

Shifting the Paradigm

Mapping the Inclusive Innovation Ecosystem for MSME

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Ecosystem for MSME



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List of Abbreviations

BAS	Business Advisory Services
BDS	Business Development Services
BI	Business Incubators
BMO	Business Membership Organizations
BoP	Bottom of the Pyramid
CBDT	Central Board of Direct Taxes
CDP	Cluster Development Programme
CEO	Chief Executive Officer
CESD	Centre for Educational and Social Development
CFC	Common Facility Centre
CII	Confederation of Indian Industry
CIIE	Centre for Innovation, Incubation & Entrepreneurship
CSIR	Council of Scientific & Industrial Research
CSR	Corporate Social Responsibility
DBT	Department of Biotechnology
DC(MSME)	Development Commissioner (Ministry of Micro, Small & Medium Enterprises)
DIPP	Department of Industrial Policy & Programmes
DSIR	Department for Scientific and Industrial Research
DST	Department of Science & Technology
ESTD	Early Stage Technology Development
ET	Economic Times
FDI	Foreign Direct Investment
FICCI	Federation of Indian Chambers of Commerce and Industry
FII	Foreign Institutional Investor
FYP	Five Year Plan
GBF	Grassroots Business Fund
GDP	Gross Domestic Product
GIAN	Grassroots Innovation Augmentation Network
GIIRS	Global Impact Investing Rating System
GIS	Geographic Information System
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GoI	Government of India
HNWI	High Net Worth Individual
ICT	Information and Communications Technology
IEIF	Impact Economy Innovation Fund
IF	Impact Fund
IIM	Indian Institutes of Management
IIT	Indian Institutes of Technology
INR	Indian National Rupee
IOF	India Opportunities Fund
IPO	Initial Public Offering
IPR	Intellectual Property Rights
IRR	Internal Rate of Return
ISB	Indian School of Business
IT	Information Technology
ITES	Information Technology Enabled Services
ITI	Industrial Training Institute



IVCA	Indian Venture Capital Association
KVIC	Khadi and Village Industries Commission
LLC	Limited Liabilities Companies
LP	Limited Partners
ME	Micro Entreprises
MME	Micro-Micro Enterprises
MoF	Ministry of Finance
MNC	Multinational Corporation
MSME	Micro, Small and Medium Enterprises
MVIF	Micro Venture Innovation Fund
NABARD	National Bank for Agriculture and Rural Development
NBFC	Non-Banking Financial Company
NGO	Non-Governmental Organization
NID	National Institute of Design
NIF	National Innovation Foundation
NIFT	National Institute of Fashion Technology
NI_nC	National Innovation Council
NIT	National Institutes of Technology
NMCP	National Manufacturing Competitiveness Programme
NMITLI	New Millennium Indian Technology Leadership Initiative
NPA	Non-Performing Asset
NSIC	National Small Industries Corporation
PE	Private Equity
PMAC	Project Monitoring and Advisory Committee
PPP	Public Private Partnership
PRISM	Promoting Innovations Individual Startups and Micro Small and Medium Enterprises
R&D	Research and Development
RIF	Rural Innovation Fund
RTBI	Rural Technology And Business Incubator (RTBI)
S&T	Science & Technology
SBIRI	Small Business Innovation Research Initiative
SEBI	Securities and Exchange Board of India
SI2	Sustainable Investment in India
SIDBI	Small Industries Development Bank of India
SRI	Socially Responsible Investments
SVCL	SIDBI Venture Capital Limited
TDB	Technology Development Board
TDICI	Technology Development and Information Company of India
TePP	Technopreneur Promotion Programme
TIFAC	Technology Information, Forecasting and Assessment Council
TMC	TUC Monitoring Committee
TSC	TePP Screening Committee
TUC	TePP Outreach Center
UNDP	United Nations Development Programme
UNIDO	United Nations Industrial Development Organization
USAID	United States Agency for International Development
USD	United States Dollar
VC	Venture Capital



Prelude

India has a rich legacy as the land of innovation and many key innovations of mankind are of Indian origin. The concept of Zero by Aryabhata and medical surgery by Sushruta are well known. Unfortunately, we seem to have lost focus and are falling behind in the international innovation landscape. However, as an emerging knowledge economy, we have been experiencing the innovation struggle over the last decade. Acknowledging the need for innovation in the country, the Prime Minister of India announced the period 2010 – 2020 as “The Decade of Innovation” and has established the National Innovation Council (). A new paradigm of innovation is growing in India that is focusing on simplicity and frugality in the process of innovation itself, in contrast to the dominant paradigm wherein innovation is expensive and requires large resources comprising of highly qualified personnel, finance and facilities. Innovation is being increasingly regarded as an ‘enabler of inclusivity’ by bridging the gap between the resourceful and needy and improving lives of the people at the margin.

MSMEs in India are responsible for providing employment to more than 73 million people and account for 8.7 percent of country’s GDP. In spite of producing about 6000 different types of products ranging from traditional to high-tech, most of them operate at sub optimal levels and are not able to compete globally. As an emerging investment destination of foreign capital, technology and products, India needs an innovation strategy that would infuse competitive edge in the domestic industries to compete in the global marketplace. Also, with the rising inequality in Indian society due to skewed availability of opportunities, the innovation policy should complement the inclusive growth strategy of the Government.

GIZ India, in partnership with the government financial institutions such as SIDBI, has been involved in various programs to develop MSMEs. The need for creating a robust support structure to expedite innovations amongst MSMEs has been a major focus for most government policies for quite some time now. Yet, a lot is to be achieved on the ground. This study endeavors to understand the current status of how innovations are nurtured and commercialised by various support structures – on one hand by various government schemes as a platform to unravel innovations; and on the other, by the new age impact funds through introduction of global practices to nurture innovations.

To understand the innovation ecosystem, this study has focused on ten government schemes and supported organisations that promote innovations and ten Impact Funds that have made their presence felt in low income consumer segments. Interaction with senior functionaries who are responsible for managing them were conducted along with inputs from innovators, start-ups and thought leaders to get a 360 degree perspective of the innovation ecosystem. In addition, relevant reports and literature available were studied. Around 50 primary interviews were conducted.

There are almost 52 government schemes which are in some or the other aspect related to innovations. After an objective analysis of the population, 10 schemes were selected for an in-depth analysis. Information were gathered by interacting with senior professionals of the organizations or by referring to available published literatures. The schemes reviewed included:

- 1 Technoprenuer Promotion Program (TePP)
- 2 Lockheed Martin India Innovation Growth Program
- 3 Small Business Innovation Research Initiative (SBIRI)
- 4 MSME Design Clinic (In partnership with NID)
- 5 SRIJAN (A partnership between TIFAC & SIDBI)



- 6 New Millennium Indian Technology Leadership Initiative (NMITLI)
- 7 MSME Incubator Program
- 8 Micro Venture Innovation Fund (MVIF)*
- 9 Rural Innovation Fund (RIF)
- 10 Centre for Innovation, Incubation and Entrepreneurship (CIIE)*

Similarly, 10 Impact Funds studied included:

- 1 Aavishkar
- 2 Elevar Equity
- 3 Ennovent
- 4 Grassroots Business Fund
- 5 India Angel Network
- 6 Acumen
- 7 Villgro
- 8 Artha
- 9 Upaya Venture Fund
- 10 Anavo Global

Though operating with a likeminded objective of fostering innovations, both the support structures inherently differ in their set of offerings and therefore, were assessed on their individual parameters. However, the scope of their operations in all the four stages of innovation namely

- Ideation
- Prototype
- Pilot
- Scale up

were reviewed. The government schemes were further assessed on aspects of inclusivity, accessibility, approval time, coverage of the innovation cycle and performance measurement. The Impact Funds were reviewed for their investment focus, stage of the enterprise lifecycle during which the funding is made; investment range; various types of support provided and the number of enterprises funded. Perspective of innovators were understood for designing a robust recommendatory roadmap.

Footnotes



- * These initiatives are not only schemes, but unique organisations setup for promoting innovations. For smooth reading it is referred as Government Schemes.



Executive Summary

Innovations Schemes and Impact Funds

- 1 The government schemes for innovation promotion have primarily been focused around the creation of new technologies. Various schemes have laid out an operational plan to run the scheme and in the process have evolved some good practices and propositions. However, as a common factor, most of the schemes are targeted at high-end solutions mainly pursued and promoted by entrepreneurs who are either small or medium and not the ones operating at the grassroots level targeting users at base of the pyramid. Out of the 10 selected initiatives, Rural Innovation Fund(RIF) and Micro Venture Innovation Fund(MVIF) are targeted at creating inclusive solutions. Also, most government schemes operate at an individual or single enterprise level as a point of intervention. The 'Design Clinic Program' run by the Ministry of MSME is the only cluster based intervention initiative which aids to scale innovations in MSME clusters. There are some sector based funds. The Department of Biotechnology has programs which are exclusively targeted at solutions related to bio-technology by individual entrepreneurs/innovators.
- 2 Despite the policy impetus, as an economy we have a long way to go to create a vibrant ecosystem. The MSME segment specifically is in a state of concern with outdated technologies and suboptimal levels of production. Some schemes such as the NMCP have tried to take a holistic approach to address the issues of the sector. However, the implementation on ground has been piecemeal and is yet to achieve the desired impact and scale. There is need for coordinated approach and introduction of scale to enable leveraging the impact of innovation.
- 3 In recent years policymakers have been on a major innovation drive which has led to creation of many schemes of similar nature which in turn has led to more confusion due to turf wars, limited bandwidth for operations and restricted coverage of the innovation cycle. As an idea sourcing platform for new technologies, government supported initiatives have emerged as the recognised and accepted certification agencies by various financial institutions. However, the innovative ideas have failed to blossom into viable business models and create a vibrant entrepreneurial society. In all, the study found around 2000 firms to have been supported using public funding since 2000. Mostly managed by scientists and technologists, the management of these schemes were found to be less equipped on matters of financial due-diligence and impact measurement. This lacuna has been addressed in one of the schemes studied, SRIJAN, with partnership emerging between specialised agency like SIDBI (for financial assessment) and TIFAC (for technology assessment), thereby leveraging complementary skillsets.

However, as per the study, the innovation process is stilted. There is no endeavour to make the process seamless for the innopreneur to transits from one stage to the other. The same proposal is vetted multiple times from scratch at different stages of the innovation lifecycle. The government schemes are focused on the first two stages of the cycle i.e. ideation and prototype creation while the impact funds enter only once the idea has been tested post prototype creation. Even at these stages there are no comprehensive services to meet the requirements of the respective stage. Further, there is no eco-system or guidance/ mentoring or understanding of what happens to the innopreneur after the specific stage is over and mechanism to ensure that the innovative solution is implemented on the ground.

- 4 Across schemes, interventions were found to be restricted primarily to financing entrepreneurs who had readymade technological innovations. The study found an immense need to supplement the financial support offered by the government schemes with other non-financial services like mentorship by technology experts



and business coaches, various types of business development services like market research, branding strategies, vendor sourcing etc. Such an ecosystem based approach with the purpose of inclusion would need a complete overhaul of the government support structure from being a technology based fund provider to a solution based co-creator.

Another key aspect on which the government schemes were found to be seriously lacking was not conducting impact assessment studies. Monitoring and impact assessment are an integral part of any programme to gauge its effectiveness. In addition to measuring performance of the incubated enterprises, it also helps in gauging the impact created by the support scheme at the national level. Conducting impact assessment studies in a timely manner would help the policy makers in invigorating a result based culture and a robust review system for measuring the performance of various government schemes. This would also facilitate higher allocation of funds to schemes that are performing well and delivering on the scheme objectives.

As an important stakeholder of the innovation ecosystem, the academia has a crucial role to play. There is an impending need of re-inventing the curriculum of engineering and ITI courses. By creating a national network of laboratories and testing facilities, and linking the live projects of their students to the various government schemes, the academic institutions can become major sources of innovations. Moreover, we recommend linking the industrial clusters with such institutes for a contextual understanding of the actual problems faced by the industry leading to co-created sustainable solutions.

In terms of operational processes and accessibility of the government schemes across geographic locations and sections of society, we recommend a two-tier approach –the approval and funding decisions be retained by the apex level (in New Delhi); awareness creation and hand holding during the submission process, monitoring and impact assessment, mentoring and managing should be left to the regional centres which can act as incubation hubs. This decentralised approach would entail benefits like faster processing of the application, better monitoring of the incubated firms and cost savings in terms of doing away with redundant processes.

- 5 Thus far the innovation focus has been on technology improvements for the MSME, in line with the growth objectives and to give the much needed boost to the manufacturing sector. Going forward, in line with the inclusivity and scalability objectives of the NIC, a two pronged innovation approach needs to be followed. Government schemes now need to expand their scope and base in order to create solutions that would create maximum impact on the BoP. This requires a total change in mindset and methodology. These programs need to find answers on ways to move away from only technological solutions to more holistic business model approach and to creation of impact through an inclusive approach. Bringing in project management skills to run large scale programs is the need of the hour. The ability to collaborate with various stakeholders to integrate all the services needed by innovators is an important area for the schemes to work on. Critical non-financial services like market research, business modelling, mentoring services etc. need to be integrated into the schemes. Above all, the schemes need to move away from schematic approach to a more holistic one for creating an enabling environment and this remains a big challenge.
- 6 Impact funds, on the other hand, are relatively new players and have barely touched the tip of the iceberg. They have been gradually evolving as holistic service providers to innovators and aim at creating the much needed social impact. As an emerging asset class, they gathered momentum post 2008 and presently around 33 of them operate in India. The Planning Commission estimates an investment demand of \$ 55 billion (INR 3 lakh crore) by potential start-ups over this decade. Impact investing involves “investors seeking to generate both financial return and social and/or environmental value – while at a minimum returning capital, and, in many cases, offering market rate returns or better¹.”
- 7 Impact investing has seen a lot of traction in the last couple of years due to a growing recognition that existing resources are insufficient to address severe poverty, inequality, environmental destruction and other complex,



global issues, especially among western nations that are already reducing their aid budgets and domestic social spending. An emerging set of activities demonstrate that it is possible to finance scalable business models that create social and environmental value. Also, there is a transfer of wealth from high net worth individuals in industrialized nations who seek to embed their values while allocating their capital. According to the 2009 Monitor Institute report entitled Investing for Social and Environmental Impact “Impact investing remains in the market-building phase, but could evolve to the next phase in which stakeholders fully capture the value of the marketplace.” In India, especially since 2008, there has been a sudden spurt in the growth of Impact funds largely championed by foreign philanthropic capital, the scale and diversity of problems to be addressed and a new class of investors looking at a balance of financial return and social impact.

- 8** Most of the IFs typically operate at a later stage of financing with average ticket sizes of USD 2 million or above. Only a limited number of IFs have moved to early stage financing which is below USD 100K. In spite of the many cited advantages as support mechanisms of innovations, the key challenge for this asset class is to convert investments into business propositions over 5 to 7 years with a return profile of around 15 percent. Being a recent phenomenon, not much research has been conducted on their incorporation structure, investments, sectoral preferences and service offerings. The study found there to be various differences among IFs. In terms of incorporation, they were found to vary in terms of their legal format (Section 25 Company under the Indian Companies Act or for profit NBFC); stage of innovation supported (specific stage vis-a-vis end to end); investment focus (sectoral specializing against being broad based); source of funding (Indian fund versus offshore fund); ticket size (Small/Medium/Large) and type of holding (single partner against limited liability partners). On the innovation cycle some of the IFs primarily target start-ups who are at an early stage of their operation i.e. at the stage of pilot or entering into growth stage.
- 9** There has been a very strong focus on bringing in professional expertise for reaching out to innovators, evaluating and fine tuning the proposed business ideas, providing non-financial support etc. by impact funds. Use of specialized agencies in conducting market research, undertaking legal & financial due-diligence, investment banking services and portfolio management support are increasingly used by impact funds. New trends like - collaboration among impact funds to co-invest in potential but risky ideas; - extending services through innovative programs delivered by intermediaries and service providers for awareness creation, deal sourcing, due diligence, capacity building, pre & post investment etc. are encouraging signs which strengthen the innovation ecosystem.
- 10** An ecosystem that would produce a large number of proven & scalable business models is an ideal situation for Impact funds. However the clear gap is actively developing the capacity of ventures to effectively prepare for capital infusion and to use it effectively. This has meant that many impact funds have not been able to close a number of investments and effectively deploy capital as per their mandates. The crucial challenges remain around “Discovering” these scalable models that are ready to receive investment. The other related challenge is building the investment readiness of these and other business models, especially for seed and early-stage ventures, which can take a variety of forms, ranging from the active-owner approach of venture capitalists to grant-funded technical assistance, and a host of hybrid methods.
- 11** Both these challenges could also be addressed by effectively collaborating with other stakeholders in the ecosystem especially relevant government agencies/government programs. The government with its outreach and budgets could be an excellent discovering and financing agency, however it lacks the professional expertise, due-diligence skills to deploy capital and this is where partnership with impact funds will be most effective.



Recommendations

- 12** The need for creating a new paradigm to nurture and sustain inclusive innovations is apparent. Suggestions are being made at three levels –creation of a new paradigm for innovation; specific recommendations to strengthen schemes and impact funds and for building a robust innovation ecosystem. The new paradigm of innovation eco-system should take cognizance of the following:
- Support innovations exclusively targeted at poor to offer affordable and scalable solutions.
 - Promote technological and non-technological solutions that are appropriate in the Indian context and affordable by masses.
 - The interventions need to be targeted at the social entrepreneurs and clusters for speedy dissemination to the under served segments.
 - As the above focus is relatively recent, new schemes need to be created to achieve the social objectives. Whereas some of the existing schemes cover this objective, among others, the focus towards this end needs to be sharpened.
 - The need of the hour is to increase traction in all the four levels of the innovation cycle – ideation, prototype, pilot and scale-up. In this regard, we found the outlay of the support structures to be skewed – while the government schemes are operating at the early stages of enterprise, the impact funds tend to support the scaled-up enterprise. Also, the four stages seem to operate in isolation silos with little effort to facilitate transition from one stage to the other in a seamless manner.
- 13** In recent times many types of specialised agencies have emerged in the innovation space leading to lots of duplication of bandwidth and confusion of roles. There are multiple providers in some areas coupled with lacuna in others. Also in some schemes there appears to be an overlap leading to futile turf wars. There is need for role clarity for every stakeholder of the innovation ecosystem and policy matters need coordinated effort and convergence among the diverse stakeholders such as government, private investors, R&D centres, clusters, innovators, banks and academics. Rather than developing newer competencies, the aim should be on leveraging existing strengths and improving the weaker sections of the value chain.
- 14** To strengthen the government schemes encouraging innovations, recommendations have been made at two levels, one to strengthen the internal processes and operations and other to create an enabling environment for creating larger impact. The key recommendations to strengthen the internal processes are:
- The idea vetting process should be comprehensive – taking into account the aspects of technical feasibility along with commercial and market viability. There is little chance of success of an innovative solution if it does not satisfy a real need of a potential customer in a cost effective manner.
 - Enhance and extend the funding support in amount and coverage in the innovation cycle for the supported enterprises through collaboration with other government agencies and directing the CSR Funds with corporates. This might require policy level changes.
 - Clearly define centralized and decentralized functions for a particular scheme to make it more effective on the ground and more appealing to applicants.
 - Improve scheme offerings by bolstering the non-financial services pertaining specifically on three aspects.
 - Outreach** – The government schemes lack in outreach and visibility and need focused efforts and collaboration with private players to ensure high quality innovators and entrepreneurs apply for schemes.
 - Pre-Screening** – Services of competent private players for specific tasks like screening technological proposals, management of screening process with objective evaluations from different domain experts, etc. can be extremely effective in ensuring the relevant and high potential applications get the grants.
 - Post Awarding** – Post the awarding of grants, the government could collaborate and empanel a set of key private service providers which will provide capacity building support to the grant winners. This will ensure robust monitoring, evaluation of the grant winners as well as a support structure for further scale-up of



their operations.

- So far the schemes have primarily dealt directly with innovators. However, there is an urgent need to structure some innovative government schemes in partnership with key private players focused on innovations which are working towards creating a sustainable impact on low income markets in India.
 - Facilitate online submission of forms and other supporting documents which would shorten the administrative chain and simplify submissions and tracking of project status.
 - Many a times the language for application is English. Local language formats should be created for ease of submission. Also, guidance in filling of forms should be provided at the local centres.
 - Create decentralised sourcing, mentoring and monitoring machinery with powers delegated to the branches. Ensure adequate number of centres (with potential tie up with academic institutes) for sourcing ideas and guidance in application filling, mentoring the innopreneur and monitoring as per pre-defined milestones.
 - Funding should be in installments to be tied up to pre-defined milestones. Similarly the practice of direct remittance of the funds to the enterprise with less rigidity in terms of permissible expenses, enabling prompt and empowered decisions should be encouraged.
 - Adopt cost effective methods of awareness creation, especially for the ideation phase through newer methods like city based road shows and partnerships with agencies having national reach like media houses.
 - Strengthen operational aspects like standardised templates of application forms, clearly understood selection criteria using global benchmarks like Technology Readiness Level(TRL), external assessment of funded enterprises with information sharing through reports and constant updation on the website, better project management through skill upgradation of the managing staff etc.
- 15** The following recommendations are proposed for ensuring an enabling environment for the government schemes that are strategic in nature:
- Need for collaboration, convergence and linkages of the government schemes with other support structures like the Venture Funds and Private Equities for helping the start-ups seamlessly commercialise their innovations.
 - The government schemes need to prioritise certain high-impact sectors and create an innovation roadmap for enabling business models in education, affordable health, sanitation and potable water which would also serve the inclusive agenda chartered by the National Innovation Council.
 - In absence of adequate funding for later stages of the enterprise lifecycle, the enterprise management often approach other financial institutions like banks and development financial institutions for accessing capital. Subjecting the same innovation to multiple rounds of evaluation at various levels consumes scarce resources and wastes time. As the government schemes have become acceptable sources of innovation scouting, there is a need for creating a 'Technology Mark' which would act as certification of truly innovative technology. Once certified on select technological criteria, financial institutions should be able to provide the much needed capital for scale-up phases.
 - Every government scheme studied had some unique feature and best practice which needs to be shared across the ecosystem to make it vibrant. Such information sharing platforms among the government schemes should be created.
 - The government sponsored R&D through the CSIR labs need to adopt a cluster-based approach and work in close partnership with the private sector. For most private- sector R&D to avail government funds, CSIR recognition is mandatory which becomes limiting factor many times due to limitations within the CSIR setup. Such stringent regulations restrict creation of an inclusive ecosystem.
 - A vibrant ecosystem needs favourable regulatory and taxation environment and enabling legal formats like producer companies to help start-ups in faster commercialising of innovations.
 - The academia support is a crucial missing link in the innovation delivery cycle. The government schemes could initiate fellowships for the bright young minds for taking up any innovative idea they may have developed while doing their engineering or polytechnic courses and provide for the lab testing and other mentorship facilities by opening its own labs and creating a national network of business incubators housed in academic institutes. While some effort has gone in this regard the need is for a much larger and concentrated action. In terms of



course curriculum, every stream of study needs to stress on aspects of entrepreneurship and educate on ways of opening and managing business.

- 16** While the impact funds have many benefits of private sector funding like being more responsive and tailored to the enterprise lifecycle needs, we make the following recommendations for strengthening their presence:
- Most of the impact funds have large ticket size and stringent eligibility milestones making only the relatively mature enterprises meet the standards. However, for a vibrant ecosystem to flourish the need is for higher risk taking by the impact funds and support of radical business models. They can partner with the existing government schemes for providing additional financing or scaling-up support for the enterprises who have already passed the prototype and piloting phase. It would also enable faster turnarounds in numbers as impact funds cited sourcing investment worthy innovative business models as their biggest operational hurdle.
 - Collaboration and partnerships among the Indian and Offshore funds for enterprise screening, sharing of due-diligence, expertise and co-investment opportunities leading to reduction of expense levels and reduced timeline for investment closures.
 - In the Indian context, simple yet effective solutions which also consume fewer resources to operate are the flavour. There is need for impact fund management immersion into the Indian context which is possible through tie-ups with specialised market research agencies who keep a constant track of the consumer behaviour in the low income segment. This recommendation is in tune with our proposed new paradigm of inclusive innovation which looks for sustainable and co-created solutions and cheap products but also focuses strongly on the business model.
 - The Impact Fund industry needs to develop an Indian model of Impact Assessment which is in sync with the business model and market dynamics of the BoP segment. Such a localized impact assessment framework would also operationally help the Impact Funds in timing their exits better which is a key challenge for the Indian Impact Fund industry.
- 17** The following recommendations are proposed in order to create an enabling environment for impact funds:
- Impact Funds use sophisticated financing mechanisms that require structured reporting and strong internal processes which most applying enterprises find overwhelming to comply with. There is a strong need for simplifying the application and due diligence process through better awareness and education delivered via workshops, sessions, media interviews about the various concepts like investor criteria, term sheets, etc. Networks like TiE and Sankalp Forum have a crucial role to play in this regard. While such networks have been organizing periodic educational and networking events, the need is to permeate to the Tier 2 and 3 cities in a more aggressive way from where the real BoP business models would emerge.
 - Impact funds need to support concentrated capacity building programs to help building the investment readiness of the enterprises. This is especially applicable for seed and early-stage ventures, which can take a variety of forms, ranging from the active-owner approach of venture capitalists to grant-funded technical assistance, and a host of hybrid methods. There are interesting models under experimentation that involve market pricing for capacity building for which enterprises at least share the cost. Providing the appropriate combination of business and sector expertise is a crucial factor across all models.
- 18** A number of concrete interventions are needed to make the eco-system more enabling for innovators to sustain their businesses in long run. Accelerating the innovation by having special efforts in idea and prototype creation, adoption of clusters by technical institutes and research labs, strengthening and expanding the incubation process, creating online networking platforms, a robust evaluation structure are crucial. Following are the 10 major recommendations which are elaborated with appropriate strategies in the report.
- Speeding up of ideation and prototype stage activities through an active collaboration with all stakeholders comprising of academia, incubation, idea labs, competitions and entrepreneur networks.
 - Encourage promotion of integrated innovation model and techno-managerial support to large scale innovation programs.
 - Cluster adoption by reputed engineering and technical institutes.



- Directing CSR initiatives through appropriate vehicles to encourage innovation and incubation of high potential enterprises.
- New schemes with regional focus on building innovation eco-system and sector ally targeting enterprises working in low income markets.
- Encourage and promote specialized agencies which will deliver high quality services for innovation promotion, commercialization and scaling.
- Incubators' development program and innovation and entrepreneurship fellowship program.
- New legal structure for Social Entrepreneurs & Impact Investors.
- National level networking platform.
- Third party evaluation and impact measurement.

As seen in the lay of schemes, fund providers are not straddling all the phases of the innovation cycle. The government schemes are predominant in the early stages of the cycle. Similarly, the impact funds come into play at the later stages of the cycle. Hence, an ecosystem approach should facilitate the availability of funding and non-funding support at the different stages of the cycle. The ecosystem envisages adequate number of players facilitating a plug and play approach depending on the requirements of the phase of the innovation cycle and the players. The players include innovators, academia and the technical institutions, implementers, fund providers, policy makers and regulators – not in any particular sequential order. Different players will come to the fore at different points of time depending on the needs of the innovator.

The current challenge is the lack of enough players for creating the envisaged ecosystem and to create the required traction. To create a sustainable scalable social innovation paradigm, requires a different mindset and focus from the way things have been done so far. As the ecosystem grows in this new direction and the number of players increase, it would be important to streamline the efforts of different players to make them more productive and preclude duplication of efforts to the extent possible.

Footnotes



- 1 Report : Accelerating Impact by Rockefeller Foundation
<http://www.rockefellerfoundation.org/uploads/images/fda23ba9-ab7e-4c83-9218-24fdd79289cc.pdf>







1 MSME Introduction

About the Chapter:

Innovation paradigm for MSME has been changing rapidly due to accelerated growth of Indian economy. It is imperative to understand the changing dynamics in order to conduct a proper assessment of the ecosystem and recommend an appropriate roadmap.

1.1 Introduction – Innovation Paradigm in India

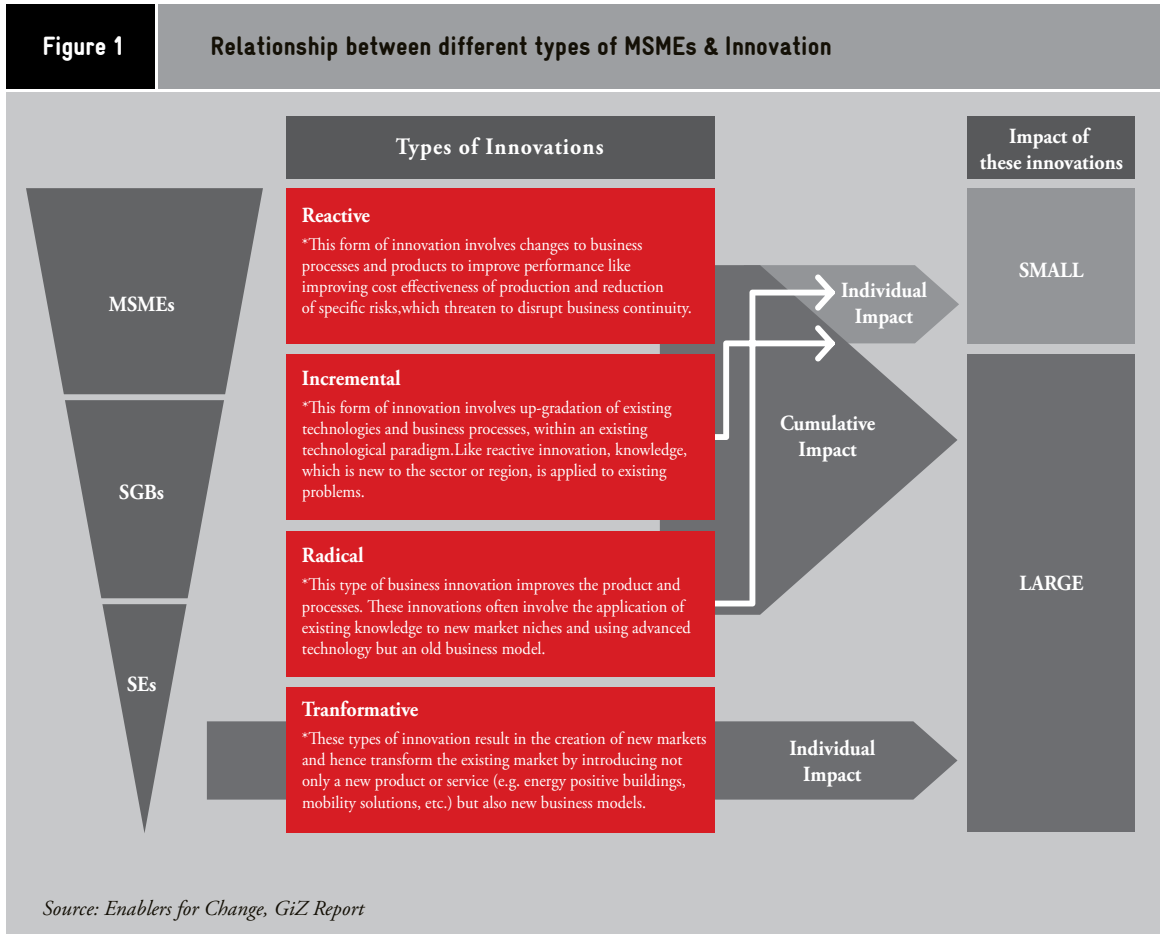
The term ‘innovation’ dates from the 16th century and is derived from the Latin word ‘innovare’ which means ‘to renew or change’. Nobel laureate economist Milton Friedman once famously quipped that “the only purpose of business is to earn profits”. For a long time this remained the only mantra for business operations and innovation in that sense was understood as a key enabler. Conventionally, innovation referred to the mechanism of producing new and improved products, processes and systems required for adapting to changing markets, technologies and modes of competition (Lawson & Samson, 2001). Disruptive innovation has helped firms and economies grow and earn more profits through creation of new business segments and new product applications (Christensen, 1997). However, as business environment became turbulent and market segments saturated, the purpose of innovation changed character from seeking growth to ensuring survival through constant evolution of technologies and market dynamics to prevent obsolescence. The concept of innovation itself has been evolving from a narrow paradigm of ‘for profit’ to a ‘specific company to becoming more inclusive and bettering the quality of life of society at large.’

Transformative innovation is not driven by regulation but by voluntary forces and using bottom-up approaches. While the policymakers can only ensure a congenial regulatory environment with some funding support, sustainable and long term engagement is only possible when diverse stakeholders come together to create a win-win scenario.

Indian policymakers and leaders in innovation have been experiencing an innovator’s struggle over the last decade. Acknowledging the need for innovation in the country, the Prime Minister announced the period 2010 – 2020 as the “Decade of Innovation” and has established the National Innovation Council (NInC). India ranks 64th among 141 nations on the Global Innovation Index 2012¹.

Based on a paradigm shift in approach, government policies promoting innovation need to transform themselves from being linearly top-driven and primarily technology focused to becoming more open and holistic in nature driving sustainable and inclusive growth.

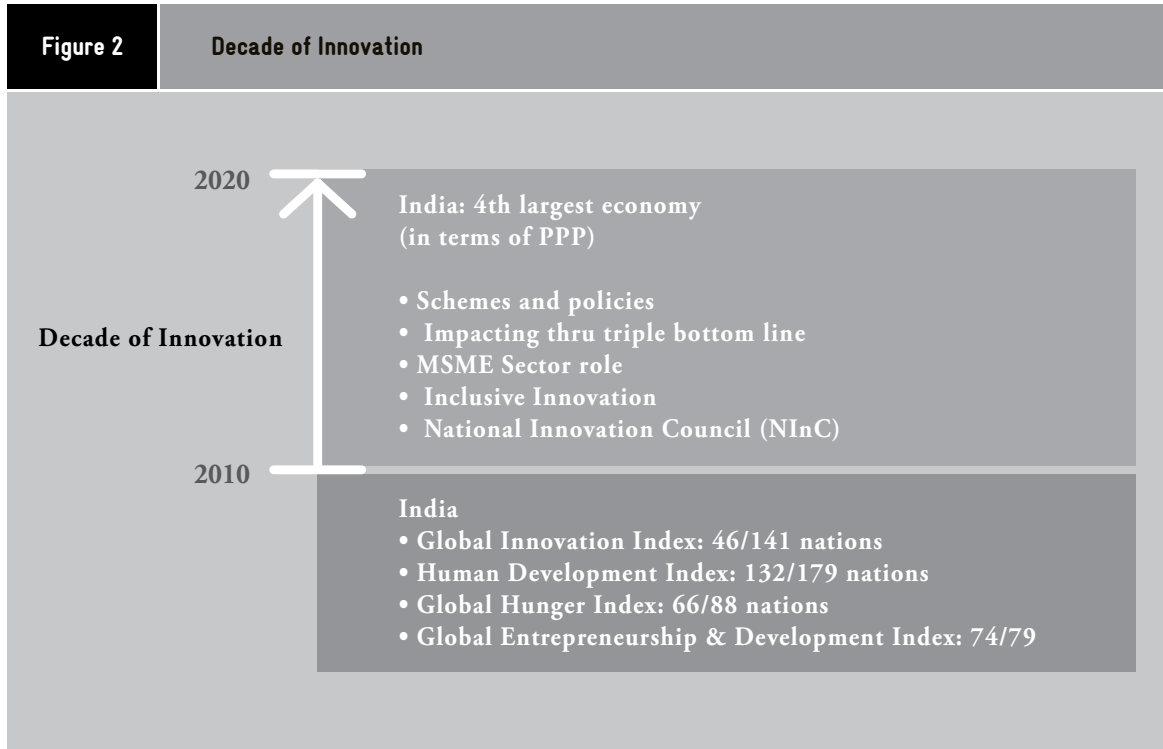
The NInC has a mandate to create an ‘Innovation Movement’ in the country and develop models for fostering innovation, which can be up-scaled by various institutions across the country and also address the twin challenges of poverty and natural resource strain. There is a growing need to reassess the concept of innovation itself relevant to the Indian context, as well as ensuring that the innovation ecosystem comprising processes, linkages and funding is in place to create innovative solutions which lead to the desired impact in the context of redefined objectives.



A new paradigm of innovation has been growing in India, with a focus on simplicity and frugality in the process of innovation itself; in contrast to the dominant paradigm of the western world wherein innovation is expensive and requires large resources of highly qualified personnel, finance and facilities. The western paradigm of innovation is unlikely to produce solutions that create the desired social impact in the Indian context- the need of the hour is for creation of an innovation ecosystem and sub-systems that are tailored to the special circumstances of Indian market with a special focus on the bottom of the income pyramid.

In the western world, some measures of the innovation capacity of a system include the amount spent on R&D, the numbers of scientists engaged, and the numbers of patents produced. Whereas in the new paradigm of innovation that has emerged in India, the measure of a system's innovation capability lies in the production of solutions (products and services) that are 'affordable' and 'accessible' to people with very low incomes. In this paradigm, innovations are mostly outside the laboratory. These institutional and organizational innovations that enable co-creation and co-operation to create reach, reduce costs, and deliver solutions that are useful to masses at the 'bottom of the pyramid' are being acknowledged as legitimate. Many of the innovations that have produced results in this country, such as low cost eye care and low cost cardiac surgeries are not innovations merely in the scientific sense. They have a lot to do with the organisational model and collaborations with people at different parts of the value chain. Our study focuses on ten current schemes in the context of promoting an innovation ecosystem.

Other than the government (some of their schemes for fostering innovation have been studied in detail later in the report), many Indian and multinational enterprises have developed their R&D facilities in India where cutting-edge research is taking place. Along with Indian giants such as Tatas, Birlas, Mahindras, and Godrejs, global multinational corporations such as Nokia, Xerox, Bosch, Philips, GE, and IBM have invested in India for their R&D programmes - India forms an important destination for R&D and new product development for



most of the Fortune 500 companies. Recently, the Indian conglomerate, Tata has come up with a low cost water purifier (Tata Swatch) which has been developed by Tata Chemicals in collaboration with group companies. This product will positively impact the life of the common man. The paradigm shift going forward is innovation that leads to solutions that are affordable along with being sustainable.

However, the innovation process in India has been slow and restricted to certain industries and clusters such as pharmaceuticals, auto components, IT and ITES, etc. Further, a major gap is the non-participation of the MSME sector in the innovation process, given the important economic linkages of this sector with manufacturing, exports and employment generation.

While India is still a preferred destination for FII/FDI and its growth story continues to attract investments, the country continues to face challenges of corruption, poverty, human development etc. It ranks 132nd among 179 on the Human Development Index and 66th of 88 nations on the Global Hunger Index. Under such a conflicting scenario of increasing economic affluence on one end and growing societal disparity on the other, policymakers need to focus on inclusive growth policies as a solution to eliminating poverty and fostering sustainable development. Poverty is often a structural constraint and any holistic and strategic response should involve innovative engagement addressing change at the grassroots level.

1.2 MSME Sector in India

Within the Indian industrial landscape, the Micro, Small and Medium Enterprises (MSMEs) form a pivotal segment contributing nearly 45 percent of manufacturing output, 40 percent of exports and accounting for 8.7 percent of the GDP. It is estimated that there are ~ 31 million MSMEs (mostly unregistered and over 90% of total enterprises) employing estimated ~ 73 million workforce, the largest after agriculture. The sector produces about 6000 products ranging from traditional to high-tech items with about 45.2 percent of the registered enterprises located in rural areas.

This broad categorisation of registered MSMEs of 1.56 million registered units is heavily skewed - these mostly



Classification	Manufacturing Enterprise (Investment in P&M)	Service Enterprise (Investment in Equipment)
Micro	Upto \$62,000	Upto \$25,000
Small	Upto \$62,000 - \$1.25 mn	Between \$25,000 - \$0.5mn
Medium	Upto \$1.25 mn - \$2.5 mn	Between \$0.5mn - \$1.25mn

Source: The Indian Ministry of Micro, Small and Medium Sized Enterprise, 2009

comprise of micro enterprises (94.9 percent) while the small and medium segment enterprises account for 4.9 per cent and 0.2 per cent respectively². While one end of the MSME spectrum comprises highly innovative and high growth enterprises, more than 95 per cent of the MSMEs are small and unregistered, and in the unorganised sector. With their widespread geographical presence, varied business segments and lack of technological preparedness, policy making at the macro level becomes challenging.

A Constraints in the MSME sector

While some Indian MSMEs have moved upwards in the value chain from manufacturing of simple to high precision engineered products, most continue to produce commodities and low value added products. The average technology value-added in manufactured products exported by Indian industry is around 8%—very low, compared to that of other emerging developing nations (In 2009, Brazil’s value-added share was 14%, China’s was 31%). The reason behind this trend is that India focuses more on assembling and sales than on design and development, making the process very ‘shallow’.

There are various challenges facing the sector that have been well documented by government agencies including SIDBI. The sector besides facing the challenge of inadequate funding also suffers from lack of managerial depth and capabilities, skills, processes and systems, outdated technology and high cost of production. This hampers the sector’s ability to scale up and leads to production of high cost outdated products created through inefficient processes.

→ Operational issues:

- Technological obsolescence: Keeping pace with new technology has been the most critical challenge faced by the MSMEs.
- Supply chain inefficiencies
- Process inefficiencies
- Sub-optimal scale of operations
- Access to quality manpower (inefficient labour markets, missing talent pool etc.)

→ Financial issues

Shortage of institutional sources of capital has been a perennial complaint of the MSME sector. The Fourth Census of MSME sector revealed that only 5.18 percent of the units (both registered and unregistered) could avail finance through institutional sources. While 2.05 per cent had finance from non-institutional sources, the majority of units i.e. 92.77 per cent, had no finance or depended on self-financing. With such minimum institutional support, small businesses in India tend to rely on informal sources of financing viz. personal funds and funds from friends supplemented by a few external sources like financing from NBFCs, Venture Capital Funds and Angel Funds. Data suggests that despite the best efforts, the credit flow to MSMEs from the



institutional sources has not flowed to the desired extent, even though it has been increasing gradually over years.

→ Marketing issues

Given their small size, most MSMEs are not able to develop the organizational competencies to improve their market access. Leveraging modern techniques like use of ICT tools, GIS based logistics support and brand promotion solutions, the MSMEs need to make their products more appealing, relevant and easily available in the market place. Some of the marketing issues faced are:

- Threat from global competition: As India and China attain global attention being emerging markets and attract leading MNCs, the domestic industry needs to reinvent itself in terms of embracing cutting edge technology and designing consumer friendly products.
- Low resilience in turbulent market scenario: Dependence on single client has been a typical attribute of the Indian MSMEs which makes them extremely susceptible to the economic cycles and customer related risks. This risk is exacerbated with risks associated with producing non-distinctive single products.
- Inability to access new markets due to lack of knowledge, inadequate manpower etc: Dependence on limited geographies for their products – for both sales and sourcing adds to the risk profile of the MSME.

→ Policy/Regulatory level issues

MSME Sector has been linked to not less than 17 government ministries and departments which in itself is the biggest bottleneck. Lack of linkages amongst ministries and departments poses difficulty in achieving common goal. Many operate in silos driving their own agenda which may be looking at certain segments at the exclusion of a holistic solution. From the innovation perspective, the lack of connectivity between R&D labs clusters needs a major policy boost.

B Policy Initiatives by the Government

On the positive side, the MSME sectoral growth rate has been consistently higher than the overall industrial growth rate in the last decade. Industries which hold promise include manufacturing (such as electronics, chemicals, auto-components, food processing), technology (such as e-commerce, mobile value added services such as those related to financial inclusion), healthcare (ranging from diagnostic centres, medical tourism, pharmaceuticals), personal care services, infrastructure (maintenance services, water and waste management and other clean-tech solutions) and education services (such as content services, test preparation, vocational education, etc). There have been some policy initiatives by the Government to make MSMEs as a point of intervention for fostering innovation. Some of them are:

→ Cluster as a point of intervention

There are various policy initiatives and schemes that the government has formulated over the years to address the issues and challenges faced by the MSME sector through various implementation agencies such as Small Industries Development Bank of India (SIDBI), National Small Industries Corporation (NSIC), Khadi and Village Industries Commission (KVIC) etc. Two recent initiatives are important in the context of making the MSME sector more competitive and productive: The National Manufacturing Program (NMCP) and Cluster Development Approach for MSMEs.

→ National Manufacturing Competitiveness Programme (NMCP)

Considering the importance and contribution of the MSME sector in the overall growth of the economy and its need to become competitive at the global level, the NMCP was launched in the Union Budget 2005-06 with 10 sub-programs/ interventions comprising soft and hard interventions addressing the various challenges faced by the sector pertaining to marketing (access to markets and using bar code technology), technology upgradation, providing consulting services for process and quality improvement, skill development and training etc. The programme also addressed the issue of protecting IPRs through patents. The Ministry of MSME has promulgated the design clinic scheme as a part of the NMCP to assist MSMEs to become competitive. The



scheme envisages providing partial funding support, expert advice, and cost-effective solutions to real-time design problems, resulting in continuous improvement and value addition for existing products as well as new product development. India needs many more such interventions to upgrade its design skills. Similarly the scheme envisages incubation of ideas where designated institutions such as the IITs will work with entrepreneurs for incubating new ideas and foster innovation. Common facility centres (CFCs) for creating/testing innovative products are an important aspect of the scheme.

The various components endeavour to fill in the gaps and make the MSME sector more productive and competitive. Most programs are envisaged to be implemented in the PPP mode and the interventions are primarily at the cluster level.

→ Cluster Development Approach

Cluster development as a strategy of economic development is a relatively recent concept in India. The policy focus is on the MSME industry clusters for intervention and development, based on the success achieved by various developed countries. This approach entails the implementation of cluster support initiatives in select pilot clusters prior to nationwide rollout as well as providing assistance to central and local institutions in their programmes of cluster modernisation and restructuring. The Indian government has set up various schemes and programmes comprising a whole array of interventions including soft interventions fostering skill development providing credit and capital and better market access, etc. Hard interventions comprise fostering technological improvements, better design and products, providing financial assistance to create/upgrade infrastructural facilities in the new/existing industrial clusters of MSMEs through set up of Common Facility Centres (CFC) etc. Five major programmes designed and implemented by important institutions are (a) Industrial Infrastructure Upgradation Programmes (IIUS) by Department of Industrial Policy & Programmes (DIPP), Ministry of Commerce and Industries, (b) Micro and Small Enterprises Cluster Development Programme (MSE CDP) by DC (MSME), Ministry of MSME, (c) Scheme for Integrated Textile Park (SITP) by Ministry of Textiles, (d) AYUSH Cluster Development Programme by Ministry of Health, and (e) Scheme for Fund for Regeneration of Traditional Industries (SFURTI) by Ministry of MSME.

In a cluster, theoretically, MSMEs should derive advantages that large firms usually benefit from due to their size, through economies of scale that attract transporters, raw material and machinery suppliers, various types of BDS providers etc, and through knowledge spillovers and increased specialization. Firms within the cluster face common set of threats (like product obsolescence, lack of markets etc.) and opportunities (increasing turnover through quality upgradation, introduction of new products and technology etc.).

There is a convergence between Cluster Development approach and NMCP which also carries out various interventions at the cluster level. Going forward, the cluster would be an important intervention point for fostering innovation especially in the context of sustainability.

C MSMEs as a point of intervention for fostering innovation

Given the sector's contribution to manufacturing, geographical spread and employment potential, it is imperative that MSMEs have a significant role to play in implementing strategy to foster innovation that would lead to inclusive economic growth.

The Indian MSMEs which comprise over 90% of number of manufacturing units are potentially an important point for carrying out interventions in case the objectives of sustainable and inclusive growth need to be achieved. The sector is wide spread and essentially comprises the micro segment. If innovation can beneficially impact this segment it would help achieve various social and economic objectives.

A special segment is emerging as important point for intervention which is the social enterprise. This segment



works at the grassroots level working with BoP and economically weaker sections of society who have not benefited from the India growth story.

D Social Enterprises as MSMEs

Social entrepreneurship in India has progressed significantly over the last decade. Social entrepreneurs are enterprising individuals who apply business strategies to solve societal problems. Although social entrepreneurship has been practised in India for some time now, social business is a comparatively new phenomenon in the country. Right from Sulabh toilets to free hospitalization, the agenda has shifted from profit to social impact.

In India, social enterprise is yet to become a legal form as prevalent in some western countries. Most social enterprises would classify as MSMEs following our classification criteria of investment size in plant and machinery. Hence these are special category of MSMEs given their social agenda and the potential for creating inclusive impact. While a detailed literature review on the definitional aspects of social enterprises is much beyond the scope of the report, for the purpose of this study we have considered social enterprises as 'for-profit business entities seeking solutions to social problems'.

Social entrepreneurship is highly focused on sectors which has an impact on the economically disadvantaged and also contribute to financial profits. They act as a change agent working at grassroots level. Sectors that have seen a significant presence of social entrepreneurs are Agriculture, Education, Energy, Health, Livelihood Development and Water & Sanitation.

Working with social enterprises as a point of intervention would have the desired effect of creating transformative innovation through inclusive mindset. It is with this thinking the National Innovation Council launched an autonomous INR 50 billion fund as the India Inclusive Innovation Fund with the vision of supporting enterprises whose innovation initiatives have the potential for creating widespread social impact and meet the three pronged objectives of being socially, economically and environmentally viable through creation of goods, services, employment, livelihoods, income and wealth.

Social Entrepreneurs are searching for ways to improve human development and well being, not merely produce financial returns. At the outset, it is imperative to be clear about the outcomes and measures for gauging the success of these interventions. Economic indicators, such as GDP and incomes are easier to measure than human development indicators like good health and good education. However, the latter are imperative to understand the inclusive nature of growth.

1.3 The Necessity of an Ecosystem Approach to MSME Innovation

The Indian MSME landscape is agglomerated in clusters with micro enterprises being the majority among them. Two-thirds of Indian manufacturing MSMEs are present in cluster, with 95 percent of them being micro and 72 percent of them being micro-micro enterprises (MMEs). It is clearly observed in many clusters that there is a problem of availability and accessibility to financial services that suit the demands and circumstances of micro enterprises (ME) clients. The problem persists for poor households and small & medium enterprises who continue to remain underserved by the commercial banks. However the gap in financing needs of micro enterprises (MEs) and micro-micro enterprises (MMEs) remain large. Their financial needs are generally too large for microfinance, but too small for commercial banks. This gap hampers growth and limits the development of MEs. It is also a loss to the financial sector, which ignores millions of potential micro clients.

In a recent study done by the MSME Foundation on micro enterprises in 6 clusters through discriminant



analysis technique, the following trends were observed:

- The most important factor in promoting financing to micro enterprises are *'finance plus'* models which means the micro enterprises demand other support services in addition to finance like marketing support for the finished products, linking with raw material sources, technology and also insurance facilities.
- The second most important factor is *'ease of finance'*. Credit needs of most MEs remained unanswered due to either lack of physical collaterals or in the absence of appropriate business intelligence, improper loan assessment done by a financial agency and also improper articulation of requirement by micro enterprises due to inadequate loan and business education.
- *'Finance with respect to business needs'* came out to be the next important factor. Here the role of financial institutes to understand the need of business and estimate right product and right interest rate becomes crucial. The MEs also need to develop an understanding of the business assessment/credit requirements/credit disciplines, etc. and for this they need support and service of financial experts and banks.

The issues of the MSME sector need to be addressed more holistically and are beyond just meeting funding requirements. Some are being addressed at the policy level but more work needs to happen on the ground. An ecosystem perspective is essential for the policies to work.

An entrepreneurial ecosystem is an interconnected set of elements comprising of risk takers, information brokers, resource providers, demand creation and enabling technologies that act together to form a virtuous cycle of wealth creation (Venkatraman, 2004). The concept of an ecosystem recognises the fact that entrepreneurial opportunities exist at the confluence of markets, people and technologies (Lee & Phan, 2008).

Noting the funding crunch faced by the MSMEs, a UNDP study in December 2012 noted that finance for MSMEs cannot be scaled up without an ecosystem that helps entrepreneurs to develop plans, raise capital, monitor end use of capital for productive use, and recognize the entrepreneurs. For creating a conducive atmosphere, an innovative model can be adopted whereby both financial and non-financial incentives could be provided to the entrepreneurs from time to time with a monitoring system in place. Programs such as NMCP & cluster based intervention schemes address the non-financial gaps that require attention - for enhancing productivity, improving systems & processes, technology and innovation.

Though a preferred approach for MSME promotion, the cluster development strategy has its own set of unique challenges. Located within the same cluster when the firms face internal competition in the sense that most pursue the same set of buyers, this may end up in a fierce price battle within themselves including competing for same customers and resources. Competition should graduate from being 'price-based' to 'value add' and 'product-based'. Strategically, this means that rather than focusing on reducing the internal competition, clusters firms can leverage the mutual trust to turn the planes of competition such as expanding geographical markets, getting large discounts on by pooling purchase requirements, sharing investment in technologies which have gestation periods before returns come in, improving skill sets in the sector etc which benefits the cluster as a whole.

1.4 Rationale for the Innovation Ecosystem Study

India is gradually attracting international funds that focus on supporting sustainable and inclusive innovation (e.g. 50 Million USD FICCI-USAID Millennium Alliance, DFID 30 Million Pound Fund through SIDBI Venture Capital). There is already a huge policy impetus through the introduction of various government schemes encouraging innovations that offer financial assistance as grants, equity or soft loans, either individually or in combination. Additionally many technology business incubators have been launched to incubate technological start-ups. Many among these incubators, apart from offering technical assistance, have begun to invest commercially in the incubatees. Notwithstanding the plethora of schemes, support programmes and institutions in existence for the promotion of innovations in India, there has been no concerted effort to study the impact of these offerings.



As a sub component of the Umbrella Programme for the Promotion of Micro, Small and Medium Enterprises (MSME), GIZ India has partnered with CII-CESD on the issue of sustainable and inclusive innovations to support the dissemination of knowledge and the scaling up of successful BoP innovations³. The project is based on four pillars:

- Increasing the capacities of Business Membership Organizations (BMOs) to work as multipliers of sustainable innovations;
- Increase the capacities of companies to innovate;
- Foster public dialogue on the issue of Sustainable Investment in India(SI2); and
- Strengthen south-south cooperation on sustainable innovations.

The project aims to go beyond present research and focus on the questions of how innovations come about and consequently how they can be fostered.

Against this background, GIZ aims to understand the current support system as well as gaps and bottlenecks. This is to be achieved through a 360 degree structural review (about the supporting mechanism's rationale, role, relevance, responsibilities, current structure, service portfolio, functioning), gap analysis and needs assessment of sustainable and inclusive innovations against the mandate of the respective funding organization (e.g. Ministry, Investor, Banks etc.). The study aims to answer the following overarching research questions:

- What is the current innovation support system for MSME (financial and non-financial support measures/ services, actors, implementing agencies)?
- Where are the gaps in the current Indian support system for innovation promotion in terms of financial and non-financial support measures/services and supporting non-technical innovation of MSME?
- How successful is the delivery system of these support measures/services?
- What can we learn for new innovation funds to be established in India targeting MSME?

While previous studies have looked at the existing support mechanisms of innovation in isolation, this study is a pioneering effort in taking an ecosystem view of understanding the basic features and impact of the various public and private innovation support funds.

A Study framework

Given the research questions the study was divided into three phases . The first phase involved understanding of the ecosystem components broadly which revealed two important support mechanism - government schemes and the new age impact funds which have been formed with the specific aim of creating high social impact through incubation of sustainable and transformative business models.

The second phase involved an in-depth understanding of the two components i.e. the government schemes and impact funds. Given the vast and diversified array of both the components, to conduct the study in a time bound objective manner, a sample of 10 government schemes and 10 impact funds was selected and individually reviewed them individually on the following aspects:

- Structural Review of the ecosystem components- Mapping the innovation support system for MSMEs in India for their underlying features. This involved (financial and non-financial support measures/services, stakeholders, implementing agencies).
- Gap Analysis – Identifying the gaps in the current Indian support system for innovation promotion in terms of financial and non-financial support measures/services and supporting non-technical innovation of MSME.
- Assessment of the current innovation support system - How successful is the delivery system of these support measures/services?
- Recommendations - Learnings for new innovation funds to be established in India targeting MSME



The purpose of the above review was not to do a deep dive into specific schemes or funds but to assess practices that influence the innovation ecosystem at a macro level.

Based on consultations with industry experts, thought leaders and users of the support mechanisms – the innovators themselves, corroborated with the findings of the second phase, the third phase involved making ecosystem level recommendations which comprises the fifth chapter of the report.

B Decoding Innovation

Innovation is a complex phenomenon with many underlying stages. For creating a vibrant ecosystem with an enabling environment, it is necessary to understand the idiosyncratic needs of every stage and the existing state of offerings, before looking into the various components of the innovation ecosystem. Such granular approach would help us in better understanding of the latent needs and consequently result in relevant recommendations. The innovation cycle was punctuated/broken into four phases for the present study, each with a specific role and set of activities. They are:

- Ideation
- Prototyping
- Piloting
- Scaling-up

→ Ideation Phase

The first phase of the innovation cycle involves generation of new ideas for potential business models. This phase is typically characterized by ‘out-of-the-box’ thinking individuals who have new ideas about new forms of resource combinations without knowing their commercial merit. Generally found to be challenging the dominant business logic, innovators tend to face resistance from the society at large over the usefulness and practicality of the conceived ‘idea’ and a lot of secondary research and field inputs need to be conducted for shaping the idea to commercially testable proposition. Often the newness is in terms of technological improvement over existing options, where the innovator sees value in what the new technology is capable of achieving but not tested the path through which the same can be brought to the marketplace. Though idea sources traditionally came from personal experiences, in the modern age, connected world of the internet and social media have become the sources of ideation. A lot of new dimensions are added including the followings:

- Personal experiences and insights by individuals who have an uncanny knack of thinking out-of-the-box
- Exposure to professional courses like engineering and management with internship segments which offer students with ample field insights
- Participation in learning journeys like Tata Jagriti Yatra and NIF’s Shodh Yatra
- Secondary sources like online discussions on social media, newspaper reports etc.
- Access to informal bodies like campus clubs and entrepreneurship cells in academic institutes

Three main challenges faced by innovators in the ideation phase are:

- Difficulty in overcoming the current business logic: Status-quo often has its own set of perpetrators and stakeholders who have huge commercial interest in sustaining with it. Any out of box thinking that may create disruptions are resisted as outrageous, impractical and expensive. Much of the ideation phase is about challenging these notions and finding ways through which innovation may gain mainstream acceptance by society.



- Difficulty to think in business models terms: The innovator mind is different from the entrepreneur mind and the twains seldom meet. While the innovator may remain happy with only the newness in idea (mostly technological advancement), the entrepreneur has many more facets to consider like relevance to the social context, availability of inputs, cost benefit analysis of potential usage and regulatory issues which may arise out of usage. As the ideation phase is initiated by innovators with little entrepreneurial experience, the commercial viability of a new idea is often less robust than desirable.
- No systematic tools to develop new business model ideas: Being a new approach, the idea hardly has any takers other than the innovator and hence testing of the idea in field conditions becomes difficult.

The ideation phase has unique input requirements. While funding is required during ideation for managing expenses like field trips, access to secondary information etc., there are also many non-financial requirements like idea validation for feasibility by sector experts, technology validation by technology champions, mentorship by people with entrepreneurial experience. The existing ecosystem has the following sources:

- Youth fellowships like Ashoka, Omidyar, Piramal etc.
- Business plan competitions by academic institutes like ISB iDiya Challenge.
- Ideation competitions platforms like CIIE & Economic Times sponsored Power of Ideas, Mahindra Spark the Rise, Dell Social Challenge etc.
- Government schemes promoting innovations.
- Boot camps organised by private bodies like Impact Funds.

Some of the existing non financial support available to innovators in the ideation phase are

- Networks like Intellectap, TiE, NEN etc.
- Incubators like RTBI, TBIs etc.
- Specialised dedicated facilities like the HUB Model providing infrastructural support among others.
- Mentorship support by experts and domain champions.
- Agencies like Dasra that have exclusive ideation coaching camps.

Some of the existing gaps as faced by innovators in the ideation phase are:

- While mentorship needs to operate at 3 levels of inputs for technology feasibility, design appropriateness and business modeling viability, there is a critical dearth of such expertise both in terms of availability and access. Resultantly, there is lack of an adequate support system to help the innovator structure the idea better and take a robust path to commercialisation.
- Even the incubators which have been formed with the exclusive mandate to help budding entrepreneurs are not adequately equipped to help them, especially on non-financial aspects.
- The government departments involved in promoting innovation do not have adequate capacity to evaluate new ideas as most of them are of emerging business models. They are also limited in outreach to invite new ideas.

→ Prototype Phase

The graduation to the next phase involves testing of the idea from the mind to the lab through creation of a laboratory working model of the product or solution to check for the underlying commercial value. The innovator has already shaped the idea and a rough idea of possible applications and takers but not sure of the market value. The activities in this phase involve conducting primary and secondary research for potential users, understanding their pain points and possible response from usage and the consequent desire to pay for the innovation. Funding is required for carrying the field surveys and usually requires some form of grant, support from foundations or charities, friends and family. Some of the parameters of assessment of market value are:

- Discover market segments opportunity
- Competitor analysis.
- Market testing for realtime feedback.



- Testing regulatory compliance.

Apart from the funding needs, the non-financial services include:

- Providing cheap infrastructural facilities like office, computer hardware and internet access.
- Mentoring support for conducting the above mentioned activities.
- Patent filing services, legal support, book keeping services etc.

Some of the existing platforms available for prototyping phase are:

- Business Incubators like Villgro, RTBI and CIIE.
- Specialised programs like Change Looms by Pravah and Startup weekend.
- Government schemes like the MSME Ministry's Incubator Program, TePP, SBIRI etc.
- CSIR Initiatives.

Some of the existing ecosystem gaps are:

- This phase is a major challenge for innovator to prove the commercial worth of an idea. Funding for the prototype phase through the government schemes is limited for proving the real scalability of the model.
- The Impact Funds in contrast have less presence in the prototype phase.
- Shortage of R&D funds – the government fund is channeled through CSIR setup but not much for the private sector.
- Non-financial support is very critical in this stage. Except CIIE, Villgro, RTBI, MVIF there exists no models which offer this type of support.
- Language is a barrier for Tier 2 & Tier 3 city entrepreneurs.

→ **Piloting Phase**

The piloting phase involves testing the developed prototype in market conditions for finalizing the sales and distribution strategy, communication and other branding activities. The resultant of this phase is a development of a definitive business model. This is the most critical phase in term of the mortality rate of startups and comprises of the following activities:

- Product testing – testing the product prototype with actual users
 - Free or chargeable basis
 - Pricing, financing (upfront)
 - Marketing – spread of word of mouth
- Securing financing for the subsequent scale-up stage
- Testing the business model
 - Distribution (last mile connectivity) & communication
 - Streamlining the financial plan
 - Manpower allocation
 - Impact assessment
 - Negotiating the regulatory compliance

Presently the ecosystem comprise of the following initiatives:

- Impact funders – Mainly early stage investors – Anova Global, Ennovent, Unitus Global Fund
- Angel Investors
- Incubation centres with seed funding.
- Foundations with mandate for fostering sustainable and environment friendly innovations (MSDF, USAID).
- Development ventures, example Shell Foundation – EnviroFit experiment.
- Business Development Service providers like Innovation Alchemy, StartUp, CIIE etc.

The ecosystem level gaps are:



- Securing finance is tough
 - Regulations often prove to be constraining when going for the scale-up phase
 - Compliance with rules need policy level reforms which may be time consuming
- Very few schemes with public funding like Srijan

→ Scale-up phase

With a tested product in market conditions and a set revenue plan, this is the ultimate phase for a start-up in which the motive is to expand full scale in identified market segments. The phase is usually characterized by decreasing cost of production due to economies of scale. Though much of the testing is already completed during the previous stages, innovators in this phase seek assistance from industry experts and experienced entrepreneurs to optimize the chances of success.

The need for customized solutions for new geographies and new market segments need deeper understanding. The evolution to this stage brings in challenges in re-structuring the organization itself and finding appropriate talent to manage the growth phase processes.

Access to specialized services, mainly when the need is to create BoP centric solutions, market assessments, financial modeling, market development, behavior change communication become very critical during this phase. Agencies like Intellectap, Dasra, MART, Unltd are providing services in this space.

Footnotes



- 1 http://www.business-standard.com/article/economy-policy/india-slips-to-64th-on-global-innovation-index-112070402007_1.html
- 2 Quoted from the speech of Deputy Governor of the Reserve Bank of India, at the National Conference on Enhancing Competitiveness with MSME linkages at Indian Chamber of Commerce, Kolkata on July 12, 2012. MSME Annual Report 2011-12
- 3 The terms SI2, BoP innovations, inclusive innovations, etc. are used synonymously to describe innovations that address some type of social challenges.





2 Government Initiatives

About the Chapter:

This chapter looks into the current status of various government supported schemes and initiatives for promoting innovations. Practices, issues and challenges are evaluated to understand how a new innovation ecosystem could be created for achieving the inclusive growth agenda of the country.

2.1 Introduction

As an emerging knowledge economy, India has been on a major innovation drive over the last decade launching a slew of policy measures and funding support schemes. Starting with the Science & Technology (S&T) Policy in 2003 with a stated ambition of spending about 2% of GDP on S&T, to the latest Science, Technology and Innovation Policy January 2013 aiming inclusive and sustainable growth, the policy strategy has been to provide for a congenial environment that fosters innovation. As outlined in the introduction chapter, policy makers usually adopt a linear view of innovation with four distinctive phases – ideation (sourcing the new idea), developing prototype (giving birth to idea), pilot (testing the idea on the ground) and scale-up (ensuring survival and growth of the idea). While the research grants and venture capital address the first two phases of the innovation cycle, tax incentives are found to be present in the growth phase. In India, the first two have good presence but the third is yet to become popular.

The Indian government has been quite active in launching schemes related to innovation promotion and there are an estimated 52¹ different schemes promoted by various Ministries related to innovation. As a medium of idea sourcing and validation of technology, government schemes have emerged in recent times as credible platforms for accessing reliable investment worthy proposals. Financial institutions are comfortable accepting such approved ideas as a result of rigorous and standardised process of screening and selection. The government schemes have matured in terms of their product offerings and delivery through the various experiences garnered since its inception. However, the journey has just begun!

2.2 Genesis of Government Schemes for Innovation

Given the importance of R&D activities in contributing towards the global competitiveness of a nation, a World Bank study in 2007 found that the public sector investments alone accounted for 70-80% of India's total investments in R&D. This study noted a paradox in the innovation space – while most of the action was happening in the private sector, the actual funding was occurring in the public sector – representing a demand-supply mismatch in R&D space. The study cited “partial appropriability of returns” and “information asymmetry” as major reasons of private sector apathy to R&D investments and hence the need of public sector support to commercial R&D (World Bank 2007: pg 98). Accordingly the government has been quite active in providing early stage technology development (ESTD) funding to formal private enterprises and individuals through schemes that promote public-private partnerships.

The Indian government has adopted a new Science, Technology and Innovation policy in January 2013 with the aim of doubling investments in scientific research by 2017 and establishing India among the top five



nations in scientific publications by 2020. The present annual investment in science and technology is \$12 billion comprising less than 1 percent of the national GDP, of which, two thirds is made by the State through its various agencies like the Defence Research & Development Organisation (DRDO), Department of Space (DoS), Department of Atomic Energy (DAE), Indian Council of Medical Research (ICMR) and the Council of Scientific and Industrial Research (CSIR). One estimate suggests that the Government runs around 400 research establishments.²

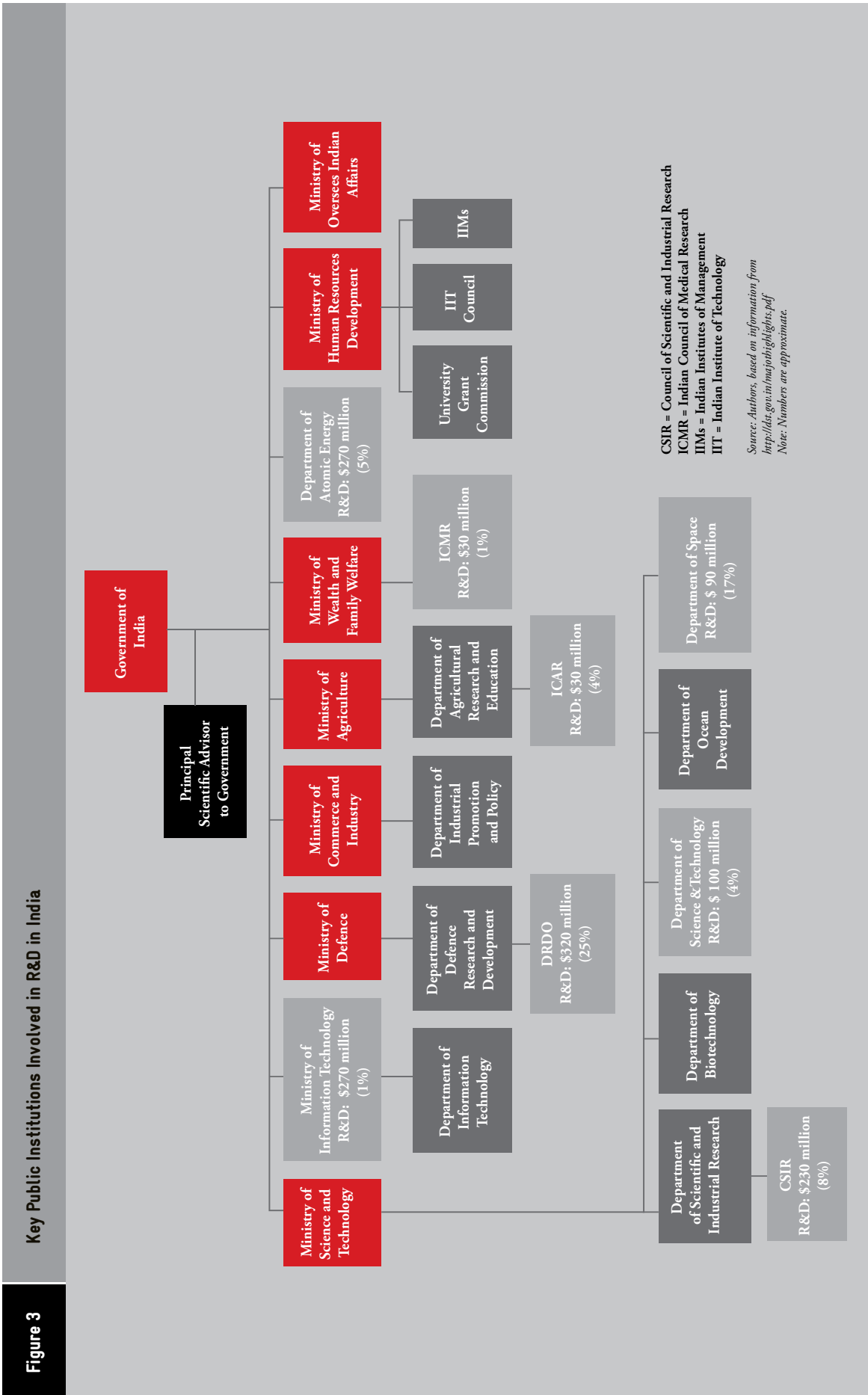
10 schemes/initiatives under study are

- TePP
- Lockheed Martin India Innovation Growth Program
- SBIRI
- MSME Design Clinic
- Srijan
- NMITLI
- MSME Incubator Program
- Micro Venture Innovation Fund
- Rural Innovation Fund
- CIIE

Among the earliest initiatives taken by the government for fostering innovations were the establishment of the various Science and Technology Entrepreneur Parks (STEPs), launched in 1985 under the aegis of National Science & Technology Entrepreneurship Development Board (NSTDEB) and linking them to various academic institutions. Presently in India, we have around 80 incubation parks compared to 700 in China, 1000 in United States, 1000 in Europe and 300 in Korea.

Investment spending on R&D in India has always been lower than appropriate for an economy of her size. In spite of becoming a trillion dollar GDP, R&D spend as a percentage of GDP is less than 1 percent with private contribution being less than 30 percent. The Economic Survey 2013-14 noted that despite having better scientific research institutions, R&D output has been lower than other BRICS countries. The Economic Survey also pointed out that research undertaken by institutions, public or private, are not commercialised in any significant manner. The total patents³ filed in 2011 in India were around 37,000 while in the state of California alone 30,750 patents were filed despite a slowdown.

Some of the most significant public sponsored ESTD schemes have been: the ICICI Bank funded SPREAD program aimed at direct funding of R&D in private enterprises; establishing the autonomously driven Technology Development Board (TDB) in 1996 and the Technology Information Forecasting and Assessment Council (TIFAC) in 1989 that initiated the Home Grown Technology Program; the New Millennium India Technology Initiative (NMITLI) by the Department of Science & Industrial Research (DSIR); Technology Development & Demonstration Program (TDDP) under the Department of Science & Technology (DST); Pharmaceuticals R&D Support Fund (PRDSF); the Small Business Innovation Research Initiative by the Department of Biotechnology and the DSIR-TIFAC promoted Techno-entrepreneur Promotion Program (TePP). The key government departments and schemes promoting innovation are listed in following figure (Figure 3 on the next page).





2.3 Schemes for Innovation Support

A quick glance of the 52 government schemes revealed interesting variations in terms of underlying scheme features and delivery formats. The key aspects were:

Basic premise of innovation: Some schemes have been promoted by the government with the purpose of creating futuristic disruptive innovations which are to be used in high-end and technologically sophisticated areas like defense, aerospace etc. while others are open in nature and launched with the simple idea of giving a platform to any new type of idea.

Level of intervention: Only a few government schemes are targeted at the cluster level for intervention; most are targeting the individual innovators. Hence there appears to be a limitation in the scheme design to create a large scale impact.

Sectoral focus: Some schemes, such as those launched by the respective Ministries like Department of Biotechnology (DBT) etc. have a focused sectoral approach; many other schemes are open in their scope and flexible in nature.

Coverage of the innovation stage: As outlined in the first chapter, innovation as a phenomenon passes through four phases. Most of the government schemes are focusing on the initial two phases of innovation cycle – the ideation and prototype phases; only few have kept funding provision for the later stages of pilot and scale-up.

Non-financial offerings: Funding is only one part of innovation promotion process and the innovating enterprises typically require other non-financial support like mentoring, brand creation, market research and supply chain management. The government schemes were found to be limited in their offerings with focus on funding support only, leaving aside the crucial non-financial support services.

From the list of 52 schemes, we shortlisted 10 schemes for further analysis with the purpose of getting a deeper understanding of various ecosystem level issues. To keep enough variation across our sample of 10 schemes, the list was populated on the following criteria:

- Schemes targeted at the different stages of the innovation cycle
- Schemes having MSME and start-up focus
- Aimed at supporting grassroots and individual led innovations
- Operational strategy followed (top-down and bottom-up)
- Support framework provided (solely financial assistance and/or broad based including mentoring, networking, technology validation etc.)

These initiatives were studied to understand the underlying key features and practices which contributed towards their effective performance in fostering innovations. The justification for taking this comparative approach, our aim was to identify the best practices worth replicating which would ultimately help in improving the utility and delivery of other schemes and their acceptance by the intended users.

From the Table 2 on the next page it is evident that the sample of 10 schemes is well spread in terms of the sponsoring agencies and underlying innovation premise. It is expected to have a corresponding reflection in the variation of scheme offerings, target beneficiaries and service delivery strategies. In the following section we discuss the observations from our survey of the 10 selected government schemes. While two selected schemes of the sample are managed by organizations having comprehensive offerings (RIF and MVIF) we have looked at one specific aspect of their operations for this study.



Table 2		Selected 10 Schemes		
S. No.	Scheme Name	Recommendations	Launched	Reason for Selection
1	TePP	DSIR	1998-99	Most comprehensive program supporting innovation across all the 4 stages identified.
2	Lockheed Martin India Innovation Growth Program	Lockheed Martin & FICCI	2007	Unique public-private-academia partnership to leverage on individual competencies; to help identify cutting edge Indian innovation reach the global market.
3	SBIRI	DBT	2005	Focused innovation support program with exclusive mandate to foster innovations in the biotechnology sector.
4	MSME Design Clinic	MSME & NID	2009	Government scheme aimed at improving product designs through innovation. This is a critical component missing in other support programs.
5	Srijan	TIFAC	2010	Unique scheme for creating a revolving fund by a Technology Assessment body (TIFAC) in partnership with a financial institution SIDBI, for financial due-diligence.
6	NMITLI	CSIR	2000	Largest public-private partnership for developing R&D programmes in India.
7	MSME Incubator Program	MSME Ministry	2008	Only government scheme for promoting incubators which benefit the innovation process.
8	Micro-Venture Innovation Fund	National Innovation Foundation	2003	First micro venture risk fund in the world, which extends financial support to grassroots innovators without any collateral or a guarantor.
9	Rural Innovation Fund	NABARD	2005	Scheme aimed specifically for grassroots innovators in remote locations.
10	CIIE	IIM (A), Government of Gujarat & Government of India	2007	Academic effort to provide end to end service for creating new entrepreneurs.

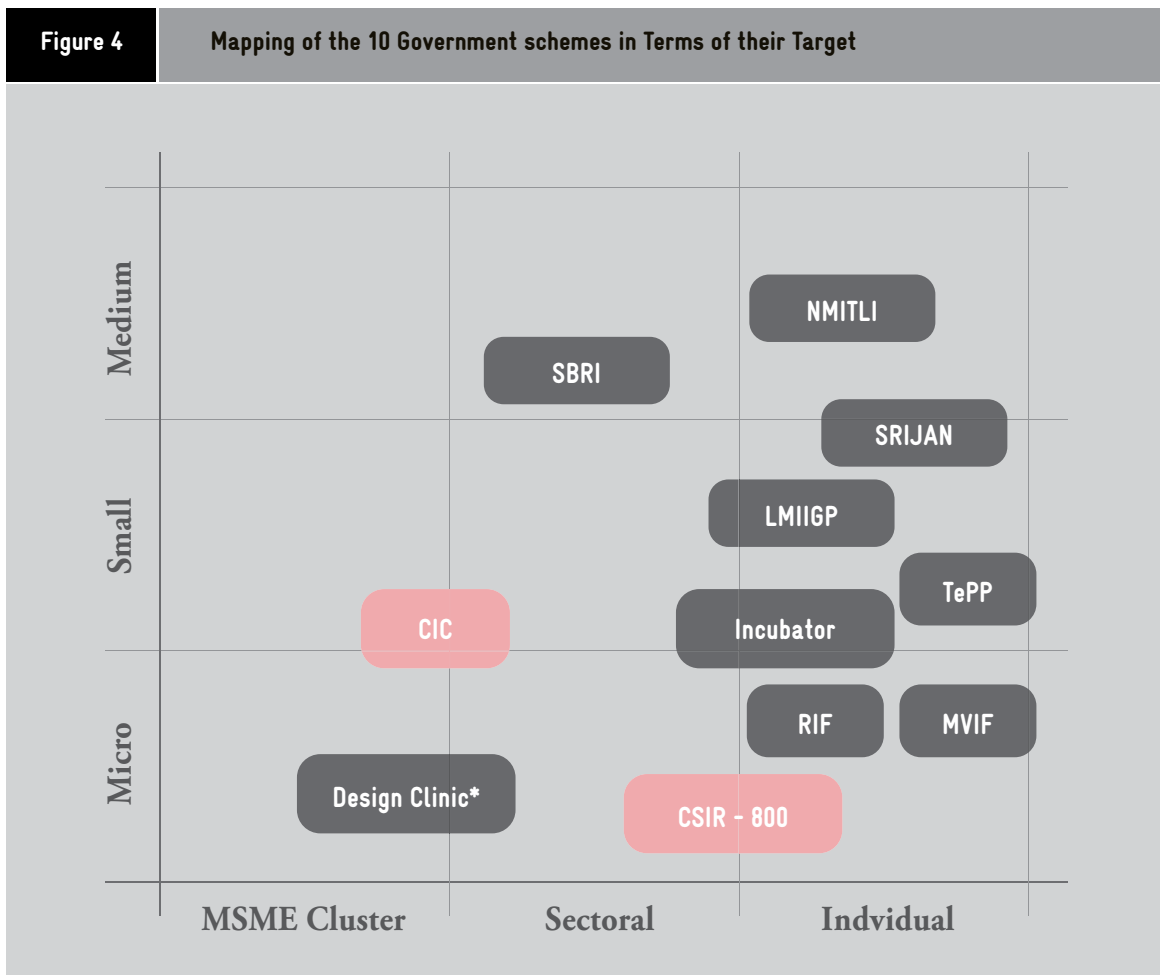


The findings are reported at two levels – first in terms of the operational strategies found through mapping of their points of intervention, coverage on the innovation cycle and range of services offered; second - to analyse the ecosystem issues by examining performance of the schemes on common dimensions derived from the findings.

2.4 Operational Strategies

A Intervention Point

Innovations have always been considered desirable for their leveraging impact on business models. Since Schumpeterian days, innovations have been encouraged as they add economic value to nation's productivity and industrial output through the process of 'creative destruction'. Hence the point of intervention for innovation support becomes very crucial for the supporting programs. Each of the 10 schemes was found to be operating at one specific level of intervention based on an inherent assumption about the ecosystem innovation needs.

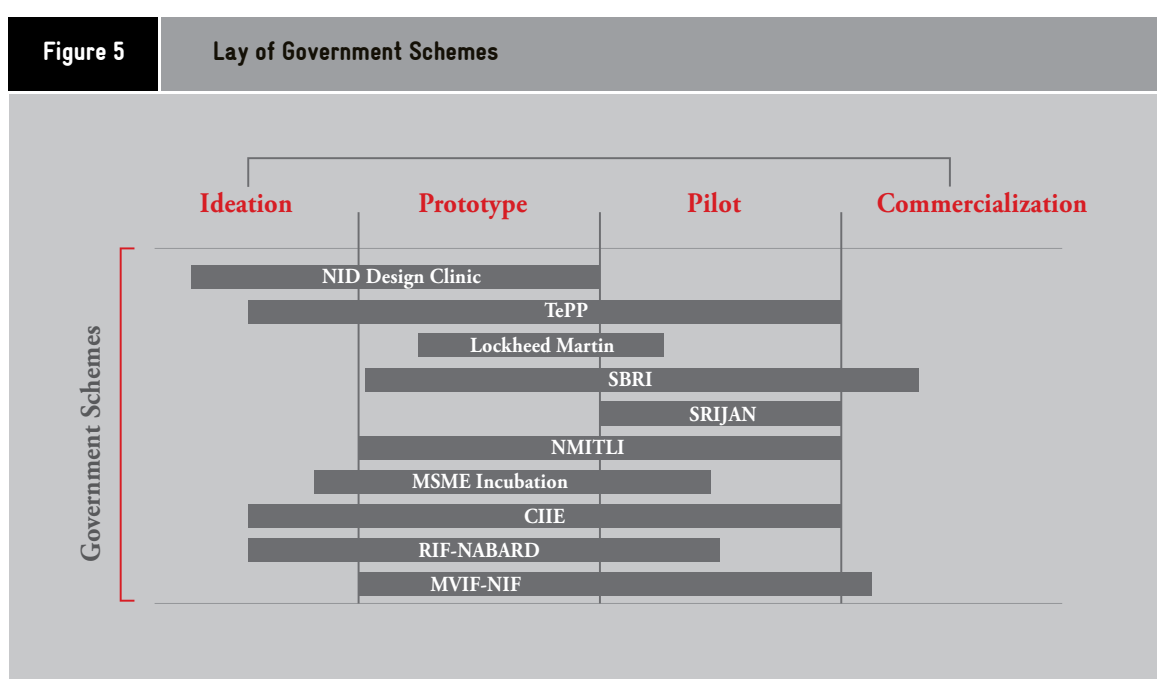


The strategy for point of intervention was found to be operating at two dimensions. One dimension was the focus - most government schemes are targeting individual innovators who have a desire to commercialise their innovations and only a few schemes operating at the cluster level. The second dimension was the type of enterprises targeted. Government seems to be operating with the philosophy of 'small is beautiful' as found in the amount of funding support. Most schemes have funding support which can cater to the innovation development needs of the micro and small enterprises and to a limited extent to the medium enterprise segment.

From the various discussions with the senior management, support staff, cluster and sectoral experts, it is understood that while the individual focus has been undoubtedly beneficial for commercializing many innovations, in the present market scenario the MSME segment needs a more cluster oriented approach for yielding scale, sustainability and inclusive targets of the National Innovation Council. The need for reaching out to the most needy segments has been identified as a major thrust with the introduction of new initiatives like CIC and CSIR – 800.

B Coverage on the Innovation Cycle

As discussed previously, innovation is a multidimensional phenomenon and occurs through stages. The government schemes have correspondingly taken a stage-specific approach. In terms of the coverage of the different stages of the innovation cycle, the following diagram captures the coverage of stages by the 10 studied schemes.



Each of the reviewed schemes was found to have limited focus in terms of activities undertaken at each stage. The trend of the same has been captured in the following table.

Table 3 Coverage of 10 Government Schemes on the Innovation Cycle

Innovation Stages	Main Activities by Scheme	Observations
Ideation	<ul style="list-style-type: none"> Awareness about innovation opportunities Design Sensitisation Seminar(Design Clinic) Idea feasibility CIIE (Power of Ideas Mentoredge) 	Though pooling of ideas and fund allocation is centralised, most schemes have developed decentralised approach for sourcing, assessment and shortlisting of ideas with innovation potential



Innovation Stages	Main Activities by Scheme	Observations
	<ul style="list-style-type: none"> • Technology validation TePP-MTS • Market potential assessment LMIIGP 	
Prototype	<ul style="list-style-type: none"> • User centric technology Design clinic • Training – innopreneurship CIIE • Lab testing facility NMCP • Incubation – CIIE, MIP • Patenting Supported through (CSIR, NMCP provides money) • Further linkage for investors TePP, SBIRI, NMTLI 	Schemes play connector role of formalising linkages between the innovator/ entrepreneur and service providers as well as provides funding. Certification and third party evaluation are not integrated properly
Pilot	<ul style="list-style-type: none"> • Further linkage for investors TePP, SBIRI, NMTLI 	<p>Integration of the following in this stage becomes crucial</p> <ul style="list-style-type: none"> • Assessment of rollout for commercial viability • Network with potential business partner • Third party valuation and certification of proven innovator • Impact assessment for schemes
Scale up	<ul style="list-style-type: none"> • Further linkage with capital providers NIMTLI, SBIRI 	It is still to be an integral part of the schemes

For vibrant ecosystems, it is important for support mechanisms to understand the specific needs of every stage and accordingly model the underlying features. Most efforts till recently have assumed innovation to be homogeneous process and hence adopted a ‘one size fits all’ approach. Based on discussions with various actors in the ecosystem like the innovators, specialised agencies who provide the mentoring and other support services, academicians and sector experts the following understanding of the innovation needs was developed.

➔ **Ideation & Selection of Proposals**

Ideation is an extremely crucial stage of the innovation life cycle and should not be understood as a mere starting point. Ideation itself has underlying stages and needs a customized approach. Suggestions made are:

In-depth needs assessment: There is an impending requirement of conducting needs-assessment of potential users, at the inception stage itself, of the innovation process. Such inputs would strengthen the commercialization efforts through better understanding of user needs leading to faster diffusion of innovations.



Incorporate design level innovations: Support processes to address design level issues of innovation are critically missing in the Indian context, especially in the MSME segment. Government schemes should specifically stress on the design related aspects while conceptualising the MSME innovation ecosystem.

Robust screening process: The idea screening process should include steps for validating the user needs being fulfilled by the proposed innovation and checking for its commercial viability through initial market assessment. Clearly established selection criteria would improve proposal quality and smoothen the screening process. The criteria should be specific and measurable, published on the scheme website in addition to being part of the awareness creation kit and information dissemination process. The survey revealed much vagueness in the selection of ideas by the schemes. Some of the implementable ideas received as inputs from experts and scheme management to be included in the template of the application forms for an objective assessment of proposals are:

- Proposals must outline their technical feasibility, economic viability of user-switch and demand assessment of the product/solution. There are globally standardized templates of technology assessment like the Technology Readiness Index developed by NASA etc. to judge the technological feasibility of an idea.
- Should check for uniqueness of the proposed innovation— there should be no patents/ IPR conflict later. The NIF has developed a best practice of conducting uniqueness audits of the scouted innovations in their biennial campaigns and Shodh Yatras while documenting the innovation.
- Over and above the scheme implementation and management team should be equipped with skill sets which help them in following the above listed measures at the ideation stage.

Box 1**Idea screening Best Practice by Lockheed Martin India Innovation Growth Programme**

LMIIGP is a unique public private partnership amongst the Department of Science & Technology (DST), Lockheed Martin Corporation, the Indo-US Science & Technology Forum, FICCI, the Stanford Graduate Business School (GSB) and the IC2 Institute, Texas University. The program has created a patented three-stage screening process for selecting most marketable and futuristic innovations. At the first level only 100 top ideas are selected based on their technology feasibility assessed by the IC2 Institute and FICCI. These 100 applications are then evaluated by all the program partners to identify most appropriate technologies in a two step method. Online tools have been developed to be filled by the applicants on aspects like development status, patent status, funding required to technology development, etc which are scored. In the second stage, evaluators review and offer constructive feedback on the technical and commercialization potential of submissions and based on an aggregate score of two stages 50 innovations are shortlisted. Each of the 50 proposals are then assessed for their market potential and a 40 pager quick look report is prepared by FICCI. In the final stage, the 50 innovations are given business incubation training by faculty of GSB on aspects like business modeling, product commercialization, competitive positioning etc. These top 50 innovations then present their idea in front of an elite panel comprising of renowned technologists and business leaders who select the top 30 innovations for an award of INR 1 lakh. Though a small amount for enterprise creation, such rigorous selection process ensures only the most economically viable and technologically feasible ideas are selected which are ready for commercialization.

→ Prototype & Piloting

Suggestions for design of better schemes targeting the prototype and piloting phase are:

- Commercial and financial viability of the proposal should be ascertained before disbursement of funds. Extending the finding from the previous stage, ideally this should have been done at the ideation stage and the report could be shared at this stage unless it is dated.
- The prototype schemes should have funding provision for design and aesthetic related matters of the end product.



- As a part of the application process, schemes must insist on conducting pilot studies for gauging the success of the innovation in market conditions. As an extension, it should become mandatory to include pilot inputs as course correction mechanism.
- Fund filing for patents if the test is successful.

Box 2

Design Clinic: Impact a Niche Area of Innovation

One of the most unnoticed problems of MSMEs is lack of attention towards their design approach of products and services. Design interventions are significant at various stages of business enterprise hence the success of MSME depends heavily on their design approach. The need was sensed by the Ministry of MSMEs and a public private partnership model was developed in collaboration with National Institute of Design (NID) under National Manufacturing Competitiveness Programme (NMCP) on February 17th, 2010. The objective is to benefit 200 industry clusters by enhancing the design awareness of the beneficiaries about the process, operation, manufacturing and business aspects of design. With total budget of Rs. 73.58 crores for the scheme out of which Rs. 49.08 crores is to be injected by the Government of India, the scheme is divided among three Design clinic scheme models which are as follows:

- **Design sensitization seminars** – these seminars are conducted in order to grasp the attention of MSME owners towards the significance of design in the success of business activities such as production, operations and the product design itself. It gives an opportunity to MSMEs to interact with design experts. The fund allotted by the government is up to Rs. 60,000 for each seminar.
- **Design awareness programme** – aimed at generating awareness within the MSME members in a cluster centric approach. Total funds allotted for one cluster programme is up to Rs. 4, 00,000 out of which government contributes 75% whereas 25% are to be arranged by the cluster members. The programme is sub divided in two segments of need assessment surveys and design clinic workshops.
- **Design projects** – projects are identified during the need assessment surveys and refined in design clinic workshops. Funds are allotted to these MSMEs up to 60% or Rs. 9 lakhs whichever is less in case of individual MSME and up to 60% or Rs. 15 lakh whichever is less in case of a group of more than 4 MSMEs.

This scheme has initiated revolutionary outcomes for the MSMEs by developing an industry – academic– government scheme model, making the MSMEs more sensitized towards design competitiveness and developing solutions for the cluster specific problems . It has also given a platform to designers. Design clinics have more than 534 design consultants, 204 design students, 28 design institutes and 208 design firms registered which makes it the biggest virtual database of designers in India making it a win – win model for all the stakeholders involved.

→ Scaling-up and Commercialisation

Though not many schemes operate in this stage of the innovation cycle, the suggestions made to improve this step are:

- Business case justification and plan to be reviewed by committee.
- Ensure patents in place.
- Tie up for funds/investments with PE/VC/ other government schemes.
- The scale up of socially sustainable innovation may require investors who believe in long term sustainability.

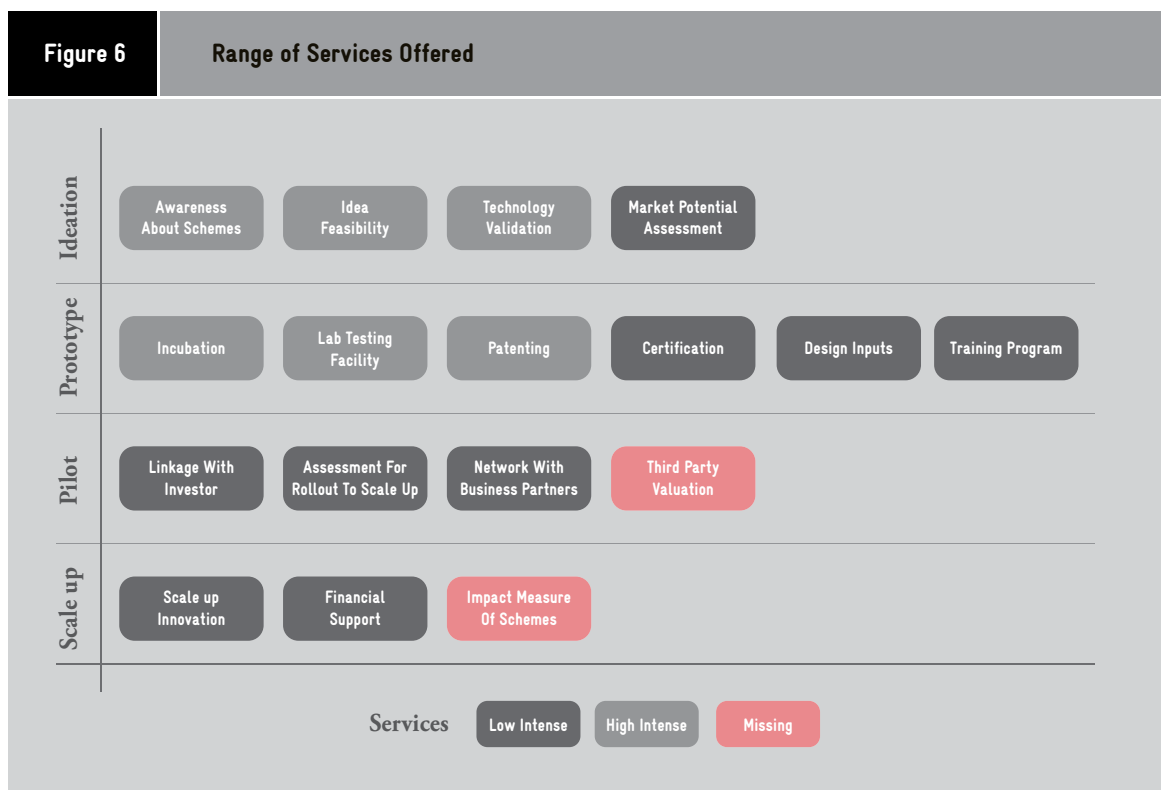


C Service Delivery

Every stage of the innovation cycle has its own specific requirements. It is expected the innovation support schemes would offer a responsive package apart from simple funding support. To understand the available services and identify the critically missing gaps, the range of services being provided by the studied 10 government schemes is mapped in Fig. 5.

Global experience suggests that handholding support is more critically required in the initial stages of innovation cycle. Most government schemes, however, assume the initial stage support requirements to be restricted to funding and hence remain limited in their product offerings. The survey has revealed huge latent demand for more non-financial support which would be taken up in the recommendations section.

Innovators to graduate from stage to stage need to avail a range of services. The diagram captures services that are offered by schemes and services that are missing in the ecosystem.



Offering of specialised services

The competition and dynamism in the market demands for finding cutting edge solutions. BoP centric market research, mapping low income consumer needs, access to marketing tools, designing innovative distribution and supply chain models, designing behavior change communication model etc. are the ones most of the innovators funded by various schemes are not able to access.

It is imperative to get a sense of the commercials and business viability of an innovative solution upfront. Innovation is a resource consuming process and the chances as to successful implementation on the ground would be higher if cognizance of the factors leading to its success is taken at the outset, in the ideation phase. Hence it is important to get an understanding of the commercial aspects and the market potential in case of successful implementation of the innovation potential in the idea generation and prototype stage itself. The innopreneur requires hand holding and mentoring through all the phases. However, technical assistance



gathers momentum in prototype creation where technical specialists such as design clinics, lab testing facilities and incubators need to give shape and form to the innovation idea. From there on, the business skills of commercialising the innovation, taking it to market and scaling it gain prominence. Hence the need of the hour is to provide services which extend beyond funding.

Delivery Approach - centralised versus decentralized

The government schemes follow a set pattern of operations – approval decisions of funding taken centrally while monitoring of enterprise progress or innovation suitability to the scheme objectives done locally or centrally. For example, the TePP program operated by the DSIR has created a two-tier structure – while the proposals are submitted and assessed locally at the respective TUCs, the funding approval is made centrally by the TMC based at New Delhi. One of the good practices observed was the direct central transfer of funds to the innopreneur's account.

Handholding support

Lack of hand holding support while applying for the schemes was a shortcoming observed across schemes. The survey indicated that apart from longer processing time due to centralised pooling of proposals, this format also added to the overhead costs, inadequate monitoring and delayed target achievements. Driving innovation needs faster support and prompt decisions to ensure that milestones are achieved in a timely manner.

The DST has is one of the supporters of CIIE which offers a very comprehensive model. The highlights are captured in the box below.

Box 3

CIIE – A Holistic Incubation Approach

Indian entrepreneurs have always faced challenges due to unsupportive ecosystem for their start-ups. The scenario is still a bit gloomy but IIM Ahmedabad's Centre for Innovation Incubation and Entrepreneurship (CIIE) has made an effort to respond to the needs of these entrepreneurs which are left unnoticed at various stages of their business. Operational since 2007 with support from IIM Ahmedabad, Government of India and Government of Gujarat, CIIE is comprised of IIM faculty, alumni and students with external support from industry experts from various sectors and parts of the country. It offers the complete package of mentoring, financial assistance and knowledge based services for an entrepreneur at different stages of enterprises creation. Adopting a sector based approach and focusing its attention in ICT, Cleantech and Healthcare solutions, CIIE has incubated over 80 enterprises till now with an investment ranging in between 20-50 lakhs each. It has developed some unique initiatives for each stage of a startup, fulfilling the technical and financial gap for these innovators, some of which are explained below.

Ideation Stage

Power of Ideas – It aims at selecting scalable business models and mentoring them for better success ratio. Power of Ideas is a start-up hunt exercise in association with The Economic Times and Department of Science & Technology. It has led to an astonishing number of 14,000 business ideas received within a year from all over the country.

Mentor Edge – Mentorship is one of the most important needs of an entrepreneur yet is missing in the ecosystem, Thus Mentor Edge aims at helping aspiring entrepreneurs through advisory support on various strategic and operational decisions. It is a country wide structured network of around 400 mentors offering services like developing the business model, resolving issues related to design and credit linkage assistance to the startups.

Ideation to Prototype phase

Accelerator – In order to assist those entrepreneurs who are not able to excel from ideation stage, it's a program that aims to guide the entrepreneurial process from the ideation to right up to the scale-up phase. The impact can be



assessed by the fact that till date this initiative has incubated 26 startup enterprises.

Prototype phase

INFUSE – It's an early stage fund in order to promote innovative and scalable business models aiming at building and scaling up high-growth enterprises with a focus on sustainable energy by providing capital, knowledge and guidance to entrepreneurs.

Piramal Prize – This initiative was launched in a partnership with Piramal Foundation to promote innovation in health care business model.

Aarohan Social Venture Fund – It's a social sector oriented, SEBI registered, private equity venture fund with proposed funding that can be up to INR 25 lakhs in each enterprise.

GIZ – CIIE Incubators development program – CIIE has teamed up with GIZ to develop a handholding and capacity building module for innovators through support organizations which has proven highly effective for the new startups.

These initiatives are supporting organisations which are still in the stabilizing phase of business and hence CIIE has not exited from many of them. The purpose is to guide the budding entrepreneurs in their initial phase through mentoring and knowledge support.

Thus it's clear that CIIE has built an effective ecosystem for the entrepreneurs by creating a pool of large number of ideas, establishing a mentorship network for around 400 entrepreneurs throughout the country till now and creating a knowledge pool for all those who are looking forward to build their ideas into operational business models.

2.5 Schemes: Performance

Innovation is a complex and dynamic phenomenon to capture. As a result it becomes difficult to compare and analyse variegated schemes having different features on one single dimension and infer about their effectiveness. While analysing the sample, 5 broad dimensions of schemes features were identified- accessibility, stage of innovation supported, performance, information sharing mechanism and inclusivity. A comprehensive questionnaire was developed based on the five parameters which was administered to the senior management of the 10 schemes on various aspects of the scheme related issues. Questions were posed in an open ended manner with the purpose of eliciting maximum response from the people interviewed. Comparison of the responses/data received across the sample on these five dimensions enabled a better understanding of the ecosystem issues that operate at the macro-level. Given the scope of the study, the data collected was broad with the purpose of making ecosystem level inferences and not a comment on the individual effectiveness of the scheme. Findings across the five dimensions are listed in Table in the Annexure and the salient imperatives are given below .

Accessibility and Awareness

One of the most critical aspects affecting the performance of government schemes was found to be its accessibility in various parts of the country. Operating in a typical bureaucratic format, most schemes sound brilliant on paper but hardly accessible on ground. The awareness levels about the schemes is low, resulting in a small idea pool. As most of the schemes are launched and managed by government departments, proposals are usually sent to Delhi for approvals. The intended beneficiaries, mostly first time entrepreneurs or applicants of government schemes, find this process overwhelmingly complex and resource consuming. From an ecosystem perspective, it is desirable that access to information like eligibility criteria, parameters of assessment as well as guidance for filling forms and initial hand holding is easily available to ensure access to the scheme benefits.



Also, given the fact that most government schemes need corroboration of technology approval from certified and approved labs, access to such testing facilities should also be made easily available to the potential applicant.

Innovation Stage Coverage

Innovation is a complex process which has its own life cycle. It is important for any support structure to be cognizant of the various individual needs at every stage of the life cycle and accordingly provide for the required services. The 10 schemes were analysed in terms of their coverage with a dual objective - Such micro analysis would help identify the good practices being followed by the individual schemes which have received a positive response from the beneficiaries and therefore can be replicated across other similar schemes. It would also enable understand the gaps in the schemes which need to be addressed to improve the effectiveness of the schemes.

- It was found that most of the focus was on the first two stages of the innovation lifecycle, that too by funding.
- With the exception of TePP & MVIF which covers most stages of the innovation lifecycle, most of the schemes operated in silos.
- There was no integrated approach or facilitation of the innopreneur to move from one stage to the other.

Output Performance

Given the policy impetus for fostering innovations, the government has been allocating substantial budget to schemes targeting innovations. However, the survey reveals the aggregate number of funded projects is not so impressive. The performance on both counts, of coverage and funds disbursed, has been low. Surprisingly, many of the Government schemes keep no track of the enterprise health once the funding is complete for the specific stage of the innovation life cycle and the organisation is perceived to be self sustainable. The figures of the number of innovations supported have been collected directly from the sponsors wherever available or collated from other secondary sources like newspaper reports and government bulletins, ministry websites etc.

In the present age of information being widely and easily available, transparency in operations has become a crucial attribute of performance. The performance of government schemes on following two counts depict the status:

Monitoring Mechanism: Most enterprise promotion schemes globally are milestone based – funding is made available in tranches and only on completion of enterprise lifecycle stages. For making judicious use of the money, most of which is grant based or soft loan, the scheme management is supposed to monitor the progress of the funded enterprise periodically to assess the health of the investment. This also serves as a feedback mechanism to the entrepreneur to review the organisational performance and take appropriate action. As a part of the interview questionnaire, senior management of the 10 schemes were asked about the monitoring mechanism, if any existed, and how the information was used for better performance of the schemes. In most cases there is some level of monitoring mechanism in place. However, there appears scope to make the process more robust and schemes more accountable.

It was felt that periodicity of review, field based interaction with innovators, feedback on access to services, stage wise progress review, need for mid-course corrections etc. are to be integrated into the systems.

Impact assessment studies: Globally, it is a standard practice to conduct impact assessment of the schemes by studying the supported firms by external rating agencies. This external assessment adds to the innovators' credibility and helps in harnessing more financial resources from diverse stakeholders in securing subsequent rounds of funds. As the government is the principal contributor for most of the government schemes, securing funds for building a corpus was not really a constraint for the schemes studied. However, impact assessment was found to be a critical gap in most of the schemes.

The stakeholders were specifically asked for any such external impact assessment studies and if conducted



were the assessment reports collected for further scrutiny? In almost all cases, there was no impact assessment conducted. However SBIRI has documented various successful cases as ready reference document, a practice that can be followed by others. Similarly, the assessment done by LMIGP to map the impact created by the scheme is a good example for other schemes to follow.

Inclusivity

Innovation promotion by the government should have a strong inclusivity impetus given the focus of the National Innovation Council. The inclusivity component of the various schemes on the following two parameters.

Special Target Segments: On this dimension, we have checked for any special benefit(s) given to the weaker sections of our society like the Scheduled Castes, Scheduled Tribes, women innovators/entrepreneurs, differently-abled people etc. or the relatively less developed regions such as the North East and the low income states (LIS).

Type of Innovation Supported: On this dimension an effort was made to understand from the supported innovations and the scheme documents, as to what type of innovations were being selected by the schemes for funding. From an ecosystem perspective, more amount of radical and grassroots level innovations are desirable to create the leveraging impact on the economy. As per the findings, most schemes on paper had better incentives for support to weaker and backward areas. However there was no special effort made to target these segments.

It is important to mention here that in the current situation the need for having a targeted focus on rural, BoP and cluster becomes very significant. While there are initiatives like RIF and MVIF which focus on the same, government has now initiated CSIR – 800 and CIC to fulfill the gap. However, the need for creating a professional set up that would create the desired impact is yet to be seen.

Box 4

National Innovation Foundation's Micro Venture Innovation Fund - Reaching Out to Unreached

NIF is an autonomous body under the Department of Science & Technology formed in February 2000 with the aim of discovering indigenous knowledge base and commercialise grassroots innovations to strengthen India's traditional knowledge repository. As an institutional mechanism it has been doing pioneering work through its many activities like scouting and documenting grassroots innovations through the Annual ShodhYatras, building and operating regional networks and providing incubators for commercialising discovered innovations (GIAN) and help filing patents for the grassroots innovators. MVIF is world's first innovation fund aimed specifically for micro-innovations by individuals with following unique features:

- Targeted at real grassroots and needy innovators - no technical education, government job or financial assistance
- Financial support directly extended to innovators with minimum paperwork. A simple agreement is made requiring single signature of the innovator without any collateral or guarantor requirements.

Created with a corpus fund of INR 5 Crore for supporting innovations in prototype phase, total 184 projects have been funded and 77 technology transfers facilitated (innovator selling the technology to an entrepreneur for better commercialisation). Funds sanctioned vary from INR 20,000 to 20 lakhs and repayment period is 2-5 years. Money is released in installments and on completion of certain targets and presenting bills of expenditure made. The field level monitoring is done by the Collaborator who is usually stationed at the Local region.



2.6 Key Contributions at the Ecosystem Level

Over the years the government schemes have gained popularity among the innovative minds as possible vehicles for experimenting with innovations. Having scanned the government scheme space in general and studying the 10 government schemes in specific the following contributions were found to be made by the various schemes.

Making Innovation a Mainstream Agenda

Making innovation a part of the mainstream agenda has been the biggest contribution of the government schemes. Coming from the highest policy levels and having full support of the government, pursuing innovations even at an individual level is getting the required support and focus. Previously, it was perceived to be a niche and resource intensive activity which could be pursued only by industries with deep pockets. However, with the availability of funding, support and recognition being accorded to the innovators, the innovation process has got a boost and many start-ups are getting incorporated by young people. The government endorsement has also acted as a certificate in legitimising the activity as important and helped in linking with the formal financial institutions for subsequent level of enterprise funding. For example the LMIIGP run by FICCI, though itself limited in funding to the tune of INR 1 lakh only, has become a global technology certification platform which is accepted by the other financial institutions like banks for giving loans etc.

Further, with creation of apex bodies like the National Innovation Council etc., the need for innovation as a focus area is getting established at the policy level as well as the industry level.

Creation of an Innovation Incubation Infrastructure

In spite of limited funding of enterprises, the government schemes have been able to create an innovation incubation infrastructure in India. In fact, it can be inferred that the difficult phase of ideation to prototype creation or blue print has been addressed adequately by the government schemes. The incubation development program is a very pertinent initiative in this direction. The need is now to make this initiative more efficient and impactful. Government should also introduce specific schemes for supporting the scale up phase.

Standardization of the Skills to Incubate Technology Based Innovation

With the best brains in scientific world managing the technical aspects of the schemes, the government schemes have been able to standardise the process of idea sourcing, pooling and assessing for funding. This is a learning which can be replicated for scaling up.

Expanding to Cover a Larger Outreach

Most government initiatives are maturing in terms of solution offerings and increasing coverage to support the different phases of the innovation cycle. For example, the TePP program which is a very popular scheme with the innovators is being reformulated in a new avatar called PRISM specifically aiming at funding the scaling up stage of the innovation lifecycle and SRIJAN becoming a joint venture between TIFAC and SIDBI with complementary skillsets for robust technical and financial assessment.

Cluster Model

Cluster based model for introducing innovations in specific context of MSMEs as a desirable model which would allow faster diffusion of innovations. Such thinking is also getting reflected in many government schemes and many are beginning to think of interventions at the cluster level. However, various implementation challenges exist on the ground, which need to be ironed out.



Box 5 **Cluster Innovation Centre – An Initiative by NInC**

There are about 5,000 industrial clusters that have been engaged in a large number of economic activities and produce 45 per cent of goods. Most of these units are small and medium that cannot hire consultants or technical and marketing expertise. National Innovation Council (NInC) has stepped in with a unique approach of ‘Cluster Innovation Centre’ initiative to help these clusters improve their efficiency and competitiveness.

It has identified eight clusters, mainly small and medium enterprises, and is providing them necessary linkages to innovate and commercialise their products. Among these is a bamboo cluster in Agartala, auto components in Haryana, furniture and AYUSH in Kerala, brassware in Uttar Pradesh and food processing in Tamil Nadu. Innovative things are happening in these clusters. CSIR team is actively engaged in Muradabad cluster to introduce low cost technological solutions that would ensure market competitiveness. Similarly, things are happening in other clusters – butter is being made from mango kernel, wood is being created from rice husk. NInC facilitates provision of technology and marketing expertise to these clusters. These initiatives, once expanded to other clusters, would ensure speedy transformation of innovations across the country.

There are about 200 large clusters, such as diamonds, pharma, food processing, bamboo etc. In a long run there is a plan to organise them and provide linkages with partners like the Council of Scientific and Industrial Research (CSIR), industry, R&D labs, financial institutions and universities.

The focus is to strengthen the marketing capability to CSIR and similar R&D based initiatives. This initiative is also adding professionalism and skill to achieve desired outcome through a collaborative approach.

2.7 Best Practices and Gaps

In this section the scheme specific gaps and the challenges for the government schemes from an ecosystem perspective are identified.

Scheme wise gaps

Table 4		Scheme Wise Gaps	
Scheme	Best Practice	Unique Selling Proposition (USP)	Gap
TePP	<ul style="list-style-type: none"> • Direct money disbursement to innovator’s bank account • Implementation – Sourcing is decentralised. DSIR evaluating proposals and disbursing while relying on existing infrastructure to run the scheme. • Monitoring also decentralized 	<ul style="list-style-type: none"> • Most comprehensive and inclusive innovation support scheme 	<ul style="list-style-type: none"> • Commercial viability is not adequately assessed during ideation stage resulting in low implementation. Pooling from other similar platforms is missing • Administration and management support are missing, leading to slow approval



Scheme	Best Practice	Unique Selling Proposition (USP)	Gap
LM – IIGP	<ul style="list-style-type: none"> Impact assessment by external agency Road shows for awareness generation Foster tie-ups for other stages of the innovation cycle through network creation 	<ul style="list-style-type: none"> Unique partnerships b/w academia & industry and run by an industry body which gives it more credibility Certification gives the innopreneur high credibility 	<ul style="list-style-type: none"> Limited funding till ideation – no fund for further steps in innovation cycle All documentation in English
SBIRI	<ul style="list-style-type: none"> Sectoral focus – bio-technology Online tracking of application –with higher transparency 	<ul style="list-style-type: none"> Scheme that supports private companies 	<ul style="list-style-type: none"> Managing NPAs CSIR accreditation must to apply Exclusive in nature Targeted for big size plan
MSME – Design Clinic	<ul style="list-style-type: none"> Online platform Cluster focus – helps in adoption/ replication of best practice 	<ul style="list-style-type: none"> Scheme focused on resolving the design issues of MSMEs 	<ul style="list-style-type: none"> Support of only INR 15 lakhs Further linkages in innovation cycle missing
SRIJAN	<ul style="list-style-type: none"> Pooling of complementary skillsets - technical validation by TIFAC & commercial by SIDBI – better assessment of both technology & market. Each project is monitored & reviewed by separate Project Review Committees comprising domain experts 	<ul style="list-style-type: none"> Revolving fund for diffusion of technology Cheapest loan@5% for introduction of new technology 	<ul style="list-style-type: none"> Slow progress due to centralized operation
NMITLI	<ul style="list-style-type: none"> Proactive search by CSIR – top down approach Money released in installments on completion of milestones. 	<ul style="list-style-type: none"> Largest PPP scheme for innovation 	<ul style="list-style-type: none"> Monitoring NPAs proving challenging Approach being top down leading to delay in the process Focus on established firms only
MSME Incubation Support	<ul style="list-style-type: none"> Network of TBIs- decentralised process to promote innovation Focus on academic institutes makes it an effective model Is a better model for promoting innovation as the entrepreneurs can access the Incubators in a better way 	<ul style="list-style-type: none"> Only scheme to nurture the incubators 	



Scheme	Best Practice	Unique Selling Proposition (USP)	Gap
NIF – MVIF	<ul style="list-style-type: none"> Foster innovation in high risk area characterized by inexistent or limited market. Unique, fast and hassle free approval procedure supported by regional incubator chapters of GIAN Support extended to grass root innovators under single signature a guarantor 	<ul style="list-style-type: none"> Scheme for supporting grassroots innovation with micro venture funding. 	<ul style="list-style-type: none"> Collaboration with design experts Talents to expand the service delivery to other stakeholders in the ecosystem
RIF	<ul style="list-style-type: none"> Fund Managed by NABARD, having strong focus and experience in agriculture and rural sector banking 	<ul style="list-style-type: none"> Support innovative, risk friendly, unconventional experiments in Farm, Non-Farm and micro-Finance sectors that would have the potential to promote livelihood opportunities and employment in rural areas. 	<ul style="list-style-type: none"> Where the focus was to create scalable model, but it is yet to be achieved.
CIIE	<ul style="list-style-type: none"> Idea sourcing platform like Power of Ideas in collaboration with Economic Times (ET). This platform generated around 14000 Business Models per year. Mentors network(400) present in most of cities in India 	<ul style="list-style-type: none"> Specialized programmes/ incubation based models for different stages of innovation. 	

2.8 Challenges

With the prevalence of various schemes focusing on innovation, the government has been able to create awareness as to the significance of innovation and its role in sustaining the economic performance of the nation. However, at the ecosystem level we find the following constraints:

Sourcing of Ideas

The processes in place for sourcing ideas need to be made more aggressive in terms of scouting for more bottom-up innovation ideas which are sustainable and scalable, spreading the scheme awareness to distant corners of the country so that the pool of ideas increases manifold and the innovators are able to connect and integrate with the mainstream, creating a strong network of mentors who are able to provide customised guidance to the innovative minds. The schemes have primarily limited their role to funding.

Vague Understanding of Innovation

The concept of innovation was subject to different interpretation across schemes. The physical distance between the screening centre and location of idea sourcing (assessment in Delhi and site location in hinterland) and the relatively low understanding of the operating context of the process on part of the innovator creates information



asymmetry between the assessor and the assessed. As suggested by promoters of the schemes this asymmetry can be reduced by:

- Creating easily understood and transparent benchmarks on which a proposal is to be reviewed. Such criteria need to be widely made available to the applicants with a set template for application.
- Standardising the concept and aspects of innovation along the value chain which need to be focused on. This is critical especially in view of the fresh focus on social sustainability and scalability. Many of the schemes currently are not short listing ideas using sustainability as a criteria.

Financial and Operational Management

Management of finance and operations was found to be the weakest link in the service delivery of the government schemes. The critical aspects are :

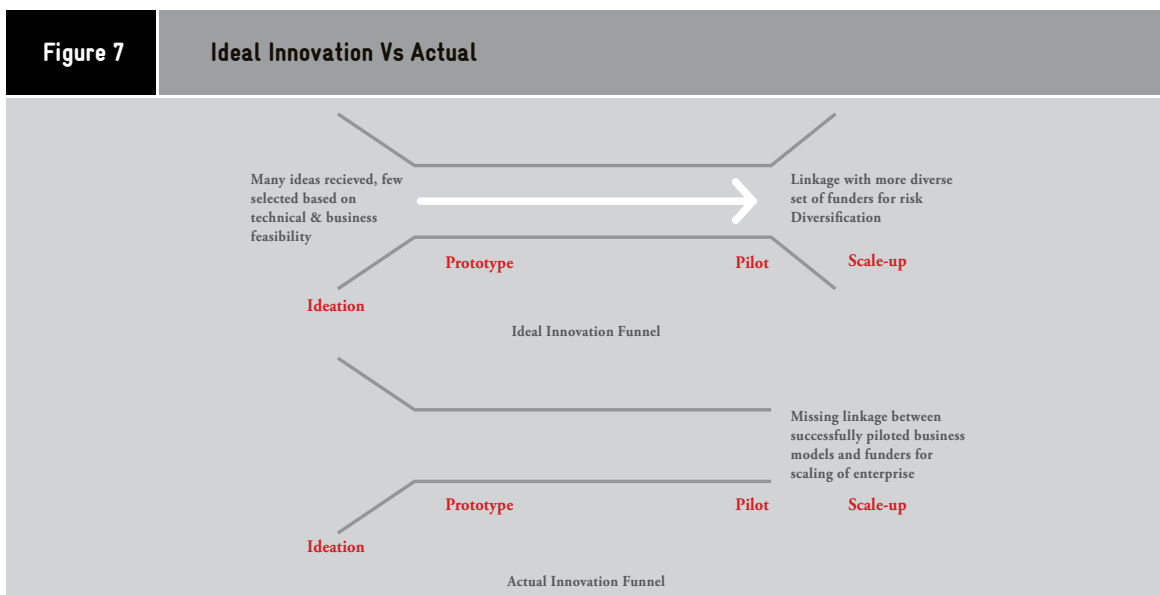
- Proper due-diligence is not conducted leading to improper assessment of the economic viability of the funded projects.
- In absence of regular monitoring there is a rise in the NPAs in many of the schemes.
- Many of the operational and routine aspects such as fund disbursement, keeping frequent track of the funded ideas etc. are carried out by scientists. These areas are not core to their work and hence could be outsourced/ done by personnel with the relevant profile.

Most matters of financial mismanagement are arising due to absence of relevant skills in the managing staff. It was suggested by all the functionaries that government initiatives should partner with agencies and institutions who have competency in financial due diligence.

Collaborations for End to End Solutions

Current dynamism of market economy demands for a collaboration format to arrive at unique solutions. There is consensus by all that collaboration is a weak area. Lack of collaboration among schemes result in poor commercialisation of innovations as the proposals are getting screened at multiple levels and tested in market conditions.

To build a true ecosystem the need for coordinated efforts among the various agencies like academic institutes, market research agencies, fund providers etc. were articulated by many. Further to this, there is need for tying up the funding and other support requirements in a systematic manner for the innovator.





The government schemes are an important platform for supporting the early stage innovations where the amount of risk is high and therefore the private players shy of entering this space. A collaborative effort could be developed with private investment funds to increase the pool of funds available to the innovator.

The existing collaborations are found as simple outsourcing of one particular activity of the scheme delivery. What is needed, as suggested by many, are true partnerships with the various players in the ecosystem. The Figure 7 on the previous page represents this thinking:

Project Management Skills

Process issues –The government schemes have high turnaround time due to the bureaucratic process which can be detrimental for a congenial innovation environment. The process of submitting proposals, evaluating for suitability etc. need to be simplified. In the survey with the entrepreneurs who are the actual applicants of the schemes, language issues came as a major constraint. The scheme being centrally monitored, English is the preferred language which many regional entrepreneurs, coming from modest background, find difficult to comply with. It is recommended that proposal submission centres have translators who can effectively translate from the regional language to English for evaluation at the higher level.

Online monitoring – Reducing paper work with online submissions of proposals can help in increasing scheme transparency and faster decision making. It would also enable the applicant know the status of submitted proposal on a realtime basis. While some of the government schemes like SBIRI have gone online, it is strongly recommend for other schemes to adopt this practice. It would also lead to time and resource savings.

Box 6

The Indian Biotech Scenario

The Indian biotechnology sector has been witnessing phenomenal growth like the IT sector – it has grown from USD 500 mn in 2003 to 5 bn by 2012 (CAGR of 20-25%). As a sector biotechnology is different from IT as it requires huge intellectual capital in terms of research, investment in infrastructure like research labs and a 10 year product development cycle. These factors make early stage investments hugely risky and hence public system engagement becomes paramount. The Department of Biotechnology has been a good enabler in this sense, playing a proactive role. India is among the earliest countries to recognise the significance of biotech with the formation of a Board in 1982 and the DBT in 1986. The initial efforts of DBT has been to build infrastructure in terms of research labs but since 2003-04 it has been focusing on the start-ups helping their formation.

The start-ups face difficulty in accessing technology and the public agencies need to provide a platform on a pay per use basis. The DBT has started a program of organising 3 camps in this regard. The Indian biotech industry is growing in clusters like Bangalore (almost half of the Indian biotech companies being located here), Hyderabad, Pune and to a little extent in Delhi. The new policy of DBT is to provide the start-ups with the incubation services which will help them in developing new products. Some notable initiatives in this regard have been the setting up of Knowledge Parks in various locations. These platforms are created with the desire of not only providing working space to the aspiring entrepreneurs but also provides the connections and mentorship services which are crucial for start-ups. They are also supposed to assist the IP filing process.

Catering to Inclusion Agenda

Government schemes may create exclusions through their stress on CSIR recognition and a bias for size. The mandatory CSIR recognition can be limiting by making innovations of only certain types to be eligible for



funding. Further there are many defunct CSIR labs not producing quality innovations while many excellent labs which are yet not CSIR accredited are outside the purview of schemes like NMITLI or SBIRI. In addition, most government schemes that allow private sector labs to take funding seem to have a bias for established companies against start-ups in terms of their R&D capabilities. The start-ups need to be encouraged for innovation by linking them up to the government schemes.

An ecosystem approach promotes inclusivity by making eligibility as open as possible for idea generation. Also giving special benefits to sections of the society like women entrepreneurs, ideas from North East and the low income states, etc. can help in augmenting the inclusion stress of the innovation agenda. These would need specific features in the schematic offerings.

Box 7

Government's Initiative to Create Impact at the Base of the Pyramid (Inclusivity)

CSIR – 800

The CSIR-800 Program is the Council of Scientific and Industrial Research's initiative to facilitate India meet its Millennium Development Goals. CSIR-800 will deploy needed technologies in 28 village clusters across India with the objective of augmenting the incomes and improving the quality of lives of the relevant communities. The process of identifying technologies will be through targeted Needs Assessment Surveys in each TECHVIL that prioritizes community needs and maps these to technology solutions.

The program would focus on developing technologies to:

- 1 Gainfully employ farmers to improve their economic status through solution based employment generation
- 2 Utilize various types of wastes and develop useful products
- 3 Reduce drudgery through low-cost energy efficient products
- 4 Cater to the needs of standard as well as region specific housing and construction.
- 5 Bring affordable health to the poor
- 6 Ensure the availability of potable water to rural population
- 7 Promote products that use natural renewable energy sources

After a thorough mapping of the area and identification of key requirements CSIR scientists would work towards customising the existing technologies or new ones that would address the needs. The program aims at involving NGOs and professional agencies at various levels to leverage both social and management capacities to create desired impact.

Nonfinancial Services and Knowledge Support

Support in the government schemes is limited to funding and very limited array of non-financial services. In the early stages the enterprise need much more guidance and hand-holding support to commence/normalise operations. The government schemes, as suggested, need to offer more comprehensive packages of non-financial services tailored to the enterprise requirements of the selected innovators.

Market led R&D – In the new innovation paradigm, the government schemes can help in improving the R&D efforts by

- Selecting more market led innovation ideas
- Enhance the partnerships with private players, especially the ones providing specialised services
- The existing focus is mainly on product side – hardly any stress on process innovation. Also the service sector seem



to be ignored as sites of innovation.

The government schemes need to have these changes incorporated at the policy level.

Education system – The role of academia is limited so far in the innovation ecosystem. Following are the issues:

- Linking entrepreneurship courses to government schemes: Many courses like engineering have components where the student can undertake live projects and come up with new solutions. Synergies can be created linking the existing government schemes to academic institutions for enabling the young and brilliant minds to test their ideas in market conditions.
- Lab testing facilities – The academic institutes have been able to build an infrastructure of lab testing equipments where many of the scheme proposals can be tested or honed, especially in the prototype phase. There are suggestions for linking of the academic facilities on a national scale to the government schemes which would provide an instant ready infrastructure for better prototype creation through modern lab-testing facilities. The faculties of these ITI and engineering colleges can also provide the relevant technical guidance. Once such a national mentorship network is in place appropriate remuneration mechanisms can also be devised to sustain the interest levels. Though there is one government scheme launched with this objective, the need is much more for creation of such infrastructure facilities.

Point of Intervention

The point of intervention in the schemes studied so far is either the enterprise or the cluster. However, with the intent of fast tracking innovation that is sustainable and scalable, it is imperative that other points of intervention are also recognised while creating an innovation ecosystem. There has been little targeting of the social enterprise as a point of intervention or specifically including them in the schemes. Similarly, while some corporates have large R&D set ups and also focus on social innovation (including pertaining to health and sanitation), there is scope through a PPP route to include them in the ecosystem to help roll out sustainable innovative solutions. If part of the mandatory spends on CSR (Listed profit-making companies could spend up to Rs 8,000 crore on corporate social responsibility (CSR) activities if they are able to hit a target of 2% of net profits, stipulated in the new Companies Act) could be channelised towards the agenda of sustainable innovation, some of the issues of monitoring, accountability as well as funding would be addressed as corporates typically are more process driven.

The SWOT analysis of the various government schemes focusing on innovations is captured in Table 5 on the next page.

2.9 Conclusion

Given the not-for-profit character of investments made by the government schemes and their broad horizon, they are most ideally placed to promote innovations which have inherent risks and inadequate support mechanisms. Their role in the innovation agenda is firmly established. However, the way forward would be to provide holistic solutions and ensure scalability of sustainable solutions through creating a cohesive innovation ecosystem, addressing the challenges faced by different stakeholders as well as bringing about desirable changes to the design and delivery of government schemes.

The government schemes are being primarily managed by the scientists who have excellent understanding of technological issues. Combining this technical competence with the business acumen of the private sector would enable commercialisation of innovations as scalable business models. However, given that the sustainability and affordability are the key criteria to gauge the success of the new innovation paradigm, the investors must have a new social mind set - that of social entrepreneurs, Impact funds or large corporates with social conscience -whose return criteria comprises lower monetary profits coupled with social good. Though many schemes claim to be run



on a PPP mode, the commercial viability aspects are looked at a much later stage by when much of the resources have already been invested. The commercial viability aspects need to be looked at the prototype phase itself. The role of industry/private investor is not clearly defined in the early stages of idea development in the government schemes.

Implementation of the government schemes is mostly done centrally which takes too long. Apart from longer processing time, it also adds to the overhead costs, redundant monitoring and delayed target achievements. A decentralised approach would be better. The government schemes primarily focus on the initial stages of the innovation life cycle. The subsequent stages should also be integrated either by linking them to an existing scheme or extending the scheme to the next stage of innovation. Lack of information for availing the next stage of funding often results in the enterprise failing. More focus is needed on the service sector innovations and a cluster level approach. Some of the important players such as social entrepreneurs and corporates have not been leveraged adequately. There has been little attention given to innovation pertaining to services in these schemes. Surprisingly, India's core competency is in process innovation due to the work done by the service sector in realising efficiencies and scale outside the purview of government schemes. To promote a culture of innovation, some focus should be on the relatively excluded sections and regions of society – women entrepreneurs, SC/STs, North East and the low income states, etc. Apart from assuming homogenous applicants for schemes most of the government schemes are not inclusive in nature – CSIR recognition is must for most of them. Government schemes don't have much non-financial support like mentoring which is more crucial at the early stages. Impact assessment is absent in most of the government schemes by external agencies. Such assessment can really improve transparency and effectiveness of the schemes.

Table 5		SWOT Analysis - a Macro Perspective	
Strengths		Weaknesses	
<ul style="list-style-type: none"> Investing in most risky and otherwise neglected section of the early innovation cycle. Greater tolerance and 'freedom to fail' Has a huge network of infrastructure, mentor networks and expertise to assess potential of an idea and to assist in incubating it Given the nationwide presence, has the capability to ensure scalability of sustainable innovation Being linked to the Government, has the latitude to ring about policy level changes to boost the innovation process 		<ul style="list-style-type: none"> Monitoring for most schemes are weak resulting in <ul style="list-style-type: none"> NPAs as it is a loan Long turnaround time – more costs and overheads Scheme targets way behind benchmarks Ministries operate in defined boundaries/silos – sometimes restrictive for an emerging business model. (Eg – Biotech is a sunrise industry – conflict may happen in terms of schemes and beneficiaries among DBT, DST & CSIR) Ticket size small leading to limited coverage on the innovation cycle and bureaucratic decision making 	
Opportunities		Threats	
<ul style="list-style-type: none"> To bring scale to sustainable innovations Co-ordination between schemes to straddle all the phases of the innovation lifecycle effectively Linking up with the VCs for the scale-up phase Better coordination resulting in complementary monitoring based on competence Concentrate on the service sector as a source of innovations 		<ul style="list-style-type: none"> Operating under the government setup is prone to political risks. 	



Footnotes



- 1 <http://www.venturecenter.co.in/funding/index.php>
- 2 Quoted from India R&D 2005: The World's Knowledge Hub of the Future. Background Paper, prepared by E-valueserve for Federation of Indian Chambers of Commerce & Industry (FICCI), p. 6.
- 3 Cited from <http://www.thehindubusinessline.com/news/science/india-still-lagging-in-innovation-rd-spend/article4459500.ece>





3 Impact funds

About the chapter

Innovations that are meant for creating impact among poorer segments need a supporting funding environment. The emergence of Impact fund as a new asset class is a valuable phenomenon in India and this chapter provides deeper understanding about the same.

3.1 Introduction

Though there are a number of government funded innovation support schemes to help establish new enterprises, a large economy like India needs impetus to encourage entrepreneurship on a national scale and thus the role of private sector initiatives cannot be undermined in the promotion of innovative ideas and new enterprises. Globally there is an emergence of a new class of impact investors who are not constrained between binary choices of investing either in commercial projects offering superior market returns or social projects as simple charity. New practices like blended value capital and socially responsible investments (SRIs) have shown that it is possible to create impact and yet earn profits. With nearly 60 impact funds created globally in 2011 alone, impact investments are projected to grow in the next ten years from \$ 50 billion to \$ 500 billion or about 1 percent of total global assets under management².

Private funding for start-ups became a global phenomenon with the advent of Venture Capital³ funds in the early 1980s. Apart from providing the much needed capital for risky projects having uncertain returns these funds also offered other non-financial benefits like networking with vendors, strategic and operational guidance, marketing support and access to much needed networks to the start-ups. Most of the private fund houses are established by successful entrepreneurs themselves having years of operational experience, domain expertise, well developed networks and an in-depth knowledge of the struggles of starting a company. Such inputs often prove extremely critical for the start-ups. However in recent times the VC industry has been criticised for being too stringent in terms of their return expectations and becoming risk averse. As global capital became increasingly mobile and development took a neoliberal shift this new class of impact investors emerged as the promoters of social businesses providing patient or blended capital in sectors like affordable health, low cost housing, affordable education and clean technologies.

3.2 Linking Entrepreneurship and Private Capital – Need for an Ecosystem Approach

In an age of global competition and free market access, entrepreneurship and innovation have become critical elements for sustainable growth of any economy. Global experience has shown that apart from wealth creation, new businesses create more jobs than the established ones. Having missed on prospering from the industrial revolution and witnessing a drastic fall in its share of world GDP from over 25 percent in the 17th century to less than 2 percent by 1947⁴ and further 0.2 percent by the 1990s, 'entrepreneurship' and 'innovation' have remained an important component of Indian industrial policy. The improved dynamism of the Indian industry post liberalisation has been mostly led by pioneering enterprises in sectors like telecom, IT services and banking. Yet both public and private sector enterprises have not been able to keep pace with employment requirement of the economy.



There is a crucial link between availability of funding for enterprise creation and the economic vibrancy of a nation and thus it is important to create a dynamic entrepreneurial ecosystem in India that is able to create and sustain its economic growth and employment needs. Enterprise development is a long process and needs infusion of capital at several stages. A Planning Commission study estimated the need of \$ 55 billion (INR 3 lakh crore) over the next decade to finance such entrepreneurial ventures. A significant portion of this would have to come from the angel investors, incubators, venture capital funds, banks and other financial institutions apart from government support. The advantage of tapping VC funds is that they provide finances corresponding to the lifecycle stage of the venture (Sahlman, 1988). With incremental improvements at every stage benchmarked to predetermined milestones, the enterprise theoretically become progressively less risky and sustainable in the long run. The VC funders are actively engaged in the management of the ventures they fund by taking board positions and providing much needed strategic direction, resources and networks to the company to scale their operations and be successful. Typically, new ventures go through the following life cycle stages.⁵

Financing Life Cycle of a New Venture

a Seed financing

Funds are required by the innovator to create a tangible prototype in the lab from a conceptual idea in the mind. Most enterprises begin with an idea which is then developed as a prototype. Funds for this phase are either sought from family, friends or Angel Investors. Typical activities in this phase for which funds are required often involves creating a legal entity, developing and refining a prototype, hiring key employees, getting the first set of customers etc.

b Start-up financing

The next stage of funding is required for product development and initial test marketing and customer validation. Activities in this phase involve conducting product trials and developing a prototype by testing the product/ solution with few customers and receiving their feedback based on which modifications are fine tuned for a hassle free usage. This phase is also referred to as the 'beta-testing' phase.

c First stage financing

With a workable prototype the next stage of funding involves initiating commercial production and marketing for the full launch of the product/service. Funds in this stage are required for capacity expansion through installation of machines and facilities.

d Second stage financing

With a stable product/service, funds for this phase are required for a full expansion at the national or global level. At this stage enterprises also need funds to hire senior management members, put in process and scale up their operations.

e Later stage financing

This stage of funding is required for expansion of an enterprise that is already profitable and matured into a steady business model.

f Bridge/Mezzanine financing

With the aim of launching IPO this mode of financing is a preparation for going public or for buyout/takeover.

Apart from creating employment for the large masses, the spirit of entrepreneurship can also be leveraged to achieve economic and human development goals. Research has already established positive correlation between entrepreneurship fostering and better standards of living leading to social and financial equity along with improvements in health, education and happiness parameter of a nation.



The huge amount of global funding which is being made available in the name of impact investments should be innovatively engaged in addressing India's key developmental challenges like education, affordable healthcare, clean drinking water, food production and clean technology. The impact funds with a stated mission of creating impact provide a better opportunity of nurturing the social enterprises coming up in inexistent or inefficient markets and low income consumer segments.

3.3 The Beginning of a New Asset Class

Impact investments are investments intended to create positive impact beyond financial returns.⁶ This involves managing the social and environmental performance of the funded projects in addition to monitoring their financial risks and returns. While certain types of impact investments can be categorized within the traditional investment classes (such as debt, equity, venture capital) they are quite distinct in their characteristics from other funds:

- Impact investments focus on enterprises that aim to improve the lives of poor and vulnerable people by providing access to basic services like health, education, water, food, energy etc. or by creation of economic opportunities via engaging them in the supply or production chain.
- The impact is created in a variety of ways apart from economic upliftment of the targeted segments such as providing quality jobs, enhancing energy efficiency, improving market inclusivity by purchasing inputs from local or micro entrepreneurs.
- Return expectations vary from competitive to concessionary. While social impact remains a very important screening lens, for most impact investment firms there is an expectation of the enterprise to have a clear business model and a path to sustainability before they can commit capital.

The impact industry market has really blossomed as a mainstream enterprise financing segment post 2000. There were about 60 impact funds launched in 2011 alone at a global level, most of which are seeking to raise funds in upwards of \$ 50 million. There are about 380 international impact funds with total asset under management exceeding \$ 40 billion.⁷ The investors, known as Limited Partners, play an active role in managing the performance of the funds which makes it unique from conventional private investing.

3.4 Genesis of Impact Investing in India

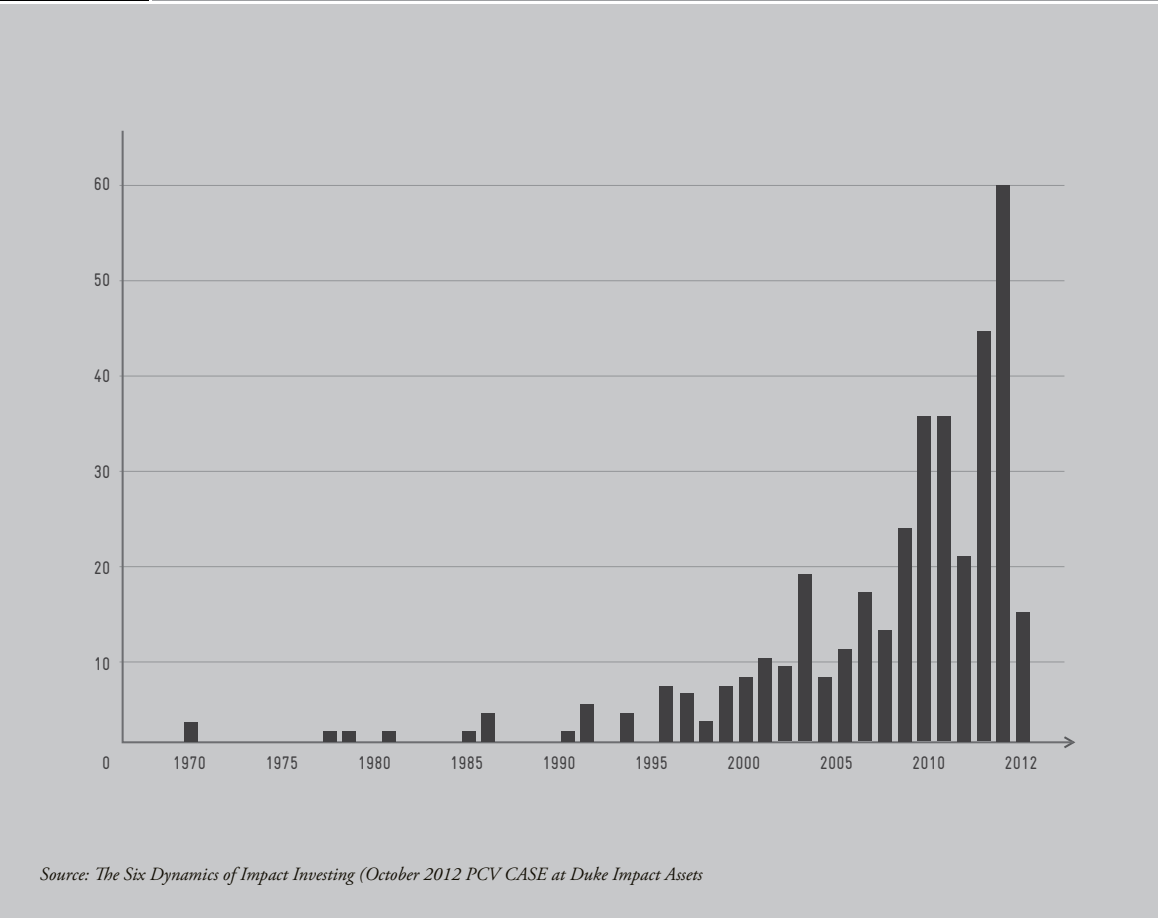
Private funding of enterprises through venture capital has been a popular practice globally but started in India only in the 1980s with the formation of TDICI in the 1980s. However, the real take-off of the Indian VC industry took place post 1997⁸. As a segment within the venture funding industry, early stage⁹ funding is even smaller. Early stage annual investments made by the VC funds totaled INR 1200 crore (\$240 mn) against investments of INR 3000 crore (\$700 mn) in China and INR 29,000 (\$6.3 bn) in US. Private funding categories depend on the stage of the enterprise and its corresponding risk profile. Though there are no set standards the Planning Commission report suggested the following classification in the Indian context:

Angel Investing

Investments made in the seed stage of a venture with maximum risk and typically ranging below INR 5 crore for individuals and INR 10 crore for groups classify as angel funds. The seed stage of a venture is defined as a business which (a) has less than 25 crore turnover, (b) is unlisted, and (c) is not promoted, sponsored or related to an existing industrial group which has group turnover in excess of INR 300 crore. Such investments are made by the HNWIs (mostly successful entrepreneurs) who not only provide capital but also provide mentoring support and networks out of their own learning curve.



Graph 1 Global Trend: No. of Funds/Year



Early Stage Venture Capital Investing

Investments for the evolved ventures having prototype ready and ready for scale are provided by institutional investors. Operating as Limited Liabilities Companies (LLCs) funds are either raised abroad or in India with the aim of investing in start-ups with proven business models and generate returns for the investors.

Impact investing

For early stage enterprise, focused on low income markets, financing is seldom provided by mainstream venture funds as it is perceived to be too risky and is an uncharted territory with uncertain returns. Impact investors have emerged as a specialized assets class in this segment which is willing to take this risk and fund these enterprises. They are defined as ‘investments in businesses and social ventures with the intention to generate measurable social and environmental impact alongside a financial return and which target a range of returns which is below the market rate’¹⁰ The definition of impact investing remains a work in progress and is subject to debate across investor groups and regions of the world.

As per the Report ‘Accelerating Impact’, by Rockefeller Foundation, over the past four years, leading players in this emerging field have attempted to provide more rigor to this definition. To this end, a 2010 report, co-authored by J.P. Morgan, the Global Impact Investing Network (GIIN) and the Rockefeller Foundation, proposes perhaps the most pointed definition to date: “investments intended to create positive impact beyond financial returns,” not only noting the blend of financial and social returns, but also clearly articulating the requirement for investors to be intentional in their efforts to generate both. In addition to intent, argue some industry players,



there should also be tangible, measurable evidence of social or environmental impact at the level of individuals and households facing poverty, marginalization or other forms of distress.

Over the past four years, the number and diversity of actors in the impact investing industry at a global level have grown impressively. Among asset owners, high net worth individuals and families have played prominent roles in this effort, as have private foundations, impact investing funds that function as intermediaries for the field, together with a select number of large financial institutions, including banks, pension funds and development finance institutions. In addition to these and other asset owners and asset managers, the industry includes demand-side actors that receive and utilize impact investments; these include companies, small and growing businesses, social enterprises and cooperatives.

3.5 Impact Investment Landscape in India

In sync with the global trends, impact investing has also been picking pace in India. The early stage financing is seldom provided by venture funds as it is perceived to be too risky and often comes from angel investors. Often the seed fund is the key factor in determining the entrepreneurial conversion rate for any economy (National Knowledge Commission, 2008). Though research is yet to be done on impact funds as a special class of venture funds, broadly these social investment funds are estimated to be around 33¹¹. There is no denying the fact that India is an emerging economic powerhouse and one of the top investment destinations across the globe. But within this aspiring superpower lies another population segment that accounts for over 90% of the poor who are barely survive on less than \$ 2 per day. This large section of the Indian society has remained aloof of the economic prosperity and development witnessed by the urban centric population.

Impact investing, which focuses on financial as well as social outcomes, is slowly gaining ground in India. With about a dozen domestic and international funds operating in this space, the segment of private funding has grown steadily over the past five years. According to a recent study by the Planning Commission, investments by these funds have crossed Rs 1,200 crore. “This area of investing does see a substantial in-flow of new ideas, but quality and scalable models that capital providers find attractive are limited,” the Planning Commission report said.

Most impact investment opportunities were initially confined to the micro lending and microfinance space but with the crisis for such micro lending institutions, a lot of impact investment opportunities have opened up for other social sectors including sanitation, healthcare, including low-cost health care, education, agricultural business, skill development, livelihoods as well as cooperative businesses. A recent JP Morgan report has estimated that high net worth investors are likely to allocate a minimum of 10 per cent of their portfolio to such social endeavors.

Since the concept is relatively new and the first set of investments are yet to bear fruit, impact investing is still difficult to sell as a proposition for funds. The JP Morgan study found most professionals in this field saying “lack of a track record of successful investments” was the critical challenge for growth.

Also, the sector is still to make up its mind about the relationship between returns and social impact, especially on whether sacrificing one will improve the other. While some investors, especially family foundations and charities, are ready to settle for a lower IRR (internal rate of return), provided they achieve the desired impact, others are aiming at achieving commercial IRRs while keeping focus on social impact.

A recent study by GIZ based on a review of 33 Impact Funds found that they are registered as Limited Liability Companies and raise capital from private investors. The primary focus areas of impact funds in India are affordable health, energy, education and agri-business sectors. Being a new phenomenon, there is hardly any previous study on Impact funds for their underlying features and performance review. For the present purpose, 10 Impact Funds were selected for an in-depth analysis of their investment principle, process, features and



Table 6		Evolving Sources of Finance			
Type of Investor	Stage of Enterprise	Risk & Return	Typical Investment	Equity	
Incubators/ Accelerators	Pre-seed & Seed	Very high risk, not much expectation on return	< INR 50 lakhs	5-10% + Sweat equity or rental fee or a combination of both	
Angel Network & Angel Funds	Seed Stage & pre-series A	High risk with uncertain return on investment (RoI)	INR 0.25 - 4 Crores	5-20%	
Impact funds	Startup Phase, Series A	Medium risk, RoI < 25%	INR 1.5 – 20 Crores	20% & above	
VC Fund	Scaling up phase, Series B	Medium risk, RoI >20%	INR 8 Crores and above	20% & Above	
PE Investors	Late – pre IPO	Less risk, Medium RoI	Large – equity, USD 15 mn	>20%	

impact created. Interesting trends were noticed and inferences drawn which are listed below.

A Categories of Impact Funds

The Indian Impact Funds offer interesting dimensions in terms of their capital source and underlying features. The dynamism of this new industry has following variations:

Sponsor: While most Impact Funds are private endeavors, the only fund initiated by the government is the SIDBI Venture Capital Limited. Though primarily a Venture fund, SVCL has recently launched an India Opportunities Fund (IOF) specifically aimed at MSMEs having a BoP focus. Some recent funds like INFUSE by the Centre for Innovation Incubation and Entrepreneurship have been launched as PPP initiatives between the government and private.

Legal format: The Impact Funds operating in India can be legally organized as any of these – Registered Venture Capital Funds / Section 25 Company under the Indian Companies Act 1956/Foreign Venture Capital Fund/ Pvt. Ltd Advisory company advising foreign funds.

Service delivery approach: Impact funds offer an array of non-financial support in addition to providing capital to the start-ups.

Innovation Coverage: Based on their organizational mission, the Impact Funds vary their coverage of enterprise support from either specific stage of innovation to covering the entire spectrum of the innovation cycle.

Investment Focus: Again, based on the organizational mission and vision, impact funds vary from being sector specific in investment focus or broad based in recognizing investible innovation ideas.

Investment size: Based on the average ticket size of funding, the Impact Funds can be classified as small,



	Mentoring Involvement	Monetary Source	Challenges	Exit Horizon
	Very high mentoring engagement provided by internal team members and external experts	Mostly via Govt Funds or donor agencies	Most incubators suffer from quality management issues in mentoring and guiding companies especially the government supported ones.	Flexible and long term.
	Very high mentoring engagement. Investing via personal preferences of Angel investors.	High net worth individuals investing in personal capacity or pooling in funds	Proving the business model, securing market validation	Short, flexible, typically till series A
	Advisory level and overall strategic guidance, intense handholding	FIs, Donor Agencies, HNIs, Endowment Funds	Scale, team building, accountability, sustainability & processes.	6-8yrs, till next round of financing or exit
	B Advisory level and overall strategic guidance	FIs, Donor Agencies, HNWIs, Endowment Funds	Scale, team building, accountability, sustainability & processes.	5-7yrs, till next round of financing or exit
	Low mentoring engagement	Other FIs, market	Mergers, divestment, leadership, restructuring	Short –till IPO/ acquisition

medium or large investment firms. Typically Impact Funds investing below USD 500,000 are small and those investing between USD 0.5 - \$7 Million are medium and above \$7 Million are large.

Headquarter location: Based on the country of formation, the Impact Funds can be classified as Indian or offshore funds.

B Impact Investors – The Key Focus

Investors could broadly be divided into two categories - Impact-first or Financial-first investors. Impact-first investors put a significant amount of importance on the impact of the organization pre-investment and keep track of impact for the duration of the investment, whereas financial-first investors use impact as a lens or a screening criteria during the pre-investment phase and then trust that the organization continues to make an impact once invested in. Here on the ground experience also shows that the promoter intent coupled with the vision of the organization is extremely important and to ensure there is no long term mission drift.

The most important criteria for both types of investors are the long-term success of the organization, the exit potential and the management team. Investors overall were unanimous in their view that sound business models that will succeed and scale in the context of the market are imperative.

Other critical factors are financing requirements, understanding of competition and customers, characteristics of promoter, and the team, demonstrable innovation in the process or delivery and governance structure. To ensure that all these critical factors are met, investors indicated that the due diligence process is often long and resource heavy.

**Box 8****Reaching Out to Poor**

Founded in January 2010, Forus Health is a Bangalore based company started by K Chandrasekhar along with his friend Dr Shyam Vasudev. They have developed a portable and less expensive pre-screening device that allows patients to know their eye conditions. 3nethra, as the device is called, is an animating device that takes a picture of the eye and can detect the five major ailments that lead to 90% of blindness – diabetic retinopathy, cataract, glaucoma, cornea problems and refractive errors. Forus, which was originally incubated at CIIE-IIM Ahmadabad managed to raise \$5 million in funding from two large commercial venture firms i.e. Accel Partners & IDG Ventures in 2012.

Source: http://articles.economictimes.indiatimes.com/2012-05-01/news/31528169_1_idg-ventures-india-investment-firm-device

This proves to be a significant barrier to considering small, early-stage investments. In addition, early stage investments require considerably greater post-investment support further increasing the cost for investors.

C Geographical Presence

Most of the Impact Funds typically located in the North (Delhi) , West (Mumbai) or South (Bangalore & Chennai) with almost no presence in the East. In terms of their focus states for investments in social enterprises Maharashtra, Uttar Pradesh, Delhi and Rajasthan seem to be preferred destinations.

D Deal Sourcing

Getting new investible proposals has been a global challenge for Impact Funds and remains a major challenge for Impact Funds in India. While there are several enterprises that are doing innovative work on the grassroots there is often a mismatch between what the investor is seeking and what the entrepreneur is showcasing. The challenge of getting good proposals is more pronounced as most of the funds have limited bandwidth and negligible resources to pro-actively engage in capacity building to build the investible pipeline. On several instances a number of Impact Funds were found chasing the same companies.

However IFs are making a lot of efforts and are looking at innovative approaches to source investible pipeline as highlighted below.

Networks

Using their personal contacts and networks, the management of the Impact Funds scout for new business proposals. The advantage of leveraging such networks is that the quality of information is very authentic (as it has come through a known source) and processing time is faster.

Box 9**Sankalp**

Sankalp Forum is an initiative by Intellectap to serve as a platform for showcasing socially relevant small and medium enterprises and build a vibrant social enterprise ecosystem. Initiated in 2009, it has become Asia's largest collaborative platforms to bring together social enterprises, impact investors, policy makers, academicians, and other market makers to provide better, more targeted assistance across the full range of enterprise needs in order to foster enterprise's development toward sustainability and scale.

www.sankalpforum.com



Applications submitted online

Most of the Impact Fund websites have a link where business proposals can be submitted online. Though the most popular method of receiving proposals, the enormous traffic volume makes the processing time longer. Also most of the proposals are rejected in the screening phase itself. Interaction with the senior staff of several Impact Funds reveal that the management in lot of the cases spends up to 6 hours screening a proposal at the initial stage.

Participation in industry events

One of the significant aspects of India's growth story post liberalization has been the rise of the entrepreneur-led economic model. Suddenly entrepreneurship has become a preferred 'career option' and being promoted at various forums. Most industry trade bodies like TiE, FICCI and CII conduct workshops and conferences throughout the year to help the aspiring (and often struggling) entrepreneurs with mentoring support through events which typically involve talks by successful entrepreneurs about their journey, mock deal-making sessions by investors about the process of VC funding and networking opportunity with the wider ecosystem.

Recognizing this ecosystem needs initiatives like the Sankalp summit, Ennovent Startup Services and UnConvention by Villgro have started their Regional rounds in cities like Jaipur, Patna, Hyderabad and Lucknow to effectively reach the entrepreneurs of these cities. In addition the Khemka Forum is another exclusive by invite event which is great place to meet new companies held at ISB every year. The advantage of leveraging such platforms is that they offer a whole range of investible enterprises at one place and can be effectively used to build upon a portfolio of investments within a short time.

Box 10

Global Network - Ennovent

Ennovent through its Global Network at www.ennovent.com works with a global network of entrepreneurs, investors, mentors and experts to discover, startup, finance and scale the best innovations for sustainability. The online 24X7 accessible platform has a vibrant and growing community of 4500+ members who actively support each other whether its accessing funds or seeking solutions to specific challenges.

Intermediaries

There is now a well-developed network of investment advisors, investment bankers and other consultants who actively contribute to Impact Funds on a regular basis.

Box 11

Anavo Global LLC

Anavo meaning 'light' in Greek is an Impact Fund launched in 2011 with an investment focus area on Education, Health and Housing and a targeted customer base earning INR 20 per day. Apart from participating in the Business Plan forums it also seeks new ideas and business models by following blogs and social networking sites on the internet for discussions among the community attractive and innovative business models.

Innovative practices

Receiving credible investment proposals is often understood to be competitive advantage for Impact Funds. With increase in the number of Impact Funds opening offices in India and the difficulty of getting investible



proposals, most funds are trying to come up with an innovative model of information generation about the social enterprises from a variety of unconventional sources. Platforms like the Ennovent Circle and the Intellectap I3N Network are other examples of individual and institutional investors coming together to share deal flow and collaborate on investments.

E Investment appetite and risk return profile

Impact funds primarily look forward to creating social impact than generating pure financial returns. The difference with the VC funds is that while they have stringent repayment schedules, targeted returns and usually invest in late stages of an enterprise, the impact funds are more patient in their return requirements and overall investment horizon. The interactions revealed that every impact fund has a specific investment philosophy and strategy for investible projects. While a typical VC fund would have an IRR benchmark of 15-25 percent, the Impact Funds, typically because of their more risky nature and patient outlook in terms of non-existent markets and longer gestation periods look for lower IRR.

F Sources of funds

Though a new phenomenon, survey results show wide diversity in terms of organizational formats and promoters. Some broad trends emerging in terms of the limited partners of the funds were:

- By Charitable Funds
- By Donor Agencies
- By Developmental Agencies
- By Foundations
- By Endowment Funds
- By High Net Worth Individuals

G Deal size

Traditionally, several impact funds focusing on large deal sizes typically upwards of USD 2 million, since the funds look for mature enterprises in terms of overall operations and scale. However, recently a couple of early stage impact investors aggressively looking at smaller ticket size of investment even upto INR 2,500,000 were also seen and are typically the source of the first external capital for early stage enterprises.

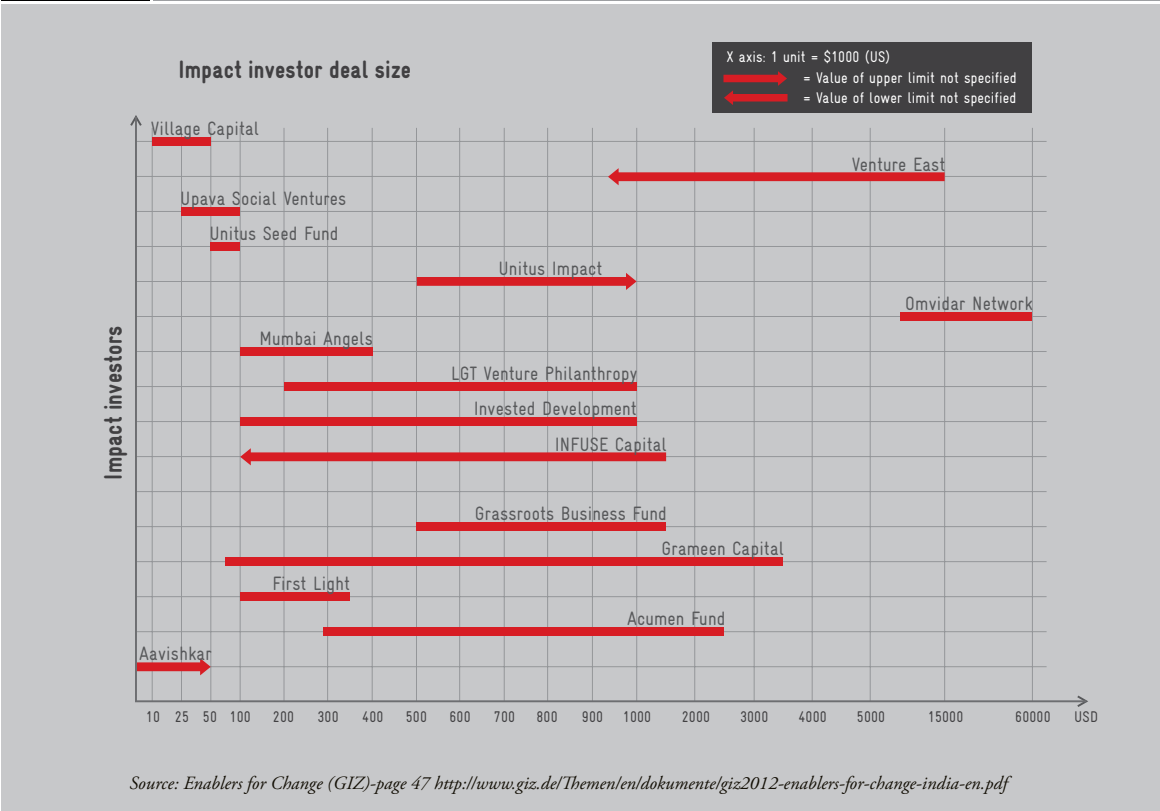
The challenge with early stage investments is that these are riskier compared to later stage investments and we see an active collaboration between early stage investors to share deal flow, diligence and collaborate to co-invest to not only diversify investment risk but also bring the required capacities for portfolio management and scaling of invested enterprises. Deal size of some of the impact investors are given on next page in Graph 2.

H Coverage on the innovation cycle

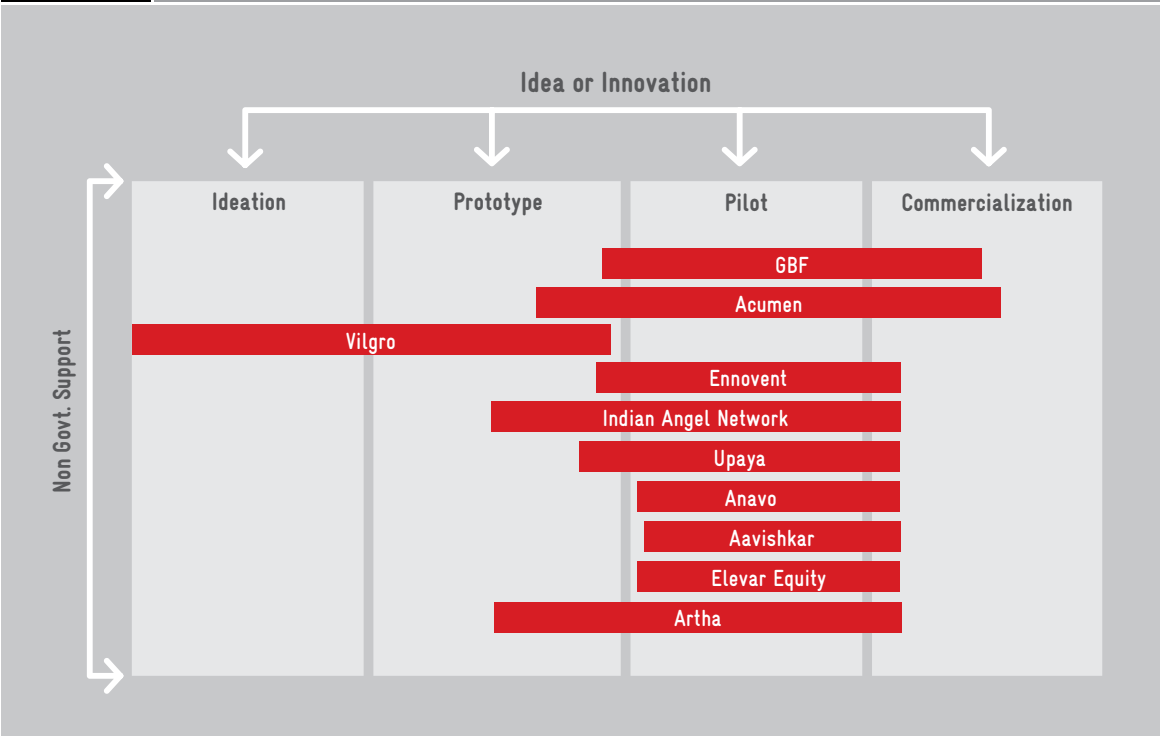
The impact funds are found to be majorly operating in the later stages of the innovation cycle – targeting the piloting and the scaling-up or commercialization phase. Being private capital, funds management are much more restrictive in their risk tolerance capacities and hence shy away from the initial two phases which have maximum amount of risk involved. Only successfully tested ideas with properly working prototype models are encouraged for financing by the Funds. The lay of the surveyed Impact Funds is depicted in Graph 3 on the next page. From an innovation ecosystem viewpoint, this represents a major gap of Impact Fund operations leaving behind the many possible ideas being dropped or killed in the ideation phase itself for lack of funds.



Graph 2 Deal size impact investors



Graph 3 Coverage on the Innovation Cycle





I Service delivery approach

Impact Funds are considered to be better support mechanisms for fostering innovations as they offer customized and relevant non-financial services in addition to capital. The management of Impact Funds often takes an active interest in the daily functioning of the funded enterprises. The survey revealed the following services being offered by the Impact Funds:

Discover

Impact Funds spend a lot of time in discovering promising innovations and enterprises. Most Impact Funds go through local networks, sponsoring events, referrals from other investors and experts, consultants like investment advisors etc. Some funds also partner with incubators like Villgro & CIIE and others attend deal flow meets such as the ones organized by Sankalp and Villgro.

Capacity building

Impact Funds also spend time mentoring and guiding companies which forms a part of their activities of building the pipeline. However, this may not be a very efficient use of time for most IFs. Some funds like GBF as part of their investment allocate a certain budget post investment towards capacity building.

Networks

Investor networks like Ennovent Circle and Intellectap's I3N network bring together both individual and institutional investors to leverage not only opportunities to co-invest but also share information and knowledge which brings down cost of due diligence and enable informed investment decisions.

Portfolio management

Post investments the Impact Funds spend significant amount of time with their portfolio companies in terms of overall guidance, business models, helping hire key managements, marketing strategy etc.

Impact measurements

Some Impact Funds have developed their own models of impact measurements to report back to their funders - the Limited Partners (LPs). Such impact measurements also provide the funded enterprises with an external assessment of their enterprise's health as well as strong and weak aspects of the internal processes and practices. The observations often prove extremely beneficial and enable course correction if the need arises.

J Shift towards specialization

With increasing market competition and corresponding commoditization of product and service offering, most players in the free marketplace try to create niche position by offering specialized services with unique customer value proposition. Within the rapidly growing impact fund sector, many players are trying to create their niche segments by becoming extremely focused in terms of enterprise selection (exclusive microenterprises focus by Upaya Social Ventures) and the stage of the enterprise funding (only seed investment strategy by Villgro).

This specialization shift has key implications for the ecosystem as many players like Dasra, Ennovent Startup Services and Innovation Alchemy have started offering specialized nonfinancial mentoring services in collaboration with the Impact Funds. The demand for such services, as per interactions with IFs, has started growing since 2010 onwards. In the following matrix, we have tried to capture the emerging signals from the Impact Fund marketplace of the various types of specialization on which the service providers are trying to position themselves.



Table 7	Specializing Service Offerings by Innovation Ecosystem Players Specially Created by the Impact Fund Industry	
<p>Capacity Building</p> <ul style="list-style-type: none"> • DASRA, • Innovation Alchemy, • CIIE etc • Villgro, Ennovent 	<p>Market Research & Business Modeling</p> <ul style="list-style-type: none"> • Intellectap • MART • Dalberg 	
<p>Investment Advisors</p> <ul style="list-style-type: none"> • Unitus • Grameen Capital 	<p>Networking, Market Linkages</p> <ul style="list-style-type: none"> • Sankalp • TIECON • Ennovent Global Network, • I3N • Action for India 	

Box 12	Dasra
<p>Dasra is a Mumbai based consultancy that helps social enterprises scale through mentorship and managerial support. It operates with a philosophy of bringing together three key elements – knowledge, funding and people – to help philanthropists and social entrepreneurs scale up their organizations and thereby create maximum impact. The Dasra Social Impact (DSI) is a 3 weeks intensive training and development program for the senior management of development organizations. Started in 2006, every year a cohort of 50 high impact organizations are selected for classes in Mumbai on various aspects of scaling up like developing a business plan, making a ‘pitch’ to the investors and addressing critical HR challenges. Over the last 6 years they have created a network of 80 mentors and sector experts who guide the cohort participants and bridge the gap between the investors and enterprises. By attending the program, Dasra expects that at least 30% of its cohort will achieve 50x growth in outreach in the 3-5 years after the program.</p> <p><i>www.dasra.org</i></p>	

K Exit Strategy

An effective exit strategy is imperative for the impact investing ecosystem to grow and also enables funds to plough back money to many impact businesses as possible. The Indian impact investing landscape is still to reach such a matured phase and very less number of exits have been reported from this segment of financing. One of the very few funds in this space which has made some exits is Aavishkaar. It, in 2012, sold its 23% stake in Rangсутra, an artisan-owned handicrafts company, to three high net worth individuals. The fund earned 42% internal rate of return (IRR) on its investment of Rs 22 lakh made in 2007. Rangсутra supplies handicrafts to Fab India. This is Aavishkaar’s third profitable exit from a social enterprise in two years.

From an ecosystem viewpoint, it would be good practice to have profitable exits. A thorough handholding process of identifying the next investor and supporting the enterprise to evolve to match to the demand of higher investments are critical areas before any exit happens. There could be legal obstacles for offshore investors at the time of exiting which need to be sorted out at the policy level.



L Stakeholders in Impact Fund ecosystem

While there have been tangible gains in the mobilizing of capital for impact investments by a growing number of players the quantum of capital has risen steadily. Key intermediaries have emerged, and there has been significant growth in innovative products and platforms for investors. However, while there is also evidence of gains on the demand side of the sector, there are still too few investment-ready projects and enterprises to enable the optimum placement of this new capital.

The good early-stage work of building initial global standards and rating systems for the industry still requires more time and better articulation, given the proliferation methods and tools and the brand confusion among several measurement initiatives addressing the impact of investments. Also global standards of impact assessment need to be localized for the Indian context to ensure they reflect the right social outcomes.

At the same time there are examples of deals happening in the social enterprise space which have absorbed blended capital from different players as they progressed in their entrepreneurial journey.

It is becoming increasingly clear that in the impact space we need to unlock more capital and have a blended capital approach. The key is to have a balance of having grants, debt and equity in terms of instruments and the providers of capital like foundation, banks, angels & equity investors available to enterprises as they progress their entrepreneurial journey.

Stakeholders in the IF industry	
Asset Owners	Asset Managers
<ul style="list-style-type: none"> • High net worth individuals/corporations • Government • Employees • Retail investors • Foundations 	<ul style="list-style-type: none"> • Investment advisors • Fund managers • Family offices • Foundations • Banks • Corporations • Venture funds • Impact investment funds/intermediaries • Pension funds • Sovereign wealth funds • Development finance institutions • Government investment programs
Demand Side Actors	Service Providers
<ul style="list-style-type: none"> • Corporations • Small and growing businesses • Social enterprises • Cooperatives • Microfinance institutions • Community development finance institutions 	<ul style="list-style-type: none"> • Corporations • Small and growing businesses • Social enterprises • Cooperatives • Microfinance institutions • Community development finance

**Box 13****National Association of Social Enterprises (NASE)**

NASE has been formed by 12 established social enterprises in the year 2012 with the prime objective of offering a platform to its members to resolve issues affecting the expansion and scaling up of their enterprises. It also focuses on areas like legal structure of SEs and impact measurement. The association has offered associate memberships to start ups with a commitment to providing mentoring support to the needy ones. NASE wants to work with donors and government to strengthen the ecosystem for social enterprises.

3.6 Ecosystem challenges for Impact Funds

Impact investing is no doubt challenging especially when the industry is evolving and the markets are developing. Impact Funds today need to look beyond the conventional venture capital model and like the enterprises working on the ground figure out ways to discover, engage and support enterprises with the least amount of resources. There is a need for an ecosystem approach where in impact funds must collaborate with different stakeholders, partners, intermediaries, experts and other networks to engage with the social enterprise. There is also a greater need for impact funds and enterprises to interact on different platforms and engage with each other in the entrepreneurial journey so that the expectations are well aligned. Some of the key challenges that are barring the growth of the sector are delineated below.

A Talent

The Impact Funds need to have the right quality management and team to develop a sectoral focus and expertise as against having a very open investment focus. The narrow focus would help the Impact Funds to identify the opportunities quickly and leverage on its team's operating history to help the funded companies scale faster thereby enhancing their impact. An example of this is Omnivore Capital – its specific focus on agri-related investments helps in better understanding of the innovative idea, implementation of the funding and impact assessment. Having too open an investment criteria is could be less efficient and at times prevent the investments from reaping the full potential benefits from supporting the innovations.

B Improving quality of enterprises

Securing investment-worthy proposals from applicants is key challenges faced by Impact funds. There are a very few investment ready projects and enterprises which can absorb venture funding. A lot of the enterprises are not at the stage of maturity or traction where they can be attractive for Impact Funds. Quality of start-ups would improve only through conscious efforts by the Impact Funds industry which needs budget allocation for capacity building activities as a part of Funds' own expenses. Such a specific capacity building budget for ecosystem and mentoring on finer aspects of start-up managing would help build up the entire pipeline of investible enterprises.

C Attention getting concentrated with few successful models

This is a major problem with most IFs as the qualities of enterprises that they would like to fund are very few. On an average if an impact fund sees 100 companies they may end up investing in only 1 or 2 i.e. 1%-2%. At the same time there is no dearth of capital for good entrepreneurs with a good business case and in most cases end up getting most of the investor attention.

There is a need for sensitization of enterprises and investors to bridge the overall gap and ensure that capital is available to larger pool of enterprises.



Table 8		10 Studied Impact Fund Details			
Impact Fund	Launched in India	USP of Fund	Stage of Venture Support	Investment Range	
Aavishkar -1	2001	One of the first impact funds in India	Early - Mid Stage	Upto \$50,000-\$500,000	
Acumen	2001	Provide patient capital - long repayments and below market rates	Early Stage	\$300,000 to – \$2500000	
Elevar Equity	2006	Thesis based investing		\$10,00,000 to 20,00,000	
Ennovent Impact Investment Holding	2008	Early Stage Focussed, diverse management team	Early stage, enterprise in Prototype to Pilot	\$ 60,000– 80,000	
Grassroots Business Fund	2008	Capacity building fund	Late Stage (scale-up)	\$500,000 to 20,00,000	
India Angel Network	2006	Angel Consortium	Early stage	Up to\$ 1 mn	
Upaya Venture Fund	2008	Builds businesses to create jobs for Ultra poor	Early stage/seed funding	Below USD 100K	
Anavo				Below USD 300K	
Villgro	2001	Incubation based approach for early innovator focusing on non-financial support for grassroots innovators	Early stage	USD 50,000-60,000	
Rianta/Artha Platform	2010	Online community and website dedicated to building relationships between impact investors and donors, and social entrepreneurs and capacity building support organizations	Early-Mid stage		



	Funding Sources	Sectors of Investment	Type of support provided	Enterprise Supported
	Multiple organizations (http://www.aavishkaar.in/partners/investors/)	Agriculture and Dairy, Healthcare, Water and Sanitation, Technology for Development Education, Handicrafts, Energy, Microfinance/Financial Inclusion	On ground networks, understanding or rural markets	37
	Philanthropists, Development Agencies, HNIs	Health, Agri, Clean tech	Mentorship, Strategic guidance.	16
		Microfinance, Affordable housing	Low income housing finance, payment networks, micro/small/medium sized enterprise or small business finance, migrant services and rural healthcare	16
	Single LP, family foundation	Food, energy, water, health, education & other allied sectors	Mentoring via expert pool, Ennovent Circle, Startup Services	1
	Multiple organizations (http://www.gbfund.org/Supporters)	Livelihoods, Health, Agri	Business advisory services	6
	Multiple Individuals (http://www.indianangelnetwork.com/index.aspx)	Broad spectrum ranging from technology, retail to social impact	Mentoring & incubation	35+
	Jolkona Foundation & other Multiple channels (Individual, organizations)	Employability & livelihood	Mentoring support	3
	Single Limited Partner	Energy, healthcare, education, agriculture	Housing, Rural health, Skill	3
	Philanthropists, Development Agencies, HNIs	Agribusiness, Energy, Health, Education	Mentoring, talent, funding, marketing, networking	64 incubated
	Co-investment from members	No sectorial focus	Financial and mentoring	Nil



For enterprises:-

- Access to resources, mentors and experts to plug the gaps in their business plans, financials etc.
- Sensitization as to what investors are looking for and how to pitch to them. As well as to which investor one should approach and when.
- Attending specialized capacity building programs like Villgro, Ennovent Startup Services, DASRA etc to build capacity and work on existing gaps.
- Approach the right kind of investor for the right kind of capital- doing due diligence on the investors and understanding the investors' investment thesis and focus.

For Impact Funds

- More active collaboration actively mentoring companies and conducting workshops with enterprises.
- Valuing impact objectives in the due diligence and being more risk bearing.
- Sensitivity to the local conditions of the entrepreneurs and the degree of operational hazards they face.
- Active collaboration with other early stage financing institutions like incubators, accelerators and angel networks.
- Active collaboration with reputed educational institutions to design and launch professional development and graduate programs for current fund managers, for new entrants to the investor and intermediary segments of the sector.

D Co-investments & collaboration

Need to encourage more co-investments and collaboration between funds and other impact investors. Platforms like Ennovent Circle bring together international and national investors comprising of Angels, Impact Funds, Foundations & even Debt players like Banks etc. This kind of a model helps different types of investors with different investment focuses and risk profile to collaborate on potential investments, share knowledge, due diligence and co-invest to diversify the risk. This greatly helps to speed up investments, increase the volume of investments and reduce due-diligence and operational costs.

E New sources of capital

There is a need to work on improving the availability of capital, both equity and debt to enterprises especially for working capital. There is a need to open new sources of equity capital, promoting new venture funds, to look at tapping corporate funds, CSR programs, NRI (automatic route), insurance companies and other financial institutions. Besides equity there needs to be a greater variety in debt financing. However, debt requires collateral which many start-ups, especially the service industries, are not able to offer and hence access funds. Also working capital loan requirements are not being met hence there is an urgent need to make venture debt and credit guarantees more widely available by emulating SIDBI like schemes by the banking sector, early stage lending focused NBFCs, promotion of UNIDO The need is also to encourage family & corporate foundations to continue to innovate by making the strategic and cultural shifts necessary to devote a larger range of their assets to venture philanthropy and impact investing.

F Capacity building

The most ideal scenario for impact houses from an ecosystem perspective is promoting enterprises to the next level without any additional investment in building the capacity by offering complimentary services such as access to infrastructure, networks, customers and hands on capacity building and mentoring. This can be done on a practical level by creating a corpus of funds (i.e. grant funds) to have an accelerator program and have the management talent of impact funds participate as mentors and strategic advisors. The participating enterprises who go through the program get some grant capital in the beginning and after due course refine their plan and get to pitch to Impact Funds on graduation. This way the Impact Funds will be engaged in the capacity building from day 1 and will be able to make the enterprises more investible.

**Box 14****Ladder of capital**

The example of Husk Power illustrates the use of a “ladder of capital” that corresponds to the lifecycle needs of enterprises. An initial grant from the Shell Foundation provided seed funding for proof of- concept, business plan and strategy development, partial subsidy support for experienced senior managers, research and development, and technical assistance from experts, including Shell engineers and safety managers. These components enabled Husk Power to access commercial capital, allowing the latter to leverage the full benefits of the former, so that the organization could continue to refine its infrastructure and products. Additional investment came in a pre-Series A round with several impact investors (Acumen Fund, LGT Venture Philanthropy, Oasis Fund), and a subsequent investment by the International Finance Corporation. The Shell Foundation continued to provide a “smart subsidy,” after these investments, to strengthen the organization’s human resources training and capacity. Husk Power remains one of the few examples of this approach, where several investors successfully overlay and phase in grant, concessional and commercial capital at various stages.

Source: Rockefeller Accelerating Impact Report 2012.

G Impact measurement

There is a need to put together certain impact measurement frameworks which are consistent with the local conditions in India. Currently each Impact Fund uses their own impact assessment metric – some commonly agreed & understood metric need to be developed. While they are global metrics available like GIIRS etc. ,there is a need to bring about a more customized framework suiting the Indian conditions and local operating landscape. GIZ has recently initiated an effort in this direction.

H Collaboration with government schemes

There seems to be very little alignment between the government schemes and Impact Funds – with each working in isolation. There needs to be better synergy between the activities of the government and the impact funds. Traditionally the government sponsored schemes have come into play in the very early stages of the entrepreneur’s life cycle at the idea or the prototype stage. In the current scenario, the government schemes should involve Impact Fund management in the outreach and selection of quality applications. This approach would make the government schemes more popular amongst its target audience and also by selecting the right enterprises encourage Impact Funds to participate in further financing rounds. Over and above this would bring higher efficiency in delivery of services to innovators.

I Proactive policy support

As a first step, all arms of government (Ministries and other Regulators) should acknowledge the role of impact investing and recognize it as industry similar to what was done for the IT industry. Efforts should also be made to create private-public investment syndicates which involve government fund such as the National Innovation Council Fund, Development Agencies and Private Impact Funds. Government should also set up a Fund of Funds to seed early stage social enterprises on the lines of the National Innovation Council Fund. The government also needs to recognize impact investors, especially individual impact investors and offer suitable tax exemption and incentives to further encourage the early stage impact investing ecosystem.

Producer companies have a direct beneficiary impact on the low income people. There could be scope of exploring synergies where the government gets involved in streamlining the process for IFs to invest in producer companies as they offer a huge scope of funding.



Social enterprise, as argued by many, is a new generation organizational structure which blends profit making with larger social purpose. Therefore it demands for a new legal structure that would allow them to access grants from various forms of donors as well as partner with impact investor for finance.

J Exit scenario

The current exit scenario for impact investing is still evolving, the need is to have a more robust and well development market exchanges for IPO listing. For example the BSE-SME exchange is a step in the direction. Models on the lines of social exchanges in Europe and Singapore are interesting models to emulate and can provide early stage impact investors with relevant exits and SEBI can play an anchor role. On the policy side, MoF and CBDT could treat tax on capital gains on investments by Angel Groups or Impact Funds at par with capital gains on investments in listed companies or mutual funds.

3.7 Conclusion

Disadvantaged people with income below \$3,000 annually (or app. \$8 a day) in local PPP living in underserved markets - also called BoP - have limited access to basic goods and services and constraints to supply labor, products and services to markets. Innovative enterprises can mitigate some of these challenges. However one of the most critical barriers for enterprises to operationalize and subsequently scale is access to adequate and timely capital.

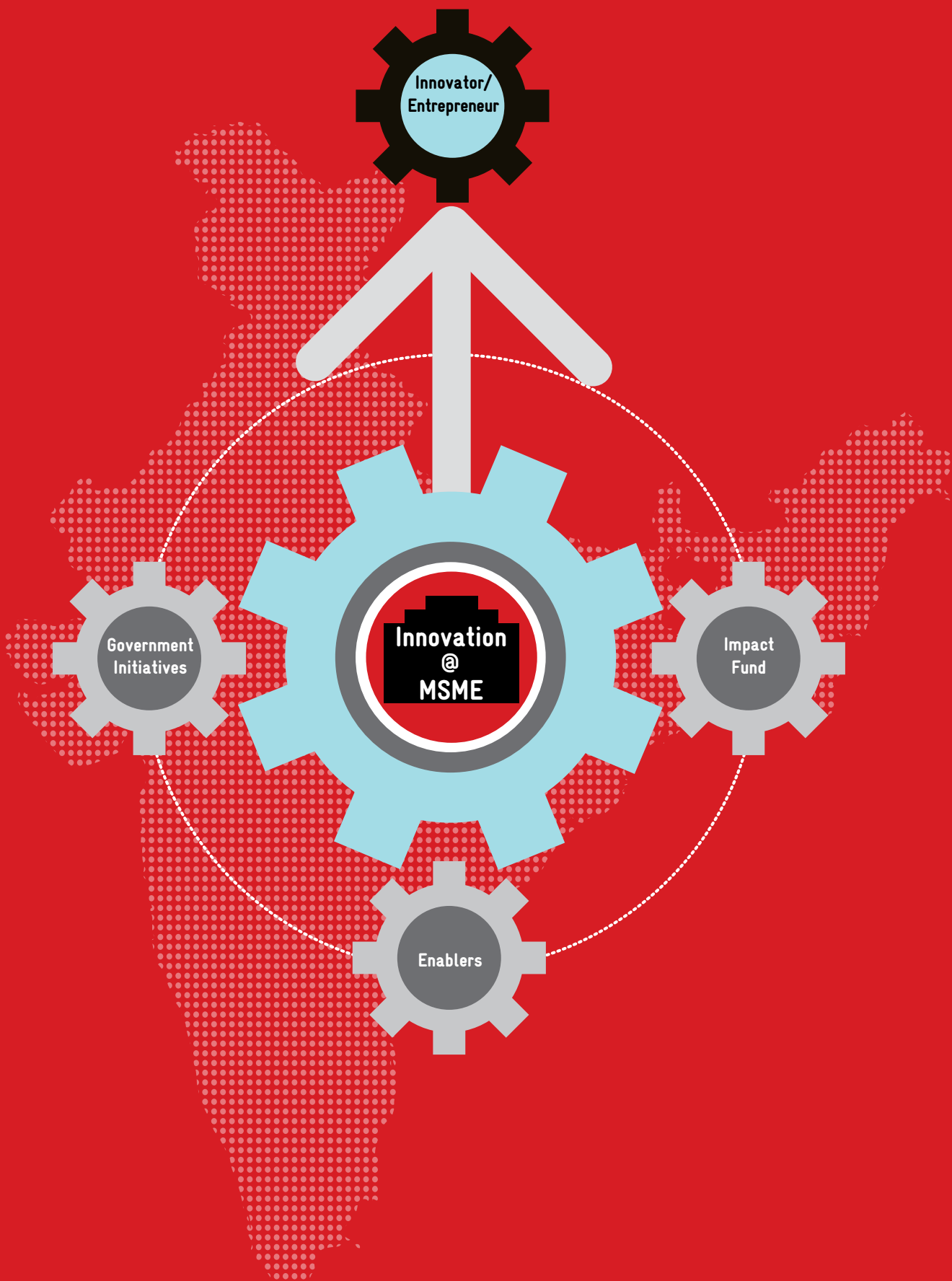
An increasing number of investors are interested in investing in businesses that not only yield a financial return, but also make a social impact. Impact investing is entering the mainstream and is emerging as an alternative asset class that channels large-scale private capital into addressing the world's most pressing social challenges. However, the reality is that this potential capital for social businesses is currently not being realized, as there seems to be a major disconnect, between the expectations and investment thesis of impact investors and the enterprises working in low income markets. This gap is more prevalent in the early stages of impact investing where there is usually an absence of a strong business case and a path to profitability. In addition to high perceived risks, there exist high due diligence costs, limited range of exit options, lack of standardized impact measurement and reporting, as well as a mismatch between investors' and social businesses' expectations.

What is needed is an efficient capital market with impact investors who understand the need and potential as well as the risk and complexity of social enterprises. A more collaborative approach is thus called upon with different stakeholders in the ecosystem from the government schemes, other investors such as angels, grant funders, incubators, accelerators, associations and networks. The collaboration scope has to go beyond just the sharing of opportunities to leveraging on the strengths of each other to identify, support and scale high potential social enterprises.



Footnotes

- 1 Planning commission estimates India needs to create 10-15 million additional jobs every year for decade 2010-2020
- 2 'Investing for social & environmental impact: A design for catalyzing an emerging industry', Monitor Institute (2009)
- 3 Venture capital (VC) is financial capital provided to early-stage, high-potential, high risk, growth start-up companies
- 4 'The Cambridge Economic History of India', Kumar, Dharma & Meghnad Desai, eds. Vol. 2 (1983)
- 5 Source - Planning Commission, 2006: pp. 4; Planning Commission, 2012: pp. 4
- 6 'Impact Investments – An emerging asset class', J.P. Morgan (2010)
- 7 'The six dynamics of impact investing', Centre for Advancement of Social Entrepreneurship, Oct 2012
- 8 RafiqDossani study
- 9 Investments upto \$10 million in early ventures are called early stage investments.
- 10 Creating a Vibrant Entrepreneurial Ecosystem in India, 2012, Planning Commission
- 11 Report: Enablers for Change - GIZ





4 Innovator

About the Chapter:

An attempt has been made to capture the challenges faced by innovators at different stages of the innovation life cycle which they undergo.

4.1 Introduction

Indian innovators are driving independent India towards fulfilling its endeavor of becoming a developed economy. The first generation of Indian innovators have already contributed remarkably to the Indian economy. Some of these include HCL, Cognizant, Infosys, Bharti, Naukri.com and others. However the potential of these innovators are yet to be fully harnessed. The ecosystem for the innovator in emerging India is still far from conducive for setting up startup business enterprise.

A startup enterprise with an innovative idea would need to establish its business by achieving business sustainability at different stages of operations. In each stage of the innovation life cycle, the enterprise faces business challenges which require resources and strategic solutions. And this entrepreneurial journey takes years to realize its mission.

Envirofit, a unique enterprise entered into the innovation lifecycle with an unique concept product, biomass cook stove, targeting to reach the BoP consumer households. Starting with the innovative concept, the enterprise has emerged as a large social enterprise. Case presented on the next page.

4.2 Challenges for innovators in India

To understand the challenges more closely, the study undertook interviews of some of the well-known entrepreneurs & innovators in India which gave the following insights at different stages of enterprise development.

A Challenges at ideation stage

→ Idea validation

The innovator has to first document his idea so that it can be shared with different stakeholders that matter in setting up of an enterprise. However the innovator needs to validate his idea introspectively as well as retrospectively. Most of the innovators interviewed agreed to the fact that they faced problem in validating their ideas and most of the times they themselves validated the idea on their instincts due to unavailability of any support institutions.

→ Mentorship

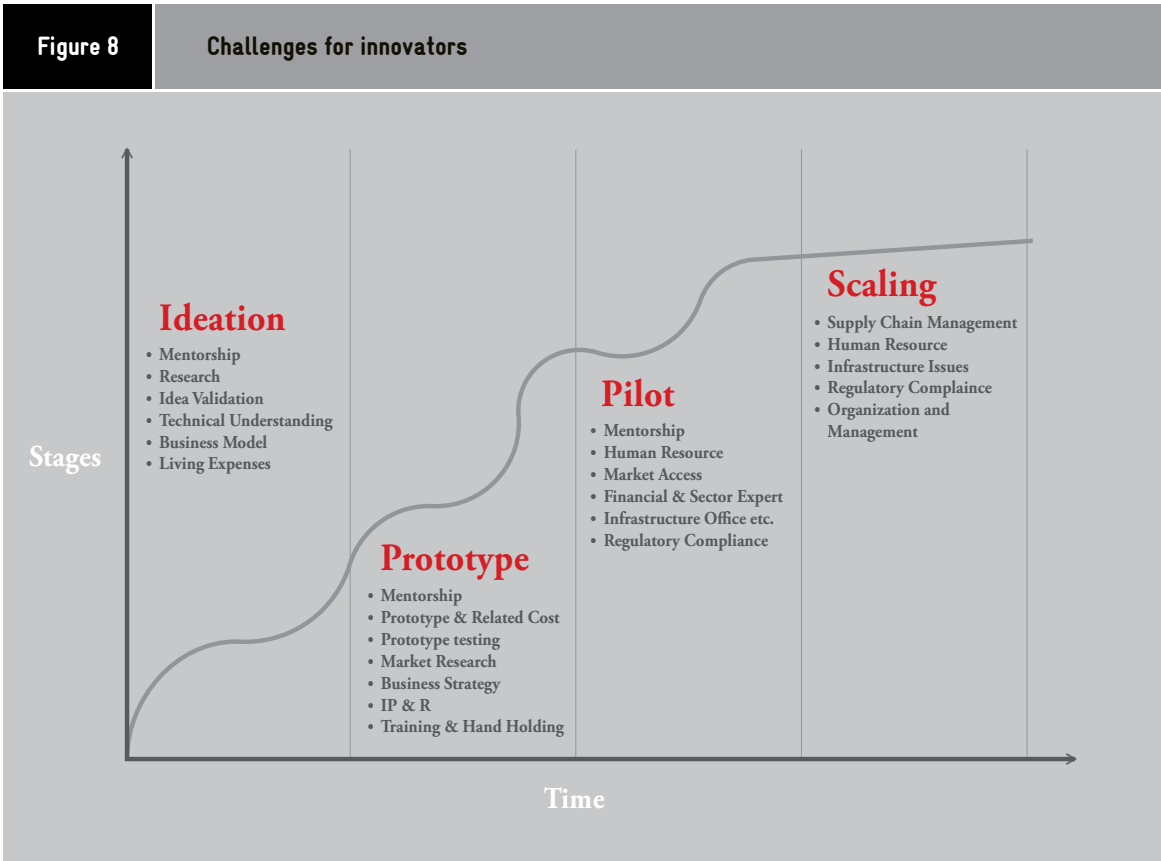
Although mentorship remains a major issue at all the stages, the biggest challenge for an innovator is at the ideation stage where they nurture their idea in a uncertain ecosystem. The entrepreneurs felt the need for mentorship as they felt the need for validation of their idea and product concept, as cited as a challenge by the



Box 15

Evolution of Envirofit – selling advanced cook stove to poor (supported by Shell Foundation)

2005	2006-2011	2008	2009	2010	2011
Ideation	Prototyping	Prototyping	Piloting	Piloting	Scaling
<ul style="list-style-type: none"> Assessment of government policies towards clean cook stoves and assess impact of government program in different states Developed the product idea for clean and healthy cooking experience through ethnography research and consumer insights. 	<ul style="list-style-type: none"> Created a dedicated team to work on this concept Developed consumer insights and passed on the same to technology team Product idea was to provide ease of use, faster cooking with almost no smoke Applied user centric research approach : Five Prototypes were tested in 120 households over 3 weeks in two targeted states. Feedback used to modify design features and finalize two products 	<ul style="list-style-type: none"> Business plan prepared for the product concept which included financial resources, production, marketing and human resources Additional financial resources allocated for brand A marketing strategy was designed for launching the concept product and a pilot was initiated Brand names were tested, communication materials were tested Strategic distribution network was set up to target different socio economic strata households. Subsequent to pilot launch, learning was used to refine field strategies. A commercial launch was initiated 40000 households purchased the 'Mangla Stove' 	<ul style="list-style-type: none"> Shell Foundation (SF) created a social enterprise - ENVIROFIT, to scale up the business A total of 400,000 units have been purchased by rural households ENVIROFIT added new range of products to drive energy efficiency & improve cooking environment further The success of SF cook stove model triggered global interest in advanced cook stoves/ clean cook stoves including USAID for promotion in poor and emerging countries. 		



innovators in ideation stage. In the long journey of transition from ideation to commercialization, mentorship for the entrepreneur is still missing in Indian scenario. Often most innovators never get an opportunity to give their ideas a physical shape of prototype in absence of guidance, motivation and support which is highly required at the ideation stage.

➔ **Business Advisory Services (BAS)**

For the innovators, the first step of carrying the idea from its raw form into a business plan is the most difficult part. The study has found that there is felt need for business advisory services for all startups. They are unable to design a business plan for the business idea which may entail, appropriate raw material procurement, production machinery and processes, financial access from banks/institutions, human resources and other legal /tax issues.

➔ **Societal resistance**

All successful innovations in India share some common features. All of them faced resistance from society; the opposition not only came from society but also from within their families. It is one of the unsaid realities that Indian society still does not give due respect to innovators. The mental trauma and family pressures one undergoes in order to pursue their dreams many times discourages development of the idea by an innovator at an early stage. This challenge is explained in box item (Box 15) on the next page.

B Challenges at pototype stage

➔ **Technical and design Support**

Only few of the persistent ones are able to arrive to the stage where they can shape their ideas into a tangible form with appropriate amount of technical and design support. The technical institutions which provide these services are very few in India and have poor reach to the grassroots level innovators who need the services the



most at this stage. In absence of appropriate advisory and support services from these institutions, the innovators are left to make arrangements on their own to design and create the physical form of product either by themselves or with the help of their local peer groups who may not have appropriate expertise in this subject area.

Box 16

Ekgaon

Mr. Vijay Pratap Singh is the CEO of Ekgaon, one of the leading company which provides ICT solutions in Rural India. Ekgaon was established in 2002 and the journey has never been easy for him. Mr. Vijay, like most of the other innovators, underwent the pains of the harsh ecosystem for innovator in India. Yet he persisted and faced the challenges boldly at each stage of his dream endeavour. Recalling his early days, he says the major challenge he faced was lack of business support services in the beginning to guide and facilitate him in designing his business model. Apart from that the insensitive attitude of government officials, and non-supportive policies towards new enterprises were other bottlenecks. The policies do not differentiate between an enterprise which is in its early phase and those which are well-established, which makes the early days more challenging. The laid back attitude of the bureaucracy, an irresponsible government system and the factor of public corruption makes it very discouraging for a newcomer to setup his own enterprise. The rejection of the idea by the Impact Fund investors and other financial institutions whom he approached for the funds left him extremely depressed.

→ **Prototype and related cost**

The next step to the process is the product prototype development which can be affected by financial constraints. Entrepreneurs need to develop prototypes which are functioning products and need to be tested with consumers. The early stage venture capital investment in India is only Rs 1200 Crores per annum, out of which 90% funds come from offshores investors rather than domestic investors. It can become a dead end for the innovators who require a sizeable investment in product research and development and cannot advance only with self financing capability.

→ **Business model**

An innovator may not be assumed to have skills and capability to seed and operationalize a business. The innovators often need professional help to design a business model for their product. They also need to develop and design a strategy for launching the product in the market. Often grass root innovators fail to move ahead in their business intent due to lack of proper guidance at this stage. They may also be affected by lack of financial resources required to access professional services to develop business model. The existing financing infrastructure and policies are poorly designed and complex for a startup entrepreneur to be able to access the system and gain access to financial assistance in time.

→ **Personal expenses**

Grassroots innovations have been the dream of the innovators which they have pursued against all odds. In order to fulfill their dreams most of the innovators left their jobs and devoted their time fully towards fulfilling their dreams. They were fortunate that they received support of their family in managing their day to day needs. But most of the innovators struggle in order to maintain balance between pursuing their ideas and meeting their monetary needs for their family. Either they can invest their money in furthering their innovation or meet their family expenses when they realise that the financing systems do not support the business idea or are not willing to finance a startup. Often most innovators choose family over personal dreams.



C Challenges in pilot testing

→ Market research

The product concept developed by any innovator needs to be tested in the market for acceptance, consumer demand and marketability. It is therefore important that the product /services be pilot tested to gain market insights on how the customer will respond to the product. These insights are important to further modify and improve the features of the product. Unfortunately, except for the large sized companies, most of the individual innovators have neither the technical know-how to assess the market nor are they able to hire the services of a professional organization. One of the key reasons for failure is the absence of pilot testing which can provide feedback on the product/service, help identify consumer segments/niche markets and test the price points. Often innovators are over enthused by their own ideas and completely ignore the fact that their ultimate goal is to satisfy the consumer needs.

→ Finance

Success of developing an appropriate product does not necessarily clear the path for the next stages of establishing the business. Finance remains a obstacle for the innovator in the business endeavor. The Indian financial institutions are oriented to offer secured finance which is a challenge for a startup. The challenge is further aggravated for an innovator wanting to establish a service sector MSME because of lack of tangible assets available in this form of business. So it's more difficult to convince the financial institutions which are not much flexible to provide financial support to these innovators. In the private realm, in 2011 the Angel investors of India made only about Rs 100 Crores investments in around 50 deals. Whereas only Rs 400 Crores were invested in the Impact Funds which targets to promote social ventures by the Impact Fund investors.¹

→ IPR (Intellectual Property Rights) issues

Indian grassroots inventions offer solutions to the needs of the bottom of the pyramid consumers across the globe. But sadly most of these ideas and their innovators operate in a small geographical area and are not noticed by the global business community due to lack of reach and platforms to share. These startups can be transformed into larger business entities reaching out to BoP consumers across the globe. They can be supported to gain intellectual property rights which protects their innovation. The innovators who offer low cost but appropriate solutions have promise to become global players offering quality and cost effective products and services.

The Indian pharmaceutical innovators have been suffering from the lack of appropriate intellectual property rights in the country. Unfortunately, the government system to register IPR is very slow and there is an urgent need to build institutions which can quickly identify and help these innovators in patenting their ideas and promote them to build their enterprises.²

Box 17

ERC - Eye Care Center

Dr. Parveez Udeb started ERC – Eye Care Center in June 2011 and in short period had established a functioning business unit. Surprisingly even after being a viable eyecare model, none of the Impact Fund investors were ready to invest in this model. Hence Dr. Parveez invested in his model on his own and till today at the pilot stage the funds are being generated from ERC's own profits. Even after the model won many of the well-known awards and accreditations till today, they have not been able to convince the Impact Fund investors to invest in their project. The major reason being their location of operation which is North East India. In addition, the government process is long and cumbersome making it difficult to understand procedures. One of the major obstacle is to match the eligibility criteria for financial institutions to make investments. Often several procedures are cleared by government bureaucrats, making the process slow and self defeating.



→ **Training and hand holding**

Innovators as a special breed of intellect are becoming more professional day by day. They require special type of knowledge which must be passed on to them via various academic programmes or courses. There are not many innovator or entrepreneur centric programmes to promote the youth of India who are willing to startup their enterprises. Apart from that, there is no support from the established business enterprises for the new innovators to help, motivate and link them in order to make a more sustainable business ecosystem.

D Challenges in Scale up

→ **Human resources**

In order to scale up the startup business, one of the challenge that the innovators face is the lack of appropriate human resources. These might be for several reasons; Firstly, there might be lack of funds to hire appropriately skilled manpower for scaling up operations, secondly there might be lack of human resources available in the operational area and thirdly and most importantly retaining skilled manpower in these enterprises. High investments in manpower in order to retain them, leads to limited expansion and growth of the enterprise.

Box 18

Eko India Financial Services Pvt Ltd

Eko was established in the year 2007. It provides low cost infrastructure powered by innovation and technology to enable instant, secure and convenient financial transactions. After being funded by CGAP and Bill & Melinda Gates foundation at the ideation stage they are facing the challenges at the scale up and expansion stage for their business model. The lack of efficient human resource and poor retention rate, internal operations management and external opportunity management are some of the major challenges cited by them as the barriers to their scale up. Shortage of funds is always a challenge since the mechanism is very complex and time consuming. These types of challenges are common among all the innovators looking to scale up their business which are not being addressed by any of the stakeholders engaged in the ecosystem.

→ **Infrastructure issues**

Globally, India stands at 182 in the ranking of 185 economies in the ease of dealing with construction permits.³ This itself explains the status of infrastructural complexities which are being faced by innovators who are looking forward to establish and scale up their operations. Furthermore rising real estate prices and difficulty in certification for commercial electricity supply, water and other basic supplies requirements makes the situation worse for the startup enterprise.

→ **Regulatory compliance**

Most of the innovators agree to the fact that government rules and regulation makes it very difficult for a new innovator to startup their enterprises since its procedures are so complex that it's really difficult for one to understand and follow them on their own. In the interactions with innovators, one of the problem cited was that, the government laws treats the new enterprises in the same way as an established enterprise which makes it difficult for them to operate.

→ **Organization and management**

Innovators are required to specialize in different fields, and were aware of their limited management and organizational skills. These factors became barriers as they faced difficulty in planning and executing and



expansion of their enterprises. It was found that the complexities to handle a small business is lesser compared to growing the business and managing the operations all alone.

While the challenges faced by innovators are many, the most critical ones that the ecosystem needs to strengthen further are - access to fund, flexibility in operation, availability of series of mentors and mentoring organization, affordable techno-managerial support services for critical requirements and access to information.

Footnotes

- 1 http://planningcommission.nic.in/reports/genrep/rep_eco2708.pdf
- 2 <http://www.sristi.org/hbnew/index.php>
- 3 <http://www.doingbusiness.org/-/media/giawb/doing%20business/documents/profiles/country/IND.pdf>



RECOMMENDATIONS





5 Recommendations

About the Chapter

The chapter, based on the analysis of schemes and impact funds, provides recommendations for creating a robust innovation ecosystem. The roadmap has been given at three levels; creating an inclusive innovation paradigm, strengthening government schemes and impact funds and building the innovation ecosystem.

5.1 Introduction: towards scalable innovations for social impact

The study dealt with various government schemes, impact funds and also involved interactions with many thought leaders and sector experts working towards fostering the government's efforts towards creating a new innovation paradigm. The efforts thus far have been primarily focused on technology enhancements for MSMEs'. However, Indian enterprises and MSMEs in particular, lag behind in building their innovative capabilities with production undertaken using outdated and high cost technologies/machineries. Technology upgradation for MSMEs is being addressed through various government innovation and other schemes, albeit implementation on the ground is still found to be wanting. Moreover, majority of the schemes primarily focus on the manufacturing industry ignoring the service industry.

The government schemes studied are focused on fostering innovations. However, they do not directly focus on the issue of sustainability and scalability. The creation of a vibrant innovation ecosystem including the schemes for making a social, sustainable and scalable impact is still at an incipient stage. Potential benefits to the BoP segment and impact on employment, if any, are not a direct focus area. Indeed, 'The Decade of Innovation' needs to bring about this focus and channelise funds to create the desired impact.

In the introductory chapter, there was emphasis on the need for innovations by the Indian MSMEs which are increasingly facing global competition. The Indian government is aware of this impending need and accordingly has been launching various innovation promotion policies. India is an emerging economy that has performed impressively in the services sector (including outsourcing). However, the manufacturing sector appears to be stagnant despite major policy focus. In addition to the focus on MSMEs, innovative initiatives are required to create social and economic equity resulting in poverty alleviation. Innovative solutions should ideally be enablers for reducing the economic disparity among different sections of the society through creation of inclusive and sustainable business models. Interventions like HUL's 'Project Shakti' and ITC's e-Choupal have become global examples of 'market driven' and 'inclusive prosperity models' and similar models are being piloted by several corporate organisations. There is a need for an ecosystem that could strengthen social impact and also include the MSME sector. There are important synergies that can be realised by following this two pronged approach.

Innovations consume large resources and thus, it is necessary for them to be adopted at a scale to make them economically viable. While the Indian innovation paradigm may not be technology intensive or very costly as in the western context, it needs to create social impact and should be scalable.

Therefore, in tune with business imperative and government intent, the study suggests taking this momentum of inclusivity forward by proposing a new ecosystem which would encompass and target the new age social

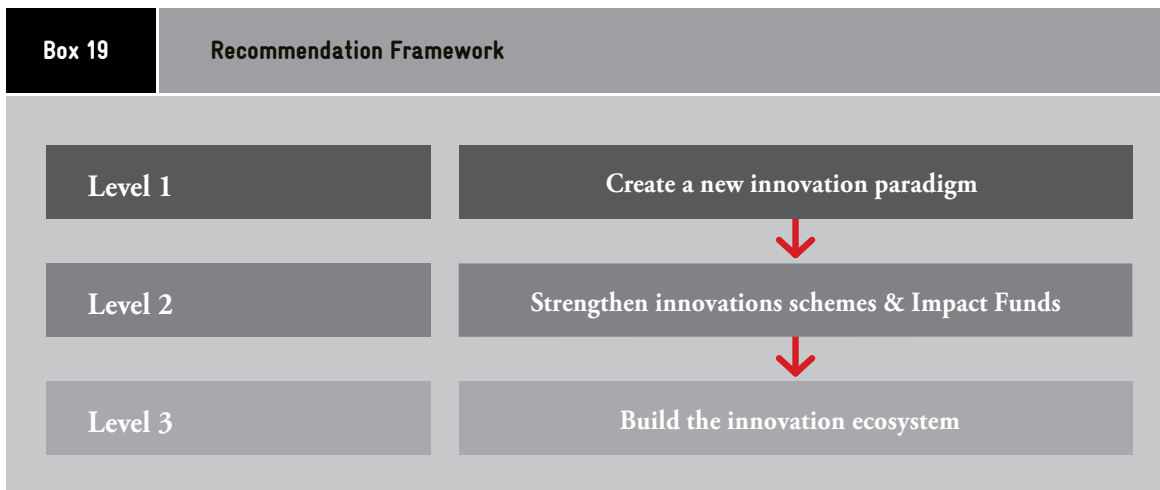


enterprises, NGOs, MSMEs and clusters, impact investors and corporates (with their CSR budgets) as points of intervention to bring about innovations that have the potential of bringing transformative effect to the economy. This would also contribute to the achievement of the 12th FYP vision of ‘sustained and inclusive growth’.

The MSMEs and in particular social enterprises are emerging as important drivers given their importance in employment generation and creating social impact. MSME clusters have already taken shape due to government efforts in this initiative. The ecosystem must facilitate the interaction between policy makers, innovators, funders and implementers to act in a cohesive manner to achieve the social objectives.

5.2 Creating a new innovation ecosystem

Achieving the objectives of the decade of innovation requires new thinking. The recommendations envisage interventions at three levels.



Level 1: Create a New Innovation Paradigm

Innovation with inclusivity is based on a new paradigmatic approach which is very different from the earlier philosophy of promoting innovation. For innovation to be truly scalable and inclusive there is a need for changed innovation mind sets. The need of the hour is to graduate from thinking incrementally of ‘products adaptations’ to radical approach of ‘solutions creation’. As a management strategy, this would imply doing away with the existing practice of conducting minor adjustments to the expensive western products by reducing product features and offer cheaper ‘desi’ (local)-version of lesser quality to move to a new approach of thinking in terms of co-created solutions with consumers and sustainable business models.

Based on survey and the study of various government schemes, Impact Funds and inputs received from the entrepreneurs and thought leaders, the following guiding principles have emerged for creation of this new innovation eco-system:

A Technology for masses

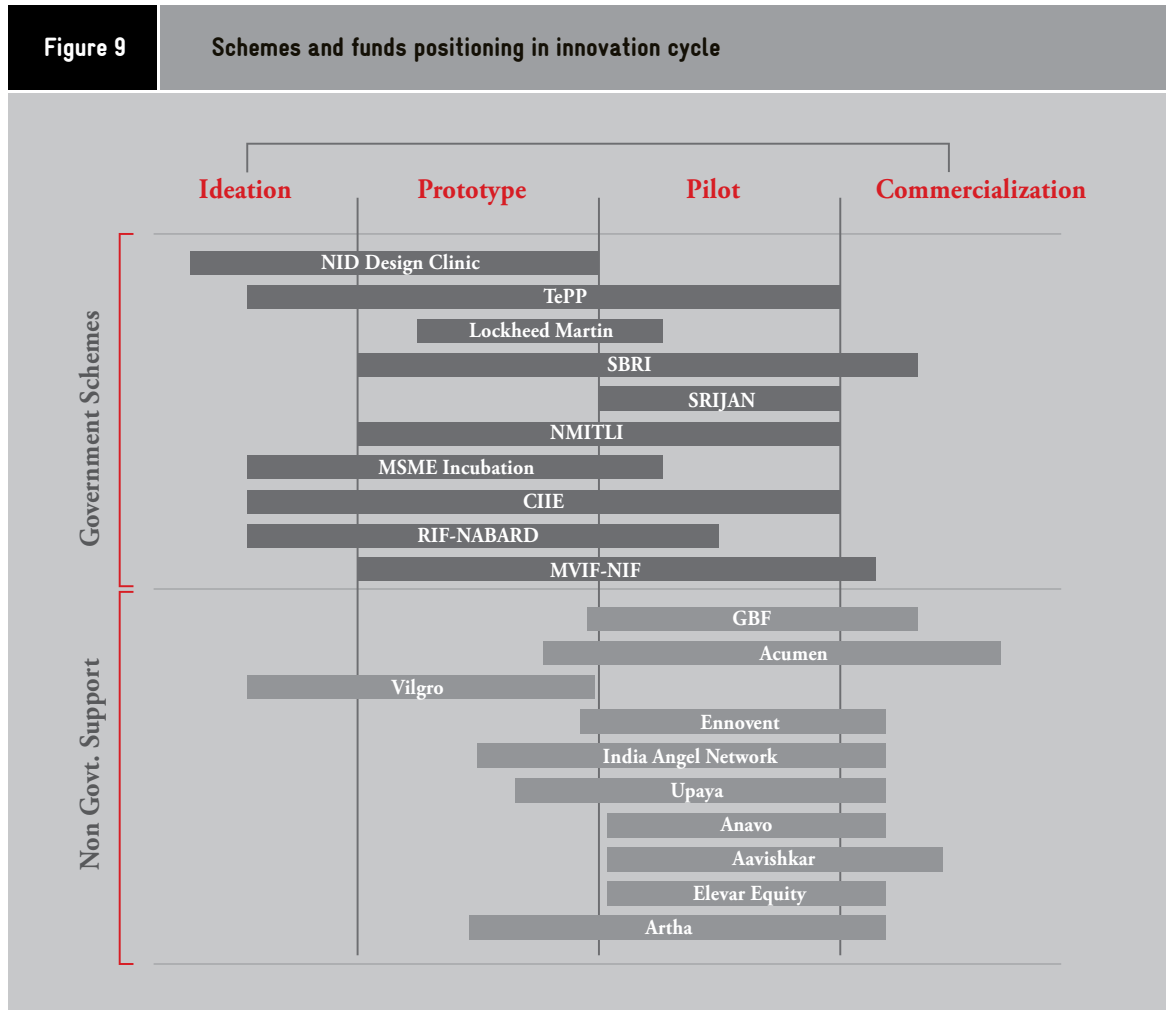
Product innovations through new technological development are not an end in itself and without the support of other players in the eco-system it cannot yield the desired scale and social impact. Economies of scale can only set in when products are developed for masses and not niche segments. The product/solution needs to be relevant to the operating context and elegantly simple consuming lesser resources but delivering more output. The new innovation paradigm requires a different mindset and approach which addresses the objectives of affordability and reach, concerns which need to be addressed in the product design (prototype) stage itself.



B The innovation model- the ecosystem approach

The innovation model needs to ensure it has a holistic focus of all 4 stages of the innovation cycle – from ideation to scale-up to be effective. The current system does not take every aspect of the innovation cycle into consideration and resultantly the gaps have emerged. The diagram below captures the stage that the government schemes and Impact Funds straddle across the cycle.

The different stages require different interventions and support, which are captured below:



Ideation

The findings of our study reveal that there has been a focus on this first step of the innovation process by most of the government schemes. However, there are many gaps in the process of idea sourcing itself as well as the quality of “innovative ideas” that have the potential to be implementable on the ground. Greater efforts are required to increase awareness of the existing schemes. Further, in the new paradigm, the innovative ideas need to address the issues of sustainability & scalability along with addressing the BoP segment. Hence, the ideation pool needs to be both expanded and directed towards the new paradigm. Some of the existing government schemes may need to be revised towards this end and new ones may need to be created to foster socially sustainable ideas.

The ecosystem approach implies that this may not be possible without the explicit support from the academia and technical institutes. While the government schemes primarily address the funding requirements, there is support



required to improve the quality of ideas which are generated. This can be partially addressed by ensuring more focus on courses and seminars on entrepreneurship and innovation that address the objectives laid out by NInC.

While the beneficiaries of the interventions envisaged are primarily MSMEs and individuals, it is important not to lose sight of the organised corporate sector. Corporate sector has the advantage of better skill sets, processes and accountability. Some of the initiatives to generate sustainable ideas, incubate and scale them, may have a higher chance of success with the corporate sector involvement.

Thus, the suggestion is two-fold:

- 1 Assist in creating a larger idea pool
- 2 Develop schemes that foster the socially sustainable pool

The government schemes need to work hard to create awareness and improve its reach through different channels including the web. It could look at online form submissions of proposals ensuring that the minimum information requirements are collected at the initial stage, without which the form is not accepted.

Another learning from this study is that the schemes should initially restrict funding and support for innovation initiatives to certain sectors. Focus should be on sectors where the need of the hour is high and the impact may be at a large scale. Issues pertaining to potable water, sanitation, education, hygiene, health (including malnutrition) and diseases still need to be addressed in the country. These could be the phase I focus of the solutions and should be given priority by the government schemes.

While some existing schemes can be focused more on innovation ideas that have a social, inclusive and sustainable impact, there appears to be a need to add new schemes which will specifically address these areas. The existing government schemes, predominantly at the ideation stage are yet to make a big impact in the space of innovation that is sustainable and scalable. Also, it is difficult to perceive that the existing schemes will be adequate to meet all the requirements for fostering innovation. Schemes with sectoral focus – information technology, bio-technology etc. are required to foster innovation in the country. Similarly, schemes which will make the MSME sector more productive and efficient are the need of the hour. However, sustainability and scalability objectives benefitting the bottom of the pyramid segment may not be a direct outcome of such schemes' interventions. Hence, clear policy guidelines for some existing schemes and creation of some new schemes would be required to push for sustainable innovation. The policy framework should be inclusive to include both the corporate and the social sector enterprises.

At the ideation stage, the commercial and technical viability, sustainability and scalability objectives should be vetted. This, in turn, would require a team of varied skill sets from scientists to financial personnel, and potential investors, to ensure that ideas that make the cut should hopefully not face blockages down the value chain. A certification as to this effect should aid the innovator to move up the value chain with support coming from the eco-system at the required milestones.

Prototype stage

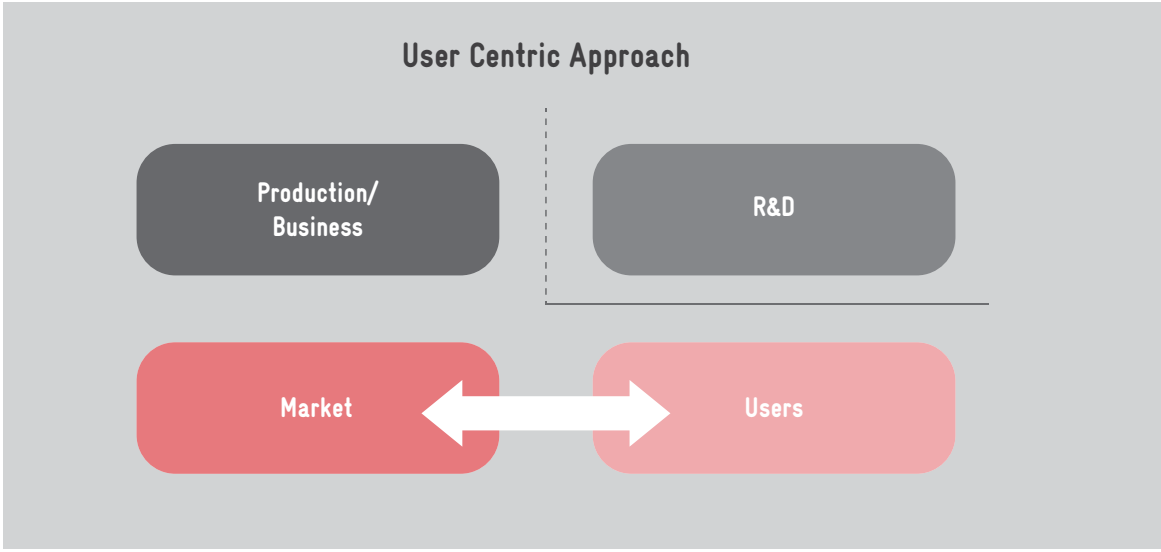
This stage is primarily focused on the design creation and bringing the innovation idea live on the ground. Once the prototype is created, effort may be made to file for patents. There is greater clarity to costs and commercials at this stage. To create a new social innovation paradigm, it is imperative to understand consumer needs and community requirements. Therefore, focus on final users of products & services carry paramount importance. Research and development activities should move from 'laboratory centric approach' to more 'user centric approach'. Interaction with final users of technologies, can redefine the innovation in the country.

Focus should shift from creating innovative product prototypes to building a commercially viable business model. Therefore, a mentoring mechanism to accelerate this process should be put in place.

Besides technical advisory and incubation assistance, funding is also required for creating the prototype.



Figure 10 User Centric Approach



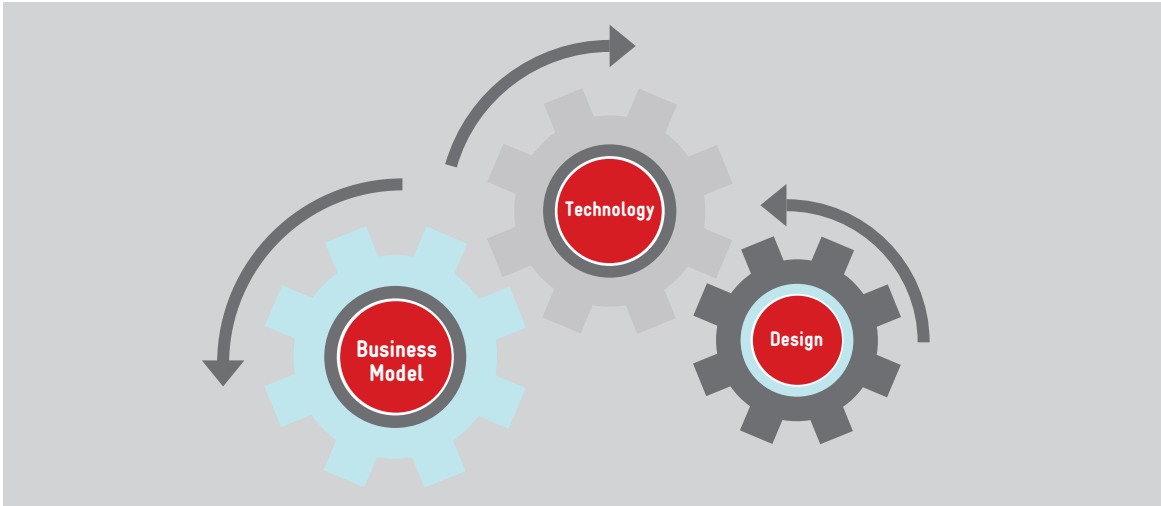
Pilot stage:

This stage is important to bring innovation live on the ground. The success of this stage would result in investors putting funds in the project. At this stage it is important to create awareness of the potential impact of the innovation as well as its commercial viability.

It is important to get an understanding of the market and needs of the community as well as the processes and systems that need to be in place to ensure the long term viability of the eco-system. Thus, availability of professional services and access to these services by innovators need attention.

Innopreneurs need to take a holistic approach while introducing their products in the market. The affordability of the same in the mass markets and its acceptance among low income segments would require the right design. Further the success of the model would depend on how the new products and services are made available to the end users. The need for right business model therefore becomes paramount.

Figure 11 Factors of viable innovation





Scalable Implementation

It is important to delineate the roles of the inventor and the implementer on successful launch of the pilot. Since the new innovation paradigm requires scalable and socially beneficial solutions for the underserved, the implementation paradigm too has changed and may involve multiple players.

As mentioned earlier, implementers are expected to be many and separate from the innovators, given the scale that is envisaged. The MSMEs & social enterprises are expected to play an important role. Innovation is desirable for its leveraging prowess. For it to be inclusive, it is necessary to introduce innovations at an appropriate level for implementation, to ensure scalability that would create the required economic and social impact. Social enterprises have an immense potential to create scalable business models as they deal with the commonly occurring societal problems. Also, the cluster platform created by the Ministry of MSME¹ appears to be an effective point for intervention for implementing innovative solutions for faster dissemination.

Corporates and government bodies too, can play an important role in an organised manner. They have the reach and the resources to create a large scale impact. What approach to use and which model to follow to create a sustainable impact on a large scale depends on the footprint of different organisations operating at the state and national level. Different states have MSMEs, social enterprises, NGOs and implementing agencies at different stages of development. Hence, a multi-pronged approach may need to be followed.

C The different players in the innovation eco-system

The eco-system requires the enhancement of players and different service providers. Different players will offer services at different stages of the innovation cycle depending on their competencies and skill sets. They may need to come together with complementary skill sets to arrive at a solution in the different phases of the innovation cycle.

The key players envisaged are:

MSMEs and the social enterprises: Envisaged to be the innovators and the beneficiaries of government and social impact funds fostering innovation; the intervention is directly at the enterprise or the cluster level.

The segment is also envisaged to be an important implementer of the innovative solution and would have an important part to play in its scale up.

Scientists and R&D institutes: They are core to developing the innovation paradigm. They have an important role to play in fostering the innovation skill sets through courses and seminars, selection of ideas that are technically viable, facilitate incubation of ideas and development of prototypes etc. They are an integral part of most government schemes and hence have an important role to play in funding decisions.

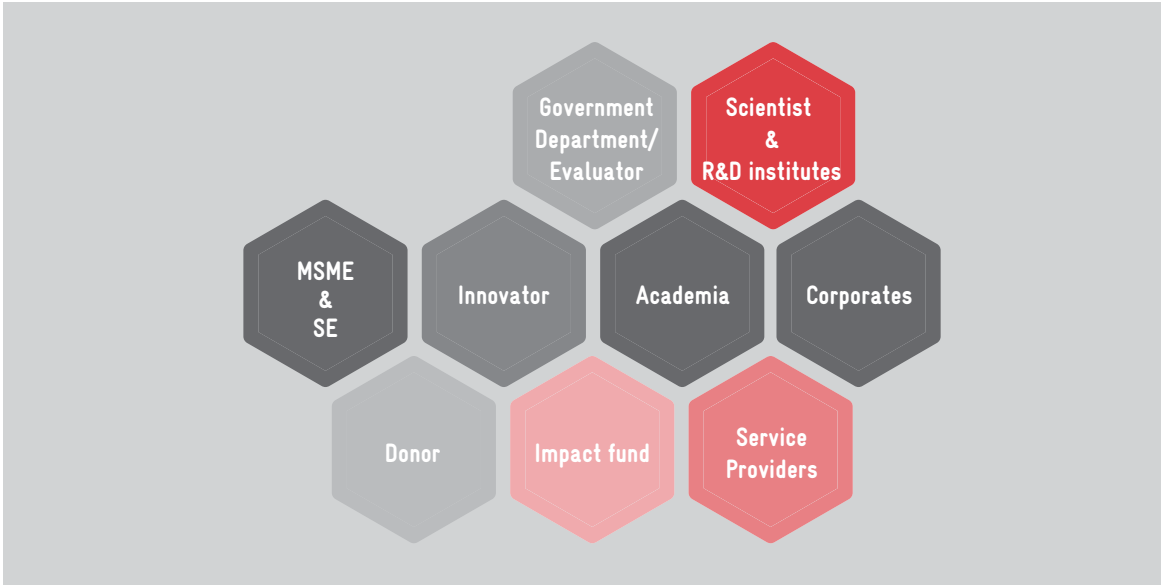
Government innovation funds: They are responsible for providing the boost and taking high risk for providing the seed capital through different financing structures to innovators. They have an important role to play by giving direction to the sustainable innovation paradigm that is envisaged.

Marketing, financial and administrative skill sets: These are specialised functions required to support the scientists in vetting the feasibility of an innovative solution in terms of commercials and market viability, as well as assist in business plan creation and support for implementing the innovation and its scaling. They would also have an important role to play in terms of project monitoring and helping the innovator transit from one stage of the cycle to the next as well as marketing the idea and assistance in raising of funds.

Corporates: Have an important role to play along the whole value chain. They have the bandwidth to come up with sustainable innovative solutions, invest in the requisite R&D, and go to market. They could also be brought in to invest in implementation of sustainable innovation solutions and funds.



Figure 12 Stakeholders in innovation ecosystems



Impact Funds: Have the potential to vet the commercial feasibility of an idea and invest in the same at a later stage, primarily from pilot to scale up.

Academia: The emerging need of promoting innopreneurs to a greater deal would depend on the creating a proactive education system. Setting up of a system for incubating inclusive business ideas, offering fellowships to first generation innovators, running contemporary courses on BoP business models and immersion programs in low income communities etc. can be addressed by academia.

Donors: Ecosystem to evolve properly would require strengthening of incubation process, access to specialised services, establishing management practices for innovation promotion, introduction of tools and methods etc. that would ensure growth of inclusive approaches. Donors should invest their resources in building such capabilities.

Service Providers : With an entry into an era of creating business solutions for low income communities at very low costs, there would be a need for access to specialised knowledge. The innovator would seek knowledge during his/her journey beginning from idea to the growth stage. Services like BoP market understanding, user centric research, high end R&D, business plan designing for expanding to new markets, designing growth strategies etc. are crucial. Encouraging service providers who offer these special services to grow would be vital in making the ecosystem robust.

As seen in the lay of schemes, fund providers are not straddling all the phases of the innovation cycle. The government schemes are predominant in the early stages of the cycle. Similarly, the Impact Funds come into play at the later stages of the cycle. Hence, an ecosystem approach should facilitate the availability of funding and non-funding support at the different stages of the scheme. The ecosystem envisages adequate number of players facilitating a plug and play approach depending on the requirements of the phase of the innovation cycle and the players. The players include innovators, academia and the technical institutions, implementers, fund providers, policy makers and regulators – not in any particular sequential order. Different players will come to the fore at different points of time depending on the needs of the innovator.

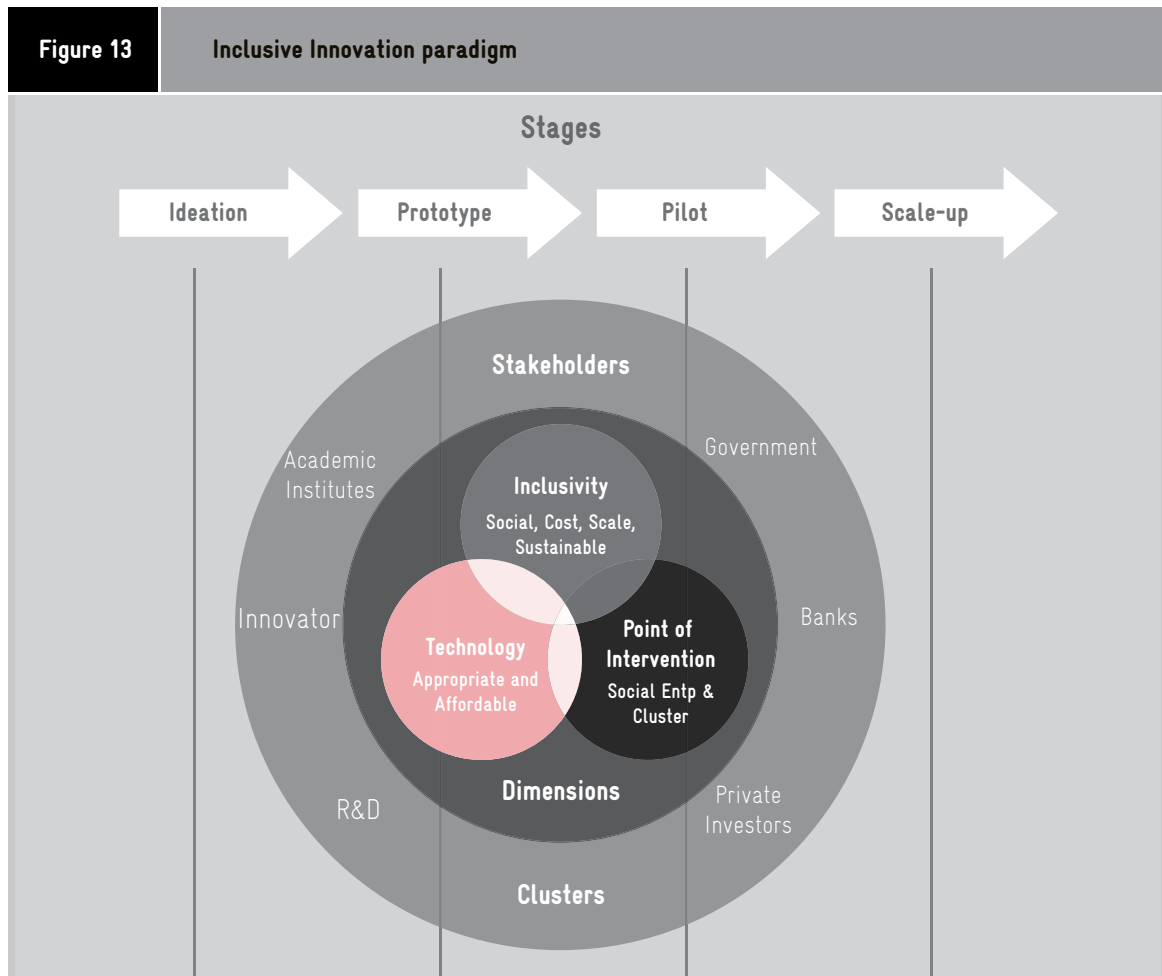
The current challenge is the lack of enough players for creating the envisaged ecosystem and to create the required traction. This is particularly important in the context of the new social innovation paradigm which



needs to create solutions to reach and scale to benefit the BoP. This is not being addressed in any cohesive manner under the current system. As the ecosystem scales up and the number of players increase, it would be important to streamline the efforts of different players to make them more productive and preclude duplication of efforts to the extent possible. Currently, there are areas which have various service providers coupled with other areas where there are huge gaps.

Each element of the ecosystem has its unique strengths and practices which should be pollinated to the other.

The framework for establishing a robust ecosystem which captures the elements of the new paradigm is represented in the following diagram.



The following section, based on the study of government schemes and impact funds, captures specific recommendations that would result in better delivery and create the desired impact.

A Level 2: Strengthen Innovation Schemes & Impact Funds

Government schemes

While there is much scope to increase coverage in terms of the number of enterprises supported, the government schemes have become standardised sources of funding innovations and widely recognised platforms for scouting new ideas. The policy and funding support by the State has not only fostered the innovation movement through direct intervention but their approval of innovations has become an industry standard/certificate accepted by formal financial institutions like banks, VCs and other enterprise funding agencies. There still exists a further



potential for the government schemes to be the true champions of the innovation revolution being aspired for India in the decade of 2010-20. At the design level, government schemes were mostly found to be available in the first two of the four innovation phases - while schemes in the ideation phase have matured in terms of their delivery format and access by the innovators, schemes targeting the prototype stage are relatively few and less effective in their performance. A detailed bottlenecks faced in the effective implementation of government schemes is understood by this study. This study conducted a gap analysis and has come up with recommendations for resolving issues arising in various schemes. Study has followed this up with more widespread recommendations to create an enabling ecosystem and environment for enhancing the effectiveness of government schemes.

Recommendations are an outcome of studying the 10 government schemes, interviewing their management about the various aspects of running the schemes, interviewing some entrepreneurs who have availed the schemes and speaking to industry experts. The key issues and gaps, and the recommendations to address them are as follows:

Building efficiency of government schemes

Table 9		Schemes-issues, problems & recommendations	
Scheme Issue	What is the Problem	Recommendations	
<p>Idea generation, funding related & evaluation</p> <ul style="list-style-type: none"> • Most government funds lie in the initial 2 phases of the innovation cycle, with focus primarily on funding. • Limited funding till ideation—no fund for further stages • Limited focus on rural, small towns and backwards areas • Less allocation for non-financial support • No ecosystem approach to make transition between phases seamless • Bureaucratic delays in most cases in evaluation and fund disbursal 	<ul style="list-style-type: none"> • Scheme performance indicator is only fund disbursement and not incubated enterprise's health. • Funding is rigid in terms of permissible expenditure heads constraining entrepreneurs operational bandwidth. • Limited funds for non-financial support activities like marketing, branding etc. • When the innovator transits from one phase to the other has to again start the process for seeking funds and the proposal is treated as a new one by the appraiser. • In a long admin chain, decisions for approval and funds disbursement happen late losing crucial time critical for innovations. Delays in funding can lead to project delays/ hardship 	<ul style="list-style-type: none"> • Leverage the existing government networks like DICs as first layer of assessment. While funding approval to be done centrally, assessment of progress for funds release can be done regionally for faster processing. • Online submission of proposals and tracking of status by applicants. • Direct money remittance to entrepreneur to take prompt and informed decisions (this is being done by only few schemes like TePP). • Partnership with other agencies which have similar mandate but operate in different innovation phase. • Increase funding & idea pool by getting corporates involved in the sustainable innovation process as part of the CSR. 	



Scheme Issue	What is the Problem	Recommendations
<p>Product & sector offering related</p> <ul style="list-style-type: none"> • Sectoral focus missing in most schemes; even the existing focus may not be in line with the sustainability and inclusivity objectives of the NInC 	<ul style="list-style-type: none"> • With focus missing, priorities not getting build in terms of potential impact and hierarchy of objectives. 	<ul style="list-style-type: none"> • Specific sectors such as education, health, sanitation & hygiene, potable water etc. need to be identified and focused on for achieving the defined objectives. Policy changes may be required towards this end.
<p>Support services related</p> <ul style="list-style-type: none"> • Limited guidance for enterprise management • Market research, marketing and branding – left to entrepreneurs completely 	<ul style="list-style-type: none"> • The more critical input of providing operational guidance of running enterprise through mentoring and handholding of start-ups conspicuously missing leading to high rates of enterprise mortality. 	<ul style="list-style-type: none"> • Create a national network of mentors with clearly framed incentives for participation by experts. Tie-ups with the private entities offering specialised services like market research and branding strategies.
<p>HR related – skill sets</p> <ul style="list-style-type: none"> • Mostly managed by scientists even on financial matters • Sectoral expertise missing for high end technology assessment • Support staff overstretched and need relevant project management training 	<ul style="list-style-type: none"> • Due diligence of proposals weak on financial parameters – leading to unrealistic cash flow assessment • The management team responsible for schemes are under stress, leading to poor monitoring and evaluation. 	<ul style="list-style-type: none"> • Due diligence by experts with relevant technical and financial knowledge would lead to better selection and monitoring. Project monitoring team should be put in place. • Experts can also help enterprises in managing better. Scientists should not be involved in admin function, including fund disbursal.
<p>Proposals related</p> <ul style="list-style-type: none"> • Sourcing truly innovative and inclusive proposals expensive and time consuming • Assessing proposals difficult due to information asymmetry 	<ul style="list-style-type: none"> • Schemes find it difficult to access the real bottom-up ideas which would have transformative impact. • Not enough implementable ideas are generated. 	<ul style="list-style-type: none"> • Collaboration among various Idea generation platforms and cost effective ways of dissemination information and awareness like road shows can be tried than simple advertisement in newspapers. • Standardized templates for filling forms and assessment parameters Some existing schemes need to focus on the specific innovations that have an impact on BoP/ underserved area. New schemes may be required to be created to this end. Policy changes may be required to bring focus.



Scheme Issue	What is the Problem	Recommendations
<p>Monitoring Mechanism</p> <ul style="list-style-type: none"> • Centralized and bureaucratic • Project Management skills missing 	<ul style="list-style-type: none"> • There is no robust monitoring mechanism in place. There are no key matrices to evaluate the success of the innovation. 	<ul style="list-style-type: none"> • All schemes require project management and monitoring teams to be set up. These teams may comprise finance/ administrative personnel.
<p>Implementation Related</p> <ul style="list-style-type: none"> • The implementation of scalable innovation initiatives is low. 	<ul style="list-style-type: none"> • Lack of an ecosystem approach. • The innovator may not have the bandwidth and the business mindset to implement and scale up the ‘innovation’ 	<ul style="list-style-type: none"> • It is important to understand that the mindset of the innovator (technocrat) may be different from the entrepreneur who can implement and commercialise the innovation on ground. • Policymakers should facilitate the meeting of these two agents and encourage investors to enter the value chain from the pilot stage itself and help scale up the socially sustainable innovation.
<p>Patent related</p> <ul style="list-style-type: none"> • Should be streamlined by the government and standard part of the schemes 	<ul style="list-style-type: none"> • Potential innovators shy of sharing innovations in absence of strong regulatory framework 	<ul style="list-style-type: none"> • Regional hubs are to be promoted for receiving patent forms. • Government should start awareness campaign on the need, benefits and process of IPR filing.

The government schemes were found to be mostly present in the ideation and prototype phase. The funding amount and types of support services (particularly non-financial) at the individual idea/enterprise level was found to be inadequate to needs of that stage and the entrepreneurs cited the shortage of funds as main element of risk for introducing innovations. While speaking to the scheme management of the 10 studied government schemes it was observed that at the apex level they were mostly managed by scientists and limited support staff for whom the priority was funds disbursement and not the health of the incubated firms. As a result, we found that only around 1600 firms could be promoted in the last 10 years inspite of all the money and effort spent on innovation promotion schemes by the Union Government In absence of project management skills, the staff often found it difficult to understand the enterprise needs and offer corresponding support.

Impact assessment of the schemes by studying the scheme objectives and what has been achieved is critical. Thus after far economic and social contribution of the promoted enterprises through job creation, establishment of forward and backward linkages and contribution to the national GDP was a generic objective and not the key focus of most schemes. The focus was primarily looking at technology up-gradation which was the need of the hour. However, in view of the new innovation paradigm, these objectives need to be integrated in the innovation space. It is important that the focus on technology is not diluted. However, there must be a separate focus that needs to be created either in existing schemes where it is synergetic with existing objectives or create new schemes focusing on this end at a national level to create traction. Surprisingly, hardly any of the studied schemes track the sponsored enterprises performance or their growth status.



Creating an enabling environment for schemes

The culture of inclusive innovation can become effective when the interventions are designed to create an enabling environment for schemes to optimise their impact. The following set of constraints were observed at broader level and need coordinated and systematic response by all the stakeholders.

Table 10 Problems & Recommendations for creating an enabling environment		
Ecosystem Issue	What is the Problem	Recommendations
<p>Collaboration, Convergence & Linkages</p> <ul style="list-style-type: none"> • This is almost missing or insignificant • Leverage complementary competencies from outside for idea vetting and implementation • Leveraging mentoring support available with others • Lack of collaboration between the schemes – conflict of core mandate leading to limited support with other agencies who can play a significant role • Lack of coordination with VCs and PEs • Collaboration is mainly for extension of work through outsourcing but not with true partnerships • Nonfinancial services and knowledge support spasmodic mentoring – a missing link in government schemes 	<ul style="list-style-type: none"> • This has led to an absence of ecosystem approach. Absence of tie-ups to facilitate a plug and play model for the innovator across the different stages of the innovation chain depending on his requirements. • Multiple evaluations of the proposal done across each stage, moved to solution. 	<ul style="list-style-type: none"> • Create a universally recognised ‘Technology Mark’ for certifying innovations which the innovators can use for accessing funding from finance institutions. • Ideally, a comprehensive evaluation should be done for the project taking into account its lifecycle and then monitored at key milestones before next stage of funding and other support services is provided. • Inter-schematic tie-ups for cross breeding of best practices. • Partnerships with IFs – while government schemes can be used for developing ideas and developing prototypes, IFs can be used for commercialising innovations.
<p>Academia Support</p> <ul style="list-style-type: none"> • Fellowships for innovators are missing • Lack courses on innovation and entrepreneurship • No immersion to low income/ BoP market • Academic specialization in innovation, mainly the integrated model of technology, design and business modelling, missing 	<ul style="list-style-type: none"> • Entrepreneurship has become a looked down career option which happens having exhausted all other options. • Lack of large pool on implementable and sustainable innovative ideas 	<ul style="list-style-type: none"> • Need to promote entrepreneurship as a desirable career option by offering specialisation courses in colleges where the innovative ideas of the young minds can be honed to business perfection. • Special fellowship program should be launched in reputed institutes Management and entrepreneurship development institutes should introduce special courses on sustainable business models in low income and BoP markets



Scheme Issue	What is the Problem	Recommendations
<p>Little focus on directing innovation into desirable areas as per the new paradigm.</p>	<ul style="list-style-type: none"> • Many needed areas of interventions which have transformative impact potential do not get desired attention as they typically don't fit into the focus areas of existing schemes 	<ul style="list-style-type: none"> • Those sectors should be focused on and provided funding and non-financial support where the potential for BoP coverage and social impact is high in line with the key objectives of the new innovation paradigm.
<p>Research & Development related</p> <ul style="list-style-type: none"> • R&D centers are working in isolation and focus on cluster is missing by R&D centre • Lack of partnership with the private sector for creating market led innovations • Lack focus on pro-poor solutions 	<ul style="list-style-type: none"> • The R&D efforts not getting market-led, especially for the smaller units which don't have the requisite resources. Thus operating at sub-optimal levels they are part of the structural bottlenecks preventing the ecosystem benefits of innovations from setting in. 	<ul style="list-style-type: none"> • Industrial clusters are located around large industries. Under the aegis of State Innovation Councils and these industries, jointly identify innovation needs and co-create solutions to be adopted by allied units. SICs should ensure diffusion at the cluster level. • Special focus on creating partnership between government promoted R&D with reputed private sector organisations to create mass scale solutions in specific sectors
<p>Regulatory related</p> <ul style="list-style-type: none"> • Producer company is not an established format which could be a very important base for ensuring inclusive innovations • Need transparency in taxation issues 	<ul style="list-style-type: none"> • Producer company yet to become a stable organisation format • Taxation issues proving to be a major policy bottleneck from precluding global impact funds from opening branches in India. (setting up their base operations) 	<ul style="list-style-type: none"> • At the ecosystem level clearer guidelines on organisational aspects of Producer Companies. • Need favourable regulatory and taxation environment. • Tax incentives for directing investment in sectors identified to create social impact

B Impact Funds

Impact Funds are recent entrants which balance the twin objectives of generating returns for their investors while promoting sustainable innovations. It is still a nascent industry and very limited number of enterprises have benefitted through the funds disbursed by them. The Impact Funds seem to have a preference for size and are present generally in the later stages of the innovation cycle. In terms of their risk-return profile, this also makes business sense as risks are significantly lower in the operating and scale-up phase compared to the ideation and prototype phase. Borne out of the venture funding industry, Impact Funds were found to be stronger on aspects of financial due-diligence and the overall business case of the enterprise compared to the Government schemes. This study has carried out detailed gap analysis for the impact fund offerings at two levels: specific to the individual impact funds and pertaining to issues at the ecosystem level.



Table 11

Problems & recommendations for creating an enabling environment

Impact Fund issue	What is the Problem	Recommendations
<p>Size & Portfolio Management</p> <ul style="list-style-type: none"> • Large ticket size preference: Most Impact Funds have medium to high ticket funding size. • Absent in the initial phases of ideation and prototyping • Limited capacity building support for portfolio companies remains a critical challenge 	<ul style="list-style-type: none"> • Typically enterprises who have achieved some scale of operations are attractive to Impact Funds and not very early stage enterprises. • Since they are no real precedents when it comes to business models, most funds are risk averse and are trying to carve a niche for themselves through funding of unique business models or focussing on certain key sectors. • The lack of established business models in this sector and the resulting lack of comparability across portfolio companies make the assessment of performance a critical challenge. 	<ul style="list-style-type: none"> • The ecosystem needs different types of IFs with different risk/return expectations and yet balancing social impact. IFs need to look at identifying their particular niches when it comes to sector or stage of business. • And look at partnering with relevant intermediaries to support capacity building of future pipeline including core committees of different innovation led government funds. This would lead to gradual change in their willingness to look at smaller sized investments at the appropriate milestone as due diligence/screening has already been carried out and will give them access to future pipeline.
<p>Management Bandwidth</p> <ul style="list-style-type: none"> • IF management typically, does not have the bandwidth to do capacity building and invest time/resources towards building a robust pipeline. The focus is on quickly closing on relevant deals and making exits which are rare reality. • At times the core management does not have the sectoral expertise to invest in other sectors or support investee companies in house. 	<ul style="list-style-type: none"> • Most Impact Funds typically close between 2-3 deals on annually. Depending on their Limited Partners (LPs) mandate i.e. financial first or impact first this can be a pressure situation if they have to make reasonable returns via exits before the fund period is over. 	<ul style="list-style-type: none"> • Picking the optimal mix of investee in line with LPs focus and expectations. Exposure via sector specialization could will lead to better understanding of risks and investment returns in the sector and also leverage the synergies between portfolio companies, and other intermediaries to achieve desired scale. • Leveraging service providers and experts for pre-investment screening and post investment portfolio management.
<p>Deal Sourcing & Due diligence</p> <ul style="list-style-type: none"> • Big challenge to find investible deals which not only have a good social impact story but also a strong business case. • Diligence & deal transactions. 	<ul style="list-style-type: none"> • There is a large volume of impact focused enterprises however very few have a strong business case with a clear path to profitability and sustainability. • Lack of accredited partners and co-investment opportunities to reduce due-diligence costs. 	<ul style="list-style-type: none"> • Partnerships and co-investing among impact funds and other diverse set of investors like Angels, Foundations etc. • Working with organized investor networks to source investible deals and co-invest to reduce due diligence costs and share learnings. • Partnerships with reputed networks, incubators and Government



Impact Fund issue	What is the Problem	Recommendations
		<p>sponsored funds to source pipeline. As well as focussing on sector specific associations, industry bodies and institutions.</p> <ul style="list-style-type: none"> • Channelizing resources in partnership with other stakeholders to build pipeline and look at geographically reaching out beyond tier 1 cities to source deals.
<p>Scale</p> <ul style="list-style-type: none"> • Scalability of enterprise operations is a major challenge with very few enterprises showing scalability in operations across geographies or better penetration in a target group. 	<ul style="list-style-type: none"> • The definition of scale needs to be clearly identified when it comes to evaluating companies. • Given the overall on-ground market dynamics the model has to be robust taking an ecosystem approach Vs a one size fits all approach of the enterprise seeking to benefit the target population. 	<ul style="list-style-type: none"> • Look at different perspectives of scale whether across geographies or penetration of a target customer group. Also support investee companies partner with relevant organizations to build the target ecosystem whether financial partners or organization partners to ensure there is an ecosystem in place for the target beneficiaries to avail the product/services.
<p>Portfolio Management</p> <ul style="list-style-type: none"> • Impact Funds have access to and have created limited portfolio of investible companies 	<ul style="list-style-type: none"> • The fund focus is on cherry picking the right investible enterprises and investing in them. At times they do lack the management bandwidth & expertise required to help scale their portfolio companies. • Some team members of Impact Funds provide sporadic advice and guidance to enterprise however usually it's not well structured. 	<ul style="list-style-type: none"> • Collaborating with other like-minded investors, mentors and other service providers to provide overall capacity building support to enterprises. • Dedicating financial other resources to specific and relevant intermediaries that focus on capacity building for enterprises.
<p>Exits</p> <ul style="list-style-type: none"> • Very few exits to showcase in the impact investing scenario 	<ul style="list-style-type: none"> • Exit is a challenge for Impact Funds as the ecosystem is evolving and invested companies take time to reach the desired scale for the traditional forms of exit via IPO, M & A or promoter buy back. 	<ul style="list-style-type: none"> • IFs need to explore other forms of exits and different structures of profit share, dividend etc.
<p>Taxation</p> <ul style="list-style-type: none"> • While SEBI has recognized social venture funds as part of its category I AIF, there is a need to recognize the challenges of this sector and promote it. 	<ul style="list-style-type: none"> • While recognition has been granted to IFs operating in India. There is no specific favourable policy or tax treatment given to IFs operating in India. 	<ul style="list-style-type: none"> • Need for an industry body to represent the interest of IFs in India on similar lines as the IVCA.



→ Creating an enabling environment for Impact Funds

These set of gaps operate at the ecosystem level and need synchronised efforts by all the agencies. Risk and return profiles make social impact investments a challenge for investors and this is especially true within a relatively immature market due to long due-diligence and post-investment needs. Similarly, entrepreneurs are aware of the broad investment criteria, but lack a clear understanding of investor’s expectations and also the required capacities to address them.

As a private initiative, the Impact Funds are standalone entities that need to be integrated into the ecosystem. They need to liaison with the other ecosystem stakeholders to not only select the right enterprises but also support the scale of their investee enterprises (post investment). The evolution of impact funds as an industry has been slow with its presence limited to the urban centres and investments restricted to a few enterprises of certain types. This is not in line with the objectives of the new innovation paradigm of inclusivity. Impact funds need to be more inclusive and broad based. If intermediaries can effectively build the capacity of entrepreneurs to become investment-ready, then the large potential pool of funds that are available for impact investments can be unlocked.

The key recommendations in this direction are :

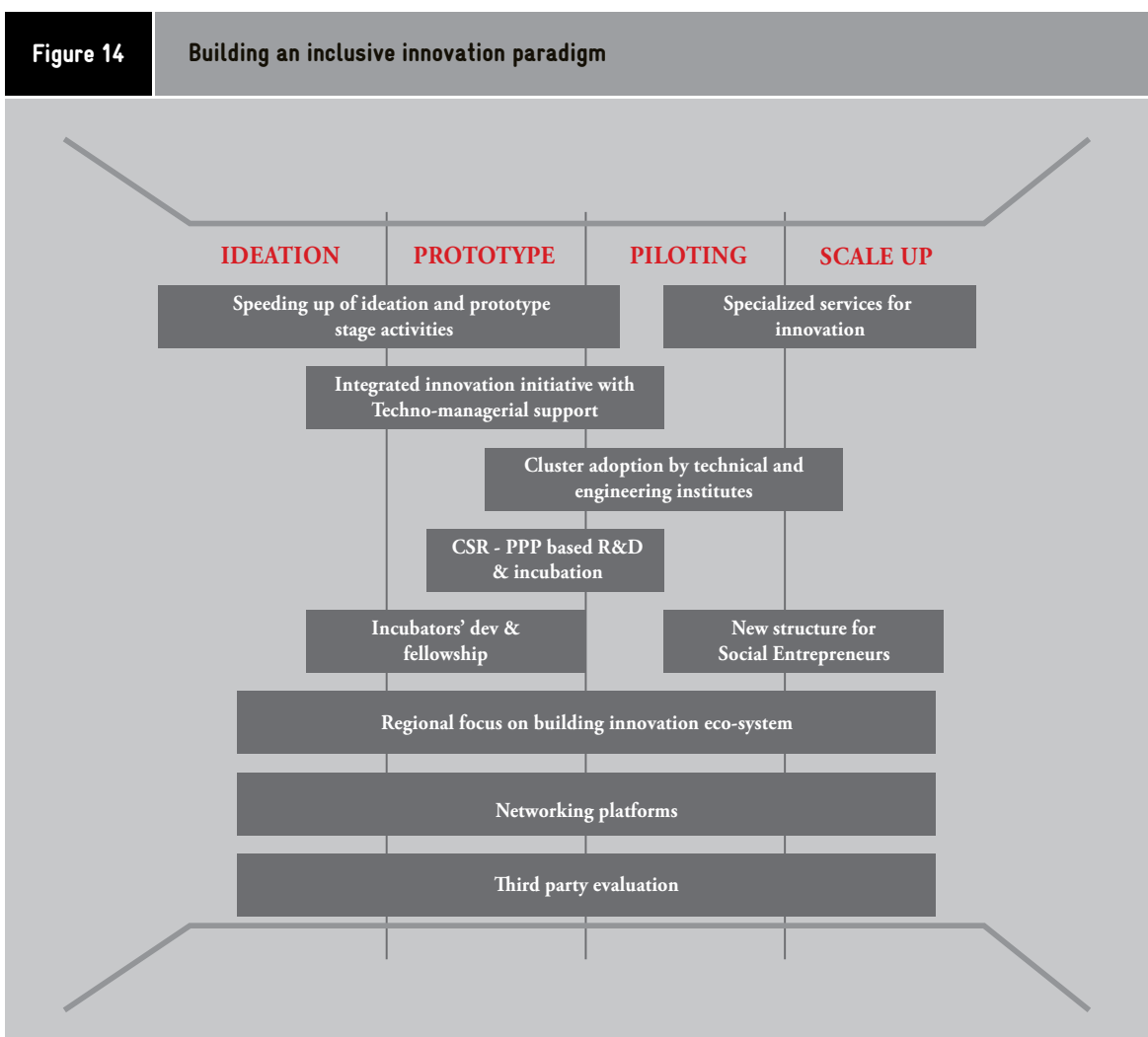
Table 12		Problems & recommendations for creating an enabling environment	
Ecosystem Issue	What is the Problem	Recommendations	
<p>Disconnect- Entrepreneurs & Investors</p> <ul style="list-style-type: none"> • Usually entrepreneurs and investors have differences on understanding of business model, degree of social impact (definition as well), exit options etc. • The investment process, criteria and investment focus of impact funds are not readily understood by entrepreneurs. 	<ul style="list-style-type: none"> • Lack of financial & business model sophistication acts as exclusion barrier – many enterprises find it difficult to understand the investment language and method of approaching funds. 	<ul style="list-style-type: none"> • Specific sessions, workshops and investor-entrepreneur interactions to be facilitated to bridge the gap. Extensive use of online and offline platforms to communicate the investment thesis, focus and criteria of IFs. • Need for intermediaries to take a leading role in helping build capacity of entrepreneurs to become investment ready. This in turn would lead to a large amount of capital being unlocked for investments. 	
<p>Outreach</p> <ul style="list-style-type: none"> • Challenges in reaching out & engaging innovative entrepreneurs in the remote locations. • Lack of capacity building and exposure for enterprises beyond Tier 1 & Tier 2 cities. 	<ul style="list-style-type: none"> • Most of the platforms, impact funds and activities are centered on tier 1 cities. The need is to shift focus to Tier 3, 4 locations to ensure both financial and non-financial resources reach innovative enterprises. • A large portion of funding has been deployed in limited sectors like cleantech, agriculture, microfinance. 	<ul style="list-style-type: none"> • There is a need for intermediaries and different stakeholders like the government, incubators, funds and others to go beyond the Tier-I cities and engage with the ecosystem in these regions. • A broader investment sector focus is needed to look at opportunities in healthcare, education, water etc. 	
<p>Support Services</p> <ul style="list-style-type: none"> • Lack of Ecosystem wide capacity building • Lack of active collaboration with 	<ul style="list-style-type: none"> • High costs for providing capacity building support and the dependence on grants. 	<ul style="list-style-type: none"> • There is a need to have an industry body for example NASE which can take an active role in bringing together different stakeholders on 	



<p>the academia.</p> <ul style="list-style-type: none"> Lack of active partnerships between different stakeholders in the ecosystem. 	<ul style="list-style-type: none"> Grown number of intermediaries competing for the same pie of grant to fund capacity building programs. 	<p>one platform.</p> <ul style="list-style-type: none"> Initiatives like the India Impact Economy Innovations Fund (IEIF) are a step in the right direction to support intermediary players.
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Level 3: Building the Innovation Ecosystem

Having studied the gaps and proposed recommendations, following is a set of suggestions to create a roadmap for taking the innovation momentum ahead. Study has the following recommendations for building a robust innovation ecosystem:



1 Speeding up of ideation and prototype stage activities

Rationale
<ul style="list-style-type: none"> Being at the nascent stage of innovation, India needs a huge push to encourage and engage the students and young entrepreneurs to ideate innovations that would ensure inclusive growth in the country. A new innovation culture would be created through nurturing the young by awarding and recognising their talents.



Strategies

- Creation of ideation stage schemes both at national and regional level. This should cover tier 3-4 towns as well.
- Government should take a lead role on this phase to expand and speed up the process.
- Leverage the skill sets of reputed Impact Funds to create better systems and processes for this purpose.
- Partnership with existing ideation stage activities 'Power of Idea' to expand the scope.
- Focus on women entrepreneurs and innovation from backwards areas would be a great push in this direction
Donors should invest their resources and expertise in creating best practices in this space.

2 Encourage promotion of integrated innovation model and techno-managerial support to large scale innovation programs

Rationale

- The integrated model for innovation should ideally be combination of appropriate technology, acceptable design and viable business model. India does not need only a robust technology, but also requires an innovative business model that would ensure its reach out to people in rural and small towns.
- Government promoted innovation schemes are not able to expand their scope to capitalize the current opportunities due to lack of techno managerial and program management skills in delivering multiple services to the innovators. The need is to provide services that assist in fine tuning ideas, developing and testing technological solutions, concretizing business models that facilitate commercialization and scaling up process rapidly.

Strategies

- Encourage incubation centers to integrate all the key functions - namely technology, design and business modelling, together while designing any new innovative schemes.
- Special programs can be initiated to ensure new and appropriate technological solutions are further supported to innovate new business models.
- Focus on process innovations (mainly innovative supply chain, distribution, communication models) to reach out to the needy customers are to be targeted.
- IITs and IIMs can jointly work on such initiatives to help young innovators start ups.
- These initiatives should leverage the strengths of NIDs and NIFTs in various part of the country to ensure consumer needs are attended through proper design related inputs.
- Integration of services of specialised agencies should be integrated into the scheme or program.
- Government should introduce new large scale innovation promotion programs with a dedicated back up program management team to provide all the necessary services across various stages of innovation cycle – an integrated approach for providing funding and support services.
- This is an important area for donors to collaborate with government to create best practices in nurturing innovations.



3 Cluster adoption by technical and engineering institutes

Rationale

- Clusters are strategic intervention points to ensure speedy transformation of a large number of innovations in lesser time. However, currently the cluster level units are deteriorating and becoming non-competitive due to lack of exposure to innovative cutting edge solutions. This approach could enhance the competitiveness and growth of among MSMEs.

Strategies

- CSIR labs, IITs and other technological and R&D institute in the country can adopt the nearby clusters to foster their development through innovative solutions.
- A diagnostic study of the various clusters should be conducted to identify critical gaps that need to be plugged through innovative solutions.
- These agencies should work in close coordination with the cluster associations and other stakeholders like bankers
- International partnerships with developed countries (mainly having strong track record in MSME promotion) for transfer of innovative solutions should be encouraged in the cluster.

4 CSR initiatives to encourage innovation and incubation and PPP based R&D initiatives

Rationale

- It's a new phenomenon in India and hence can be directed for supporting innovators to grow in this country.
- Corporate houses can ensure access to cutting edge skills and expertise to nurture innovators. Even partnerships with R&D centre in PPP mode would strengthen the innovation ecosystem

Strategies

- Companies can focus on creating a more comprehensive impact at the societal level by using the CSR funds for nurturing innovation
- Companies can tie up with B-Schools, Foundations, Impact Funds and social enterprise promotion organisation to run incubation programs
- CSR funds may focus on specific sectors like water, sustainable agriculture, health services etc.
- Corporates should use CSIR funds to create partnerships CSIR and other public funded R&D centres to work on PPP modes for building innovative solutions for BoP and rural masses.



5 Regional focus on building innovation eco-system

Rationale

- India being a diverse and big country needs special focus on addressing specific issues and needs of different regions of the country. Innovators can be better nurtured if eco-systems are strengthened at local regional levels by nurturing right institutions in the specific areas.

Strategies

- Government should encourage setting up of regional and state level innovation forums and chapters
- Regional and stage chapters of CII, FICCI and other leading BMOs should set up the same
- These forums should address specific requirements of the regions and states they serve.
- These initiatives will lead to a more co-ordinated effort for implementing innovative solutions for social impact on a large scale
- There should be efforts to make CSIR labs a partner in regional level forum

6 Encourage and promote specialised services for innovation promotion

Rationale

- The eco-system would grow only if innovators are able to access various services that are needed during their journey across the stages. The most critical ones are BoP market research, developing right business models, training on commercialization, managing innovation challenge funds etc. Indian innovation eco-system currently lacks availability of adequate service provider who could provide such services.

Strategies

- There is a need for government and donors to create opportunities for such services providers in various schemes and programs.
- Those agencies which offer high end solutions should be encouraged to participate in government schemes and any new initiatives.
- Services related to training, mentoring etc. are to made components.
- Donor and governments programs should use expertise of NASE and similar set ups mainly for mentoring related services for enterprises facing issues while entering growth stage.



7 Incubators' development program and innovation and entrepreneurship fellowship

Rationale

- A number of incubators have been promoted in the country and more are likely to emerge in next couple of years. However the efficiency level in delivering high quality services to incubates remains a challenge.
- The current era demands for specialized effort to encourage a large number of entrepreneurs to emerge to build solution for masses deprived of getting basic services at an affordable cost. A profound effort is needed in nurturing such talents. Graduates from various streams should be offered an opportunity to explore their entrepreneurial capacities

Strategies

- Specialised agency's services should be hired for developing skills and competencies of incubators.
- Reputed academia should be offered financial resources to run 3 years fellowship program for new generation entrepreneurs to create business solutions for addressing issues of poverty.
- The fellowship program should include a curriculum that would provide a stage wise growth of students to emerge into full-fledged innovative entrepreneurs. The first stage could be a rigorous exposure and immersion into rural and BoP segments in India; stage II – identification and designing of specific solutions that would addresses the needs and stage III – working with a set of community to develop the enterprise.
- A proper system to select such enterprising talents, designing the right module for such programs, evaluation of success of the entrepreneurs and post fellowship development plan has to be put into place.
- Government and donors can aim at promoting such programs in selected management and technological academic centre to start the process. The need for international tie ups would be crucial in developing and running a successful fellowship program.

8 New legal structure for social entrepreneurs

Rationale

- Social entrepreneurs are uniquely positioned to foster the inclusive growth agenda of the country. These entities are finding it challenging to leverage public and developmental funding and at the same time ensure they become sustainable by creating profit for themselves.

Strategies

- A legal structure that can avail grants and at the same time generate profit for itself should be worked.
- A committee could be formed by government to analyse various aspects of legal options to expand the scope of social enterprises to emerge as a more stable legal structure.
- Experience from other countries like US can be borrowed for this purpose.



9 Networking platforms

Rationale

- The robustness of ecosystem would be enhanced if a common platform be created for all the stakeholders to interact with each other seamlessly. Easy flow of information, regular and meaningful communication between various actors would strengthen the ecosystem significantly.

Strategies

- An IT based platform that would ensure a multiple usage platform for stakeholder to interact and learn from each other should be established soon
- Information about innovators, incubators, service providers and any other initiatives related to innovation should be available on the platform.
- GIZ has already initiated a process of building a platform and this opportunity should be capitalised further.

10 Third party evaluation and impact measurement

Rationale

- As a sizeable amount of fund is likely to flow to various government and non-government players for nurturing innovators and building a robust ecosystem there is a strong need for creating a third party evaluation structure in the country. This new dimension would bring a lot of new practices and processes. This would also lead to cross fertilisation of good practices. The complexities are furthered when there are many soft and intangible impact areas.

Strategies

- Government and donors should work together in creating an evaluation structure for following aspects
 - Technological robustness that would create social impact
 - Innovative business models that would be sustainable
 - Program evaluation in the efficient and impactful delivery of services
- Government should work with other stakeholders to promote independent evaluators as significant public money would be channelized. An external audit body may be created for evaluating the funds and the progress of the innopreneurs.

5.3 Conclusion

India has a rich legacy as a land of innovation and many key innovations of mankind are of Indian origin. But in recent times, we seem to have lost focus and are falling behind in the international innovation landscape. However, as an emerging knowledge economy we have been experiencing an innovator's struggle over the last

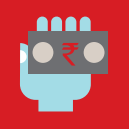


decade. Acknowledging the need for innovation in the country, the Prime Minister announced the period 2010 – 2020 as the “Decade of Innovation” and has established the National Innovation Council (NInC). India ranks 64 among 141 nations on the Global Innovation Index 2012. A new paradigm of innovation is growing in India. With the focus on simplicity and frugality in the process of innovation itself, in contrast to the dominant paradigm wherein innovation is expensive and requires a large member resources of highly qualified personnel, finance and facilities, the Indian model aims to unravel simple solutions that achieve more along with consuming less. Innovation, among the policymaking circles, is being increasingly regarded as an enabler of inclusivity for bridging the gap between the resourceful and the needy and improving lives of the people at the margin.

With appropriate policy frameworks and support structures already in place, ‘the Indian innovation Movement’ is at an inflexion point. Taking an ecosystem perspective, the study findings reveal the impending need of coordinated and collaborative efforts among the various stakeholders for smoothening of the innovation journey from the mind to market. With such streamlined efforts it is expected that the Indian economy would be back to its adage of being the ‘golden bird’ and a true knowledge superpower.

Footnotes

- 1 The Ministry of MSME launched the Cluster Development Programme (CDP) as a key strategy for enhancing the productivity and competitiveness of MSMEs in the country. Such clustering of units enables service providers like banks and credit agencies to provide their services more economically, thereby reducing costs and improving the availability of services for these enterprises.



Annexures

6.1 Basic information about Govt Schemes

1 Technopreneur Promotion Programme (TePP)

The main objective of TePP is to support individual innovators. It was started in 1998-99 by DSIR. Budget allocated for this scheme in the 12th FYP is INR 95 Cr. In the 11th FYP around 400 projects were funded. Applications are received throughout the year for all sectors except for pure software & academics related projects. TePP has decentralised pooling of ideas – this is managed by TUCs (Technology Outreach Centres) which are mostly housed within academic institutes. The scheme is managed by Scientists from Government departments. It has different layers of selection at various levels ranging from TUC to TMC (TePP Management Committee) and TSC (TePP Selection Committee)

Beneficiary	Individual innovator
Stages	Ideation, Prototype & Pilot
Support:	<p>Financial Assistance</p> <ul style="list-style-type: none"> • For ideation : MTS Phase I fund of INR 75,000 for each innovator applicant. • For prototype: For converting idea to prototype INR 15 Lakhs max or 90% of project cost. Additional supplementary fund under Phase 1 of INR 7.5 Lacs is provided for further refinement of the prototype before the pilot stage. • For Pilot: Grant of INR 45 Lakhs provided to Innovator/entrepreneur <p>Non-Financial</p> <ul style="list-style-type: none"> • Recognition & link-up with the VCs/FIs of the innovator

2 Lockheed Martin India Innovation Growth Program (LM-IIGP)

With the objective of globalisation of Indian innovative technologies by DST in 2007, it is a unique scheme of its kind which recognises early stage innovators/enterprises and connects them to global players if they cross the intensive 8 stage selection process. It is managed by FICCI in association with the Lockheed Martin Corporation, Indo-US Science and Technology Forum, University of Texas IC2 Institute. It is open to any technology related sector and applications are invited once a year.

Beneficiary	Early stage innovators/enterprises
Stages	Connect to Pilot stage?/ Early stage innovation?
Support:	<p>Financial : Award of INR 1Lakh each for 30 selected innovations.</p> <p>Non-Financial: Mentorship and validation of concept and networking with global funding players</p>



3 Small Business Innovation Research Initiative (SBIRI)

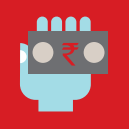
This scheme focused on the bio-technology sector, was started in 2005 by DBT. Total Fund available in the 12 FYP is INR 150 Cr under the PPP model. Being resource intensive, innovation in bio-technology is considered to be highly risky. The aim of this scheme is to support early stage funding for the high risk, innovative and commercialisable (is this high risk/ early stage?) product proposals. It has different instruments for financial support including grants, interest free loans and soft loans. This is the only scheme that funds private companies exclusively for conducting innovations.

Beneficiary	Early stage Biotechnology related innovator/enterprises
Stages	Prototype & Pilot
Support:	<p>Financial :</p> <ul style="list-style-type: none"> • For Prototype <ul style="list-style-type: none"> - Phase I - Grant (80%) for project uptoRs25L, - Grant (50%) max Rs20-50Lupto100L - Grant of Rs. 50 lakhs + interest free loan upto 50% of the amount. • Pilot Phase <ul style="list-style-type: none"> - Loan Upto INR 10 Cr. at 2% rate to be repaid in 10 equal instalments

4 MSME Design clinic

Launched by DC-MSME in 2009, National Institute of Design is nodal and implementing agency for Design Clinic. It focuses on bringing design innovations to enable competitive advantages for the MSME segment. It helps the MSME entrepreneur to convert idea into prototype. Prototype related support is provided by industry design experts. Total fund allocated to this scheme is Rs.73.58crore, (Rs.49.08crore will be GoI assistance and the balance amount will be contributed by the beneficiary MSMEs.) This operates in PPP Model.

Beneficiary	Cluster or industry association, MSME(at prototype) and Designers
Stages	Prototype stage.
Support:	<p>Financial :</p> <ul style="list-style-type: none"> • For Idea Creation: Design sensitization seminar (INR 60,000) • For Idea Pooling: Design Awareness Workshops (max upto INR 3 Lakhs or 75% of cost. This is kind of Diagnostic study. • For Prototype: <ul style="list-style-type: none"> - Maximum of 60% /Rs. 9.0 Lakh for individual MSME or a group of not more than three MSME applicants - Maximum of 60%/ Rs. 15 Lakh,for four or more MSME applicants. - Reimbursing 75% / maximum of Rs 1.5 lakh for final year student <p>Non-Financial : Design and Prototype related mentoring and support</p>



5 TIFAC – SIDBI Revolving Fund for Technology Innovation (SRIJAN)

Aimed at commercialising/scaling-up of innovative technologies, SRIJAN was launched by DST on 1st Nov 2010. It is managed by TIFAC in partnership with SIDBI which manages its fund of INR 30 Cr on a revolving basis. The scheme provides soft loan (less than 5%) to the entrepreneurs who are willing to adopt the innovation. In the selection process, TIFAC takes care of technology validation part and SIDBI does the due diligence.

Beneficiary	Individual innovator/enterprise
Stages	Pilot
Support:	<p>Financial</p> <ul style="list-style-type: none"> For Pilot: Soft Loan =max INR` 100 lakhs/ 80% project cost at @5% (20% contribution from industry). Loan repayment period including moratorium should generally be not more than 6 years from the date of completion of the project. <p>Non-Financial</p> <ul style="list-style-type: none"> Validation of technology Networking with Technology experts (TIFAC) & Financial experts (SIDBI) for mentoring for commercial success of innovation

6 New Millennium Indian Technology Leadership Initiative (NMITLI)

This scheme is the largest public-private-partnership R&D Programme of India for innovation. NMITLI seeks to catalyze the innovation centered scientific and technological developments as a vehicle to attain for Indian industry a global leadership position, in selected niche areas in a true 'Team India' spirit, by synergising the best competencies of publicly funded R&D institutions, academia and private industry.

Beneficiary	All companies, Scientists / researchers (as individuals), Higher education institutions, research units/centres
Stages	Ideation to prototype
Support:	<p>Financial</p> <ul style="list-style-type: none"> For Ideation to Prototype: Grant-in-aid to the institutional partners in public domain and as Soft loan (@ 3% interest) to the industrial partners in the private sector. Financial support range from INR 2 -10 Cr.

7 SME Incubator

The main objective of the scheme as part of the NMCP is to promote emerging technological and knowledge based innovative ventures that seek the nurturing of ideas from professionals beyond the traditional activities of Micro, Small & Medium Enterprises (MSMEs). Launched in 2008 with support of MSME with budget of INR 66.5 Cr for 11th FYP.



Under this scheme, 100 “Business Incubators” (BIs) were to be set up under Technology (Host) Institutions over 4 years and each BI was expected to help the incubation of about 10 new ideas or units.

Beneficiary	Individual entrepreneur/innovator
Stages	Ideation to prototype
Support:	<p>Financial</p> <ul style="list-style-type: none"> For Ideation to Prototype to the incubator: Rs.66.28 lakh was the budget envisaged per BI for upto 10 business ideas/units PPP Model (15-25% from Host Institute) <p>Non-Financial</p> <ul style="list-style-type: none"> Mentor ship support from Academic Institution

8 Micro Venture Innovation Fund (MVIF)

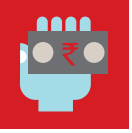
The fund extends financial support for grassroots innovation. NIF established a dedicated risk fund for such innovators named as Micro-Venture Innovation Fund (MVIF) of Rs4 crore for ten years with the support of SIDBI in October 2003, which got operationalised in January 2004. Under the scheme, support from MVIF is made available to innovators and entrepreneurs who are associated with NIF for technology commercialisation.

Beneficiary	Grassroots Innovators
Stages	Prototype to Scale up
Support:	<p>Financial</p> <ul style="list-style-type: none"> For prototype and Pilot INR 20,000 – 20 lakhs. The average fig. of support availed is INR 5-6 lakhs. <p>Non-Financial</p> <ul style="list-style-type: none"> Market research for innovation/technology Mentorship for commercialisation and related activities through NIF Showcase innovation in various platforms like tradeshows etc

9 Rural Innovation Fund (RIF)

NABARD Rural Innovation Fund (RIF) is a fund designed to support innovative, risk friendly, unconventional experiments in farm, non-farm and micro-finance sectors that would have the potential to promote livelihood opportunities and employment in rural areas. “The Fund with a corpus of around Rs 140 Crore was established in October, 2005 and projects are funded out of this corpus.

Beneficiary	Individuals/ organizations in the rural sectors.
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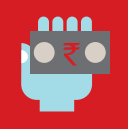


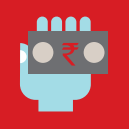
Stages	Prototype to scale-up
Support:	<p>Financial</p> <ul style="list-style-type: none"> • A maximum funding of upto Rs. 30 lakhs is provided by NABARD per project on approval. The activities funded may involve development of new products, processes, prototypes, technology, patenting and extension support. • Research and studies contributing to better understanding of rural development issues, • policy and process implementation may be undertaken.

10 Centre For Innovation, Incubation & entrepreneurship (CIIE)

The Centre for Innovation Incubation and Entrepreneurship is an autonomous entity located within IIM Ahmedabad working with the aim of fostering innovation through entrepreneurship development. Formed in 2001 but operational since 2007, the Centre has been successful in creating dedicated physical infrastructure for incubating entrepreneurship with support from IIM Ahmedabad, Government of India and Government of Gujarat. However over the last couple of years it has spun out as an independent entity registered under Section 25 of the Companies Act. CIIE has taken up several initiatives to strengthen India's entrepreneurial ecosystem by providing mentoring, financing and knowledge inputs.

Beneficiary	Individual innovators/firms
Stages	Ideation to pilot
Support:	<p>Financial</p> <ul style="list-style-type: none"> • For Pilot to scale-up via different initiatives like i-Accelerator, INFUSE INR 20 – 50 lakhs each. <p>Non-Financial</p> <ul style="list-style-type: none"> • Power of Ideas: Pooling of ideas • Mentor Edge: mentoring Innovators at various stages





6.2 Key Aspects of government Schemes

Scheme Name	Budget/corpus	Target	Accessibility & Awareness	
TePP	INR 95 Cr. For 12th FYP	Open to all irrespective of technical qualification but no special focus on weaker sections	30 outreach centres Target is 100 TUCs with 5000 innovations	
Lockheed Martin IIGP Award	Fund disbursement restricted to INR 1 lac per innopreneur	Only technological innovations	Road shows in Tier 2-3 towns.	
SIBRI	INR 150 crores for FY 2012-17 ³	Private companies	Online Application format. Awareness: Advertisements, Road Shows, Scientific Meetings Biotech Consortium India Ltd. (BCIL)	
MSME Design Clinic	INR 73.58 Cr.	MSME clusters/firms looking for design related competitive advantage.	4 regional centres with linkages with engineering, management, design institutes of the country. Awareness creation through design sensitization seminars	
SRIJAN	INR 30 Cr.budget	Commercial Enterprises / Partnership Firms, Private Limited Companies, Public Limited Companies, Start-up Companies	Promotional Advertisement, Seminars. Applicant can either apply to TIFAC or SIDBI(local centres)	
NMITLI	INR 700 Cr.	Top down approach of inviting companies to apply. Only for industries with CSIR recognition.	Executed & monitored centrally from CSIR in Delhi	
SMEs thru Incubators	INR 66,5 Cr for 11th Plan.	Micro & small enterprises through incubators (academic institutes such as IITs, NITs, engineering colleges)	102 Incubators opened against a target of 100.	



	Output Performance	Coverage on the innovation cycle	Monitoring & Impact Assessment Mechanism
	Till 2006, 50 projects sanctioned in 7 years – about 7 per year.	Maximum Coverage: Idea, innovation and enterprise incubated	Decentralised project monitoring. No impact assessment
	284 deals in 6 years (April 2012) ¹ 170 start-ups selected since 2007 ² Select 30 per year	Prototype to pilot phase	Conducted a 3rd party impact assessment, list of incubated firms on website – the highlighted part is output performance- depends how we define it
	Total proposals recd. till FY 2011-12 are 1010 of which 595 approached. 121 sanctioned and 57 completed till Oct 2012.	Supports pre-proof of concept, early stage innovative research and provide mentorship and problem solving support	Monitoring is Centralised which meets every 6 months. One report of funded enterprise released in Oct 2012.
	--Design Seminars 200 completed as per targeted 200 --More than 70 and 32 Need Assessment Survey and workshops were being conducted . --Design Projects (25 complete/400 Nos, including 100 student projects)	Ideation to Prototype development	Monitoring by Assessment panel and PMAC(Project Monitoring and Advisory Committee)
		Commercialization / scaling-up of innovative technologies	No impact assessment
	65 projects by FY 2011 – 12	'Proof-of-Concept' Stage ⁴	Monitoring based in Delhi. No impact assessment
	N.A.	Focus on the Prototype phase	By Ministry of MSME A monitoring & advisory committee has been set up No impact assessment



Scheme Name	Budget/corpus	Target	Accessibility & Awareness	
MVIF-NIF	Rs 5 crore for ten years operationalised in January 2004	Grass root Innovators	Potential Ideas scouted by NIF and assessed by BDS are contacted for funding	
RIF	Corpus of around Rs 140 Crore for 2005-2012(extended)	Individuals/ organizations having innovations in the rural sector - farm, non-farm or microfinance sectors	Proposals submitted to District development Manager or emailed to head office. Proposals scrutinised by Regional Office of NABARD	
CIIE		As an incubator target the individuals/ organizations at initial levels of entrepreneurship to help them commercialise better	Multiple models of operations, e.g. Power of ideas, i-Accelerator, Infuse, Mentor Edge, Aarohan, etc. to support specific aspect of innovation support	

Footnotes

- 1 Source - <http://www.youtube.com/watch?v=jhdnzVbXoS8&feature=relmfu>
- 2 Source - <http://www.youtube.com/watch?v=HhWRcl5YEag&feature=related>
- 3 Pooling Skills – Creating Possibilities, List of Completed Projects published by Dept. of Biotechnology, October 2012
- 4 <http://www.pib.nic.in/newsite/erelease.aspx?relid=48162>
- 5 NABARD Annual Report 2012



	Output Performance	Coverage on the innovation cycle	Monitoring & Impact Assessment Mechanism
	Total 184 projects have been funded, 77 technology transfers have taken place	Prototype to scale up	Business Development (BD) team engagement in monitoring in consultation with Fund Management Committee (FMC)
	530 innovative projects been sanctioned ⁵	Prototype to commercialisation	No impact assessment study conducted
	Incubated over 80 enterprises across sectors like Cleantech, ICT, Healthcare etc.	Ideation to scale-up – based on the enterprise's lifecycle needs	Monitoring is central and no impact assessment study done



MSME Promotion Programme: Promoting Innovative Businesses with Social Impact

India's growth story can only be sustainable in the long run if its decision makers in the business sector and in the policy sphere manage to successfully address the increasing disparities, at the same time responding to the competitive pressures on India's economy in a strategic manner. Acknowledging the need for innovation in the country, the Prime Minister Dr. Manmohan Singh has announced the period 2010 – 2020 as the “Decade of Innovation” and has established the National Innovation Council, whose mandate it is to create an Innovation Movement in the country and to develop models of innovation promotion, which can be up-scaled by other institutions on national or state level.

Beyond increasing competitiveness through innovations, India's sustainable economic development is dependent on innovations that accelerate more inclusion and more sustainable growth. Innovative solutions are necessary that change people's lives with products, services, processes and business models and also tackle the twin challenges of the 21st century: poverty and natural resource strain. This requires a different outlook on the innovation concept itself and demands for a rethink of innovation processes.

As a sub-component of the Umbrella Programme for the Promotion of Micro, Small and Medium Enterprises (MSME), GIZ has partnered with the CII-ITC Centre of Excellence for Sustainable Development (CII-CESD) for Innovation System Promotion. The CII-CESD has coined the term ‘Sustainable & Inclusive Innovation’ or “SI2” to innovations that are set apart by four distinctive characteristics, in addition to some other dimensions in describing such innovations:

- 1 Such innovations add value to the life of the people much beyond the immediate use of the product or service;
- 2 Such innovations create a product or service of an uncompromising quality at a price that is affordable;
- 3 Such innovations address the challenge of resource use efficiency to manage drastically low cost structures; and
- 4 finally, such innovations are scalable and replicable to suit requirements of local circumstances and complexities.

The project aims to foster the eco-system for innovation and go beyond present research and focus on the questions of how innovations come about and consequently how they can be fostered. Following questions will hence be addressed: What are the strategies, tools/instruments required to make innovation work? How can public and private actors contribute to the creation of an enabling environment for sustainable and inclusive innovations? How does one ensure that innovation as an end as well as a process is both sustainable and inclusive, i.e., not leaving out the poorer segments of the population? How sustainable and inclusive innovations can be mainstreamed for the benefit of the MSME and the general public and how it can be a harbinger for South-South exchange?

This publication aims to identify the gaps and provide recommendations for actors in the innovation system to create an enabling environment for sustainable and inclusive innovation.

About CII-ITC CESD

The CII - ITC Centre of Excellence for Sustainable Development is an institution that creates a conducive, enabling climate for Indian businesses to pursue sustainability goals. It creates awareness, promote thought leadership and build capacity to achieve sustainability across a broad spectrum of issue. A pioneering effort by CII, the Centre is the fountainhead of ideas and practices to promote Sustainability. It enables Indian businesses become sustainable, and channels the potential of Indian industry to power India's agenda for inclusive growth and sustainable development. It enables businesses transform themselves by embedding the concerns of sustainable development into their own strategies and processes.