



Proposed programme for technology upgradation and green-house gases emission abatement in Ferozabad glass industries cluster

The small scale industry (SSI) in India, although found to be playing a critical role in providing employment opportunities, mobilizing local skills and capital resources, has been observed to be generally less efficient in material and energy utilization when compared to enterprises of similar scale in developed countries. In terms of energy efficiency, the Ferozabad glass industry presents a grim picture necessitating immediate technological intervention. A recent study by a UNIDO expert has revealed that Ferozabad small-scale cluster consumes 107% more energy than international level.

In view of the vast scope for energy efficiency enhancement and consequent protection of environment, particularly in the context of Ferozabad falling under the environmentally threatened Taj Trapezium Zone, this Glass industry cluster has been identified for implementing a comprehensive programme on technology upgradation. The programme envisages a holistic approach covering various facets of local glass industry cluster activities viz; upgradation in technology and quality, efficiency in fuel consumption and consequent abatement in Green House Gases (GHG) emissions, safety of work environment, adoption of international standards and modern management, exposure to international markets, capacity building etc. so as to ensure sustainable development. The development phase of the project shall be funded by the Ministry of Small Scale Industries, Government of India. The tested technologies shall be evaluated at the end of the development phase and a programme for replicating the technological development in the other glass units shall be prepared. The development phase shall be funded by Govt. of India, SIDBI and the Industry Association.

The tested and proven technologies shall be replicated in the technology transfer and facilitation phase for which a detailed project document will be prepared for support from international donors by UNIDO.

The main objective of the proposed programme is technological up-gradation of glass industries at Ferozabad by strengthening technological and manufacturing capacity through adaptation of energy efficient technologies and their demonstration :

- ❖ to reduce GHG emissions through energy efficiency measures.
- ❖ to improve significantly the working environment and health of workers in glass manufacturing processes in general and in the ancillary operations in particular, and
- ❖ to ensure sustainability of these small and cottage industries in the context of globalization.

The following five areas have been identified for technology development :

- a. Development and installation of energy efficient 12 pot furnace (open pot and close pot)
- b. Development and installation of auxiliary furnaces like “sikai bhatti” and “pakai bhatti” used for bangle making
- c. Improvement in combustion technology by furnace design development, use of improved construction material, instrumentation and retrofitting
- d. Bangle joining
- e. Mould development.



Project for Development of Diesel Engines-cum-Engineering Industry Cluster at Rajkot

The Ministry of Small Scale Industries has recently approved an ambitious project for development of Diesel Engines-cum-Engineering Industry Cluster at Rajkot (Gujarat) with a holistic approach. The Rajkot Cluster consists mainly of SSI units producing diesel engines. There are around 5000 such units and their products are also exported to Middle-East and Africa to the tune of Rs. 70 crores per year. Another well-known cluster at Rajkot consists of Precision Bearing producing units. This product is marketed all over India but there has not been much of export because of low technology and high cost of manufacturing. The third product group which is growing at Rajkot consists of Machine Tools and Agricultural Implements. These units have enough potential and can develop in the long-run if supported in areas of technology, marketing, export etc.,

The project aims at making the following focussed interventions in the cluster:-

- a. Diagnostic Study
- b. Awareness seminars to disseminate the findings of the Diagnostic Study and identifying avenues for improvement

- c. Developing resource persons in the form of Business Development Services (BDS) providers in the areas of technology, marketing, export, health and safety etc.
- d. Enterprise Upgradation Programme through a group of technical investigators recruited and trained by the project on various facets of technology, marketing, export, health and safety etc. They will visit 2000 enterprises to provide training to the entrepreneurs. These experts will remain active even after completion of the project, resulting into a multiplier effect
- e. Technological Workshops (15): Workshops to benefit about 600 enterprises
- f. Personal counselling to the entrepreneurs
- g. Adopting Cluster Development Methodology through a holistic approach by establishment of informal networks (consortia) and capacity building of Cluster Actors with due sustainability. The Project has been designed to deliver the following outputs:-





- ❖ Technology upgradation and resultant improvement in quality and productivity
- ❖ Developing databank of BDS providers
- ❖ Capacity building of the cluster actors
- ❖ Exploring the avenues of diversification
- ❖ Networking among cluster actors and forming consortiums
- ❖ Improved marketability of the final products
- ❖ Sustainability of the desired initiative
- ❖ SMEs internalizing the need for and the way of change and development for OVERALL GROWTH OF THE CLUSTER.

The project will be implemented over a period of three years by Entrepreneurship Development Institute of India, (EDII), Ahmedabad. This Institute has developed a lot of expertise in Cluster Development, as it has earlier been involved with several other significant cluster development activities like:-

- a) Training of Cluster Development Agents with support from UNIDO Focal Point, Cluster Development Programme, New Delhi.
- b) Developing Brass Parts Clusters in Jamnagar, Gujarat.
- c) Enterprise development and productivity improvement for Metal Handicrafts Cluster at Moradabad.
- d) Growth Programme for SMEs in the Scientific and Medical Instruments Cluster at Ambala, Punjab.
- e) Growth Programme for established entrepreneurs in the Machine Tools Clusters, Bangalore to promote exports.

- f) Enterprise Modernization and Growth Counselling Programme for the Leather Industry Cluster, Chennai.

The Project is financially supported mainly by the Ministry of SSI with some contributions from ICICI and the local industry associations.

Progress : The Programme is still in its initial phase. The following activities have been carried out till date:

- (i) A pilot study exclusively on diesel engine cluster of Rajkot covering cluster map, history of diesel engine, production and operations management, technology know how etc.,
- (ii) Awareness seminar on preliminary observations
- (iii) Meeting with the members of Rajkot Engineering Association (an apex body representing the engineering cluster of Rajkot) and briefing them about the objects and detailed activities of the project
- (iv) Identification of 2000 pro-active units to be included under the purview of the project
- (v) Identification and data collection from 57 business development service providers assisting Rajkot directly or indirectly for promotion of business
- (vi) Advertisement, selection, recruitment and induction training for 8 qualified fresh Engineers to be inducted in the cluster as BDS providers in technology
- (vii) Visit of 37 out of 2000 units by the BDS providers in technology for identification of problems related to productivity and quality.