A Cluster-Based Approach towards Understanding a Traditional Industry: The Case of Sualkuchi Handloom Cluster, Assam

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Abstract: The debate on Industrial Clustering has evolved through several stages from Alfred Marshall’s Industrial District theory (1920) to the Industrial Cluster theory by Michael Porter in 1990. The literature on Industrial clustering argues that while clustering has helped firms in terms of productivity, skill development, and innovation etc., clusters in developed and developing countries exhibit different characteristics. It is argued that a majority of the clusters in the developed countries exhibit high road characteristics while clusters in developing countries bore low road characteristics or a combination of both. Handloom is one traditional Industry in India which has primarily developed in clusters. Through a cluster-based approach, this paper tries to understand the Sualkuchi Handloom cluster of Assam. The paper is divided into four sections. The first section introduces the theoretical framework of the paper. The second section discusses the empirical studies conducted specifically in context to handloom and the third section introduces the field area and methodology. The fourth section presents the main findings and analysis with a conclusion. For the purpose of the paper both primary and secondary data have been used. Primary data was collected through semi-structured interviews and focus group discussions with various stakeholders inside the cluster while various documents, articles have been used as a secondary source.

Keywords: Industrial Cluster, Handloom, productivity, collective efficiency, labour market

I. INTRODUCTION

Over the past two decades, there has been a tremendous interest in the concept of ‘cluster’. However, there is no single concrete definition of the term. In the United Nations Industrial Development Organization (UNIDO) context, clusters are defined as “geographical concentrations of interconnected enterprises and associated institutions that face common
challenges and opportunities.” (UNIDO, 2013)¹ This definition highlights two essential features of clusters: firstly a cluster consists of a critical mass of enterprises located in geographical proximity to each other and secondly the enterprises within them share many common features.

The debate on clustering has a long history. The roots of the debate can be first traced to the work of Alfred Marshall’s study of Industrial Districts in the late nineteenth and early twentieth-century England. In his work, Principles of Economics (1890) Marshall noted that these agglomerations of small scale businesses enjoyed economies of scale comparable to those of large firms. In the late 1970s Italian theorists revived the Marshallian concept of Industrial districts to explain the dominance of small firms in the Industrial history of ‘Third Italy’ in the North Central and North East of the country in regions such as Emilio-Romagna (Pyke, F; Becattini, G & Sengenberger, W, 1990)

Scholars such as Becattini criticised Marshall’s Industrial district model on the grounds that Marshall hasn’t paid attention to the concept of social relations among community members in Italian districts. Becattini introduced the socio-economic dimension. According to him Industrial Districts are a socio-economic entity which is characterised by the active presence of both of a people and population of firms in one naturally and historically bounded area. By doing so he shifted the focus from individual firm to the community of firms as all the firms were dependent on each other. He acknowledged that a close relationship between communities and business in the Industrial District is the key factor that drives innovation, knowledge and quality. Later in 1990, it was Michael Porter’s work ‘The Competitive Advantage of Nations’ which came to be considered as the ground-breaking work on clusters. He defined clusters as a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and externalities.

The literature on clustering shows that there are two types of cluster Vertically integrated and horizontally integrated clusters. Vertically integrated clusters consist of enterprises linked together through buyer-seller relationships. It occurs when division of labour gets more specialised. In Horizontally integrated clusters, the enterprises carry out similar activities in the same production process (for example use of common technology, common market for

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¹The UNIDO Approach to Cluster Development: Key Principles and Project Experiences for Inclusive Growth, UNIDO 2013
end products, labour force skills etc). According to the literature on Industrial clustering, there are certain benefits –

Firstly, Clustering helps in technological innovation, knowledge sharing and skill upgradation which is helpful for the local and regional market. The knowledge spill over in a cluster makes feasible to small firms to acquire new know-how, new products and new production techniques that couldn't be obtained through markets. Secondly, clustering helps in improved market access that allows clustered firms to increase production. Compared with market transactions among dispersed and random buyers and sellers, the proximity of companies and institutions in one location and the repeated exchanges among them fosters better coordination and trust. Thirdly, clustering enables firms to make good use of a relatively small amount of resources. Producers in a cluster can often get by with little capital ad a small workforce. (McCormick, D, 1999)

According to Schmitz (1999), "clustering opens up efficiency gains which individual enterprises can rarely attain. These gains are captured in the concept of collective efficiency, defined as the competitive advantage from local external economies and joint action" (pp.466) External economies includes easy access to raw materials and service suppliers, infrastructure, machinery, labour, technological innovation etc and Joint action example includes business associations etc.

II. CLUSTER STUDIES IN DEVELOPED AND DEVELOPING COUNTRIES

There is a large volume of literature on Clusters which have emerged out of a number of studies conducted in both the developed and the developing world. What has emerged from these studies is that every cluster is different in terms of the nature of the product, production organization, markets etc. Based upon the functional dynamics clusters have been identified as being on the 'high road' or 'low road'. The High road characterises cases where business dynamism was promoted through investment in efficiency enhancement and innovation and low road characterises poor input use, inadequate or absence of networking that result in technological stagnation and substandard products, reducing labour cost etc. The high road

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2 See, for example, Wiejland, H (1999); Tiwari, M(1999); Schmitz, H (1999); Knorringa, P (1999); Rabellotti, R (1999); McCormick, D (1999); Nadvi, K (2002); Das, K (2003)
syndrome is mostly found in clusters of the developed countries (see Pyke and Sengenberger, 1992). Schmitz and Nadvi (1999) in their work on 'clustering and Industrialization' focused their research on the developing countries clusters and tried to figure out if they were able to overcome growth constraints like the clusters of the developed countries. They concluded that most of the clusters in developing countries carry the low road characteristic and sometimes a combination of the two (Nadvi and Schmitz, 1999) (Das, K, 2005).

In India, there are two types of clusters—one which has developed naturally over a period of time as a result of the traditional activities of the rural people and the second are modern clusters which have basically come up due to the policy initiatives of the government. The focus of the paper is on the traditional sector like the Handloom Industry which apart from their historical and cultural significance is of interest to the policymakers for their contribution to the Indian economy. It is the second biggest industry next only to agriculture in terms of rural employment and it is also highly labour intensive where spinning, weaving and other processes are done only by hand. As per the Handloom Census 2009-10, nearly 27.83 lakh handloom households are engaged in weaving and allied activities, out of which 87% are located in rural areas and the remaining 13% in urban areas.

The Abid Hussain Committee on Small Scale Industry set up by the then Ministry of Small Scale Industry in its report in 1997 was first to recommend to adopt the cluster approach for support to small and medium enterprises. (Clusters in India 2010) Subsequently, cluster studies were conducted across some Handloom clusters in India like Nabadwip (West Bengal), Chanderi (Madhya Pradesh), Maheshwari (Madhya Pradesh), and Thenzwal (Mizoram).

III. SUALKUCHI HANDLOOM CLUSTER, ASSAM

III. I Introduction

Geographically, Assam is situated on the North-Eastern (NE) part of India bordered by Arunachal Pradesh and Bhutan on the north; Meghalaya, Tripura, Mizoram and Bangladesh to the south; Manipur and Nagaland to the east, while the western boundary is marked by

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3 The North-Eastern India consists of eight states: Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura

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West Bengal. The total geographical area of the state is 78,438 square km., out of which 98.4 per cent area is rural. According to the census of 2011, the population of Assam is 312.05 lakh out of which 159.39 lakh are male and 152.66 lakh are female. (Economic Survey Assam 2017-18) The state is naturally endowed with a wide variety of flora and fauna; including valuable timber, bamboo, oil and natural gas reservoirs and tea plantations. However, yearly floods have pushed it to one of the backward regions of the country. Agriculture is the primary activity of the region followed by handloom. It alone accounts for 12.41 lakh i.e. it is home to 44.6 % of handloom households. It has the largest concentration of handlooms in the country (16.83 lakh or60.5 %) During 2016-17, there were 19.49 lakh weavers in the state out of which 15.30 lakh were part-time weavers and 4.19 lakh full-time weavers. Assam produces four varieties of natural silks such as Muga, Tassar, Mulberry and Eri. Handloom weaving is considered as an informal activity for women in Assam. In fact while in rest of India most handloom hereditary weavers have been male, in case of Assam these weavers have been female.

III.II Sualkuchi Handloom Cluster

Sualkuchi is situated on the north bank of river Brahmaputra in the Kamrup district of Assam approximately 35 km away from the capital city of Guwahati. There are a total of 8 Gaon Panchayats under Sualkuchi Development Block namely- Bongshor, Dadara, Gandhamau, Madhya Sualkuchi, Pacharia, Paschim Sualkuchi, Pub Sualkuchi and Singimari (Assam State Election Commission). The total population of Sualkuchi Development Block is 68,551 (as per the 2011 census) and Sualkuchi Census Town (CT) is 13,898 (as per the 2011 census). The first reference to the region was found in Kautilya’s Arthashastra where he makes reference to Suvarnakudya of ancient Kamrup as the place where the best quality of patronna (pat) was produced. This Suvarnakudya of Arthashastra was probably later on known as

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4 Economic Survey, 2017-18, Government of Assam
5 Kamrup is an administrative district of Assam with its headquarters located in Amingaon. Kamrup is named after Kamarupa, a name by which Assam was previously known in ancient times.
Swarnakuchi from which the present-day name of Sualkuchi is thought to be derived. Historical records and archives trace the history of the industry in this hamlet to 12th century when king Dharma Pal of the Pala dynasty sponsored the craft and brought 26 weaving families from Tantikuchi to Sualkuchi. The village took shape as a weaving village when the Ahoms occupied Sualkuchi by defeating the Mughals in the mid 17th century. Momai Tamuli Barbarua, a great administrator of the Ahom Kingdom during the reign of King Swargadeo Pratap Singha (1603-1641) made it mandatory to weave a piece of cloth every single day under the paik or the khel system of governance. Weaving received patronage under Ahom rulers in the form of weavers receiving rent-free lands and other favours in return for services. Wearing silk was a luxury afforded only by the royalty and the noble families of Assam. This encouragement resulted in the concentration of production centres. Originally Sualkuchi was a craft village, home to several cottage industries such as handloom weaving, oil processing, pottery, gold making etc. But slowly, other than weaving almost all became extinct.

Figure 1 Map of Sualkuchi Development Block, Source: District Census Handbook
Silk weaving is not uncommon in other parts of Assam but Sualkuchi claims a reputation of its own due to its technique and quality (Census of Assam, 1961). As per the District Census report of Kamrup District, the percentage of household Industry workers is higher than agriculture workers which show that commercial handloom weaving is the primary activity of this place.

**Methodology:** Two Panchayats from within the cluster were selected for the purpose of the study. These Panchayats were selected on the basis of maximum concentration of handloom units. The stakeholders inside the cluster which include the loom owners, the master weavers, traders and weavers were interviewed with the help of semi-structured interviews, in-depth interviews and focus group discussions. The initial respondents were interviewed with the help of snowball sampling and later the respondents were selected purposively. A total sample of 200 weavers, 6 traders, 10 loom owners and 8 master weavers were selected from the two Panchayats. Non-participant observation technique and field notes have been used to supplement the secondary sources collected from various articles, government documents, books, unpublished thesis etc.

**IV. MAIN FINDINGS AND ANALYSIS**

The organizational structure of the cluster is highly stratified. Originally there were only two categories of people were found in Sualkuchi. The Mahajans who were the owners of the loom as well as the financier and the weavers who worked under them. Over the years, possession of capital pushed the weavers working under the Mahajans to the role of master weavers or independent weavers. Presently, within the cluster, there are the loom-owner who looks after the finances and appoints the master-weaver who in turn supervises the production process in the units. However, due to the shortage of labour within-cluster the loom owner in most cases are also the masters –weavers who look into the entire production process. There are both big and small loom owners in Sualkuchi. The former have their factories scattered throughout Sualkuchi and they market their products basically outside Sualkuchi through large showrooms in the cities. The small size loom owners have their units established mostly

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7 Census report, 2011
in the backyard of their house and they sell their finished products either to the local traders or the Marwari traders who visit their looms on a weekly or monthly basis.

Below, the loom owners and the master weavers are the Independent weavers who perform basically all the activities from buying off raw materials to weaving and selling off the finished product by himself. He doesn't own capital to hire workers to work under him. There is a second group of weavers who work under co-operatives. The third group of weavers are wage earners. This group of weavers don't own any looms and work under a master –weaver or a loom owner in return for wages. Within this group, previously only the local population of Sualkuchi, both men and women worked. However, from the 1980s, migrant weavers from neighbouring places of Sualkuchi occupy the primary space.

Besides these, there are other two categories in Sualkuchi cluster that play an important role. The first includes the middlemen who perform the task of supplying yarn, capital etc. Most of the Independent weavers rely on middlemen for sale of their products during the peak season. They form an important linkage between different set of actors inside the cluster. The most recent category in the organizational structure of the cluster is the new breed of entrepreneurs called city entrepreneurs who don't have their residence in Sualkuchi but procure the materials and products from Sualkuchi through other marketing techniques, more often through middlemen. From the study, it was found that there is a predominance of the male in case of master weavers and entrepreneurs and in case of wage weaver's women form the majority in the cluster.

Traditionally, the entire production process was run by an individual family or a group of families and entire member of the family above the age of 6-7 years took part in the activities as per their abilities. Presently, the production process is divided into three parts- pre-loom, weaving and post –loom. There is a stark gender differentiation in the division of labour in the production process. While the weaving is mainly done by women, the pre-loom activities (buying off raw materials, dyeing of yarn etc) and the post loom activity of marketing of the finished product is done by men. Two of the major elements in the production process are the easy supply of raw materials and access to markets.

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8 Sualkuchi is the only place where there is presence of male weavers
According to the loom owners in Sualkuchi cluster, materials which earlier used to be produced locally inside the cluster are no longer produced. For example, raw materials for both pat silk and Tussar are imported from places like Bengaluru and Kolkata while Muga cocoons are procured from within the state from places in Upper Assam such as Lakhimpur Dhakuakhana, Sibsagar and lower Assam’s Garo Hills. Unavailability of raw materials locally has forced loom owners and master weavers to buy raw materials at the price quoted there leading to falling in their profit margins. The master–weavers highlighted that in 2019 the price of Muga yarn has increased to 25,000 / kg yarn, Tussar silk to 6,700/kg yarn, while the price of Mulberry silk is 5800/kg yarn. Thus, unavailability of the required amount of raw materials and increasing prices have led many loom owners inside the cluster to shut down their handloom units.

Markets, Technological innovation and labour are critical to the growth and sustenance of clusters. In Sualkuchi cluster, the markets are dominated by owners of large and some medium-size handloom units while the small size firm owners and Independent weavers are dependent on the middlemen for the sale of their produce. These middlemen are often the owners of retail outlets in cities. Women who constitute the majority as weavers in Sualkuchi are the most exploited lot as they have hardly any access to markets. Products which are produced by them in the looms are marketed by the loom owner or master weaver; who are mostly males and those produced at the individual level of the household are sold through middlemen who visit the houses of these women weavers, collect and sell them at the market.

The first major technological change in the cluster was brought about by the introduction of fly shuttle loom in 1939. However, in the following decades’ technology has almost remained stagnant within the cluster till about 5-6 years ago when some medium and large-sized handloom units started using electricity operated bobbin winding machine and computer-based punch card designs to increase the production. Apart from these, the extensive usage of other digital technologies has also impacted the weaving cluster in the past decade. The loom owners, master weavers and traders agree that the coming of the age technology has brought the world's market closer home. While earlier, the cluster majorly catered to the demands of the domestic state economy such as gamuchas (handwoven towels), Mekhela
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chador (dress worn by women in Assam) etc, in the last 10 years they have become aware of the need of diversifying their products conforming to the change in the global economy. As such the cluster has tried to diversify their products by producing sarees, pillow covers, umbrellas, bedsheets etc. It has become easier to improve on their techniques, style and be aware of the latest designs because of closer association with designers and sellers of their produce. However, as per the same set of traders, master weavers improvement in technology and easy access has led to many of their designs imitated in cheap substitutes in Chinese silk and Banaras silk products, which are sold at much lower prices than Assamese silk. This flooding, in turn, has affected wages, while the cost of raw material continues to rise to cause a death blow to their work and livelihood. The aftermath of this was a massive protest in April 2013 by the struggling indigenous weaving community.

Labour in the production process inside the Sualkuchi cluster underwent a major transformation with the coming of migrant workers from the 1980s. Previously, the family was the unit around which handloom was organised in Sualkuchi. Inside the loom, local women weavers operated the loom while children and young girls assisted the weavers in miscellaneous tasks. The 1980s brought in migrant labour from outside who took to the principal work of weaving and the local women relocated to the background as helpers. The study finds that out of a total 200 women weavers 180 weavers are migrant's i.e. 90% of the weaving population of Sualkuchi are migrants. The average age range of these workers is between 20-53 years which indicates that most of the migrants have been young when they migrated to the cluster with a majority (57.22%) being illiterate. These weavers earn an average of 6304.59 rupees monthly. They are paid as per the piece-rate basis. There is a system of advance payment or called Aagdhan, in which the weaver takes a part of the salary or whole of it when she/he joins the loom in the form of “advance”. The weavers take the money as most of the weavers belong to very poor families and sending remittances to their

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9 The duplication in designs and quality increased to such an extent that in March 29 & 30, 2013 a massive protest broke out in Sualkuchi by weavers and small handloom entrepreneurs against some unscrupulous traders who have endangered the handloom Industry of Assam by importing huge quantities of paat fabrics by copying the designs and motifs of Sualkuchi paat fabrics (Assam Tribune, Jan. 6, 2014)
family members on a regular basis and for their everyday survival isn’t possible on day to day basis money. The advance money is then deducted as per the quality and quantity of pieces woven by the particular weaver. This system has also undergone changes within the cluster in recent years which is explained later in the paper.

In any normal day work in the loom starts from 7-8 am in the morning and continues sometimes till 10 pm at night with an hour break during lunchtime and a tea break occasionally. The workplace is also beset with infrastructural issues such as poor lighting facilities, lack of ventilation, low roof covered with tin which makes it really unbearable to work especially during the summer months. Even though migrants continue to be the primary weaving force in Sualkuchi, many owners of firms have reported a shortage of labour in the recent 9-10 years.

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<tbody>
<tr>
<td>Total Number of Looms</td>
<td>1200</td>
<td>2165</td>
<td>2998</td>
<td>16717</td>
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Source: Baishya, P

The above table shows that the number of handloom units increased quite considerably during the year 2002. At present, the total number of active commercial handloom in Sualkuchi is 11,700 (2017-18). As per some loom owners and master weavers interviewed during the course of study, they cite some possible reasons for such labour shortage- Firstly, according to them the introduction of certain government schemes such as Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), the provision of providing rice @ 35 kg per family per month at Rs. 3 per kg, Mukhyamantri Mohila Samridhi Achani\(^{12}\), the establishment of a number of handloom production centres in other areas of Assam has dissuaded the weavers to migrate to the cluster. Secondly, the younger generation from traditional weaving families in Sualkuchi has also lost interest in practising the craft as they feel that other job options generate better income. Therefore, the


\(^{11}\) Estimate provided by loom owners and by one founder member of *Tat Unnayan Shilpo Samiti*, which is a weaver collective founded in Sualkuchi in 2013.

\(^{12}\) This scheme started in 2008-09 to empower women through financial assistance as grant in aid for infrastructure development of self-help groups (workshed, looms etc)
unwillingness of the new generation to continue with their traditional occupation coupled with the decrease in the number of workers from outside lead to labour shortage inside the cluster. As mentioned earlier in the paper about the system of advance payment, with the decrease in the workforce, the advance amount has also increased from the earlier 30,000 to around 40,000-75,000. Moreover, it has become a compulsory payment now. This has affected the production process as many loom owners due to lack of capital has failed to hire workers leading to the shutdown of many handloom units within the cluster.

Conclusion:

Improved market access is one of the benefits of clustering however in Sualkuchi handloom cluster it is seen that though a few big traders and loom owners are able to cater to the demands of the national and the international market, yet the majority of the firms are still local demand-driven and generates low income. Moreover, the small firm owners and women are at a far more disadvantageous position in their accessibility to markets. Apart from a slight improvement in technology, the cluster needs to upgrade its technology to cater to higher markets. There is a need for technological training sessions for weavers and master – weavers alike. Besides this, rising prices, unavailability of raw materials and labour shortage has affected this handloom cluster in recent years. Hence adequate government intervention in curbing the rising price of yarn and infrastructural support is required for improvement within the cluster. Thus the Sualkuchi handloom cluster like other clusters in India shows characteristics of informal production regime, where informality is rooted in the labour process, in the inter-firm linkages, markets and production relations.

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