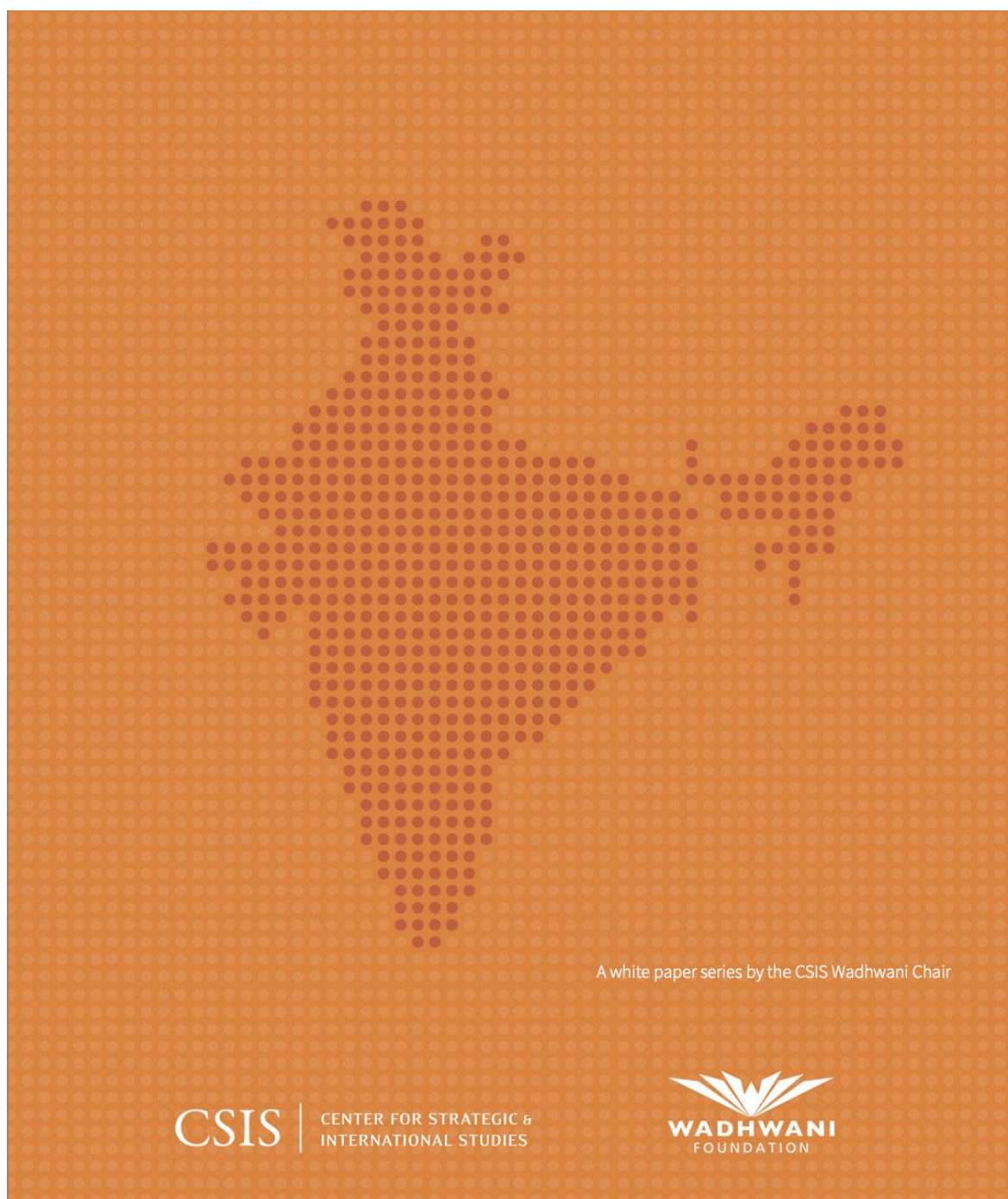


# Cluster Development Policy

Analysis, Best Practices, and Recommendations



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## Executive Summary

Global supply chains are undergoing significant restructuring and diversification, providing Indian micro, small, and medium enterprises (MSMEs) an opportunity to integrate their products and services into new manufacturing networks. A globalized world also amplifies the competition, both domestic and international, for MSMEs. Business clusters support a firm's competitiveness by increasing productivity, fostering innovation, and, ensuring skill development by facilitating pooled resources and logistics support that the small businesses cannot attain individually. Thus the Indian states have a unique prospect to strategically develop their cluster policy to enable small businesses to take advantage of this novel trend.

Taking a cue from other nations, a comprehensive cluster strategy will help Indian MSMEs achieve economies of scale, allowing the firms to become more competitive. This paper presents a renewed approach by highlighting the challenges associated with the current central cluster policy while presenting an overview of the immediate landscape of business clusters in India. The paper concludes by offering **20 policy recommendations** on cluster development which are grouped into four broad areas: building market linkages, leveraging technology, access to finance, and enabling infrastructure & soft interventions.

## 1. MSME Clusters: An Introduction

*"A cluster is a geographically proximate group of companies and associated institutions in a particular field, linked by commonalities and complementarities."* - Michael E. Porter

The concept of industrial clusters was popularized by Porter in his book "[The Competitive Advantage of Nations](#)" (1990). However, the foundations of this concept can be traced back to Alfred Marshall when he described the phenomenon as "the concentration of specialized industries in particular localities" ([Principles of Economics, 1890](#)). Both in developed and developing economies, MSMEs are found to co-exist, often producing similar products or a range of similar kinds of products. It is this co-existence that is referred to as clustering of MSMEs.

In India, a MSME cluster is officially defined as - "[A cluster is a group of enterprises located within an identifiable and as far as practicable, contiguous area or a value chain that goes beyond a geographical area and producing same/similar products/complementary products/services, which can be linked together by common physical infrastructure facilities that help address their common challenges.](#)"

Some of the common characteristics of enterprises in a cluster are:-

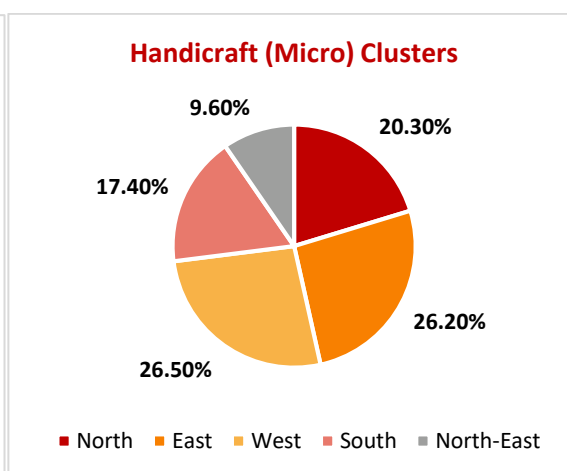
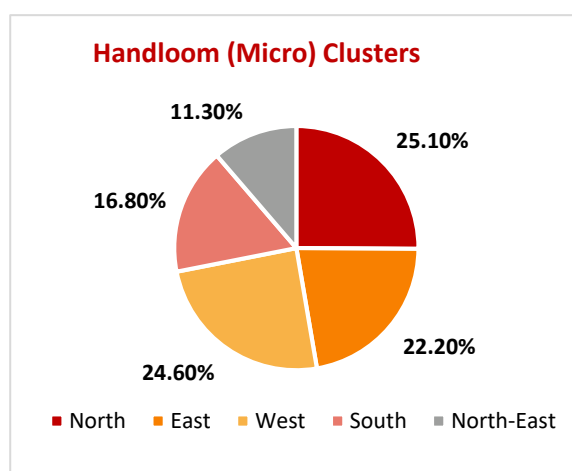
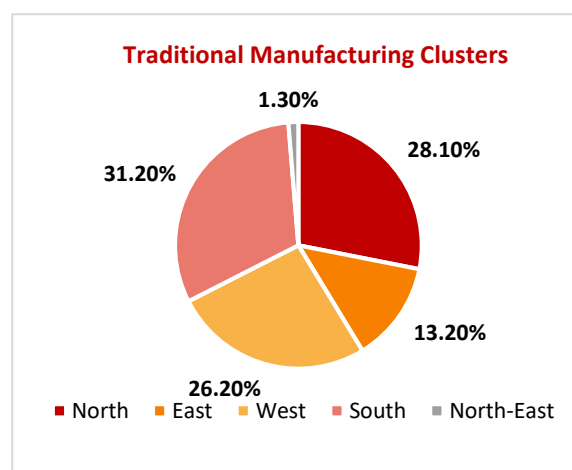
- Similar or complementary methods of production, quality control & testing, energy consumption, pollution control, and more
- Similar exposure to technology and marketing strategies/practices
- Similar communication channels
- Common market and skill needs with similar challenges.

MSME clusters contain a mix of enterprises including traditional manufacturing and high-technology products often bound by similar supply chains, raw material sources, or markets. International experience shows that well-networked clusters can be “[engines of growth](#)” both in developed and emerging economies. While a developed country like Italy turned to the creation of industrial clusters to regain competitiveness when posed with challenges from industries in emerging economies, a developing country like China has set a successful example with its manufacturing clusters.

Given the widespread adoption of cluster development approach in other economies, India’s central government launched its own cluster development program ([CDP](#)), whose roots can be traced back to 1996. This program focuses on enhancing the productivity, competitiveness, and capacity building of MSMEs and their collectives in India. Multilateral agencies like United Nations Industrial Development Organization (UNIDO) also have been instrumental in doing cluster work with MSMEs in India and have partnered with governments and other agencies.

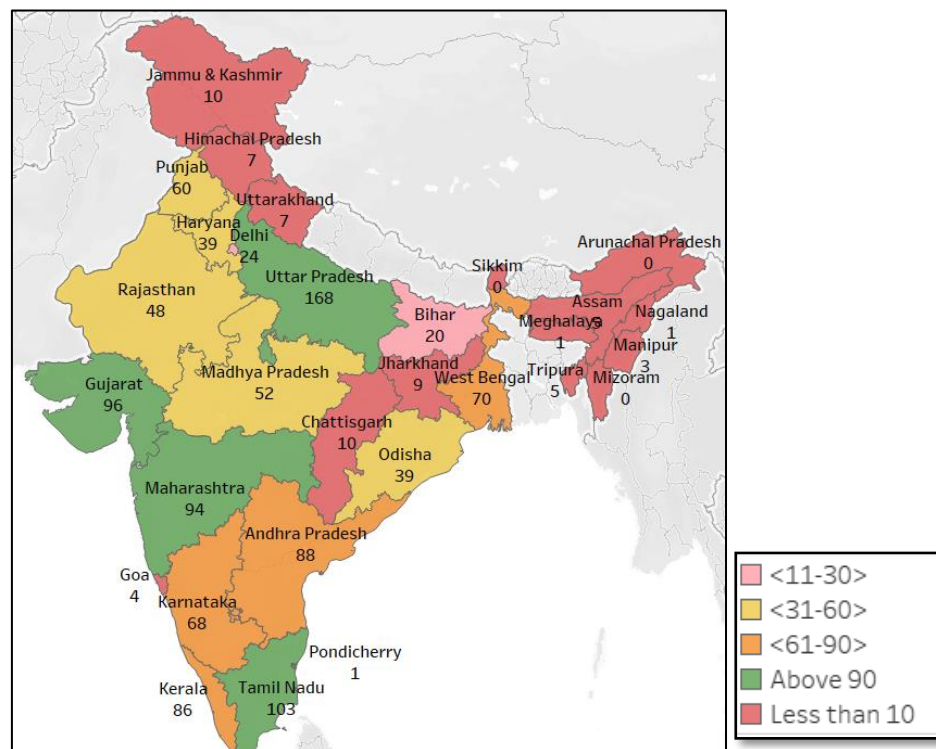
## Cluster Distribution in India

MSME clusters have naturally evolved because of factors such as proximity to raw material sources, suppliers and business partners, better coordination, and economies of scale. As per a [2011 report](#) by the Department of Industrial Policy and Promotion (DIPP, renamed the Department of Industry and Internal Trade (DPIIT)) on clustering of MSMEs, there are about 7,000 clusters in India. The table below shows the distribution of 4,700 formal and semi-formal clusters. In addition, there are an estimated 2,500 unmapped rural industrial clusters spread across the nation.



Source: Reproduced by the author from “Report of the working group on clustering and aggregation -2011”

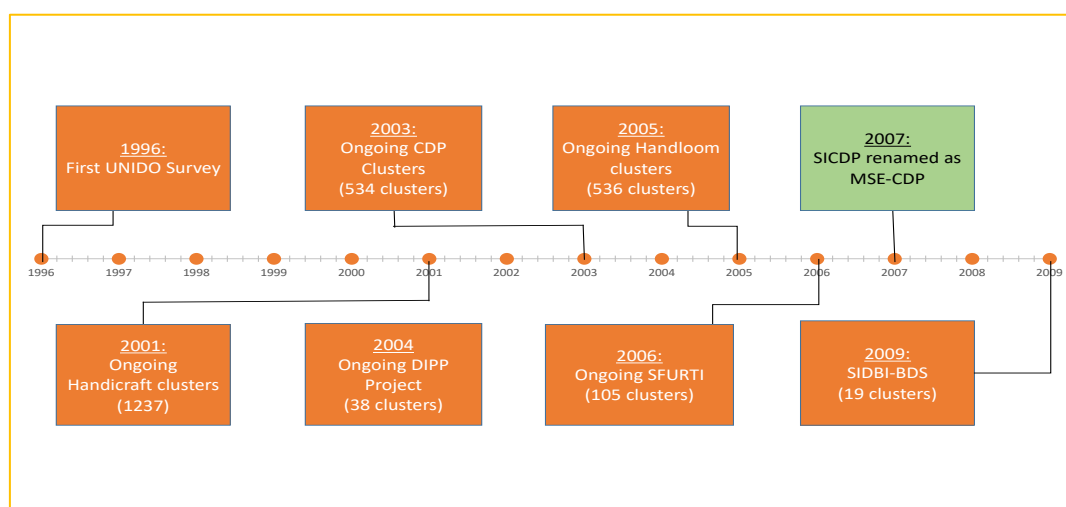
As seen above, traditional manufacturing clusters are relatively less common in east and north-east regions while the distribution of micro-enterprises is more equitable. State-wise distribution of clusters (2011) is presented below.



Source: Built on Tableau by author from [www.clusterobservatory.in](http://www.clusterobservatory.in) as mentioned in "Changing paradigms of Cluster Development, 2011".

## India's Cluster Development Journey

The timeline below shows the CDP journey in India which commenced from the first survey conducted by UNIDO in 1996 to the formation of the CDP Policy by the Government of India (GoI) in 2007.



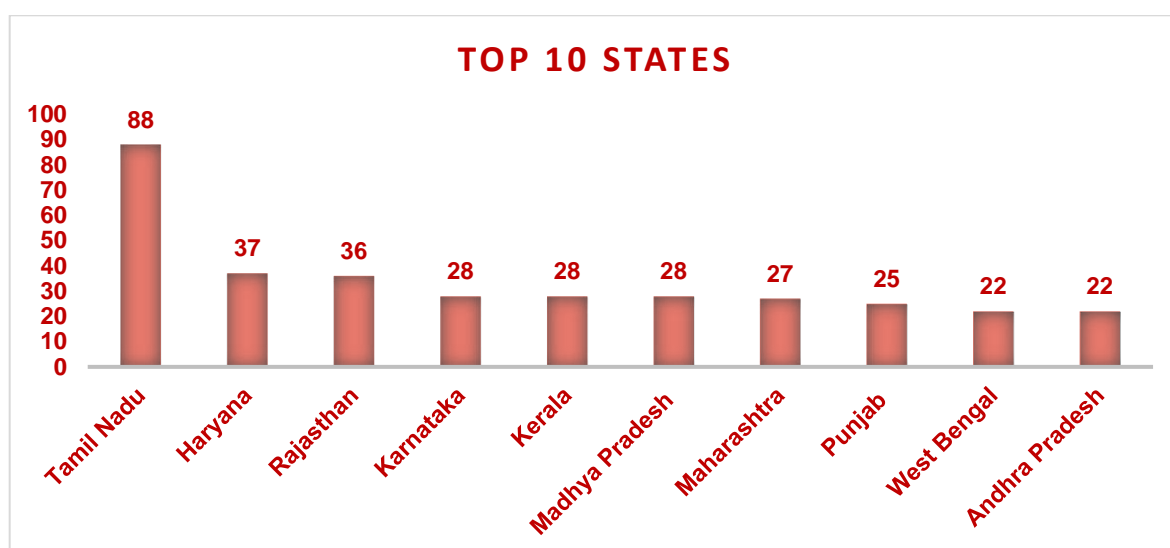
Source: Compiled by author from FMC Working Papers & NITI Aayog Working Group paper on Aggregation'2011 #SICDP: Small Industry Cluster Development Programme, SFURTI : Scheme of Fund for Regeneration of Traditional Industries, SIDBI-BDS : Small Industries Development Bank of India – Business Development Services

## MSE-CDP: A Brief

The cluster development policy adopted by GoI is focused on increasing MSME productivity and competitiveness. The guidelines for the cluster development approach has five components:

- **Common Facility Centers (CFCs):** Which covers tangible assets like common production/processing center design, testing, training, and research & development (R&D) among others.
- **Infrastructure Development:** Which covers the development of land and other enabling facilities like water and power supply, drainage, roads, and other utilities.
- **Marketing Hubs/Exhibition Centres by Associations:** Assistance to associations for display and sale of products of MSMEs.
- **Thematic interventions:** Financial assistance for approved CFCs for the implementation of thematic interventions like training programs, exposure visits, and strengthening of business development services.
- **Support to State-Innovative Cluster Development Programme:** Co-funding projects under the State Cluster Development Program on a match-share basis.

The central CDP program interventions have been made across [486 facilities](#) as of Sep'2021 (including CFCs & infrastructure development projects). The top ten states with highest number of approved projects are:



Source: Reproduced by author from [MSME Ministry website](#)

However, including the soft-interventions and the diagnostic studies along-with the hard interventions, there have been a total of [1018 interventions](#) spread over 29 states (The data presented predates the change of status of Jammu & Kashmir to a union territory) and 1 union territory. A majority of the Indian states have adopted the GoI's cluster policy, with Tamil Nadu having the highest number of interventions under the CDP in the country. A few states like Assam

& Arunachal Pradesh have implemented the cluster policy in specific sectors like Handloom, which are modelled on the central policy. Besides the central government's CDP, five [state governments](#) too have started cluster development initiatives:

- Andhra Pradesh
- Gujarat
- Kerala
- Madhya Pradesh
- Tamil Nadu

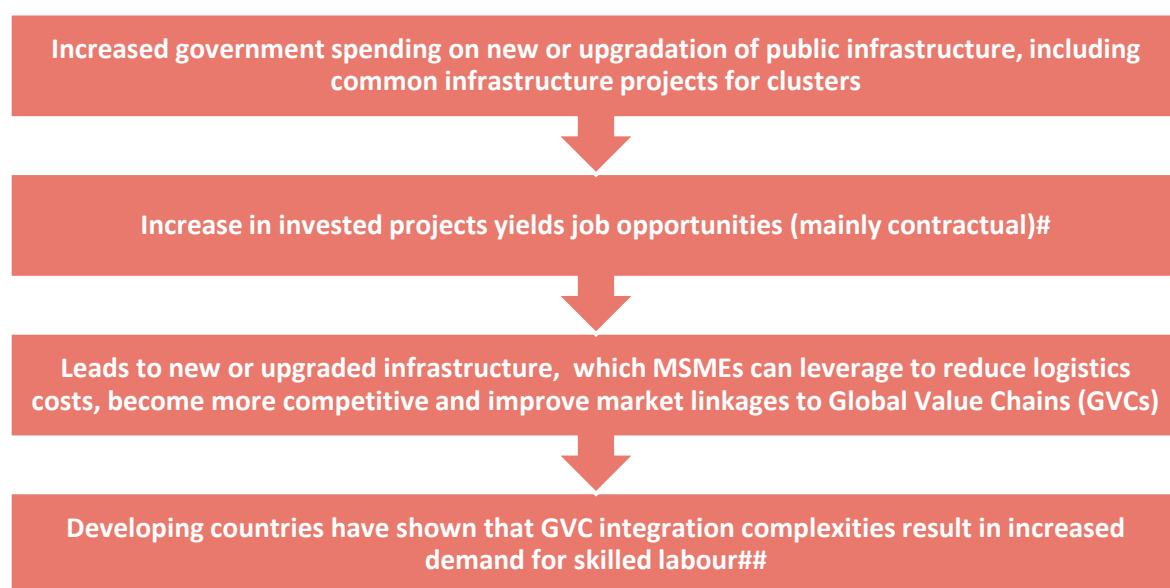
## Challenges in Cluster Development Approach

A large number of MSME clusters exist across the country. Many of these clusters face multiple challenges which often restrict growth and competitiveness of firms within these clusters. A few of the challenges faced by Indian MSME clusters are as follows -

- A uniform cluster development strategy across regions and sectors is unable to adapt to the actual requirements of clusters in terms of soft and hard interventions, thus leading to inefficient deployment of resources.
- Cluster development schemes lack -
  - Adequate and timely provisions for both hard and soft interventions, often favoring hard interventions over the other. This limits the initial uptake and potential of the cluster.
  - Suitable implementation and monitoring mechanism which lead to sub-optimal outcomes.
  - Quality & benchmarking mechanism leads to lesser acceptance of the products in the global markets.
- Inefficient utilization of assets limits the ability of participants to realize the benefits of the common facilities. Lack of institutional support during the period when these facilities are not being used to their maximum potential due to slow demand further creates a challenge.
- The participating firms under the MSME clusters generally lack cooperation. The trust deficit among participants and non-sharing of best practices restrain their collective capability.
- Absence of coordination amongst states for sharing of best practices in similar sectors.
- The cluster-based associations, which act as nodal implementation agencies, lack flexibility in their vision, and even operating infrastructure.
- Lack of integration of key drivers like availability of telephone lines, transportation services, high-speed internet services, finance, training, facilitation, and creation of market linkages leads to unrealized potential in a cluster.
- Clusters lack the collective ability to source working capital and credit availability at competitive rates.
- The clusters have not been wholly inclusive as the marginal players like small artisan groups have not been integrated.

## Clusters: Untapped Job Creation Opportunities

Government spending on public infrastructure boosts economic growth and is reflected in India's [Budget'2022](#) philosophy. The heavy focus on capital expenditure includes a demarcated allocation for common infrastructure projects for MSME clusters. The development of clusters helps small businesses with an environment that maximizes their growth potential and indirectly help in job creation with expansion of the enterprises. Apart from this, the infrastructure projects themselves also start a virtuous cycle that translates to job growth, at least in the short term. A schematic representation of the same is shown below.



# <https://www.epi.org/publication/impact-of-infrastructure-investments/>

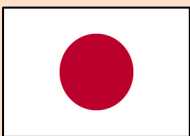




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## Cluster Development Initiatives – Best Practices

Across the globe, there are prominent examples of thriving clusters that have given a much-needed boost to the corresponding region/economy. The Silicon Valley in California, United States is one such example, which continues to be a primary birthplace of technology start-ups. Two-thirds of European Union countries have introduced the cluster approach in their innovation policy. Several of these European initiatives are based on the provision of incentives and funding to boost competitive territorial advantages. ([Oxford Research AS-2008](#)). However, even in developing countries, the geographical concentration of enterprises is a rising and common phenomenon. The high-technology industry of India's Bangalore, the Chilean wine clusters, the textile clusters of Bangladesh, and the Taiwanese manufacturing clusters are a few of the successful examples. Some of the global and Indian best practices in cluster development policies are listed below.





## Global Best Practices

Country	Best Practices
<b>Australia</b> 	<ul style="list-style-type: none"> <li>▪ Incentivizing collectivization of industrial activities for better utilization of resources</li> <li>▪ State-government initiatives more prominent than federal government initiatives</li> <li>▪ Bottom-up approach through brainstorming assisted by government funding for consulting and facilitation</li> <li>▪ Professional cluster mediators involved along with local governments</li> </ul>
<b>Brazil</b> 	<ul style="list-style-type: none"> <li>▪ Formation of clusters on the basis of availability of natural resources like sugarcane and bamboo</li> <li>▪ Presence of civil-society organizations (non-state and non-enterprise actors) in the cluster associations to remove trust deficit amongst cluster partners in their operations</li> </ul>
<b>Canada</b> 	<ul style="list-style-type: none"> <li>▪ Focused allocation on research and development (R&amp;D) for clusters, with an increased access to laboratories for innovation</li> <li>▪ Tax credits and start-up incentives bolstered extensively</li> </ul>
<b>China</b> 	<ul style="list-style-type: none"> <li>▪ Broad institutional autonomy</li> <li>▪ Implementation of preferential policies like tax reduction and exemptions to bolster investment into specific sectoral and regional clusters</li> <li>▪ Rigorous benchmarking, monitoring, and regulating of quality and branding</li> <li>▪ Active competition between clusters for a market-driven approach</li> <li>▪ Presence of active industry associations in cluster formations</li> </ul>
<b>Finland</b> 	<ul style="list-style-type: none"> <li>▪ Focused research programs and support to knowledge infrastructure, which includes technology centres, to promote clusters</li> <li>▪ Emphasis on shared vision by public discussion on competitiveness</li> <li>▪ Facilitating labor mobility through schemes and incentives</li> <li>▪ Promoting advanced and specialized factor conditions for subsidies as opposed to direct subsidies</li> </ul>
<b>Italy</b> 	<ul style="list-style-type: none"> <li>▪ Leveraging regional specialization</li> <li>▪ Institutional mechanisms for promoting R&amp;D</li> <li>▪ Consortia model for purchase of services and training</li> </ul>

Country	Best Practices
<b>Japan</b> 	<ul style="list-style-type: none"> <li>Provision of credits &amp; grants to stimulate R&amp;D by Ministry of Economy, Trade &amp; Industry</li> <li>Shared testing and research facilities</li> <li>Inclusion of financial institutions (both federal &amp; private) in the member base of cluster associations</li> <li>Commercialization of intellectual property (IP) and formation of technology licensing organizations for facilitating creation of revenue sharing contracts among universities, researchers and private companies</li> </ul>
<b>South Korea</b> 	<ul style="list-style-type: none"> <li>Complementing research functions to current industrial complexes</li> <li>Fostering innovation through collaboration between industrial clusters with universities and other research organizations</li> <li>Region based management of clusters</li> <li>Online interactive platform for information sharing amongst clusters</li> <li>Boost to SMEs through changing tax laws and changing bankruptcy laws</li> <li>Focus on multi-lateral overseas marketing of SMEs</li> </ul>
<b>New Zealand</b> 	<ul style="list-style-type: none"> <li>Incentivizing collectivization of industrial activities for better utilization of resources</li> <li>State-government initiatives more prominent than federal government initiatives</li> <li>Bottom-up approach through brainstorming assisted by government funding for consulting and facilitation</li> <li>Professional cluster mediators involved along with local governments</li> </ul>
<b>Spain</b> 	<ul style="list-style-type: none"> <li>Regional policies more prominent than national policy on clusters initiatives</li> <li>Firms are incentivized in the form of financial support to join clusters</li> <li>Policies beyond financial support to attract firms from outside in their cluster mapping</li> <li>Advice and consulting infrastructure present in clusters</li> </ul>
<b>The United States</b> 	<ul style="list-style-type: none"> <li>Clear demarcation of policy areas related to clusters in their national and regional policies</li> <li>Individual State programs promoting cluster formation through initial government seed funding and then through private sector funding.</li> <li>Creation of clusters more market-driven through market-led initiatives rather than policy driven</li> </ul>

Source : Author's Compilation

## Sectoral Best Practices in India

State	Best Practices
<b>Andhra Pradesh (Beverage Clusters)</b> 	<ul style="list-style-type: none"> <li>Ensuring quality packaging for cluster products</li> <li>Common facility centres set-up for enhanced capacity utilization</li> <li>Focused R&amp;D centres to enable member SME's to be more competitive in premium markets (target market segment)</li> </ul>
<b>Kerala (Rice Clusters)</b> 	<ul style="list-style-type: none"> <li>Formation of cluster special purpose vehicle (SPV)</li> <li>SPV in charge of production centers, research, and development centers</li> <li>SPV operates a mutual guarantee fund to meet emergency fund requirements of members</li> <li>Common effluent treatment plants set-up</li> </ul>
<b>Maharashtra (Grape Clusters)</b> 	<ul style="list-style-type: none"> <li>Public-Private partnership (PPP) model adopted for cluster formation</li> <li>Access to a credit-line for all cluster members</li> <li>Single branding for all products</li> <li>Knowledge dissemination regarding product innovation provided for free to cluster members</li> </ul>
<b>Tamil Nadu (Automobile Clusters)</b> 	<ul style="list-style-type: none"> <li>Public-Private partnership (PPP) model adopted for cluster formation</li> <li>Collaboration with academic institutes for research</li> </ul> <p>Leveraging presence of related and supporting industries</p>

Source: Author's Compilation from [ADB Report](#)

## Policy Recommendations

There is a need to rethink and streamline the [cluster development policy](#) beyond the approach of prioritizing common infrastructure development. This will lead to a more targeted uptake of the policy benefits. The international and national best practices have highlighted some key areas which enables the clusters in their respective geography. The following 20 policy recommendations capture the key paradigms that will make the policy framework more robust and shape future cluster initiatives in the country.

## A. General Recommendations:

1. Have a **differentiated cluster development policy for the manufacturing and service sectors** as the two sectors have different requirements. Further, the states should formulate policies focusing on sectors having regional advantages.
2. **Institute R&D, testing, quality and benchmarking centres** for the clusters, in line with international standards. Incentivize clusters to establish such centres and promote sharing of such centres among the clusters.
3. Introduce **formal management systems** with a corporate governance like structure for efficient functioning of the clusters.
4. Establish **ranking and award systems** between clusters to incentivize their performance. The ranking and award systems should be based on the monitoring and evaluation framework designed for the clusters.
5. **Provision for common facilities** to enable compliance of environmental regulations at affordable costs like common effluent plants.
6. **Identify “mature” and “new” clusters** and accordingly.

Mature Clusters	New Clusters
<ul style="list-style-type: none"> <li>▪ Incentivize for innovation and knowledge sharing with new clusters in same sectors for overall sectoral development.</li> <li>▪ Provision of funds for upgradation of plant, machinery, and technology.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Incentivize enterprises to become part of upcoming clusters through tax breaks and rebates, thereby bringing them under the formal ambit.</li> <li>▪ Provide skill development and training to the new workforce entrants in the upcoming clusters.</li> </ul>

7. **Registration on UDYAM & GeM** portal to be undertaken by all members of the cluster.

## B. Specific Recommendations:

### I. Building Market Linkages:

1. Providing **backward & forward marketing linkages**:
  - **Improve integration of MSME clusters with global value chains (GVCs)**. Identified sectors should be mapped to global demand and accordingly promoted by states in international markets with emphasis on globally competitive products.
  - **Targeted export promotion schemes** and easy access to wider infrastructure networks including industrial corridors should be made available to the clusters.
2. Develop **branding parameters** to build brand awareness, visibility, credibility, and loyalty of the product/service.

## II. **Leveraging Technology:**

1. Develop a comprehensive **knowledge portal**, preferably in regional languages:
  - To map both existing and upcoming clusters in the country across sectors.
  - To disseminate information on best practices (both international and national).
  - To provide information on various government schemes, environmental regulations, tender requests, skill development initiatives, and various production-linked incentives (PLIs).
2. **Digital infrastructure** should be a part of the common facility available to the cluster enterprises, which would include the availability of computers with required software and high-speed internet connectivity.

## III. **Access To Finance:**

1. **Include financial institutions** (FIs) in the cluster governance structure. These FIs should assist the cluster enterprises through loan processes, credit rating awareness, and information on moratoriums as and when available.
2. **Increase clusters borrowing capabilities**, through:
  - Cluster Finance Model: Registered clusters to be allowed to borrow under a single contract from banks.
  - Risk mitigation measures like credit guarantee should be available at affordable prices, distributed appropriately amongst stakeholders.
3. **Incentivize enterprises** to become part of a cluster which will integrate them into the formal fold and thereby improve access to credit.

## IV. **Enabling Infrastructure & Soft Interventions:**

1. Introduce interventions to **optimize production cost** by removing information asymmetries between the players. Lower the information asymmetry, higher the trust, and lower is the transaction cost. This will especially aid micro and small enterprises. Waivers and concessions on public utilities, and credit subsidies can also help in reducing production cost.
2. Develop **auxiliary infrastructure** in terms of ATM availability, cash deposit points, transport, and logistics.
3. Establish **convergence with the skill development organizations** with adoption of evolving approach for training and curriculum to meet the requirements of clusters. Focus should be on employment-readiness of the skilled workforce.
4. Promote **digital and financial literacy** among the cluster members through regular training programmes with a self-paced learning platform. Provide support in onboarding of cluster members on digital and e-commerce marketplaces.
5. Facilitate **access to international cluster learning networks**, in order to learn from advancements in other countries.
6. **Establish empaneled private service providers** in accounting, legal, and taxation domains to ensure the clusters avail these services at subsidized rates basis their requirements.

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