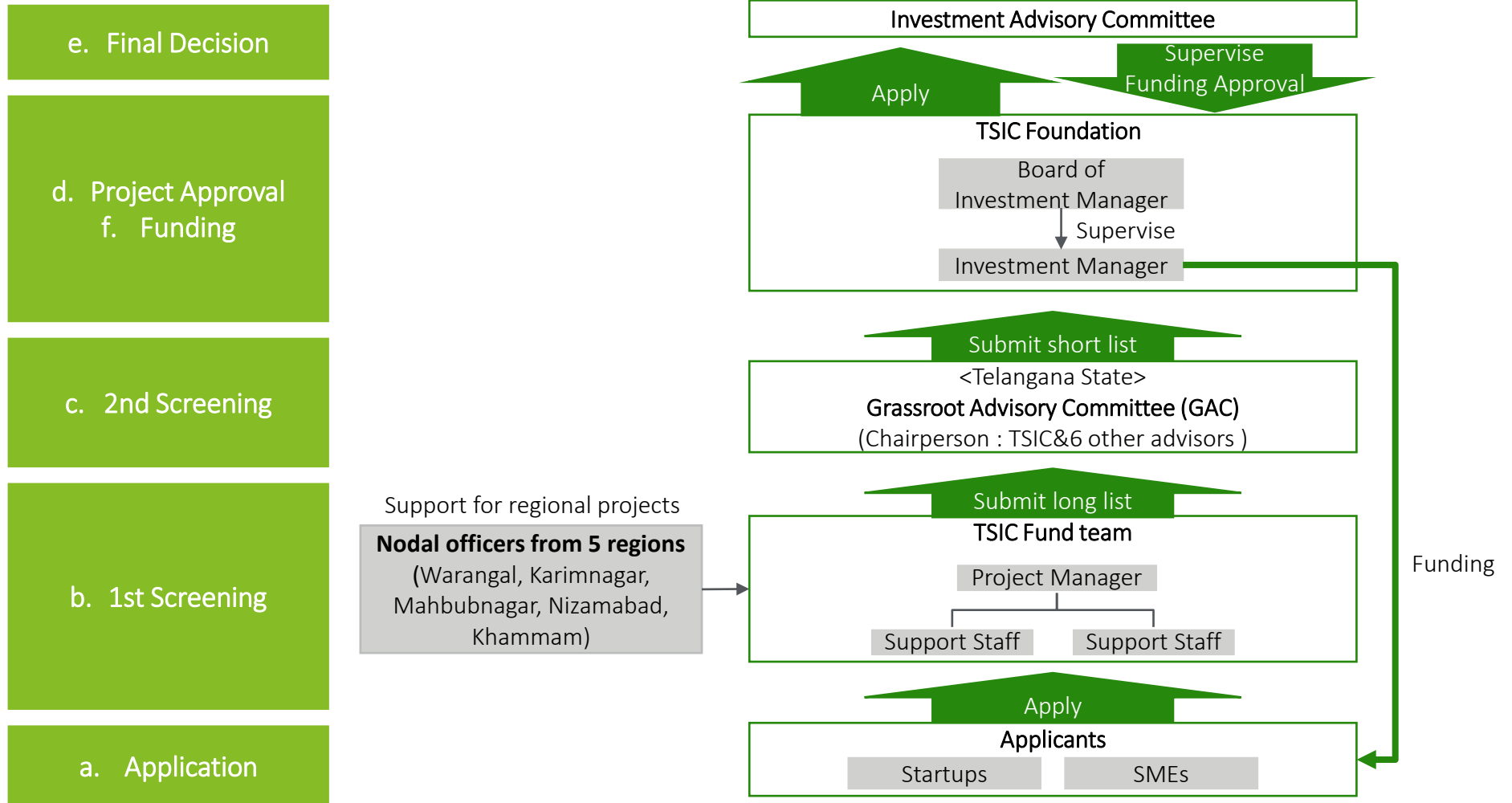
Investment Advisory Committee will be set up to approve and advise on funding. It will cover subprojects to be implemented by T-Hub, TSIC, and We Hub

TSIC: Implementation structure for finance subprojects (3/3)

Investment Advisory Committee structure and relationship with the team in charge
Projects implemented under each sub-project are managed by the TSIC Foundation, the team in charge of each IAs or Nodal Officers, and the Investment Advisory Committee approves funding and provides advice at the selection stage.

```
                          Investment Director
                    ┌──────────────┴──────────────┐
          Senior Vice President          Senior Vice President
          (Investment manager)           (Investment manager)
          Grassroot Innovations          Social Impact
          ┌──────────┴──────────┐        ┌──────────┴──────────┐
       Analyst              Analyst     Analyst            Analyst
    Scoring & Diligence   Disbursement & Scoring & Diligence  Disbursement &
                          Post funding support               Post funding support
```

Approval, advice and support on funding contributions

Teams in charge of each sub-project in each implementing agency

Project Manager

Support Staff   Support Staff

Nodal officers from 5 regions
(Warangal, Karimnagar, Mahbubnagar, Nizamabad, Khammam)

Our understanding of the implementation process for finance subprojects by TSIC is summarized in the table below

TSIC: Implementation process for finance subprojects (1/3)

	Application	Screening	Funding	Monitoring/ Evaluation
MSMEs, Organization, Startups	• Apply though online form to TSIC Fund Team or regional nodal officers • Submit video/photo of innovation		• Set milestones agreed by TSIC	• Grant*: Submit "grant utilization sheet" every month or quarterly depending on milestones and timelines for each applicant
TSIC	• Recruiting with nodal officers • Providing online form • Shortlist applications to select 100 for screening	• Refer the 100 shortlisted applicants to GAC		
Investment Manager (TSIC Foundation)		• Submit the Top 25 listed 25 innovations/ startups to Investment Advisory Committee	• Provide funding • Set milestones with applicants for loan payment	• Monitoring: Weekly or monthly governance calls to assess milestones meeting and next steps to work on • Evaluation with IAC
Investment Advisory Committee		• Make a final decision for approving grants and loans		Evaluate Funding projects • Criteria: the innovation should either be based of the state or should be devised fully within the state
Grassroot Advisory Committee	• Consultative role to advise for the grassroot and social innovation ecosystem	• Select Top 25 innovations/ startups annually to be eligible for funding		
Nodal officers from 5 regions	• Recruiting with TSIC	• Support Investment Committee		

Each subproject has a different implementation structure, and the process and our understanding at this time is as follows

TSIC: Implementation process for finance subprojects (2/3)

GS-P9	Setting-up a dedicated Grassroot Innovation Fund (GIF) of ₹ 100 Cr ($14.3 MM)
GS-P11	Dedicated Scale-up Fund

No.	Process
1	An online application form will be provided, and applicants will submit it to the TSIC Fund Team along with a video or photo of the technology, etc. for which they are applying. The application will be open several times in a year.
2	100 companies/organizations will be shortlisted by the Fund Team based on 8 basic evaluation criteria*, including whether they meet eligibility requirements and whether they are innovative. *evaluation criteria:1) Is it a valid application, 2) Is it from a Telangana resident, 3) Is it for a local community issue, 4) Is it innovative, 5) Is it feasible and scalable, 6) Is it likely to have an impact on the local community, 7) Is it innovative enough to be prototyped, 8) Viability & Scalability
3	Based on the short list, the Grassroot Advisory Committee will narrow down the top 25 companies and organizations based on the following four criteria: 1) potential impact on the local community, 2) innovation that can be prototyped, 3) Viability & Scalability, and 4) judges' scores.
4	Provide grants or loans through the Investment Manager, with final approval by the Investment Advisory Committee, and managed (including monitoring and evaluation) by the Investment Manager.(TSIC had experiences on grants distribution before.) The ticket size of grant/ loan will tentatively be: GS-P9: up to INR 5 lakhs, GS-P11: INR 10-25 lakhs
5a/ 5b	1st trench is disbursed based on estimates and plans for use of the fund. Companies are monitored by using the "grant utilization sheet". Monitoring items on the sheet are; Achievement status of each milestone, challenges and reasons for not achieving the milestone, utilization of funds and their bills. Different companies have different milestones and timelines.
6a/ 6b	2nd trench is disbursed based on achievement of milestones agreed between TSIC and the companies.

We understand that the subproject on District Procurement Fund will have an implementation process different than other finance subprojects

TSIC: Implementation process for finance subprojects (3/3)

GS-P10	District Procurement Fund for procurement of Grassroot Innovation Products	
No.	**Process**	**Additional confirmation required**
1	Fund applicants apply to the responsible department in each region/state. The application will be open several times in a year.	
2	The responsible department confirms with the TSIC representative that there are no problems with the local procurement amount (number of cases) assigned to each district, and submits it to the Investment Advisory Committee	Confirmation is required that it is not a "Submit to Investment Manager"
3	After the Investment Advisory Committee receives the application, a decision on the contribution will be made in consultation with TSIC.	• Need to confirm the screening criteria • Confirmation is required whether it is not Investment manger
4	Contributions are made through the Investment Manager with final approval by the Investment Advisory Committee. (TSIC had experiences on grants distribution before.) GS-P10 is a budget allocation program to local governments rather than funding individual companies.	
5	Post-contribution fund management and monitoring will be conducted under the TSIC and DPF (District Procurement Fund) team following the guidelines.	• Need to confirm details of monitoring and management methods (payment frequency and timing, content of guidelines, etc.) • Need to confirm whether guidelines have already been established
6	Evaluation will be conducted by the Investment Manager and the DPF(District Procurement Fund) team based on indicators such as "how many social issues have been impacted.	

Additional Confirmation required

More details on the implementation process for infrastructure subproject by TSIC are to be confirmed

TSIC: Implementation Structure for Infrastructure Subprojects

GS-P18 Setting-up of a pioneering educational institute for student Grassroot Innovators

➢ Implementation structure

- Establishment of Steering Committee
  Composed of Academia, NGOs, Experts, CIO, CEO TASK, and DG RICH. 2 project staff and 2 interns will be assigned.
- Establishment of an Advisory Committee (advising the Steering Committee)

c. Procurement	Consultant	Contractor

| Advisor | Procure Monitoring | Advisory Committee |

| a. Getting Approval | TSIIC Project Team | Advice/ Assess each process |

| b. Implementation d. Oversee Evaluation | Management |

TSIC Steering committee

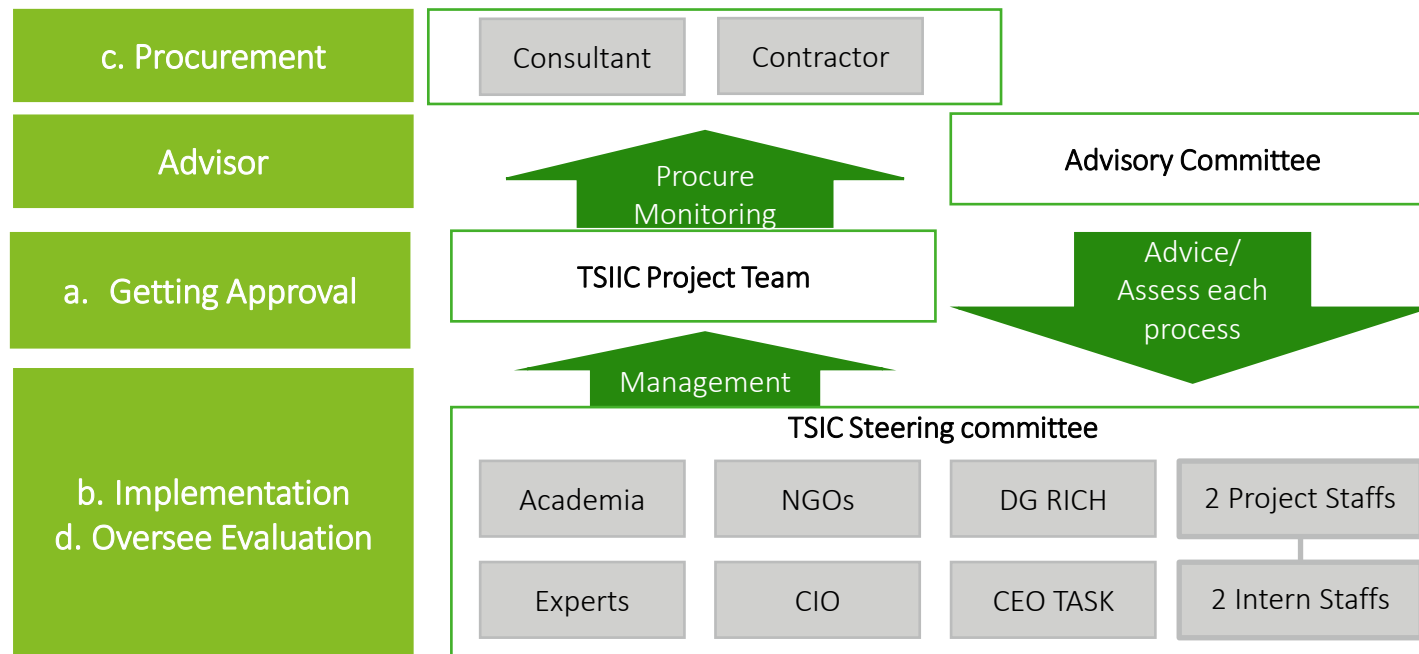| Academia	NGOs	DG RICH	2 Project Staffs
Experts	CIO	CEO TASK	2 Intern Staffs

More details on the implementation process for infrastructure subproject by TSIC are to be confirmed

TSIC: Implementation Structure for Infrastructure Subprojects

GS-P18 Setting-up of a pioneering educational institute for student Grassroot Innovators

➢ Implementation process

1. Identify land and location to build the Innovation Institute.
2. A steering committee and an advisory committee will be formed to guide the construction process.
3. TSIIC procure consultants, contractors, materials and equipment , and monitor the implementation supported by TSIIC. Monitoring is done weekly through Google forms for milestones and deliverables.
4. Execute the construction of the Innovation Institute.
5. TSIC project team oversee and evaluate projects. On-site survey based on pre-determined KPIs is conducted every year.

This educational institution functions as an institution under the Ministry of Education and is equivalent to a high school.
The scale of the project has not been determined, and the content of the education will be dedicated to the development of local entrepreneurs, but the details will be discussed after the start of the project.

➢ Implementation structure to fulfill the requirements for environmental and social considerations

Implemented in accordance with "Local Authority Approval for Construction"
The implementation structure follows TSIIC procedure (P.43)

➢ Current Status of GS-P18 (as of Sep. 2020)

- Approval Status by Telangana Government : Local Authority Approval for Construction is need.
- Land acquired: The land has not been acquired.
- Resettlement: N/A
  After the yen loan project is approved, basic work such as land selection, building construction will take in one to two years.
- Environment Impact Assessment (EIA):
  If the built-up area is within 1.5 lakh sq. meters EIA would not need.
  The necessity of EIA will be clarified after the loan project is approved.

Our understanding of the implementation process for infrastructure subprojects by TSIC is summarized in the table below

TSIC: Implementation process for Infrastructure subprojects

	Approval	Procurement	Construction	Monitoring Evaluation
TSIIC Project Team	Implemented by TSIIC			
TSIC Steering Committee			Project management	
Consultant		Submit proposals	Construction management	
Contractor		Submit proposals	Construction work	
Advisory Committee	Advice	Advice	Advice	Assess each process

We Hub

We understand that We Hub plans to coordinate with Investment Advisory Committee to provide funding and monitoring after selecting companies at We Hub

We Hub: Implementation structure for finance subprojects

We Hub implementation structure explained in the questionnaire

- Investment Advisory Committee (Same structure as GS-P9,10,11, but another independent organization for We-Hub) **(The Investment Manager will be assigned after ODA Loan approval)**

- External Stakeholders: Select an expert/mentor to be involved in the screening process

- We Hub

  ✓ One project manager and two staff members will be responsible for GS-P12 **(they will be assigned depend after ODA Loan approval)**

  → 3-5% of the funds provided by Japanese ODA Loan will be used for administrative expenses

  ✓ Internal monitoring and evaluation will be conducted by the Steering Committee **(The committee was established since We Hub started implementing similar programs 5 years ago. The committee for the ODA Loan will be assigned after its approval)**

  ✓ Fund management will be conducted by the Accounts and Finance team **(The team exists since establishment of We Hub)**

  →Milestones are managed by program staff

We understand that We Hub plans to coordinate with Investment Advisory Committee to provide funding and monitoring after selecting companies at We Hub
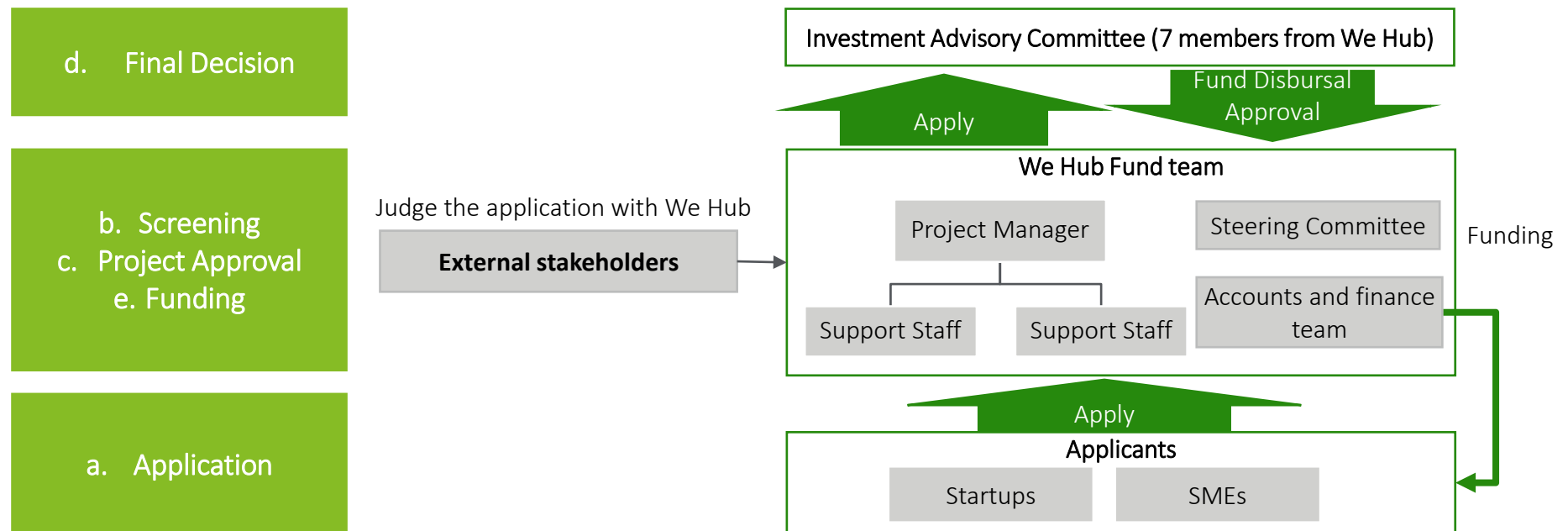
We Hub: Implementation structure for finance subprojects

We Hub implementation structure

Our understanding of the implementation process for finance subprojects by We Hub is summarized in the table below

We Hub: Implementation process for finance subprojects (1/2)

	Application	Screening	Funding	Monitoring Evaluation
MSMEs, Organization, Startups	• Apply to We Hub • Prepare company incorporation certificates, GST Registration number, Bank statements, P&L/Balance Sheet etc.			
We Hub	• Call for applications through social media & local news media (depending on the target audience).	• An evaluation matrix is created to review and shortlist the applicants along with external stakeholders • Final approval on selected applicants	• Disbursing funds to the companies. In installments (1st 50%, 2nd /3rd based on milestones) • Implementation and Execution of the program as per the defined milestones • Fund management including disbursements will be principally taken care of by Accounts and Finance	• Each 3 Phase timelines is created for each sub-project along with Key Performance Indicators • Half yearly assessments are carried out accordingly • Internal M&E is based on the metrics defined for each project. • External M&E is conducted based on the projects and where external funding agencies are involved. • Steering Committee headed by CEO conducts monitoring
External stakeholders (experts/mentors)		Review an evaluation matrix and shortlist the applicants along with We Hub.		
Investment Advisory Committee		Support to select the entrepreneurs, offering of mentorship support	Approve and oversee the disbursal of funds, financial due diligence	

We would additionally like to have deeper understanding of the evaluation matrix to be used for the selection of startups to be funded

We Hub: Implementation process for finance subprojects (2/3)

GS-P12 Dedicate Support Fund for women-led MSMEs		
No.	**Process**	**Additional confirmation required**
1	An evaluation matrix is created to review and shortlist the applicants along with external stakeholders (Selected experts and mentors in specific fields who are familiar with early-stage business). Based on the consolidated remarks, applications are approved. Advice may also be obtained from the Investment Advisory Committee. Applicants can get application form through online and We Hub office. The application will be open several times in a year. **Waiting for the response**	What are the items to be checked by the evaluation matrix (including how to distribute points) →Waiting for the annexes to be shared.
2	We Hub will make final screening and approve the shortlisted companies. **Waiting for the response**	Check items for Final Screening →Waiting for the annexes to be shared.
3	We Hub will disburse grants with the average ticket size of INR 50 Lakhs per startup and an overall cap of INR 10 crores per annum (This could vary depending on the needs and number of applications.) Investment Advisory Committee approves the funding, and We Hub makes the payments (by instalments) and manages the payment. The instalments are defined based on defined goals and milestones. This will be on a case-to-case basis and will depend on the sector and scale of the entrepreneur in question. The first round of installment will be for 50% of the defined project cost. Based on the deliverables achieved and utilization certificate shared, the remaining fund will be disbursed. There will be a minimum of two tranches for the payment and a maximum of three tranches. We Hub was selected by the central government as one of implementing partners for a funding program. The program, We Hub has provided grant funds to 14 women entrepreneurs	

We would additionally like to have deeper understanding of the evaluation matrix to be used for the selection of startups to be funded

We Hub: Implementation process for finance subprojects (3/3)

GS-P12 Dedicate Support Fund for women-led MSMEs		
No.	Process	Additional confirmation required
3'	*Have you ever disbursed grants/loans before?* - We Hub was selected by the central government as one of implementing partners for a funding program. We Hub has provided grant funds to 14 women entrepreneurs. Further, women entrepreneurs can avail 1% interest reimbursement on the loan.	
4	The accounts and finance team at We Hub will be in charge of the fund disbursement and ensuring that the statutory compliances are met. The program team will be in charge of ensuring that the milestones are met	
5	Phase wise timelines are created for each sub-project along with Key Performance Indicators. About "phase" 1st phase: The first phase containing a timeline of 6 months consists of identification of the entrepreneurs and giving them the required handholding support to establish their enterprise. 2nd phase: The second phase of the project with a timeline of 3 months is focused towards building strategies to increase the market reach of the concerned enterprise. 3rd phase: The third phase of 3 months, is focused on ensuring that the internal processes of the organization are streamlined. Internal Monitoring and Evaluation is based on the metrics defined for each project. External M&E is conducted based on the projects and where external funding agencies(Source of funding (varies by project, in this project, JICA)) are involved.	• GS-P12 Evaluation Criteria Contents→Waiting for the annexes to be shared. Waiting for the response • What are the items to be checked by the evaluation matrix? Waiting for the response

T-Hub

We understand the finance subprojects will also have an Investment Committee structure and that companies will be selected

T-Hub: Implementation structure for finance subprojects

T-Hub implementation structure answered in the questionnaire

- Investment Committee

  Individual cases will be screened.

- Investment Advisory Committee

  T-Hub organization independent from Investment Committee, consisting of fund managers and others, including successful entrepreneurs in the social impact sector.

- The case is reviewed by the Steering Committee established under the CEO of T-Hub.

- The Innovation Management Team monitors the progress and milestones of each program, and the Team Head (Mr. Anish, Chief Delivery Officer) reports to the PMU.

- T-Hub plans to gather LPs internationally and set up a multi-partner fund of 100Cr scale.

- T-Hub has a history of funding grants, but not loans. T-Hub have contributed funds as convertible bonds instead of loans.

Our understanding of the implementation process for finance subprojects by T-Hub is summarized in the table below

T-Hub: Implementation process for finance subprojects (1/2)

	Application	Screening	Funding	Monitoring Evaluation
MSMEs, Organization, Startups	・Apply to Investment Committee ・Submit a form along with their attached pitch deck ・Online application form			・Reporting (milestone base)
T-Hub	・The funding team also can receive the pitch deck from applicants ・PR through social media and email channels	• Support to Investment Committee • There is team who screens the applications according to the thesis set by T-Fund. • Technical review by an expert, business review by investment team	• Manage the funds (disburse funds to the startups). • For grants, our ticket size is 10 lacs to 20 lacs • Funding amount is divided into 2 trenches.	Supported by the CEO of T-Hub supervises and monitors the startups growth after funding
Nodal officers from 5 regions	・Recruiting by analysts and nodal officers.			
Steering Committee	・Application review			
Investment Committee	・Recruiting with nodal officers ・Sourcing by analysts and nodal officers	・Preliminary Screening and presentation of proposals by AVP (Investment manager). ・Investment director evaluates the proposal and accepts or rejects proposals (Three times meeting)		• The investment team lead by the investment manager supervises and monitors the startups growth after funding • Investment Manager and the Legal team evaluate each funding project
Investment Advisory Committee		・Rejects proposals to be tabled for the investment advisory committee.		

We understand the finance subprojects will also have an Investment Committee structure and that companies will be selected

T-Hub: Implementation process for finance subprojects

SS-P5 Dedicated support fund for social impact start-ups	
No.	Process
1	• Applications from startups for funding are received by Investment Committee analysts and initially screened by the analyst and Investment Manager • Applicants can apply throughout the year • Criteria: Quantum of funds requested. Sector focus. Years in operation. ARR and revenue figures. Core technology.
2	• Investment Director, who has experience and knowledge in investment, makes a decision on whether to approve or disapprove the proposal. Disapproved proposals are placed on hold by the Investment Advisory Committee • Preliminary Screening is done to ensure that the startups we are looking at match the investment thesis that we have. Like the basic criteria – Quantum of funds requested, Sector focus, Years in operation, ARR and revenue figures and Core technology. • The Investment Committee meets twice a month to decide whether to provide loans or grants
3	• T-Hub manages the fund and disburse funds to the startups.
4	• The investment team lead by the investment manager and supported by the CEO of T-Hub supervises and monitors the startups growth after funding. • Achievement status of each milestone and fund utilization is reported by companies. (Reporting frequency is depending on the funding period) • Investment Manager and the Legal team evaluate each funding project *Check points (Team, Market Size, Unique advantage and capability to execute, Financial growth, Business Growth) • After the funding, reporting will be done using Grant utilization sheet or a project management software "Zoho projects". Reporting frequency depends on length of loan period.

T-Hub has experience managing the Startup India Seed Fund, an Indian government initiative

Examples of finance projects in which T-Hub has been involved

T-Hub has experience managing the Start-up India Seed Fund with INCUBATOR SEED MANAGEMENT COMMITTEE (ISMC).
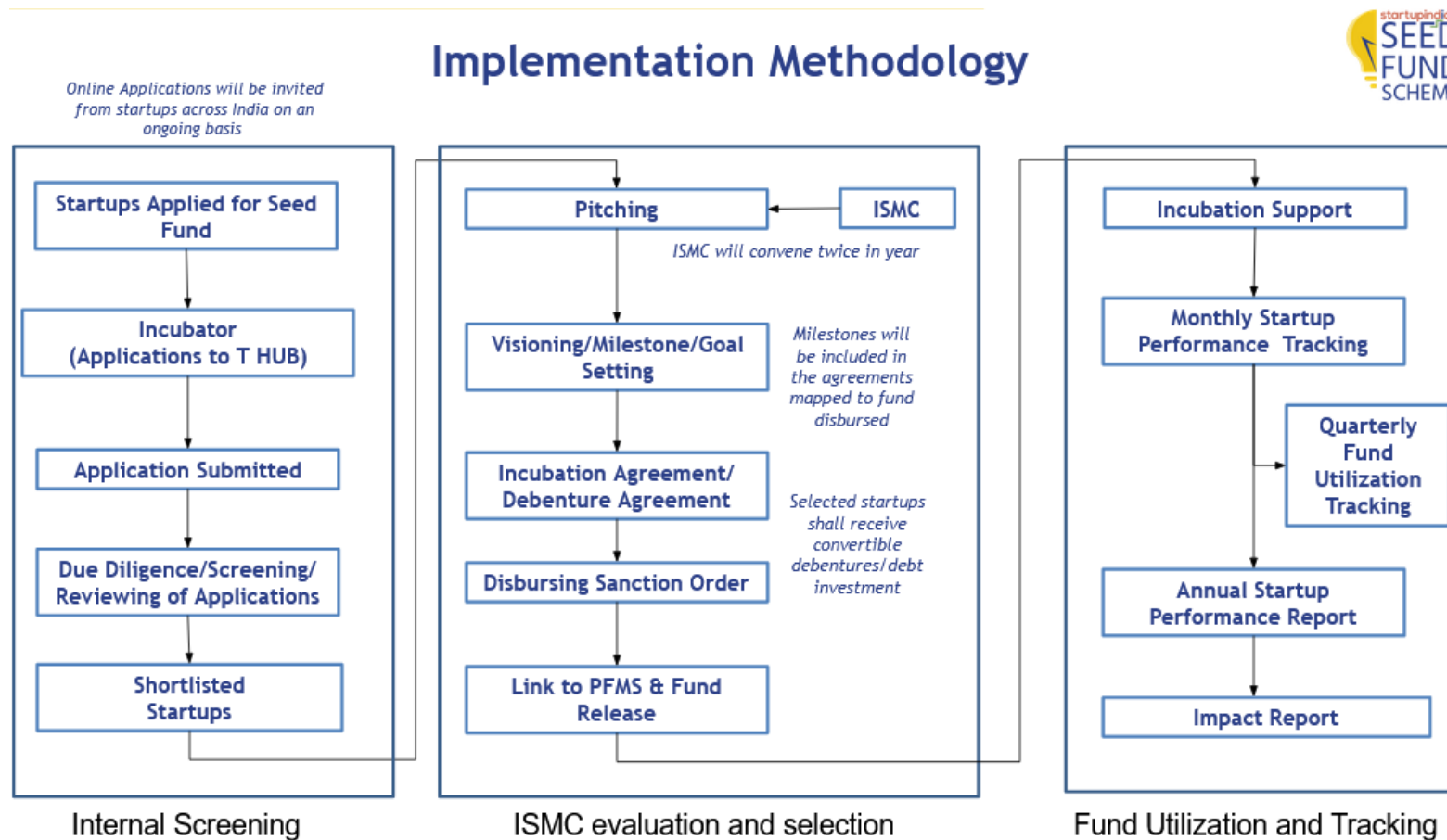
TIHCL

We understand that TIHCL will create a funding management structure in accordance with their own MSME supporting schemes

TIHCL: Implementation structure for finance subprojects

Implementation Structure answered by TIHCL in the questionnaire

Total allocation is 13 consultants, 6 executives, 2 supervisors and Approving Officer / CEO / Committee. The allocation of resources depend on the volume of cases or size of the project / number of subprojects under the project.

This implementation system already exists, and it is basically planned to be implemented under the same system for the ODA loans.
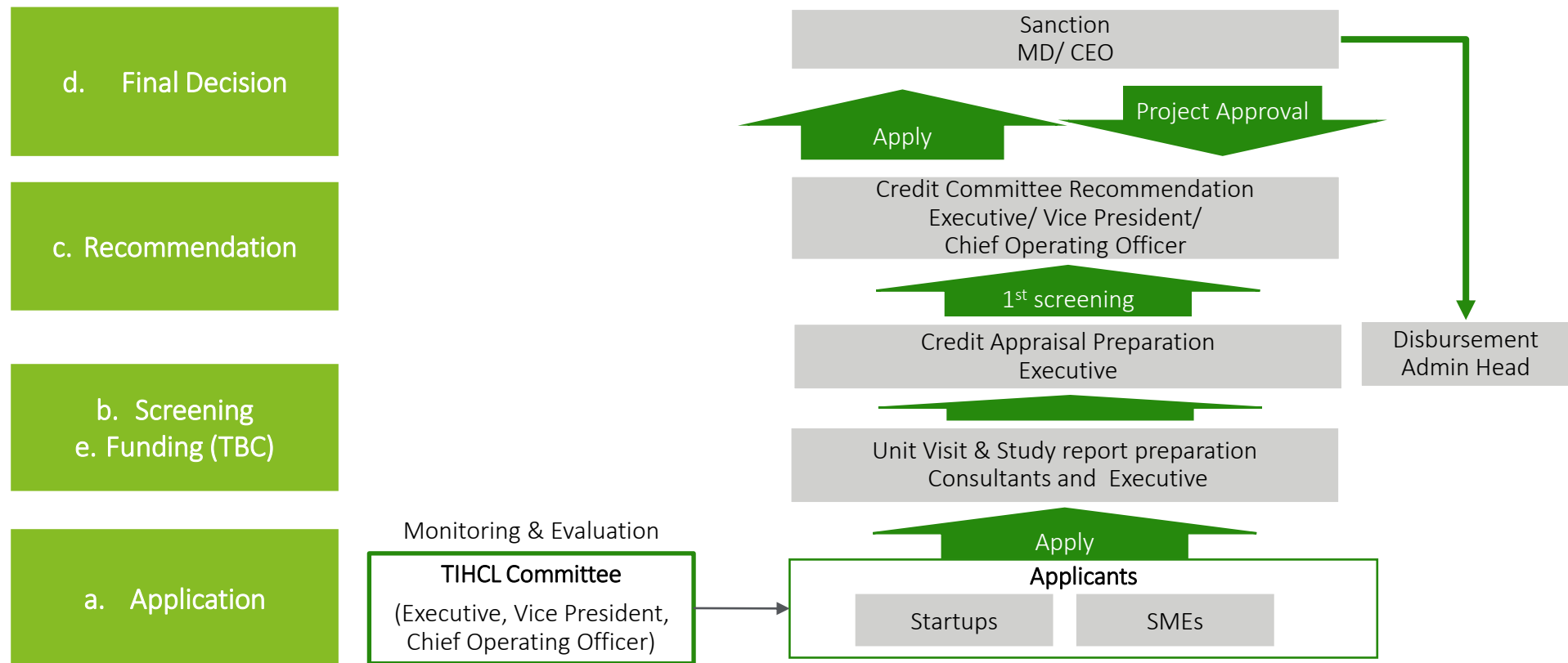
We understand that TIHCL will mainly provide loans to MSMEs in the subproject and TIHCL has several track records under its own support programs

TIHCL: Implementation structure for finance subprojects

➢ Implementation Plan of GS-P16 Creation of Corpus Fund for "Telangana Industrial Health Clinic Limited (TIHCL)

- Target Segment: MSME
- Financial Product: Loan (Debt)
- Will the application be open once a year or several times in a year?
- How much is the ticket size of grant /loan per project?

<div style="background:yellow">Additional Confirmation Required</div>

➢ Track records of financial support by TIHCL

Major loan products are ;

- Bridge Finance: A bridging arrangement till government approved financial incentives are received
- Margin Funding: To fund the margin to be brought by the borrowers
- Critical Asset Funding: To save the units from falling under NPA category with other FIs

The number of accounts and disbursed amount , product wise is shown in the table

#	Product	No of Accounts	Amount (Rs in lakhs)
1	Margin Loans	3	28.93
2	Critical Account Funding	3	68.00
3	Swasakthi	1	10.00
4	Bridge Loans	22	363.36
	Total	29	470.29

The number of references from MSMEs TIHCL received is shown in the table.

#	Status		Number of references (*)
1	Reference received		294
2		Out of 1 above, references involved funding	37
3		Out of 2 above, references sanctioned	14
4		Out of 2 above, references denied	23
5		Out of 1 above, references not involved funding	257

- Amount Disbursed ; 20,696,461 INR
- Out of which Recoveries made (including Interest & Charges) 17,587,122 INR
- Recovery rate = 85.0% (17,587,122 INR/ 20,696,461 INR)

(*) Numbers are at the time of Deloitte's receiving this information (September 2021).

30

Our understanding of the implementation process for finance subprojects by TIHCL is summarized in the table below

TIHCL: Implementation process for finance subproject(1/2)

	Application	Screening	Funding	Monitoring Evaluation
MSMEs	Applications will be obtained from applicants physically.		1. Confirmation of terms and conditions	
Consultants		Unit visit, Diagnostic studies, preparation of Study report		
Executive	• Collecting information including application form, KYC, financial information, etc.	1st Screening and process the application with following validation ✓ Brief Profile of the Promoter and the Unit ✓ Brief History of the Account	2. Receive as token of MSMEs' acceptance of terms	• Monitoring continuously • Provide MSME with handholding • Collection
VP/COO		2nd screening : verify / recommends the application. ✓Check the issues/problems and review solutions ✓Examine in terms of risk management and risk mitigation measures are taken	3. Disburse the limit to MSMEs after documentation (with Admin Chief and/or Executive)	• Monitoring continuously • Provide MSME with handholding • Collection
Supervisor	Sourcing of Applications	• Selection of borrowers • Appraisal of the proposal • Assessment of the eligible / required finance • Recommending	Disbursement	• Handholding • Monitoring
CEO		(MD) Approves the application		• Monitoring continuously • Provide MSME with handholding • Collection
Committee		For credit limit above 5 million Rs,: Review cash flows, receivables, payables, and other related data. before the MD & CEO for approval and onward advise to the entrepreneur.		ERP solution & Online verification: tracking is through a periodical review

Supervisors are designated as Vice Presidents, and they will associate with all stages / activities of the sub-Project

Consist of the concerned Executives, who are handling the account, Vice President and Chief Operating Officer

TIHCL will create a funding management structure following its own support programs for MSMEs

TIHCL: Implementation process for finance subproject(2/2)

No.	Process	Contents	Additional confirmation required
GS-P16 Creation of Corpus Fund for "Telangana Industrial Health Clinic Limited (TIHCL)			
1	1st Screening: the executives receive, screens and processes the applications	Executive will conduct Preliminary validation, KYC and Due Diligence, To obtain the required Documents and Unit Visit. Who are the "Executive" : The Executives are frontline Officials, who acts as "Customer Relationship Managers" by interacting with them, collect the primary data, screen it and process as per the extant guidelines. They will also continuously monitor the accounts attached to them	Will the application be open once a year or several times in a year? Additional Confirmation required
2	2nd Screening: VP /COO verify / recommends and MD approves.	To study, analyze and identify the reasons for reported stress / incipient sickness / sickness in the Unit and possible solution thereof. While carrying out this exercise, we will review the following: Issues/Problems: Issues related to Project Implementation / quality of Machinery / Other Plant & Machinery related:, Capacity Utilization, Decrease in Sales, Finance related Issues, Other Issues, Promoters Family Background etc. Additional Confirmation required	• How do you select or approve the applicants through those exercises? (evaluation criteria and/or selection points.) • How much is the ticket size of grant /loan per project?
3	Monitoring is layered with the help of ERP solution / Online verification while performance tracking is through a periodical review by a committee.	ERP solution is mandatory for any enterprise to develop financial discipline and support TIHCL in hand holding the enterprise. Cost to be borne by the enterprise for installation of ERP solution What is the "Committee" : The Committee consist of the concerned Executive, who is handling the account, Vice President and Chief Operating Officer. Periodically, extracts of the monitoring are to be placed before the committee for review. The Committee will review the position and place its finding, along with the actions suggested, before the MD & CEO for approval and onward advise to the entrepreneur.	Who are the responsible for providing and managing grants/loan? If it is loan, how to disburse and how to collect repayment?(in lump sum or by instalments) Additional Confirmation required

32

T-Works

T-Works implement projects in accordance with the procurement policy issued by T-Works Foundation

T-Works: Implementation Structure for Infrastructure Projects

GS-P5   5 Mini T-Works in 5 Districts of the proposed IT Towers

➢ Implementation Structure of GS-P5

1. Assess Sites
A committee will be constituted by T-Works to assess sites for establishment of mini T-Works.
2. Project implementation and monitoring
Project implementation and monitoring will be put in place with inputs and contribution from host institutions and partners.

➢ Current Status of GS-P5

- Approval Status by Telangana Government : Project has been proposed to Govt. Of Telangana.

- Environment Impact Assessment (EIA): EIA not applicable

- Land acquired: Yes (already acquired)

- Resettlement: N/A

➢ Construction Status

Telangana Government has proposed to develop 5 Mini T-Works (within the proposed IT Towers) in the following five districts.

These IT Towers are implemented / to be implemented by TSIIC, as host institution.

1. Warangal – Constructed

2. Khammam – Constructed

3. Karimnagar – Constructed

4. Nizamabad – To be constructed

5. Mahabubnagar – To be constructed

T-Works implement projects in accordance with the procurement policy issued by T-Works Foundation

T-Works: Implementation Structure for Infrastructure Projects

GS-P5   5 Mini T-Works in 5 Districts of the proposed IT Towers

➢ **Procurement Process**

Equipment Procurement Process is governed by procurement policy of T-Works Foundation. Equipment with value above Rs.2,50,000 is procured through an open tender. The tender process is overseen by the Tender Committee.

1. Creation of Purchase Requisition (PR): User department shall raise material indent as per their requirements (i.e., Materials /Consumables/Bought Outs/Services/Capital items) which contains the details such as Purchase requisition Number, Name of the item /product., Specifications/Drawings, Quantity& Unit description, Expected Delivery date of the item/product.

2. The Procuring Entity should take following decisions to initiate Procurement within 10 working days of receipt of the intent from the user Department.

✓ **Identification of Suppliers – For purchases under Rs. 2.5 Lakh**

3. After final Approval of PR by Purchase Committee concerned as mentioned above, it shall check for any existing Purchase Order (PO) with the vendors of same material. If any PO exists, orders should be placed. In case no PO exists then the Purchase Dept. shall initiate supplier search and later float RFQ(Request for quotations) with identified vendors.

4. Quotation Comparison Statement (QCS) is prepared by the Purchase dept. and suppliers are short listed for negotiations. Short listed suppliers are invited for negotiations.

5. Based on the discussions of terms and conditions during negotiation with all the selected vendors, the Purchase department should finalize the Vendor after considering the proposed changes in respective vendor's quotations. The Purchase Department from its Vendors should collect and maintain the related documents, and then purchase order will proceed.

T-Works implement projects in accordance with the procurement policy issued by T-Works Foundation

T-Works: Implementation Structure for Infrastructure Projects

GS-P5　5 Mini T-Works in 5 Districts of the proposed IT Towers

➢ Procurement Process

✓ Procurements exceeding the threshold of Rs. 2.5 lakh: Tender

The standard bidding documents (SBD) would be complete and implement a tender. In addition, The tender process is overseen by the Tender Committee.

1. Open Tender (including Online Tender)

   Open Tender Enquiry (OTE) or Global Tender Enquiry (GTE))

2. Limited Tender Enquiry (LTE)

※ All are expected to be domestically procured

Tender timeline

S.No	Description of Activity	Timeline
1	Bid Upload	Day 0
2	Pre Bid meeting	Day 7
3	Opening of technical bid	Day 15
4	Technical Evaluation of Bids	Day 18
5	Opening of price bids	Day 21
6	Issue of LOA to the selected bidder	Day 26
7	Issue of PO to the bidder after submission of PO	Day 30
8	Supply of Equipment	30th Day + Delivery lead times
9	Installation & Commissioning	

Source：Questionnaire answered by T-Works

Our understanding of the standard project implementation process at T-Works is summarized in the table below

T-Works: Standard project implementation process

	Application	Screening	Implementation	Monitoring Evaluation
Solution Seeker (SS)	Query sent to T-Works		2. Confirms deliverables mentioned in SoW 4. Project delivered	
T-WORKS MARKETING AND COMMUNICATIONS TEAM	Query processed			
T-WORKS SOLUTIONS TEAM	Requirement gathering Call SS – requirement analysis and Requirements acceptance	1. Call SS – requirement analysis and Requirements acceptance	1. Send SoW to SS	Update status on tracker
T-WORKS TECH TEAM		2. Tech evaluation 3. Technical screening with Solutions Team 4. Prepare SoW		
T-WORKS DIRECTORS		5. Approve SoW and finalize costing		
T-WORKS PROJECT TEAM			3. Project Manager and team appointed Project kickstarted	

37

Our understanding of the standard project implementation structure at T-Works is summarized in the figure below

T-Works: Standard project implementation structure

d. Final Approval	DIRECTORS	Approval
	▲ Submit SoW	
c. Technical Screening	TECH TEAM	
	▲ Acceptance	
b. Document Screening **f. Monitoring & Evaluation**	SOLUTIONS TEAM	M&E
	▲ Share applications	
	MARKETING AND COMMUNICATIONS TEAM	
a. Application **e. Implementation**	▲ Apply	Project kickstarted
	Solution Seeker	PROJECT TEAM

Our understanding of the implementation process for infrastructure subprojects by T-Works is summarized in the table below

T-Works: Implementation Process for Infrastructure Subprojects

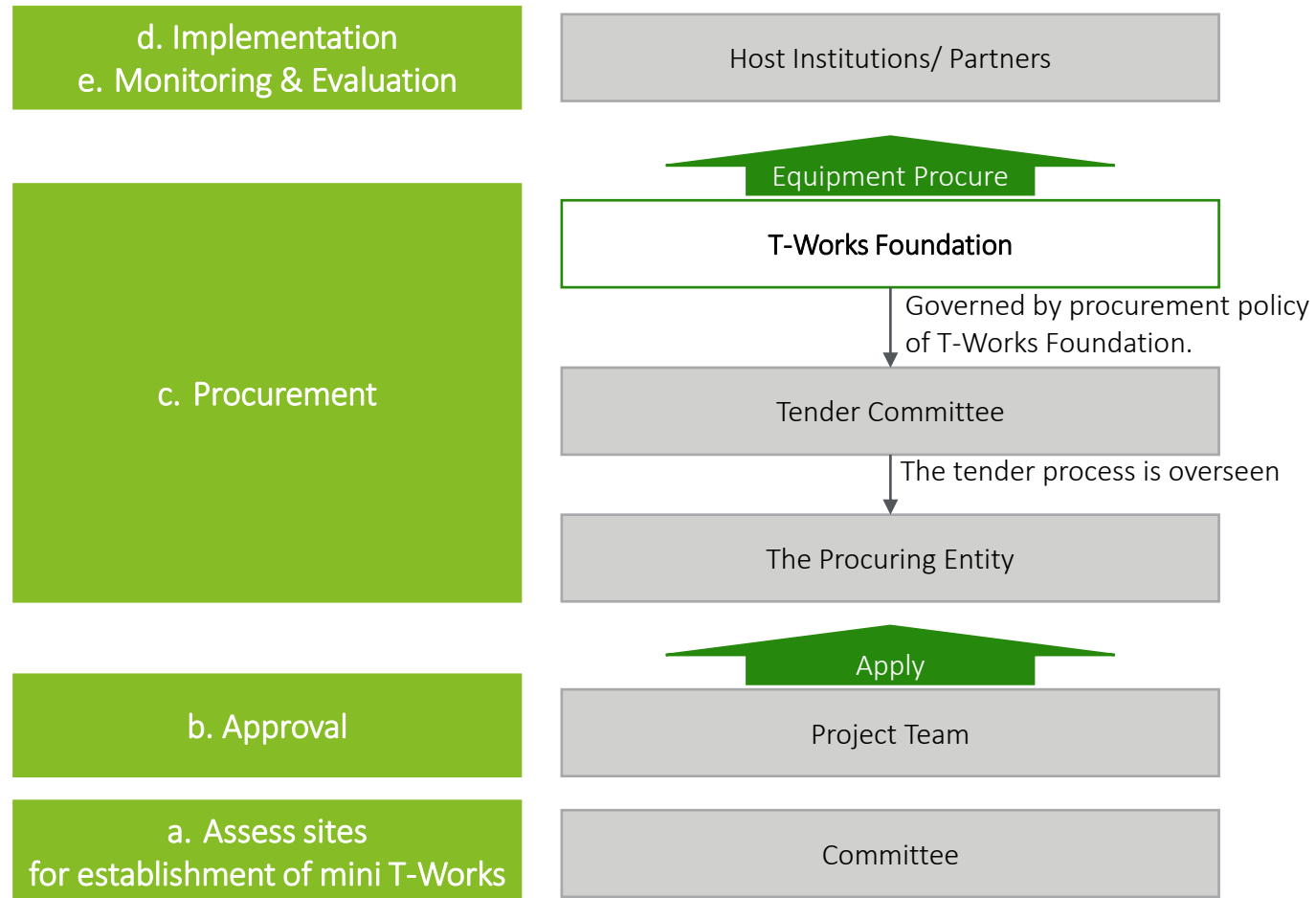|	Approval	Procurement	Construction	Monitoring Evaluation
T-Works Committee	Assess sites for establishment of mini T-Works			Waiting for the response
Host Institutions/ partners	host institution indicates the organization which supervises the location where the project is implemented (ex. ITE&C, NIT Warangal)			•How do you monitor and evaluate ?
T-Works Foundation		Equipment procurement process is governed by procurement policy issued by T-Works Foundation	Infrastructure is primarily implemented by TSIIC in accordance with their rules even if the project owner is T-Works.	
T-Works Tender Committee		The tender process is overseen by the Tender Committee		
T-Works the Procuring Entity		2. Selects the contractor / vendors and, the role of the procurement team ends upon the receipt of the products / materials		
T-WORKS PROJECT TEAM	Management (GS-P5 doesn't need to get an approval from TG Government and EIA process)	1. Selects products / materials duly scrutinizing by thorough research and obtain the necessary approvals		

Our understanding of the implementation structure for infrastructure subprojects by T-Works is summarized in the figure below

T-Works: Implementation Process for Infrastructure Structure

d. Implementation **e. Monitoring & Evaluation**	Host Institutions/ Partners

Equipment Procure

T-Works Foundation

Governed by procurement policy of T-Works Foundation.

c. Procurement	Tender Committee

The tender process is overseen

The Procuring Entity

Apply

b. Approval	Project Team
a. Assess sites **for establishment of mini T-Works**	Committee

TSIIC

Below chart describes our understanding of standard implementation structure for infrastructure projects in TSIIC

TSIIC: Implementation Structure for Infrastructure Projects

GS-P13, GS-P14, GS-P15, SS-P16

➤ Implementation Structure in TSIIC
- Chief Engineer: 1, Deputy Executive Engineer: 3, Project Engineer:14, Deputy Zonal Manager Engineer: 2

d. Monitoring & Evaluation	Manager at site	Zonal Manager	Head Office Officials	Third-party quality consultant

b. Procurement	Contractor	Consultant,

Engineering Wing

TSIIC team

Chief Engineer (1 person)
Deputy Executive Engineer (3 people)
Project Engineer (14 people, 10 Civil Engineer, 3 Electrical Engineer, 1 Environmental Engineer)
Deputy Zonal Manager Engineer (2 people)

Project Wing

a. Getting Approval
c. Implementation
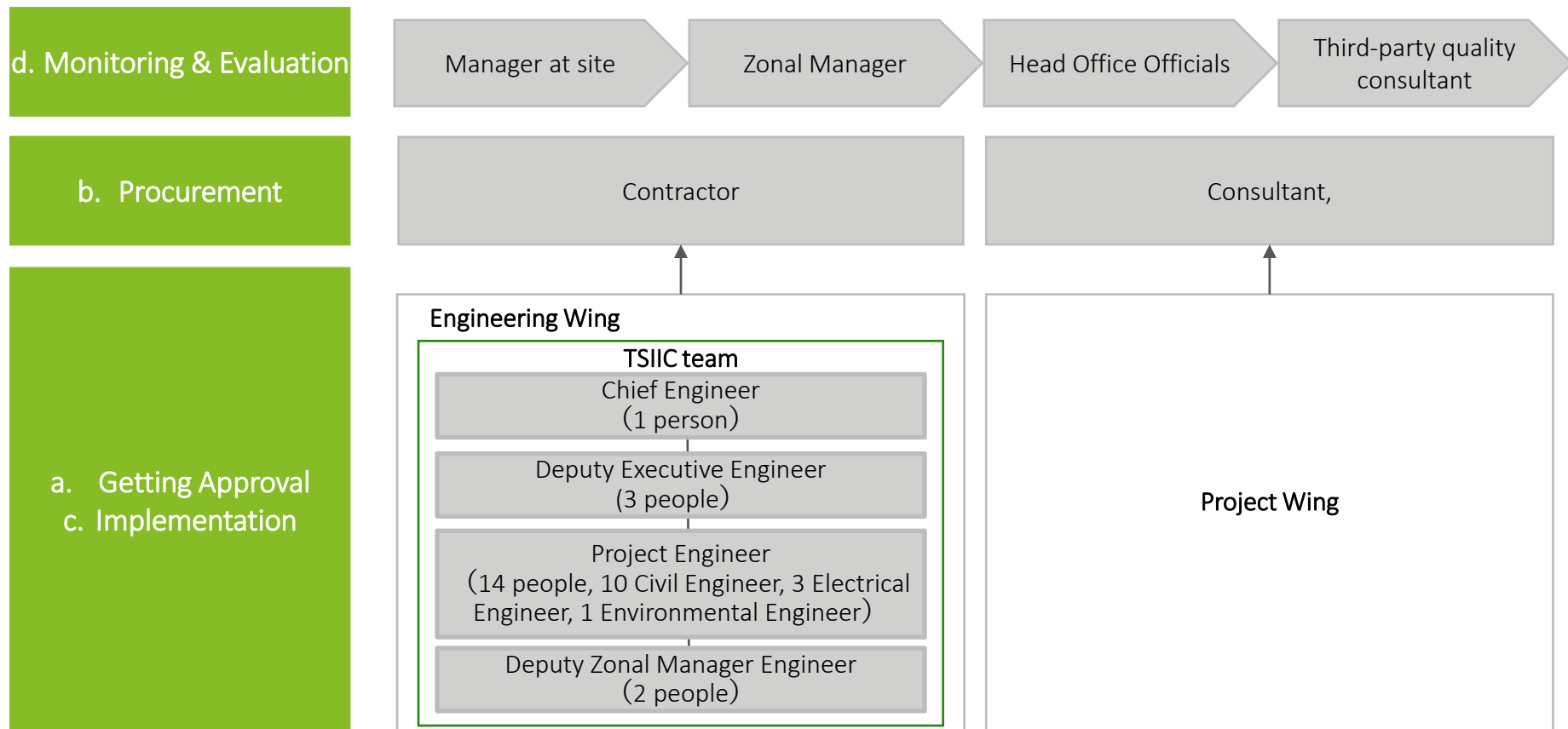
Our understanding of the standard implementation process at TSIIC for infrastructure projects is as follows

TSIIC: Implementation Process for Infrastructure Projects

GS-P13, GS-P14, GS-P15, SS-P16

➢ Procurement Process of Consultants and Contractors
  (Led by Projects Wing for Consultants and Engineering Wing for Contactors)

1. RFP is prepared
2. RFP is placed for open bidding
3. Proposals received are evaluated based on technical and financial criteria
4. Lowest bidder based on criteria in RFP is selected and letter of award is issued.
5. Work is taken up by the Consultant(basic design, detailed design, procurement support and construction management)/Contractor

  *Selection of Contractors is undertaken through online tendering system (e-procurement)

➢ Quality Management

TSIIC gives its opportunity to its Contractors the opportunity to procure based on the technical specifications/Product specifications provided in the Technical Scope of works and ensures quality of work through its constant check at 4 stage level i.e.

1. Inspection by Manager at site
2. Inspection by Zonal Manager
3. Inspection by Head Office officials
4. Third Party Checks by a third party quality consultant.

➢ Basic Implementation Structure to fulfill the requirements for environmental and social considerations

1. Applications to the Consultant Authority (basically to State Authority but depending on the size and category, they may also apply to the Central Authority) will be made to Environment Credit for the construction of the facility.
2. When starting a business, they apply to the Local Pollution Authority and obtain Consent For Establishment (CFE) and Consent For Operation (CFO).

Our understanding of the standard implementation process at TSIIC to fulfill the requirements for environmental and social considerations is as follows

TSIIC: Implementation Process for Infrastructure Projects

GS-P13, GS-P14, GS-P15, SS-P16 (SS-P1 : Jointly conducted with TSIC, approvals/procedures are undertaken at TSIIC)

➢ Implementation structure to fulfill the requirements for environmental and social considerations

Environmental Clearance is obtained as per The EIA Notification 2006

- Below 50 Hac: Environmental Clearance is **not required**

   1. Consent for Establishment (CFE) is obtained

   2. Engaging the Environmental Consultant through Tenders(RFP)

   3. Submission of CFE Form through TS-iPASS + meeting with CFE Committee

   4. CFE obtained

   *TS-iPASS: Telangana State Industrial Project Approval and Self- Certification System

- 50 Hac and above: Environmental Clearance is **required**

   1. Engaging the Environmental Consultant through Tenders(RFP)

   2. Collection of Data & preparation of Form –I, Prefeasibility report & submission to TSPCB/MoEF&CC*

   *TSPCB/MoEF&CC: Telangana State Pollution Control BoardおよびMinistry of Environment, Forest and Climate Change

   3. Approval of TOR

   4. Baseline data study (3 months)

   5. Preparation of Draft EIA Report, submission for Public Hearing as required

   6. Final EIA Report submission to SEAC

   6. Environmental Clearance is issued by SEIAA(State or Union territory Level Environment Impact Assessment Authority (SEIAA)) based on recommendation by SEAC

Our understanding of the standard implementation process at TSIIC to fulfill the requirements for environmental and social considerations is as follows

TSIIC: Implementation Process for Infrastructure Projects

GS-P13, GS-P14, GS-P15, SS-P16 (SS-P1 : Jointly conducted with TSIC, approvals/procedures are undertaken at TSIIC)

➢ Current Status of GS-P13, GS-P14

- Approval Status by Telangana Government:
- Environment Impact Assessment (EIA): EIA was obtained
- Land acquired: Yes
- Resettlement: N/A

➢ Current Status of GS-P15, SS-P16

- Approval Status by Telangana Government:
- Environment Impact Assessment (EIA): EIA not applicable
- Land acquired: Yes
- Resettlement: N/A

➢ Construction Status

The status of the respective projects are provided and herein specified as under:

1. Zaheerabad-NIMZ:

2. Kakatiya Mega Textile Park: Project Consultant was engaged and currently, construction of road network only is in progress.

3. MSME Park: Project consultants were engaged and currently, works are in progress.

4. CETP: Project consultants have yet to be engaged and Environmental clearance needs to be obtained.

Our understanding of implementation process of infrastructure projects at TSIIC is summarized in the table below

TSIIC Infrastructure Project Process

	Approval	Procurement	Construction	Monitoring Evaluation
TSIIC Project Team	• Obtain approvals • Obtain Environmental Clearance	Tender committee chaired by Chief Engineer shall scrutiny the applicants / tenders with respect to the eligibility criteria & other requisite requirement.	Management Zonal manager and his team would monitor the implementation of the project under the control of Chief Engineer	1.Inspection by Manager at site 2.Inspection by Zonal Manager
Projects Wing		• RFP Preparation • Consultant procurement		
Engineering Wing		• Contractor procurement through e-procurement system		
Head Office Officials				Inspection by Head Office officials
Third-party quality consultant				Third Party Checks by a third-party quality consultant
Consultant/ Contractor		• Submission of proposals	Project Management/ Construction	

Callout (Projects Wing): Selection of consultants, scrutiny of the budget allocations, administrative sanctions, Budget release with the well-defined hierarchy, etc

Callout (Engineering Wing): Obtaining the pre-requisites of the technical studies, preparation of estimates, technical sanctions, selection of Contractors for implementation, Monitoring the project implementation, etc

46

Commissionerate of Industries

Our understanding of the standard implementation process for infrastructure projects at the Commissionerate of Industries is as follows

Commissionerate of Industries: Implementation Process for Infrastructure Projects

GS-P17   Revival of District Industries Centres of Telangana and the Commissionerate of Industries to focus on MSMEs

➤ Implementation Structure
1. Infrastructure sub project is handled by altogether different set of professionals who are made available to the project by Government at different levels
2. Infrastructure projects like Industrial corridors, Common effluent treatment plants , upgradation of existing industrial estates, MSE-CDP projects, improving infrastructure , infrastructure support to stand alone units are handled by TSIIC
3. Infrastructure projects like Dry ports are handled by specialized body Telangana State trade promotion council which is into export promotion and trade promotion
4. <u>Modernization and restructuring of DIC along with other related infrastructure improvement is handled by DIC with support of District Collector and team of professionals from different Departments at District level</u>
   -DIC consists of 1 -3 people including General Manager (GM)

➤ Implementation Process
1. Application , appraisal and implementation is done by these agencies at various levels , there is separate officer assigned for each of the activities and a separate monitoring authority for each activity
2. The overall monitoring of all projects handled by the above agencies will be done by Director of Industries

➤ Regulations

There is transparent and legally approved procurement policy in place for each of the activities, which is approved by Government. This includes procurement guidelines such as "CVC vide NO.F1/1/2021/PPD dated 29.10.21, GFR 2017" and "Manual for procurement of consultancy and other services 2017"

✓ **Local purchases of small values and where local suppliers exist:** Procured at competitive prices by obtaining at least three quotes and going with lowest ones duly checked for quality, thereby ensuring cost and quality

✓ **Specialized items like Computers, electronic items etc:** Procured through Telangana State Technical Services (TSTS)

✓ **Procurements beyond certain value:** e-tendering is done and where international expertise and in high value tenders even global tendering is resorted to

Our understanding of the standard implementation process at CoI to fulfill the requirements for environmental and social considerations is as follows

Commissionerate of Industries: Implementation Process for Infrastructure Projects

GS-P17   Revival of District Industries Centres of Telangana and the Commissionerate of Industries to focus on MSMEs

➢ Regulations related to fulfillment of the requirements for environmental and social considerations

The regulation is not applicable for this project.

➢ Implementation Structure to fulfill the requirements for environmental and social considerations

Infrastructure project fully adheres social and environmental considerations. All the infrastructure projects which involve land acquisition, deforestation and potential pollution, are processed through a public hearing to keep the local people fully aware of the project and implement of the project in a transparent and efficient manner to protect land, water, soil, ecosystem, flora and fauna
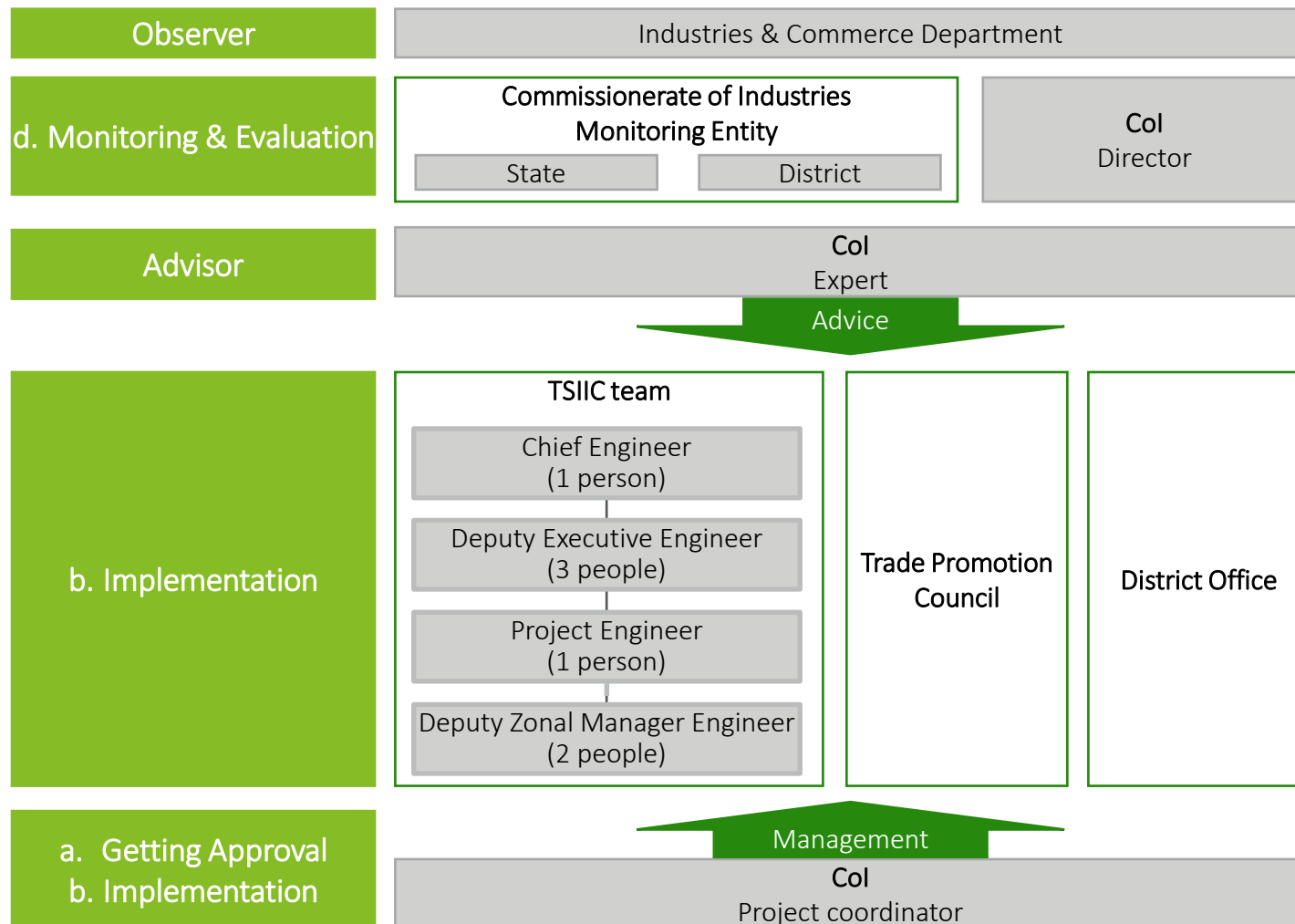
This activity is not required for the project.

We understand that CoI collaborates with agencies such as TSIIC and Telangana State trade promotion council for the implementation of infrastructure projects

Commissionerate of Industries(CoI): Implementation Structure for Infrastructure Projects

GS-P17   Revival of District Industries Centres of Telangana and the Commissionerate of Industries to focus on MSMEs

➢ Implementation Structure

Observer	Industries & Commerce Department

d. Monitoring & Evaluation	Commissionerate of Industries Monitoring Entity		CoI Director
	State	District	

Advisor	CoI Expert

Advice

b. Implementation	TSIIC team	Trade Promotion Council	District Office
	Chief Engineer (1 person)		
	Deputy Executive Engineer (3 people)		
	Project Engineer (1 person)		
	Deputy Zonal Manager Engineer (2 people)		

Management

a. Getting Approval b. Implementation	CoI Project coordinator

Our understanding of the implementation process for infrastructure subproject by CoI is summarized in the table below

Commissionerate of Industries: Implementation Process

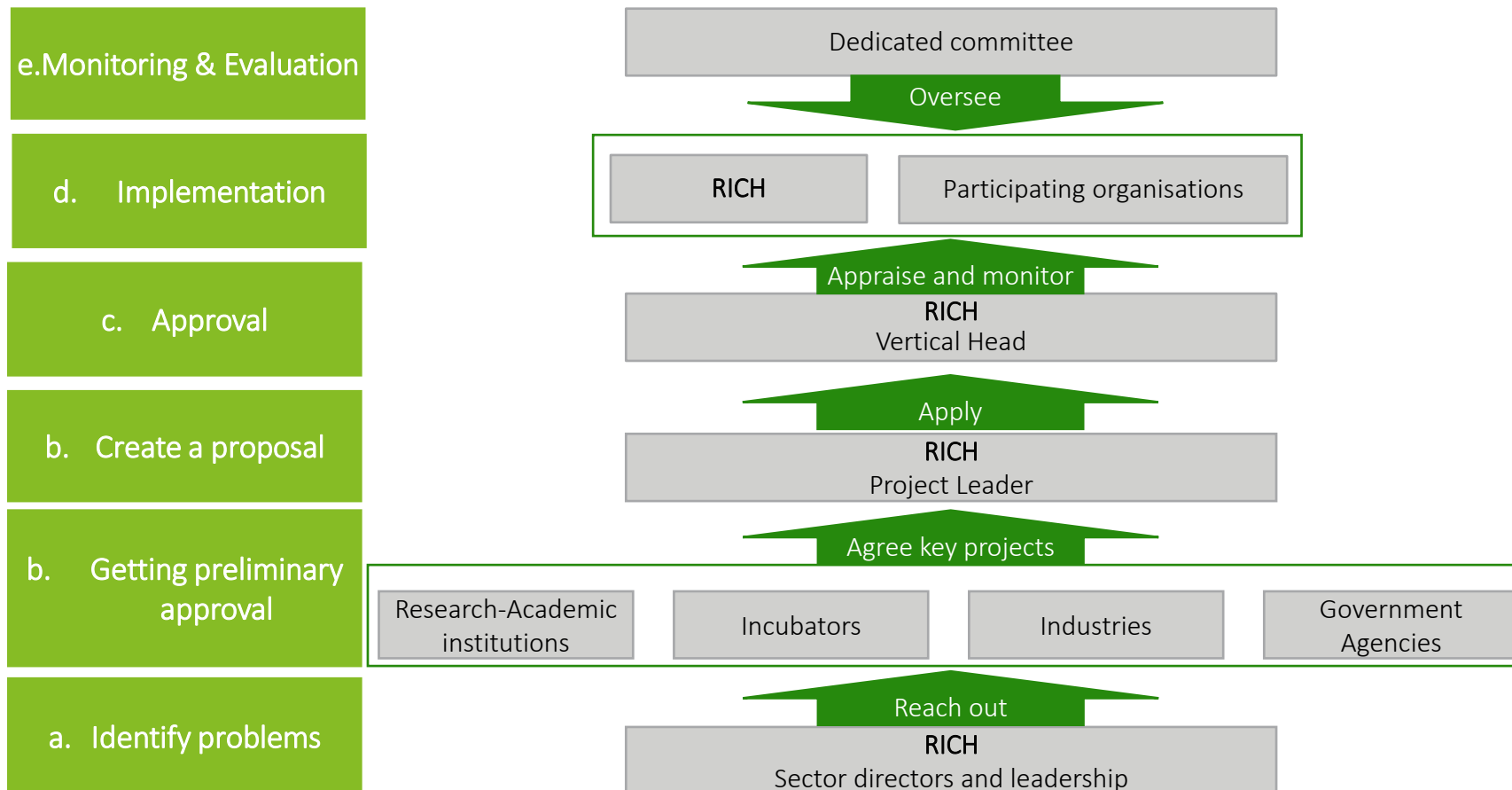|	Approval	Procurement	Construction	Monitoring Evaluation
CoI Professionals	Advice	Advice	Advice	Advice
CoI Project coordinator /Director	Management by coordinator	Management by coordinator	Management by coordinator	The overall monitoring of all projects will be done by Director of Industries
CoI Monitoring entity(State)				Monitoring authority for each activity
CoI Monitoring entity(District)				Monitoring authority for each activity
Industries & Commerce Department	Observer	Observer	Observer	Observer
TSIIC Team		Implementation	Implementation Construction	
Trade Promotion Council		Implementation	Implementation Construction	
District Office		Implementation	Implementation Construction	

RICH

Below chart describes our understanding of standard implementation structure for market creation projects in RICH

RICH: Implementation Structure for Market Creation Projects

SS-P10, SS-P11, SS-P12, SS-P13, SS-P14

➢ Implementation Structure in RICH

- Project Proposals jointly prepared by RICH (all subprojects submitted to JICA fall in this category)

Stage	Structure
e. Monitoring & Evaluation	**Dedicated committee**
	Oversee
d. Implementation	**RICH** — **Participating organisations**
	Appraise and monitor
c. Approval	**RICH** Vertical Head
	Apply
b. Create a proposal	**RICH** Project Leader
	Agree key projects
b. Getting preliminary approval	**Research-Academic institutions** — **Incubators** — **Industries** — **Government Agencies**
	Reach out
a. Identify problems	**RICH** Sector directors and leadership

TASK

Below chart describes our understanding of standard implementation structure for capacity building project in TASK

TASK: Implementation Structure for Capacity Building Projects

GS-P3

➢ Implementation Structure in TASK