

The Micro, Small & Medium Enterprises (MSMEs) manufacturing sector in India: Role of MSME clusters and the idea of MSME Manufacturing Cluster Density

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Abstract: *The objective of the current study is to assess the relationship between MSME Manufacturing clusters and the growth of MSME Manufacturing Sector in India. In order to do so we have analysed the state and UT wise number of MSME Manufacturing clusters. Using geographical area of states and UTs, we have proposed the concept of MSME Manufacturing Clusters Density which explains in how many square kilometre of land area one MSME Manufacturing cluster can be found. Lower the size of geographical area for every MSME Manufacturing Cluster, higher the MSME Manufacturing Clusters density and viz. versa. We observed that 21 states and UTs in India out of the total 36 states and UTs have MSME clusters and together they account for 96.3 per cent of total MSME Manufacturing output. Besides, we observe a strong positive correlation of 0.81 between the number of MSME Manufacturing Clusters in a state / UT and the share of states and UTs in the total MSME Manufacturing output. Recognising the strong link between MSME Manufacturing clusters and development of the MSME Manufacturing Sector, the policy makers and the other stake holders should come forward and devise strategies for furthering the growth of the sector through cluster development approach.*

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I. Introduction

India is expected to emerge as one of the leading economies in the world over the next decade in the light of a positive political and economic set up in the country. The Micro, Small & Medium Enterprises (MSMEs) segment is expected to play a significant role in the emergence of manufacturing prowess of the Indian economy. The development of this segment is extremely critical to meet the national imperatives of financial inclusion and generation of significant levels of employment across urban, rural and rural areas in the country. Further, it can nurture and support development of new age entrepreneurs who have the potential to create globally competitive businesses from India.

MSMEs can be the backbone for the existing and future high growth businesses with both domestic and foreign companies investing in the 'Make in India' initiative and make significant impact in the area of indigenisation. 'Make in India with zero defect and zero effect', is a significant opportunity. The MSMEs should enable the development of a business eco system that enables and continuously support businesses that are gearing to deliver the right product, the right quality, the right solution and the right service at a competitive price, both in domestic and international markets. The 'Digital India' revolution also provides a great opportunity to promote MSMEs' participation in the Information, Communication and Telecommunication (ICT) sector, in line with the government's vision.

It is equally important that the MSME segment develops in all areas of manufacturing and services sectors because both these sectors will continue to be very relevant to the overall GDP growth as well as employment generation. The MSME sector will act as a catalyst to bring about this socio-economic transformation in the times to come. The next is to identify the building blocks that support the growth of MSMEs. As a corollary, we also identify the road blocks that hinder the growth process and the way forward.

II. Factors Impacting Growth Of MSMEs

Below in section 2.1, we discuss the factors that propelled the growth of MSMEs and we call them enablers and in section 2.2, we looked at factors which inhibited the growth of MSMEs and we call them speed breakers.

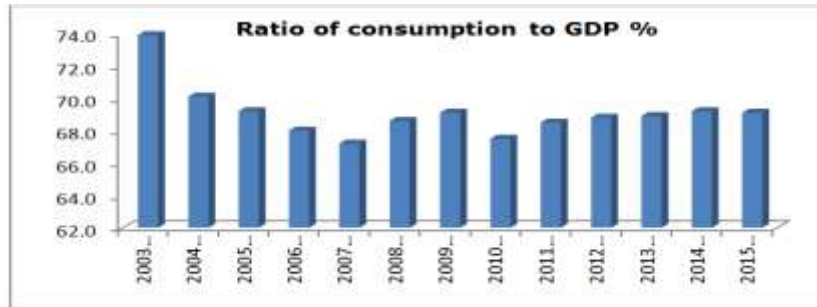
2.1. The Enablers

We found that there are seven enablers and eight speed breakers impacting growth of MSMEs in India.

2.1.1. Rapid growth of the Indian Economy: The different five year plan periods have witnessed increasing growth rate of the Indian economy. The rapid growth of the larger economy has enabled the constituents of the economy to grow and the MSMEs are no exceptions. Along with the larger economy, the MSMEs have also grown over time.

2.1.2. Domestic demand driven economy: The Indian economy has been primarily a demand driven economy. Consumption accounts for more than 65 per cent of the economy as seen in figure1 and in recent times the Indian economy has been mainly a consumption driven one. This augurs well for sustainability of GDP growth in the long run.

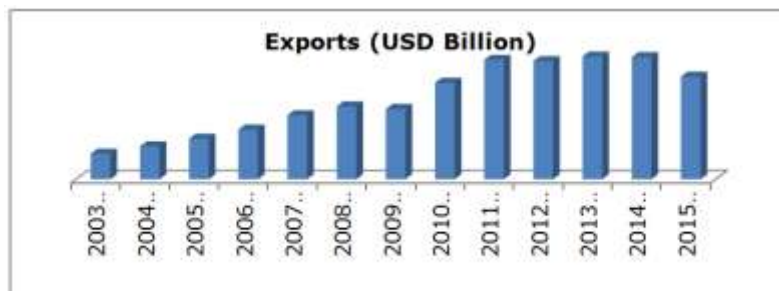
FIGURE1:RATIO OF CONSUMPTION TO GDP



The high rate of consumption demand has led to growth of many domestic industries for supply of the demanded goods. This has led to the rapid growth of MSMEs in India.

2.1.3. Resilient performance of Exports: Since allowing full current account convertibility, the Indian exports have been rising at a good pace as shown in Figure 2.

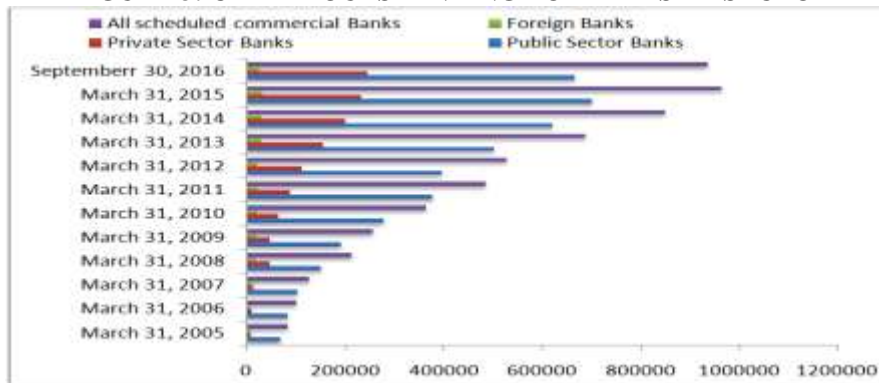
FIGURE2: INDIA’S EXPORTS



The MSME sector contributes around 45 per cent to India’s exports is a testimony to the fact that rising exports have provided a scope for the Indian MSMEs to growth over time.

2.1.4. Gradual increase in credit to the MSME sector: Access to adequate and timely finance is sin-qua-non for the success of any venture. The data on sectoral deployment of Bank credit reveals that the credit flows to the MSME sector has been increasing steadily over the years as seen in Figure 3.

FIGURE 3: CREDIT OUTSTANDING TO THE MSME SECTOR



2.1.5. Classification of MSMEs as part of priority sector lending by RBI: For classification under priority sector, no limits are prescribed for bank loans sanctioned to Micro, Small and Medium Enterprises

engaged in the manufacture or production of goods under any industry specified in the first schedule to the Industries (Development and Regulation) Act, 1951 and as notified by the Government from time to time. The manufacturing enterprises are defined in terms of investment in plant and machinery under MSMED Act, 2006.

Bank loans up to Rs. 5 crore per unit to Micro and Small Enterprises and Rs. 10 crore to Medium Enterprises engaged in providing or rendering of services and defined in terms of investment in equipment under MSMED Act, 2006 are eligible for classification under priority sector. As per the revised guidelines and within the overall limit for MSMEs, 7.5 percent of ANBC or Credit Equivalent Amount of Off-Balance Sheet Exposure, whichever is higher to be achieved in a phased manner i.e. 7 per cent by March 2016 and 7.5 per cent by March 2017.

- 2.1.6. Initial policy of reservation for MSME sectors:** Reservation of products for exclusive manufacture in the small scale sector was introduced for the first time in 1967 with the reservation of 47 items. This number increased progressively to 55 in February, 1970 (55) and to 128 in February, 1971. The number further increased to 177 in February, 1974, 188 in June, 1976 and then to 504 in April, 1978.

After the introduction of National Industrial Classification (NIC) code the list was recast. As a result, the list of reserved items expanded from 504 to 807 in 1978 and was 836 in 1989. Out of this, 39 items were de-reserved in four phases viz., 15 items on April 3, 1997, 9 items on February 3, 1999, one item on January 1, 2001 and 14 items on June 29, 2001. Subsequently, 51 items were de-reserved in May 2002, 75 items in May 2003 and 85 items in October, 2004, 108 items in March 2005, 180 items in May 2006, 87 items in January 2007, 125 items in March 2007, 79 items in February 2008, 14 items in October 2008, 1 item in July 2010. As of July 2010, 20 items were reserved for exclusive manufacture in the small scale sector. Reservation afforded support to SSIs against competition from medium/large/multinational companies. The policy received statutory backing in 1984 under Section 29B of Industries (Development & Regulation) Act, 1951.

As per a notification by the Ministry of MSME, dated April 10, 2015 the list of items reserved for exclusive manufacture in MSE Sector has been done away with. As on date there is no item reserved for exclusive manufacture in MSE Sector.

- 2.1.7. Public procurement policy of the Central Government:** In exercise of the powers conferred under section 11 of the Micro, Small and Medium Enterprises Development Act, 2006, the Government of India has notified Public Procurement Policy for Micro & Small Enterprises (MSEs) Order, 2012 which is applicable for every Central Ministry / Department / PSU from 1st April, 2012.

The Policy mandates that every Central Ministry / Department / Public Sector Undertaking shall set an Annual goal of procurement from Micro and Small Enterprises from the financial year 2012-13 and onwards, with the objective of achieving an overall procurement of minimum of 20 percent of total annual purchases of products produced and services rendered by Micro and Small Enterprises in a period of three years. The minimum 20% Annual procurement from MSEs has become mandatory from 1st April 2015. Policy has also earmarked a sub-target of 4% out of the 20%, from MSEs owned by SC/ST Enterprises. Further, Micro and Small Enterprises are facilitated by providing them tender sets free of cost, exempting Micro and Small Enterprises from payment of earnest money to reduce transaction cost of their business. 358 items are also reserved for exclusive procurement from Micro and Small Enterprises.

Every Central Government Ministry / Department / PSU shall report the goals set with respect to procurement to be met from MSEs and the achievement made thereto in their respective Annual Reports. They shall also prepare Annual Procurement Plan for purchases and upload the same on their official website so that Micro and Small Enterprises may get advance information about requirement of procurement agencies. All the Chief Ministers of State Governments have also been advised to formulate similar policy for MSEs in their states. A Grievances cell has been constituted for the redressal of grievances for MSEs. The policy is aimed at helping and promoting MSEs by improving their market access and competitiveness through increased participation by MSEs in Government purchases and encouraging linkages between MSEs and large enterprises.

2.2. THE SPEED BREAKERS

- 2.2.1. Deficiency in the availability of key inputs:** There are deficiencies in availability of two key inputs.

Unskilled labour: One of the major problems of labour market in India is that there are a growing number of unskilled labourers in the country. In the absence of adequate vocational institutes, skill formation among the labour force in the country is very slow. This creates problem for the MSMEs to find competent hands to run their operations.

Inadequate economic infrastructure in terms of roads, power & ports: Adequate and modern infrastructure powers the steady growth of a nation's economy. The absence of proper infrastructure can cause serious problems to an enterprise's daily business operations of manufacturing and distribution of goods and services. Poor infrastructure affects businesses at every level and ends up being a deterrent to healthy growth. The following reasons highlight some of the key infrastructural issues that cause a hindrance to normal business operations in an MSME. The biggest challenge continues to be the lack of electricity resources:

- i. Inadequate supply of water;
- ii. Lack of facilities like Tool Rooms;
- iii. Insufficient methods of industrial waste management;
- iv. Inadequate cluster infra reducing competitiveness;
- v. Lack of reliable electricity resources;
- vi. No minimum price for power fixed for MSME;
- vii. Volatility in prices of basic fuels

2.2.2. Inadequate access to formal finance: Ease of credit access and quick finance is the most critical growth driver for any MSME. Most Indian MSMEs start out with minimal capital, which eventually stalls their growth after a certain point. Some major problems that approximately 80% MSME Entrepreneurs face on a day-to-day basis while trying to obtain credit assistance for their business operations:

- i. Complex collaterals required to obtain term loans;
- ii. High transaction costs in imports/exports;
- iii. Private Equity Funding is difficult to obtain;
- iv. Banks offer high rates for term loans;
- v. Private equity (PE) dilutes control in the company;
- vi. Un-standardised project appraisal system for term loans;
- vii. Cumbersome procedures and delay in fund disbursement.

2.2.3. Disincentive for growth beyond MSME cadre: In India, the MSMEs enjoy a lot of incentives to grow and flourish. As soon as they grow out of the cadre and become large they lose all benefits. This, very often becomes a disincentive for the MSMEs to grow out of the MSME cadre and harness the fruits of economies of scale. Recognising this difficulty, the general budget for FY 2013-14 had announced that benefits or preferences enjoyed by MSME to continue up to three years after they grow out of this category. Such a measure need to be streamlined and incentivised for the existing MSMEs.

2.2.4. Technical obsolesce: SMEs in India face struggles on account of accessing and using the latest technological advancements. While knowledge, access and funds continue to hamper implementation of technology, absence of an ecosystem that enables technology transfer and interaction with experts is a critical reason of limited adoption. The below mentioned are the key reasons why MSMEs fail to adopt latest technology to innovate and transform their businesses. The absence of a common platform for interaction with technology providers continues to be the most critical challenge faced by MSMEs in this area.

- i. Limited interaction between tech providers and seekers;
- ii. Absence of ecosystem for technology transfer;
- iii. Access to modern technology is expensive;
- iv. Minimal knowledge about upcoming technologies;
- v. Unavailability of e-Governance systems;
- vi. Lack of effective information systems
- vii. Lack of funds to support Innovation and R&D.

2.2.5. Competition from large corporate: The MSMEs often face the monster of competition of large scale enterprises. Large businesses have certain inherent advantages over smaller companies. They are usually more established and have greater amounts of funds and resources. Larger companies also have more established customers. Hence, they can enjoy more repeat business, which produces higher sales and profits. There are also several other key advantages of owning a large business. Other significant advantages enjoyed by the large enterprises include strong brand recognition, greater human resources, economy of scale, access to modern technology, etc.

2.2.6. Corruption: Corruption is considered a strong constraint on growth and development. It reduces economic performance. This is due to rent seeking, an increase of transaction costs and uncertainty, inefficient investments, and misallocation of production factors (Murphy et al. 1991, Shleifer and Vishny 1993, Rose-Ackerman 1997) that come with corruption.

The strong negative correlation between perceived corruption and the level of output provides prima facie evidence of the negative impact corruption has on value creation. While the causality underlying this relationship is likely to run both ways, the majority of analysts agree that it is primarily running from corruption to output rather than in the opposite direction. Still, the two-way relationship has the potential of setting in motion a virtuous circle, where output gains from curtailing corruption can be invested in human and civic capital necessary to make further progress in reducing corruption, leading to more output gains, and so forth. Corruptions do affect the growth of MSMEs in a number of ways, particularly by way of delay in getting requisite permission from government departments and various day to day operations.

2.2.7. Absence of exclusive marketing platforms and distribution networks: With consumer habits changing rapidly and increased competition from both local and global brands, market dynamics and customer loyalties are in a state of flux. While offering best-in-class products and services, enterprises also need to improve the quality of customer interaction at each opportunity. Enhancing customer engagement is not a matter of choice anymore and to succeed, SMEs need market intelligence, tools and well trained workforces to respond to these external pressures. The below mentioned are the key reasons why domestic MSMEs in India are unable to approach marketing and distribution effectively.

- i. Lack of monetary support/schemes;
- ii. Limited knowledge about digital marketing;
- iii. Limited expertise in new-age marketing;
- iv. Unaware of technology for marketing;
- v. Not enough trade fairs and buyer-seller meets;
- vi. Losing to large competitors due to lack of networks.

2.2.8. Complicated Regulatory Policies for Starting a Business: India is ranked at 130th position out of 189 countries who participated in the World Bank's Ease of Doing Business Ranking primarily due to unfavourable business climate for its enterprises, especially the MSMEs. Indian MSMEs are weighed down by inflexible and complicated regulatory policies like taxation, dealing with construction permits, registering property, enforcing contract, resolving insolvency, etc. Owing to this prohibitive business climate, many innovative entrepreneurs are not able to enter the markets or sustain a business. The following points show a breakdown of how inflexible regulatory policies affect the functioning of MSMEs:

- i. Absence of a common regulatory body;
- ii. Complicated procedures of setting up business;
- iii. No special schemes for start-ups;
- iv. Complex book keeping regulations.

After discussing various favourable and unfavourable factors for the development of the MSME sector in the country, we will evaluate the role of MSME Manufacturing clusters in growth and development of MSME sector in India.

Let us now first discuss the existing literature on the subject matter.

III. Literature Review

NeerajArya (2013) in a concept paper titled 'MSMEs and the Growing Role of MSME Clusters' have opined that MSMEs in India owe much of their success to the rapid growth of industrial clusters in the country. He opines that inter-firm linkages buttressed by the industrial clusters have enabled the MSMEs to move up the value chain.

Ministry of Micro, Small & Medium Enterprises, Govt. of India (2009) in a study titled 'Evaluation Study of Micro, Small & Medium Enterprises' has concluded that the cluster development programme of the Government of India is essential and can be made more effective.

PWC & CII (2011) in a paper titled 'Innovation: Changing the MSME Landscape' has stated that applying the cluster approach has proven useful as the point of departure for the design of innovation policies to support MSMEs in Asian countries. As per the paper, in India, the bio-technology industry has become a breeding ground of several innovation clusters. Such clusters augur well for the development of MSMEs in the country.

IV. Definition Of Clusters In The Indian Context

Clusters can be defined as sectoral and geographical concentration of enterprises, in particular Small and Medium Enterprises (SME), faced with common opportunities and threats which can:

- a) Give rise to external economies (e.g. specialized suppliers of raw materials, components and machinery; sector specific skills etc.);
- b) Favour the emergence of specialized technical, administrative and financial services;
- c) Create a conducive ground for the development of inter-firm cooperation and specialization as well as of cooperation among public and private local institutions to promote local production, innovation and collective learning.

UNIDO defines clusters as sectoral and geographical concentrations of enterprises that produce and sell a range of related or complementary products and, thus, face common challenges and opportunities. These concentrations can give rise to external economies such as emergence of specialized suppliers of raw materials and components or growth of a pool of sector-specific skills and foster development of specialized services in technical, managerial and financial matters. Networks are groups of firms that cooperate on a joint development project complementing each other and specializing in order to overcome common problems, achieve collective efficiency and penetrate markets beyond their individual reach. Networks formed by SMEs only are termed horizontal, to distinguish them from those where one or more large-scale enterprises are involved which are of the vertical type. Whether horizontal or vertical, networks can be developed within or independently of clusters.

V. Unido On Cluster Approach

As per UNIDO, clusters are defined as "geographical concentrations of inter-connected enterprises and associated institutions that face common challenges and opportunities". This definition highlights two essential features of clusters:

Firstly, they consist of a critical mass of enterprises located in geographical proximity to each other. Cluster as a critical mass of enterprises located in geographical proximity to each other. There is no universally accepted way of establishing the exact boundaries of a cluster. What is perceived as close in one location may represent an insurmountable distance in others; distance can be influenced by the availability of transport facilities, as well as by cultural identity and social values. Moreover, the number of enterprises necessary to be considered as constituting a cluster can vary depending on the size of a country;

Secondly, enterprises within clusters share many common features. Cluster-based enterprises share one or more of the following characteristics:

- They may use the same suppliers of raw materials and other inputs, especially when they are active in the same industrial sector.
- They may cater to the same markets and clients (e.g. the local handicraft market), even when producing different goods.

Finally, all enterprises share the same territory, its infrastructure, services and, in many cases, a common cultural identity. Enterprises within a cluster also often face common obstacles and challenges including, for example, a lack of infrastructure or limited access to capital. Besides enterprises, clusters also include support institutions, such as:

- Business associations;
- Business development service (BdS) providers;
- Financial service providers, including banks;
- Public authorities such as local, regional and national governments and regulatory agencies;
- Training agencies such as vocational schools, universities, etc.

VI. MSME Clusters In India

With a contribution of 40% to the country's industrial output and 35% to direct exports, the Small-Scale Industry (SSI) sector has achieved significant milestones for the industrial development of India. Within the SSI sector, an important role is played by the numerous clusters that have been in existence for decades and

sometimes even for centuries. According to a UNIDO survey of Indian SSI clusters undertaken in 1996 (later updated in 1998), there are 350 SSI clusters. Also, there are approximately 2000 rural and artisan based clusters in India. It is estimated that these clusters contribute 60% of the manufactured exports from India. The SSI clusters in India are estimated to have a significantly high share in employment generation.

Government initiated selected interventions in industrial clusters first in 1998 through its scheme Integrated Technology Upgradation and Management Programme (UPTECH). In August 2003, it was renamed as small Industry Clusters Development Programme (SICDP) and was broad-based for holistic and integrated development of micro and small enterprises through interventions such as capacity building, marketing development, export promotion, skill development, technology upgradation, exposure visits etc. and setting up of common facilities. Government simultaneously continued to implement a separate Integrated Infrastructural Development (IID) Scheme [started in 1994] for setting up of industrial estates and to develop infrastructure facilities like power distribution network, water, telecommunication, drainage, roads, storage and marketing outlets, common service facilities, etc. The IID Scheme also provided upgradation outlets, common service facilities in the existing industrial estates.

Some Indian MSME clusters are so big that they account for 90 per cent of India's total production output in selected products. As for example, the knitwear clusters of Ludhiana. Almost the entire Gems and Jewellery exports are from the clusters of Surat and Mumbai. Similarly, the clusters of Chennai, Agra and Kolkata are well known for leather and leather products. However, the majority of Indian clusters, especially in the handicrafts sector, are very small with no more than hundred workers, so specialized that no other place in the world matches their skills and the quality of their output. This is the case, for example, of the Paithanisarees cluster in Maharashtra. However, only a tiny minority of such artisan clusters are globally competitive.

The formidable challenges created for the MSME sector by the liberalization of the Indian economy, as well as its closer integration within the global economy, have generated a great deal of interest within India on novel approaches to MSME development. As a result, both private and public sector institutions at the Central as well as the State levels are increasingly undertaking cluster development initiatives.

The guiding principle of the United Nations Industrial Development Organization's (UNIDO's) approach towards small- and medium-scale enterprises (SMEs) is that they can play a key role in economic growth and equitable development in developing countries. Their contribution to employment generation, poverty reduction and wider distribution of wealth and opportunities represents a major window of opportunity for most developing countries. However the potential role of SMEs is often not realized because of a set of problems commonly related to size. Individual SMEs experience difficulties in achieving economies of scale in the purchase of such inputs as equipment, raw materials, finance and consulting services and are often unable to take advantage of market opportunities that require large production quantities, homogenous standards and regular supply. Small size is also a constraint on internalization of functions such as training, market intelligence, logistics and technology innovation, while preventing the achievement of a specialized and effective internal division of labour. To preserve their narrow profit margins, small-scale entrepreneurs in developing countries are often unable to introduce innovative improvements to products and processes and this limits the scope of firms to take advantage of new market opportunities. On a closer observation, however, it is clear that many of these obstacles are the result of SME's isolation rather than their size. Therefore, closer cooperation among MSMEs as well as between MSMEs and the institutions in their surrounding environment holds the key to overcoming them.

Networking offers an important route for individual MSMEs to address their problems as well as to improve their competitive position. By coordinating their activities, enterprises can collectively achieve economies of scale beyond the reach of individual small-scale firms and obtain bulk purchase inputs, achieve optimal scale in the use of machinery and pool production capacities to meet large-scale orders. Inter-enterprise cooperation also enables SMEs to specialize in their core businesses and give way to an external division of labour thus improving their efficiency in production. Joint work also encourages enterprises to learn from each other, exchange ideas and experience to improve product quality and take over more profitable market segments. Evidence from developing and developed countries shows that cooperative relations and joint action are more likely when enterprises operate in proximity and share business interests such as markets for products, infrastructure needs or challenging external competition. Within such groups, or clusters, enterprises' joint initiatives are stronger, because of the critical mass of interested parties, more cost-effective due to shared fixed costs and easier to coordinate, with proximity fostering mutual knowledge and trust. UNIDO, therefore, has launched a programme to promote linkages among SMEs as well as between enterprises and their institutional environment. The following map shows where projects focused on networking are being implemented or designed and have been completed.

VII. State / UT Wise MSME Manufacturing Clusters In India

Out of the 35 states and UTs in India, we find that only 21 states and or UTs have MSME Manufacturing clusters identified by United Nations Industrial Development Organisation (UNIDO). A total of 388 MSME Manufacturing Clusters have been identified by UNIDO in India.

Table 1: State / UT wise MSME Manufacturing Clusters

State	Number of MSME Manufacturing Clusters	State	Number of MSME Manufacturing Clusters
Maharashtra	58	Odisha	13
Gujarat	49	Kerala	10
Uttar Pradesh	39	Madhya Pradesh	10
Andhra Pradesh	32	J & K	5
Punjab	30	Uttarakhand	3
Tamil Nadu	28	Himachal Pradesh	3
Haryana	24	Jharkhand	3
Rajasthan	20	Bihar	3
Delhi	19	Chhattisgarh	2
Karnataka	19	Goa	1
West Bengal	17	-----	

From Table 1, we observe that while the state of Maharashtra has the highest number of MSME Manufacturing clusters at 58, Gujarat boasts of 49 MSME Manufacturing Clusters followed by Uttar Pradesh with 39 clusters. At the tail end, Goa has only one MSME Manufacturing cluster so far.

VIII. The Concept Of MSME Manufacturing Cluster Density And The Correlation Between Number Of MSME manufacturing Clusters In A State And Share Of States In MSME Manufacturing Output

Table 2: State / UT wise MSME manufacturing Clusters

State	Number of MSME manufacturing Clusters	Geographical Area (Sq. Km.)	One MSME manufacturing Cluster in every (sq km.)	Share in total MSME output (%)
Maharashtra	58	307713	5305	11.8
Gujarat	49	196024	4000	5.1
Uttar Pradesh	39	240928	6178	10.3
Andhra Pradesh	32	275045	8595	5.4
Punjab	30	50362	1679	7.6
Tamil Nadu	28	130058	4645	9.8
Haryana	24	44212	1842	4.9
Rajasthan	20	342239	17112	4.6
Delhi	19	1490	78	2.8
Karnataka	19	191791	10094	5.2
West Bengal	17	88752	5221	7.3
Odisha	13	155707	11977	2.7
Kerala	10	38863	3886	6.9
Madhya Pradesh	10	308245	30825	3.2
J & K	5	101387	20277	1.5
Uttarakhand	3	53483	17828	1.5
Himachal Pradesh	3	55673	18558	1.6
Jharkhand	3	79714	26571	0.9
Bihar	3	94163	31388	1.6
Chhattisgarh	2	135191	67596	0.8

Table 2: State / UT wise MSME manufacturing Clusters

State	Number of MSME manufacturing Clusters	Geographical Area (Sq. Km.)	One MSME manufacturing Cluster in every(sq km.)	Share in total MSME output (%)
Goa	1	3702	3702	0.8

Source: UNIDO, Census 2011, Fourth Census of MSME, Self computation.

In Table 2, we have given information on number of MSME manufacturing clusters vis-à-vis the geographical area of the states / UTs. Here, we propose the concept of MSME Manufacturing Cluster density. MSME Cluster density is defined as the size of area per MSME cluster. Lower the size of area for each MSME Manufacturing Cluster, higher the MSME Manufacturing Cluster density and viz. versa. Among the states / UTs, the UT of Delhi has the highest MSME Manufacturing cluster density where as it is the worst in case of Chhattisgarh. For instance, as per the MSME Manufacturing Cluster Density, Delhi has a MSME Manufacturing Cluster in every 78 sq. km, whereas the state of Chhattisgarh has a MSME Manufacturing Cluster in every 67,596 sq. km.

Moreover, together these 21 states having MSME clusters account for 96.3 per cent of total MSME Manufacturing output in the country. Leading the pack with 58 MSME Manufacturing Clusters, Maharashtra accounts for 11.8 per cent of total MSME Manufacturing output in the country. Maharashtra is being closely followed by Gujarat with 49 MSME Manufacturing clusters and 5.1 per cent of total MSME Manufacturing output and Uttar Pradesh with 39 MSME Manufacturing clusters and 10.3 per cent of total MSME Manufacturing output. We observe a strong positive correlation of 0.81 between number of MSME Clusters in a state/UT and the share of that state/UT in total MSME Manufacturing output.

IX. Potential Benefits Of Cluster Approach

A growing body of literature in both advanced as well as developing countries suggests that the collocation of enterprises in clusters is aimed at securing some of the following benefits:

- a) Reduction in transaction costs.
- b) Innovation and Technological development arising from local interactions (Knowledge externalities and spill overs).
- c) Reduced costs through learning by imitation and emulation.
- d) Localised external economies such as specialized labour market, specialization through increased local division of labour and existence of competent specialized suppliers.
- e) Advantages related to being customer-driven organization and product diversification.
- f) Joint action of local producers- cooperation among enterprises or groups of firms joining forces in business associations or consortia- that would inter alia enable the cooperating units collectively to reap the economies of both scale and scope to the extent they work as complementary and mutually supportive producers.

However, the predominant benefits are as follows:

2.3. Cluster helps isolated SMEs to overcome barriers to growth

Clusters are particularly promising environments for SME development. Due to their small size, SMEs individually are often unable to realize economies of scale and thus find it difficult to take advantage of market opportunities that require the delivery of large stocks of standardized products or compliance with international standards.

They also tend to have limited bargaining power in inputs purchase, do not command the resources required to buy specialized support services, and have little influence in the definition of support policies and services. The existence of a cluster per se does not automatically ensure that entrepreneurship will flourish or that enterprises will generate sustained returns. Even when located within a cluster, small and medium-sized enterprises (SMEs) face barriers to growth. Although these barriers are often considered to relate to the size of the enterprises, on closer examination they are frequently revealed as having more to do with isolation. In non-performing clusters, these constraints often manifest in unhealthy competition based on lowering wages, disregarding the welfare of workers, minimizing investment in technology and depleting natural resources. This form of competition results in stagnant clusters, with local stakeholders reaping few benefits. Evidence from strongly performing clusters, by contrast, demonstrates that it is possible for MSMEs to achieve high levels of growth by achieving steady quality improvements and adding value, while at the same time respecting environmental, social and labour standards.

2.4. Benefits of collective efficiency

Spatial proximity and shared strategic interests allow enterprises and their support institutions to realize shared gains through the organization of joint actions between cluster enterprises (e.g., joint bulk inputs purchase or joint advertising, or shared use of equipment) and between enterprises and their support institutions (e.g., provision of technical assistance by business associations or investments in infrastructure by the public sector). The advantage accruing to the cluster from such collective efforts is referred to as collective efficiency. Evidence suggests that the willingness of entrepreneurs to engage in joint actions is a critical success factor to unleash their growth potential. However, despite the potential benefits deriving from joint actions, entrepreneurs often choose a go-it-alone strategy. Several factors can hinder cooperation between enterprises including: i) Transaction costs; ii) Coordination costs; iii) adverse business culture. Obstacles to cooperation can also arise between enterprises and support institutions. While spatial proximity on its own can reduce some of the costs associated with cooperative activities between enterprises and institutions, other obstacles need to be consciously addressed for a cluster to become dynamic and growth-oriented. The UNIDO approach to cluster development thus focuses on removing obstacles to joint actions with the objective of encouraging collective action. The result chain or intervention logic underlying the approach is depicted to the right.

2.5. Cluster development for inclusive growth

The idea of inclusive growth has gained momentum in recent times, more particularly India the concept of inclusive growth has even find its place in the official document. Inclusive growth refers to a growth process wherein all the sections of the society contribute as well as get benefited from the growth process. The underlying concern of UNIDO's cluster development approach is the promotion of private sector based pro-poor growth, defined as a pattern of economic growth that creates opportunities for the poor, and generates the conditions for them to take advantage of those opportunities. The pro-poor growth potential of cluster development resides not just in its capacity to stimulate high rates of growth, but also in the conducive environment it provides for the promotion of broad-based and inclusive forms of development. This is partly because clusters constitute socio-economic systems where the population of enterprises often overlaps with the communities living and working within a specific area or territory.

Cluster-based entrepreneurs and workers often share a similar social, cultural and political background and practice reciprocity and self-help. This tends to lend itself to growth patterns that are likely to be more inclusive than in most other economic contexts. Over the past 20 years, UNIDO has been involved in the implementation of cluster and network development projects in 23 countries (see graphic below). Based on lessons learned from theory and practice, UNIDO cluster initiatives provide technical assistance designed to foster the undertaking of joint actions among firms and support institutions.

The rationale behind this approach rests in that joint actions allow cluster stakeholders to overcome limitations and reap opportunities that are beyond their individual reach. Bottlenecks that constrain the growth of small-scale business are thereby removed, triggering performance improvements under economic, social and environmental aspects. A performing private sector will turn into an engine of growth in the local economy, thus generating benefits and opportunities of participation for the poor. UNIDO follows an approach to cluster development aimed at addressing the root causes of cluster stagnation and help unleash their growth potential. Support to formulate, implement, monitor and evaluate cluster development initiatives is provided to local institutions in countries and regions where clusters have been selected for support. The focus lies on initiatives that encourage enterprises and institutions in these clusters to undertake joint actions that could ultimately yield benefits to the cluster as a whole and the communities in which they are embedded. Getting there requires a strategic approach.

Vast majority of the empirical studies have found that clustered enterprises show a higher innovative capacity than isolated firms. Such clusters open up efficiency gains which individual enterprises rarely attain. These efficiency gains are due to the competitive advantage derived from local external economies and joint action. This is true not only in developed countries but also in developing countries. As a result, clusters are now common in a wide range of countries and sectors. In addition, they have helped small enterprises to overcome well-known growth and marketing constraints. However, the growth experiences have been diverse. At one extreme, there are artisanal clusters with little dynamism and low innovative capacity. At the other extreme, there are clusters with deepening inter-firm division of labour, enhanced competitiveness and international market penetration. Isolated enterprises generally face additional constraints in the era of liberalization and globalization that require products with higher quality, larger production quantities, and regular supply. This restricts their ability to improve efficiency and productivity and also to adapt and be flexible in changing market conditions including difficulties associated with economies of scale. Thus, clusters can be a powerful means for overcoming these constraints and succeeding in an ever more competitive market environment.

X. Conclusion

Micro, Small and Medium Enterprises (MSMEs) are given considerable importance in developed as well as developing economies because of their role in economic growth, export promotion, job creation, regional and local development and social cohesion. The importance of SSIs / MSMEs in developing economies also arises from the realization that the entrepreneurship and a dynamic SME sector are important for restructuring economies and for combating poverty. According to UNCTAD, the SMEs in the Asian economies account for around 40 per cent to 60 per cent of capital investment, employ over 60 per cent of the workforce, and generate 50 per cent and 35 per cent of income and exports respectively. In the OECD economies, SMEs account for over 95 per cent of industrial units and 60-70 per cent of employment. In India also, the MSME sector has emerged over five decades, as a highly vibrant and dynamic sector of the economy. Today, this sector accounts for about 95 per cent of the industrial units and is contributing about 40 per cent of the value addition in the manufacturing sector, nearly 80 per cent of manufacturing employment and about 35 per cent of exports.

The current study finds a very significant relationship between the stationing of MSME Manufacturing clusters and growth of MSMEs. The 21 states and UTs that have MSME Manufacturing clusters out of total 35 states and UTs in the country together account for 96 per cent of total MSME Manufacturing output in the country. This implies that though there can be development and growth of MSMEs without MSME Clusters, majority of growth in the sector has come from MSME Clusters in the past. The existence of a high correlation between number of MSME clusters in a state and its share in total MSME Manufacturing output supports our findings. The study thus concludes that development of clusters with appropriate policy injections can go a long way in the development of MSME Manufacturing sector in the country. Adopting the UNIDO's cluster development approach for furthering the development of MSME Manufacturing sector in India will be a welcome step.

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