Strategic Plan : 2016-2021

for promotion of

Entrepreneurship & Innovation

in Tamil Nadu

Entrepreneurship Development Institute

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1. Importance of Entrepreneurship & Vision 2023

1.1 Entrepreneurs play an important role in the economic development of a country. Successful entrepreneurs innovate, bring new products and concepts to the market, improve market efficiency, build wealth, create jobs, and enhance economic growth. De novo firms that unleash creative destruction shift surpluses from rent-seeking large producers to consumers and broader society. Joseph Schumpeter, one of the greatest economists of all time, put innovation at the heart of economic theory and capitalism. He proposed that innovation was the process by which economies were able to break out of their static mode and enter a path of dynamism. It was his theory of “creative destruction” that first highlighted the importance of innovators in revolutionizing the economic structure, leading to the creation of new products, services, and markets, and the decay of the old. Just as boosting entrepreneurship can lead to growth and job creation, failing to promote entrepreneurship can lead to stagnation, and social and economic inertia.

1.2 Bringing about innovation has never been as important as today, as the global economy shifts away from the industrial economy towards the innovation economy. Traditional manufacturing is becoming increasingly commoditized while intellectual property is the need of the hour. What is heartening is that recent economic theory suggests that government investment in R&D, knowledge-creation, and technological progress does have a role to play in fuelling innovation, productivity, capital creation, and therefore growth. This thinking highlights the scope for appropriate government policy and investment to enable entrepreneurship and innovation.

1.3 Many studies and data show the importance of entrepreneurs in creating jobs and up-skilling. In the United States of America (US), new businesses were responsible for creating on average one million jobs annually as compared to 300,000 by ten year old firms. In fact, companies less than a year old have created an average of 1.5 million jobs per year over the past three decades in the US. Israel saw its unemployment rate fall from 9% in 2000 to 5.5% in 2011 as new businesses grew 23% over the same period. In contrast, Japan has lost two decades partly due to stagnation in entrepreneurial activity. Up and re-skilling is another important service that new firms can provide. As the global economy moves towards automation, firms will require a very different skill-set from what workers currently have. The education system can only do so much. Agile de novo firms can play a role in providing workers with the skills required in the new economy. More efforts need to be made to encourage startups. India ranks in the fourth quartile among the G20 countries in a ranking of ecosystems that boost entrepreneurial activity. A recent survey of Indian entrepreneurs revealed that only 18% of respondents felt that the government had taken satisfactory measures to nurture startups as compared to 37% in China. Similarly, a survey of

entrepreneurial ecosystems found that only 37% of Indian respondents believed that there was an availability of factors conducive for innovation.

1.4 While supporting young firms in technology and other new-age innovative sectors is important, India also needs to develop an ecosystem that encourages innovation at more mature enterprises across the industrial spectrum— across the existing manufacturing, export, and rural and social enterprise sector. This segment has the capacity to generate a large number of jobs. For instance, in the EU, 60% of jobs on average across the region are accounted for by SMEs. The success of the Mittelstand in Germany highlights that small and mid-sized family- run businesses can lead to job creation in an economy. Indeed, roughly 80% of jobs come from SMEs in Germany. In Korea, 90% of jobs are generated by SMEs. ***In India, the SME sector employs only 40% of the countries workforce, and is plagued by low productivity.*** This segment needs a boost. Diego Comin has conducted interesting research on scaling up SMEs in Malaysia, which could provide a blueprint.

1.5 The ability of entrepreneurs to create jobs is particularly relevant to India given its employment crisis. India's demographic dividend has been much touted-while a substantial portion of post -independence India's population consisted of young children, by 2020, 63% of India' s population will be of working age. McKinsey estimates that India' s working-age population will grow by 69 million between 2012 and 2022. Cashing in on this dividend will require India to create 69 million additional appropriate jobs, as well as jobs for those that are currently unemployed. Estimates indicate that to pursue an inclusive reform agenda, India needs million additional non- farm jobs in the next decade. Creation of new businesses will therefore be an important avenue for absorption of these workers. Therefore, developing and sustaining a vibrant entrepreneurial fabric is one policy option that should be part and parcel of any economic development plan. India has seen a wave of successful entrepreneurship previously, which started during the time of the Swadeshi movement. Amongst these entrepreneurs were Jamshedji Tata who founded the first iron and steel company, P.C. Roy who founded Bengal Chemical Works, V.O. Chidambaran Pillai who founded the Steam Navigation Company, and Khwaja Hamied who founded Cipla, a pharmaceutical company. These firms have played an important role in alleviating the employment crisis over the years.

1.6 The entrepreneurial culture in India is picking up. Bangalore has been listed within the world' s 20 leading startup cities in the 2015 Startup Genome Project ranking. It is also ranked as one of the world' s five fastest growing startup cities. Nevertheless, much of this entrepreneurship is limited to the IT, e-commerce, and m-commerce sector. Furthermore, the number of entrepreneurial ventures remains small relative to India' s population. Only 0.09 companies were registered for every 1,000 working age person-among the lowest rates of G20 countries in 2011. The Global Entrepreneurship monitor that tracks entrepreneurial activity, found that new business ownership rate for India in 2013 was the same as in 2008. To create new jobs, India must move beyond its reliance on IT achievements and the

industrial conglomerates that drove earlier post-liberalization growth. For example, India needs to develop technological capabilities to serve the requirements of its core industries—capital goods used in manufacturing industries are mostly imported, as are electronic goods.

1.6 There is tremendous scope to boost entrepreneurship in India. Some sectors immediately provide opportunities for growth. For example, the auto components sector is expected to see substantial growth as India moves from being the world' s seventh largest automobile manufacturer in 2014 to the fourth largest in 2015. Sectors like IT infrastructure, biotechnology, healthcare and education, too are poised to grow several times in size over the next couple of years. There is huge scope in the field of social inclusion. Bringing the economically disenfranchised (including the dalits, scheduled castes, scheduled tribes, and other backward castes) and women into the economic mainstream not only serves a higher purpose; there is also a strong economic and social justification for the same. It would lead to greater stability in society in the years to come (a benefit across all socio-economic strata), and would also open up a significant new market for firms to tap. As such, it would substantially increase the proportion of the economy able to engage in productive activity. Of course, these projections are predicated on "business as usual" assumptions regarding entrepreneurial growth of new enterprises; were the latter to take off, the growth might be much greater, especially in sectors like life sciences and automobiles with a global "wind in the sails" . Government policy that favours innovation can have significant impact on growth and job creation in the economy, as indicated by economists that show innovation and productivity to be endogenously generated. Furthermore, India has a latent science and engineering talent pool, which may be particularly advantageous in a context where fewer graduates in Western countries are opting for STEM (Science, Technology, and Engineering Majors) coursework. Indeed, representatives from Google, General Electric, and IBM have noted that conducting world-class R&D in India is seen as a major opportunity to serve both domestic and international markets. This strength should be capitalised to generate indigenous intellectual capital.

Tamil Nadu Vision 2023

For growing GSDP at a sustained pace of 11% per annum for the next 11 years, all three sectors of the economy, namely, Agriculture, Manufacturing and Services, need to grow at a high rate. Agricultural output would need to grow by 5% per annum over the next 11 years despite no increase in cultivable area; manufacturing sector would have to grow by about 14% per annum, while the Service sector would grow at 11% per annum. Innovation is key to achieving such ambitious growth rates and Vision 2023 envisions Tamil Nadu becoming the "Knowledge Capital" and "Innovation Hub" of the country. This requires the creation and nurturing of an appropriate atmosphere that aids innovation and sustenance of knowledge. Some enabling conditions are:

a. The establishment of a dynamic information infrastructure that increases the access to information universally and makes decision making faster, transparent and efficient. Ensuring that every youth of Tamil Nadu is sufficiently skilled at his/her job.

c. Creation of an ecosystem of knowledge – including the physical availability of research organisations, universities, think tanks, and business organisations whose success depends on how information is converted to knowledge.

d. Establish and strengthen ten or more centres of excellence in Tamil Nadu - these would essentially be world class organisations that are at the cutting edge in their respective domains. These domains include automotive, solar and clean technology, bio technology, agricultural practices, water conservation, construction, life style diseases, aero space, basic sciences and nano- technologies.

e. An economic and institutional regime that incentivises creation of new knowledge and entrepreneurship to use that knowledge

f. An environment conducive for protecting Intellectual Property Rights and celebrating success in innovations, thus fostering a risk taking culture.

g. Setting up an innovation fund that rewards innovation by students, businesses, academic institutions and others.

Vision 2023 Growth Strategies

The ten themes of Tamil Nadu Vision 2023 as described in the previous section are the aspirational outcomes and enablers that are sought over the next 11 years. To achieve them, the Government of Tamil Nadu will adopt multiple strategies that energise various slivers of the economy and create a virtuous circle of enhanced competitiveness, efficiency and vibrancy in all sectors and galvanise the citizens and other stakeholders to march towards the targets in unison. Strategy for development is about building on the strengths of the state to exploit opportunities while simultaneously protecting the vulnerabilities that could arise due to intrinsic weaknesses and threats in the environment.

Accordingly, Vision 2023 identifies ten thrust areas which form the basis of acceleration in the economy and achievement of the long term goals. The ten thrust areas are described below:

Strategic initiative 1 – Increasing the share of manufacturing in the state's economy:

Change in composition of the state GDP to reflect factor endowments: At present (2010-11), the composition of the GSDP of Tamil Nadu is Primary sector 12.6%, Secondary sector 25.8%

and Tertiary Sector 61.6%. Agriculture & allied activities comprise the bulk of the Primary sector, while in the Secondary sector the break-up is Manufacturing sector (17%) and Non-manufacturing sector (9%6).

The Tertiary sector comprises a multitude of service activities. Given the strong accent in Vision 2023 to accelerate growth in overall GSDP and per capita incomes, it is imperative that all the three sectors grow at high rates.

Strategic initiative 2 - Making SMEs vibrant

The objective behind giving a big thrust to the manufacturing sector is to increase the footprint of high value adding activities in the state in line with its natural and human endowments and more importantly, to enhance the level of direct and indirect employment. A highly developed manufacturing sector necessarily needs a vibrant and dynamic SME sector which forms the base for providing essential goods and services. Therefore, one of the strategic initiatives underlying Vision 2023 is to boost the creation and sustenance of several SME clusters across the state. This will have the dual benefit of a geographically diversified growth in the state and high employment generation, the latter being a characteristic of the SME sector. Even as of today, Tamil Nadu is one of the leading bases for small businesses in India, with a leadership position in several industries such as leather and leather goods, engineering goods, automotive components, castings, pumps and readymade garments.

Strategic initiative 3 - Making Tamil Nadu the Knowledge Capital and Innovation hub of India

Tamil Nadu is not amongst the lowest cost locations for manufacturing activities when compared to many other states in India; neither is the demographic profile of Tamil Nadu's workforce the most favourable in India. Therefore, it is imperative for Tamil Nadu to enhance its factor productivity significantly if it is to compete with other destinations in India and East Asia to grow its investments, output and employment in manufacturing and service sectors. This enhanced productivity can be achieved only if all organisations in Tamil Nadu make knowledge and innovation the centrepiece of their activities. This thrust on innovation has to happen across the board of economic activity in the state including services, manufacturing, agriculture, administration, and financing. This needs coordinated and deliberate action along the following lines:

a. Ushering in a revolution in Skill Development aimed at skilling 20 million persons across the state over the next 11 years

b. Establishing best in class institutions as Centres of Excellence in various fields that will attract the best talent from across the globe c. Fostering a social climate and institutional

structure that will encourage free movement of people to and from other states of India and other parts of the world.

Steps to make Tamil Nadu a Knowledege Hub

The key steps that Government will take to make Tamil Nadu a hub for knowledge are as follows:

i) Evaluate the major universities in the state across all disciplines and invest in revamping the core assets and facilities, getting more qualified faculty, setting up new facilities that may be required, and making the curriculum and pedagogy more up-to-date and relevant to the disciplines in question.

ii) Establish with own resources and/ or with industry partnership about ten world class institutions (Centres of Excellence) in different areas, which become nodes of research, industry partnership, and innovation. These would be established by upgrading existing centres of research and higher learning (where such a centre exists) and by establishing new centres. The different areas of focus for their COEs are as follows:

- Automotive technology
- Solar and clean energy technology
- Biotechnology
- Agricultural practices
- Water resources management
- Construction management
- Lifestyle diseases
- Aerospace
- Basic sciences
- Nano technology
- Social sciences

iii) Creation of an adequate base of trained technical and managerial personnel with competencies and skills across different sectors. Tamil Nadu will usher in a skills revolution in the state by facilitating the education and training of about 20 million persons over the next 11 years in different fields and to varying levels of expertise.

iv) A social climate and institutional structure that supports innovation. Government shall encourage and support the immigration of people from other states and countries into Tamil Nadu, especially those who bring skills and capabilities that are in short supply in the state. Further Government will facilitate the establishment of a state-wide culture of continuous dialogue and exchange of ideas among government, labour and business to ensure a high degree of cooperation and mutual understanding. This is an essential ingredient of an innovative culture, as innovation aims to bring change, which can sometimes be disruptive, but still essential for development.

v) Government could give a further boost to innovation by setting up an Innovation fund that works at several levels to foment innovation in the state. For instance, it could formulate a scheme at schools in the state in terms of awarding prizes for the best 50 innovations from school students each year. The Innovation fund could institute awards for the best three innovations from business firms, academic institutions, NGOs, etc. The objective is to sensitise professionals and society at large on the upside of innovation, which can improve life on a day to day basis.

Knowledge Projects under Vision 2023

The Vision 2023 document also talks of setting up 4 Entrepreneurship development Centres under PPP mode as below :

Sl	Project	Investment
1	Entrepreneurship Development Centre for SME in Madurai	15
2	Entrepreneurship Development Centre for SME in Coimbatore	15
3	Entrepreneurship Development Centre for SME in Chennai	15
4	Mega Entrepreneurship Development Centre in Karur for Trichy and Erode	25

2. Global Entrepreneurship Monitoring Report 2016

2.1 The Global State of Entrepreneurship

Contrary to popular belief, the most entrepreneurial countries in the world are not those that have the most entrepreneurs. This notion is in fact misleading. In fact, the highest self-employment rates are in low-income countries such as Zambia and Nigeria. This is because low-income economies lack the human capital and infrastructure needed to create high-quality jobs. The result is that many people sell soft drinks and fruit on street corners, but there are few innovative, high-growth startups. Nor do these street vendors represent business ownership as defined in many European countries.

In entrepreneurship, quality matters more than quantity. To be entrepreneurial, a country needs to have the best entrepreneurs, not necessarily the most. What the "best and the brightest" do is important, and to support their efforts, a country needs a well-functioning entrepreneurial ecosystem.

Entrepreneurial ecosystems support innovative, productive, and rapidly growing entrepreneurial ventures. They consist of multiple interactive elements, all of which need to be in sync in order for innovative and high-growth firms to prosper. These firms also need skilled employees. They need access to technology. They need a well-functioning infrastructure. They need specialized advice and support

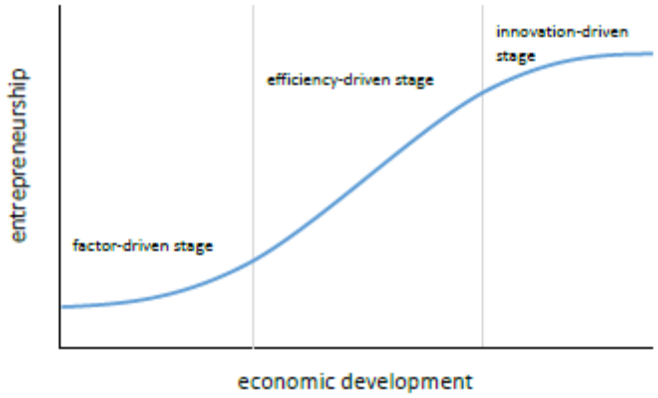
Table 1.6: GEI Correlated Variables with R-Squared Coefficients

GEI-Correlated Variable	R-Squared
GDP per capita	.58
Income equality	.13
Digital evolution	.72
Environmental performance	.72
Economic freedom	.51
Peace	.34

Table 1.2: Top Ten Countries in the GEI

Country	GEI 2016 lower limit	GEI 2016 upper limit	GEI 2016	Rank 2016	GEI 2015	Rank 2015
United States	91.4	81.1	86.2	1	85.0	1
Canada	85.5	73.4	79.5	2	81.5	2
Australia	87.4	68.6	78.0	3	77.6	3
Denmark	85.8	66.3	76.0	4	71.4	6
Sweden	84.6	67.1	75.9	5	71.8	5
Taiwan	77.0	62.4	69.7	6	69.1	8
Iceland	78.7	59.2	68.9	7	70.4	7
Switzerland	75.7	59.8	67.8	8	68.6	9
United Kingdom	71.8	63.5	67.7	9	72.7	4
France	76.8	56.0	66.4	10	67.3	12

Figure 2.1: The S-Curve of Entrepreneurship



2.2 The 14 Pillars of Entrepreneurship

The pillars of entrepreneurship are many and complex. While a widely accepted definition of entrepreneurship is lacking, there is general agreement that the concept has numerous dimensions. We take this into account in creating our entrepreneurship index. Some businesses have a larger impact on markets, create more new jobs, and grow faster and become larger than others. We also take into account the fact that entrepreneurship plays a different role at different stages of development.

Considering all of these possibilities and limitations, we define ***entrepreneurship*** as *"the dynamic, institutionally embedded interaction between entrepreneurial attitudes, entrepreneurial abilities, and entrepreneurial aspirations by individuals, which drives the allocation of resources through the creation and operation of new ventures."*

The GEI is composed of three building blocks or sub-indices—what we call the 3As: entrepreneurial attitudes, entrepreneurial abilities, and entrepreneurial aspirations. These three sub-indices stand on 14 pillars, each of which contains an individual and an

institutional variable that corresponds to the micro and the macro-level aspects of entrepreneurship. Unlike other indexes that incorporate only institutional or individual variables, the pillars of the GEI include both. These pillars are an attempt to capture the open-ended nature of entrepreneurship; analyzing them can provide an in-depth view of the strengths and weaknesses of those listed in the Index. We now describe the 14 pillars of entrepreneurship.

2.2.1 Entrepreneurial Attitudes Pillars

Pillar 1: Opportunity Perception. This pillar captures the potential "opportunity perception" of a population by considering the size of its country's domestic market and level of urbanization. A population's opportunity perception potential is an essential ingredient of entrepreneurial startups. Within this pillar is the individual variable, *Opportunity Recognition*, which measures the percentage of the population that can identify good opportunities to start a business in the area where they live.

However, the value of these opportunities also depends on the size of the market. The institutional variable *Market Agglomeration* consists of two smaller variables: the size of the domestic market (Domestic Market) and urbanization (Urbanization). The Urbanization variable is intended to capture which opportunities have better prospects in developed urban areas than they do in poorer rural areas. Market Agglomeration is determined by multiplying the size of the Domestic Market by the percentage of the population living in urban areas.

Pillar 2: Startup Skills. Launching a successful venture requires the potential entrepreneur to have the necessary startup skills. Skill Perception measures the percentage of the population who believe they have adequate startup skills. Most people in developing countries think they have the skills needed to start a business, but their skills usually were acquired through workplace trial and error in relatively simple business activities. In developed countries, business formation, operation, management, etc., requires skills that are acquired through formal education and training. Hence education, especially post-secondary education, plays a vital role in teaching and developing entrepreneurial skills. Today there are 150 million students enrolled in some kind of education beyond high school, a 53 percent increase in less than a decade. People all over the world see education as a pathway out of poverty.

Pillar 3: Risk Acceptance. Of the personal entrepreneurial traits, fear of failure is one of the most important obstacles to a startup. Aversion to high-risk enterprises can retard nascent entrepreneurship. Risk Perception is defined as the percentage of the population who do not believe that fear of failure would prevent them from starting a business. Business Risk reflects the availability and reliability of corporate financial information, legal protection of creditors, and institutional support of inter-company transactions.

Pillar 4: Networking. Networking combines an entrepreneur's personal knowledge with their ability to use the Internet for business purposes. This combination serves as a proxy for networking, which is also an important ingredient of successful venture creation and entrepreneurship. Entrepreneurs who have better networks are more successful, can identify more viable opportunities, and can access more and better resources. We define the basic networking potential of a possible entrepreneur by the percentage of the population who personally know an entrepreneur who started a business within two years (Know Entrepreneurs). However, connecting through cyberspace with the rest of the world adds another dimension to networking and opens up much greater opportunities than before (Internet Usage).

Pillar 5: Cultural Support. This pillar is a combined measure of how a country's inhabitants view entrepreneurs in terms of status and career choice, and how the level of corruption in that country affects this view. Without strong cultural support, the best and brightest do not want to be responsible entrepreneurs, and they decide to enter a traditional profession. Career Status is the average percentage of the population age 18-64 who say that entrepreneurship is a good career choice and enjoys high status. The associated institutional variable measures the level of corruption. High levels of corruption can undermine the high status and steady career paths of legitimate entrepreneurs.

2.2.2 Entrepreneurial Abilities Pillars

Pillar 6: Opportunity Startup. This is a measure of startups by people who are motivated by opportunity but face regulatory constraints. An entrepreneur's motivation for starting a business is an important signal of quality. Opportunity entrepreneurs are believed to be better prepared, to have superior skills, percentage of the Total Entrepreneurial Activity (TEA) businesses started to exploit a good opportunity, to increase income, or to fulfill personal aims, in contrast to those started by people who have no other options for work. The institutional variable applied here is Business Freedom, one sub-index of the Index of Economic Freedom. The Economic Freedom variable is appropriate for capturing the overall burden of regulation, as well as the government's regulatory efficiency in influencing startups and operating businesses.

Pillar 7: Technology Absorption. In the modern knowledge economy, information and communication technologies (ICT) play a crucial role in economic development. Not all sectors provide the same chances for businesses to survive and or their potential for growth. The Technology Level variable is a measure of the businesses that are in technology sectors. The institutional variable Tech Absorption is a measure of a country's capacity for firm-level technology absorption, as reported by the World Economic Forum. The diffusion of new technology, and the capability to absorb it, is vital for innovative firms with high growth potential.

Pillar 8: Human Capital. The prevalence of high-quality human capital is vitally important for ventures that are highly innovative and require an educated, experienced, and healthy workforce to continue to grow. An important feature of a venture with high growth potential is the entrepreneur's level of education.

The Educational Level variable captures the quality of entrepreneurs; it is widely held that entrepreneurs with higher education degrees are more capable and willing to start and manage high-growth businesses.

The quality of employees also has an impact on business development, innovation, and growth potential.

The institutional variable Staff Training is a country's level of investment in business training and employee development. It can be expected that heavy investment in employees pays off and that training increases employee quality.

Pillar 9: Competition. Competition is a measure of a business's product or market uniqueness, combined with the market power of existing businesses and business groups. The variable Competitors is defined as the percentage of TEA businesses that have only a few competitors offering the same product or service.

However, market entry can be prevented or made more difficult if powerful business groups are dominating the market. The extent of market dominance by a few business groups is measured by the variable Market Dominance, a variable reported by the World Economic Forum.

2.2.3 Entrepreneurial Aspirations Pillars

Pillar 10: Product Innovation. New products play a crucial role in the economy of all countries. While countries were once the source of most new products, today developing countries are producing products that are dramatically cheaper than their Western equivalents. New Product is a measure of a country's potential to generate new products and to adopt or imitate existing products. In order to quantify the potential for new product innovation, an institutional variable related to technology and innovation transfer seems to be relevant. Technology transfer is a complex measure of whether a business environment allows the application of innovations for developing new products.

Pillar 11: Process Innovation. Applying and/or creating new technology is another important feature of businesses with high growth potential. New Tech is defined as the percentage of businesses whose principal underlying technology is less than five years old. However, most entrepreneurial businesses do not just apply new technology, they create it. The problem is similar to the New Product variable: whereas many businesses in developing countries may apply the latest technology, they tend to buy or copy it. An appropriate institutional variable

applied here is research and development (R&D). Gross Domestic Expenditure on Research and Development (GERD) is the R&D percentage of GDP as reported by OECD. While R&D alone does not guarantee successful growth, it is clear that, without systematic research activity, the development and the implementation of new technologies—and therefore future growth—will be inhibited.

Pillar 12: High Growth. This is a combined measure of the percentage of high-growth businesses that intend to employ at least ten people and plan to grow more than 50 percent in five years (Gazelle variable) with business strategy sophistication (Business Strategy variable). It might be argued that a shortcoming of the Gazelle variable is that growth is not an actual but an expected rate. However, a measure of expected growth is in fact a more appropriate measure of aspiration than a measure of realized growth. Business Strategy refers to "the ability of companies to pursue distinctive strategies, which involves differentiated positioning and innovative means of production and service delivery." High Growth combines high growth potential with a sophisticated strategy.

Pillar 13: Internationalization. Internationalization is believed to be a major determinant of growth. A widely applied proxy for internationalization is exporting. Exporting demands capabilities beyond those needed by businesses that produce only for domestic markets. However, the institutional dimension is also important; a country's openness to international entrepreneurs—that is, the potential for internationalization—can be estimated by its degree of globalization. The internationalization pillar is designed to capture the degree to which a country's entrepreneurs are internationalized, as measured by the exporting potential of businesses, controlling for the extent to which the country is economically globalized.

Pillar 14: Risk Capital. The availability of risk finance, particularly equity rather than debt, is an essential precondition for fulfilling entrepreneurial aspirations that are beyond an individual entrepreneur's personal financial resources. Here we combine two kinds of finance, the informal investment (Informal Investment) and the institutional depth of capital market (DCM). Informal Investment is defined as the percentage of informal investors in the population age 18-64, multiplied by the average size of individuals' investment in other people's new businesses. While the rate of informal investment is high in factor-driven economies, the amount of informal investment is considerably larger in efficiency- and innovation-driven countries; combining them balances these two effects. Our institutional variable here is DCM, one of the six sub-indices of the Venture Capital and Private Equity Index. This variable is a complex measure of the size and liquidity of the stock market, level of IPO, M&A, and debt and credit market activity, which encompass seven aspects of a country's debt and capital market.

Figure 4.2: Entrepreneurial Ecosystem Profiles of the US, Japan, and India

India

Asia-Pacific

World Rank	98 of 132
Regional Rank	16 of 21

Factor Driven | Efficiency Driven | Innovation Driven

Overall GEI Score	24.9
Individual Indicators	51.3
Institutional Indicators	51.0

Global Entrepreneurship Index

14 Pillar Comparison

General Indicators	
Population	1267.4 million
GDP per capita PPP	$5,238
Rank in Doing Business Index 2014	142/189
Rank in Global Competitiveness Index 2014-2015	71/144
Rank in Economic Freedom Index 2014	128/178

Pillar scores from worst to best		Percentage of total new effort for a 10 point improvement in GEI score
Technology Absorption	0.06	22%
Opportunity Startup	0.10	18%
Networking	0.14	14%
High Growth	0.14	14%
Internationalization	0.15	13%
Risk Capital	0.18	10%
Startup Skills	0.21	6%
Risk Acceptance	0.25	3%
Human Capital	0.26	2%
Cultural Support	0.28	0%
Opportunity Perception	0.36	0%
Product Innovation	0.51	0%
Process Innovation	0.62	0%
Competition	0.76	0%

3. Global Innovation Index

3.1.1 The Global Innovation Index (GII) 2015 covers 141 economies around the world and uses 79 indicators across a range of themes. Thus GII 2015 presents us with a rich dataset to identify and analyse global innovation trends. The theme for this year's GII is 'Effective Innovation Policies for Development'. Taking advantage of the wealth of information produced by the GII analysis in its past editions, the outcome of various innovation policies can be reviewed to support their claims to effectiveness and to determine the impact that an economy's degree of development has on their efficacy.

3.1.2 This report presents chapters that discuss different aspects of the index and the theme, followed by appendices that provide a profile for each of the countries/ economies covered this year, the data from individual data tables for each indicator, detailed information about the sources and definitions of each indicator, and technical notes about the composition of the index.

3.1.3 The GII conceptual framework The GII is focused both on improving ways to measure innovation and understanding it, and on identifying targeted policies and good practices. The GII helps to create an environment in which innovation factors are continually evaluated. It provides a key tool of detailed metrics for 141 economies this year, representing 95.1% of the world's population and 98.6% of the world's GDP (in current US dollars).

3.1.4 Four measures are calculated: the overall GII, the Input and Output Sub-Indices, and the Innovation Efficiency Ratio (Figure1).

• The overall GII score is the simple average of the Input and Output Sub-Index scores.

• The Innovation Input Sub- Index is comprised of five input pil lars that capture elements of the national economy that enable innovative activities: (1) Institutions, (2) Human capital and research, (3) Infrastructure, (4) Market sophistication, and (5) Business sophistication.

• The Innovation Output Sub- Index provides informat ion about outputs that are the results of innovative activities within the economy. There are two output pillars: (6) Knowledge and technology outputs and (7) Creative outputs.

• The Innovation Efficiency Ratio is the ratio of the Output Sub-Index score over the Input Sub-Index score. It shows how much innovation output a given country is getting for its inputs. Each pillar is divided into three sub-pillars and each sub-pillar is composed of individual indicators, for a total of 79 indicators. Further details on the GII framework and the indicators used are provided in Annex 1. It is important to note that each year the variables included in the GII computation are reviewed and updated to provide the best

and most current assessment of global innovation. Other methodological issues— such as missing data, revised scaling factors, and new countries added to the sample— lso impact year-on-year comparability of the rankings (details of these changes to the framework and factors impacting year-on-year comparability are provided in Annex 2).

3.2 The Global Innovation Index 2015: Main findings

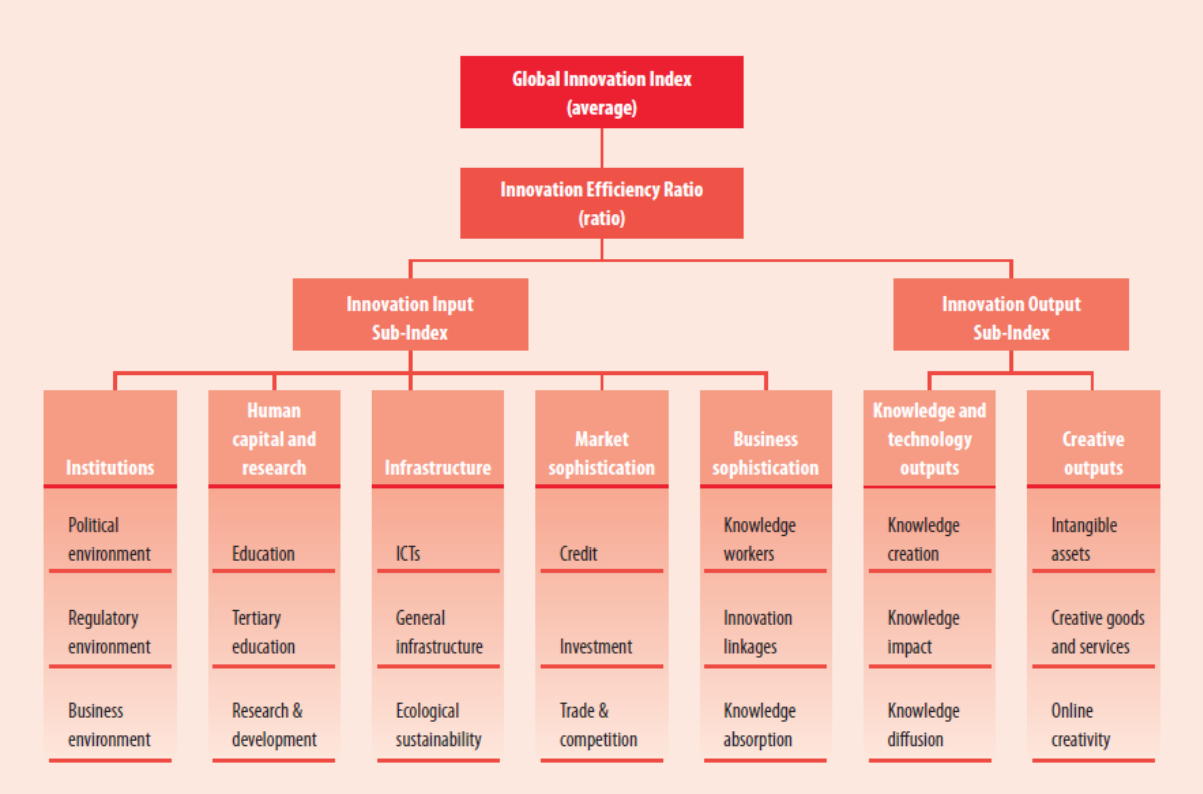
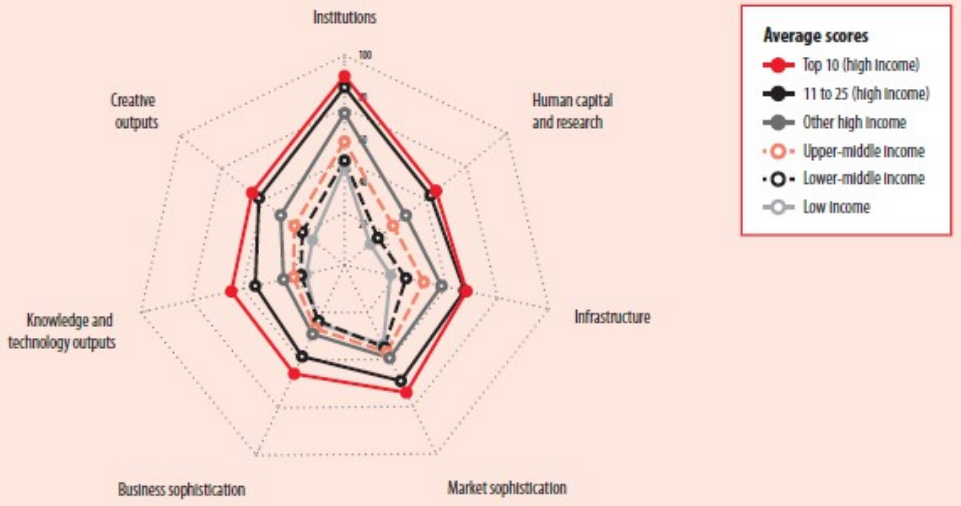


Figure 2.1: The persistent innovation divide: Stability among the GII 2015 top 10 and top 25



Note: Countries/economies are classified according to the World Bank Income Group Classification (July 2013).

3.2.1 The GII 2015 results have shown consistency in areas such as top rankings and the innovation divide. However, there have also been some new developments, particularly evident within the middle-income economies and the Sub-Sahara Africa region. In the following pages, a number of findings from the report are exposed in greater detail. The key messages are:

• **Among the top, quality matters. Among high-income countries, a major divider can be found in the quality of innovat ion. This is the area in which the USA and the United Kingdom (UK), largely as a result of their world-class universities, stay ahead of the pack**

• Several emerging innovators are now on the heels of rich countries. Differences are eroding between the champions of the middle-income countries (Malaysia, China) and the lower tier of high-income countries (refer to Box2 on page 12–13 for further details).

• **Institutions matter. Across regions, the most visible differentiator in terms of innovation performance is found in the Institutions pillar. GII metrics hence conf irm a core principle of international policy literature: good innovation policies start with good innovation institutions. The set of rules defined by institutions is particularly important for developing economies because the rules stipulate norms of interaction among actors in recurrent situations. Eventually, these rules set the formal and informal guidelines followed by national, international, private, and public realms as they interact to produce and develop new ideas and innovations in particular regions.**

• Among poor economies, business sophistication makes a big difference. Low-income countries that have made efforts on business sophistication are able to do well, sometimes overtaking some middle-income countries

• Encouraging signs emerge in Sub-Saharan Africa. In 2015 the Sub-Saharan Africa region has caught up with and even superseded Central and Southern Asia in several pillars (Institutions, Business sophistication, and Creative outputs). In addition to South Africa, some preeminent performances from this region include some of the same economies flagged in 2014 as stand-out innovation achievers: Burkina Faso, Kenya, Malawi, Rwanda, Senegal (refer to Figure4 for further details and Chapter 1, Box4, in the GII 2014 report).

• BRICS economies—particularly China—are gaining ground in innovation quality. Among the middle-income top 10 in innovation quality, the BRICS economies are at the top. At the same time, the distance between China and the others is rapidly increasing (see Box3). The Russian Federation is now among the high-income group; it would be 3rd if it was still considered among the upper-middle income countries.

3.2.2 Below we provide a summary of the chapters.

3.2.3 Chapter 1 : 'The Global Innovation Index 2015: Effective Innovation Policies for Development',

written by Soumitra Dutta, Rafael Escalona Reynoso, and Alexandra L. Bernard from Cornell University; Bruno Lanvin from INSEAD; and Sacha Wunsch-Vincent from WIPO, introduces the idea that innovation-driven growth is no longer the prerogative of high-income countries alone, while providing tangible examples of effective innovation policies undertaken by developing countries with corresponding positive results in the GII rankings. Furthermore, this chapter discusses the results of this year's rankings. The key findings from the chapter are summarized below:

• Switzerland, the United Kingdom (UK), Sweden, the Netherlands, and the United States of America (USA) are the world's five most-innovative nations; at the same time, China, Malaysia, Viet Nam, India, Jordan, Kenya, Uganda, and a group of other countries are outpacing their economic peers in 2015.

• The GII leaders have created well-linked innovation ecosystems where investments in human capital, combined with strong innovation infrastructures, contribute to high levels of creativity. In particular, the top 25 countries in the GII consistently score well in most indicators and have strengths in areas such as information and communication technologies and business sophistication, which includes knowledge workers, innovation linkages, and knowledge absorption; they also create high levels of measurable outputs including creative goods and services.

- ***But innovation is not only about volume: Quality counts, too. In terms of innovation quality—as measured by university performance, the reach of scholarly articles, and the international dimension of patent applications—the USA holds the top place within the high-income group, followed by the UK, Japan, Germany, and Switzerland. Topscoring middle-income economies are narrowing the gap on innovation quality: China leads this group, followed by Brazil and India, fuelled by an improvement in the quality of higher-education institutions.***

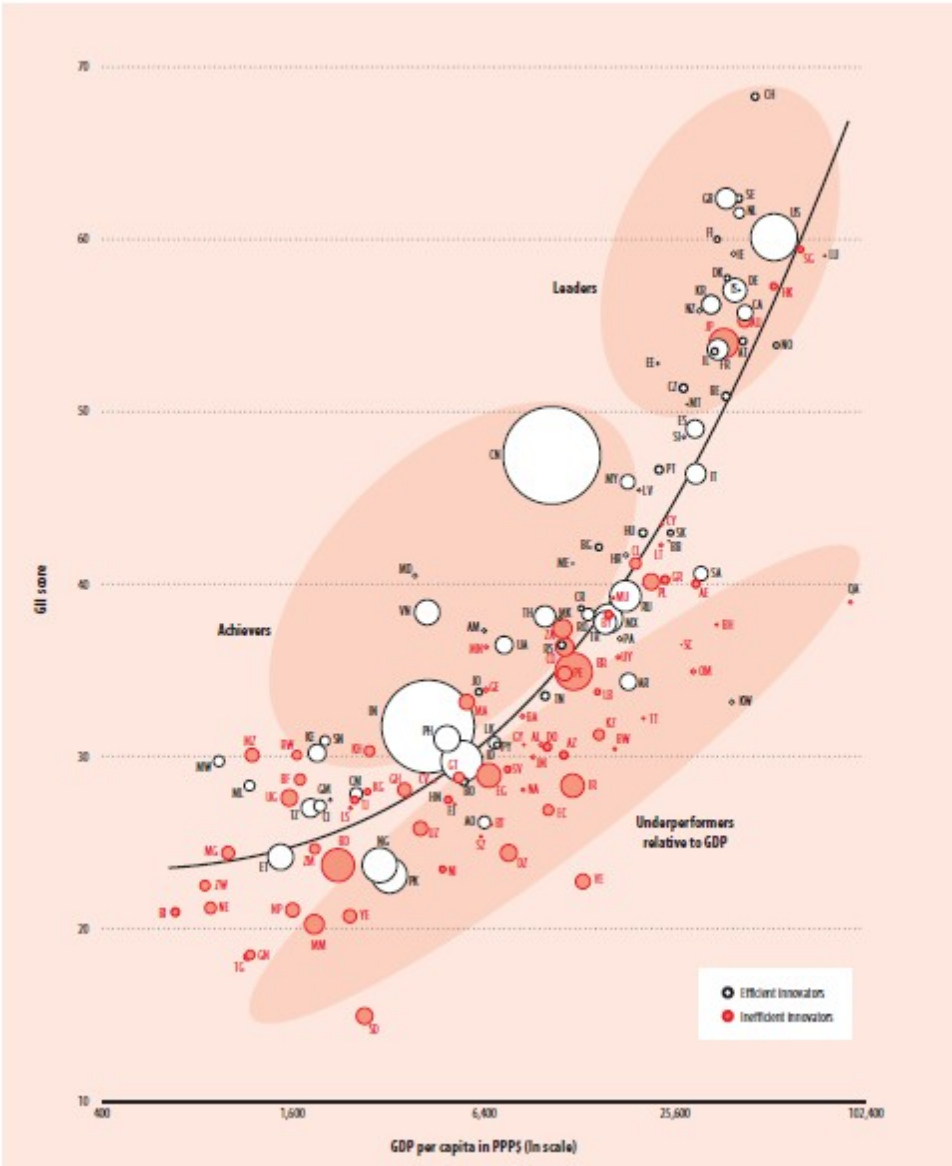
- The GII 2015 confirms the persistence of global innovation divides. Among the top 10 and top 25, rankings have changed but the set of economies remains unaltered (the onlyexceptions being the Czech Republic, which has made its way into the top 25, and Malta, which has dropped from this list).

- For the purposes of this report, economies that perform at least 10 percent better than their peers for their level of gross domestic product (GDP) are called 'innovation achievers'.

- The 14 middle-income countries outperforming others in their income group—in order of performance—are the Republic of Moldova, China, Viet Nam, Armenia, Senegal, Mongolia, Malaysia, Montenegro, Ukraine, India, Bulgaria, Thai land, Morocco, and Jordan. The eight low-income countries outperforming others in their income group are Malawi, Mozambique, Rwanda, Kenya, Mali, Burkina Faso, Cambodia, and Uganda. These innovation achievers demonstrate rising levels of innovation input and output results because of improvements made to institutional frameworks, a skilled labour force with expanded tertiary education, better innovation infrastructures, a deeper integration with global credit investment and trade markets, and a sophisticated business community—even if progress on these dimensions is not uniform across their economies.

- On average, the technology gap between developing and developed countries is narrowing. One explanation for this phenomenon is that more and more developing countries outperform in innovation inputs and outputs relative to their level of development. The GII 2015 studies these 'outperformers'—namely Armenia, China, Georgia, India, Jordan, Kenya, Malaysia, the Republic of Moldova, Mongolia, Uganda, and Viet Nam—analysing them in more detail and establishing links between performance and good business practices or innovation policies. They and other countries have realized that technology adoption alone is no longer suff icient to maintain a high-growth scenario; rather, investment in innovation is now crucial to spur further catch-up. As a result, national innovation policy programmes and the corresponding institutional arrangements have flourished in low- and middle- income countries.

Figure 3: GII scores and GDP per capita in PPP$ (bubbles sized by population)



- The top three economies in the GII rankings for each region are as follows: in Sub-Saharan Africa, the top three are Mauritius, South Africa, and Senegal; in Central and Southern Asia, these are India, Kazakhstan, and Sri Lanka; in Latin America and the Caribbean, these are Chile, Costa Rica, and Mexico; in Northern Africa and Western Asia, these are Israel, Cyprus, and Saudi Arabia; in Southeast Asia and Oceania, these are Singapore, Hong Kong (China), and the Republic of Korea; in Europe, these are Switzerland, theUK, and Sweden; in Northern America, there are only two—the USA and Canada.

- Encouraging signs continue to emerge in Sub- Saharan Africa. Following the trend identified in the GII last year, driven by selected countries, the Sub-Saharan Africa region has caught up significantly. In addition to South Africa, some African countries—in particular,

Burkina Faso, Kenya, Malawi, Rwanda, and Senegal—stand out for having made important progress.

- Although Latin America and the Caribbean region's GII rankings have been slow to improve, Brazil, Argentina, and Mexico stand out as economies performing above the region's average GII score. The consistent overperformance of Chile, Costa Rica, and Colombia—in both regional terms and as compared to their peers of similar economic development—is also noteworthy, as is the emergent role of Peru and Uruguay.

3.2.3 Chapter 2, 'Benchmarking Innovation Outperformance at the Global and County Levels',

written by Rafael Escalona Reynoso and Alexandra L. Bernard from Cornell University; Michaela Saisana from the Joint Research Centre at the European Commission; Martin Schaaper from UNESCO Institute for Statistics; and Sacha Wunsch-Vincent and Francesca Guadagno from WIPO, assesses the list of innovation achievers and pillar outperformers over the period 2011–14 and identifies a select group of 11 innovation outperformer economies. The chapter stresses that, at the country level—especially in developing countries—the emphasis on fostering innovation has increased and national innovation policies and programmes are f lourishing.

- Although tracking absolute levels of innovation over time is diff icult, measuring such progress has become a priority for policy makers who are seeking ways to assess the effectiveness of their innovation policies and innovation systems. This interest has also been permeated by high-level international development-related discussions.

- By tracking global progress in innovation and focusing on those developing countries that outperform in innovation compared to countries at similar levels of development, the GII can be used to monitor progress in innovation and identify areas of strengths and weaknesses in innovation efforts.

- The analysis within the chapter finds a growing percentage of countries with above-par performance (those that outperform their peers with a similar level of economic development). The number of these innovation achievers continues to increase through the period under study here, namely 2011–14.

- Eight economies (China, India, Jordan, Kenya, the Republic of Moldova, Mongolia, Malaysia, and Viet Nam) can be signalled as innovation achievers, outperforming their peers on the overall GII score during 2011–14.

- Fifteen economies (China, Costa Rica, Georgia, Ghana, Hungary, India, Kenya, the Republic of Moldova, Mongolia, Malaysia, Rwanda, Serbia, Thailand, Ukraine, and Viet Nam) outperformed their peers in at least four innovation input or output pillars during 2011–14.

- Eleven developing countries (Armenia, China, Georgia, India, Jordan, Kenya, Malaysia, the Republic of Moldova, Mongolia, Uganda, and Viet Nam) are labelled 'innovation outperformers' because they conform to the following two more stringent rules: (1) their GII score relative to their GDP is significantly higher than it is for other economies (they attain 'innovation achiever' status) for two or more recent years (including at least 2013 and 2014); and (2) they outperform their income-group peers in a minimum of four innovation input or output pillars (they are designated 'pillar outperformers') for two or more years (including at least 2013 and 2014).

- **Innovation achievers seem to perform the strongest in Market sophistication and Knowledge and technology outputs.** At low income levels, countries that outperform their peers focus on removing structural obstacles to innovation, such as poor access to finance and poor linkages within the innovation systems. At higher income levels, efforts concentrate on increasing investments, spurring growth in innovation outputs, and improving human capital.

- Although the innovation system literature puts great emphasis on the role of human capital and institutions for innovation and development, these innovation input factors seem to be the most difficult of all inputs in which to achieve good scores, both in general and for low-income countries in particular. These results do not necessarily imply a lack of policy interest in these areas, but they might suggest that it is easier to outperform peers in certain inputs, either because efforts to improve these inputs bring more immediate benefits or because peer countries perform particularly poorly in these areas.

- **Research and development (R&D) is one of the key policy areas that can secure technological potential and, therefore, innovation and economic growth. In order to reach the income levels of high-income countries, low- and middle-income countries need to expand their access to technology and their capacity to use it.**

- Countries at higher income levels, instead, can benefit from more developed innovation systems, where education and research can effectively provide the knowledge and skills to boost innovation. This allows them to more effectively translate innovation efforts into knowledge and technology outputs.

3.2.4 Chapter 3, 'Innovation Policies for Development,'

written by Micheline Goedhuys, Hugo Hollanders, and Pierre Mohnen from UNU-MERIT (United Nations University and Maastricht University), emphasizes that the competitiveness of both companies and countries depends on their ability to innovate and move in the direction of frontier technology and knowledge. Innovation policies have been recently introduced in most emerging economies. Even in developing and least-developed countries,

innovation is at the core of the political debate, but the focus of innovation policies in these countries differs from that of policies in more advanced economies.

- There is a wide heterogeneity among enterprises in emerging economies. Besides top-performing companies, emerging economies also host large groups of micro and small businesses, operating far below the frontier of innovation, with basic technologies and low levels of human capital. Raising the productivity of these smaller producers through innovation and the adoption of better technologies will have a substantial aggregate impact on a country's economic growth, employment, poverty alleviation, and sustainable development.

- At the aggregate level and in comparison with data from developed economies, innovation in developing countries is more incremental than radical and takes place in an informal setting more often than it does in formal R&D laboratories. For emerging countries that are catching up, experience shows that technology adoption alone is no longer sufficient to maintain a high-growth scenario. These countries too must invest in innovation, and governmental support is crucial for promoting it.

- In developing and emerging economies, the importance of innovation is widely recognized and innovation policies occupy a central role in their development plans and strategies.

- In emerging countries, innovation is seen as key to addressing pressing societal problems such as pollution, health issues, poverty, and unemployment. The role and significance of innovation goes beyond the objective of economic success. Rather it should be seen through the lens of inclusive development because it can address poverty and health issues, and through the lens of environmental sustainable development because it can address problems of pollution and energy provision.

- Since innovation processes are also more oriented towards knowledge diffusion and absorption, instead of investing in R&D, to a large extent firms in emerging economies try to reap the benefits of catching up through adoption and international technology transfer, and favour tax incentives over direct R&D support grants.

- Emphasis in emerging countries should be placed on gaining knowledge as much as on providing the right framework conditions that stimulate a process of innovation and knowledge diffusion: political stability and supportive institutions; good and widespread technical and tertiary education to enhance absorptive capacity; reliable and widespread basic infrastructure; excellent provision of information and communication technology (ICT) property rights; and stronger links and interaction between publicly funded research institutes and private companies.

- The ultimate policy mix will depend on a country's broader development objectives, and will have to be made in collaboration with all the stakeholders to maximize the chances of success. Good coordination between ministries and between the private and the government sectors is therefore essential.

- It is also essential to monitor the impact of innovation policies in order to determine whether policies have worked and which policies might be most effective.

- Countries need to invest in research and innovation to develop products that address their particular needs. Governments are therefore developing innovation-support policies that take into account the specificities of their domestic industries. A few emerging countries have successfully introduced such policies and provide interesting cases from which lessons can be learned on a diverse range of innovation policies.

3.2.5 Chapter 4, 'Principles for National Innovation Success,'

written by Robert D. Atkinson and Stephen Ezell from the Information Technology and Innovation Foundation, discusses the growing recognition that innovation is something in which all nations, including developed and developing, can, and indeed should, be engaged. The chapter presents six key principles all nations need to consider in order to design and implement the most effective innovation policies:

- **Principle 1: Innovation policy should focus on maximizing innovation in all industries.** Although manufacturing generally, and hightech manufacturing specifically, is an important component of innovation, maximizing innovation requires maximizing innovation across all industries.

- **Principle 2: Innovation policy should support all types and phases of innovation**. One of the biggest mistakes countries make with their innovation strategies is to def ine innovation too narrowly, focusing mainly on developing and manufacturing high-tech products. Countries should focus more on across-the-board productivity growth strategies than on trying to grow primarily by shifting the compositional mix of their economy from lower- to higher-value-added sectors.

- **Principle 3: Enable churn and creative destruction**. To succeed in innovation, nations need to do more than merely enable some value-added innovation to supplement what is already going on in other, leading economies. They need to enable disruptive innovation, which is often generated by new market entrants, especially those emerging in their own economies.

- **Principle 4: Keep the price of capital goods imports, especially information and communications technology (ICT) imports, low**. Without new capital investment refreshing a nation's capital stock, innovation loses its power, productivity growth stagnates, and

business competitiveness declines. The easiest and most important way countries can keep the cost of capital goods low is to limit tariffs and other trade barriers.

• **Principle 5: Support the creation of key innovation inputs**. Firms not only need access to bestin-class, affordable ICT inputs, they also need access to other key innovation inputs, including digital infrastructure, a skilled workforce, and knowledge—both its production and its transfer.

• **Principle 6: Develop a national innovation and productivity strategy and organizations to support it.** :: In addition to national strategies, many successful nations have also established national innovation agencies specif ically dedicated to spurring domestic innovation.

» For example, Kenya, India, Malaysia, Thailand, and Viet Nam have each established a National Innovation Agency.

» National innovation foundations also create national innovation strategies that constitute a game plan for how their countries can compete and win in a modern, innovation-based global economy. For instance, Kenya's National Science, Technology and Innovation Policy underscores the importance of mainstreaming science, technology, and innovation across all sectors of the economy.

The chapter concludes:

• Countries attempting to achieve national innovation success need to envision a four-level pyramid as the path to prosperity that is based on key framework conditions; these support an effective tax, trade, and investment environment; these in turn support key factor inputs; and finally, at the top of the pyramid, is a group of innovation and productivity policies.

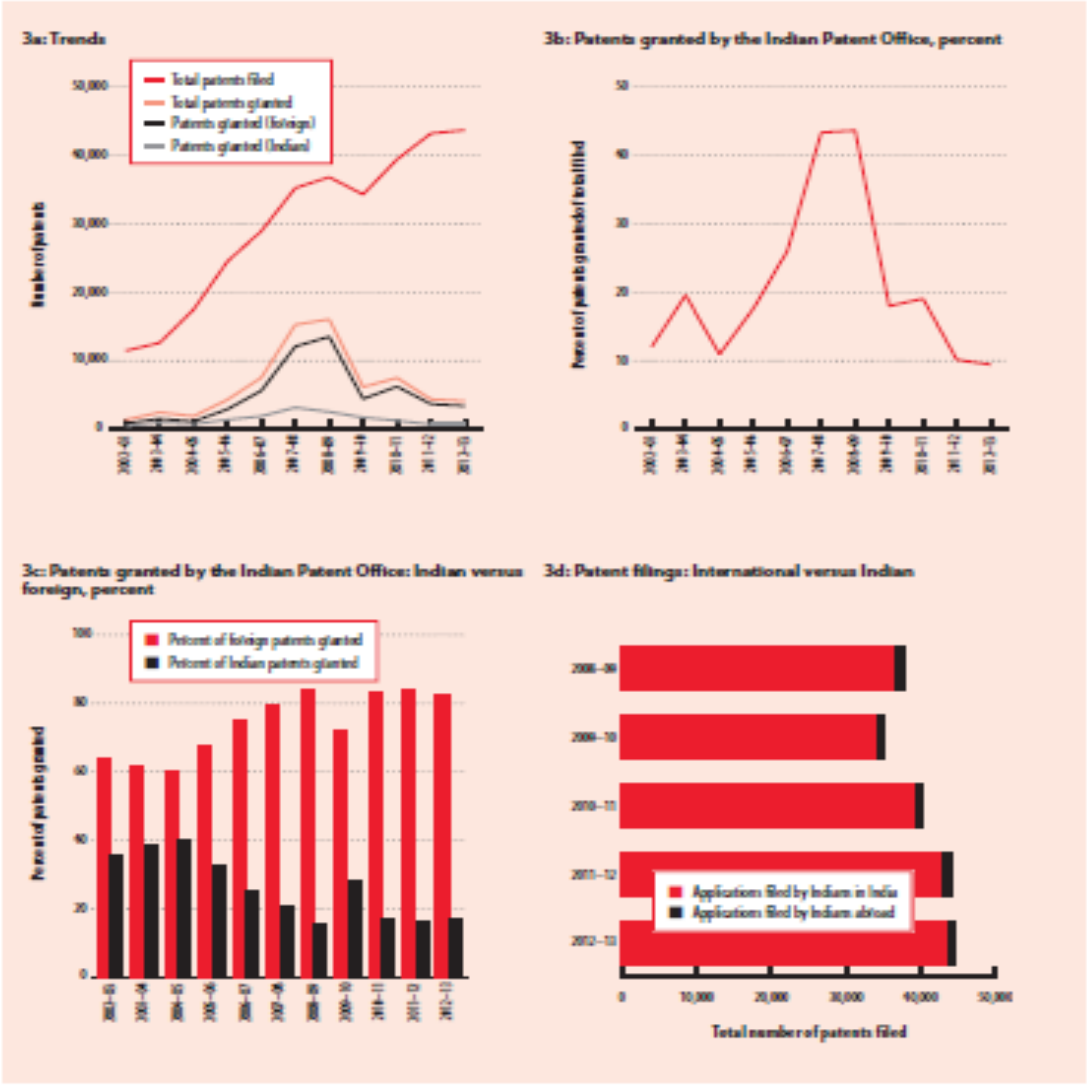
• Countries must think holistically about how a wide variety of public policies impact the ability of their enterprises and industries to compete in the increasingly innovation-based global economy.

3.3 India GII Rankings

India still comes 1st in the region, although it is now 8th among lowermiddle- income countries (7th in 2014) and has dropped five positions in the overall GII since 2014. With more than 1.2 billion inhabitants and a robust economy, this lowermiddle- income country is again among the innovation achievers and has also been highlighted as an innovation outperformer (see Chapters 2 and 8). Its new government is dedicated to focusing on further improving the economy, business investment, and innovation. India's strengths lie in the subpillars Knowledge diffusion (34th), R&D (44th), General infrastructure (43rd), and Investment (42nd). India has made some progress in Institutions (improving two places) and Knowledge and technology outputs improving one place to reach 49th). **Still, its**

position remains weaker in Institutions (104th) and Infrastructure (87th), with rankings deteriorating in Human capital and research (103rd), Market sophistication (72nd), Business sophistication (116th), and Creative outputs (95th) (falling from 96th, 50th, 93rd, and 82nd in 2014, respectively).

Figure 3: Trends in Indian patents



Sources: Authors' calculations based on the Ministry of Commerce & Industry Onidol, 2013, Statistical Country Profile: India, WIPO database, http://www.wipo.int/ipstats/en/statistics/country_profile/profile.jsp?code=IN.

4. GEM Report for India 2013 : Key Findings

4.1 Entrepreneurial Attitude

• Entrepreneurship in India is a less desirable career choice when compared to BRIC and factor-driven economies.

• Recognition of entrepreneurship in terms of high status and media attention is not far below the figures of BRIC countries.

• While comparing across regions, Western India comes across more favorable toward entrepreneurship. While South and North India fare closer to average, Eastern India shows a conservative attitude toward entrepreneurship.

• Individuals in factor-driven economies tend to report more positive attitudes on entrepreneurial measures such as perceived opportunities to start a business and perceived skills to start a business, in comparison to those in efficiency-driven and innovation-driven economies. However, Indian data is closer to the efficiency-driven mark.

• There is a substantial gap between perceived capabilities (56%) and perceived opportunities (41%). It may mean either capable people are not able to identify prospective business opportunities or opportunities have been drying up due to prolonged slow growth in the last 8 to 10 quarters.

• Comparing the perceptions among male and female respondents, fear of failure, which prevents individuals from starting a business, is similar (39% for males and 37% for females). While female respondents have lower scores on perceived capabilities (43%) and perceived opportunities (32%), the gap between perceived capabilities and perceived opportunities is 11% for females compared to 11% for males.

4.2 Entrepreneurial Activity

• Total Early-stage Entrepreneurial Activity (TEA) includes individuals in the process of starting a business and those running new businesses less than three and a half years old. As a percentage of the adult population, these rates tend to be highest for the factor-driven economies, and decline with increasing levels of GDP per capita. This trend follows from the reasoning that higher levels of GDP yield better job opportunities. At the very highest GDP levels, however, some economies deviate from this trend as a result of innovation break through resulting with higher TEA levels.

• Total Early-stage Entrepreneurial Activity (TEA) is 9.9% for India.

• Indian TEA rate is lower than the average of efficiency-driven nations. In fact, India has the lowest TEA rate after Algeria, among all factor-driven economies (21%).

• The rate of business discontinuance is anticipated to be the highest in the factor driven economies. However, India's entrepreneurial exit rate is the second lowest among all GEM countries, which is indeed a positive factor. Lack of profitability (33%) and limitations in accessing finance (27%) are the main reasons for entrepreneurial exits. The data indicates the need for greater entrepreneurial skills enhancement, financial management training, and easing of funding options for new ventures.

• While India has TEA rates lower than that of efficiency-driven economies as well, the Indian early-stage entrepreneurs also have the highest proportion of necessity-driven motives.

• India ranks among the bottom three countries in terms of ratio of opportunity entrepreneurship to necessity entrepreneurship (twice below the average ratio of. Opportunity-driven entrepreneurship should be stimulated through policy interventions.

• TEA for males (13.2%) far exceeds that of females (6.4%) and places India among the bottom three on gender gap just ahead of Iran and Libya. North India and East India have very high gender gaps, while South India is more equitable in terms of female participation in TEA.

• The distribution of age groups within the TEA is in line with global trends, where the highest prevalence rate is found in the 25–34 cohorts. The high TEA rates among the young age groups of 18–34, indicates a positive sign for a country like India, which is undergoing a demographic transition, with an increase in the share of the working age youth population.

• There is no strong evidence of a positive correlation between level of educational attainment and entrepreneurship in India. Respondents with the lowest level of education demonstrate the greatest activity among the early-stage and established entrepreneurs (14% and 12%, respectively)

• Regional disparities are exhibited within the Indian sub-continent—the state of Assam has the highest TEA rates followed by Tamil Nadu and Gujarat

• States like Assam, Delhi, and Odisha have the highest ratio of early stage entrepreneurs relative to their population sizes, whereas Uttar Pradesh and Maharashtra exhibit the lowest concentration.

4.3 Entrepreneurial Aspirations

• Growth expectations and aspirations of early-stage entrepreneurs represent a key dimension of entrepreneurial impact and may be linked to key indicators of economic performance such as job growth.

• Compared to its development level peers, India exhibits below-average job growth expectations, innovativeness, and internationalization.

• Indian early-stage entrepreneurs are more pessimistic about expected job growth compared to entrepreneurs in similar economies worldwide.

• More than 55% early-stage entrepreneurs do not expect to hire any employees mere 0.1% early-stage entrepreneurs expect to create jobs for more than 20 people. In contrast, the EU and North American economies, despite their relative low TEA rates, have more than 10% of the entrepreneurs projecting growth of 20 or more employees.

• India ranks much below the Sub-Saharan countries in terms of innovative orientation. Where the Sub-Saharan economies exhibit a level of 40% for new products and markets, Indian level of innovation varies in the range of 10–20%.

• As expected, the Indian economy with a large population base and large internal market shows a very low rate of internationalization.

4.4 Entrepreneurial Framework Conditions

• Interviews with national experts revealed insights on factors impacting the environment for entrepreneurship. GEM calls these factors Entrepreneurial Framework Conditions (EFCs).

• Examples of EFCs include financial support, general government support, specific regulations, market openness, R&D transfer, entrepreneurship education, and cultural norms and values related to entrepreneurship.

• Government policy and programs, education and training, and R&D transfer are regarded as the main constraining factors for entrepreneurship.

• Recommendations were directed toward liberalization of government policies, capacity building through education and training, restructuring of incentives, and tax structures to promote opportunity-driven entrepreneurship, and increased investment in R&D transfer to propel growth through innovationin the next five years.

Figure 5: GEM Economies by Economic Development Level

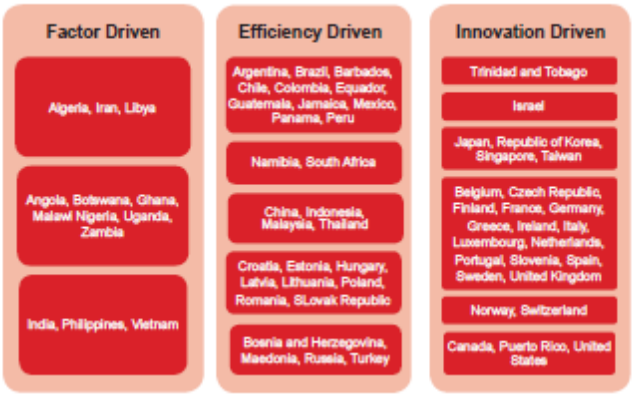
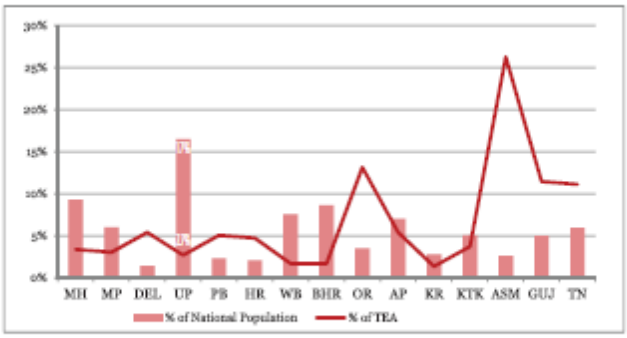


Figure 31: TEA by State, 2013, Percentage of TEA



Read as: 17% of India's population is found residing in Uttar Pradesh (UP), and 2.7% of India's early-stage entrepreneurs is found in Uttar Pradesh (UP)

The entrepreneurial participation rates by different states are illustrated in Figure 30. The Total Early-stage Entrepreneurial Activity (TEA) is highest in Assam—32% of Assamese (adult population) are involved in early-stage entrepreneurship. Similarly, Gujarat and Tamil Nadu rank high on the entrepreneurial activity scoreboard, 18% and 21%, respectively. Figure 31 explains the contribution of states to national population as well as entrepreneurship. Uttar Pradesh and Maharashtra are the two largest states in India in terms of population size, 17% and 9% of national population live in UP and Maharashtra, respectively. However, only 3% of India's early-stage entrepreneurs are found in UP and Maharashtra. We see a similar situation for West Bengal and Bihar (2% of TEA vis-à-vis 9% of nation's population). Apart from Assam, Gujarat, and Tamil Nadu, Delhi and Orissa seem to have promising prospects toward entrepreneurship. Almost 5% of entrepreneurs come from Delhi, which accounts for only 1% of national population; 12% of Indian entrepreneurs belong to the Orissa cohort, while the state contributes only 3% toward the nation's population.

Figure 44: State of Knowledge of Business Areas by Youth Entrepreneurs

Read as: 33% of youth entrepreneurs indicated that they have a good knowledge of coming up with a business idea; 31% indicated that they have fairly some knowledge about procedures required to start a business; 33% indicated they have no knowledge about developing a business plan

4.5 Government Policy and Programs

Second, government policy receives the lowest score of 1.9 followed by government programs at 2.1. In fact, experts consider the unfavorable government policies and programs as the prime constraining factor to fostering entrepreneurship in the country.

Experts are of the opinion that fulfillment of state policy is one factor negatively influencing entrepreneurial development in the Indian context. It is important to mention that the experts gave the lowest scores on the statement that new firms can get requisite licenses within a week's time (1.27). Another critical area is red tapism and bureaucracy (1.48). Experts also hold a low opinion of government programs and policy supporting and favoring new firms (1.60 and 1.62, respectively). Government must adopt more horizontal structures for developing and implementing an integrated policy approach.

Since entrepreneurship is a concurrent subject, and given the decentralized nature of the Indian government, the complex political system, with government bodies differentiated right from the central level till the grass root panchayat level, both the central-level and state-level governments comprise an important stakeholder in the entrepreneurial ecosystem. A 'one stop shop' approach is what is missing in the Indian system. It is not possible to avail of government assistance by contacting a single government agency or department (1.67). There is no single body, ministry or department responsible only for new firm creation. However, there is a plethora of government schemes, policies, regulations, and statutory requirements, affecting new firms directly and indirectly, imposed by a number of ministries and departments in conjunction with each other.

Experts also feel that framing policies to support new firms is not considered to be a priority for both the national and the local government (2.02 and 2.11). India is often criticized for lack of government and regulation support, and the country has not witnessed major reforms post the liberalization of 1991. The World Bank ranked India at 166 among 183 countries in its 'Doing Business 2012: Doing Business in a More Transparent World' report, a

ranking unchanged from 2011. India ranks 182 out of 183 countries on enforcing contracts. The time needed to enforce contracts in India is almost triple the average among the Organization for Economic Co-operation and Development (OECD) countries, and the cost of doing so is almost double the OECD average. The lack of judicial infrastructure on enforcement does little to protect the trusting relationship between entrepreneurs and business partners or between entrepreneurs and customers. A lack of trust inhibits collaboration and significantly increases the risk an entrepreneur takes, ultimately slowing growth. Experts also assign a moderate score of 2.05 to the taxation burden for Indian start-ups. In contrast, techno-parks and business incubators provided more effective support for business development (2.98).

4.6 Conclusions & Policy Recommendations

Key Policy Implications

4.6.1 Finance

Inadequate access to finance suggests the need for more liberalization of Indian capital markets to catalyze availability of funding to new firms as well as liquid exit routes through local stock markets.

Raising capital also demands fair valuation practices to avoid under-pricing of new firms.

There is a need to incentivize private individuals and corporations that provide equity to new ventures, through tax deductions.

Large corporates should be allowed to prevent entrepreneurial exits that discontinue ventures due to lack of profitability or financial crunch, through structures similar to that of corporate debt restructuring. This activity can be made part of the 2% CSR mandate implemented under the new Companies Act, 201317. According to the new policy sizeable companies will need to spend 2% of their three-year average annual net profit on CSR activities in each financial year, beginning the next fiscal, 2014–2015.

4.6.2 Government Policies and Programs

Government policy needs to be restructured to promote liberalization. A fresh era of liberalization needs to be infused as the 1991 reforms are now history. Liberalization policies should be targeted to make doing business in India easy and fast.

Processing of regulatory applications needs to be improved and the business registration process should be made easier and quicker in practice. India needs to move toward a single window system by adopting a one-stop shop approach.

Policies and programs should be undertaken to foster development of so-called ‘Institutional Entrepreneurship’. Entrepreneurs can exploit the uncertain institutional environment by

either becoming the missing institution themselves or creating such institutions to fill up the void. Paul and Nelson (2011) have cited an interesting example, the case of "Grameen Bank" founded by the visionary entrepreneur— Muhammad Yunus, who created an alternative banking system based on trust and community-based risk sharing to fill the vacuum of missing capital institution for the rural poor in Bangladesh. Such institutional entrepreneurship models need to be explored at greater levels of innovation to suit the emerging environment.

4.6.3 Policies to promote youth and female entrepreneurship.

Concessions in interest rates or taxation benefits may be considered. Such lucrative incentive schemes could lead to breach of code of corporate governance in terms of adoption of faulty practices and false promoter registration to avail the said benefits. Therefore, such policies need to be accompanied by stringent due diligence in such cases and such infrastructure required for monitoring of the same needs to be developed parallelly.

Provision of export subsidies for newly created firms to promote entrepreneurial internationalization.

Government supported innovation funds to promote start-ups need to be created and promoted at state level. Although there are provisions for national innovation funds, the awareness of the same needs to be emphasized and marketed well.

4.6.4 Education and Training

Education and training need to be imparted to fill in gaps at grass root levels. Quality of education diminishes as one goes outside Tier 1 cities in India. Quality education at all levels, will not only increase employment opportunities for the individual, thus reducing necessary-driven entrepreneurship but also increase the individual's alertness to identify and exploit business prospects, thus, increasing opportunity-driven entrepreneurship.

Introduction of entrepreneurship education at undergraduate university level as well as at engineering and technical institutions to promote commercialization of R&D and technology-based enterprises should be made mandatory in all states.

Entrepreneurship education needs to be complemented with dynamic lecture delivery by expert faculty in this field. Experienced business people with proven track records in business should be sought and recruited for mentorship programs. This would help mitigate fears of failure and set role models for potential entrepreneurs.

Capacity building and opportunity recognition need to go hand-in-hand. Academic institutions and corporates need to work jointly to achieve this. The corporate houses can be seen as the initiative driver to identify opportunities and tie up with educational institutions, and academic institutions undertake the responsibility of skill training and capacity building. Strengthening the nexus between industry and academia (including university system and

research labs) is extremely importantto take advantage of each other and undertake joint research, which could be jointly patented. Such partnerships bring financial and intellectual capital at one platform, leading to enhanced pace of commercialization of research. Corporate backing through not only funding the initiative but also completing the cycle by facilitating free flow of ideas as well as financially supporting these entrepreneurial ideas creates both backward and forward linkages with academic institutions, thus strengthening the entrepreneurial ecosystem.

4.6.4 Research and Development

A comprehensive program to develop incubation centers throughout the country, supported by appropriate infrastructure and forward and backward linkages with venture capitalists and angel fund investors is needed. There are over 1,300 incubators in USA and Canada, 900 in Europe, over 800 in China, about 300 in South Korea, 200 in Japan and 100 in a small country like Taiwan. In contrast, India has only about 115 technology business incubators

4.6.5 Physical Infrastructure

Greater need for privatization in roadway and rail infrastructure, education and knowledge-intensive sectors. Public Private Partnership (PPP) models to be encouraged by the government.

4.6.6 Media and Network

Ideally, local role models with whom the masses can identify, in terms of background and demographics, should be highlighted in addition to national level popular entrepreneurs. Small innovations at grass root levels, in both urban and rural setting, need to be projected at both state and national level. The media needs to embrace entrepreneurship by applauding the personal journeys of successful entrepreneurs, both big and small ventures. Doordarshan (DD) National can be a good medium to promote an entrepreneurial culture by disseminating entrepreneurial success stories at the regional and rural level. A separate private-owned television channel focused solely on entrepreneurship could be aired in urban markets. This would help in cultivating a positive attitude toward risky innovations and opportunities, which tend to have path-breaking significance, if successful.

Development of an ecosystem of expert advice, resources, networking platform, and forum to support the ideation process, new businesses in crucial phases of their lifecycle and enable them to grow and increase their chances of success. Social media is a powerful tool of communication to achieve the same.

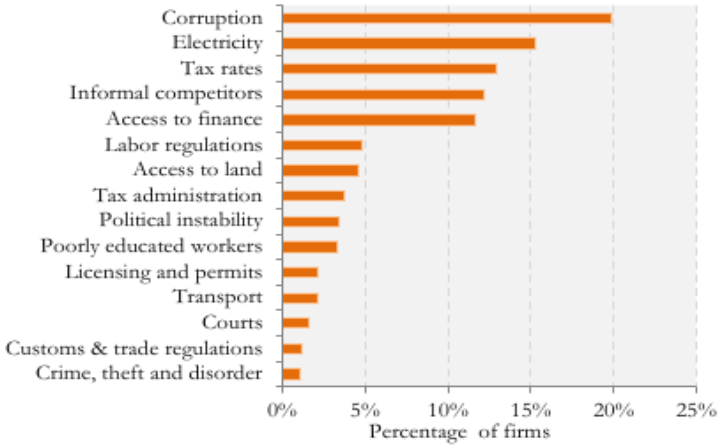
Improved networks between large and small firms, as well as between established and new firms, within similar sectors are required. Corporates should be incentivized to promote and develop intrapreneurship, which may include developing an entrepreneurial culture, provision of such training, investing or supporting of ideas, provision of resources, etc. The

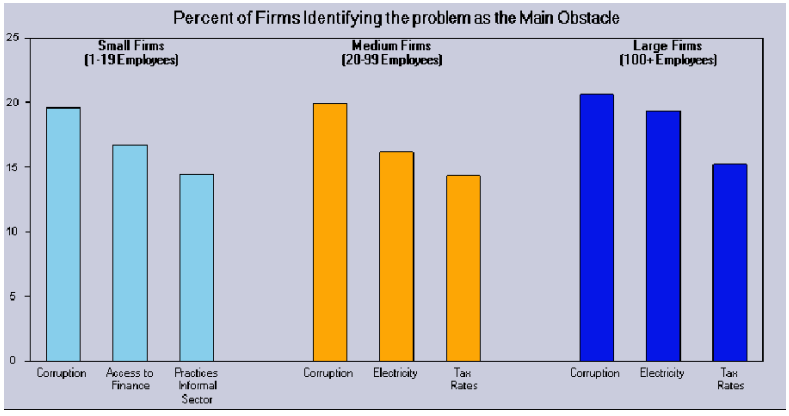
incentive can be in the form of tax benefits, or even recognized as CSR activity by the firm, or attaining social recognition.

5. World Bank : Enterprise Survey India 2014

5.1 The World Bank interviewed a representative sample of the private sector in India. The sample consisted of 9281 business establishments surveyed from June 2013 and December 2014. The Enterprise Survey covers several aspects of the business environment as well as performance measures for each firm. Below are the main highlights from the survey.

5.2 The difficulties due to dealing with corruption and with inadequate provision of electricity are consistent with firms' perceptions of the business environment. Among the list of 15 potential business environment obstacles, where respondents are asked to choose the biggest obstacle to their day-to-day operations, 20% of firms choose corruption. Electricity comes in 2nd place (15%) and tax rates is 3rd (13%). Wide variation across regions within India, in the severity of corruption and inadequate electricity, provides an opportunity for underperforming states to learn from the experiences of the better performing regions.





5.3 The full details of State wise analysis can be seen at the website www.enterprisesurveys.org .

6. UNCTAD Entrepreneurship Policy Framework

6.1 An entrepreneur is an individual who identifies opportunities in the marketplace, allocates resources, and creates value. Entrepreneurship—the act of being an entrepreneur, —implies the capacity and willingness to undertake conception, organization, and management of a productive new venture, accepting all attendant risks and seeking profit as a reward. In economics, entrepreneurship is sometimes considered a factor of production, at par with land, labour, natural resources, and capital.

6.2 As such, entrepreneurship is a vital component of economic growth and development. The creation of new business entities not only generates value added, fiscal revenues, employment and innovation, but is an essential ingredient for the development of a vibrant small- and medium-sized business sector—the core of most competitive economies. It has the potential to contribute to specific sustainable development objectives, such as the employment of women, young people or disadvantaged groups. Growth-oriented entrepreneurs can also contribute to structural transformation and building new industries, including the development of eco-friendly economic activities.

6.3 UNCTAD's Entrepreneurship Policy Framework aims to support developing- ountry policymakers and those from economies in transition in the design of initiatives, measures and institutions to promote entrepreneurship. It sets out a structured framework of relevant policy areas, embedded in an overall entrepreneurship strategy that helps guide policymakers through the process of creating an environment that facilitates the emergence of entrepreneurs and start-ups, as well as the growth and expansion of new enterprises.

6.4 The framework recognizes that many countries may not, as yet, have a dedicated 'national entrepreneurship strategy'. The promotion and facilitation of new enterprise is often, implicitly or explicitly, part of an overall private sector or enterprise development strategy that encompasses broader objectives related to the creation of productive capacity, including regulatory reform, infrastructure development, human resource and skills development, or small and medium size enterprises (SME) policies (figure 1).

6.5 Policymakers have at their disposal a large body of existing research and policy guidance (from UNCTAD and other institutions) to help them devise such broader national policies and to create a general business environment conducive to enterprise development. The Entrepreneurship Policy Framework is narrower in scope and focuses specifically on policies aimed at promoting the emergence of new entrepreneurs and facilitating new business start-ups in developing countries and transition economies. Given this focus, the framework also pays attention to how entrepreneurship policy interacts with broader private sector development and general economic policies, as well as policies that contribute to improve the business climate. The framework aims to help policymakers to formulate policies to

promote entrepreneurship across all sectors and industries, independent of the level of innovation, and including profit-seeking ventures and those with social entrepreneurship objectives. It also acknowledges the importance of the informal sector, although policy initiatives aimed at facilitating entrepreneurship will, by necessity, tend to promote formal business start-ups or transitions out of informality.

6.6 The overarching goal of the Entrepreneurship Policy Framework is to contribute to inclusive and sustainable development in developing countries and economies in transition. Sustainable development is captured by the United Nations Millennium Development Goals that are embedded in each of the areas of the framework, including poverty reduction, gender equality and environmental sustainability, among others. In addition, the United Nation's High Level Panel on Global Sustainability (2012) provides guidelines to forge inclusive and sustainable growth and create value beyond narrow concepts of profit.

6.7 In this regard, entrepreneurship policy can be a catalyst to achieve these inclusive and sustainable development objectives. It can enhance productivity growth and help find practical business solutions to social and environmental challenges (e.g. Developing eco-friendly economic activities or employing women, young people or disadvantaged groups). Entrepreneurship policy cannot, of course, be treated entirely separately from broader economic development policies. Coordination and coherence are essential in order to achieve a positive impact, to benefit from the synergies of these policies, and to maximize the economic and social growth they can provide. ***This requires a "whole of government" approach with strong commitment at top ministerial level and coordination across ministries, in partnership with the private sector and other civil society stakeholders, including academia, NGOs, and community organizations***. In an effective entrepreneurial ecosystem, multiple stakeholders contribute to facilitating entrepreneurship. It is a system of mutually beneficial and self sustaining relationships involving institutions, people and processes that work together with the goal of creating entrepreneurial and innovative ventures. It includes business (large and small firms as well as entrepreneurs), policymakers (at the international, national, regional and local levels), educational institutions (primary, secondary and higher education), social networks and other civil society actors.

6.8 The framework recognizes that in designing entrepreneurship policy "one size does not fit all". It highlights the key policy areas to take into account and suggests policy objectives and options in the form of recommended actions in each area. Although the national economic and social context and the specific development challenges faced by a country will largely determine the overall approach to entrepreneurship development, UNCTAD has identified six priority areas for policy focus that have a direct impact on entrepreneurial activity. These are: (1) formulating national entrepreneurship strategy; (2) optimizing the regulatory environment; (3) enhancing entrepreneurship education and skills; (4) facilitating

technology exchange and innovation; (5) improving access to finance; and (6) promoting awareness and networking (see figure 2).

TABLE II.1. FORMULATING NATIONAL ENTREPRENEURSHIP STRATEGY

POLICY OBJECTIVES	RECOMMENDED ACTIONS
a. Identify country specific challenges	• Map the current status of entrepreneurship in the country • Identify country-specific entrepreneurship opportunities and challenges
b. Specify goals and set priorities	• Define strategies to achieve specific goals and reach specific target groups • Develop and prioritize actions
c. Ensure coherence of entrepreneurship strategy with other national policies	• Align entrepreneurship strategies with overall development strategy and other private sector development strategies • Manage interaction and create policy synergies
d. Strengthen the institutional framework	• Designate a lead institution • Set up an effective inter-agency coordination mechanism and clarify mandates • Engage with the private sector and other stakeholders • Ensure business-like service delivery
e. Measure results, ensure policy learning	• Define clear performance indicators and monitor impact • Set up independent monitoring and evaluation routines • Incorporate feedback from lessons learnt

Source: UNCTAD.

TABLE II.2. OPTIMIZING THE REGULATORY ENVIRONMENT

POLICY OBJECTIVES	POLICY OPTIONS
a. Examine regulatory requirements for start-ups	• Benchmark time and cost of starting a business • Benchmark sector- and region-specific regulations • Set up public-private dialogue on regulatory costs and benefits • Balance regulation and standards with sustainable development objectives
b. Minimize regulatory hurdles for business start-ups where appropriate	• Review and, where appropriate, reduce regulatory requirements (e.g. licenses, procedures, administrative fees) • Introduce transparent information and fast-track mechanisms and one-stop-shops to bundle procedures • Enhance ICT-based procedures for business registration and reporting
c. Build entrepreneurs' confidence in the regulatory environment	• Ensure good governance • Make contract enforcement easier and faster • Establish alternative conflict resolution mechanisms • Guarantee property protection • Reduce the bankruptcy stigma and facilitate re-starts
d. Guide entrepreneurs through the start-up administrative process and enhance the benefits of formalization	• Carry out information campaigns on regulatory requirements • Make explicit the link between regulatory requirements and public services, including business support services • Assist start-ups in meeting regulatory requirements

Source: UNCTAD.

TABLE II.3. ENHANCING ENTREPRENEURSHIP EDUCATION AND SKILLS DEVELOPMENT

POLICY OBJECTIVES	POLICY OPTIONS
a. Embed entrepreneurship in formal and informal education	• Mainstream the development of entrepreneurship awareness and entrepreneurial behaviours starting from primary school level (e.g., risk taking, teamwork behaviours, etc.) • Promote entrepreneurship through electives, extra curricular activities, career awareness seminars and visits to businesses at secondary school level • Support entrepreneurship courses, programmes and chairs at higher education institutions and universities • Promote vocational training and apprenticeship programmes • Promote and link up with entrepreneurship training centres
b. Develop effective entrepreneurship curricula	• Prepare basic entrepreneurial skills education material • Encourage tailored local material, case studies and role models • Foster interactive and on-line tools • Promote experiential and learning- by- doing methodologies
c. Train teachers	• Ensure teachers engage with the private sector and with entrepreneurs and support initiatives that bring entrepreneurs to educational establishments • Encourage entrepreneurship training for teachers • Promote entrepreneurship educators' networks
d. Partner with the private sector	• Encourage private sector sponsorship for entrepreneurship training and skill development • Link up business with entrepreneurship education networks • Develop mentoring programmes

Source: UNCTAD.

TABLE II.4. FACILITATING TECHNOLOGY EXCHANGE AND INNOVATION

POLICY OBJECTIVES	POLICY OPTIONS
a. Support greater diffusion of ICTs to the private sector	• Launch awareness and capacity-building campaigns on ICT use • Stimulate the introduction of ICT into business • Support the development of on-line and mobile market information platforms • Provide training on ICTs to target groups such as women and rural entrepreneurs
b. Promote inter-firm networks that help spread technology and innovation	• Promote horizontal linkages through cluster development • Provide assistance for standardization and quality certification to networks of local enterprises (including social and environmental standards) • Promote business linkages through supplier development.
c. Build bridges between public bodies, research institutions, universities and the private sector	• Identify joint research activities with clearly designated participants and beneficiaries • Promote PPPs and mixed public/private structures to diffuse innovation • Develop market friendly university-industry collaboration • Promote institutional synergies at the sectoral level
d. Support high-tech start-ups	• Establish high-tech business incubators, knowledge hubs and science parks • Facilitate start-ups that commercialize innovation • Build networks in knowledge intensive sectors with leading science experts and academics around the world • Give researchers and innovators streamlined access to cost-effective patent protection

Source: UNCTAD.

TABLE II.5. IMPROVING ACCESS TO FINANCE

POLICY OBJECTIVES	POLICY OPTIONS
a. Improve access to relevant financial services on appropriate terms	• Develop public credit guarantee schemes • Stimulate the creation of private mutual guarantees • Promote FDI in financial services, supply chain finance ("factoring") and leasing • Facilitate collateral-free loan screening mechanisms
b. Promote funding for innovation	• Provide incentives to attract venture capital investors and business angels • Encourage equity and "risk capital" financing modalities • Provide performance-based loans and incentives for innovation and green growth • Facilitate the use of intellectual property as collateral
c. Build the capacity of the financial sector to serve start-ups	• Establish a national financial charter • Promote public-private sector "access to finance partnerships" for specific groups • Provide capacity-building grants and technical assistance to expand lending activities (e.g. financial service provision through post offices and other "proximity lenders"; use of new banking technologies to reach rural areas)
d. Provide financial literacy training to entrepreneurs and encourage responsible borrowing and lending	• Set up financial and accounting literacy training • Undertake appropriate supervision of financial products offered to social and micro-entrepreneurs • Expand private credit bureau and public credit registry coverage

Source: UNCTAD.

TABLE II.6. PROMOTING AWARENESS AND NETWORKING

POLICY OBJECTIVES	POLICY OPTIONS
a. Highlight the value of entrepreneurship to society and address negative cultural biases	• Launch entrepreneurship outreach and awareness campaigns at national, regional and local levels in collaboration with all stakeholders • Utilize the media and spaces for policy dialogue, speeches, addresses and reports to communicate support for entrepreneurship • Disseminate information about entrepreneurship, including social entrepreneurship, and its impact on the economy • Publicly celebrate entrepreneurship role models through awards and other initiatives • Involve entrepreneurs in policy dialogue processes to sensitize government officials
b. Raise awareness about entrepreneurship opportunities	• Advertise business opportunities linked to national sustainable development strategies, and related incentive schemes • Organize information and career fairs, forums and summits on business opportunities, including in specific economic sectors or on specific business models such as micro-franchising
c. Stimulate private sector-led initiatives and strengthen networks among entrepreneurs	• Support private sector-led campaigns • Facilitate business exchange platforms, business portals, fairs, business associations and clubs • Engage diaspora community in local entrepreneurship networks

Source: UNCTAD.

7. Report of the Expert Committee on Innovation and Entrepreneurship (Niti Aayog)

7.0 Reproduced below are the main recommendations of the Expert Committee on Innovation and Entrepreneurship:

7.1. Competitions to Solve Pressing Problems:

Incentivising technology breakthroughs can lead to disruptive innovation and viable (low-cost) solutions to tough developing-world problems. Introducing prizes and competitions could encourage more young creative minds to go down the path of entrepreneurship, and provide a foothold even for entrepreneurs that do not win. For instance, through the course of UTV Bloomberg' s " The Pitch" , Zipdial, a company that made it to the final round, secured funding from Mumbai angel investors, despite not winning the competition. There is plenty of evidence that entrepreneurial talent and capability does exist. The indigenous development of the Simputer, a handheld low-cost alternative to a personal computer, is one such example of this. Simputers have already been used effectively to automate land record procurement processes in Karnataka, for e-education in Chattisgarh, and more recently for tracking of traffic offenders by the police. India' s Mars mission—ten times less expensive than the corresponding US mission—was another example of India' s technological capability. Costs were maintained by prioritizing home- grown components and technologies over expensive foreign imports.

In India, innovation is particularly needed to expedite the sluggish rural development process. About 74% of India' s population lives on the fringes of economic development, mired in deep-rooted multigenerational poverty. They are most vulnerable to the lack of good infrastructure, electricity, clean water, quality healthcare, and education; even as problems related to rapid development, like waste disposal and pollution continue to rise. While scientific innovation and technology offer solutions to many of the problems plaguing India and much of the developing world, these solutions are often unaffordable to the citizen or the government. For instance, a small percentage of India' s population uses Reverse Osmosis (RO) and other filtration systems for clean water but these are out of reach for the majority of the country. Similarly, the technology to build roads and seamless electricity grids exist but is prohibitively expensive for the government to invest in all at once; meanwhile millions remain excluded and vulnerable.

The committee recommends a " Grand Prizes" approach to finding ultra-low-cost solutions to India' s most intractable problems. Incentivized innovation has worked around the world in stimulating innovation. In the US, XPrize is giving tens of millions of dollars to those who can provide solutions to major technological challenges.

For instance, the Automotive XPrize, run from 2007 to 2010, was successful in getting teams to build vehicles that were minimally 100MPGe efficient, producing less that 200g/mile of CO2, and built for the mass market. In India, the Infosys Prize of Rs. 65 lakh, given for outstanding achievement in research in six categories to contemporary researchers and scientists, is a good example.

Through the Incentivize Innovation in India (i3) programme, the AIM plans to announce a challenge and a Grand Prize (substantial monetary rewards) for ultra-low-cost solutions. The spirit of the scheme is to encourage the use of technology to empower the disenfranchised. Grand Challenges and the associated Grand Prizes could also have a ripple effect on innovation and problem-solving in the country. The substantial cash prize will be greater motivation for researchers, students, and even amateur innovators in the country to find solutions for the nation' s most pressing challenges. The corporate sector could be roped in to substantially supplement the prizes associated with whichever competitions it finds relevant.

7.2. Harnessing Corporate Funds to Finance R&D:

In the knowledge economy, universities as a source of knowledge have become far more important than in the past. In recent years, they have acquired a crucial " third mission," of contributing to economic development after teaching and research. Among the developed countries, the United States is feted for offering entrepreneurs many structural advantages, among them close linkages with universities. Many universities have incubators, technology parks, and venture funds within their sprawling campuses. Similarly, in Cambridge, UK, engagement of the faculty with industry has spawned many " millionaire dons" . The private sector can be tapped to fund research and development at universities. The expert committee proposes various recommendations to build links between large corporates and research at universities. These include:

a. 1% of corporate profit could be directed towards research labs in universities and/ or industry-university collaborative research.

The government could provide some tax benefits against this. Monitoring of this rule should focus not only on the absolute amount channelled into universities, but also on the efficiency of spending, that is, it needs to be output-rather than input-oriented. The idea here is that universities become the breeding ground for new technology/ ideas that can be used by the corporate sector. Firms would implicitly be outsourcing R&D financing development of products/ services that can be bought by them. In that sense, this financing would be perceived as absolutely core and fundamental to a firm' s operations, rather than as a CSR-related activity. Though the actual development of R&D may take some time, beginning the involvement of the corporate sector in the financing of universities could be achieved relatively quickly.

b. Encouraging top Indian firms to set-up research and education wings at universities

c. Introducing a " Make in Universities" program

This would involve setting up 500 tinkering labs with one 3D printer per institute and trained people to operate this, across the country, including in smaller cities, to boost the spirit of production and collaboration. This concept could be introduced in competition format. Corporates would stand to gain as winning in such competitions would create brand value within the university that it contributes to.

d. CSR funds for incubators

A percentage of corporate profit could be directed towards corporate venture capital funds, for the purposes of investment in start-ups and/or incubators. The government could offer tax credits against this.

7.3. Improving the Efficiency of Incubators:

Some progress has been made in developing the business incubation industry in India. Since the late 1980s, the National Science & Technology Entrepreneurship Development Board (NSTEDB), under the Department of Science & Technology, has invested about Rs 100 crores in incubators across the country. Privately-owned incubators have recently emerged, located mostly in tier-1 cities like Bangalore and Mumbai. The Startup Village in Kerala, which won a national award for technology and business incubation in 2014, is the country' s first PPP (Public-Private Partnership) technology incubator. However this is not enough.

Much more can be done to improve the efficiency and scope of incubators. Firstly, more funds need to be channelled into incubators. The total value of investments in incubators remains miniscule in relation to demand. While the efforts of existing incubators, especially those set up with public money, are much to be celebrated, creating 40,000 jobs (see table below) over 30 years is an embarrassingly low target with which it is hard to be satisfied. Secondly, more emphasis needs to be put on monitoring the efficiency and impact of incubators. It is not enough to simply create these clusters. Active supervision and revision is required to ensure value creation. The AIM organization should have the mandate and governance to deliver.

7.4 Recommendations of committee on business incubators:

A. Increasing the Amount of Funding Going into Business Incubators:

The total amount of funding going into business incubators is miniscule in relation to demand for financing. A target of up to INR 200 crore per year should be set for public investment in incubators in the initial years. Efforts should also be made to rope in private sector funding. CSR funds, for instance, could be at least partially directed to incubators. Apart from the need for more funding, there is also a need to monitor efficiency of spending and impact. We discuss this in more detail in the following points.

B. Creating Virtual Incubators:

Curated sites should be set up to provide entrepreneurs with access to advisors, mentors, and experts. These sites should also include information on how to access funding, how to navigate the regulatory landscape, and e-education. The purpose is to raise the odds that even those in remote/ inaccessible areas to launch their own businesses.

C. Keep Incubators Up to Date:

Incubators must be able to provide services and facilities most in demand with current market and business conditions. Key decision-makers and managers must routinely study and survey the needs of the entrepreneurs, as these are constantly evolving, and offer the best they can to help the incubated ventures succeed. For example, while a few years ago, high-level guidance was most sought after by entrepreneurs, at present, young startups are increasingly seeking specific, actionable assistance and skill development, such as creating sales proposals, hiring strategy, introduction to influencers and investors. One way to kick-start these linkages would be to connect incubators with pre-existing networks of entrepreneurs – for example, through TiE or NASSCOM – so as to exchange ideas and build partnerships.

D. Link Funding with an Institutionalized Annual Ranking:

Incubators must be ranked every year according to a set of stringent guidelines, whilst offering space for failure and risk-taking. Increased funds and resources help incubators provide better facilities. However, greater resource commitment must be linked to performance, which could be identified through annual rankings recommended here.

E. Exit Non-Performing Incubators:

Incubators that perform poorly beyond a certain timeframe must be shut down to channel resources that enable relatively successful incubators to do even better. A formal ranking process and annual reviews will help identify these non-performers.

F. Introduce Specialized Sector-based Incubation Services:

Since different sectors throw up unique challenges, the one-size-fits-all approach does not work when it comes to incubation. For example, currently, e- commerce ventures receive greater interest and funding offers. Therefore incubators focused on e-commerce must strive to improve the quality and mortality of these start-ups. On the other hand, sectors like social inclusion, healthcare, education and clean technology do not attract sufficient attention and incubators should work on increasing awareness, and getting more entrepreneurs & investors involved, which will also boost innovation across these crucial sectors. Separate incubators are required to help the manufacturing SME sector innovate.

G. Mould a Supportive Incubation System to Encourage Disruptive Innovation:

Incubators must strike a balance between offering stable environments for incremental innovations but also permitting creative and disruptive innovation. To encourage this, rules and procedures must be minimal, while offering a supportive and empathetic system.

H. Strengthening Links between the Corporate Sector and Incubators:

Currently, incubators operate in silos rather than within an overall ecosystem. This dilutes impact. To maximise impact, links between incubators and the corporate sector need to be strengthened. The corporate sector should be encouraged to provide more finance and support for start-ups, via incubators. This money could partially come from corporate venture capital funds. This could serve a dual purpose. Start-ups would get access to much needed funding and mentoring, while corporates would implicitly be supporting ventures that could later add value to their own business. For example, Indian pharmaceutical companies could have an interest in supporting drug discovery firms. This system is well established in the US, where corporate buy-outs present an important source of funding for technology/products generated by incubators.

7.5. Fostering a National Entrepreneurship & Innovation Movement:

Celebrating and recognizing entrepreneurship at the national level could go a long way in raising the profile of entrepreneurs, shedding light on their role and importance in society, and encouraging more young people to consider entrepreneurship as a career.

A. Institute a National Entrepreneurs' Day:

The committee recommends instituting a National Entrepreneurs' Day during which entrepreneurial success from different entrepreneurship programs is celebrated. On this day, winners of competitions such as those between entrepreneurs from different state initiatives, or business plan competitions run by incubators, could be honored.

B. National Action Brigade:

The committee recommends setting up a platform to get youth and others interested and involved in multiple ways. The Action Brigade could be a network of volunteers helping with the " back-end" of setting up online entrepreneurial platforms, volunteering for events such as the National Entrepreneurs' Day, and helping build other assets for the Atal Innovation Mission. One could think along the lines of the " Teach for India" or even the National Cadet Corps (NCC).

C. National Knowledge Infrastructure:

Developing powerful knowledge infrastructure is just as crucial as building world-class institutions and organizations. Without highly-skilled intellectuals, academics, managers and leaders, even the most progressive physical infrastructure and facilities will remain under-utilized. The country needs to invest and nurture its talent from academia and industry, as well as tap into the network of accomplished Indians globally. Two simple yet effective recommendations to kick-start the building of Knowledge Infrastructure follow:

D. Harnessing the NRI talent pool:

We are fortunate that members of the Indian diaspora have attained much professional and personal acclaim in several countries around the world. For example, the Indian-American community is among the most educated and affluent in the US. Roughly a third of new ventures in Silicon Valley are promoted by entrepreneurs of Indian origin. This massive knowledge pool of NRIs, from all over the world covers all the major advanced technology sectors and could be harnessed quickly. China, with a laser-like focus on tapping into its own diaspora, has shown the way here over the past three decades. Members of the diaspora could be offered time-bound assignments, opportunities to attend/conduct seminars, lead short or long-term courses at universities and more.

Faculty Fellowships for Indian Academics:

The committee recommends encouraging professors to be stakeholders/partners of the entrepreneurial and incubation eco-systems in universities by offering " faculty entrepreneurial fellowships" . In addition to monthly stipends, the perks could include time-off from teaching responsibilities, talent resource from the student pool and more.

7.6 Intermediate Layer: Creating an Enabling Environment for Innovation

7.6.1. Embracing the Platform Mindset:

The committee recommends creating digital platforms, similar to the Unique Identifications Scheme (Aadhaar), to inspire innovation & entrepreneurship. The Aadhaar initiative was introduced to provide identification for each resident across the country, thereby providing legitimacy to vast numbers of people living in rural areas, who currently have no proof of identity. One of the key objectives of the program was to encourage innovation and provide a platform for public and private agencies to develop Aadhaar- linked applications. The Aadhaar platform has already been used by the government to initiate Aadhaar-based direct benefit transfers for cooking gas, and Aadhaar-based biometric attendance systems. More recently, in June 2015, the Unique Identification (UIDAI), in collaboration with Khosla Labs, Nasscom, and AngelPrime, launched an " Aadhaar hackathon" , an initiative to create useful applications based on the platform. More than 5000 participants (from India and abroad) were part of the 48-hour coding marathon with the purpose of building applications in areas like financial services, payments, healthcare, FMCG, and social inclusion. Winners received prize money of up to Rs. 2 lakh. The winner developed an app to use Aadhaar for verification of student identity. It provides a central database for all exam results, enables online registrations for exams, and prevents impersonation during exams. A previous such hackthon winner developed an app to link Aadhaar with medical history. The full socio-economic impact of the UIDAI project is yet to be seen, as the platform continues to enroll Indians at a pace faster than mobile phone subscription in India.

Though launching and implementing new digital platforms cannot be done overnight, it will not require generations either. Projects should be conceived to develop new platforms that can be implemented in the medium-term.

7.6.2. Reforming the Education System and Upskilling Workers:

The creation of the Ministry of Skill Development and Entrepreneurship is a welcome initiative and the National Policy for Skill Development and Entrepreneurship 2015 report

has many excellent recommendations, which this committee acknowledges. The committee supports the Ministry' s focus on the steady re-engineering of the education system in the country to prepare our youth for the new innovation economy and provide our young enterprises with a large pool of highly-employable workforce.

A multi-layered approach will be required, including overhaul of existing school and college curricula, change in existing teaching techniques, better monitoring of school and faculty standards, better access to e-education facilities, and better targeted skilling and training to ensure employability of youth. In the section below, the committee makes a further number of recommendations that it views as pivotal.

A. Reforming school curricula and examination methodology:

The curricula and examination format of the Indian central and state boards need to be overhauled and reoriented from rote-based to application-based learning and testing. The focus should be on testing higher-order skills like reasoning, analysis, lateral thinking, creativity, and judgement, rather than memorization alone. Until testing standards change, teaching and learning methods are unlikely to change. The International Baccalaureate (IB) curriculum, for instance, could be used as a benchmark. The IB is known to cover a broader spectrum of subjects that leads to all-round development. IB examinations test students' understanding rather than their memory/ speed. It is also known to equip students with tools needed to succeed in higher education and in the workplace, like self-confidence, preparedness, research skills, and presentation skills. Teaching methods that use real world problems to explain concepts and theories should be encouraged. Students should be exposed to broad needs of society— health, education, hygiene and cultural development— promote business and entrepreneurial solutions to public policy issues.

B. Annual assessment of schools and faculty:

Schools across the country should " pass" an annual assessment based on a standardised exam that their students must take in basic science, maths and literacy.

Care must be taken to ensure that the exam cannot be cracked by rote learning or formulaic study methods. The Pratham Annual Status of Education Report (ASER) is a good example of a non-governmental annual survey of children' s basic learning skills in arithmetic and reading in rural India. In 2014, the ASER survey covered 577 rural districts, surveying children from 341,070 households, and covering over 500 institutions. Even in many of the best urban and international schools, the quality of teaching is poor and learning is based on rote. To ensure a high quality of teaching, teaching standards need to be monitored. One way to do this is to set up an expert committee consisting of qualified NRIs to carry out random quality checks. The emphasis in these checks should be on how well teachers are able to communicate to explain complex and abstract issues, rather than on textbook teaching. This could serve as an effective deterrent to lax teaching quality standards.

Simultaneously, a revised and updated minimum nation-wide standard/ exam for faculty should be introduced, to ensure that teachers are suitably qualified to effectively impart learning.

C. Providing access to entrepreneurship courses:

Students in secondary and tertiary levels must have easy access to entrepreneurship education courses and programs.

D. Build a virtual platform that documents experiments and innovations in education around the world, and provides an ecosystem for education innovation in the country:

The platform would help draw together a community interested in education and innovation, which looks at the challenges bottom-up rather than top-down and encourages, rewards and supports these initiatives. The platform must be accessible to all, allow screening, categorization, review, data analysis and evidence-based evaluation of these innovations by the broad community and global experts. The Government of Singapore has encouraged many such experiments, for example, from which there is much we can learn.

E. Encourage a focus on technology-based solutions to education and open up the market to global education providers:

International or home-grown education innovators (both private and public) should be allowed access to schools and universities in India. These places of learning could become " virtual laboratories" where education experimentation is encouraged and monitored. All universities in India should be allowed to offer online education, available across states. The use of MOOCs and online education is a fast-moving space and can ensure access to those in remote and rural locations, and aid the process of social inclusion.

F. Create a National Education Service Program, after drawing best practices from the world over:

Inspiration could be derived from the National Service systems of Israel (IDF), Korea and Singapore, but the program must be designed specifically to meet Indian needs. The Indian program could have several tracks such as practical education, education and health, education and security, education technology, education and skilling and entrepreneurship education.

G. Train workers for specific job-related skills:

The committee recommends creating special education curriculums, vocational, and skilling programs to fill large-scale vacancies in certain careers that have a big and direct impact on entrepreneurship and innovation. At the moment, the limited incubation-based skilling programs present in India are focussed on e-commerce-related skills. More broad-based

skilling programs need to be developed to cater to the needs of unskilled, semi-skilled, and highly-skilled workers. Such programs could be implemented on a PPP-basis, with some sort of funding/ fiscal incentives from the government, and expertize/ management from the private sector.

H. Promoting internship and coop programs to improve "work-readiness":

The corporate sector should be required to develop clearly-defined internship and coop programs. The requirement on the number of internships/ coop programs could be made proportional to firm revenues. This would be useful for students, who would get a sense of different career options and the skills/ inclinations required for each. Graduates would thereby be able to make informed career choices. It would also help firms in getting a head start in identifying and training talent that they can later employ. Through " testing" graduates within a trial period, firms would also be able to limit the number of hiring mistakes. The internship and coop systems are well-developed in the West, and have proved to be effective in helping match students with firms.

I. Establishing two separate sets of regulations for universities:

There is a case to have two separate regulatory regimes—one for small research universities (focused on knowledge creation, innovation, and global rankings), and large vocational universities (focussed on employer connectivity and delivery via distance education and apprenticeships).

7.7 Strengthening the Intellectual Property (IP) Rights Regime:

As a fast growing economy, India will have to establish that it is serious about rewarding innovation. A strong and robust IP ecosystem will not just boost India' s image globally but also help spur domestic innovation and investment in R&D.

A. Enhanced Enforcement:

IP Laws in India are compliant with Trade-Related Aspects of Intellectual Property Rights (TRIPS) administered by the World Trade Organization (WTO). However, the laws are poorly enforced, as innovation and protection of intellectual property are not prioritised adequately by enforcement officials. An important first step is spreading awareness and sensitising all the relevant authorities involved in enforcing laws, including the police and the judiciary. Further, specialised training must be provided to members of the judiciary on Intellectual Property and innovation, given the complexity of the cases involved.

B. Dedicated IP Courts:

Due to the limited jurisdictional reach of the Intellectual Property Appellate Board and the rise in the number of patent litigations, India needs dedicated IP courts to manage specialised IP cases, as well as to improve the efficiency and speed in IP judgement. The IP courts must be stipulated to give their judgements within 2 years, with no more than 3 adjournments between hearings, and no more than 10 adjournments in total throughout the trial.

C. National Virtual IP Platform:

AIM could oversee the establishment of a National Virtual IP Platform that offers a forum for the stakeholders and all those interested in Intellectual Property Law to discuss, innovate and collaborate. Further, the Virtual IP Platform could contain a database of all the resolved IP cases in India, as well as details of those under litigation. Over time, an electronic case management system can be integrated into the Virtual IP Platform for quick resolution of IP-related disputes and issues.

D. Increase Number of Patent Examiners:

New innovations are often time-sensitive and a large number of pending patent applications severely dampens the spirit of innovation in the country. The shortage and attrition of patent examiners at the Patent Office must be addressed to resolve the issue of pending applications. There should be a concerted effort to introduce a large number of high-quality patent examiners, with a ten-fold increase from the current number of examiners by 2018 being a reasonable goal.

7.8 Improving the Ease of Doing Business:

A. Digitization of government permits:

The central government must require all government departments to have all registrations, permissions, and licenses to be online within two years. States must be given incentives and ranked based on electronic, single window compliance within a deadline. The process for name, approval, and company incorporation needs to move completely online. There could be a deadline of three days free, and one day with payment of expedited services. All new laws should be mandatorily born digitally native. Automation of as many government processes should take place, and discretion of government officials should be reduced as much as possible, to reduce red-tape. Innovation in governance is critical. Without this, even well-intentioned policies are doomed to fail.

J. Creating an online portal to aggregate information on funding to entrepreneurs:

Information on all state and central incentive programs for entrepreneurship, including loans, grants, subsidies, venture funds, assistance to minorities, and other such measures should be available on one online portal. This would ensure that entrepreneurs have access to information on funding options and assistance available to them. Lack of visibility on government venture funds, for instance, is a key problem.

K. Creation of an AIM Entrepreneurship Index:

AIM should work towards creating an Entrepreneurship Index that measures entrepreneurial activity in India, and thereby help stakeholders track improvement. Each year, the Index could update the number of start-ups in India, the states and cities attracting the most number of entrepreneurs, the share of female, minority, and dalit entrepreneurs, and other important factors. In the US, the Kauffman Index has become the authoritative indicator and predictor of entrepreneurial activity.

L. Creation of a separate regulatory category for new business:

According to the World Bank 2015 Ease of Doing Business Survey, India ranks in the bottom quartile in the " Starting a New Business" category, at 158th place out of 189 countries. According to this survey, it takes close to a month and more than 10 procedures to start a new business in India. India' s New Business ranking is even lower than the country' s overall " Ease of Doing Business" Ranking, which is at a dismal 142nd place. The committee recommends introducing a " New Entity" category that exempts new businesses from heavy regulatory compliance. New businesses should only have to follow a set of bare minimum regulations and procedures. This new category could exclude businesses operating in sensitive areas, large-scale businesses and where foreign capital is involved.

M. Legal reforms:

The legal system is notoriously inefficient and slow. There is an urgent need to improve timeliness in adjudication. For instance, the government could set a rule stipulating that there can be no more than 3 adjournments between hearings and no more than 10 adjournments in total through the course of each case.

N. Creating an enabling environment for social enterprise:

Creating the relevant infrastructure to promote social enterprise is important. Though we have several successes in this space, efforts need to be scaled up to have an impact at the macro level. In the following box, we discuss what can be done to promote social entrepreneurship.

7.9 Base Layer: Addressing the Cultural Context

Changing cultural attitudes towards entrepreneurship is likely to be a long-term exercise, and may require generational change. Recognizing tha t change needs to occur is an important first step for cultural attitudes to be modified. As the first generation in many families will soon be educated and will have moved up the income ladder, they may be more open to the idea of their children being self-employed. A revamp of the school system and curriculum could also play a rule in encouraging entrepreneurship in the generations to come. There are some sections of Indian society (the Gujarati' s, Parsis, and Marwaris, for instance) which are culturally more disposed to entrepreneurship than others. One way to expedite the entrepreneurship agenda could be to conduct exchange programs wherein the youth from some parts of the country spend time learning in another, and vice-versa. Europe has a well-formed such exchange program to facilitate cross-country learning, termed the " Erasmus" program. Changing the culture of apathy, corruption, and scepticism towards intellectual property rights within the bureaucracy, is also likely to take time. Consistent trust-building over time can help address the general sense of mistrust between the corporate sector and the government. The government' s commitment to avoid retrospective changes in law going forward is a positive first step. To expedite cultural changes, the expert committee proposes the following recommendations:

7.9.1. Attach Entrepreneurship to Large Scale Economic and Social Programs:

To spread the spirit of entrepreneurship and innovation widely, AIM should use various important government economic and social programs as vehicles of change. For instance, " Swacch Bharat" could be used to encourage and promote social entrepreneurs focused on the areas of cleanliness, hygiene and civic responsibility.

7.9.2. Promote New, High-Potential Sectors via the "Make in India" Campaign:

New-age sectors within manufacturing with the potential to create future jobs, enterprises and economic growth should be encouraged. AIM should set-up incentive structures to develop a few chosen high-potential industries as part of the " Make in India" initiative. Knowledge flows into these sectors must be supported to foster India' s competitiveness in the world. A focused and systematic approach towards some of the niche sectors could improve export income, create industry growth and enable talent development.

7.9.3. Foster a Culture of Coordination and Collaboration:

Working in silos has an insidious effect on the innovation ecosystem; while there are many noteworthy entrepreneurship and innovation-boosting initiatives emerging from different sections of the government, private and non-profit sectors, the lack of coordination does not

help these programs scale and create long-lasting, long-term impact. A culture of coordination between ministries, departments, incubator cells across the country, enterprises, and more should be strongly encouraged and institutionalised. To monitor progress and measure impact, an annual survey of start-ups and early-stage ventures should be commissioned. The purpose of this survey should be to receive regular feedback from entrepreneurs on problem areas and areas of strength in coordination and collaboration with various stakeholders. This relates to an earlier point on monitoring impact of incubator cells and using feedback as a tool to reform policy and improve efficiency.

7.9.4. Redefine Success:

While encouraging a healthy tolerance for failure at the societal level, AIM must push for a new culture that redefines success in crucial governmental bodies. R&D, entrepreneurship and innovation-centred organisations within the government system must be allowed to pursue projects and experiments that are high risk and may fail. Different measures of accountability and success must be outlined.

7.9.5. Make Entrepreneurship Part of the Social-inclusion Agenda:

With economic growth and national progress, India will remain focused on greater social inclusion and mobility for decades to come. AIM must capitalise on this predictable trend and make entrepreneurship part of the larger social agenda, bringing in more women, dalits, rural population and the urban underprivileged into the fold of new Indian entrepreneurs and innovators.

8. National Skill Development & Entrepreneurship Policy 2015 (part relating to entrepreneurship)

8.1 Background

- the MSME (micro, small and medium enterprises) sector contributes to only 17% of GDP as compared to 85% in Taiwan, 60% in China and 50% in Singapore
- only 4.69%4 of the total workforce in India has undergone formal skill training as compared to 68% in UK, 75% in Germany, 52% in USA, 80% in Japan and 96% in South Korea.
- The Global Innovation Index 2014 ranks India 76 out of 143 countries. Accelerating entrepreneurship especially that based on innovation is crucial for large-scale employment generation in India.
- GEM Report (2013) indicates that India primarily being a factor-driven economy has the highest proportion of necessity-driven TEA (38.8%) and improvement driven TEA (35.9%).
- In India, only 0.09 companies were registered for every 1,000 working age persons among the lowest rates of G20 countries in 2011.
- in 2011, according to The World Bank, only 5,168 patents were granted in India, compared with 172,113 in China

8.2 MSDE Vision

Catalyse an ecosystem wherein productive and innovative entrepreneurship germinates, sustains and grows leading to creation of a more dynamic entrepreneurial economy and more formal wage employment.

The core objective of the entrepreneurship framework is to coordinate and strengthen factors essential for growth of entrepreneurship across the country. This would include:

i. Promote entrepreneurship culture and make it aspirational

ii. Encourage entrepreneurship as a viable career option through advocacy.

Iii. Enhance support for potential entrepreneurs through mentorship and networks.

iv. Integrate entrepreneurship education in the formal education system

v. Foster innovation-driven and social entrepreneurship to address the needs of the population at the bottom of the pyramid.

vi. Ensure ease of doing business by reducing entry and exit barriers

vii. Facilitate access to finance through credit and market linkages

viii. Promote entrepreneurship amongst women

ix. Broaden the base of entrepreneurial supply by meeting specific needs of both socially and geographically disadvantaged sections of the society including SCs, STs, OBCs, minorities, differently-abled persons

8.3 Objectives of policy

The entrepreneurship policy framework has been developed to address the objectives underlined in Chapter three of the document. Vibrant entrepreneurship requires support from an enabling ecosystem of culture, finance, expertise, infrastructure, skills and business friendly regulation. Many government and non-government organizations are playing enabling roles across each of these crucial supporting elements. This policy framework, cognizant of the need for the full ecosystem to be present to unlock entrepreneurial potential, proposes a nine part entrepreneurship strategy:

- Educate and equip potential and early stage entrepreneurs across India
- Connect entrepreneurs to peers, mentors and incubators.
- Support entrepreneurs through Entrepreneurship Hubs (E-Hubs).
- Catalyse a culture shift to encourage entrepreneurship.
- Encourage entrepreneurship among under-represented groups.
- Promote Entrepreneurship amongst Women
- Improve ease of doing business.
- Improve access to finance.
- Foster social entrepreneurship and grassroots innovations

8.1 Educate and equip potential and early stage entrepreneurs across India

8.1.1 In partnership with experts, a world class entrepreneurship education curriculum will be developed. Through a blend of online and experiential learning, potential entrepreneurs will go through hands-on, student centric courses that help them acquire skills they need to start an enterprise. This curriculum will build on and adapt the best entrepreneurship education content available globally.

8.1.2 This curriculum will be delivered to all aspiring entrepreneurs at no cost. Leveraging online learning, entrepreneurship courses can be taken as and when needed by students and business people alike through Massively Open Online Courses (MOOCs).

8.1.3 In addition, entrepreneurship education will be integrated into the mainstream curriculum in 3,000 colleges around India. These colleges will also be provided with additional support and re-training of existing faculty to deliver entrepreneurship courses to enrolled students from all tracks and courses. Students will be able to choose entrepreneurship courses to suit their needs, and Universities will be encouraged to award credits for entrepreneurship courses.

8.1.4 Entrepreneurship education courses will also be delivered in approximately 325 industrial clusters across the nation. Through 50 nodal Entrepreneurship Hubs (E-Hubs) set up across all states, existing and potential entrepreneurs will be targeted for entrepreneurship education modules that suit their need.

8.2 Connect entrepreneurs to peers, mentors, incubators

8.2.1 To support young entrepreneurs, a web and mobile based platform connecting the entire entrepreneurial ecosystem will be established. Students, young entrepreneurs, mentors, incubators, funding agencies and basic service providers will all be able to log in and connect to each other in their respective industries and locations.

8.2.2 Platform members will also access content, including information on government services and special packages offered by service providers. Entrepreneur Information Handbooks in Hindi, English and regional languages providing relevant information associated with establishing and operating a business will be published and updated periodically. The portal will also provide relevant online application forms and procedures.

8.2.3 The creation of new incubators, far above and beyond the 120 that currently operate, will be encouraged. Support will be provided to help successful incubators scale further. A national network of incubators and accelerators will also be established to support young entrepreneurs. This network will also feed in to the online platform connecting the entrepreneurial ecosystem. Industry will also be encouraged to support aspiring entrepreneurs within its sector through appropriate incubation support.

8.2.4 A national network of high quality, screened mentors will be created, leveraging existing networks and successful local entrepreneurs where possible. Mentors will be of a high quality, ensured by selection against a pre-determined criteria. Building on these two critical elements, the rest of the entrepreneurial community can then be mobilized to join the online community through education programs and other mobilization drives.

8.2.5 Align entrepreneurship activities in innovative and cutting edge technology areas, with initiatives in innovation domain such as Atal Innovation Mission (AIM) - a platform to promote a network of world class innovation hubs, and Self Employment Talent Utilisation

(SETU) - a Techno-Financial, Incubation and Facilitation Programme to support all aspects of start-up businesses, and other self-employment activities, particularly in technology-driven areas.

8.3 Support entrepreneurs through Entrepreneurship Hubs (E-Hubs)

8.3.1 Support to entrepreneurs, including coordinated delivery of national and state government entrepreneurship programs and access to enabling resources, a national network of Entrepreneurship Hubs (E-Hubs) will be established.

8.3.2 One national, 30 state, 50 Nodal and 3,000 college based E-Hubs will be set up to deliver support. These E-Hubs will, collectively, cover the entire nation.

8.3.3 The National Entrepreneurship Hub (E-Hub) will be advised by a National Advisory Committee (NAC) comprising of representatives from government ministries, entrepreneurs, NGOs and academia. The National E-Hub will lead efforts to improve inter-ministerial coordination and align entrepreneurship efforts with industry trends as well as other national flagship programmes like Make in India, Smart Cities, Skill India, Digital India, Green India and Swachh Bharat Abhiyaan.

8.4 Catalyse a culture shift to encourage entrepreneurship

8.4.1 To promote entrepreneurship, state and national level interaction with stakeholders will be convened. Keynote speakers from industry both domestic and international will be invited to share best practice from the field. International linkages will also be established through internship opportunities and exchange trips to global entrepreneurship hubs such as Silicon Valley and Israel.

8.4.2 To build awareness of competitions and opportunities, national brand ambassadors will be created to champion entrepreneurial culture in India.

8.4.3 Institute Awards for young achievers (for both men and women entrepreneurs separately) at all levels viz., district, state and national levels to recognize the achievements of entrepreneurs below the age of 30 years.

8.4.4 Institute celebration of National Entrepreneurship Day.

8.4.5 International linkages will also be deepened to increase the flow of ideas to India. A regional (South Asian) network of entrepreneurs, with a focus on trending sectors such as social entrepreneurship or tech-based entrepreneurship, could be established. This network could provide fellowships and exchanges to entrepreneur members, with hubs in leading management and entrepreneurship centres in India (e.g., IIM-Ahmedabad) and abroad. Periodic workshops could connect all entrepreneur members. A digital platform could connect these entrepreneur members and be used to share their stories and knowledge with the broader public.

8.5 Encourage entrepreneurship among under-represented groups

8.5.1 Special focus will be given to the inclusion of scheduled castes & scheduled tribes, minorities, differently abled, etc., and regionally under-represented areas including large part of Eastern and North Eastern India in entrepreneurship programs.

8.5.2 These groups will be prioritized for delivery of entrepreneurship education programs, both in and outside formal education institutions, through Nodal E-Hubs.

8.5.3 Special mobilization drives to enrol members of these groups in the online entrepreneurial ecosystem will also be conducted.

8.5.4 Special efforts will also be made to enrol incubators and mentors catering to these groups will in the national entrepreneurial ecosystem. This includes organizations that promote rural entrepreneurship activity, especially in traditional arts and crafts like artisans, goldsmiths, handlooms, blacksmiths, etc. A pool of experts (e.g retired bankers etc.) would be promoted to act as mentors to rural entrepreneurs and help them connect to all related services eg. banks, regulatory requirements, writing proposals for funding etc.

8.5.5 Access to Government supported testing facilities (like IIT s/IIScs) and infrastructure could be offered to these groups, to potential and new entrepreneurs in general at a subsidised rate.

8.6 Promote Entrepreneurship amongst Women

8.6.1 The Economic Survey conducted for India by OECD in November 2014 clearly enlists low female economic participation as one of the major findings. Creating more and better employment for women has high growth potential. Currently the contribution of women in workforce is limited to only 24% . Head of UN Women has also indicated that India?s GDP will leapfrog by another 4.2% if women in India can contribute their full potential to the economy.

8.6.2 Women-owned enterprises are an important component of the Indian Economy and play a strategic role in the growth and development of the nation. However, as far as support for women entrepreneurs is considered there exists no reliable data on the public contracts which go to Women Owned Business (WOB). Efforts will be made to encourage women entrepreneurs through appropriate incentives for women owned businesses under the public procurement process. It will also be ensured that gender neutral incubation/ accelerator, network of mentors, industry, resource centres and credit institutes are developed to facilitate Women Entrepreneurs.

8.6.3 Ensure priority for mentorship and support system for women entrepreneurs in existing business centres and incubators. Build entrepreneurial capacity for women by facilitating access to capital at relaxed credit terms. Steps will also be taken to assemble gender disaggregated data.

8.7 Improve ease of doing business

8.7.1 A business friendly environment with easy entry and exit procedures will encourage entrepreneurial activity. The following actions to rationalise business procedures and regulations through the following initiatives should be investigated:

- Introduce an online Composite Application Form (CAF) that will help entrepreneurs file a single application for obtaining all approvals and clearances from various government authorities.
- Encourage States to strengthen existing Single Window System with a High Power Committee empowered to give all necessary clearances for setting up a business.
- Convert the present District Industries Centres (DICs) into Business Development Centres (BDCs) with an objective to provide technical and procedural hand-holding support and counselling to pre-start-up, nascent, early start up and growth ventures.
- Permit flexibility to start-ups in hiring and retaining workforce for operational adjustments and rationalisation during the first three years of operation of an enterprise, assuming that by the end of three years it will either stabilise and grow or become sick and close down.
- Allow easy exit to enterprises if they have been in operation for less than three years. Such enterprises will be facilitated to close their operations, if not found viable, within a period of three months. Special fast track court would be set-up to expedite the process of closure of such firms.
- Introduce Unique Enterprise Number (UEN) that a new enterprise could use for various registrations including taxes, labour laws and social security. Once UEN is available, all regulatory and support agencies shall use it to fasten the process of setting up an enterprise.
- Consider tax incentives to new and existing entrepreneurs.

8.8 Improve access to Finance

8.8.1 As per RBI data, the share of small scale industries in gross bank credit from scheduled commercial banks has been continuously decreasing. Its share has fallen from 15.42 per cent of the gross bank credit in 1991 to 6.34 per cent in 2006-07. To reinvigorate the flow of credit to deserving entrepreneurs, the following interventions could be considered:

- Ensure that credit delivery norms are met by financial institutions without compromising the quality of the projects submitted for credit.
- Strengthen venture capital companies in quasi-public sector by infusing capital through equity participation.

- Incentivise Angel financing by providing appropriate rebates on capital gains made by investors.
- Promote a ?rescue? culture by revisiting bankruptcy rules and facilitate counselling and advisory service to troubled firms by appropriately addressing legal status.
- Encourage national and state bodies viz. National Scheduled Caste Finance and Development Corporation (NSCFDC), National Minorities Development and Finance Corporation (NMDFC), National Backward Classes Finance and Development Corporation (NBCFDC), National Schedule Tribes Finance and Development Corporation (NSTFDC), etc., to provide credit to micro enterprise start-ups launched by their target population.
- Explore the possibility of setting up a National Fund for the Unorganised Sector, as recommended by the National Commission for Enterprise in the Unorganised Sector in 2007, to hasten the process of achieving inclusive growth of entrepreneurship.
- Encourage and support financial institutions to develop innovative micro-level financial tools to enhance investibility in micro ventures. Further, they would also be encouraged to increase lending in rural areas through self-help groups and innovative micro-financing.

8.9 Foster social entrepreneurship and grassroots innovations

Social enterprises have emerged as important business instruments to address the issues of poverty, unemployment and inequity in society, through socially oriented business innovations. Social innovation seeks to answer these social problems by offering new products and services which allow the poor to interact with markets as active participants rather than passive recipients. Considering the need to encourage such social enterprises, the following will be undertaken:

8.9.1 Encourage universities and academic institutions to launch a course on Social Entrepreneurship, including through online distance education, to actively promote social entrepreneurship in the country.

8.9.2 Foster a social capital market place by offering fiscal incentives to attract investors and make provision for funding support under a separate scheme(s) like social venture fund, to facilitate social entrepreneurs access to credit.

8.9.3 Facilitate creation of Social Enterprises even with a modest capital base, through social incubates across the country.

8.9.4 Encourage innovators, universities and institutions to patent innovative entrepreneurship ideas and technologies by promoting and strengthening Intellectual Property Rights.

8.9.5 Create grass-root technology innovation hubs to harness the innovation potential of grass-roots innovators.

8.9.6 Promote and encourage grass-root innovations and assist innovators to commercialise and up-scale their products and services.

8.9.7 To encourage innovation, collaborate with organisations such as the National Innovation Foundation to encourage grassroots technological innovation and integrate with the national research and innovation ecosystem. Using the national network of E-Hubs and other platforms, assist entrepreneurs in commercializing and scaling up their products and services.

9. Vision, Mission, Objectives, Values & Strategy

Recognising developments across the world and India on entrepreneurship and innovation, taking into account best practices across the world, Vision, Mission, Core Values and Strategy for EDI are detailed below:

9.1 Vision

An aspirational and inclusive entrepreneurship and business innovation culture spreads across Tamil Nadu with EDI emerging as the State resource hub in education, training, research & practice in Entrepreneurship & Innovation .

9.2 Mission

Rapid, sustainable and inclusive growth of MSM enterprises and innovation by youth and adults across Tamil Nadu through effective entrepreneur competency development, partnerships, business network development, advocacy, training, communication, innovation promotion and business facilitation services, leading to job growth and economic development.

9.3 Goals

The Strategic Plan hopes to achieve by 2021:

- Train 50,000 new entrepreneurs & network them
- 19 State, 2 Central Universities, Deemed Universities, Government and aided Institutions of higher learning create vibrant hubs for startups and business innovation
- Create a vibrant entrepreneurial climate in 1000 colleges, polytechnics, ITIs with functioning IEDCs, E-clubs
- Support establishment of 10 world class technology incubators in thrust sectors *with focus on manufacturing*
- *Support establishment of Business Incubators in 100 colleges & research institutions.*
- Encourage, facilitate and support emergence of 5000 technology startups in Tamil Nadu in manufacturing

9.4 Core Values

Entrepreneurship, Integrity, Objectivity, Timeliness, Teamwork, Excellence, Leadership, Innovation and Quality Consciousness

9.5 Objectives

1. Spread aspirational entrepreneurship & innovation culture in Tamil Nadu
2. Build enterpreneurial competencies of aspiring youth and entrepreneurs, including those from disadvantaged sections of society
3. Enhancement of the support ecosystem for entrepreneurs, including technology startups
4. Reduction in risk of enterprise and innovation failures
5. Embedding entrepreneurship education in the formal education system
6. Research, surveys and publications on entrepreneurship and innovation
7. Vibrant partnerships with all Government and non-Government players in the entrepreneurship and innovation ecosystem, including policy advocacy

10. Strategic Plan for EDI

10.1. Awareness Generation, Training & Workshops

A) *Process-basedEntrepreneurship Development & Innovation Program for higher education institutions*: such as Colleges, polytechnics, ITIs, Agri, Vet & other Colleges, as below :
   a) Step1: Entrepreneurship awareness & Business Opportunities workshops in first stage, enterpreneurial competency assessment camps, participation in Massively Open Online Courses (MooC) on Entrepreneurship.
   b) Step2: Enterprising and willing students to participate in Ideation contests, Grand challenge competitions, exposure visits to startups/incubators, participation in Massively Open Online Courses (MooC) on Entrepreneurship.
   c) Step3: Prototyping & product development, Business plan preparation camp for students who are able to cross Step2, participation in Massively Open Online Courses (MooC) on Entrepreneurship.
   d) Step4: Syndicating finance tieups with banks or VCFs (in caseof innovative projects) in the final year for projects approved by financial institutions.
   e) Step5: Incubation &support services (physical & virtual) for launched businesses & scale-ups of students and alumni, including seed, angel and VC funding.

B) *Life cycle approach to training* for enterpreneurship : by which entrepreneurs will get support for knowledge or facilitation at every point of the life cycle :
   a) Pre-business stage:
      i) Business opportunities workshops & webinars in sectors relevant to each district with help of Industry associations, DIC and a nodal educational instution
      ii) Business plan preparation camps : for entrepreneurs willing to commence businesses and ready to prepare business plans including access to finance
      iii) Regular EDP training after sanction of loans on how to run business to enable smooth start up
   b) Post Launch stage:
      i) *Post launch workshops* for enterpreneurs within 3 months in batches of 30 at district level to assess progress, identify issues and provide support or advisories
      ii) Post launch *business acceleration & scale up courses* based on need on various specific topics :
         1) Workshops for expansion/diversification in various sectors
         2) Crash courses on key topics of generic nature & sector specific
         3) E& M-Commerce, Digital Marketing Lab & ICT use
         4) Webinars on specific topics in early & mid life stage of enterprises
         5) Training for Product Design, Prototyping, Testing, Test marketing etc.
         6) Training courses & advisory services for MSMEs to raise funds in the capital markets. (eg. BSE SME Exchange, VCFs, Afs)
         7) Advisory services for reviving sick and stressed MSMEs

C) *Short certificate courses* : on entrepreneurship and innovation ranging from 1 month to 6 month accredited to recognised International or National or regional Bodies for persons interested in acquiring formal certification. EDI will also tieup with EDII and IGNOU to offer recognised courses for interested entrepreneurs in Tamil Nadu

10.2. Business Facilitation Services

A) *Business Opportunity Guidance Portal:* would be created with industry, bankers, training & research institutions and entrepreneurs as partners to post, discuss and elaborate new business opportunities. Entrepreneurs can register their areas of interest and get alerts on new opportunities in their areas. Stakeholders from industry can post upcoming business opportunities with details. Bankers can post comments on various business opportunities with pitfalls and experiences from each sector. EDI and other training institutions will upload updated project reports. Non-profits like NEN would be roped in to develop a framework for use of entrepreneurs for sifting through and choosing a business opportunity. NABARD LDMs would also be roped in as users to enable them to support emerging opportunities in their District PLP and Credit Plans.

B) *Make in Tamil Nadu & Business Linkages program:* will be implemented by SIDCO & IC&DIC to identify components and services imported into Tamil Nadu by manufacturers in Tamil Nadu and suitable Business Linkage services will be offered, including Vendor Development Programs, to promote local SMEs. EDI will assist SIDCO/IC&DIC in organising *Business Linkages workshops to enable MSMEs to* make presentations and sign contracts with large OEMs.

C) *Entrepreneurs Clinic & Help Desk* :: to be implemented will provide advisory services at every stage of the business life cycle through a call centre manned by domain experts @ EDI via chat, telephone and email as well as direct one-on-one interaction @ EDI campus on request.

D) *Mentorship program*: An online State network of high quality willing mentors will be created from existing entrepreneur networks and successful entrepreneurs in every district. Mentors will be screened, oriented and rated based on performance criteria by entrepreneurs. NRI entrepreneurs, Top management retirees from top PSUs and private sector would be identified and enrolled as mentors.An online mentoring platform will also be created.

E) *Online Learning Portal* : in Tamil and English with various self learning modules based on evolving market for those who are unable to attend EDI courses directly, such as those who are employed. (eg. SBA Learing Centre www.sba.gov). Curriculum will be delivered to all aspiring entrepreneurs at no cost. Leveraging online learning, entrepreneurship courses can be taken as and when needed by students and business people alike through Massively Open Online Courses (MOOCs) in Tamil & English.

F) *Networking the Un-networked*: aims to provide physical and online spaces for entrepreneurs, who are not linked with business networks, to link up with various stakeholder communities in the market for accessing information, seeking advise and sharing of experience on a regular basis (eg. Empretecos associations). EDI will

syndicate upgradation of informal networking into formal associations with help of BMOs like TANSTIA.

G) *Incubators as MSME Business Facilitators*: Incubators in Colleges and Research Institutions, with an established entrepreneur support system, would be oriented and supported to provide business facilitation services to local MSMEs and startups. Incubators will also gain tremendous insight into local business practice and be able to support students and alumni better.

H) *Cluster Development*: EDI will work with 20 micro clusters to form and build capacity of BMOs, carry out diagnostic studies and implement design & technology improvement and infrastructure upgradation programs with GoI and GoTn support. EDI will also partner with MSME Cluster Associations to organise training programs at CFCs & COEs (established under the National Cluster development Program) enabling existing MSMEs and potential entrepreneurs to improve design, cost and resource efficiency, etc.,

10.3. Communications & Celebration

A) *Media programs to celebrate entrepreneurs & innovation* : to enhance the social status of successful entrepreneurs and attract youth to business as the most sought after career. Building partnerships with TV, electronic and print media to run sponsored and non-sposnored programs on entrepreneurship & innovation.Annual

B) T*amil Nadu MSME Entrepreneurs & Startup Innovators Summit :* with events highlighting entrepreneurship opportunities, presentations by successful global entrepreneurs & startup innovators from across the world, recognising local achievers, stakeholder conferences for brainstorming on ease of doing business, access to finance, entrepreneurship development in educational instituions, inclusive development, etc., with sector wise breakout sessions as well. Entrepreneurs, Startup Innovators, Colleges, Incubators, angel & VC investors, Banks, Youth from colleges and schools will be amongst the key participants. The Government will encourage sub-events at recognise at madurai, Coimbatore, Salem, Trichy, et., as a run up to the main event. *Annual State and District Level awards* for outstanding start-ups & innovations to recognise and motivate innovators and good entrepreneurs would be given out at this Summit. The *Summit will also* showcase innovative designs and Awards for Innovative Products & Services from MSME sector would be given.

C) *Documentation of Entrepreneurship and Innovation stories* : to document successes and enable faster spread of the entrepreneurial culture based on sharing of success and failure stories. These documents will be shared through EDI webpages, youtube and used in training classes for motivation

D) *National Entrepreneurship Week celebrations:* across the State highlight entrepreneur achievements, recognise business champions and disseminate experience

E) *Communications & Outreach*: through posters, weekly E-newsletters & daily Social media (including Twitter, facebook, push SMS (m-SEVA), Whatsapp, etc.) on entrepreneurship and innovation will help document, spread and scale up adoption of best practice

F) *Targeting potential entrepreneurs*: Groups with high potential, like ex-servicemen with technical skills, industry employees with experience and skills, younger members of family owned businesses, etc., would be identified and targeted for EDI training programs.

G) *Plugging into existing high visibility sockets*: EDI and its partners would be present in Job melas conducted by E&T department, fairs and exhibitions, technical exhibitions and industry conventions where potential entrepreneurs would be present through entrepreneur/startup kiosks and stalls.

10.4. Incubation

A) Incubation services, virtual or physical, are known to reduce the failure rates of new born entreprises. Hence EDI, with funding from GOI, will support formation and building capacities of :

(a) *Rural Business & Social Incubators* to identify, document, support and harness innovations of grass-roots innovators.

(b) *Promote Business Incubators* in other Institutions running non-professional courses ie., arts & science colleges, ITIs, Polytechnics, etc.,

(c) *Expand Tech BIs incubators*: in specific verticals within Central Technical Institutions such as CLRI, IIIT-DM, CVRDE, CECRI, SERC, etc., and BIs in IIM Trichy, Central University in Thiruvarur, TN Maritime University and National Research centres such as NCRB, NPRC, CMFRI, etc., by motivating these institutions to setup TBIs. EDI will motivate leading medical colleges, TNAU, TNFU, TNVASU, etc., to setup specialised TBIs to carry out research and incubate technology innovations into profitable businesses.

10.5. Inclusive Development

A) *Special target group training programs:* will be given to the inclusion of scheduled castes & scheduled tribes, minorities, differently abled, etc., and regionally under-represented areas including large part of Eastern, Central and and Southern Tamil Nadu in entrepreneurship training programs

B) *Formation of special support groups*: for such disadvantaged entrepreneurs would help them to gain confidence. eg. Dalit Indian Chamber of Commerce & Industry, etc. A pool of experts (e.g retired bankers etc.) with prior experience in handling such groups would be promoted to act as mentors to such disadvantaged entrepreneurs and help them connect to all related services eg. banks, regulatory requirements, writing proposals for funding etc.

C) *Sensitisation for Inclusive development*: through regular sensitisation workshops for key stakeholders like bankers, incubators, trainers, officials, etc., to promote gender neutral incubation/ accelerator, network of mentors, industry, resource centres and credit institutes are developed to facilitate Women and other disadvantaged Entrepreneur groups.

10.6. Green & Social Entrepreneurship

A) *EDI Advisory group on green and social entrepreneurship :* would be setup to enable greater understanding of opportunities in socially and environmentally sustainable development and corresponding capacity building needs arising out of the Paris Accord and the climate change imperative.
B) *Green & Social Business opportunity workshops:* in social sector would be organised peridocally to promote undertsanding by entrepreneurs of business opportunities centered around problems faced by citizens. *Training programs* focused on creation of Social Enterprises even with a modest capital base, through social incubators.

10.7. Training Quality Improvement

A) *Develop & disseminate training content:* such as trainer handbooks, training videos, case studies for entrepreneurship and innovation
B) *Feedback workshops for entrepreneurs:* will be organised every year to enable entrepreneurs (past trainees) to suggest changes to training programs & support provided by EDI based on their experience and changing requirements and enable design of client centric programs.
C) *Organise regular entrepreneur trainers training programs* : to standardise and strengthen trainer capacity and enable. This would enable improving the quality of training offered by trainers and introduce better training methodologies in programs of EDI.
D) *Annual evaluation of EDI PIAs & Training programs*: would be conducted to ensure that PIAs maintain standards and Training programs deliver the outcomes expected.

10.8. Ecosystem Improvement

A) *'Ease of Doing Business' sensitisation workshops:* would be organised every year by EDI for State level officials IC&DIC, SIDCO, TIIC, TAHDCO, TABCEDO, Cooperative banks (SCA for NHFDC), SIPCOT, CT, TANGEDCO officials to enable improvement of the support environment for entrepreneurs. *'District workshops* would also be organised every year in every district for MSMEs in collaboration with IC&DIC for documenting problems and issues faced by MSMEs and recommend policy responses to the Government.
B) *Workshops to Improve Access to Financ*e: through Annual stakeholder workshops (Govt agencies like SLBC, TIIC, TNCDW, TAHDCO, TNSCB, Angel funds, VCFs, etc.) to enhance understanding of problems in startup financing and make policy recommendations to Banks, FIs, State and Central Governments.

10.9. Mainstreaming Entrepreneurship education

A) *Embedding Entrepreneurship in education*: EDI will work with and support Higher Education department, Universities, TANSCHE to put in place a *Student Entrepreneurship & Innovation Policy* which include inter alia, introduction of electives, learning by doing entrepreneurship activities right from first year ((example: Europe http://www.tesguide.eu & http://theentrepreneurialschool.eu/), visits to businesses, interaction with successful businessmen and women students of arts and science colleges, engineering, medical, agriculture, veterinary, fishery colleges, ITIs, polytechnics & all other categories of colleges. Students of all faculties will be able to choose entrepreneurship courses to suit their needs, and Universities will be encouraged to award formal credits for a wide variety of entrepreneurship activities including participation in entrepreneurship club, entrepreneurship events, entrepreneurship courses, including social & eco-entrepreneurship. EDI will assist universities to evolve curricular inputs in colleges and schools & advocate entrepreneurship courses *for all streams*, programmes and chairs at higher education institutions and universities would be jointly reviewed.

B) *College Innovation & Entrepreneurship Development Council: EDI will work with TANSCHE and Higher Education department to support* establishment of a *College Entrepreneurship Development & Innovation Council and Innovation & Entrepreneurship Development Centre (IEDC)* in every higher educational institution consisting of top management representative, HODs, bankers, successful entrepreneurs including alumni, industry representatives, etc. Support of Top Management of any Institution management support is a vital key to creation of a favorable ecosystem within educational institutions for Entrepreneurship to flower, based on study of successful STEPs & IEDCs in certain private institutions. This forum would enable entrepreneurs to directly link with students and mentor student-promoted businesses.

C) *Management Sensitisation workshops:* for Vice Chancellors, College Top Management & Government College Principals would be organised by EDI every year for those instutions which are yet to initiate ED&I Processes culminating in formation of an active ED&I Council in every college/Polytechnic /ITI in collaboration with TANSCHE, Universities and Higher & School Education department.

D) *Faculty Development Programs for College and Schools* : would be organised every year for all engineering, arts and science, agriculture, vet, fisheries, medical colleges and other colleges, polytechnics, ITIs will be provided with additional support for re-training of existing faculty to run EACs, establish IEDCs to deliver and support entrepreneurship courses and set up BIs to promote and incubate businesses by students of all courses.

E) *Student Entrepreneur's Clubs:* will be formed in all colleges and other higher educational institutions to enable students to develop entrepreneurship skills. Activities such as run-you-own company, ideation camps, interaction with successful entrepreneurs, exposure visits to successful enterprises, etc., would be taken up by these clubs. Training for faculty of institutions would be provided. Business ideation, business-case challenge & Social entrepreneurship competitions would be promoted in colleges & polytechnics (eg. ENACTUS : http://enactus.org/what-we-do/project-stories/, CII Innovation http://www.ciiinnovation.in). Product Innovation Conferences (TEDx type) would be organised periodically at EDI and colleges to feature, recognise and document innovative ideas and product launches.

F) *Online portal & Mobile App for business games/challenge Portal for students:* would be launched to engage a larger number of students in preparedness for enterprise activities (eg. Desafio SEBRAE in Brazil :: www.desafio.sebrae.com.br) by providing a boquet of entrepreneurship activities like games, virtual activities like run-your-company, etc., that could be used in colleges and schools to experience entrepreneurship.

G) *University Innovation & Entrepreneurship Development Centres (U-IEDC)*: EDI will work with TANSCHE to encourage Universities to activate UIEDC as a resource centre to support and coordinate College Innovation & Entrepreneurship Development Councils and IEDCs. The State Government had sanctioned Rs 20 lakhs per center in last few years. The centre would also build expertise in promoting creation of IP and IPR awareness and commercialisation of IP.

H) *School Entrepreneurship & Innovation Programs*: EDI will work with Atal Innovation Mission to ensure that maximum of schools set up Tinkering labs. Also EDI will work with School education department to introduce entrepreneurship activities for children in 8-11 th classes as extra curricular activities and enable children to participate in innovation and entrepreneurship contests and challenges..

10.10. Collaborations & Partnerships on ED & Innovation

A) *EDI Entrepreneurship & Innovation Advisory Board:* within EDI headed by Director with participation of Industry, Academia, non-profits & Government agencies for recommending policy measures on ED&I for dynamically refocussing Entrepreneurship and Innovation policy framework from time to time based based on evolving economic conditions.

B) *Partnerships with BMOs*: EDI will partner with BMOs like TANSTIA and its member associations as well as other MSME associations in Service and Startup sectors. Edi will organise periodic brainstorming conferences with BMOs to identify issues for policy advocacy.

C) *State Incubators Association*: will be established as a self help group to standardise incubator services and help spread best practices. This network will also feed in to

the online platform connecting the entrepreneurial ecosystem. Industry will also be encouraged to support aspiring incubators within its sector through R&D funding.

D) *Partnerships & MOUs with reputed non-profits/institutions like RSETIs*, *EDII*, NID, NIF,, National Entrepreneurship Network, Global Entrepreneurship (NEN), Network (GEN), BYST, National Innovation Foundation, etc. working in similar space etc. for enhancing quality of training and facilitation for entrepreneurs.

E) *MSME Industry-University Innovation Programme:* would facilitate partnerships between Universities, Research Institutions and Industry/SMEs to generate new or improved products. Universities and top educational institutions institutions would be encouraged to generate proposals for prototyping & commercialisation of new products, patent filing, product improvement under GITA, DBT, DEITY, DST & CSIR funded programs.

10.11. Support for Innovation

A) *Access to Innovation Finance:* EDI will sensitise bankers and district functionaries to promote and finance innovative business ideas and models through existing schemes such as PMEGP, UYEGP and NEEDS. EDI will also partner with VCFs to reach out to innovative entrepreneurs.

B) *EDI as Nodal Institution for Innovation*: EDI will be designated by P&D department as the nodal State institution for capacity building, documenting, researching and promoting Innovation in Business in Tamil Nadu

C) *Startup Mission in Manufacturing*: would be established in EDI with focus on facilitation & capacity building for innovation. This centre would work with technology incubators and engineering centres of excellence in manufacturing in Tamil Nadu in building capacity of the college and research ecosystem to support startups in manufacturing sector in manufacturing thrust sectors such as Smart & Advanced manufacturing, Smart equipment & Internet-of-Things (IOT), Biotechnology, Electric & Hybrid vehicles, Fuel Cell Technology, Renewable Energy technologies, Organic farming & water saving technologies, Electronic System Design & manufacture, Smart city technologies, Enviro & Clean technologies, Sustainable Transportation technologies .

D) *Manufacturing Startup & Acceleration Centre:* will be set up within EDI with a auditoria, conference rooms, co-working spaces, exposition centre, etc., and a manufacturing startup hub with co-working spaces, startup labs, FabLab, etc., in PPP mode. The Centre will provide startup incubation services, advisory services, accelarator programs, etc. A sum of Rs 3 crores has already been sanctioned for this by Government of Tamil Nadu for the EBAC, renamed as MSAC.

E) *Centres for Manufacturing Innovation*: EDI would also work with State Government and GoI in setting up Centres of Manufacturing Innovation in five reputed engineering, medical and agricultural schools to enable entrepreneurs ideate, design

and commercialise innovative products and services by MSMEs in Industrial IOT (M2M, V2V, etc.) & smart machinery, Renewable power technologies, Organic farming & water saving technologies, Environment & Clean Technologies, Sustainable Transportation and Smart cities.

F) *Facilitate access to R&D grants*: EDI will support deserving Educational Institutions in accessing DST & other GOI grants for product development, incubation, startup support, etc. By organising joint workshops with DST, DBT and other GOI departments.

G) *IPR Protection & value Capture campaign*: Workshops would be organised periodically to enable MSMEs to understand how to benefit from IPR and ways to protect IPR in collaboration with CGPTD & TNTPDC. EDi will encourage innovators, universities and institutions to patent & commercialise innovative entrepreneurship ideas and technologies by promoting and strengthening Intellectual Property Rights.

H) *Innovations Marketplace*: would be designed and moderated by EDI to showcase MSME innovations and promote their marketing while ensuring IPR.

10.12. Monitoring, Evaluation, Research & Documentation

A) *Outcome based Implementation framework:* would guide implementation of every strategy adopted or programs implemented and funding assistance provided by EDI would be contingent on simple and measurable entrepreneurship or innovation outcome milestones.

B) *Monitoring framework:* EDI will develop and operate an outcome based monitoring framework for evaluating all policies, programs and strategies under implementation by the State Government and provide regular and timely feedback to itself, Government, partners and other stakeholders for course correction.

C) *Annual Enterprise sample survey on State of Micro enterprises & Entrepreneurship in TN*: on the same lines of World Bank Annual surveys (www.enterprisesurveys.org) which would be a firm-level survey of a representative sample of an economy's private sector covering a broad range of business environment topics including access to finance, corruption, infrastructure, crime, competition, and performance measures. This would help feed into policy based on survey results.

D) *EDI Entrepreneurship & Innovation Research Conferences: EDI* E&I Research Council would be formed with Academia and Industry to carry out planned investigation & research on entrepreneurship & innovation and organise yearly research conferences as a means of measuring progress & evaluating and documenting best practices, evaluating policy and recommending policy change.

10.13. Infrastructure Development

A) *Regional Entrepreneurship Development Centres:* Vision 2023 has proposed setting up 4 regional centres for Entrepreneurship Development, to be set up in the PPP mode. EDI will facilitate setting up of these centres.

Sl	Project	Investment
1	Entrepreneurship Development Centre for SME in Madurai	15
2	Entrepreneurship Development Centre for SME in Coimbatore	15
3	Entrepreneurship Development Centre for SME in Hosur	15
4	Mega Entrepreneurship Development Centre in Karur for Trichy and Erode	25

10.14. Human Resources development

A) *EDI Organisation Structure*: will be restructured based on Vision, Mission & this Strategic Plan to enable EDI to support functions such as Startups, cluster development, innovation promotion, incubation, institutional development, etc. Horizontal contract appointments to EDI from industry would be enabled to infuse talent into enterpreneurship development and innovation. Horizontal talent drawal from Government agencies & academia for EDI would also be resorted to. Market pay for certain positions such as startup mission would be allowed to ensure the best possible talent.

10.15. Recommend Policy Changes

A) *MSMED Single Window Portal (Small Biz Online of Korea, www.eregulations.org)* : EDI will work with IC&DCI to implement a Single window portal.

B) MSME Policy: EDI will support State Government in drafting and implementing an MSME Policy.

C) *Startup Action Plan* : EDI will support Government in drafting and implementing a *StartupTN Action Plan*.

D) EDI will support policies and stratgies for *Integration of MSMEs in Large industry value chains, Student Entrrepreneurship & Innovation Policy, etc.*

11. Financing the Strategic Plan

The financial plan has been phased over a five year period ie. 2016-2021. The following are the highlights of the plan:

1. Goverment of India funds under various R&D and MSME schemes will be dovetailed wherever possible

2. Funds of other agencies like IC&DIC, TAHDCO, TABCEDCO, TAMCO will be dovetailed to enable EDI to arrange for training for entrepreneurs uder Government schemes and from disadvantaged communities.

3. Innovation related activities would be proposed for funding under Tamil Nadu Innovations Initiative (TANII)

4. A certain small set of activities alone will be funded out of EDI accruals is not included in the budget calaculations.

5. The recurring administrative grant of Rs 1 crore received by EDI, which is to revised to Rs 2 crores, is not factored in this calculation.

6. The State Startup Mission is budgeted to require Rs 5 crores every year.

7. The overall Budget for next 5 year is projected at Rs 61.08 crores.

Annual Budgetary Outlays:

2016-17: A sum of Rs. 13.06 crores in 2016-17 is required, out of which Rs. 3 crores has been already allocated for the EBAC.

2017-18 to 2020-21 : A sum of Rs. 10.78 crores is budgeted every year

Strategic Plan 2016-2021 : Budget

(SF-Self Financing)

Sl	Plan Item	Budget in Rs lakhs						Source of funds	Remarks
		2016-17	2017-18	2018-19	2019-20	2020-21	Total		
10.1.A	*Process-based Entrepreneurship Development & Innovation Program for higher education institutions*							GoTN	Funding is proposed in a subsequent line item
10.1.B	*Life cycle approach to training* for enterpreneurship	200	200	200	200	200	1000	GoTN	EDP courses for Pre Launch and Post launch would be covered with these funds. ESDP will be conducted with TNSDC funds
0.1.C	*Short certificate courses*	0	0	0	0	0	0	EDI	Self financing courses
10.2.A	*Business Opportunity Guidance Portal*	5	0	0	0	0	0	GoTN	One time effort
10.2.B	*Make in Tamil Nadu & Business Linkages program*						0	IC&DIC	Workshops for MSMEs with large OEMs, CPSUs, Defence
10.2.C	*Entrepreneurs Clinic & Help Desk*						0	IC&DIC	Payment for advisory services of experts who will man the call centre
10.2.D	*Mentorship program*	20	10	10	10	10	60	GoTN	One time portal cost in first year and cost of workshops and follow up in subsequent years
10.2.E	*Online Learning Portal & Webinars*	20	10	10	10	10	50	GoTN	One time initial setup costs of equipment and thereafter costs of preparing modules and uploading them, resource persons fees
10.2.F	*Networking the Un-networked*	10	10	10	10	10	50	GoTN	Workshop costs
10.2.G	*Incubators as MSME Business*								

	Facilitators								
10.2.H	Cluster Capacity Building & Development							SIDCO & GoI	Funds will be sought under NCDP for Cluster level diagnostic studies
10.3.A	*Media programs on entrepreneurs & innovation*	10	10	10	10	10	50	GOTN	Sponsored programs in radio and TV on entrepreneurship & innovation
10.3.B	*Annual MSME Entrepreurs & Startup Innovators Summit*	100	100	100	100	100	500	GoTN	
10.3.C	*Documentation of Entrepreneurship and Innovation stories*							EDI	Using equipment purchased for online learning, video documentaries would be produced
10.3.D	*National Entrepreneurship Week celebrations*	10	10	10	10	10	50	GoTN	District level celebrations and awards for outstanding entrepreneurs
10.3.E	*Communications & Outreach*	5	5	5	5	5	25	EDI	Social media, press and e-newsletters
10.3.F	*Targeting potential entrepreneurs*								Funding under EDP training programs
10.3.G	*Plugging into existing high visibility sockets*								Participation in employment fairs and district fairs to promote entrepreneurship
10.4.A.a	Rural Liveihood Incubators							GoI	10 Incibators would be promoted under MSME programs
10.4.A.b	Business Incubators							GoI	10 Business Incubators would be promoted under Atal Innovation Mission of NITI,
10.4.A.c	Technology Business Incubators							GoI	10 every year under DST, DBT & MSME funds
10.5.A	*Special target group training programs*							TAHDCO, TABCEDCO PVP	Funds would be dovetailed from TAHDCO, TABCEDCO & Pudhu Vazhvu

10.5.B	*Formation of special support groups*	0	0	0	0	0	0	EDI	
10.5.c	*Sensitisation for Inclusive development*:							EDI	Will be covered as a module under regular training programs
10.6.A	*EDI Advisory group on green and social entrepreneurship*	0	0	0	0	0	0	EDI	
10.6.B	Green & Social Business Opportunity Workshops							EDI	Will be organised through EDI funds
10.7.B	*Organise regular entrepreneur trainers training programs*	5	5	5	5	5	25	GoTN	
10.7.C	*Feedback workshops for entrepreneurs*							EDI	
10.7.D	*Annual evaluation of EDI PIAs & Training programs*							EDI	
10.8.A	*'Ease of Doing Business' sensitisation workshops:*	8	8	8	8	8	40	GoTN	0.25 per district x 32 districts. Annual workshop of all single window related departments to sensitise them about progress and areas for improvement
10.8.B	Workshops to Improve Access to Finance							EDI	
10.9.A	*Embedding Entrepreneurship in education*							Higher Education	No financial commitment
10.9.B	*College Innovation & Entrepreneurship Development Council*							Higher Education	No financial commitment

10.9.C	*College Management Sensitisation workshops*	1	1	1	1	1	5	GoTN	Two State level workshops every year
10.9.D	*Faculty & E-Club leaders Development Programs for College and Schools*	25	25	25	25	25	625	GoTN	30 programs of 3 days and six-monthly 1 day workshops covering 500 college coordinators & 1000 student champions
10.9.E	*Online portal for business games/challenge & Mobile App*	5	2	2	2	2	13	GoTN	Will feature best practices for learning entrepreneurship by doing activities
10.9.F	*Student E-clubs : Business ideation, business-case challenge & Social entrepreneurship competitions, materials, trainng camps, posters, etc.*	60	60	60	60	60	300		*Planning, organising Business ideation, business-case challenge & Social entrepreneurship competitions, posters, materials, trainng camps, awards, etc.*
10.9.G	*University IEDC facilitation*							Higher education	Coordinate IEDCs formed using HE, GOTN grants. EDI will coordinate
10.10.A	*EDI Entrepreneurship & Innovation Advisory Board*							EDI	No financial commitment
10.10.B	*Partnerships with BMOs*	5	5	5	5	5	25	GoTN	Workshops to build capacities of BMOs
10.10.C	*State Incubators Association*	5	5	5	5	5	25	GoTN	Workshops to netowkr and build capacities of Incubators
10.10.D	*Partnerships & MOUs with reputed non-profits/institution*							EDI	No financial commitment
10.10.E	*MSME Industry-University Innovation Programme:*							EDI	Workshops will be orgaised by EDI jointly with TANSCHE

10.11.A	*Workshops for Access to Innovation Finance*							EDI	EDI funds will be used to organise workshops for VCs, Afs, FIs and Banks annually
10.11.B	*EDI as Nodal Institution for Innovation*								No financial commitment
10.11.C	*StartupTN Mission in Manufacturing*	500	500	500	500	500	2500	GoTN	A proposal has been sent under the State Starup Policy
10.11.D	*Manufacturing Startup & Acceleration Centre @EBAC*	300	100	100	100	100	700	GoTN	EBAC budget already approved by Government
10.11.E	*Centres for Manufacturing Innovation*							GOI	Proposals will be sent to get Government of India grants
10.11.F	*Facilitate access to R&D grants by MSMEs & Institutions*								No financial commitment
10.11.G	*IPR Protection & value Capture campaign*:							EDI	Funds will be mobilised through TNTPDC and CGPTD
10.11.H	*Innovations Marketplace*	5	5	5	5	5	25	GoTN	An online startup & MSME product and service innovations market place would be launched to enable innovators to showcase their achievements and market them
10.12.A	*Outcome based Implementation framework*								No financial commitment

10.12.C	*Annual Enterprise sample survey on State of Micro enterprises & Entrepreneurship in TN*	5	5	5	5	5	25	GoTN	
10.12.D	*EDI Entrepreneurship & Innovation Research Conferences*	2	2	2	2	2	10	EDI	
10.13.A	*Regional Entrepreneurship Development Centres:*							EDI	EDI will support development of BMOs into REDCs. Also EDI will establish EDCs at DICs
10.14.A	*EDI Organisation Structure*							GOTN	Is being funded through a regular recurring grant. A sum of Rs 2 crores is being sought.
	Total	1306	1078	1078	1078	1078	6103		

12. Monitoring & Evaluation

12.1 Previous sections have examined the 15 pillars of the Strategic Plan for Entrepreneurship Development & Innovation framework and we have cited examples of good practice where policies have been successfully implemented. The UNCTAD Policy frame work provides a checklist for qualitatively assessing the state of entrepreneurship in a State or country. EDI will use these checklists to carry out annual assessments of implementation of this Strtagic Plan. Some steps are as below :

12.2 First, EDI will assess through a baseline study in 2016-17 to assess the current *State of Entrepreneurship & Innovation in Tamil Nadu*, with granularity reaching out to districts. This involves evaluating the current business environment in which entrepreneurs start up, operate and grow their businesses, looking at the overall business climate and identifying country-specific challenges. For example, to assess the regulatory environment for business, the World Bank's "Doing Business indicators" can be used.

12.3 Second, based on the baseline define the overall priorities, both in terms of objectives and targets. Particularly important is defining which regions or groups of entrepreneurs or sectors need assistance, and identifying policy and programme gaps and shortcomings of relevance to these groups.

12.4 Third, monitor and assess the impact of the strategies and regularly assess feedback from lessons learned. Entrepreneurship policy should be managed dynamically to ensure continued relevance and effectiveness of policies and measures. In the words of one policymaker from a developing country when he explained his region's success in promoting entrepreneurship and achieving the UN Millennium goals, "The public and private sectors have to be in constant dialogue and that approach is the key to our success". Such a dialogue is most effective when it is led at top level in government, when government officials who participate are properly sensitized about the importance of entrepreneurship and when their performance in achieving the various objectives is measured. In order to allow periodic evaluation of strategic plan, it is important to define upfront a number of measurable objectives/targets. Such objectives can be translated into key performance indicators. These performance indicators can be tracked over time to show improvements or deteriorations in the framework conditions for entrepreneurship. This chapter therefore focuses on the last step in implementing the Strategic Plan Framework, that is, on selecting the indicators that can be used to evaluate the success of the strategies put in place under the framework.

12.5 Policy objectives and their performance indicators should be limited in number. While multiple indicators might allow a more accurate assessment of the real situation of entrepreneurs, one must bear in mind the resource constraints faced by governments in collecting and analyzing data. Therefore, certain criteria must govern the selection of indicators:

- The indicators must be relevant and specific and data for constructing the indicators should be readily available or relatively simple to collect
- The information should be collected periodically and in a timely manner so that the situation of entrepreneurs can be monitored. One-off surveys may produce interesting information about a given point in time but they cannot show the direction of trends. The collection of annual data is also an indication that policymakers are serious about entrepreneurship policy formulation, implementation and measurement.
- Finally, the indicators should be comparable across States and countries to allow benchmarking and to avoid policymakers or implementing agencies "picking and choosing" the most flattering indicators.

12.6 Table below provides an illustrative set of possible indicators that comply with the characteristics of relevance, availability, timeliness and comparability. The indicators in the table help to monitor the effect of strategic plan in the 15 Pillars of the Framework.

- For example, outcome oriented indicators should show if the measures have resulted in an upsurge in start-ups and an increase in their survival rates.
- Likewise, have policies allowed more women, youth, minorities and rural populations to start businesses?
- The indicators to measure changes in the regulatory environment should monitor the level of administrative hurdles faced by entrepreneurs.
- Indicators for education and skills should show if opportunities for entrepreneurship education are becoming more widely available.
- In addition they can indicate if the inclusion of entrepreneurship into university research programmes is increasing the commercialization of research.
- Indicators for innovation and technology should tell policymakers if their measures to promote innovative start-ups have succeeded and the role private equity has played in such start-ups.
- The indicators for SME and entrepreneurship finance should measure the willingness and capabilities of banks to support start-ups.
- Lastly, the indicators on awareness and networking should indicate if policy makers are succeeding in fostering a positive societal attitude toward entrepreneurs.

12.7 Future work, to be carried out in collaboration with other agencies and international organizations, may include the refinement of these indicators so that a group of core indicators can be identified that will be relevant for most countries or States or at the national level.

Sl	Indicator Category	Indicator	Periodicity #	Source #	What does it indicate ?
1	Input	Funding for MSME programs			Favorable Policy Environment
2	Input	Share of graduates, PGs & PhDs with science/ engineering degrees			Input for innovation
3	Input	Training programs for Entrepreneurs /Ecosystem			Capacity Building
4	Input	Investment in College R&D labs/Research parks/Incubators during the year			Investment in Innovation
5	Process	State ED&I Council meetings			Active Partnership
6	Process	Number of colleges/Polytechs with Active College ED&I councils			Embedding entrepreneurship in education
7	Process	% Share of secondary schools offering entrepreneurship competency building activities			Embedding entrepreneurship in education
8	Process	% of colleges/Polytechnic/ITIs schools offering entrepreneurship development programmes			Embedding entrepreneurship in education
9	Process	Credit bureau coverage (per cent of adult population)			Access to finance
11	Process	Number of science parks, technology hubs and incubators in Tamil Nadu			Facilitating Technology & Innovation
12	Output	% Growth of registered business start-ups/MSMEs created annually			Spread of entrepreneurship culture
13	Output	Number of startups in incubators & TBIs in TN			Enabling institutional environment
14	Output	Share of technology-intensive start-ups with venture capital funding			Enabling financial environment
15	Output	Total VC/Angel investment in MSMEs/Startups			Access to Finance
16	Outcome	3 year Survival rates of Startups & MSMEs			Enabling environment
17	Outcome	% share of technology intense enterprises, green enterprises, social enterprises in total MSMEs			Quality of entrepreneurship
18	Outcomes	Share of target groups such as			Inclusive growth

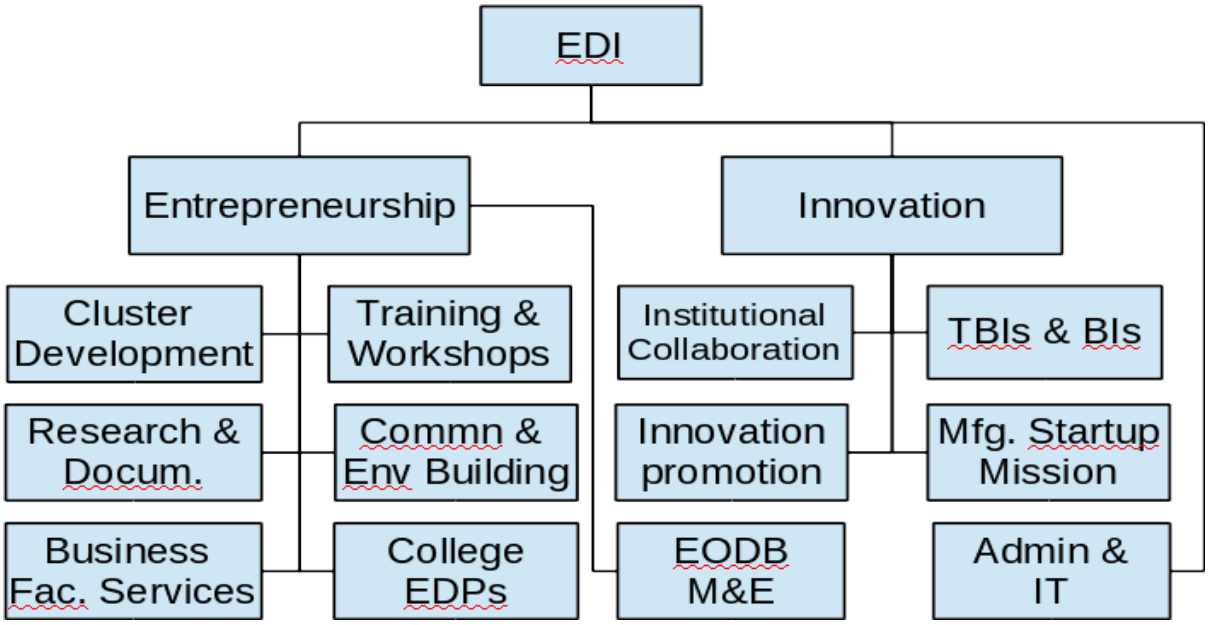
Sl	Indicator Category	Indicator	Periodicity #	Source #	What does it indicate ?
		women, youth, SC/ST minorities, rural populations in new MSMEs formed last year			
19	Outcome	Job growth due to start-ups & MSMEs in Tamil Nadu (Number of jobs created & % growth)			Spread of the entrepreneurship culture
20	Outcome	Ease of doing Business Ranking of TN in India			Enabling Regulatory Environment
21	Outcomes	Number of patents filed from universities/research programmes in Tamil Nadu			Spread of Innovation Culture in colleges & universities
22	Outcome	Number of patents filed from TN in India and abroad			Spread of Innovation Culture
23	Outcome	Growth in MSME loans compared to last year in real terms			Enabling financial environment
24	Outcome	Average value of collateral required for SME loans (per cent of loan) below Rs 1 crore			Enabling financial environment
25	Outcome	Results of opinion/attitudinal surveys on entrepreneurship and evaluations following awareness campaigns			Spread of an aspirational entrepreneurship culture
26	Outcome	% of MSMEs who are members of any business associations & membership			Networking
27	Outcome	% of Tamil TV & Radio channels broadcasting unpaid, regular broadcasts of programs on successful entrepreneurs & innovations			Recognition of entrepreneurship & innovation by mainstream media

- Periodicity and Source will be worked out by EDI and indicators will be fine tuned.

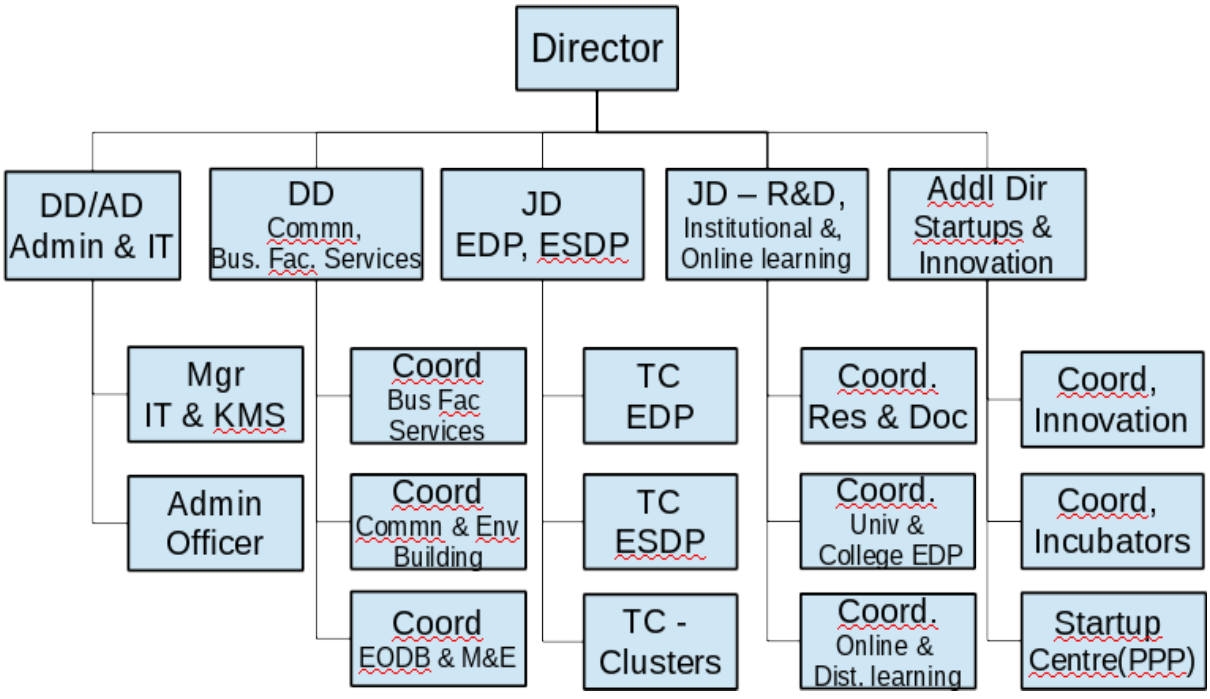
13. Organisational Structure of EDI

13.1 One of the weaknesses of EDI has been the heavy dependence on the Director's guidance and presence, due to the fact that the second level leadership has not been built up due to excess dependence on deputation staff.

FUNCTIONAL DIAGRAM



ORGANISATION STRUCTURE



13.2 The organisation structure of EDI has been re-designed based on the revised Mission and Strategy. 3 **Posts of coordinators alone need to be created to enable EDI to implement the plan in full.** It is proposed to fill up the posts with experienced persons on contract or deputation basis from the market or research or academic institutions.

ANNEXE- A

Current Vision, Mission of EDI

Vision

EDI is committed to becoming a highly professional centre of excellence and a byword in Entrepreneurship education, training and research.

Mission

Entrepreneurship Development is a key aspect of employment generation and equitable economic growth. To encourage youngsters to take up entrepreneurial challenge, appropriate institutional support is required to become a dynamic institution that will motivate and train young entrepreneurs particularly first generation entrepreneurs by introduction of new courses in Modern Training complex. EDI's mission is expected to be achieved by using innovative training techniques, by using competent faculty, support & consultancy, quality teaching & training material in order to spearhead an entrepreneurship movement in the State of Tamil Nadu.

Objectives

- Promotion of micro and small enterprises through entrepreneurship education,
- To assist potential entrepreneurs who have ambitions to start their own enterprise,
- To evolve multipronged strategies to entrepreneurship development and inculcating entrepreneurship culture in a massive way,
- To undertake research, surveys and curricula developments for self-employment training programmes/ entrepreneurship,
- To implement training programmes as required under various schemes of the central and state Govts.
- To facilitate employment generation through skill upgradation trainings among the chosen target groups.

ANNEXE – B

EDII, Ahmedabad Mission Statement

Mission Statement

EDI has been spearheading entrepreneurship movement throughout the nation with a belief that entrepreneurs need not necessarily be born, but can be developed through well-conceived and well-directed activities.

To become a catalyst in facilitating emergence of competent first generation entrepreneurs and transition of existing SMEs into growth-oriented enterprises through entrepreneurship education, training, research & institution building

In consonance with this belief, EDI aims at :

- creating a multiplier effect on opportunities for self-employment,
- augmenting the supply of competent entrepreneurs through training,
- augmenting the supply of entrepreneur trainer-motivators,
- participating in institution building efforts,
- inculcating the spirit of 'Entrepreneurship' in youth,
- promoting micro enterprises at rural level,
- developing and disseminating new knowledge and insights in entrepreneurial theory and practice through research,
- facilitating corporate excellence through creating intrapreneurs (entrepreneurial managers),
- improving managerial capabilities of small scale industries,
- sensitising the support system to facilitate potential and existing entrepreneurs establish and manage their enterprises,
- collaborating with similar organisations in India and other developing countries to accomplish the above objectives.

The institute's basic strategy to realise its mission has been to concentrate on some broad areas to achieve its objectives. The areas so selected have to satisfy the twin criteria of social relevance and the institute's capability.

ANNEXE – C

NIESBUD Mission

NIESBUD is an apex organisation working unde the administrative control of the Ministry of Skill Development and Entrepreneurship, Government of India. The Objectives are as follows:-:

- To evolve standardised materials and processes for selection, training, support and sustenance of entrepreneurs, potential and existing.
- To help/support and affiliate institutions/organisations in carrying out training and other entrepreneurship development related activities.
- To serve as an apex national level resource institute for accelerating the process of entrepreneurship development ensuring its impact across the country and among all strata of the society.
- To provide vital information and support to trainers,promoters and entrepreneurs by organising research and documentation activities relevant to entrepreneurship development.
- To train trainers, promoters and consultants in various areas of entrepreneurship development.
- To offer consultancy nationally/internationally for promotion of entrepreneurship and small business development.
- To provide national/international forums for interaction and exchange of experiences helpful for policy formulation and modification at various levels.
- To share international experience and expertise in entrepreneurship development.
- To share experience and expertise in entrepreneurship development across national frontiers.

ANNEXE – D

Sixth Economic Census 2013 – Prov. results (July 2014)

Total number of persons employed in all the establishments (excluding crop production, plantation, public administration, defense & compulsory social security services activities) is about 127.71 million, out of which, 66.29 million persons (51.9%) are employed in rural areas and 61.42 million persons (48.1%) are employed in the urban areas. Five States, namely, Maharashtra, Uttar Pradesh, West Bengal, Tamil Nadu, and Gujarat have the combined share of about 46.63% of total employment at the country level.

The overall growth rate in number of establishments during the intervening period of Fifth EC (2005) and Sixth EC (2013) is 41.73%. Corresponding percentage growths in number of establishments in the rural and urban areas of the country are 39.28% and 45.57% respectively.

Top 5 States	
Maharashtra	14,374,619 (11.26%)
Uttar Pradesh	13,750,866 (10.77%)
West Bengal	11,544,664 (9.04%)
Tamil Nadu	10,809,878 (8.46%)
Gujarat	9,063,569 (7.10%)

Tamil Nadu has 26.75 lakhs urban estsablishments (47.05%) , of which 17 lakhs were within the household. All these establishments are employing 48.6 lakhs persons (55.03%), of which 17.4 lakhs were hired persons. In rural areas, 23.7 establishments (of which 7 lakhs are within households) (52.95%) provided employment to 59.4 lakhs (44.97%) out of which 34.3 lakhs were hired from outside the household. In all, 50.5 lakhs establishments generated employment for 108 lakhs persons of whom 42 lakhs were hired. The share of TN in number of establishments is 8.64% whilst the share of employment is 8.46%.

The CAGR of establishments in TN was 8.44% in the period 1998-2005 and for employment it was 4.92%. In the current survey period 2005-2013, the growth rate of establishments in TN was 16.11% while employment grew at 13.22%, as against 41.73% and 34.35% at all All India level. Tamil Nadu does not figure in the top 10 states in growth terms.

The stark issue in the growth story is that establishment numbers in rural TN grew at 0.32% as against 39.28 % All India Rural. Urban TN establishment numbers grew at 41% as against 45.57% All India. In terms of employment, Rural TN growth was -4.83% and urban 33.97% as against 31.59% All india rural and 37.59% AI Urban. This is disturbing as AP rural grew at 52% in terms of rural establishment numbers and 24% in terms of rural employment.

Percentage Growth in Total Number of Establishments

Top 5 States	
Manipur	109.37
Sikkim	102.92
Assam	100.17
Nagaland	78.74
Telangana	78.70

Top 3 UTs	
A & N Islands	84.89
Chandigarh	31.14
D & N Haveli	28.11

Percentage Growth in Total Employment

Top 5 States	
Manipur	83.29
Assam	78.84
Sikkim	77.14
Uttar Pradesh	75.26
Himachal Pradesh	68.81

Top 3 UTs	
A & N Islands	75.08
D & N Haveli	47.79
Daman & Diu	35.81

Fourth All India MSME Census 2007 – Registered MSMEs

Statement No. 2.12: Major State -wise Distribution of Working Enterprises

Sl.No.	State/UT Name	No. of Working Enterprises (lakh)	%Share
1	Tamil Nadu	2.34	14.95
2	Gujarat	2.30	14.70
3	Uttar Pradesh	1.88	12.00
4	Kerala	1.50	9.60
5	Karnataka	1.36	8.71
6	Madhya Pradesh	1.07	6.84
7	Maharashtra	0.87	5.54
8	Rajasthan	0.55	3.51
9	Bihar	0.50	3.20
10	Punjab	0.48	3.08
11	Total of above 10 States	12.85	82.13
12	Others	2.79	17.87
13	**All**	**15.64**	**100**

Statement No. 3.13: Dominance of States in terms of Employment

Sl. No.	State/UT	No. of Working Enterprises		Employment	
		(lakh)	%	(lakh)	%
1	Tamil Nadu	2.34	14.95	14.26	15.32
2	Gujarat	2.30	14.70	12.45	13.37
3	Maharashtra	0.87	5.54	10.89	11.70
4	Karnataka	1.36	8.71	7.89	8.48
5	Uttar Pradesh	1.88	12.00	7.55	8.11
6	Kerala	1.50	9.60	6.21	6.68
7	Punjab	0.48	3.08	4.16	4.47
8	Andhra Pradesh	0.46	2.92	3.83	4.11
9	Haryana	0.33	2.12	3.82	4.10
10	West Bengal	0.43	2.77	3.60	3.87
	Total	**11.95**	**76.39**	**74.66**	**80.21**

Statement No. 3.14: Dominance of States in terms of Output

Sl. No.	State/UT Name	No. of Working Enterprises		Output	
		lakh	%	₹Crore	%
1	Maharashtra	0.87	5.54	110705.08	15.65
2	Uttar Pradesh	1.88	12.00	74065.17	10.47
3	Tamil Nadu	2.34	14.95	65281.95	9.23
4	Punjab	0.48	3.08	62099.27	8.78
5	Haryana	0.33	2.12	43762.97	6.19
6	Karnataka	1.36	8.71	41060.27	5.80
7	Rajasthan	0.55	3.51	39402.23	5.57
8	Gujarat	2.30	14.70	38438.44	5.43
9	Andhra Pradesh	0.46	2.92	30102.26	4.25
10	West Bengal	0.43	2.77	26906.61	3.80
	Total	**11.00**	**70.3**	**531824.25**	**75.17**

Statement No.4.3: Percentage Distribution of top ten Exporting States

State/UT Code	State/UT Name	Export (₹Crore)	% Share
09	Uttar Pradesh	14342	21.12
33	Tamil Nadu	10049	14.80
27	Maharashtra	5484	8.08
29	Karnataka	5471	8.06
08	Rajasthan	4978	7.33
24	Gujarat	4962	7.31
06	Haryana	4834	7.12
03	Punjab	4701	6.92
32	Kerala	2279	3.36
19	West Bengal	2153	3.17
	Total of above 10	59253	87.25
	Others	8661	12.75
	All India	**67914**	**100**

Statement No. 5.2: State-wise Distribution of Clusters and Corresponding Economic Parameters

State Name	No. of Clusters	No. of Working Enterprises (lakh)	Employment (in lakh)	Original Value of P&M (₹ Crore)	Market Value of Fixed Assets (₹ Crore)	Gross Output (₹ Crore)
Jammu & Kashmir	10	0.02	0.04	7.91	1353.89	915.69
Himachal Pradesh	18	0.05	0.07	24.52	67.17	271.93
Punjab	82	0.17	1.36	950.36	4468.41	14536.24
Uttaranchal	44	0.10	0.18	54.51	182.65	675.94
Haryana	42	0.08	0.97	717.34	3183.41	8494.98
Rajasthan	77	0.14	0.83	1146.46	3098.79	6060.82
Uttar Pradesh	359	0.86	2.48	714.40	5329.30	9155.96
Bihar	81	0.16	0.44	85.25	1291.56	418.26
Manipur	4	0.01	0.03	3.27	8.95	21.65
Mizoram	6	0.01	0.07	24.19	48.40	91.04
Meghalaya	4	0.01	0.02	8.24	12.62	38.67
Assam	17	0.03	0.10	23.37	46.34	727.69
West Bengal	47	0.08	0.35	224.06	934.65	1504.34
Jharkhand	26	0.05	0.13	27.99	54.04	205.68
Orissa	16	0.02	0.09	31.26	74.56	171.59
Chhattisgarh	41	0.11	0.17	25.00	37.53	75.38
Madhya Pradesh	228	0.56	0.86	75.77	180.65	500.98
Gujarat	369	1.29	6.09	21396.28	83837.08	17619.44
Maharashtra	69	0.28	2.92	3006.75	12083.26	20582.11
Andhra Pradesh	68	0.15	0.97	1035.45	3028.27	8818.53
Karnataka	227	0.66	2.91	1131.85	2904.35	7839.47
Goa	2	0.00	0.00	1.49	8.70	16.93
Kerala	255	0.84	3.19	1178.14	6738.12	6682.12
Tamil Nadu	350	1.53	8.15	6041.55	22120.69	29030.16
Andman & Nicobar Island	1	0.00	0.01	1.70	3.09	7.89
Total	**2443**	**7.18**	**32.45**	**37937.11**	**151096.49**	**134463.49**

Statement No. 7.1: Percentage Share of leading States with Working and Closed Enterprises

Name of State/UT	Working	Closed
Tamil Nadu	14.95	16.72
Uttar Pradesh	12.00	16.24
Karnataka	8.71	9.59
Maharashtra	5.54	8.43
Madhya Pradesh	6.84	7.35
Gujarat	14.70	7.04
Kerala	9.60	7.03
Punjab	3.08	4.95
Rajasthan	3.51	3.49
Bihar	3.20	3.29
Total	**82.13**	**84.13**

TABLE NO. 1 : STATE WISE DISTRIBUTION OF ENTERPRISES BY STATUS OF OPERATION

State/UT Code	State/UT Name	WORKING	CLOSED	NON-TRACEABLE	TOTAL
01	Jammu & Kashmir	14993	1831	1521	18345
02	Himachal Pradesh	11931	4034	767	16732
03	Punjab	48110	24553	4868	77531
04	Chandigarh	996	559	271	1826
05	Uttarakhand	23765	8219	2419	34403
06	Haryana	33150	10973	4120	48243
07	Delhi	3754	0	0	3754
08	Rajasthan	54885	17342	4752	76979
09	Uttar Pradesh	187742	80616	35231	303589
10	Bihar	50036	16344	4291	70671
11	Sikkim	122	86	0	208
12	Arunachal Pradesh	417	167	31	615
13	Nagaland	1332	2395	0	3727
14	Manipur	4492	929	0	5421
15	Mizoram	3715	669	595	4979
16	Tripura	1343	424	138	1905
17	Meghalaya	3010	665	467	4142
18	Assam	19864	6266	4209	30339
19	WestBengal	43259	10708	10644	64611
20	Jharkhand	18190	3712	5711	27613
21	Orissa	19606	5744	1123	26473
22	Chhattisgarh	22768	15485	4609	42862
23	Madhya Pradesh	106997	36502	10957	154456
24	Gujarat	229830	34945	22745	287520
25	Daman& Diu	594	24	27	645
26	Dadra & Nagar Haveli	1716	0	110	1826
27	Maharashtra	86586	41856	34383	162825
28	Andhra Pradesh	45692	2250	991	48933
29	Karnataka	136186	47581	7648	191415
30	Goa	2621	2754	1771	7146
31	Lakshadweep	2	0	0	2
32	Kerala	150188	34903	18389	203480
33	TamilNadu	233881	82966	4530	321377
34	Puducherry	1451	711	222	2384
35	Andaman& Nicobar Is.	750	142	142	1034
	AllIndia	1563974	496355	187682	2248011

TABLE NO. 3.1 : STATE-WISE DISTRIBUTION OF WORKING ENTERPRISES BY TYPE OF ENTERPRISE

State/UT Code	State/UT Name	Micro	Small	Medium	Total
01	Jammu & Kashmir	14572	408	13	14993
02	Himachal Pradesh	11522	384	25	11931
03	Punjab	45345	2675	90	48110
04	Chandigarh	967	28	1	996
05	Uttarakhand	23349	389	27	23765
06	Haryana	30741	2329	80	33150
07	Delhi	3510	236	8	3754
08	Rajasthan	52241	2541	103	54885
09	Uttar Pradesh	184503	3089	150	187742
10	Bihar	49867	157	12	50036
11	Sikkim	110	12	0	122
12	Arunachal Pradesh	399	16	2	417
13	Nagaland	1298	33	1	1332
14	Manipur	4480	12	0	4492
15	Mizoram	3663	51	1	3715
16	Tripura	1296	43	4	1343
17	Meghalaya	2972	37	1	3010
18	Assam	19238	599	27	19864
19	West Bengal	41420	1758	81	43259
20	Jharkhand	17699	471	20	18190
21	Orissa	18840	745	21	19606
22	Chhattisgarh	22402	356	10	22768
23	Madhya Pradesh	105998	950	49	106997
24	Gujarat	196894	31676	1260	229830
25	Daman & Diu	413	167	14	594
26	Dadra & Nagar Haveli	1671	45	0	1716
27	Maharashtra	73936	12459	191	86586
28	Andhra Pradesh	42708	2949	35	45692
29	Karnataka	133524	2562	100	136186
30	Goa	2395	207	19	2621
31	Lakshadweep	2	0	0	2
32	Kerala	148497	1611	80	150188
33	Tamil Nadu	226285	7349	247	233881
34	Puducherry	1275	165	11	1451
35	Andaman & Nicobar Ils.	736	14	0	750
	All India	1484768	76523	2683	1563974

ALL

TABLE NO. 5.1 : STATE-WISE DISTRIBUTION OF WORKING ENTERPRISES BY NATURE OF ACTIVITY

State/UT Code	State/UT Name	Number of Enterprises having Nature of Activity			
		Manufacturing/ Assembly/Processing	Services	Repairing & Maintenance	Total
01	Jammu & Kashmir	11295	1857	1841	14993
02	Himachal Pradesh	10330	577	824	11931
03	Punjab	34047	2399	11664	48110
04	Chandigarh	941	21	34	996
05	Uttarakhand	13437	6607	3721	23765
06	Haryana	26471	1524	5135	33130
07	Delhi	3545	55	154	3754
08	Rajasthan	38548	7211	9126	54885
09	Uttar Pradesh	113840	31350	42552	187742
10	Bihar	34660	3424	11952	50036
11	Sikkim	105	11	6	122
12	Arunachal Pradesh	360	15	42	417
13	Nagaland	1273	18	41	1332
14	Manipur	3987	268	637	4492
15	Mizoram	2973	435	407	3715
16	Tripura	1132	84	127	1343
17	Meghalaya	2270	562	178	3010
18	Assam	13421	3636	2807	19864
19	WestBengal	37542	1699	4018	43259
20	Jharkhand	11464	1298	5428	18190
21	Orissa	15262	2886	1458	19606
22	Chhattisgarh	11510	4870	6388	22768
23	Madhya Pradesh	52399	22302	32096	106997
24	Gujarat	151512	34018	44300	229830
25	Daman& Diu	591	3	0	594
26	Dadra & Nagar Haveli	1698	13	5	1716
27	Maharashtra	80244	3692	2650	86586
28	Andhra Pradesh	40910	1292	3490	45692
29	Karnataka	102903	21799	11484	136186
30	Goa	2513	168	140	2821
31	Lakshadweep	2	0	0	2
32	Kerala	106622	28855	14711	150188
33	Tamil Nadu	120230	79130	34521	233881
34	Puducherry	1216	137	98	1451
35	Andaman& Nicobar Ils.	440	153	157	750
	All India	1049393	262469	252212	1563974

ALL

TABLE NO. 19.1 : STATE WISE DISTRIBUTION OF EMPLOYMENT BY TYPE OF ENTERPRISE

State/UT Code	State/UT Name	Micro	Small	Medium	Total
01	Jammu & Kashmir	71438	16201	2519	90158
02	Himachal Pradesh	39673	20281	5194	65148
03	Punjab	279233	123636	12969	415838
04	Chandigarh	10045	985	675	11705
05	Uttarakhand	57189	20184	2568	79941
06	Haryana	214246	137399	30129	381774
07	Delhi	41200	15818	1105	58123
08	Rajasthan	244541	84673	12476	341690
09	Uttar Pradesh	603987	132071	18850	754908
10	Bihar	142473	4811	491	147775
11	Sikkim	792	367	0	1159
12	Arunachal Pradesh	2846	1903	662	5411
13	Nagaland	14506	1639	136	16281
14	Manipur	19862	98	0	19960
15	Mizoram	25491	538	3	26032
16	Tripura	17084	5878	204	23166
17	Meghalaya	12023	530	148	12701
18	Assam	115279	77452	17776	210507
19	WestBengal	261467	87210	11578	360255
20	Jharkhand	59999	12788	2352	75134
21	Orissa	138414	30919	3755	173088
22	Chhattisgarh	64160	10496	438	75094
23	Madhya Pradesh	251293	38643	8111	298047
24	Gujarat	730358	343740	170883	1244981
25	Daman & Diu	9730	13167	2621	25518
26	Dadra & Nagar Haveli	23919	2557	0	26476
27	Maharashtra	656180	395544	37066	1088790
28	Andhra Pradesh	279485	95087	8405	382977
29	Karnataka	596621	172427	20311	789359
30	Goa	14896	16598	1841	33330
31	Lakshadweep	2	0	0	2
32	Kerala	545950	66530	8943	621423
33	TamilNadu	973240	403757	49059	1426056
34	Puducherry	11075	9013	998	21086
35	Andaman& Nicobar Is.	5490	103	0	5593
	All India	6534187	2343033	432266	9309486

ALL

TABLE 37.1 : STATE-WISE DISTRIBUTION OF THE EXPORTING ENTERPRISES

State/UT Code	State/UT Name	Number of Working Enterprises	Percentage Share
01	Jammu & Kashmir	547	1.17
02	Himachal Pradesh	120	0.26
03	Punjab	1755	3.76
04	Chandigarh	30	0.06
05	Uttarakhand	217	0.46
06	Haryana	982	2.10
07	Delhi	208	0.45
08	Rajasthan	1349	2.89
09	Uttar Pradesh	2668	5.72
10	Bihar	727	1.56
11	Sikkim	5	0.01
12	Arunachal Pradesh	3	0.01
13	Nagaland	84	0.18
14	Manipur	38	0.08
15	Mizoram	116	0.25
16	Tripura	23	0.05
17	Meghalaya	7	0.01
18	Assam	263	0.56
19	WestBengal	862	1.85
20	Jharkhand	150	0.32
21	Orissa	148	0.32
22	Chhattisgarh	366	0.78
23	Madhya Pradesh	737	1.58
24	Gujarat	24346	52.16
25	Daman& Diu	170	0.36
26	Dadra & Nagar Haveli	487	1.04
27	Maharashtra	1946	4.17
28	Andhra Pradesh	1322	2.83
29	Karnataka	1791	3.84
30	Goa	257	0.55
31	Lakshadweep	2	0.00
32	Kerala	1811	3.88
33	TamilNadu	2973	6.37
34	Puducherry	107	0.23
35	Andaman& Nicobar Ils.	58	0.12
	AllIndia	46675	100

TABLE No. 41 : STATE WISE DISTRIBUTION OF CLUSTERS

State /UT Code	State/UT Name	Number of Clusters	Number of Working Enterprises (in lakh)	Employ-ment (in lakh)	Original Value of P & M (₹ crore)	Market Value of Fixed Assets (₹ crore)	Gross Output (₹ crore)
01	Jammu & Kashmir	10	0.02	0.04	7.91	1353.89	915.69
02	Himachal Pradesh	18	0.05	0.07	24.52	67.17	271.93
03	Punjab	82	0.17	1.36	950.36	4468.41	14536.24
05	Uttarakhand	44	0.10	0.18	54.51	182.65	675.94
06	Haryana	42	0.08	0.97	717.34	3183.41	8494.98
08	Rajasthan	77	0.14	0.83	1146.46	3098.79	6060.82
09	Uttar Pradesh	359	0.86	2.48	714.40	5329.30	9155.96
10	Bihar	81	0.16	0.44	85.25	1291.56	418.26
14	Manipur	4	0.01	0.03	3.27	8.95	21.65
15	Mizoram	6	0.01	0.07	24.19	48.40	91.04
17	Meghalaya	4	0.01	0.02	8.24	12.62	38.67
18	Assam	17	0.03	0.10	23.37	46.34	727.69
19	West Bengal	47	0.08	0.35	224.06	934.65	1504.34
20	Jharkhand	26	0.05	0.13	27.99	54.04	205.68
21	Orissa	16	0.02	0.09	31.26	74.56	171.59
22	Chhattisgarh	41	0.11	0.17	25.00	37.53	75.38
23	Madhya Pradesh	228	0.56	0.86	75.77	180.65	500.98
24	Gujarat	369	1.29	6.09	21396.28	83837.08	17619.44
27	Maharashtra	69	0.28	2.92	3006.75	12083.26	20582.11
28	Andhra Pradesh	68	0.15	0.97	1035.45	3028.27	8818.53
29	Karnataka	227	0.66	2.91	1131.85	2904.35	7839.47
30	Goa	2	0.00	0.00	1.49	8.70	16.93
32	Kerala	255	0.84	3.19	1178.14	6738.12	6682.12
33	Tamil Nadu	350	1.53	8.15	6041.55	22120.69	29030.16
35	Andaman & Nicobar Ils.	1	0.00	0.01	1.70	3.09	7.89
	All India	3443	7.18	32.45	37937.11	151096.49	134468.49

Table No. 42.1 : STATE WISE DISTRIBUTION OF ENTERPRISES BY AMOUNT OF LOAN TAKEN (INSTITUTIONAL)

State/ UT Code	State/UT Name	Number of Enterprises having taken loan				Amount of loan taken (₹ Crore)			
		IS	Non IS	Both	Total	IS	Non IS	Both	Total
01	Jammu & Kashmir	1869	96	64	2029	705.87	7.48	51.26	764.61
02	Himachal Pradesh	2490	100	568	3158	941.96	42.32	127.45	1111.73
03	Punjab	4171	425	1133	5729	2092.36	118.42	780.96	2991.74
04	Chandigarh	137	7	22	166	22.86	0.29	10.68	33.83
05	Uttarakhand	5443	114	475	6032	551.46	20.48	429.53	1001.47
06	Haryana	6506	569	953	8028	2810.52	341.14	575.61	3727.27
07	Delhi	361	255	27	643	359.03	137.61	23.49	520.13
08	Rajasthan	8371	894	1863	11128	1723.46	201.21	1705.87	3630.54
09	Uttar Pradesh	10989	763	746	12498	3655.67	201.67	910.19	4767.53
10	Bihar	1084	187	72	1343	84.47	5.65	33.71	123.83
11	Sikkim	40	3	4	47	8.62	0.8	0.54	9.96
12	Arunachal Pradesh	77	1	6	84	4.78	2.1	1.6	8.48
13	Nagaland	19	5	5	29	4.46	0.06	15.66	20.18
14	Manipur	30	6	0	36	2.22	0.33	0	2.55
15	Mizoram	613	17	8	638	30.76	0.51	1.93	33.2
16	Tripura	501	11	11	523	39.1	1.54	47.25	87.89
17	Meghalaya	374	8	12	394	23.8	0.84	0.52	25.16
18	Assam	3734	150	75	3959	740.62	29.57	54.49	824.68
19	West Bengal	9942	694	831	11467	1992.07	77.37	517.38	2586.82
20	Jharkhand	857	107	43	1007	227.18	15.09	39.35	281.62
21	Orissa	6598	190	301	7089	1442.68	11.64	258.92	1713.24
22	Chhattisgarh	4683	188	137	5008	426.7	8.11	49.61	484.42
23	Madhya Pradesh	9703	681	539	10923	983.73	17.86	541.65	1543.24
24	Gujarat	3377	768	57	4202	160.48	87.31	72.18	319.97
25	Daman & Diu	77	38	122	237	99.66	43.91	433.7	577.27
26	Dadra & Nagar Haveli	5	1	0	6	4.68	0.22	0	4.9
27	Maharashtra	22788	1545	1432	25765	6661.42	416.92	680.02	7758.36
28	Andhra Pradesh	7650	561	616	8827	1296.35	103.42	345.6	1745.37
29	Karnataka	15820	3021	1163	20004	2104.55	183.82	198.15	2486.52
30	Goa	453	74	67	594	325.81	66.67	43.86	436.34
31	Lakshadweep	0	0	0	0	0	0	0	0
32	Kerala	31981	2896	1052	35929	1875.47	95.63	187.22	2158.32
33	Tamil Nadu	8966	2085	719	11770	3171.51	290.81	1094.19	4556.51
34	Puducherry	262	16	19	297	117.12	1.79	59.86	178.77
35	Andaman & Nicobar Is.	107	9	1	117	3.12	0.59	0.07	3.78
	All India	170078	16485	13193	199706	34694.55	2533.18	9292.50	46520.23

ALL

Table No. 7.1 : STATE WISE DISTRIBUTION OF WORKING ENTERPRISES BY TYPE OF ORGANISATION

State/UT Code	State/UT Name	Number of Enterprises having Type of Organisation						
		Proprietary	Partnership	Private Co.	Public Ltd. Co.	Co-operative	Others	Total
01	Jammu& Kashmir	13651	815	161	123	12	230	14993
02	Himachal Pradesh	10908	472	305	138	78	30	11931
03	Punjab	39292	6716	1409	360	128	205	48110
04	Chandigarh	728	172	54	36	2	3	996
05	Uttarakhand	22534	655	306	131	63	77	23765
06	Haryana	25792	2669	2260	352	122	1755	33150
07	Delhi	2094	957	496	156	24	27	3754
08	Rajasthan	48580	3191	2366	335	88	325	54885
09	Uttar Pradesh	176946	4828	3045	909	280	1734	187742
10	Bihar	48206	761	132	185	76	676	50036
11	Sikkim	98	5	11	0	4	4	122
12	Arunachal Pradesh	389	11	10	3	1	2	417
13	Nagaland	1209	18	16	5	70	14	1332
14	Manipur	4460	13	4	1	3	11	4492
15	Mizoram	3652	16	9	10	3	25	3715
16	Tripura	1192	85	27	11	7	20	1343
17	Meghalaya	2944	8	33	2	13	9	3010
18	Assam	18657	476	335	81	53	261	19864
19	West Bengal	36461	3847	2204	407	156	184	43259
20	Jharkhand	17209	520	242	110	14	95	18190
21	Orissa	17817	661	699	91	215	123	19606
22	Chhattisgarh	21887	411	187	78	40	167	22768
23	Madhya Pradesh	104060	1477	927	297	95	143	106997
24	Gujarat	191863	7114	8251	1147	338	21117	229830
25	Daman & Diu	180	216	148	39	0	10	594
26	Dadra & Nagar Haveli	183	191	404	202	49	688	1716
27	Maharashtra	67817	6273	10222	1006	509	758	86586
28	Andhra Pradesh	38694	4372	1393	262	177	795	45692
29	Karnataka	128549	3468	2220	533	497	919	136186
30	Goa	2019	304	189	57	6	46	2621
31	Lakshadweep	2	0	0	0	0	0	2
32	Kerala	139731	4664	1214	621	1064	2893	150188
33	Tamil Nadu	219217	7149	3945	467	517	2585	233881
34	Puducherry	1056	169	155	32	14	25	1451
35	Andaman & Nicobar Is.	683	19	33	5	4	6	750
	All India	1408760	62723	43412	8892	4722	35962	1563974

ALL

TABLE NO. 9.1 : STATE-WISE ENTREPRENEURSHIP PROFILE

(Numbers in Thousand)

State/UT Code	State/UT Name	Number of Enterprises Owned by							
		Female	Male	Total	SC	ST	OBC	Others	Total
01	Jammu & Kashmir	3.09	11.90	14.99	0.97	0.83	0.94	12.26	14.99
02	Himachal Pradesh	1.31	10.62	11.93	2.17	0.53	1.56	7.68	11.93
03	Punjab	3.01	45.10	48.11	6.35	0.65	14.12	26.99	48.11
04	Chandigarh	0.10	0.90	1.00	0.01	0.01	0.04	0.93	1.00
05	Uttarakhand	2.43	21.34	23.77	3.52	0.84	2.03	17.37	23.76
06	Haryana	1.46	31.69	33.15	2.82	0.41	8.17	21.75	33.15
07	Delhi	0.38	3.38	3.75	0.11	0.05	0.07	3.52	3.75
08	Rajasthan	5.99	48.90	54.89	4.47	1.45	20.40	28.56	54.89
09	Uttar Pradesh	8.39	179.36	187.74	14.14	1.47	67.56	104.57	187.74
10	Bihar	2.57	47.47	50.04	6.20	1.03	29.35	13.46	50.04
11	Sikkim	0.02	0.10	0.12	0.01	0.03	0.04	0.05	0.12
12	Arunachal Pradesh	0.10	0.32	0.42	0.01	0.31	0.04	0.06	0.42
13	Nagaland	0.22	1.12	1.33	0.07	1.15	0.01	0.10	1.33
14	Manipur	1.15	3.35	4.49	0.10	1.10	0.31	2.98	4.49
15	Mizoram	1.29	2.42	3.72	0.13	3.51	0.01	0.07	3.72
16	Tripura	0.16	1.18	1.34	0.15	0.04	0.30	0.86	1.34
17	Meghalaya	1.19	1.83	3.01	0.06	2.81	0.00	0.14	3.01
18	Assam	4.07	15.80	19.86	1.57	1.42	3.72	13.16	19.86
19	West Bengal	4.42	38.84	43.26	4.28	0.39	4.28	34.31	43.26
20	Jharkhand	0.75	17.44	18.19	1.41	0.73	7.98	8.07	18.19
21	Orissa	2.16	17.44	19.61	0.98	0.46	5.44	12.73	19.60
22	Chhattisgarh	2.09	20.68	22.77	2.85	3.52	9.46	6.93	22.77
23	Madhya Pradesh	10.18	96.82	107.00	13.65	7.02	51.44	34.89	107.00
24	Gujarat	23.40	206.43	229.83	4.90	3.47	18.09	203.37	229.83
25	Daman & Diu	0.01	0.58	0.59	0.01	0.00	0.02	0.56	0.59
26	Dadra & Nagar Haveli	0.04	1.68	1.72	0.02	0.01	0.05	1.64	1.72
27	Maharashtra	8.98	77.61	86.59	4.88	1.50	11.97	68.24	86.59
28	Andhra Pradesh	5.23	40.47	45.69	2.03	0.58	15.53	27.56	45.69
29	Karnataka	26.68	109.51	136.19	16.58	5.82	64.10	49.69	136.19
30	Goa	0.33	2.30	2.62	0.04	0.05	0.23	2.30	2.62
31	Lakshadweep	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Kerala	38.30	111.89	150.19	6.17	1.18	83.76	59.07	150.19
33	Tamil Nadu	54.65	179.23	233.88	18.12	2.46	176.61	36.69	233.88
34	Puducherry	0.33	1.12	1.45	0.08	0.02	0.90	0.45	1.45
35	Andaman & Nicobar Is.	0.20	0.55	0.75	0.04	0.01	0.10	0.61	0.75
	All India	214.65	1349.32	1563.97	118.90	44.84	598.61	801.62	1563.97

All India Fourth Census of MSMEs :

Unregistered Enterprises

Statement No. 2.11: Major State -wise Distribution of Enterprises

Sl. No.	State/ UT Name	No. of Enterprises(lakh)	% Share
1	Uttar Pradesh	22.34	11.24
2	West Bengal	20.80	10.47
3	Tamil Nadu	18.21	9.16
4	Andhra Pradesh	14.90	7.50
5	Maharashtra	14.45	7.27
6	Gujarat	13.03	6.55
7	Kerala	12.94	6.51
8	Madhya Pradesh	11.50	5.79
9	Karnataka	11.12	5.60
10	Odisha	9.77	4.92
Total of above ten States		**149.06**	**75.00**
Others		49.68	25.00
All		**198.74**	**100.00**

Statement No. 3.12: Dominance of States in terms of Number of Enterprises

Sl. No.	State/UT Name	No. of Enterprises	
		Lakh	%
1	Uttar Pradesh	22.34	11.24
2	West Bengal	20.80	10.47
3	Tamil Nadu	18.21	9.16
4	Andhra Pradesh	14.90	7.50
5	Maharashtra	14.45	7.27
6	Gujarat	13.03	6.55
7	Kerala	12.94	6.51
8	Madhya Pradesh	11.50	5.79
9	Karnataka	11.12	5.60
10	Odisha	9.77	4.92
Total		**149.06**	**75.00**

Statement No. 3.13: Dominance of States in terms of Employment

Sl. No.	State/UT Name	No. of Enterprises		Employment	
		Lakh	%	Lakh	%
1	West Bengal	20.80	10.47	54.93	13.44
2	Uttar Pradesh	22.34	11.24	51.76	12.66
3	Tamil Nadu	18.21	9.16	38.89	9.51
4	Andhra Pradesh	14.90	7.50	35.15	8.60
5	Kerala	12.94	6.51	26.98	6.60
6	Maharashtra	14.45	7.27	24.72	6.05
7	Karnataka	11.12	5.60	22.58	5.52
8	Gujarat	13.03	6.55	21.97	5.37
9	Odisha	9.77	4.92	21.94	5.37
10	Madhya Pradesh	11.50	5.79	17.32	4.24
Total		**149.06**	**75.00**	**316.24**	**77.35**

Statement No. 3.14: Dominance of States in terms of Gross Output

Sl. No.	State/UT Name	No. of Enterprises		Gross Output	
		Lakh	%	crore	%
1	West Bengal	20.80	10.47	51973.44	14.06
2	Kerala	12.94	6.51	50699.08	13.71
3	Tamil Nadu	18.21	9.16	39988.26	10.82
4	Uttar Pradesh	22.34	11.24	37024.52	10.01
5	Andhra Pradesh	14.90	7.50	28302.56	7.66
6	Punjab	9.66	4.86	19525.78	5.28
7	Gujarat	13.03	6.55	16868.47	4.56
8	Maharashtra	14.45	7.27	16159.47	4.37
9	Karnataka	11.12	5.60	15257.34	4.13
10	Odisha	9.77	4.92	14329.34	3.88
Total		**147.21**	**74.07**	**290128.27**	**78.48**

Statement No 3.15 : Dominance of States in terms of Fixed Assets

Sl. No.	State/UT Name	No. of Enterprises		Fixed Assets	
		Lakh	%	crore	%
1	Tamil Nadu	18.21	9.16	34528.18	14.34
2	West Bengal	20.80	10.47	28053.84	11.65
3	Kerala	12.94	6.51	27136.43	11.27
4	Uttar Pradesh	22.34	11.24	22495.02	9.34
5	Andhra Pradesh	14.90	7.50	21005.47	8.72
6	Gujarat	13.03	6.55	14884.85	6.18
7	Punjab	9.66	4.86	14261.90	5.92
8	Maharashtra	14.45	7.27	13575.87	5.64
9	Karnataka	11.12	5.60	12342.38	5.13
10	Rajasthan	9.14	4.60	9294.17	3.86
Total		**146.57**	**73.75**	**197578.10**	**82.05**

Statement No. 3.16: Dominance of States in terms of Investment in P&M

Sl. No.	State/UT Name	No. of Enterprises		Investment in Plant & Machinery	
		Lakh	%	crore	%
1	Tamil Nadu	18.21	9.16	12139.64	12.83
2	Kerala	12.94	6.51	10689.03	11.29
3	Andhra Pradesh	14.90	7.50	9973.16	10.54

ALL

TABLE NO. 5.1 : STATE-WISE DISTRIBUTION OF ENTERPRISES BY TYPE OF ORGANISATION

(Numbers in Lakh)

Sl. No.	State/UT Code	State/UT Name	Enterprises having type of Organisation						
			Proprietary	Partnership	Private Co.	Co-operative	Others	NR	Total
1	1	Jammu and Kashmir	0.98	0.02	0.00	0.00	0.02	0.17	1.18
2	2	Himachal Pradesh	1.52	0.01	0.00	0.00	0.00	0.06	1.60
3	3	Punjab	9.22	0.20	0.00	0.00	0.04	0.19	9.66
4	4	Chandigarh	0.00	0.00	0.00	0.00	0.00	0.28	0.28
5	5	Uttarakhand	1.96	0.01	0.00	0.00	0.00	0.02	2.00
6	6	Haryana	4.30	0.07	0.00	0.00	0.31	0.18	4.87
7	7	Delhi	1.50	0.02	0.01	0.00	0.19	0.03	1.75
8	8	Rajasthan	8.60	0.04	0.00	0.05	0.14	0.31	9.14
9	9	Uttar Pradesh	21.32	0.30	0.00	0.00	0.09	0.62	22.34
10	10	Bihar	6.81	0.10	0.00	0.03	0.33	0.21	7.48
11	11	Sikkim	0.00	0.00	0.00	0.00	0.00	0.06	0.06
12	12	Arunachal Pradesh	0.20	0.00	0.00	0.01	0.00	0.04	0.25
13	13	Nagaland	0.14	0.00	0.00	0.00	0.00	0.03	0.16
14	14	Manipur	0.11	0.00	0.00	0.00	0.00	0.33	0.44
15	15	Mizoram	0.03	0.00	0.00	0.00	0.00	0.06	0.10
16	16	Tripura	0.26	0.00	0.00	0.00	0.00	0.00	0.26
17	17	Meghalaya	0.43	0.00	0.00	0.00	0.00	0.04	0.47
18	18	Assam	2.01	0.06	0.00	0.00	0.02	0.05	2.14
19	19	West Bengal	19.75	0.32	0.01	0.01	0.05	0.65	20.80
20	20	Jharkhand	4.02	0.05	0.00	0.00	0.01	0.18	4.25
21	21	Odisha	9.49	0.05	0.00	0.00	0.08	0.15	9.77
22	22	Chhattisgarh	2.72	0.02	0.00	0.00	0.00	0.04	2.78
23	23	Madhya Pradesh	10.70	0.06	0.00	0.01	0.58	0.16	11.50
24	24	Gujarat	12.93	0.09	0.00	0.00	0.00	0.00	13.03
25	25	Daman & Diu	0.01	0.00	0.00	0.00	0.00	0.00	0.01
26	26	Dadar and Nagar Haveli	0.02	0.00	0.00	0.00	0.00	0.02	0.04
27	27	Maharashtra	13.69	0.23	0.00	0.05	0.07	0.42	14.45
28	28	Andhra Pradesh	14.29	0.04	0.00	0.02	0.23	0.32	14.90
29	29	Karnataka	10.54	0.22	0.00	0.01	0.02	0.34	11.12
30	30	Goa	0.53	0.02	0.00	0.00	0.01	0.00	0.56
31	31	Lakshadweep	0.00	0.00	0.00	0.00	0.00	0.01	0.01
32	32	Kerala	12.34	0.42	0.00	0.00	0.08	0.10	12.94
33	33	Tamil Nadu	16.47	0.30	0.02	0.03	0.33	1.06	18.21
34	34	Puducherry	0.13	0.00	0.00	0.00	0.00	0.00	0.13
35	35	Andaman and Nicobar Islands	0.06	0.00	0.00	0.00	0.00	0.00	0.07
All India			**187.07**	**2.65**	**0.06**	**0.23**	**2.58**	**6.15**	**198.74**

TABLE NO. 3.1 : STATE-WISE DISTRIBUTION OF ENTERPRISES BY NATURE OF ACTIVITY

(Numbers in Lakh)

Sl. No.	State/UT Code	State/UT Name	Enterprises having Nature of Activity			
			Manufacturing/ Assembly/Processing	Services	Repairing & Maintenance	Total
1	1	Jammu and Kashmir	0.81	0.33	0.05	1.18
2	2	Himachal Pradesh	1.02	0.55	0.03	1.60
3	3	Punjab	3.38	5.69	0.58	9.66
4	4	Chandigarh	0.05	0.23	0.00	0.28
5	5	Uttarakhand	1.06	0.81	0.13	2.00

TABLE NO. 3.1 : STATE-WISE DISTRIBUTION OF ENTERPRISES BY NATURE OF ACTIVITY

(Numbers in Lakh)

Sl. No.	Sate/UT Code	State/UT Name	Enterprises having Nature of Activity			
			Manufacturing/ Assembly/Processing	Services	Repairing & Maintenance	Total
1	1	Jammu and Kashmir	0.81	0.33	0.05	1.18
2	2	Himachal Pradesh	1.02	0.55	0.03	1.60
3	3	Punjab	3.38	5.69	0.58	9.66
4	4	Chandigarh	0.05	0.23	0.00	0.28
5	5	Uttarakhand	1.06	0.81	0.13	2.00
6	6	Haryana	1.83	2.77	0.27	4.87
7	7	Delhi	0.29	1.45	0.01	1.75
8	8	Rajasthan	5.26	3.61	0.27	9.14
9	9	Uttar Pradesh	14.10	7.50	0.73	22.34
10	10	Bihar	4.45	2.83	0.20	7.48
11	11	Sikkim	0.02	0.04	0.00	0.06
12	12	Arunachal Pradesh	0.16	0.09	0.01	0.25
13	13	Nagaland	0.16	0.00	0.00	0.16
14	14	Manipur	0.27	0.16	0.01	0.44
15	15	Mizoram	0.07	0.02	0.00	0.10
16	16	Tripura	0.11	0.13	0.03	0.26
17	17	Meghalaya	0.33	0.13	0.01	0.47
18	18	Assam	1.14	0.93	0.07	2.14
19	19	West Bengal	10.37	9.69	0.73	20.80
20	20	Jharkhand	2.53	1.49	0.23	4.25
21	21	Odisha	6.46	3.08	0.23	9.77
22	22	Chhattisgarh	1.55	1.15	0.08	2.78
23	23	Madhya Pradesh	7.20	3.80	0.50	11.50
24	24	Gujarat	4.29	4.72	4.01	13.03
25	25	Daman & Diu	0.00	0.01	0.00	0.01
26	26	Dadar and Nagar Haveli	0.01	0.03	0.00	0.04
27	27	Maharashtra	6.08	7.40	0.98	14.45
28	28	Andhra Pradesh	7.24	5.92	1.74	14.90
29	29	Karnataka	7.55	3.31	0.26	11.12
30	30	Goa	0.32	0.24	0.00	0.56
31	31	Lakshadweep	0.01	0.01	0.00	0.01
32	32	Kerala	6.11	6.44	0.39	12.94
33	33	Tamil Nadu	10.20	7.24	0.77	18.21
34	34	Puducherry	0.03	0.09	0.01	0.13
35	35	Andaman and Nicobar Islands	0.02	0.04	0.01	0.07
All India			**104.50**	**81.93**	**12.31**	**198.74**

ALL

TABLE 15.1: STATE-WISE DISTRIBUTION OF EMPLOYMENT BY TYPE OF ENTERPRISE

(Numbers in Lakh)

Sl. No.	State/UT Code	State/UT Name	Micro	Small	Total
1	1	Jammu and Kashmir	2.17	0.00	2.17
2	2	Himachal Pradesh	2.06	0.21	2.27
3	3	Punjab	14.03	0.13	14.16
4	4	Chandigarh	0.58	0.00	0.58
5	5	Uttarakhand	3.51	0.11	3.62
6	6	Haryana	8.41	0.01	8.41
7	7	Delhi	5.67	0.27	5.94
8	8	Rajasthan	14.88	0.12	15.00
9	9	Uttar Pradesh	51.73	0.03	51.76
10	10	Bihar	15.95	0.02	15.97
11	11	Sikkim	0.56	0.00	0.56
12	12	Arunachal Pradesh	0.82	0.00	0.82
13	13	Nagaland	1.00	0.00	1.00
14	14	Manipur	1.38	0.00	1.38
15	15	Mizoram	0.30	0.00	0.30
16	16	Tripura	0.53	0.00	0.53
17	17	Meghalaya	1.04	0.00	1.04
18	18	Assam	4.47	0.01	4.48
19	19	West Bengal	54.66	0.27	54.93
20	20	Jharkhand	8.24	0.00	8.24
21	21	Odisha	21.86	0.08	21.94
22	22	Chhattisgarh	4.68	0.00	4.68
23	23	Madhya Pradesh	17.31	0.00	17.32
24	24	Gujarat	21.95	0.02	21.97
25	25	Daman & Diu	0.03	0.00	0.03
26	26	Dadar and Nagar Haveli	0.07	0.00	0.07
27	27	Maharashtra	24.51	0.21	24.72
28	28	Andhra Pradesh	34.64	0.51	35.15
29	29	Karnataka	22.04	0.54	22.58
30	30	Goa	0.86	0.00	0.87
31	31	Lakshadweep	0.05	0.00	0.05
32	32	Kerala	26.67	0.32	26.98
33	33	Tamil Nadu	38.43	0.47	38.89
34	34	Puducherry	0.25	0.00	0.25
35	35	Andaman and Nicobar Islands	0.18	0.00	0.18
All India			**405.52**	**3.32**	**408.84**

Table-1:State/UT-wise Distribution of Working Micro, Small and Medium Enterprises

Sl No.	Name of the State/UT	Number of Enterprises (Registered Sector)			
		1st Census (1972-73)	2nd Census (1987-88)	3rd Census (2001-02)	4th Census (2006-07)
1	Andaman & Nicobar	N. A.	323	673	752
2	Andhra Pradesh	8,091	39,210	62,917	24892
3	Arunachal Pradesh	11	326	255	451
4	Assam	1,648	4,430	14,453	18671
5	Bihar	5,260	34,822	52,107	52188
6	Chandigarh	284	1,310	1,281	1001
7	Chhattisgarh	-	-	33,909	26234
8	Dadra & Nagar Haveli	25	149	693	1716
9	Daman & Diu	-	147	1,026	595
10	Delhi	5,102	10,038	7,360	728
11	Goa	637	2,772	2,139	3137
12	Gujarat	9,904	34,453	138,537	229830
13	Haryana	4,591	23,356	39,584	33783
14	Himachal Pradesh	1,495	6,983	10,891	11936
15	Jammu & Kashmir	1,039	9,080	14,625	14534
16	Jharkhand	-	-	18,322	18200
17	Karnataka	5,618	40,525	110,487	139641
18	Kerala	6,205	25,717	146,988	149846
19	Lakshadweep	N. A.	N. A.	68	89
20	Madhya Pradesh	7,701	73,892	101,939	108803
21	Manipur	485	2,078	4,599	86635
22	Meghalaya	164	587	1,939	4511
23	Maharashtra	15,358	29,856	83,098	3063
24	Mizoram	61	917	2,733	3714
25	Nagaland	38	183	568	1331
26	Orissa	1,799	8,237	12,366	19586
27	Puducherry	294	1,221	1,721	2109
28	Punjab	13,675	45,339	65,015	50112
29	Rajasthan	7,062	29,043	43,145	55107
30	Sikkim	N. A.	66	174	124
31	Tamil Nadu	16,002	57,213	180,032	233997
32	Tripura	246	809	959	1253
33	Uttar Pradesh	12,851	53,282	162,938	187523
34	Uttarakhand	-	-	15,285	23766
35	West Bengal	13,931	45,954	42,148	42634
All India:		139,577	582,368	1,374,974	1552492

STATEMENT SHOWING DISTRICT-WISE NUMBER OF ENTREPRENEUR MEMORANDUM (Part-II) FILED BY THE MICRO, SMALL & MEDIUM ENTERPRISES AT THE DISTRICT INDUSTRIES CENTRES UNDER THE DIRECTORATE OF INDUSTRIES & COMMERCE, CHENNAI, TAMIL NADU

State : TAMIL NADU, Code : 33

Dist. Code	Name of the District	1st April, 2007 to 31st March, 2008			1st April, 2008 to 31st March, 2009			1st April, 2009 to 31st March, 2010			1st April, 2010 to 31st March, 2011			1st April, 2011 to 31st March, 2012			1st April, 2012 to 31st March, 2013			1st April, 2013 to 31st March, 2014			1st April, 2014 to 31st March, 2015		
		Micro	Small	Medium	Micro	Small	Medium	Micro	Small	Medium	Micro	Small	Medium	Micro	Small	Medium	Micro	Small	Medium	Micro	Small	Medium	Micro	Small	Medium	Micro	Small	Medium
01.	THIRUVALLUR	4339	490	5	4834	4128	507	29	4664	3682	610	42	4334	4472	820	33	5325	5794	871	85	6750	7222	2055	663	9940	8970	3675	723	13368	10482	4854	771	16107
02.	CHENNAI	3398	231	4	3633	5823	726	117	6666	7427	3372	607	11406	7918	2732	447	11097	11158	5433	1515	18106	11499	8214	2381	22094	11779	13298	3056	28133	15389	15881	3088	34358
03.	KANCHEEPURAM	1377	213	6	1596	1832	339	11	2182	2764	632	63	2959	3693	772	52	4457	3956	1065	254	5275	5656	2503	610	8769	7073	4824	848	12745	9117	6483	909	16509
04.	VELLORE	385	103	2	490	377	65	1	443	404	139	9	552	1081	192	12	1285	1235	255	55	1545	1541	406	54	2001	1631	629	71	2331	1444	784	212	2440
05.	DHARMAPURI	393	4	0	397	317	11	0	328	269	13	0	282	436	40	0	476	596	15	0	611	725	29	0	754	729	23	0	752	787	39	0	826
06.	THIRUVANNAMALAI	116	8	0	124	105	27	0	132	96	20	0	116	451	68	0	519	485	75	5	565	658	88	7	753	701	139	7	847	704	191	47	942
07.	VILLUPURAM	237	19	1	257	224	31	3	258	249	53	2	304	961	40	0	1001	967	42	0	1009	1222	80	1	1303	1337	73	5	1415	1462	71	9	1542
08.	SALEM	903	33	0	936	1273	91	2	1365	1617	167	10	1794	1973	275	10	2258	2357	387	29	2773	2495	576	80	3151	2395	1137	155	3687	3162	1349	139	4650
09.	NAMAKKAL	418	36	0	454	417	31	2	450	519	42	6	567	1091	127	3	1221	1067	133	4	1204	1745	406	21	1682	1331	439	57	1827	1367	610	72	2049
10.	ERODE	2372	199	2	2513	1418	182	11	1611	1525	225	7	1758	2485	311	12	2809	2577	460	59	3096	2983	498	172	3653	3584	787	213	4584	4109	1275	138	5462
11.	NILGIRIS	275	13	0	288	224	16	0	240	346	28	0	384	344	3	0	347	336	15	0	351	499	7	0	506	461	29	0	490	527	63	0	590
12.	COIMBATORE	2874	814	12	3700	3396	803	34	4233	5606	1099	38	6743	5276	846	43	6165	5818	990	62	6870	6351	1503	237	8091	7801	2303	555	10659	9235	3469	601	13305
13.	DINDIGUL	95	11	0	106	293	17	0	310	692	22	3	717	1002	75	1	1078	785	89	18	892	1083	145	8	1236	1038	276	20	1334	987	365	88	1440
14.	KARUR	477	51	0	528	443	55	3	501	393	56	1	450	663	47	2	712	891	91	3	985	1069	136	3	1208	1045	214	13	1272	1141	258	10	1409
15.	TIRUCHIRAPPALLI	682	80	0	762	799	59	0	858	1325	56	0	382	1074	144	10	1228	1238	220	47	1505	1806	294	36	2136	1718	502	60	2280	1696	735	79	2510
16.	PERAMBALUR	38	0	0	38	89	2	0	91	72	4	0	76	296	12	2	310	294	6	0	300	282	15	4	301	340	10	1	351	384	15	0	399
17.	ARIYALUR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	299	10	1	310	302	13	1	316	345	33	8	386
18.	CUDDALORE	258	7	0	265	469	12	0	481	321	15	4	340	940	12	0	952	1102	26	1	1129	1111	98	3	1212	1136	137	8	1281	1183	202	15	1400
19.	NAGAPPATTINAM	130	6	0	136	122	1	0	123	173	1	0	174	487	12	1	500	487	18	0	505	533	43	10	586	688	71	4	763	609	117	45	771
20.	THIRUVARUR	85	2	0	88	184	7	0	191	119	4	0	123	324	11	0	335	315	1	0	316	356	8	0	364	554	2	0	556	600	6	0	606
21.	THANJAVUR	386	18	0	404	599	20	1	620	489	51	1	541	510	42	0	552	750	61	2	813	746	168	20	934	886	187	17	1060	970	263	23	1256
22.	PUDUKKOTTAI	200	33	0	233	331	29	0	360	388	40	2	430	644	57	1	702	610	34	4	648	622	100	13	735	752	234	8	994	691	178	11	880
23.	SIVAGANGA	414	15	0	429	183	41	2	226	161	42	2	205	500	37	1	538	463	65	0	528	667	97	0	764	642	162	0	804	591	297	0	888
24.	MADURAI	1336	48	0	1384	1791	131	4	1926	2495	208	10	2713	3069	389	29	3487	2914	618	89	3881	3365	948	283	4596	3565	1245	221	5031	4279	1729	358	6366
25.	THENI	186	8	0	194	271	14	1	286	354	21	2	377	667	30	4	701	743	22	1	766	893	53	3	949	914	72	15	1001	1031	122	6	1159
26.	VIRUDHUNAGAR	1399	166	4	1569	1472	163	8	1643	1532	214	15	1761	1871	214	6	2091	2024	235	22	2281	2420	270	26	2716	2404	388	10	2802	2723	345	14	3082
27.	RAMANATHAPURAM	145	1	0	147	120	8	0	128	167	4	0	171	186	15	1	202	234	17	3	254	471	31	1	503	473	76	2	551	562	80	3	645
28.	THOOTHUKKUDI	346	22	0	368	296	42	0	338	250	38	4	292	761	56	2	819	959	36	6	1001	1130	118	6	1254	1078	256	12	1346	1144	251	26	1421
29.	TIRUNELVELI	313	23	0	336	162	19	1	182	471	54	0	525	922	75	3	1000	968	83	7	1048	1227	113	14	1354	1482	219	23	1724	1639	280	17	1936
30.	KANYAKUMARI	451	20	1	472	578	34	2	614	639	47	1	687	1013	47	0	1060	1318	80	1	1399	1337	153	12	1502	1661	301	15	1977	2022	459	19	2500
31.	KRISHNAGIRI	550	75	3	628	496	99	3	598	556	76	4	636	758	270	9	977	778	275	10	1063	842	338	7	1187	1089	463	46	1598	1242	850	149	2241
32.	TIRUPPUR	-	-	-	-	-	-	-	-	-	-	-	-	2861	820	17	3698	2663	655	52	3370	3515	833	82	4430	6101	2174	209	8484	8863	3846	320	13029
	STATE TOTAL:	24620	2749	40	27309	28232	3582	235	32049	33613	7353	333	41279	48730	8447	301	57903	56932	17373	2334	76639	65889	20336	4258	98974	75663	34359	6315	116933	90483	45440	4177	143734

Source:- The Director of Industries & Commerce, Government of Tamil Nadu, Chepauk, Chennai - 600 005.