Clustering in Textile Industry: Comparative Analysis Between China and Pakistan

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Abstract   Textile sector is one of the important component that contributes to the GDP in both China and Pakistan and both have great share at the world level as well. Locations with some important endowments and successful emergence of clusters are the main reasons behind their efficiency and competitiveness in the textile market. The aim of this paper is to execute comparative analysis between the textile clusters founded in China and Pakistan. To fulfill the aim Zhejiang province textile clusters and Faisalabad textile cluster have been selected to carry out the comparison. It is observed that both are the well established clusters with enormous contribution to national as well as international level. Mainly small enterprises with limited availability of investment in R&D institutes have been found in both the clusters. In Faisalabad cluster, relationship among firms is limited to few large firms. As a result, knowledge spillover is restricted only to those firms and their connections with the R&D institutes and Universities are also lacking. Whereas networking among firms in Zhejiang cluster is strong and connections with the R&D institutes and Universities locally, as well as internationally, have been getting intensely.

Key words   Industrial clusters; Textile industry; Comparative analysis

1 Introduction

Clusters are geographic concentrations of interconnected companies and institutions in particular field (Micheal E.Porter 1998). The concept of industrial clusters has been rapidly growing to achieve the competitiveness in the global market. According to (Micheal E. Porter 1998), clusters support firms to achieve the status of competiveness through higher productivity, higher innovative capabilities and by the formation of new business.   He further explained that the higher productivity could be achieved by getting easy access to production inputs, employees, suppliers, better access to market, technical and competitive information and other complementaries. Innovative capabilities mainly depend on internal as well as external factors such as academic education, working experience, investment in R&D, interaction with various agents in the form of physical inputs, services and new skills and last but not the least linkage with the customers, suppliers and service providers (Henny Romijin & Manuel Albaladejo). The clusters stimulate higher rates of new business formation, as employees become entrepreneurs in spin-off ventures, since barriers to entry are lower than elsewhere (Botham, Gibson, Martin and Moore, 2001).

It has been observed that the textile industries are among the top list which is clustered. From the last few years, the growing textile clusters in Asian economy was the one of the most important factors behind their sustainability of an economy and maintain almost the same level of growth and development in the recent financial turmoil.

1.1 Textile industry in Pakistan

The textile industry in Pakistan is a backbone of the economy. It contributes significantly to the country's GDP, exports as well as employment (see table No.1). Pakistan is the fourth largest producer of cotton in the world after China, India and USA (Dr. Tanvir Hussain, 2004). Pakistan also stands fifth largest producer and second largest exporter of cotton yarn in the world (All Pakistan Textile Mills Association Annual Report 2004).

The textile industry in Pakistan is dominated by Punjab province and among different districts in the Punjab; Faisalabad is one of the important districts where many textile firms of the country are historically concentrated. This region alone accounts for 20.40% of the total national investment in textile sector, 23.64% of the total employment in textile and 39.80% of all registered textile industrial units (Faheem ul Islam, 2006).

1.2 Textile industry in China

China is the world's largest producer and exporter of textile and apparel, accounting for one-fifth of the world's total production (Li & Fung Research centre, 2006). The textile industry in China plays a very significant role to support the national economy by taking part in output, employment and

investment (see Table 1).

China's textile industry cluster is mainly concentrated in the eastern and southeastern coastal provinces and cities (Wang Li Ping). Among the 38 textile clusters, 24 or more than two third of them are located in Jiangsu and Zhejiang provinces (Li & Fung Research centre, 2006). Zhejiang has become the leading province of textile product manufacturing, export and consumption in China and the textile industry has become one of the pillar industries of Zhejiang province.

Table 1   Textile Industry's Economic Contribution of Pakistan 2006-2007

	Pakistan Textile Sector	**China Textile Sector**
Exports	61.1% of total export	4.89% of total export
Manufacturing	46% of total manufacturing	4.84 % of total manufacturing
Employment	38% of total labour force	0.02% of total labour force
GDP	8.5% of total GDP	1.13% of total GDP
Investment	US $ 6.4 Billion	1282.43 Million RMB

Source: Pakistan Economic Survey, 2006-07 & National Bureau of Statistics of China

2 Research Methodologies

There are three different approaches to research Vis a Vis as quantitative, qualitative and mixed research. Qualitative research is a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem (Creswell, 2007). Quantitative is a means for testing objective theories by examining the relationship among variables (Creswell, 2007). Mixed methods research is an approach to inquiry that combines or associates both qualitative and quantitative forms. (Creswell & Plano Clark, 2007).

In this research, by analyzing the research aim, qualitative research approach has been adopted and to achieve the designated target, secondary data has been collected from different reliable sources of both the countries.

3 Comparative Analyses

Faisalabad textile cluster has been taken to represent Pakistan because it is the only well established textile cluster found in the country. On the other hand in China, there are various well established textile clusters such as in Zhejiang, Guangdong, Jiangsu and Shandong provinces but due to major contribution of Zhejiang province in terms of output, employment and export, this province has been selected to represent China for comparison.

The small but well established textile industrial clusters have been found all over the Zhejiang province. Each and every cluster has its own specialization and contributes significantly at the provincial and national level (see Table 2).

Table 2   Major Textile Clusters in Zhejiang Province with No of Participant Firms

Area	Cluster	Number of enterprises
Tiantai County	Filter Cloth	300
Wangjiangjing town	Weaving	6300
Yang Xun Qiao town	Warp Knitting	15000
Ya Qian town	Chemical Fabric	1800
Zhouchuan town	Chemical Fabric	400
Danghan town	Chemical Fabric	143
Dama Town	Fabric	3952
Yuhang District	Cloth	251 (Large)
Hengcun town	Knitting Textile	262

Source: Li & Fung Research Centre

Faisalabad city is located in the Punjab province of Pakistan. In the past four decades, growth in the number of firms in Faisalabad textile industry has been enormous, particularly at the small and medium industry scale (Jamshed & Ghani, 2004). Faisalabad has been the largest agglomeration of textile firms in Pakistan. Faisalabad cluster evidently had a large number of participants, nearly 20,000 textile related entities, small and large production firms, service establishments, support institutions, traders and suppliers (ul Islam, 2000) (see Table 3).

Table 3　Participant Firms in Textile Cluster of Faisalabad

S. No	Textile Sub-Catogories	No of Enterprises
1	Cotton ginning and pressing	26
2	Cotton waste processing	53
3	Doubling of yarn	22
4	Embroidery	21
5	Hosiery products	301
6	Ready-made garments	40
7	Sizing of yarn	119
8	Textile machinery, parts and service	197
9	Textile processing (printing, dyeing & finishing)	210
10	Textile Spinning	42
11	Textile Composite	4
12	Textile weaving (independent units)	32
13	Textile weaving (power looms)	15000
14	Textile Exporters	700
15	Yarn Merchants	800
16	Fabric Whole Sellers (Domestic market)	300
17	Textile Chemicals & Dyes Manufacturers	9
18	Whole Sellers of Textile Chemicals & Dyes	200
19	Textile Knitting (fabric and apparel)	6
20	Other Textile Firms (e.g., carpets, canvas, towel)	60

Source: ul Islam, 2000

Cost of doing business is a very important factor which motivates the existing entrepreneurs and also the new entrants in the industry for conducting the business. Cost analysis of both the textile clusters in China and Pakistan has been show in the Table 4. It is clear from the table that Pakistan has an edge over China in labour cost because it has low-level of labour productivity in numerous firms. Although China has enjoys an advantage over Pakistan in Electricity and Building costs but in Transport both benefit in low costs, China through sea and Pakistan by land trade routes.

Table 4　Cost of Doing Business in Textile Sector (China & Pakistan)

Cost	Unit	China	Pakistan
Labor Cost		1.44	0.55
Hours worked			
Hours per operator	US $/Hour	8	8
Hours per week		48	49
National Holidays days/year		11	18
W/o overtime-weekly less national holidays + 10 days vacation	Hours/Year	2328	2324
Electricity cost	US $/Kwh	0.065	0.071
Transport			
Ocean	US $ /TEU	1800	2000
Land		470	300
Building Cost	$/sqm	97	150
Taxation			
Corporate tax on profits	% of Profit	25	35
Sales Tax	% of Sales	--	15
VAT	% of value added	17	15

Source: US Agency for International Development, 2009

As far as taxation is concerned, Chinese Government at all levels has been supporting the textile industry by not imposing too many taxes on the profits as compared to Pakistan.

It is also very important that the export procedures be simplified with reasonable cost so that the exporters could timely deliver their orders. It would definitely enhance exports enabling the firms to supply earlier than its competitors. Table 5 shows that in the Pakistan document could be finalised earlier at low cost as compared to China. On the other hand in custom clearance, ports and inland transportation, China dominates in time as well as in cost.

Table 5　Doing business trading Across Borders Export Procedure (China & Pakistan)

Export Procedures	China		Pakistan	
	Days	US $	Days	US $
Documents Preparation	14	250	11	96
Customs clearance and technical control	2	70	3	200
Ports and terminal handling	2	85	4	115
Inland transportation and handling	3	95	4	200

Source: US Agency for International Development, 2009

Infrastructure in the surrounding of the cluster is a key factor that also determines the efficiency of the cluster. Zhejiang province has very strong developed transport infrastructure that plays strong role in the growth of the textile clusters. It has about 300 Km coastline with 34 seaports; these seaports render 44 docks for ships. The railway trail is about 1306 Km in total which makes intercity connectivity easy and uncomplicated. Zhejiang province has an extensive highway network composed of state highways and 66 provincial highways. In 2002 an express highway was built in the centre city which connects all the cities of the province taking not more than 4 hours time to transport goods from any destination. There are total seven airports in Zhejiang province, connected with about 160 national and international routes.

On the contrary, in the Punjab province of Pakistan no any seaport could be found compelling Faisalabad cluster to supply textile goods through the seaports of other provinces Vis a Vis Sindh and Baluchistan as a result the cost of transportation and delivery time goes higher. There are more than 12 airports in the province including the Faisalabad city which, in 2005 had the capacity to handle cargo about 1223 Million tons. Therefore air transport plays major transit for export of this textile cluster. Faisalabad has many highways and main railway station which connects it with other major cities of the country.

It is observed that the relationships among actors in Faisalabad textile cluster are found in two ways. One is between buyers and sellers and the other is among the few families that rule in the textile cluster (large firms). Density of network constitute in few large firms (families), as a result by combine they could easily adopt latest technology my importing expensive machinery with training facilities to their technicians. They are doing very efficiently because of squeezable externalities, by doing combined surveys, R&D expenditures, innovation expenditures which lead to knowledge spill-over only in these few groups of the cluster. On the other hand, textile clusters in Zhejiang province have strong collaboration among one another but with unchanged division of rivalry. The dominant firms in the cluster have an important role in the production and the marketing. The Zhejiang textile clusters have very strong connection with the R&D institutions and Universities locally as well internationally as a result the innovative capacity, at low cost is higher compared to Faisalabad cluster, which has only limited interaction with the R&D institutions and Universities.

The Government has been playing very crucial role in the development of clusters and sectors through its effective policies. Pakistan government policies particularly for the textile industry are always lenient and supportive in order to promote the textile sector. According to current textile policy, the government has allotted handsome sum of money in order to promote the supply value chain in textile sector. Some of the main features of the policy are:

(1) Technology up-gradation fund
(2) Infrastructure development
(3) Skills development (support acquisition of foreign experts)
(4) Zero rating of exports
(5) Rationalization of Tariffs structure
(6) Removing regulatory bottlenecks
(7) Export house scheme
(8) Information and communication technology (development of websites & e-commerce platforms)

Same as the China's policy, regarding the textile industries, creates very prosperous environment for the enhancement and establishment of the well developed textile clusters. China also confronting, the rising labor and material cost which makes it tougher to compete internationally, although it immediately took enough measures to give relaxation to the industry. Zhejiang government have

established development zones such as export processing zones & technological zones which helps the investors in the textile cluster. The city governments also organize different exhibitions annually in order to promote the textile and apparel products all over the world. In order to encourage investment in the textile sector the provincial government reduced the foreign enterprise income tax up to 15%, deduct the percentage of tax on individual income of foreign workers, profit earned by the foreign investor is totally exempted from the tax and reduce the tariffs on the importing equipments.

4 Conclusions

The Faisalabad textile cluster of Pakistan is a well developed cluster constituting mainly small enterprises. Currently the cluster is confronting energy crises which have made the survival of the small enterprises difficult because of rise in cost of doing business. For medium and large enterprises, it would be hard to compete internationally at the same level of production cost. It is also recommended that networking among cluster firms and R&D institutes or Universities should be more encouraging for bringing innovation. Relationship among firms should not be focused only on few large firms or families, it should be among all large, medium and small enterprises so that the cluster becomes more innovative and globally competitive as the case of China.

Zhejiang province clusters' contribution to national level is enormous but still less than expected due to the strict export policies such as clean environmental policies, barriers to technology and policies regarding dumping. It is also observed that the investment in the R&D is not very attractive because clusters mainly consist of small enterprises which even together sometimes could not be affordable, therefore the government can play a positive role in this matter for achieving the desired goal.

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