

Transforming MSME Clusters in North-East India: An Assessment of Strategic Interventions

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Abstract

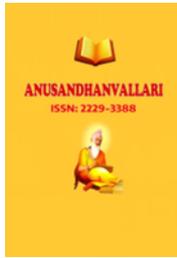
The MSME sector in India is one of the most vibrant sectors, next to agriculture, in contributing to the socio-economic development of the nation. The North-East region of India which is blessed with abundant natural resources such as forest and oil, tea, water, etc. holds immense potential for the growth of MSMEs by utilizing these resources. However, despite these advantages, the MSMEs in the region face significant constraints including inadequate infrastructure, limited entrepreneurship, lack of access to finance, etc., which have hindered their growth. To address these challenges, the cluster development approach has emerged as an effective strategy, giving a fresh lease of life to the MSMEs in the region. This study examines the pre-intervention scenario and the challenges faced by MSME clusters in the North-East region of India. Furthermore, the study explores how the cluster development approach, through strategic interventions, has played a pivotal role in the transformation of MSME clusters in the region, with a focus on specific cluster examples.

Key words: MSME clusters, Challenges, Strategic Interventions.

1. Introduction:

The Micro, Small and Medium enterprises (MSMEs) are often referred to as 'engine of growth' behind the economic development of many developing countries including India. It plays a significant role in equitable development by providing job opportunities and promoting industrialisation in rural and underdeveloped regions thereby mitigating regional disparities and assuring more equal distribution of wealth and national income (Sharma & Gill, 2016). As per data, the MSMEs contribute around 30% of the GDP and are responsible for atleast 45% of the total exports (Ministry of MSME, 2024). Over the years, a variety of policy measures have been implemented to foster the growth of MSMEs and also efforts have been made to establish the necessary institutional infrastructure for their development. As a result, there has been a substantial increase in the number of MSMEs in the country.

The micro sector grows on its own like a hydra because of compulsion. The compulsion is either generating livelihood and income, as in traditional manufacturing industries, or generating additional livelihood and income. Overall, the MSME sector suffers by outdated technology, inefficient production costs, a limited customer base, and a number of other issues. Due to intense competition from both domestic and foreign firms, this has led to a period in which traditional industries are naturally exiting the market.



At such a juncture, Indian MSMEs stand for obsolete technology, poor productivity, below average quality, inadequate skill, shrinking market, less support or no support from government, lack of finance for modernization/expansion/diversification, unhealthy competition, lack of infrastructure, etc. In addition to the reasons aforementioned, there may be a lot more. These, however, are sufficient to show why the MSME sector has failed to compete. This is especially true in less developed areas like the Northeast, where, when seen in actual and qualitative terms, there has been a deceleration rather than an acceleration.

The scenario in NER is not only discouraging but also presents a bleak picture. Of the total working enterprises and employment, the state-wise shares commanded by the NER are the following:

Table 1: State wise percentage of working MSMEs and employment

State	Percentage of Working MSMEs	Percentage of Employment
Arunachal Pradesh	0.03%	0.06%
Assam	1.27%	2.26%
Manipur	0.29%	0.21%
Meghalaya	0.19%	0.14%
Mizoram	0.24%	0.28%
Nagaland	0.09%	0.17%
Sikkim	0.008%	0.03%
Tripura	0.08%	0.25%

Source: 4th All India Census of MSME 2006-07

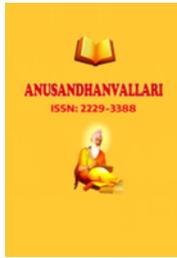
In total in North East India, micro comprises of 2.25%, small 1.05% and medium 1.34% of the total of working MSMEs in India.

The most important elements for nations that have been successful in attracting investments are their modern infrastructure and their receptive industrial climate. Unfortunately, such a condition is not apparent in the NER. One of the main issues has been the scarcity of industrial space and developed land for the emergence of new industries. The second major constraint is power which is hampering growth of MSMEs. Although power is a potential area for NER, the region is still power deficient.

The area certainly lacks a great deal of knowledge about the several entrepreneurship opportunities. Numerous government initiatives to support entrepreneurs across many regions continue to be unwelcoming. A very small percentage of entrepreneurs avail benefit of these kinds of schemes. The government has not made any effort to streamline the schemes to make them friendly. Finance is still a major constraint for MSMEs in the region. Unlike in other parts of the country, there are no dedicated branches of commercial banks for MSME funding in NER. Funding of MSMEs is still considered to be risky.

2. Objectives of the Study:

1. To assess the pre-intervention status and challenges of MSME clusters in North-East India.
2. To evaluate the impact of strategic interventions on the transformation and sustainability of MSME clusters.



3. Review of Literature:

The present study has attempted to categorize and review the studies into two groups taking into account the extensive research in the field of cluster development. The literature on cluster development has been broadly classified as: a) Review of literature in North-East India; and b) Review of literature for the rest of India.

a) Review of literature in North-East India

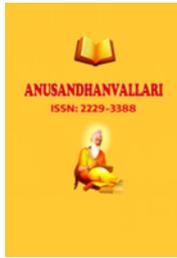
Several studies have explored the role and impact of cluster development interventions in the North Eastern Region (NER) of India, particularly focusing on rural industries and artisan livelihoods. Rabha (2020) examined the MSE-CDP interventions in the Umden Eri Cluster of Meghalaya, highlighting improvements in employment, production, earnings, and overall quality of life for artisans. Similarly, Khataniar (2017) assessed the Barpeta Cane and Bamboo Craft Cluster, noting that despite some government support, rural household industries remain largely unorganized and continue to depend on traditional, non-mechanized methods, though some artisans are beginning to adopt new designs in response to changing market demands. Ramswamy and Kumar (2015), studying the Thenzawl Handloom Cluster in Mizoram, found that the cluster significantly supports women's livelihoods, with 98% of weavers being women. However, issues such as limited raw materials, looms, marketing, and finance still pose challenges. Das (2015), also focusing on the Barpeta cluster, emphasized the role of cluster development in poverty reduction and employment generation, particularly for marginalized rural groups. Roy (2014) highlighted critical challenges faced by the Bell Metal Industry in Sarthebari, including raw material shortages, financial constraints, lack of infrastructure, and poor living conditions, warning that without government intervention, the industry is at risk of collapse. Finally, Das and Das (2011) broadly examined cluster development initiatives in the NER, concluding that such initiatives are crucial for rural poverty alleviation, income generation, and regional economic development, and can revitalize the rural economy of the region.

b) Review of literature for the rest of India:

Several studies have examined the effectiveness and regional disparities in cluster development across India, particularly in the MSME sector. Bera and Laha (2020) investigated inter-state differences in cluster development using variables such as employment, asset value, and gross output, revealing that southern, western, and north-western states outperform their eastern, central, and northern counterparts, thereby highlighting the need for targeted development to reduce regional imbalances. Aslam (2019), focusing on sericulture in the Doon Valley, found that the Cluster Promotion Programme led to increased cocoon production and farmer income through participatory communication and adoption of improved technologies. Gupta (2019) analyzed the IHCDs interventions in the Varanasi Handloom Cluster and noted that while all interventions enhanced productivity, market development and capacity building were the most impactful. Nath (2018) studied eight MSME clusters in West Bengal and found that both soft and hard interventions under the Cluster Development Programme positively influenced the performance of MSME units. Similarly, Jain and Sharma (2015) emphasized that MSMEs within clusters achieve greater growth and productivity than those operating individually, suggesting that cluster-based approaches significantly enhance competitiveness in the global market.

4. Cluster Approach for promoting MSMEs:

For MSMEs, technology, access to raw materials, market and marketing support, design and product upgradation, infrastructure, etc is the need of the hour. All these factors are not possible to be provided to a vast number of



MSMEs spread across the country nor can they afford to buy them on their own. The only way to resolve this situation is through clustering and cluster development approach which will give a fresh lease of life to MSMEs.

Cluster is a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities (Porter,2000). The issue has gained immense popularity among the policymakers as a very important tool of intervention. Cluster development programs could support common activities that individual units might not be able to fund.

As per the 4th All India Census of MSME 2006-07 in India, there were 2443 clusters covering 321 products in the registered MSME sector. These clusters had a share of 45.92% in the total number of units, 34.85% in total employment, 36.12% in original value of plant & machinery, 33.64% in total market value of fixed assets, and 19.01% in total gross output of the registered MSME sector.

The Ministry of Micro, Small, and Medium Enterprises (MSMEs) adopted the cluster approach as a key strategy for enhancing the productivity and competitiveness as well as the capacity building of small enterprises including small-scale industries and small-scale service and business entities and their collectives in the country. Among other factors, this approach was selected because it generates medium to long-term sustainable benefits and facilitates economies of scale in the deployment of available resources for efficient implementation.

5. Pre-intervention Scenario of MSME clusters in North-East India:

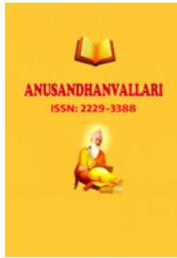
The eight states that make up the Northeastern Region of India (NER)- Assam, Arunachal Pradesh, Meghalaya, Mizoram, Nagaland, Tripura, Manipur, and Sikkim- are nearly ten years behind the rest of the country. The area is endowed with an abundance of natural resources, including forests, oil, tea, and water, all of which are quite limited in most other sections of the nation, and there is plenty of opportunity for the efficient utilization of them.

A more detailed analysis of the situation of MSMEs in the Northeast shows that the MSME sector has grown slowly but steadily, and that this growth has been accompanied with a high rate of sickness. The region's MSME units are facing a number of issues, such as limited market connectivity, high operating costs, unstable power supplies, lack of infrastructure, and difficulty acquiring financial assistance. The focus therefore needs to be on minimization of problems if not their elimination and optimization of the positive environment so that the growth of the sector becomes possible.

Considering the size of the MSME units and the operational issues they face, cluster development can be very helpful in identifying feasible solutions and extending the SME units' operational reach. This region offers several opportunities for cluster development, and it is important to take maximum advantage of these opportunities. Clustering is a tool that MSMEs may use to combat the challenges of globalization. The need of the hour is to develop sustainable MSME clusters that can help in up-scaling the household units into micro-enterprises.

6. Common challenges present prior to intervention:

Some of the common challenges present prior to intervention in most MSME clusters of North-East India are as follows-



a) Lack of product diversification:

The existing products of most of the clusters consisted of mostly traditional motifs and designs that are copied from other fabrics or designs outsourced from Nagaland or other brands like FabIndia. There is no product diversification and the design and quality of the products were not suitable for the external market.

b) Absence of Quality checking facilities:

There was absence of a quality control system for the products. The existing products were of low quality, such as for example in case of handloom cluster, where the products were made of blend of low twisted cotton yarn and part silk, tussar yarn with part silk, muga silk with part silk. The finishing of the products was not up to the mark. Moreover, the artisans could not produce quality finished products due to lack of funds and R&D.

c) Traditional weaving methods & similar products:

The clusters use outdated looms. Also, the production process was found to be lengthy due to the use of old techniques and equipment. The technology used was outdated, and artisans did not have knowledge and resources to introduce new technology.

d) Lack of design harmony and innovation in new products:

The weavers used their aesthetic sense while doing traditional products, but when it came to new products, there was no rhythm and harmony and design sensibility. As for example, the artisans of Jewellery Cluster of Ranthali, Nagaon, were using odd colour combinations made out of available colours and they were unaware of the technique of mixing. The body anatomy was hardly considered while designing products.

e) Lack of infrastructural facilities:

The infrastructural facilities of most of the clusters of this region were not well developed. Absence of electricity made it difficult for artisans to work during the night time. In case of Jute Craft Cluster, Dhubri, the places where the artisans sit and work were not ergonomically designed and as a result artisans often had some health problems such as backaches, etc.

f) Lack of social awareness and exposure:

The artisans have poor access to information within the cluster. Most of the craftsmen sold their products locally or via traders. They lacked awareness on pricing as per market demand and supply. There was an information gap between the logistics people and cluster.

7. Research Methodology:

a) Research Design:

The study is descriptive and analytical in nature and is based mainly on secondary data.

b) Sources of Data:

The study is exclusively based on the following secondary sources of data-

- Government publications like annual reports, policies, statistical data etc from Government departments like Ministry of Micro, Small and Medium Enterprises (MSME), Foundation for MSME clusters (FMC), etc.
- Reports on Cluster Development initiatives by Indian Institute of Entrepreneurship (IIE), Guwahati; United Nations Industrial Development Organisation (UNIDO), etc.
- Journals, articles, theses and books focused on MSMEs and Cluster development.

c) Statistical tools and techniques:

To analyse and interpret the secondary data the statistical tools used are: Return on Investment analysis, productivity analysis, percentage growth analysis, etc. Diagrammatic representation like Bar charts, etc is applied for better understanding of the analysis.

8. Major impact of the interventions:

To address the various challenges faced by clusters in the NE region, the cluster development approach has proven to be an effective strategy for their growth and development. The major impact of these interventions can be analysed using the following parameters:

Table 2: Major impact of interventions on clusters

Category	Parameters	Pre-intervention	Post-intervention
Social Capacity Building	Coverage of artisans	Comprised of artisans traditionally involved on a part-time basis.	Coverage increased, and full-time artisans came up in the clusters.
	Bankers meet on micro finance	Nil	SHGs got credit linkage.
	Exposure Visit	Nil	Exposure visits to successful clusters.
	Awareness camp on use of modern technology	Nil	Awareness created through awareness camp.
Product and Design Development	Productivity	Lack of awareness on concept of productivity	Increase in productivity (20% to 25%).
	Workshops on Design Development	Lack of product diversification	Value-added product.
		Poor product finishing	Better product finishing.
		Lack of quality awareness	Streamlining of product line.
Market Promotional Activities	Participation in Buyer-Seller Meets	No participation	Participation in a number of Buyer-Seller meets, and few orders were generated.
	Product Catalogue	Nil	Product catalogue developed.



Common Facility Centre (CFC)	Use of facilities at CFC	NA	CFC set up in all clusters.
	Distribution of toolkits	NA	Tool kits distributed in clusters.

Source: Report on Cluster Development Initiatives in North East India 2008-14.

Table 2 illustrates the impact of interventions on artisans across four key areas: Social Capacity Building, Product and Design Development, Market Promotional Activities, and Common Facility Centre (CFC). The following analysis highlights the significant improvements that were made post intervention:

Social Capacity Building

- **Pre-Intervention:** The majority of artisans worked on part-time basis and had little access to funding and technology. There were no exposure visits, awareness campaigns, or any official interactions with banks.
- **Post-Intervention:** The intervention led to increased coverage and participation of artisans, with some transitioning to full-time work. Better financial access was made available to Self-Help Groups (SHGs) through the integration of credit facilities. Additionally, exposure visits allowed artisans to gain insights from successful clusters, fostering innovation and best practices. Furthermore, awareness camps introduced them to modern technology, enhancing efficiency and improving product quality.

Product and Design Development

- **Pre-Intervention:** Prior to the intervention, artisans lacked awareness of productivity concepts, which limited their efficiency and output. There was no diversification in product design, restricting their market appeal and competitiveness. Furthermore, substandard finishing and low standards of quality had a detrimental effect on the products' total value and reduced their attraction to potential customers.
- **Post-Intervention:** Productivity increased by 20–25% as a result of the intervention, most likely due to improved training and resource availability. More design and product diversity were demonstrated by the introduction of value-added items, which increased their marketability. The product's overall quality and finishing also showed a noticeable improvement, indicating improved craftsmanship. Product line simplification also improved productivity and uniformity, guaranteeing production consistency.

Market Promotional Activities

- **Pre-Intervention:** Before the intervention, there was no participation in buyer-seller meets, which significantly limited sales opportunities for artisans. Furthermore, the lack of a product catalogue decreased their marketing reach and visibility, which made it challenging to draw in new customers and increase their market presence.
- **Post-Intervention:** As a result of the intervention, numerous buyer-seller meetings witnessed active engagement, which opened up new business prospects while generating orders for artisans. The creation of a product catalog also improved branding and marketing initiatives, raising awareness and broadening their customer base.



Common Facility Centre (CFC)

- **Pre-Intervention:** No centralized facility or tools provided for artisans.
- **Post-Intervention:** CFCs were set established in every cluster, giving artisans access to common resources and necessary infrastructure to boost their production. Additionally, toolkits were distributed, enabling them to work more efficiently and improve the overall quality of their products. Thus, the overall impact suggests a positive transformation in artisans' livelihoods, with increased income potential and sustainable economic growth.

9. Case Studies of clusters in NE India:

Cashew Nut Processing Cluster, Meghalaya

Table 3: Status of Pre and Post Intervention

Particulars	Pre-intervention	Post-intervention
Total number of units	227	300
Total number of artisans	300	550
Total Sales (in Lakhs)	2659	4200
Investment (in Lakhs)	250	430
Profitability (percentage)	12-15	15-20
Employment generation (Direct & Indirect)	517	900
Total production	705000 Kg (Annual)	888400 Kg (Annual)
Technology	Traditional hard tools	Mini Cashew Processing Units

Source: Report on Cluster Development Initiatives in North East India 2015-18.

Analysis and interpretation:

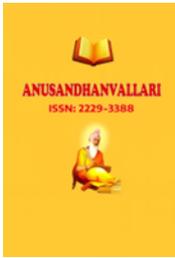
a) Return on Investment (ROI) Analysis:

$$\text{ROI} = \frac{\text{Change in Sales} \times 100}{\text{Change in Investment}}$$

$$= \frac{(4200-2659) \times 100}{430-250}$$

$$= 856.11\%$$

Interpretation: An ROI of 856.11% indicates that for every rupee 1 invested in the cluster after the intervention, the cluster generated Rs. 8.56 additional sales. This high ROI indicates that the intervention was highly effective in generating financial returns relative to the investment.



b) Productivity Analysis:

i) Production per unit

$$\begin{aligned}\text{Pre-intervention} &= \frac{\text{Total Production}}{\text{Total number of Units}} \\ &= \frac{705000 \text{ Kg}}{227 \text{ units}} \\ &= 3105.73 \text{ Kg/unit}\end{aligned}$$

$$\begin{aligned}\text{Post-intervention} &= \frac{\text{Total Production}}{\text{Total number of Units}} \\ &= \frac{8884000 \text{ Kg}}{300 \text{ units}} \\ &= 2961.33 \text{ Kg/unit}\end{aligned}$$

Interpretation: The production per unit was 3105.73 kg/unit before intervention and it decreased to 2961.33Kg/unit after the intervention indicating that the new units might have not operated at their full potential due to a lack of experience, infrastructure, training or operational inefficiencies.

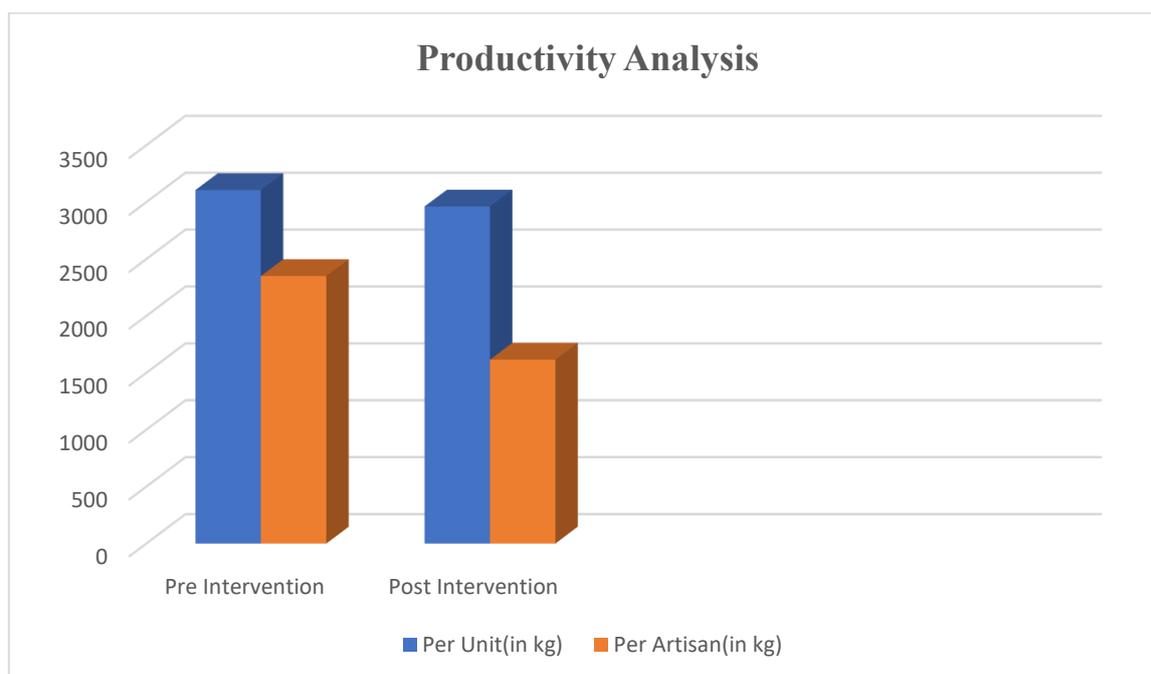
ii) Production per artisan

$$\begin{aligned}\text{Pre-intervention} &= \frac{\text{Total Production}}{\text{Total number of artisans}} \\ &= \frac{705000 \text{ Kg}}{300 \text{ artisans}} \\ &= 2350 \text{ Kg/artisan}\end{aligned}$$

$$\begin{aligned}\text{Post-intervention} &= \frac{\text{Total Production}}{\text{Total number of artisans}} \\ &= \frac{884000 \text{ Kg}}{550 \text{ artisans}} \\ &= 1615.23 \text{ Kg/artisan}\end{aligned}$$

Interpretation: Production per artisan decreased significantly from 2350 Kg per artisan to 1615.23 Kg per artisan. This indicates that newly employed artisans may have lacked the necessary training or experience or possibly due to a shift towards more labour-intensive process.

Figure 1: Productivity analysis of Cashew Nut Processing Cluster, Meghalaya



Source: Compiled by researcher

Okhrey Carpet Making Cluster, West Sikkim

Table 4: Status of Pre and Post Intervention

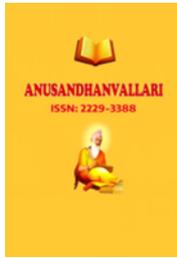
Particulars	Pre-intervention	Post-intervention
Total number of units	36	106
Total number of artisans	106	300
Total Sales (in Lakhs)	16.00	98.50
Export	Nil	Nil
Profitability (percentage)	11-15	20
Employment generation (Direct & Indirect)	250	800
Total production	350 pieces (Annual)	940 pieces (Annual)
Technology	Traditional wooden loom	Metallic improved looms installed

Source: Report on Cluster Development Initiatives in North East India 2015-18

Analysis and interpretation:

a) Productivity Analysis:

- i) Production per unit
Pre-intervention = $\frac{\text{Total Production}}{\text{Total Units}}$



Total number of Units

$$= \frac{350 \text{ pieces}}{36 \text{ units}}$$

$$= 9.72 \text{ pieces/unit (annual)}$$

$$\text{Post-intervention} = \frac{\text{Total Production}}{\text{Total number of Units}}$$

$$= \frac{940 \text{ pieces}}{106 \text{ units}}$$

$$= 8.87 \text{ pieces/unit (annual)}$$

$$\text{Change in Productivity} = \frac{(8.87 - 9.72) \times 100}{9.72}$$

$$= -8.75\%$$

Interpretation: Production per unit decreased by 8.75%, possibly due to increase in the number of units without proportionate improvement in efficiency of the units.

ii) Production per artisan

$$\text{Pre-intervention} = \frac{\text{Total Production}}{\text{Total number of artisans}}$$

$$= \frac{350 \text{ pieces}}{106 \text{ artisans}}$$

$$= 3.30 \text{ pieces/artisan}$$

$$\text{Post-intervention} = \frac{\text{Total Production}}{\text{Total number of artisans}}$$

$$= \frac{940 \text{ pieces}}{300 \text{ artisans}}$$

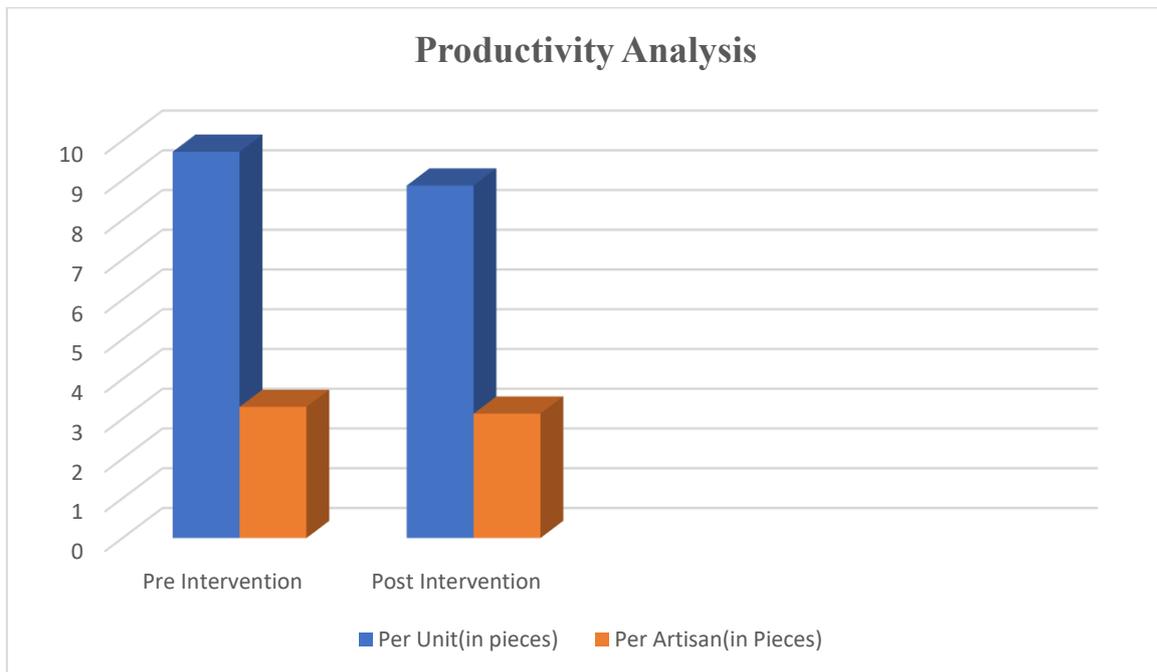
$$= 3.13 \text{ pieces/artisan}$$

$$\text{Change in Productivity} = \frac{(3.13 - 3.30) \times 100}{3.30}$$

$$= -5.15\%$$

Interpretation: Production per artisan decreased by 5.15%, indicating that while more artisans were employed, output per artisan dropped potentially due to skill gaps or other inefficiencies.

Figure 2: Productivity analysis of Okhrey Carpet Making Cluster, West Sikkim



Source: Compiled by researcher

b) Percentage Growth Analysis:

Table 5: Percentage growth analysis of Okhrey Carpet Making Cluster

Parameters	Pre-intervention	Post-intervention	Percentage growth
Total number of units	36	106	194.44%
Total number of artisans	106	300	183.02%
Total Sales (in Lakhs)	Rs.16	Rs. 98.50	515.63%
Profitability (%)	11-15%	20%	53.85%
Employment generation	250	800	220.00%
Total Production per year	350	940	168.57%

Source: Compiled by researcher

Interpretation:



Sales increased by 515.63% and employment increased by 220% as a result of the intervention, while output increased by 168.57%, however it did not entirely keep up with the expansion pace, suggesting certain inefficiencies. As a result of greater value addition and cost reduction, profitability increased by 53.85%.

Greater Imphal Jewellery Cluster, West Sikkim

Table 6: Status of Pre and Post Intervention

Particulars	Pre-intervention	Post-intervention
Total number of units	171	70(micro), 183(traditional)
Total number of artisans	345	524
Total Sales (in Lakhs)	3.49	1560.00
Export	Nil	Nil
Investment (in Lakhs)	4.29	175
Profitability (percentage)	10-12%	15-20%
Employment generation (Direct & Indirect)	505	1305
Technology	Traditional processing tools	Modern processing tools

Source: Report on Cluster Development Initiatives in North East India 2015-18

Analysis and interpretation:

a) Productivity Analysis:

i) Sales per unit

$$\text{Pre-intervention} = \frac{\text{Total Sales}}{\text{Total number of Units}}$$

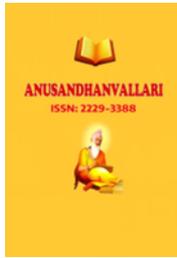
$$= \frac{\text{Rs.3.49 lakh}}{171 \text{ units}}$$

$$= \text{Rs. } 0.0204 \text{ lakh/unit}$$

$$\text{Post-intervention} = \frac{\text{Total Sales}}{\text{Total number of Units}}$$

$$= \frac{\text{Rs.1560 lakh}}{253 \text{ units}}$$

$$= \text{Rs. } 6.166 \text{ lakh/unit}$$



$$\text{Growth (\%)} = \frac{(6.166 - 0.0204) \times 100}{0.0204}$$

$$= 30125.49\%$$

Interpretation: The sales per unit increased from ₹0.0204 lakh/unit pre intervention to ₹6.166 lakh/unit post intervention, reflecting a staggering growth of 30,111.67%. The 30,111.67% increase in sales per unit indicates how effective the intervention was. The cluster has significantly increased its market competitiveness, financial sustainability, and employment generation by moving from low-value conventional production to a high-value modernized system.

ii) Sales per artisan

$$\text{Pre-intervention} = \frac{\text{Total Sales}}{\text{Total number of artisans}}$$

$$= \frac{\text{Rs. 3.49 lakh}}{345 \text{ artisans}}$$

$$= \text{Rs. 0.0101 lakh/artisan}$$

$$\text{Post-intervention} = \frac{\text{Total Sales}}{\text{Total number of artisans}}$$

$$= \frac{\text{Rs. 1560 lakh}}{524 \text{ artisans}}$$

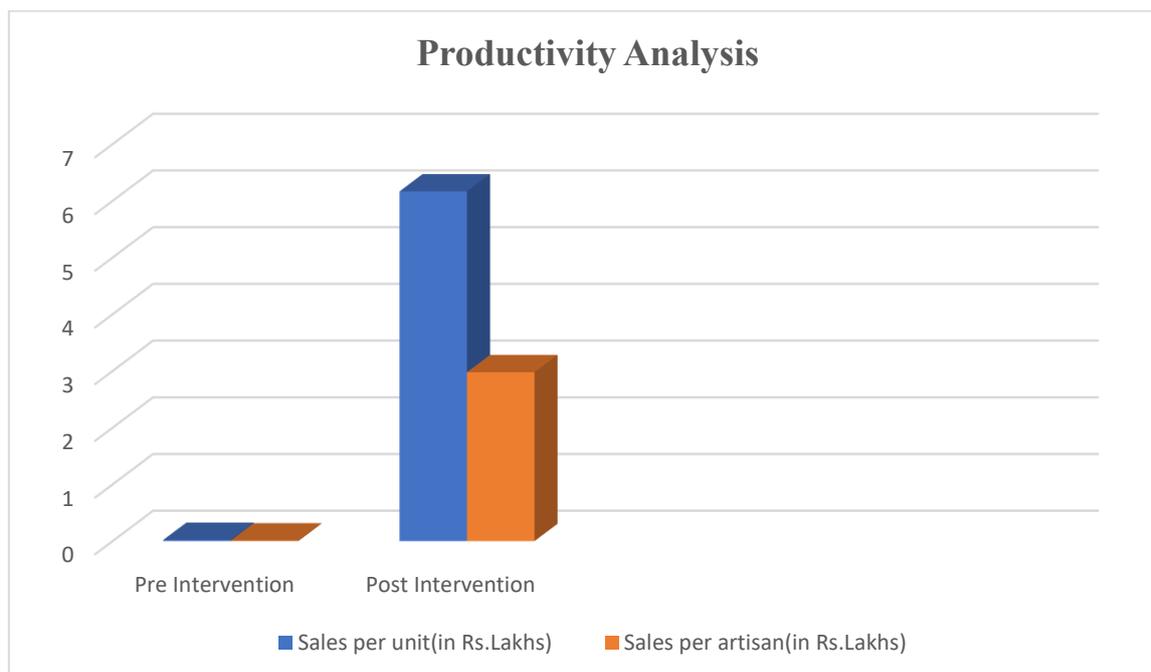
$$= \text{Rs. 2.9770 lakh/artisan}$$

$$\text{Growth (\%)} = \frac{(2.9770 - 0.0101) \times 100}{0.0101}$$

$$= 29375.24\%$$

Interpretation: The sales per artisan increased from ₹0.0101 lakh/artisan pre intervention to ₹2.977 lakh/artisan post intervention, representing an extraordinary growth of 29,329.78%. This indicates that, prior to the intervention, the contribution of each artisan to overall sales was incredibly low. However, after the implementation of modernization efforts, the revenue generated per artisan grew exponentially.

Figure 3: Productivity analysis of Greater Imphal Jewellery Cluster, West Sikkim



Source: Compiled by researcher

b) Percentage Growth Analysis:

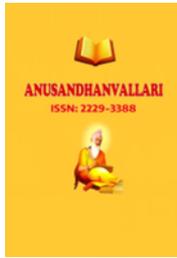
Table 7: Percentage growth analysis of Greater Imphal Jewellery Cluster

Parameters	Pre-intervention	Post-intervention	Percentage growth
Total number of units	171	253	47.95%
Total number of artisans	345	524	51.88%
Total Sales (in Lakhs)	Rs.3.49	Rs. 1560.00	44646.42%
Investment (in Lakhs)	Rs. 4.29	Rs.175	3978.55%
Profitability (%)	10-12%	15-20%	50-66.67%
Employment generation	505	1305	158.42%

Source: Compiled by researcher

Interpretation:

Production units increased by 47.95% (from 171 to 253) in the cluster after the intervention, indicating a balanced mix of 70 micro-units and 183 traditional units. The 51.88% increase in artisan participation suggests more job options and improved skill engagement. Thanks to advancements in marketing, technology, and product quality, total sales increased significantly by 44,646.42%, from ₹3.49 lakh to ₹1,560 lakh. Investment increased 3,978.55%, indicating robust financial support and an emphasis on infrastructure and modernization. Additionally,



profitability increased from 10% to 12% to 15% to 20%, indicating superior value addition and cost control. The cluster's contribution to improving livelihoods and lowering unemployment was highlighted by the 158.42% rise in employment, which went from 505 to 1,305 positions.

10. Key Findings:

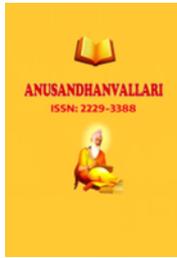
The key findings of the present study demonstrate the challenges faced by MSME clusters in the North-East region before cluster development interventions and the impact of these strategic interventions, as illustrated through case studies. In this region, MSME clusters encountered a number of difficulties prior to the introduction of cluster development interventions, such as a lack of financial assistance, poor infrastructure, and a lack of entrepreneurial ideas. Reliance on conventional manufacturing techniques, ineffective production techniques, and antiquated technologies all hampered competitiveness. Furthermore, marketability was diminished by inadequate quality control and a lack of product diversification, and low sales and little consumer outreach were caused by limited market access and little promotional activity. Strategic interventions, however, resulted in notable advancements in a number of areas. Participation and financial access were improved by social capacity building via exposure visits, artisan involvement, and Self-Help Groups (SHGs). Adoption of new designs and enhanced finishing techniques boosted design development and productivity, leading to a 20–25% increase in output. Sales prospects were increased by market promotion initiatives, such as buyer-seller meetings and product catalogs. Production efficiency was further increased by infrastructure expansion, such as the creation of Common Facility Centers (CFCs) and toolkit distribution. In certain clusters, these efforts resulted in significant growth. In Meghalaya's Cashew Nut Processing Cluster, for example, revenues increased from ₹2,659 lakh to ₹4,200 lakh, and ROI increased by 856.11%. Despite an 8.75% drop in production per unit, the Okhrey Carpet Making Cluster in Sikkim saw a 515.63% gain in sales. Interestingly, the Greater Imphal Jewellery Cluster had a 158.42% gain in employment, demonstrating the revolutionary effects of focused cluster development initiatives.

11. Conclusion:

The study highlights how MSME clusters in North-East India have undergone substantial change as a result of the cluster development approach. Strategic interventions improved market access, financial inclusion, productivity, and infrastructure despite initial challenges. The success of these interventions indicates that similar strategies can be adopted in other underdeveloped regions to promote sustainable economic growth. However, continued support in terms of skill training, technology adoption, and financial accessibility is essential to maintain long-term competitiveness and economic impact.

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