Study on the Sustainable Development of Xiuzhou Chemical and Blended Fabrics Industry Cluster in Zhejiang

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Abstract: This paper analyses the main features of the development of Xiuzhou chemical and blended fabrics industry cluster in Zhejiang province. On the basis of structural characteristics of it, this paper analyses effects on Xiuzhou chemical and blended fabrics industry cluster which promotes regional development. The main problems of Xiuzhou chemical and blended fabrics industry cluster are excessive competition within the business and ecological problems. Strategies for ecologically sustainable development of it are the implementation of cleaner production, enhancing resource utilization, speeding up transformation and promoting technological innovation.

Keywords: Sustainable development, Industry cluster, Ecological development

1 Introduction

Jiaxing, in Zhejiang province, known as the "land of plenty", is the National Green Model City and National Excellent Tourism City. Jiaxing’s development is full of vigor and vitality. Jiaxing has increased its overall strength significantly especially in recent years. According to statistics, the city's GDP is 191,796 billion Yuan with an increase of 9.3% in 2009 than last year. Total fiscal revenue is 27.935 billion Yuan with an increase of 10.8%. Local fiscal revenue is 14.17 billion Yuan with an increase of 11.7%. Research and development expenditure accounted for 1.84% of GDP in Jiaxing. Per capita disposable income of urban and rural residents is 24,693 Yuan and 12,685 Yuan with the respective increase of 9.8% and 9.9%. Consumer price index fell 0.9%. Registered unemployment rate is 3.5 percent in cities and towns. The natural population growth rate is -0.12 ‰. Economic and social undertakings are flourishing in Jiaxing. A number of Well Known industry clusters with competitive advantage of regional features raise rapidly in Jiaxing, such as the chemical and blended fabric industry cluster in Xiuzhou, the wood industry cluster in Jiashan, garment industry cluster in Pinghu, leather industrial cluster in Haining and sweater industry clusters in Tongxiang, etc. All these clusters have promoted the economic and social development in Jiaxing. After 30 years’ development, the textile industry, as the traditional industry in Xiuzhou, has become a relatively mature industry, forming a relatively complete industrial chain, with a strong competitive advantage. However, the development of the textile industry still has many deficiencies, such as environmental pollution.

2 The Main Characteristics of Chemical and Blended Fabric Industrial Clusters’ Development in Xiu Zhou

2.1 Leading products updated constantly with changes in the market
Main products of Xiuzhou chemical and blended fabrics are various gray cloths. Products have upgraded constantly adapting to market changes since the 1980s. Changes in the number of enterprises with various scales are relatively complicated compared to Changes in overall size of industry clusters. However, equipment updated constantly, the main equipment of chemical fiber fabrics industry is upgrading constantly on the whole.

2.2 Impact the regional economy significantly
Chemical fiber fabrics industry has an increasing impact on the regional economy from the perspective
of chemical and blended fabrics industry output, the proportion of total industrial output value, employment, the proportion of employment of local total labor force and paid taxes.

3 Main Characteristics of Chemical and Blended Fabrics Industrial Clusters in Xiuzhou

Structural characteristics of chemical and blended fabrics industrial clusters in Xiuzhou are summarized as follows:

3.1 Regional distribution
Chemical and blended fabrics industry clusters in Xiuzhou are mainly located between Shengze and Shaoxing textile base centered in the Wang Jiangjing town. Industrial clusters are in seven townships and 64 villages. Industrial clusters cover an area of 200 square kilometers.

3.2 Chain
Xiuzhou chemical and blended fabrics industry has a certain product sales division of the industrial chain from raw materials and equipment supply. It has formed a chain of mutual cooperation basically. Weaving is the main cluster of a synthetic fabric industry. Xiuzhou chemical and blended fabrics products are mainly sold in national market and some private companies export products indirectly.

4 Analysis of the Effect of Xiuzhou Chemical and Blended Fabrics Industry Cluster to Promote Regional Development

4.1 Strengthen effect of competition
As the concentration of a number of industrial clusters of medium-sized and small enterprises, thus greatly increase the intensity of competition among enterprises. All kinds of many enterprises of chemical and blended fabrics industry clusters are small scale, higher level of competition to stimulate the vitality of enterprises within the group in Xiuzhou. Slight advantage of a business, other companies soon followed.

4.2 Synergistic symbiotic effect
Formation of industrial clusters can produce synergies among personnel, information and business. Firstly, one feature is manifested by the synergy products market. As enterprises in the cluster competitive and co-operate, there is another division of the integration. A large number of similar enterprises put almost the same product to market in the same period to guide the consumer, creating the effect of the market. Secondly, the products are mutually complementary and coexist. Industry can produce a large number of similar clusters of different kinds of products due to horizontal division of labor within the enterprise group. In addition to some of the main products at each stage, there are a number of related or auxiliary products. Production and delivery of these complementary products can increase customer choice to meet customers' various needs in order to attract more customers. Thirdly, mutual complement and coexist of enterprise clusters and market clusters. Thus, co-development of enterprise clusters and market clusters is conducive to the formation of industrial clusters of competitive advantage to increase market share of products of industrial clusters and access to regional economies of scale.

Internally, the above effects continue to promote the growth of industrial clusters, and improve the

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market competitiveness of industrial clusters. Externally, a variety of industry contacts and external effects promote regional development and the formation of endogenous mechanisms to promote regional economic development.

5 The Main Problems of Chemical and Blended Fabrics Industry Cluster in Xiuzhou

Xiuzhou chemical and blended fabrics industry clusters have a certain scale and industrial clusters are maturing as a whole. At the same time, industrial clusters still have some problems in the further development.

5.1 Excessive competition among enterprises within the industrial clusters
Taking the industrial cluster as a whole, there is excessive competition among companies. Clusters are less organized. Excessive competition has three characteristics. They are entering too many, long-standing low efficiency and exiting barriers. Comparing Xiuzhou chemical and blended fabrics industry clusters with these three characteristics, there is the problem of excessive competition to some extent. Firstly, there are too many companies to enter the industry compared with the needs of society, excess capacity. The second is long-standing low efficiency. The third is the exit barriers. Namely, the production capacity and labor can not be transferred to other industries. That is to say, the transfer is very difficult.

5.2 Ecological problems
Environmental pollution includes wastewater, air emissions and noises in textile industry. Since the textile industry in China was affected by various factors at early stage, it is serious that the low technical level of production, backward production facilities, high energy consumption and low output. The environmental issues of the production process are outstanding. Waste water is the main environmental problems of textile industry. Textile sector is one of the largest industrial sectors. Textile wastewater mainly includes textile printing wastewater, chemical fiber production wastewater and scouring wastewater. Textile printing wastewater is a major pollution source of textile industry. A major emissions source of textile exhaust is from the textile production process. Emissions of textile industrial processes mainly come from chemical fibers, especially viscose fiber production process. Noise pollution is currently one of the most serious problems of textile industry, especially the cotton textile industry. Due to extensive use of a cotton mill looms, factory noise is up to 90 ~ 106 dB (A), while the largest human ear to noise allowable value is only 85dB (A).

6 Conclusion

Strategies for sustainable development of Xiuzhou chemical and blended fabrics industrial cluster are as follows:

6.1 Implementation of cleaner production
Control the chain of production process, implementing cleaner production. The textile and garment enterprises should put environmental protection into corporate decision-making among the elements, facing competition situation of domestic and international. We must consider and comply with environmental regulations and standards from the new textile product development, selection of raw materials, production processes to final product packaging and service all aspects. Pay attention to the control of whole product process, providing high-quality environmentally friendly products in international market competition. We should actively promote clean production and carry out product
life cycle analysis in the enterprise. We should also develop the circular economy vigorously and increase recycling and comprehensive utilization of pollutants in order to reduce wastage of resources. That is extremely important significance to produce green products for the corporate research and development.

6.2 Strengthen the comprehensive utilization of resources


Strengthen the comprehensive utilization of resources. Make Great efforts to focus on industrial wastewater "three wastes" and utilization. Improve the textile industry and other key resources recycling levels. Focusing on promoting the recycling of renewable resources with recycled metal, glass and recycling of waste home appliances.

6.3 Accelerate the ecological transformation
Develop plans and programs and promote ecological industrial transformation of Xiuzhou industrial zones and towns functional areas step by step. Strengthen the cooperation between the upstream and downstream to extend the industrial chain, and gradually build the park's resource recycling flow, energy flow and technology flow coupling system. Increase the textile industry restructuring and the development of green industries. Speed up the industrial zone (Industrial Function Zone) centralized water supply, central heating and central pollution control.

6.4 Promote technological innovation
Promote technological innovation. Increase the common enterprise of circular economy and key technology research and development efforts. Increase organizational development and application of energy efficiency and renewable energy technologies, water and wastewater treatment. Reuse technologies, energy conservation and alternative technologies, waste recycling technology. Promote the industrialization of technological development. Encourage and guide enterprises to introduce foreign advanced technology of circular economy and strengthen digestion and absorption, accelerating new technologies, new processes, new materials and new equipment application. Increase the technological development and application of the support efforts.

References

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