Introduction

Micro, Small and Medium Enterprises (MSMEs) have always been the focus of expansion of the manufacturing sector in the Indian economy because of their radical and faster contribution in the economy. This necessitates for a continuous vigorous administrative approach and support to this sector in the country. With the globalisation of trade and business, Indian MSMEs have come closer with the industries and SMEs around the world and realised that the technology either developed indigenously or imported or with mutual exchange can boost the growth of the economy exponentially and also can bring the change in their living standards with focus on dignity. The growth of MSMEs is dependent mainly on two factors – one on its own efforts and second with the support of own government/multi governments /globalisation.

As on 29 April, 2019 more than 66,64,000 MSMEs have registered on Udyog Aadhar Portal (UAM) of the Ministry of MSME, Government of India. On the other hand the National Sample Survey (NSS) 73rd round, conducted by National Sample Survey Office, Ministry of Statistics & Programme Implementation during the period 2015-16, there were 633.88 lakh unincorporated non-agriculture MSMEs in the country engaged in different economic activities (196.64 lakh in Manufacturing, 230.35 lakh in Trade and 206.84 lakh in Other Services and 0.03 lakh in Non-captive Electricity Generation and Transmission,) excluding the MSMEs registered under (a) Sections 2m(i) and 2m(ii) of the Factories Act. It shows there is still a gap of MSMEs to get register on UAM portal.

With such a large number of MSMEs in the country, it is not possible for any government agency to attend the up scaling of competitiveness of each unit on one to one basis that culminates with the conclusion of cluster approach as a viable proposition. The cluster approach can be implemented in dual mechanism for technical upgradation: one is to create the common infrastructure/ facilities/ testing/ laboratories for a group of industries/enterprises in their vicinity that cannot be afforded by a single or few entrepreneurs and other is to implement various technological interventions in a number of MSMEs on cluster basis. Both of the above mechanisms necessitate closer interaction with the MSMEs as a groups/ stakeholders/ associations/ chambers/ federations/ technical experts/ consultants/ Cooperation agencies and so on. These can be used as an effective showcasing of improvements to other clusters in a wide geographical or virtual coverage. These days these are the effective and cost saving intervention and have vast demonstration effect of industrial cooperation.

Keeping in view above objectives, Office of the Development Commissioner (MSME), Ministry of MSME, Government of India has been implementing a number of schemes. Two such important schemes are  Micro & Small Enterprises - Cluster Development Programme (MSE-CDP) and Lean Manufacturing Competitiveness Scheme (LMCS).

Micro & Small Enterprises - Cluster Development Programme (MSE-CDP)

The Ministry of Micro, Small and Medium Enterprises (MSME), Government of India (GoI) has adopted the Cluster Development approach as a key strategy for enhancing the productivity and competitiveness as well as capacity building of Micro and Small Enterprises (MSEs) and their collectives in the country. A cluster is a group of enterprises located within an identifiable and as far as practicable, contiguous area and producing same/
similar products/services. The essential characteristics of enterprises in a cluster are (a) Similarity or complementarity in the methods of production, quality control and testing, energy consumption, pollution control, etc (b) Similar level of technology and marketing strategies/practices (c) Similar channels for communication among the members of the cluster (d) Common challenges and opportunities.

Ratna Abhushan Suvidha Academy, Jamnagar [Common Facility Centre (CFC)]

Objectives of the Scheme:

(i) To support the sustainability and growth of MSEs by addressing common issues such as improvement of technology, skills and quality, market access, access to capital, etc.

(ii) To build capacity of MSEs for common supportive action through formation of self help groups, consortia, upgradation of associations, etc.

(iii) To create/upgrade infrastructural facilities in the ne-existing industrial areas/clusters of MSEs, including setting up of Flatted Factory Complexes.

(iv) To set up common facility centres (for testing, training centre, raw material depot, effluent treatment, complementing production processes, etc.)

Rajkot Engineering Testing and Research Centre (Rajkot Common Facility Centre on Pump and Foundry Testing Cluster) established under MSE-CDP

Lean Manufacturing Competitiveness Scheme (LMCS)

Office of the Development Commissioner (MSME), Government of India has been implementing Lean Manufacturing Competitiveness Scheme (LMCS) on mini clusters basis. The objectives of the scheme are to enhance the manufacturing competitiveness of MSMEs through the application of various Lean Manufacturing (LM) techniques by -

i) Reducing waste;

ii) Increasing productivity;

iii) Introducing innovative practices for improving overall competitiveness;

iv) Inculcating good management systems; and

v) Imbibing a culture of continuous improvement.

The basic rationale of the Government support to MSMEs for undertaking lean manufacturing (LM) is to enhance their productivity and competitiveness by reduction of wastage in manufacturing processes, inventory management, space management, energy consumption, etc. The LM techniques also result in reduction in rejection, standardization of processes, better layout of machines resulting in reduced transportation of products during manufacturing, etc. The implementation of LM techniques leads to cost reduction for MSMEs. It also has lot of social benefits in terms of training of labour, creation of knowledge, increased labour productivity, lower input costs to other industries, introduction of new production equipment/methods in manufacturing and development of work culture in society.

The implementation of lean manufacturing technologies in the enterprises will lead to increasing return to scale, i.e. (i) economy of scale that reduce per unit production cost and (ii) increased productivity of the enterprises (iii) enhanced competitiveness in domestic and overseas markets. Simultaneously it also leads to increased expertise in the firm in respect of better work culture, managerial competencies, etc. The scheme also leads to 'demonstration effect'.

M/s Jay International, Jamnagar (Brass Component Manufacturing Export oriented LEAN implemented unit)

A list of main LM techniques with brief description of each is given below:

i) **5S System:** The 5S systems is a workplace management which helps in getting the "junk" out of the work area and set of procedures to keep it that way. 5S stands for Sort, Set in order, Shine, Standardize & Sustain.

ii) **Visual Control:** Visual controls such as cartoons, charts, light signals, Lane marking on floor, Safety instructions, Warning signs, Poka-Yoke instructions etc., can be displayed all over the work place.

iii) **Standard Operating Procedures (SOPs):** All verbal instructions should be converted to SOPs to remove dependency on skilled personnel in achieving required product quality level, consistency, effectiveness and efficiency.

iv) **Just in Time (JIT):** It’s a Japanese manufacturing philosophy to make the right product in right quantity at the right time. This almost results in zero inventory and shortest possible cycle time.
v) **KANBAN System:** In this, components are pulled by assembly or subsequent work centers and the containers are replenished with the right quantities by the previous work center, which reduces the inventory of unwanted components.

vi) **Cellular Layout:** In this improved manufacturing system, family wise component completion is aimed at within the smaller self contained cell, which is a part of a big factory, as compared to operation wise completion in traditional functional layout.

vii) **Value Stream Mapping:** It covers all activities, both value added and non-value added, and helps in arriving at best layout of all resources required for making the product.

viii) **Poka Yoke or Mistake Proofing:** It is again a Japanese technique used to prevent errors occurring at their source of origin, and it finally leads to a ‘Zero Defect’ situation.

ix) **Single Minutes Exchange of Dies or Quick Changeover (SMED):** Applying ingenious methods, set up time is minimized and brought to less than ten minutes; thereby smaller batches as required by the customer can be taken up for manufacturing.

x) **TPM (Total Productive Maintenance):** TPM involves operators, maintenance staff and management working together to improve overall operation of any equipment. Operators, who first identify noisy or vibrating motors, oil or air leaks, can be trained to make simple repairs to prevent major and costly break downs.

xi) **Kaizen Blitz or Rapid Improvement Process:** It is an intense management programme, which results in immediate change and bottom line improvement. Both management staff and workers are involved in this.

xii) Other Lean Techniques on need basis, etc.

Recently a team of officers of the Office of Development Commissioner (MSME), Ministry of MSME, Government of India had an opportunity to visit Rajkot Engineering & Jamnagar Brass component cluster, Gujarat from 18.4.2019 to 21.4.2019. During the visit, the officers visited Rajkot Engineering Testing and Research Centre, (Rajkot Common Facility Centre on Pump and Foundry Testing Cluster) established under MSE-CDP, Gujarat Forging Rajkot, a LEAN implemented Pump manufacturing unit, Common Facility Centre on Ratna Abhushan, Diamond Cutting and Polishing Cluster, Junagadh, M/s Jay International Brass Component Manufacturing Export oriented LEAN implemented unit and M/s Balark, Jamnagar Brass component manufacturing Export Oriented LEAN Implemented unit, Sea food export processing unit and others that are the testimony of such effective interventions.

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