

PROBLEMS AND CHALLENGES IN CLUSTER: A CASE STUDY WITH REFERENCE TO SPORTS GOODS CLUSTER AT JALANDHAR

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Clusters have been in existence in India for centuries and are famous for their products at both national and international level. It is estimated that there are around 7000 clusters in traditional handloom, handicrafts and modern SME industry segments. These clusters contribute 60 percent of the manufactured exports from India. Some of them are so big that they manufacture 70 per cent to 80 per cent of total production of that particular product in India. The clusters in India are facing competition from the domestic as well as international market. The majority of the Indian clusters are facing various problems like obsolete technology, lack of information, poor linkages in market, poor quality products and inadequate system of management. It is seen that most of the clusters are surviving only because of low cost of labour. They do not participate in supportive production networks, neither have they collaborated nor they compete with other firms on the basis of improvement in product, skills or technology. The present study attempts to identify various problems faced by sports goods cluster at Jalandhar. Various recommendations are also suggested in order to find solution to the problems faced by the cluster.

Key words: Cluster, Competition, Problems.

Introduction

An industry cluster can be defined as group of related firms, industries or suppliers and various institutions located at a particular place. Alfred Marshall gave the first clear description of industry clusters and conducted a study of the Lancashire Cutlery Industry and Sheffield Steel Industry and noted down that there was a tendency among the specialized companies to cluster together in such a way that it produced geographic concentration of activities which he called Industrial Districts. Marshall observes how “..... great are the advantages which people following the same skilled trade get from near neighboring to each other...”. The agglomeration of similar or related firms

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generates a number of external economies which lead to decrease in the cost for cluster producers. Such economies include a group of specialized workers, facile availability of suppliers and hasty transmission of new knowledge. The concentration of similar firms attracts and obtains benefits from a group of labour possessing common skills. The risk of individual worker is less by locating at a place where lots of employment opportunities are procurable. Further, the group of firms present in the cluster motivates the suppliers to locate at a place where readymade market is available. There is quick dissemination of ideas and knowledge as the ideas can easily move from one firm to another.

Location experts redefined the ideas given by Marshall that the firms benefit being located near other firms. They explain two types of external economies; localization economies (economies from proximity to dissimilar firms, especially firms in same industry) and urbanization economies (benefits from proximity to dissimilar firms, especially firms in other industry).

However, it was only in 1990's that the interest in concept of clusters was enlightened when Michael E. Porter conducted a global study of world's most successful businesses and found that firms from one or more nations achieved astonishing success in particular industries. The author explained cluster as a geographic concentration of interconnected companies and institutions in a particular field. Porter (1998) elucidated that clusters include-

1. Linked industries and other entities such as suppliers of specialized inputs, machinery services and specialized infrastructure.
2. Distribution channels and customers, manufacturer of complementary products and companies related by skills, technology or common inputs.
3. Related institutions such as research organizations, universities, standard setting organization, training entities and others
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Clusters not only reduce transportation cost and boost efficiency but improve incentives and create collective assets in the form of information, specialized institutions and reputation amongst others. Clusters enable innovation and speed productivity and growth. They also ease the formation of new businesses (Porter, 1998). The horizontal

and vertical association amongst the firms present in the cluster provides the benefit of specific infrastructure, reduced transaction cost, large access of the market, rapid innovations, availability of cheap and skilled labour.

The presence of a large number of competitors in the cluster motivates all the firms to take notice of each other's action and try to adopt the best strategy to face the competition. Buyers become more sophisticated as they expect a lot of attention from the supplier and because of this, the supplier is required to provide the best services to its customers. Due to the presence of number of institutions in the cluster who are using same skills, same technology and same inputs, more and more education institutions, Government bodies, new firms and new institutions become part of the cluster. With the development of the cluster, the resources start moving from the firm that cannot employ those resources effectively to the firms that can employ the resources efficiently. Suppliers located in the cluster provide cooperation with the industry's research and development efforts. Further, the customers present in the cluster provide the possibility of transferring the information about new needs and technologies and demanding extraordinary goods and services. The concentration of domestic rivals, suppliers and customers help the city or region in becoming a unique environment for competing in the market. The presence of information flow, mutual reinforcement and visibility present in the environment gives a meaning to the observation of Alfred Marshall that in some places, the industry is in the air. Further the presence of Government and various industrial associations ensure various benefits which cannot be available to the firms if they are located in another area.

Industry Clusters in India

Clusters have been in existence in India for centuries and are famous for their products at both national and international level. Clusters represent the socio economic heritage of the country where some of the towns or contiguous group of villages are known for specific product or range of complementary products (Singh, 2010). It is estimated that there are around 7000 clusters in traditional handloom, handicrafts and modern SME industry segments (Foundation for MSME Clusters, 2007). These clusters are in following typology:

Type of Clusters		Number of Clusters
Traditional Manufacturing	SME	1122
Micro Enterprises	Handloom	495
	Handicraft	3084
Total		4701

(Source: Policy and Status Paper on Cluster Development in India, Foundation for MSME Clusters, 2007)

In addition to above clusters, it is estimated that there are about 2500 unmapped rural industry clusters in India.¹ The clusters of some selected industries in some areas are indicated below-

Product-Group	District-Region
Woollen and Cotton Hosiery	Tripur, Ludhiana, Calcutta, Delhi
Sports Goods	Jalandhar, Meerut
Hand tools	Jalandhar, Nagpur
Automobile Industry	Gurgaon
Electronics	Noida, Bombay, Pune & Bangalore
Rubber Goods	Jalandhar
Woollen Shawls	Amritsar and Kulu
Glass and Ceramics	Khurja & Farukkabad
Bicycle Parts	Jamnagar & Ludhiana
Domestic Electrical Appliances	Bombay, Delhi
Wall Clocks	Morvi
Diesel Engine & Parts	Kolhapur, Agra, Rajkot, Coimbatore & Ghaziabad

¹Ministry of Commerce and Industry, Government of India, 2011

These clusters contribute 60 percent of the manufactured exports from India. Some of them are so big that they manufacture 70 per cent to 80 per cent of total production of that particular product in India (Gulati, 1996). For example, Tripur, a small town in Tamil Nadu contributes 80 per cent of the country's cotton hosiery exports. Similarly, Panipat produces 75 per cent of total blankets produced in India. In the same manner, Ludhiana in Punjab contributes 95 per cent of the country's woolen knitwear, 60 per cent of India's bicycles and 85 per cent of sewing machines produced in the country. Ludhiana is also known as Manchester of India. Agra, which is famous for foot wears, has 800 registered and 6,000 unregistered small scale units and it is producing approximately 150,000 pairs of shoes per day with a daily production value of 1.3 million dollars and exports worth US \$ 60 million per year (Russo, 1999).

The study conducted by Gulati (1996) identified the following characteristics of clusters in India:

- The clusters are mostly present in industrially developed states like Gujarat, Maharashtra, Punjab, Rajasthan and Tamil Nadu.
- The clusters are concentrated generally near the cities.
- Traditional art and craft has played an important role in the growth and development of these clusters.
- It is found that western India has maximum clusters.
- The rural clusters can grow only when raw material is easily available and further no infrastructure is required for the product.

Sports Goods Cluster at Jalandhar

The origin of sports goods Industry of India can be traced back to Sialkot, Pakistan. In 1947, after partition, the entrepreneur belonging to one community decided to shift from Sialkot. The workers belonging to that community also migrated along with the entrepreneurs. As per the resettlement plan of Government of India, initially these migrants settled in Batala but later on shifted from Batala to Jalandhar. (UNIDO, 2001, p.3). At Jalandhar, the raw material required was easily available. Some of the migrants shifted to Meerut where also the raw material required was available.

Punjab and Meerut have emerged as the leading centers for sports goods manufacture and the only industry which appears to offer some prospects is sports goods industry of

Punjab. Meerut is yet to become powerful (Chandra Mohan, 2002).

Jalandhar has grown as the major centre of Indian sports goods industry. Meerut in Uttar Pradesh is the second and Gurgaon in Haryana is the third largest cluster of sports goods manufacturing. (NPC, 2009, p.1).

Objectives of the Study: Present study has been conducted, keeping in view the following objectives:

1. To identify the problems faced by Sports Goods Cluster at Jalandhar.
2. To find out the avenues of growth and diversification in the cluster.
3. To suggest measures to improve the competitiveness of the cluster.

Methodology of the Study: Primary data was collected to study the problems faced by the firms in the cluster as well as to study the avenues for growth and diversification. The universe of the study was the sports goods units registered with District Industries Centre i.e. 734 (As per figures given by District Industries Center, Jalandhar). A sample of 150 units (i.e. 20% of the total population) was taken to represent the universe. Here judgment sampling was used to draw the sample and collect the data from sample. Personal investigation method was applied.

Findings and Observation: The performance of sports goods cluster at Jalandhar has been uneven while many of the units in some segments like footballs have done normally well, a lot others have not performed to a satisfactory level in terms of growth, technology up-gradation and manpower development. The cluster faces a number of problems which inhibit its growth and may threaten its existence. In the present study, an attempt has been made to identify various problems and constraints faced by the cluster and suitable recommendations for strengthening the competitiveness of the cluster have been made.

1.1 Competition from China

The cluster is facing a tough competition from China. Table 1.1 shows the distribution of firms by response about competition from China.

Table 1.1: Competition from China

Response	No. of Firms	Percentage
Yes	150	100
No	0	0
Total	150	100

(Source: Based on field work)

A perusal of table 1.1 shows that 100 per cent of firms reported the problem of competition from China. The products imported from China are inexpensive and well finished. The main reason for the difference in cost is that firms engaged in the production of sports goods in China are capital intensive and are engaged in large scale production. They are enjoying economies of large scale production leading to decrease in the cost of production. The firms in Jalandhar cluster, on the other hand are labour intensive, engaged in the production with minimum use of machinery. NPC (2009) in the study conducted on sports goods industry of India and found that 'The firms in the Jalandhar cluster are dependent more on skilled labour. China, on the other hand, is engaged in machine based large scale production'. The result is increase in sales of Chinese products and decrease in the sale of domestic products.

1.2 Manpower

The Jalandhar cluster is facing paucity of manpower. The sports goods industry is labour intensive industry where 80 per cent of the work is done manually. The cluster is unable to find skilled labour easily. Further, due to seasonal nature of demand for sports goods, when the demand increases in a specific season, the workers are not easily available in the cluster. In order to fulfill the demand, the firms are required to pay more wages to the workers available, leading to increase in the cost of production. Table 1.2 shows the distribution of firms regarding shortage of skilled labour.

Table 1.2: Shortage of Skilled Labour

Response	No. of Firms	Percentage
Yes	150	100
No	0	0
Total	150	100

(Source: Based on field work)

Table 1.2 reveals that 100 per cent of the firms surveyed reported scantiness of skilled labour. The literature on sports goods industry also supports this result. Krishnamurthy (2008) conducted a study on labour intensity of manufacturing industries in India and found that the sports goods industry is facing problem of availability of skilled labour and most of the workers employed are unskilled.

It is found that human resource development activities are not present in the cluster. Most of the firms do not give training to their workers as they think that the workers borne the skills from their forefathers and there is no need to give training to them. There is absence of any training institute in the cluster. It is found that the industry associations have organized one or two training programs in the cluster where only active members of the cluster participate but non members do not want to send their workers for training. The literature on sports goods industry also supports this result. UNIDO (2001) while conducting diagnostic study on sports goods cluster at Jalandhar found that 'Human resources development is one of the most neglected areas in the cluster and there is almost no systematic training system for the workers in the cluster'. Table 1.3 reveals that 56 per cent of the firms do not give training to their workers.

Table 1.3: Training to the Workers

Response	No. of Firms	Percentage
Yes	66	44
No	84	56
Total	150	100

(Source: Based on field work)

1.3 Technology Up-gradation

In sports goods, the technology is changing rapidly and the industry is becoming capital intensive. But as far as Jalandhar cluster is concerned, it is seen that most of the firms in cluster are using old machines and technology up-gradation is a rare phenomenon. Table 1.4 shows the distribution of firms by their response to the adoption of new technology.

Table 1.4: Technology Up-gradation

Response	No. of Firms	Percentage
Yes	27	18
No	123	82
Total	150	100

(Source: Based on field work)

A perusal of Table 1.4 depicts that 82 per cent of the firms are not ready to adopt new technology. These firms are satisfied with their present status of machinery and do not want to make changes in the existing technology. The literature on sports goods industry also supports this result. Krishnamurthy (2008) conducted a study on sports goods industry and revealed that 'Most firms understand about global technology; however when it comes to adaptation do not show much inclination for it'. National Productivity Council (2009) stated that 'Indian labour manufacturing cannot meet the large scale demand of the world market with the existing set up. There is need to introduce mechanization for increasing productivity and competitiveness of Indian sports goods sector'.

1.4 Research and Development

It is seen that majority of the firms in cluster do not conduct research and development. They are of the opinion that research only leads to increase in the cost of production. Only big exporters have in house facility of research. Till today, Jalandhar cluster does not have its own patents or any new product development. The amount on research is not spent on the regular basis. Firms spend money on research and development only when they require. Further the amount to be spent is not fixed. As shown in table 1.5, 65.3 per cent of the firms are not involved in research and development activities.

Table 1.5: Research and Development by Firms in the Cluster

Research and Development	No. of Firms	Percentage
Yes	52	34.7
No	98	65.3
Total	150	100

(Source: Based on field work)

1.5 Marketing

The Jalandhar cluster is producing goods for other brands also. As shown in table 1.6, 19 firms are producing exclusively for other brands while 54 firms are producing for their own brand as well as for other brands.

Table1.6: Brand of the Product

Brand	No. of Firms	Percentage
Own brand	77	51.3
Others brand	19	12.7
Own brand as well as others brand	54	36
Total	150	100

(Source: Based on field work)

The literature on sports goods industry supports the above result. UNIDO (2001) stated that 'The local industry has never tried to promote their brands, at least in the developed countries'. National Productivity Council (2009) revealed that 'Many Indian sports goods manufacturers are producing products for foreign brands through outsourcing'. It has directly affected the competitiveness of Indian brand and it ultimately leads to decrease in the demand for Indian products and increase in the demand for foreign products.

1.6 Inter Firm Cooperation

The element of cooperation is absent in the Jalandhar cluster. As shown in table 1.7, 87.33 per cent of the firms accepted that they do not cooperate with other firms located in the cluster.

Table 1.7: Information Sharing among the Firms

Information Sharing	No. of Firms	Percentage
Yes	88	58.7
No	51	34
No and not even intention to share	5	3.3
No and never thought about it	6	4
Total	150	100

(Source: Based on field work)

UNIDO (2001) found that 'There is nearly absence of cooperation among the firms in Jalandhar cluster'. Majority of the firms are satisfied within themselves and do not want to cooperate with the other firms. These firms do not think about the benefits incurred because of the cooperation and joint action. This non cooperation acts as a great hindrance in the development of cluster.

1.7 Support Services

Support services are nearly absent in the cluster. As shown in table 1.8, 92.7 per cent of the firms denied the presence of support service providers.

Table 1.8: Presence of Business Development Service Providers in the Cluster

Presence of Business Development Service Providers	No. of Firms	Percentage
Yes	11	7.3
No	139	92.7
Total	150	100

(Source: Based on field work)

The main reason this is the entrepreneurs themselves are highly proficient, involved in total supervision of their work and do not want to associate any other person in their work. They do not want to share business related information with any external agency. The literature on sports goods industry also supports this result. UNIDO (2001) stated that 'With a skill based manufacturing process and a highly personalized marketing system, the BDS providers have very little to offer in the areas of technology and marketing, the two most common services needed by the industry in general'.

1.8 Problem of Value Added Tax (VAT)

The cluster is facing the problem of Value Added Tax (VAT) which is implemented in Punjab but exempted for Meerut. Table 1.9 shows the distribution of firms by response about the problem of VAT.

Table 1.9: Problem of VAT

Response	No. of Firms	Percentage
Yes	150	100
No	0	0
Total	150	100

(Source: Based on field work)

A perusal of Table 1.9 depicts that all the firms are facing this problem. On Jalandhar cluster, 5 per cent VAT plus surcharge of 10 per cent is imposed i.e. rate of VAT is 5.5 per cent which is not applicable on Meerut cluster. Because of this difference in tax implementation, the cost of production in Jalandhar cluster is higher than the Meerut cluster and has directly affected the demand of its products.

1.9 Lack of Awareness about Government Policies

The Punjab Government and the Central Government have designed various policies for the growth of sports goods industry of India. But as far as the cluster is concerned, it is found that some firms are not even aware of these policies. Some firms reported that sometimes Government announces various policies but are never implemented. For example, one per cent freight subsidy was declared by the Government of Punjab but this subsidy has never been given to the firms. Some firms reported that there is lack of awareness among the various Government departments. Sometimes concerned departments are not aware about the schemes announced by the Government.

1.10 Availability of Raw Material

The cluster is facing scarcity of raw material. NPC (2009) conducted a study on competitiveness of sports goods industry of India and found that 'Though raw materials are available within the country, due to interstate restrictions in goods movement, they cannot be transported from one state to another'. The firms engaged in the production of cricket bats are facing massive problem of availability of wood. For production of good quality bat, English Willow or Kashmir Willow is required. English willow is imported from England but the cost of bat produced is much higher than the price which consumers are willing to pay. The Kashmir Willow is of the same quality as the English Willow but is required to be purchased from Kashmir. The Jammu and Kashmir Government has restricted the sale of Willow from the state in order to promote its domestic market. NPC (2009) found that 'The Government of Jammu and Kashmir has imposed a ban on movement of willow clefts outside the state'. Jalandhar cluster is facing problem as they are unable to get the required Kashmir Willow. Table 1.10 shows the distribution of the firms by their response about the shortage of raw material

Table 1.10: Shortage of Raw Material

Response	No. of Firms	Percentage
Yes	55	36.67
No	95	63.33
Total	150	100

(Source: Based on field work)

A perusal of Table 1.10 shows that 36.67 per cent of the firms (55 firms) reported the problem of availability of Kashmir willow. These 55 firms are engaged in the manufacturing of cricket bats i.e. 63.33 per cent of the firms were not producing cricket bats and were not facing any problem. 100 per cent of the firms producing cricket bats reported shortage of Kashmir willow.

1.11 Power Problem

Jalandhar cluster is facing the big problem with regard to power. There are long cuts of electricity which leads to dependence of the firms on the generators. The cost of production by using generators is much higher than the cost of production by using the power supplied by the Punjab Government. Many of the small firms are unable to afford this extra cost that leads to the delay in delivery and affects the competitiveness of the cluster. Table 1.11 shows the response of the firms regarding problem of power.

Table 1.11: Problem of Power

Response	No. of Firms	Percentage
Yes	150	100
No	0	0
Total	150	100

(Source: Based on field work)

Table 1.11 reveals that 100 per cent of the firms reported the problem of availability of power. The literature on sports goods industry also supports this result. NPC(2009) stated that 'more than 90 per cent sports goods manufacturers have reported that availability of basic infrastructure such as power, road and rail, etc. in India is very poor'.

1.12 Recommendations

Jalandhar cluster is surrounded by multiple problems, but, when we consider the relevance and importance of the cluster in Punjab; effective steps need to be taken. The present study proposes the following measures:

1. Human Resource Development

From the survey, it has been learnt that the cluster is facing the shortage of skilled labour. Further most of the firms do not give training to their workers. As the need of the industry is to adapt modern technology, workers are required to be trained for handling the machines. Most of the firms in the cluster resist providing training to the workers because they do not want to bear the cost of training. The public sector in association with private sector should establish specialized training institutes to cater the needs of the cluster.

2. Antidumping Duty on Imports

The cluster is facing tough competition from China. The goods imported from China are inexpensive with fine finishing. The customers prefer to purchase Chinese products than the domestic products. The Government should impose antidumping duty on sports goods imported from China. It can lead to the equalizing of price of products of both the countries.

3. Inter Firm Interaction

Network of firms within the cluster helps in improving the performance and growth of the cluster. But this element of networking is not found to be active in the cluster. One can not pressurize others to work in collaboration with the competitors but the firms in the cluster can be convinced by providing information about the benefits which they can enjoy by becoming a part of the network. Various seminars, conferences can be organized to provide information regarding benefits of the networks. Apart from it, various associations can enhance the cooperation between the firms. Organizing regular

meetings, participation of the cluster in various trade fairs and exhibitions can increase the level of cooperation within the cluster. It is seen that the firms become members of the associations but they do not actively participate in the working of the association. Role of each member of the association should be clearly defined so that each member participates in the working of the association.

4. Need for a Common Platform

It is found that there are too many associations in the cluster. Many firms are member of more than one association. It is advisable that all the associations should be merged to formulate a single association which will cater to the demands of the sports cluster. It can help in providing a single platform for the cluster as well as Government to discuss various issues. Further a regular communication system should be developed by the associations i.e. schedule for meeting should be fixed so that regular interactions between the members can be enhanced. Further, regular meetings should be organized by the associations with the Government to discuss their problems and convince the Government to take remedial action.

It is found that the associations do not have enough staff to work on various issues. The office bearers of the associations are the entrepreneurs who are busy in their normal course of work within their firm and do not have much time for the activities of the cluster. There is an immediate need of the full time professionals to be appointed within the associations for enhancing the activities of association and in turn that of the cluster.

5. Promotion of Domestic Products

While purchasing the sports equipments, various agencies like Sports Authority of India, Central Government, State Government etc, should give preference to Indian sports equipments. All the tournaments which are held in India should be required to purchase products of Indian brands only.

6. Redefining the Role of SGEPC

The Sports Goods Export Promotion Council has been established by the Government of India with the objective of promotion of export outside India. The council is providing services to a handful of exporters which are registered with the council. There is a need to redefine the role of council by providing services to all the firms engaged in the manufacturing of sports goods irrespective of the fact that the firm is an exporter or not.

7. Initiatives by the Government

It is seen that many firms in the cluster are not aware about various policies which are framed for the sports industry. Interactions with industry associations, Business Development Service providers can help the Government in providing information to all the firms in cluster. Various seminars and workshops should be organized by the Government to provide information about the policies and its benefits so that maximum firms can take advantage of these policies. The work of Government does not end with framing a policy but its implementation should also be ensured. A separate department of Government should be given the task of ensuring timely implementation of policy. This department should also take feedback of the policy from the firms in order to ensure that the policy has achieved the objective for which it was framed. Further this feedback should be used as a point of reference before framing new policies or revising the existing policies. The Government should also ensure that all the departments who are involved in implementation of the policy should be timely informed so that there should be proper implementation of policies.

An information center should be established by the Government under Cluster Development Programme where all the latest information relating to technology, innovation, raw material should be available. This information should be provided to each firm in the cluster so that they become aware of the latest innovations.

A number of trade fairs and exhibitions are organized in various parts of the world. *Sports Goods Export Promotion Council is providing a help to various exporters for the participation in the sports fairs. But this support is provided to its registered members.* But a number of micro enterprises do not participate in such exhibitions. The Government should provide subsidy to these small scale concerns so that they can also participate in such trade fairs.

It is seen that in the international tournaments all those sports equipments are used which are certified by international federations. But fee for such certification is very high which every firm is not able to pay. The Government should provide subsidy in the cost incurred by the firm to obtain the certificates.

8. Setting up of Special Economic Zone

The Jalandhar cluster should be declared as the Special Economic Zone. Declaration of cluster as the Special Economic Zone will help in promotion of exports. A large

investment from domestic as well as foreign market will be attracted. The infrastructure facilities can be easily developed leading to up-gradation of existing technology and easy adoption of innovations. A better infrastructure will attract new firms leading to creation of employment opportunities.

9. Establishment of Business Development Cell and Research Institutes

A Business Development Cell should be established in the cluster where at least some full time professionals should be appointed. These professionals should work on collection of latest information in the international market. The cell can be funded under Sports Goods Export Promotion Council or Cluster Development Scheme by Government of India.

Various research institutes or universities should be established that can help the cluster in enhancement of the research activities. Apart this, the Department of Industries, Government of Punjab, should help the cluster in getting assistance about the innovations from other research institutes located outside the cluster.

10. Exemption of VAT

VAT is applicable in Jalandhar but not in Meerut. The result is that the cost of products of Jalandhar cluster is more than that of the cluster of Meerut. The Government of Punjab should exempt VAT in the Jalandhar cluster also so as to improve its competitiveness. Banga (2008) conducted a study on sports goods cluster of Jalandhar and found that 'Government should interfere in VAT related issues of the cluster'.

11. Availability of Factors of Production

The regular supply of raw material is one of the important factors contributing to the productivity of an industry. Jalandhar cluster is facing scarcity of Kashmir Willow. The Government of Jammu and Kashmir has banned the movement of clefts from the state. Punjab Government should take various initiatives to convince the Government of Jammu and Kashmir for free movement of Kashmir willow within the country. The literature on sports goods industry also supports this recommendation. Banga (2008) suggested that Government should interfere in this policy related issues of the cluster such as import of raw material from foreign countries and other states'. NPC (2009) suggested that 'Ban on movement of willow within India should be removed'.

The supply of power in the Jalandhar cluster is creating a lot of problem for the firms. There are frequent power cuts and thus firms are required to use diesel generators. Industrial units should be given continuous power supply at least during the working hours.

Conclusion

In the present study, a number of difficulties faced by sports goods cluster of Jalandhar are determined and analyzed. It is found that cluster is facing problem of availability of skilled labour. Majority of firms do not give training to the workers. The firms are not getting adequate supply of electricity. Implementation of VAT by Punjab Government and tough competition from China has created problem for all the firms in cluster. All the firms producing cricket bats are facing problem of availability of Kashmir willow. It is found that majority of firms do not want to upgrade the existing technology. There is lack of cooperation among the firms. The firms are not interested in research and development activities and brand promotion. There is lack of awareness among the firms regarding various policies issued by the Government.

Various initiatives are required to eradicate these obstacles for the growth and development of the cluster. Punjab Government should exempt VAT on the cluster and try to convince Government of Jammu and Kashmir for the movement of Kashmir willow within the country. Various campaigns should be organized by the industry associations to convince the entrepreneurs for providing training to the workers, conducting research and development activities and cooperating with other firms located in the cluster. A number of initiatives are required by the Central Government and Punjab Government to provide latest information to the cluster. Antidumping duty should be imposed on the products imported from China. Uninterrupted power supply should be given to the industrial units at least during the working hours. Preference should be given to domestic firms for the purchase of sports goods for various tournaments held in India.

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