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## Enhancement in productivity of sports goods industrial cluster in Meerut India

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Small scale industries are the main employment provider in any developing country. Most of the micro, small and medium (MSME) scale industries development is due to the efforts of individual entrepreneurs. These entrepreneurs lack the knowledge of various technical and legal aspects of MSMEs. Many times, due to the lack of information, these individual entrepreneurs do not know the latest development in the technology and the market dynamics. They lack the knowledge of the availability of funds required to establish the industry. These issues hamper the MSMEs significantly and undermine the potential of the entrepreneur community as a whole. Difficulties to establish an industry also causes a deterrent to many potential entrepreneurs. A single point information centre called common facilitation centre (CFC) can resolve these issues. CFC can cover all aspects of the industry including availability of technology, machinery, sources of funds, material requirement, new developments and human resource development. CFC can help in changing, not only the development of the industry, but the whole society. In this work, we have presented an overview of a sports goods MSMEs cluster in Meerut city, India. It covers the various aspects of problems and how CFC can help in resolving these issues.

**Key words:** Micro, small and medium scale industries (MSMEs), technology, entrepreneur, innovations.

### INTRODUCTION

Micro, small scale and medium scale industries (MSMEs) are the backbone of any country. MSMEs can improve the development of the societies and the living standard of its people significantly. Countries such as India which has abundance human resources can utilize them very effectively by developing MSMEs. Technical institutions can help in providing technical knowhow and basic knowledge required to establish an industry. Most of the developed countries started the development of their MSMEs sector and leverage on the technical strengths of these MSMEs to develop big industries. MSMEs are even more important for a developing country with vast manpower resources. In the context of India, there are various types of industries exist in MSMEs sector. These

industries are not running to their full potential due to non availability of technical knowhow and various government regulations. New entrepreneurs have difficulty to go through the cumbersome procedural work. Meerut is a class II city situated in western Uttar Pradesh, India. This city has a very old sports goods manufacturing industry. Most of the industries are in MSMEs sector. The SMEs are largely located in the sports goods complex whereas the micro sports goods industries and subcontracting units are located in and around the Meerut city even in the nearby villages. These industries are run by family businesses. Most of the people who are running these industries are having very little or no education. Business is passed over one generation to another. The major products are related to the sports of cricket, hockey, boxing, football, badminton, tennis, basketball, table tennis, fishing and various protective equipments. The major items which are exported from the sports cluster are inflatable balls, hockey sticks, hockey balls, cricket bats,

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cricket balls, boxing equipment, fishing equipment and different kinds of protective equipment. The cluster is growing at a rate of 8% annually for the last few years. Some of the segments like boxing gloves have been growing at a faster rate.

The „sports goods“ cluster has 350 units, employing more than 15000 to 16000 people and producing goods worth INR 400 crores. Meerut sports goods industry contributes almost 25% of India's sports goods export. The cluster draws technical support from the process and product development centre (PPDC) for „sports goods“ which is a central government organization. The only association in the cluster is All India Sports Goods Association. Meerut sports industries are contributing to one fourth of India's export of sports goods. Therefore it is very vulnerable to the external factors and government policies to support the export. These units required to have a good cushion during global downturn. MSMEs are the first industries, which are hit by downturn (Kumbhar, 2009). A good financial assistance and strategy to overcome the downturn is important to overcome the adverse effect of downturn. A new strategy to reduce waste and inventories was developed in Japan in last decade (Seetharaman et al., 2007). It is called just in time (JIT). Just-in-time strategy for manufacturing industries has been studied and recognized; one of the ways to reduce cost by reducing waste and inventories. Due to the globalization and development of knowledge societies, new material and technologies are developing by a rapid pace. It is important to spread awareness of these technologies to the MSMEs to keep them cost competitive and quality sensitive. Interdisciplinary knowledge and skills development is the key of success of entrepreneurs (Wani et al., 2003). An idea of developing MSMEs cluster was developed in the last century (Keeble et al., 1999). A new concept of collective learning and research in the industrial clusters was proposed to reduce cost, develop high technology and improve the effectiveness and competitiveness. Marketing strategy and technical support systems to help marketing are crucial for the success for any industry. Micro and small scale industries are more exposed to the collapse due to the unavailability of financial resources and the competition with bigger organizations. Transaction costs increase due to the lower volume comparing to bigger organization, hence profit margin shrinks. In such scenario government support and collective marketing may be a good option to succeed and survive the competition (Brian et al., 1994).

Small scale industries growth can be hindered by the structural financial problems. It is very much evident that the sensitivity of company growth to cash flow rises as company size falls. Growth of small scale industries encounters financial constraints that prevented them from

fully exploiting their growth potential (Wagenvoort, 2003). Small scale industries can realise their actual potential only by going through the technical innovation. Wu (2009) has analyzed the superiorities and the weaknesses of SMEs in technical innovation. It was found that the cooperative technical innovation mode is the right selection of MSMEs. Various merits of resource-based cities in the technology innovation and economic development of small and medium sized enterprises are discussed (Zhang et al., 2005). In this work, mainly six aspects of external support system are discussed such as technology support system, finance support system, human resource support system, information support system, innovation policy support, and social intermediary services support. Cucculelli (2006) has discussed about the merits and demerits of the small scale industries owned by family business. Enterprise performance is also affected by business division or transfer within the family. It is evident in many cases that enterprises performance suffers a big blow once it is transferred from one person to another within the family, due to lack of experience in running the business and technical knowhow. The territorial agglomeration of interdependent enterprises has a positive influence on the competitiveness, the performance and the development of national economies (Silvia, 2005). In particular, these phenomena have been depicted through the theoretical framework of the "industrial districts" or "industrial clusters". This is evident also when observing the phenomenon from a historical perspective.

Evidence shows that the strength of a local economic system and its capacity to grow depends on the culture of the society. It can be observed that cultural socio-economic elements are embedded in technology. Therefore they play a key role when considering the dynamics of innovation process and growth opportunities for MSMEs. Competitive environment between MSMEs is important to improve the innovation and profit margins. Benchmarking models can help in developing a culture of competitiveness between MSMEs (Noni et al., 2007). These models can be customized to various industries. Integrated models of territorial benchmarking that allow estimation of the value of the interaction processes that are developed in a specific territory and that help defining the potential business and the dynamic capability of a firm. A database can be developed and shared among the MSMEs to get the inputs and improve the operation efficiencies. Motoshigo et al. (1994) have discussed about the effect of government support policies to MSMEs sector plays a very significant role in improving MSME sectors availability to survive and succeed while competition with big companies. Both technical, financial, and marketing assistance are crucial. Different type of industry

concentration in different region can help government to develop very distinct policies for these regions. Infrastructure development in these regions is important to achieve faster turnaround time and therefore reduce the cost incurred by keeping large inventories of raw material and finish products. Brown et al. (1994) have discussed about the importance of the effective communication system for the sustainability of small scale industries. Various methods such as a centralized communication system can be established to help small scale industries. Short messaging system (SMS) can be one of the tools to send quick information to all concerned MSMEs. It can dissipate the information more quickly and the consequences of certain upcoming problems can be avoided.

GDP of a country is affected significantly by the performance and progress of MSMEs. Edward et al. (2007) have discussed about the impact of MSMEs on the GDP of the country. Investment operations are among the factors which influence GDP dynamics in a very significant way. Foreign trade can help in the influence of the performance of MSMEs. Higher trade and favourable government policies can help MSMEs in a very significant way. Proper education and training provides entrepreneurial zeal to a person and sustainable entrepreneurship can be developed by doing so. Khursheed (1999) proved it by carrying out experiments in the two towns of Andhra Pradesh, India in collaboration with small industries extension training institute (SIET) Hyderabad. It is a universal fact that education and training of potential entrepreneurs has a significant bearing on the successful pursuits of entrepreneurship. Combined initiative taken by individuals, enterprises and the institutions can work as a catalyst to put MSMEs performance improvement on a high trajectory. El-Namaki (1999) proposed some initiatives from individuals, enterprises and some from specialized institutions. Individual initiatives of an entrepreneur with some technical ability and business insight can work to identify products or processes. It can be tied to the market opportunity. Enterprise approach can improve the innovation and set goal for product quality improvement. Institutional approach is fairly novel to developing countries. Dynamic entrepreneurial is another key for the success of the small enterprises. Peter (1971) looks at the search for the source of dynamic entrepreneurial performance.

The rest of the paper is arranged as follows. Subsequently, we explain the challenges faced by sports goods industry, after which we have discussed about the potential for intervention to improve the industry. We have presented a systematic methodology to improve the productivity and profitability of the sports goods manufacturing industry thereafter. Finally we conclude our findings.

## CHALLENGES FACED BY SPORTS GOODS INDUSTRY

Sports goods industry in Meerut faces many challenges. These challenges are due to many fundamental issues such as infrastructure, technical knowledge, human resources and lack of knowledge of government regulations. There is a huge scope of productivity improvement. Some of the issues related to sports industrial cluster in Meerut are listed as follows:

- i) The cluster is highly fragmented.
- ii) There are very few large factories due to which large orders are not given to the cluster by international buyers.
- iii) The cluster is facing immense competition from mechanized units manufacturing similar products.
- iv) The technology is changing very rapidly and the cluster firms are too small to make the required investments.
- v) The range of products produced in the cluster is very narrow and limited to traditional items.
- vi) Entrepreneurs lack the knowledge of government regulations and support system.
- vii) Lack of world class testing facility of sports goods.
- viii) Lack of availability of funds at low interest rates.
- ix) Very little or no market research. Most of the industries rely on the experience and individual networking.
- x) Lack of knowledge and awareness to adopt newly developed equipment, machinery and materials to improve quality, productivity and cost.
- xi) Improper facilities of research and developments.
- xii) Insensitivities to adopt established quality systems to achieve world class quality and productivity.
- xiii) Improper information system to get the new development in the sports industry worldwide.

Aforementioned factors are hampering sports goods industry performance very significantly.

## POTENTIAL FOR INTERVENTION

Sports goods cluster faces numerous challenges. Some of the challenges are discussed here. Productivity improvement in sports goods cluster has a vast scope. There are many areas and avenues which can be improved by providing required assistance. Many new sports goods can be added to the current basket. It will not only increase the industries in this segment but also increase the employment opportunity to many local people. The cluster can be benefited immensely if a proper technical up gradation of machines, equipments is done.

Up gradation in the skills of workers is another area of improvement. Proper training can help in improving the productivity of the workers, thus improves the productivity of the industry as a whole. Greater scope lies in diversifying to newer sports segments, thus there is huge scope for promotion of productivity in this cluster.

## **METHODOLOGY TO IMPROVE SPORTS GOODS INDUSTRIES ISSUES**

The cluster has immense scope for technical up gradation within the existing set of manufactured items. Even, greater scope lies in diversifying to newer sports segments. Therefore a significant improvement in this sector can be achieved by improving productivity. In this sector, we will formulate the methodology to improve the productivity of MSMEs and provide them a viable solution to resolve major issues hindering the progress of these industries. Major issues for SMEs and micro enterprises are the limited resources and knowledge to improve productivity and cost. Since most of these industries are run by the family business in which ownership is transferred from one generation to another generation. There is no consideration of capability of the person who is running the operations. Many of these people do not have the technical and commercial knowledge of the business. They also lack the knowledge of legal requirements. Most of the MSMEs follow the practices of their procedures. Therefore there is a need to develop a facilitation center which can work as a single window solution to the whole MSMEs cluster. This facilitation center can provide them the information required to run the business more efficiently.

It should be able to provide them new development occurring in the industry. Main areas in which this facilitation center can help to improve the productivity of the whole sports manufacturing industry is discussed as follows:

### **Information of legal framework**

Common facilitation center (CFC), as a single window solution can provide the information of legal framework and government regulations about establishing and running MSMEs business. It will equip them with the knowledge of the legal requirement of various government agencies. It also can facilitate them by guidance which can reduce the fear of MSMEs to work within legal framework. It will reduce the harassment of MSMEs by various government departments. CFC can provide them the contact details of the concerned government agencies.

It can improve the efficiency and reduce the wastage of time.

### **Information of funds availability**

Availability of funds at low interest rate is a major issue for most of the MSMEs. There are many government schemes to help MSMEs to develop and run their businesses but most of the MSMEs are unaware of these schemes. They always struggle to find the sources of funds at low interest rates. Due to the lack of information, usually they are forced to arrange the funds at very high interest rates from money lenders. It affects their profitability badly. Sometimes, they are unable to produce the products on time due to unavailability of funds. CFC as a single window solution can provide the information of various financial institutions, schemes of low interest rate funds especially designed for the need of MSMEs. Government runs many schemes to provide subsidy to start a new business or run a business which has a high risk factors. CFC can provide all these information to the MSMEs and reduce turn around time and improve productivity significantly.

### **Market research**

Extensive market research is required to understand the need of the customers. People's requirements and expectations are changing continuously. It is important to understand the market dynamics to design the products. New designs have a great impact on manufacturing cost structure but at the same time, it has great potential to fetch higher selling price. Cost reduction can be done by improvement in productivity and reduction in wastage of material. Low value addition work can be sub contracted to the smaller units usually run by individuals or micro industries to improve productivity and cost. Common facilitation centre (CFC), which employs the well educated professionals in the sports industry, can do an extensive market research by various available tools and pass on this information to MSMEs. CFC can provide the market trends, change in the market dynamics and future trend to workout the better production plan.

### **Effective inventory control**

Sufficient raw material inventory and the cost effective source of procurement is main requirement to produce quality products on time. There are various uncertainties that exist in the supplies of the raw material. CFC can

help in developing local raw material supply sources. At the same time, it can gather the information of the reliable and good quality raw material sources to reduce uncertainty in the supply. It can also reduce the inventory of raw materials, which is kept due to the uncertainty of availability of raw materials. It will result in the improvement of the cost structure. Productivity and turn around time plays a crucial part in this context. An effective network of reliable suppliers plays an important role. Computerize system to control the inventory can be used. It can help in tracking the flow of inventory and finished goods in an effective manner. This sophisticated system can reduce the unnecessary cost of over inventory and productivity losses occurrence due to under inventory issues. It can help in effectively managing supply chain. CFC can help in developing cost effective automation systems to control the inventory and flow the inventory. CFC can provide these computer softwares at the nominal price to the MSMEs with government financial assistance.

### **Quality improvement by adopting quality standards**

Building a brand name is very crucial for the success of any industry. Same lies true for sports goods manufacturing MSMEs. Delivering quality products to the customer is essential to build the business sustainability. Infact exceeding the customer expectations is the key of success. Various quality standards can be adopted to assure good quality of the products. ISO 9000 and its associated versions are rapidly becoming a "license to compete" worldwide. Its standards can be applied to all the functions of any industry. We can utilize it for sports goods MSMEs in a very effective manner. MSMEs are very sceptic in adopting these systems due to the lack of knowledge, awareness and understanding of these quality systems. CFC can help in finding the quality systems which are appropriate for the sports goods enterprises. It can design the training programs to train the manpower of MSMEs to understand the various aspects of quality systems. It can help them to get the certification by facilitating them with the understanding of the requirements of quality system. With the assistance of government funds, MSMEs can be certified in a very cost effective manner. CFC can play a central role in this context.

### **Development of new materials**

In the recent times, there are various new materials that are developed and continuously developing to improve

product quality, productivity and cost. Most MSMEs lacks the resources and know-how to find out about these developments. CFC, which is equipped with modern tools and equipment can gather the information and dissipate it to the MSMEs with a timely and modern information system. It can help in improving the quality of the products and keep the pace with the market forces. New materials can improve product quality, wastage of the material and improve in productivity.

### **Development of new equipment and machinery**

With the development of new technologies, CFC can be a center of excellence by updating the information of the new machines and equipment development for improving the quality, productivity and efficiency of MSMEs of sports goods manufacturing units. It can provide all these information almost in real time. In fact, it can find the sources of the availability of these machines and equipment to keep MSEM's competitive to other manufacturers. A very simple example is RFID technology which can keep track of goods very effectively. Most of the MSMEs shy away by adopting these technologies which are available at a very low price and improve productivity considerably. It also improves the effective control of delivery of products by real time monitoring system. Many businesses have used them very successfully to control the flow of goods effectively. There are many other technologies which are available to reduce wastage and improve flow of goods effectively. CFC can help MSEM's to identify the appropriate technology which is more suited for individual enterprise.

### **Product standardization**

Standardization of the products, particularly the products used in professionally played games such as „cricket“, „soccer“ and „hockey“ etc is important to produce consistent quality products. It is important to build the brand name which is very important for the long term sustainability of the business. These are well established standards for the products which require very specific tools and equipments to maintain. CFC as a centralize facilitation centre equipped with required tools and help MSMEs to understand and implement these standards. Some of the simple examples are weight and size of the shuttle cocks, weight of the cricket bat and ball, stitch quality of the balls etc. Standardization of those products, especially those which have the highest volume in the export or production is more important to continue has the orders from local as well as foreign customers.

Product standardization is even more important to compete in export market with industries of other countries. CFC can facilitate MSMEs in this aspect significantly.

### **Accredited test house**

Testing facilities to test various sports products is important to ensure product quality. Testing facilities are required for both incoming material (raw material) and finished products. Many of the industries such as micro and small scale due to the size and volume are unable to afford these testing facilities. CFC can help to develop common testing facilities for these industries. It can develop a facility with world class testing equipment and provide this service to various sports goods manufacturer. In order to export quality products, an accredited testing facility in the cluster will not only create confidence about the products in the international market, but also provide the necessary feedback to the suppliers about their product quality. For the product acceptance in the international market; third party certifications from reputed agencies are required for most of the orders. CFC can develop and provide it at a low cost due to high utilization and with the financial support of government organizations. It can help them reduce cost and improve the product quality at very low cost. It will help sports goods manufacturing units to capture export market significantly with consistent quality, higher productivity and reduce cost.

### **Human resource development**

Human resources development is one of the most neglected areas in the cluster. There is almost no systematic training system on or off job for the workers in the cluster as the prevalent manufacturing system is skilled based manual operation. Only traditional training methods in which a person starts learning as a helper and slowly moves to semiskilled and skilled worker are used. This system may work in traditional manufacturing but it prevents introduction of newer technologies and methods in manufacturing. Continuous improvements and innovations are required to keep the manufacturing competitive and at par with best practices. A very casual approach is adopted for this phenomenon is the sports manufacturing cluster. Professionally managed training centers are required to fill this gap. CFC can help in filling this gap and develop a world class training center which can be utilized by various manufacturing facilities with nominal fees. CFC can develop various short terms, long term and crash courses to suite the requirement of various

manufacturers. It can design the courses for different levels such as skilled, semi skilled, supervisory and managerial positions. Development of human resources can provide a big boost for the MSMEs especially micro and small scale industries. It will help in changing the mindset to adopt latest, cost effective technologies. Eventually, it will improve productivity and profitability of the products.

### **Marketing and sales**

A dichotomy of the cluster is unwillingness of the players particularly the exporters to exchange information about market, though they maintain very close social relations. The reason is not very difficult to understand. No one wants to have a competitor who can take away his/her business. The fear of the players about poaching in their niche markets by other players is the cause of it. Again, due to the same reasons, the firms are unwilling to exchange information about technology up gradation. CFC with all the resources including well trained manpower can continuously look out for the new opportunities and disseminate the information to various manufacturing units. It can be a tremendous support to micro and small scale industries which are usually resource crunch; it can boost the overall productivity of these units, it can also fetch higher price. The overall productivity of whole cluster can be tremendously improved by utilizing the services of CFC.

### **Need for network**

Secrecy maintained about market related information by MSMEs prevents reliable market projections. The resistance of the cluster based firms to share information makes any projection of the domestic market near to be impossible. Most enterprises are unwilling to do market survey and they rely only on their individual sources. It dampens the potential of reliable and accurate projections of future demand. It causes unpredictable losses to most of the manufacturing units. Micro and small scale units are more affected by wrong projections of demand. The situation is near identical for the export market also. For in-depth analysis of the products or country based markets detail information from the actual exporters are required which are not made available by exporters. The adverse effects of the aforementioned on the performance of the cluster are already visible. The demand for the products of the cluster is stagnating and instead of gaining new markets, the cluster is losing existing markets due to the introduction of superior products by

the competitors both in domestic and export market. In view of other countries cluster development strategies to survive and further enhance the position in the market, the only way for survival of sports goods manufacturing cluster in Meerut city is to develop marketing networks and networks to develop technology.

CFC as a common facilitation centre can help in continuing collecting trends and data to ultimately help local sports manufacturing cluster. As the trust built up between local units and CFC, they may be willing to provide more data which can be used to improve the progress of the local MSMEs.

### Research and development center

As many of the special purpose machines are not readily available, they are required to be developed within the cluster. As R&D are not possible in house by the small firms due to the cost and risk involved, common facility is needed for such activities and some public funding for setting up the facility will enhance the process a lot. The research and development center is needed to be set up in or around the cluster. Day to day coordination is essential for product and process development and for that the facility should be set up in or near the cluster. CFC can develop this center equipped with essential facilities and networking with the other institutions of sports goods manufacturing located in the country and overseas.

### Database development of MSMEs

An updated database of MSMEs in the cluster is essential to keep the track of performance of the cluster. It is important to provide them the required help in the hour of need. Information flow of new developments inside and outside the country is very crucial for the success of these manufacturing units. CFC can work as a conduit to continuously feed this information to MSMEs. Some of the databases can be given the access to these Industries so that they can utilize it and provide valuable feedback to CFC. It can be a two way channel between MSMEs and CFC.

### Tapping of opportunities

Tapping of market especially export market of sports goods is essential for the growth and survival of the sports cluster. World market of sports goods is showing a healthy sign of growth with increase in health consciousness and leisure activities. More awareness about health

has increased the demand of various new types of sport products. Demand is not only improving in export market, it is also improving in the domestic market. Understanding people demand and requirement is important to tap the market and bring new products to the market. CFC as a central facilitation centre can do the market surveys and collect information from various sources and pass on the information to the relevant sports goods manufacturing units in the cluster. At the same time, it can provide them essentials to develop new products. It will help MSMEs in a significant way.

### CONCLUSION

In this paper, we have proposed a methodology to resolve the issues of MSMEs. These MSMEs are the backbone of any country in terms of employment generation. Issues which are common for their day to day working can be resolved by providing them a sustainable continuous support system. This system can be a single window support system. Well established institution such as a technical education institution can be chosen to establish a common facilitation center to support all the requirements of these sports industrial units cluster. The support center can work as a nodal agency to all the units established in the cluster. In fact, it not only supports the existing manufacturing units but also help them establish new units and development of new products with world class quality. It can reduce their dependence on the uncertainties.

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