SUPPORTING UNDERPERFORMING SME CLUSTERS IN DEVELOPING COUNTRIES

Lessons and policy recommendations from the UNIDO cluster programme in India

Paper prepared for

THE SECOND OECD MINISTERIAL CONFERENCE ON SMALL AND MEDIUM ENTERPRISES

WS4: ENHANCING THE ROLE OF SMES FOR DEVELOPMENT

UNEDITED DRAFT PAPER FOR RESTRICTED CIRCULATION
Supporting Underperforming SME Clusters in Developing Countries: Lessons from the UNIDO Cluster Programme in India and Recommendations for Policy Makers

Introduction

It is now over a decade since SME clusters, that is geographical agglomerations of small and medium-scale enterprises engaged in similar or highly related economic activities, have ceased to be only a topic of academic research and have become areas of great attention for policy makers and practitioners in the field of economic development. This process has culminated in the OECD's Bologna Charter on SME Policies, which identified clusters as "stimulating environments for innovative and competitive SMEs".

Nowadays, evidence on SME clusters, in developed as in developing countries, is available from a large number of countries in the Americas, Europe, Africa, and Asia. Whereas a few SME clusters in developing countries have actually established themselves as key players in world markets, there is growing evidence that a much larger number of such clusters, above all in developing countries, are failing to take up the opportunities provided by the increasing globalisation of the world economy. Indeed, the opening of international markets and the increasing flow of trade present formidable challenges for SME clusters, many of which are presently on the verge of disappearance.

The challenge for policy makers and development agencies alike is to refocus their tools and approach and to provide underperforming clusters in many developing countries with the means to face such a challenge and indeed to actively insert themselves in global value chains. Refocusing SME support policies along the principles of cluster development, on the other hand, provides policy makers with a chance to use the limited developmental resources available in a more effective and efficient manner, increasing impact and outreach and leveraging upon the active participation of the private sector.

UNIDO’s work with underperforming SME clusters is now over a decade old and it shows that it is actually possible to assist such clusters effectively. This paper presents an overview of the UNIDO Cluster and Network Development Programme with a special emphasis on its activities in India. It provides an introduction to the methodology followed and examples drawn from implementation. Furthermore, in the final section, it offers a set of recommendations for policy makers who may want to place cluster development at the core of their SME development strategy.
SME clusters in developing countries: some stylised facts

There is ample evidence that small- and medium scale enterprises (SMEs) operating in the same or in related industrial sectors tend to cluster close to one another. This tendency to bunch in well-defined areas has been observed in different environments in developing countries, and in different historical periods. There are sound economic reasons for this phenomenon. SMEs operating in such clusters derive a clear competitive advantage from:

- The proximity to sources of raw material inputs,
- The availability of suitably customised business development services,
- The abundance of clients attracted by the cluster tradition in that industry,
- The presence of a skilled labour force
- The vibrant competition among the cluster entrepreneurs, which spurs innovation and increases efficiency.

SME clustering is common in a wide range of developing countries and sectors. Some clusters in Latin America and Asia have acquired great depth in terms of the concentration of specialized suppliers and support bodies. Among those for which studies are available are the metalworking and textile industries of Ludhiana in the Indian Punjab; the cotton-knitwear industry of Tirupur in Tamil Nadu; the diamond industry of Surat in Gujarat; the footwear clusters of the Sinos Valley in Brazil, Trujillo in Peru, and Leon and Guadalajara in Mexico; the Korean textile cluster in Daegu; sports goods and surgical equipment in Sialkot, cutlery in Wazirabad and electrical fans in Gujarat in Pakistan. In African clusters, the inter-firm division of labour and institutional support tend to be less developed, as observed in the metalworking, furniture making, garment and other clusters in Kenya, Zimbabwe and Tanzania. However, growing evidence is emerging about the pervasiveness of SME networking, for example in Nigeria.

While primarily an urban phenomenon, clusters can also be a feature of rural

---

industrialisation, as in Indonesia where one can find the specialization of entire villages, for example, on the manufacture of roof tiles or rattan furniture in Java. Within the urban arena, clusters located in intermediate towns seem to have been particularly successful, as indicated by their growth records and ability to compete in export markets. In contrast to clusters in small- and medium-sized towns, those in major cities tend to be less rooted historically and have sometimes emerged from informal self-employment coping strategies of the poor. Despite that, many such clusters display a growth potential that goes beyond informal survival strategies and indicates localized competitiveness based on increasing specialisation amongst small firms; examples are the metal and repair workshops in the Takora district of Lima, Peru, and Suame, the industrial shanty suburb of Kumasi, Ghana. These are just some of the examples that can be identified in the recent literature and which suggest that clustering is of significance to the industrial organization of small-scale manufacturing in developing countries.

Industrial clusters, especially in developing countries, have long attracted the attention of policy makers for the growth prospects they offer SMEs. Clusters matter because geographical agglomeration can potentially help firms, especially smaller ones, overcome constraints associated with size, promote technological development and productivity enhancement, and enhance their ability to compete in local and global markets. The gains of clustering include economies of scale and scope as small firms specialise and engage in a division of labour. Geographical agglomeration also throws up possibilities of local joint action, between firms and through local institutions. Some authors capture these clustering advantages in the concept of collective efficiency, distinguishing between the passively acquired benefits that arise from specialised agglomeration - of skills, inputs and knowledge and the actively generated gains that accrue from the joint action of clustered actors. Such advantages can be of further relevance in the current context of globalisation, though the ability of clustered producers to participate in global value chains does not depend exclusively on local factors, but also on the relationship between local firms and global buyers. Finally, industrial clusters can make an important contribution to poverty reduction, as they promote sustainability in employment and incomes and thus serve to

---

5 A valuable introduction to the Indonesian experience, where the existence of over 10,000 rural clusters have been documents is available in Weijland, H., 1999, ‘Microenterprise Clusters in Rural Indonesia: Industrial Seedbed and Policy Target’, World Development, vol. 27, no.9, 1515-1530.

6 For further evidence, pls refer to the UNIDO paper “Principles for Promoting clusters and networks of SMEs”.

improve the situation for the working poor. Moreover, clusters are also relevant in that they offer potentially important benefits of developing social capital and social protection through local trust-based relations.

Evidence on the relevance of the above-mentioned factors for industrial clusters in developing countries is however mixed. At one extreme, in most sub-Saharan African cases, the sheer process of clustering has had only a minimal impact. This may well be because they are relatively young, with specialization and self-help institutions yet to develop. At the other end of the growth spectrum, there are a number of clusters in Latin America and Asia displaying sustained competitiveness, including in export markets, and with some firms progressing along a quality-innovation growth path. In particular, clusters which have been able to establish/insert themselves into regional/global marketing channels and then developed a capacity to respond to changes in the market have done particularly well. Some of the clearest examples include the cotton knitwear cluster of Tirupur in India; the surgical instrument cluster of Sialkot in Pakistan, and the footwear cluster of the Sinos Valley in Brazil, all three being major actors in national and international markets.

Despite these shining examples, the large majority of SME clusters in developing countries are facing remarkable challenges as a result of the globalisation of markets and the spread of international trade. Market niches that used to be protected because of high transportation costs or peculiar taste of consumers are being eroded. This process is exposing several clusters, especially those located in rural areas, to unprecedented pressures and often leading to their disappearance. Furthermore, as across-the-border subcontracting becomes easier and more widely accepted, many SME clusters that were born around large-scale enterprises, face requests from their lead firms that are increasingly harder to meet.

Very much as observed in developed countries, economic stagnation and mounting competition can trigger dramatic and lasting changes in a cluster. As entrepreneurs see their profit margins dwindle, they stop talking and collaborating with one another thus preventing the easy flow of information that is at the core of cluster dynamism. Relationships with providers of business development services are severed in an attempt to cut costs on a short-term basis and calls for action to local policy makers become fragmented and

---

8 For an in-depth analysis of these clusters, pls refer to the UNIDO paper "Industrial Clusters and Networks: Case Studies of SME Growth and Innovation".

uncoordinated, thus making public-private partnerships all the more unsustainable and short-lived. Under these conditions SME clusters can be best described as under-performing.

The challenge of assisting underperforming clusters in developing countries: the UNIDO approach

As highlighted above, the mere concentration of enterprises operating in the same sector is, by itself, not a guarantee of success. This is because the advantages associated with clustering do not always emerge automatically. As a matter of fact, SME agglomerations are a widespread phenomenon in many developing countries. In most of such cases, however, cooperation among firms is accidental or inexistent. Entrepreneurs, although working and many times living within distance of a few meters, do not share business information, or discuss their common problems, nor organize themselves to implement self-help actions. SMEs have only occasional relationships with providers of business development services (BDS) and are not accustomed to presenting articulated calls for action to the local policy makers. These underperforming clusters are characterized by low levels of trust, latent conflicts, and cut-throat competition among firms. As an outcome, they are locked within a vicious cycle of stagnation and poverty.

The transition from this stage of disorganization and stagnation to one of organization and achievement is not easy. The development of trust, constructive dialogue among the cluster actors, exchange of information, identification of common strategic objectives, the agreement on a joint development strategy and especially its systematic and coherent implementation, require substantial efforts and commitment to the common goals. More than anything, this requires:

- Time to invest in reciprocal knowledge and coordination
- Development vision beyond the daily routine
- Long-term commitment.

As hinted at above, some clusters in developing countries, for different historical, social and economic reasons have been able to cater for these resources within their boundaries and have been able to capitalize on their latent common strengths and opportunities. In many other clusters, however, this has not happened spontaneously. In these cases, external technical assistance can be beneficial to help trigger a process in which the local actors organize themselves and capture the common opportunities.
Over the last ten years, UNIDO has worked intensively in the field of SME cluster/network development in over a dozen countries in Africa, Latin America and Asia. In all these countries, the key objective of UNIDO has not so much been an attempt to create new clusters but rather to provide effective assistance so that under-performing clusters could not only overcome their problems but actually exploit the opportunities provided by the opening of markets and by technological innovation. There are sound reasons for such a choice: working in clusters, even under-performing ones, provides significant advantages for an SME support agency. The concentration of largely homogenous enterprises within a relatively limited geographical area greatly facilitates the intervention because of the similarity of needs and support requirements by the local firms. Moreover, the process of dissemination of best practices is speeded up because of the pervasiveness of demonstration effects, leading to greater out-reach of support initiatives. Finally, the fixed costs involved in providing technical assistance can be distributed over a large number of beneficiaries, with immediate benefits both in terms of efficiency and effectiveness.

The methodology elaborated by UNIDO after a decade of work in supporting underperforming clusters in Asia, Africa and Latin America - somewhat in contrast with other cluster development strategies currently implemented in industrialised nations - places intense emphasis on active stewardship of local actors in underperforming clusters. The rationale for this difference is related to the great scarcity of resources that characterises underperforming clusters in many developing countries. Faced with rapidly shrinking markets and dwindling profit margins, cluster entrepreneurs as well as service providers, support institutions and local government in developing countries, simply do not have enough resources, time and determination to autonomously coordinate a programme for cluster revitalization. In other words, conflict is so entrenched and pervasive that the cluster would simply not be able to put forward a restructuring plan and bid for the kind of support funds available, for example, under the framework of the cluster development initiatives in the European Union or in several US states.

Indeed, a distinguishing feature of the UNIDO approach to cluster development is its reliance on a cluster development agent (CDA), with whom the responsibility for implementing

---


11 For a review of a large number of cluster development initiatives, especially in developed countries, pls refer to Ö. Sölvell, G. Lindqvist, C. Ketels 2003 “The Cluster Initiative Greenbook” Cluster Initiatives, Stockholm.
this strategy lies. The CDA, who is to be specifically trained in the fields of enterprise/cluster diagnostics, conflict management and resolution, network building, project management and project evaluation, operates on a full-time basis within the cluster and enjoys a good degree of autonomy in providing the technical, financial and human resources required for the development of the cluster.

Active stewardship of underperforming clusters should not be equated with a dirigiste approach to local development. As indicated above, cluster support initiatives can only be successful if they are demand-led and truly beneficiary-owned. Reconciling stewardship with an active role of cluster stakeholders is perhaps the hardest challenge faced by the CDA. For this reason, it is of crucial importance that CDA should be supported by an implementing agency determined towards prolonged trust- and institution-building in an underperforming cluster but should at the same time also be granted enough empowerment and flexibility to respond timely and with ingenuity to the requests emerging from the cluster.

In terms of implementation strategy, the approach by UNIDO calls for a multistage participatory approach entailing the following phases:

- **Selection of clusters**: as already highlighted above, careful selection among the underperforming clusters that already exist in the country is the best way to ensure an effective and wide-reaching development programme. This stage is meant to ensure that the available resources are concentrated on clusters where the approach has the greatest likelihood to enhance the profitability of SMEs but also to revitalize systemic interactions and disseminate best practices.

- **Diagnostic study**: Understanding what lies at the core of cluster underperformance is crucial for the success of a cluster development initiative. Information about the cluster is gathered in a participatory manner with a specific emphasis on the constraints faced by the stakeholders, the untapped potential, the features of local as well as global linkages and the viability of support mechanisms.

- **Trust building**: Establishing an atmosphere of trust within a cluster is an essential prerequisite to earn the support from those involved in the cluster. Here the CDA must first develop “bilateral” trust with individual stakeholders and then use it to create/enhance trust among them. This starts with informal/formal interactions and later takes the route of trust building through participation in joint activities.

- **Identification of an action plan**: This list of activities, which is necessarily more than the sum total of demand from the different cluster stakeholders, starts with inputs from the diagnostic study. It is a roadmap that helps foster relationships
among the stakeholders while delivering visible results. It is also an attempt to embody a vision for the cluster as a whole in a set of activities that can be implemented through stakeholder collaboration.

- **Implementation activities**: Turning the action plan into actual activities does not only entail the realisation of the objectives agreed. First and foremost, it involves a radical change in the way the cluster actors interact with each other and conduct activities. The responsibility for implementation lies initially with the CDA but it is progressively shifted to the stakeholders, particularly those in the private sector, with support from local institutions. In the implementation of the action plan the stakeholders discover the advantages of closer cooperation. Joint activities with intermediaries enhance capacity and strengthens governance structure of the cluster.

- **Monitoring and evaluation**: Monitoring of the quantifiable and qualitative outcomes of implementation helps to disseminate best practices and strengthen trust among stakeholders. It also allows the identification of emerging changes in the relationships among cluster stakeholders and the adaptation of cluster activities and governance structures to these.

It would be however incorrect to see these stages as purely sequential. The process of cluster development is strongly cumulative because the volume of activities implemented is a positive function of the amount of trust that is developed in the clusters. As long as mutual trust among the cluster stakeholders is low, activities are agreed upon only very slowly and they gather momentum equally slowly. As confidence builds up and linkages increase, activities pick up, which again increases the confidence of the cluster stakeholders in each other. Furthermore, as the trust of the cluster stakeholders is increasingly won by the CDA, richer and more detailed information is released by the latter about the status of the cluster, its challenges and its structural problems. For this reason, it becomes possible to revisit the diagnostic study, to integrate it with more focussed studies and to deepen it, often integrating in it a more detailed assessment of the cluster’s position in local and global value chains. It is for his reason, that the approach followed by UNIDO has strong feedback components and it is open to the lessons learned by the CDA during early phases of implementation.

From a geographical perspective, UNIDO is presently involved in SME cluster and/network development projects in over 15 developing countries in Africa, Latin America and Asia, as detailed in the map below. The countries in yellow are those where such projects have been operationally completed and assistance has been completed. Countries in red, on the other
hand, refer to locations where projects are presently been discussed. In the countries in blue, finally, UNIDO is presently implementing one or more projects as per the methodology presented above. In many such countries, cluster/network development projects have leveraged upon the broad array of other technical assistance initiatives available at UNIDO in the field of sectoral upgradation, technology and investment promotion, and trade capacity-building. Further evidence on such work is available at the Internet site: www.unido.org/clusters.
Cluster Development in India: Background and UNIDO experience.

India is a country extremely rich in clusters of small-scale enterprises and indeed one of the earliest cases of a developing country that has embarked upon cluster support as a strategy for SME development. Furthermore, it is one of the countries where the UNIDO cluster development programme has been under operation for a long time, namely since 1996. As a result, the paper can focus on some of the lessons that have emerged from this country and it also provides examples drawn from actual implementation. Before dwelling on such issues, however, a few words of introduction are needed.

Clusters in India

With a contribution of 40% to the country's industrial output and 35% to direct exports, the small-scale sector has achieved significant milestones for the industrial development of India. Furthermore, small-scale enterprises, especially in rural areas and in the rapidly growing urban ones, provide a viable employment and income opportunity for millions of underprivileged households on the way out of poverty. Within the sector, an important role is played by the numerous clusters that have been in existence for decades and sometimes even for centuries. It is estimated that there are around 400 industrial clusters and approximately 2000 rural and artisan ones in the country. Furthermore, it is estimated that these clusters contribute 60% of the manufactured exports from India. Among the larger clusters, it is worth mentioning those of:

- Panipat accounting for 75% of the total blankets produced in the country;
- Tirupur, which is responsible for 80% of the country's cotton hosiery exports;
- Agra with 800 registered and 6,000 unregistered small scale units making 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;
- Ludhiana, a city known as the Manchester of India, which alone contributes 95% of the country's woollen knitwear, 85% of the country's sewing machines and 60% of the nation's bicycle and bicycle parts\(^\text{12}\).

Despite such achievements, the majority of the Indian clusters share significant constraints like technological obsolescence, relatively poor product quality, information deficiencies, poor market linkages and inadequate management systems. Moreover, with the Indian economy

\(^{12}\) Restructuring and Modernization of SME Clusters in India, UNIDO report, November, 1996 available in the Documents section of the site www.unido.org/clusters
on the path of liberalization, all clusters (even the best performing ones) are increasingly feeling the competitive pressures coming from the international markets. Under such conditions, achieving greater competitiveness in global markets has become a matter of concern for Indian policymakers.

Realizing the importance of clusters within the Indian economy, the Abid Hussain ‘Expert Committee on Small Enterprises’ constituted by the Government of India advocated cluster-support policies as the centerpiece of small enterprise development. The report issued by the Committee in 1997 states:

"Focus on Clusters is the centerpiece of the new approach in an increasing public private partnership in setting up support systems for small scale enterprises .... The Expert Group therefore recommends that state governments identify the existing clusters and then promote new types of organizations that are joint ventures between the state governments or local authorities and business associations in these clusters."

Even prior to such a high-level statement, however, the State Bank of India had already launched a project called UPTECH with the purpose of upgrading small units including their management process, quality, technology and marketing, in selected clusters. Even earlier, namely in 1991, another project based on the cluster approach was started by the Small Industries Development Bank of India for technology upgradation.

*The UNIDO Cluster Development Programme in India: basic facts*

The UNIDO Cluster Development Programme in India has been in operation since January 1997, thanks to several contributions from the Italian Government and the Swiss Agency for Development and Cooperation. It entails the following objectives:

- To strengthen the competitiveness of selected SME clusters by enhancing collective efficiency and networking;
- To develop and disseminate a methodology for cluster development suited to Indian conditions;
- To promote a cluster development movement in India; and
- To enhance the contribution of cluster development to the reduction of poverty.

From an organisational perspective, the programme collaborates closely with the Office of the Development Commissioner at the Ministry of Small Scale Industries, Government of India. A Steering Committee chaired by the Commissioner and representing several public
institutions currently involved in cluster development, oversees the implementation of the activities at the cluster level and strives to disseminate the lessons thus learned. The programme is implemented through a Cluster Development Focal Point office in New Delhi with several national experts posted locally as CDAs (in the clusters receiving direct assistance) or as technical advisors to the seven Indian organizations through which the programme is extending its assistance to 14 more clusters across India.

The following has been achieved since the launch of the programme:

- Seven clusters have been assisted on a pilot basis namely Jaipur (textile hand-block printing), Pune (food processing), Tirupur (cotton hosiery), Ludhiana (knitwear), Ahmedabad (drugs & pharmaceuticals), Ambur (leather tannery & shoes), and Bangalore (machine tools). As a result of this project, several institutions (including export consortia, common service centres and SME support institutions and associations) have been established or revitalized. Approximately 1,200 firms have benefited from the programme activities, which have now been operationally completed in all seven clusters.

- Since July 2002, three more clusters are being assisted namely Bellary (jeans), Kota (knitwear), and Jallundhar (sports goods).

- Moreover, action-based research in the field of cluster development and poverty reduction is being conducted in the clusters of Sindhudurg (food processing) and Chanderi (handicraft textile) to ascertain the direct and indirect contribution of cluster development initiatives to the fight against poverty.

- A comprehensive data bank on 380 industrial clusters in India has been compiled. A list of 1,657 artisanal clusters has also been drawn up. The database is currently hosted at the Internet portal of the Ministry of Small Scale Industries.\(^\text{13}\)

- Over 600 policy makers, development agents and academics have been sensitised to the cluster development approach through several national workshops, state-level workshops, training modules and various other seminars;

- Seven government institutions have adopted the cluster development model within the framework of their industrial policies and have started pilot cluster interventions with UNIDO support.\(^\text{14}\);

\(^{13}\) At the address: www.laghu-udyog.com/clusters/index.html

\(^{14}\) Development Commissioner (Ministry of Small Scale Industries), State Bank of India (SBI), Textile Committee (Ministry of Textiles), Government of Madhya Pradesh, Government of Andhra Pradesh, Government of Gujarat
An international Joint Learning Workshop for cluster and network development practitioners was organized in New Delhi in 2002. Several study tours have been organized to assisted SME clusters for practitioners from Pakistan, Thailand, and Bangladesh;

Methodologies, tools and training modules have been prepared to assist the government, public institutions and associations to implement cluster development initiatives. A 12-week programme to train CDAs was developed in collaboration with the Entrepreneurship Development Institute of India, Ahmedabad and run in three separate editions. A manual for trainees and another one for trainers were prepared. Over 80 CDAs have been trained to date, the great majority of whom is presently operating as cluster development agent in one or more Indian clusters.

Case studies from implementation
Despite all the methodological lessons distilled, the training manuals prepared and the brief outlines presented above, only a detailed presentation of some of the activities undertaken by UNIDO under the framework of its Cluster Development Programme in India can deliver an idea of what cluster development actually entails. For this reason, some space is now devoted to present 3 case studies drawn from operational support activities in the clusters of Ludhiana, Bangalore and Pune. In all of these clusters, UNIDO projects have now reached their completion stage and the process of cluster development is in the hands of the cluster stakeholders. For sake of clarity, the case studies are introduced by a brief section on the initial status of the three clusters, including the challenges and opportunities faced. As it would be impractical to recall the full range of activities implemented in each cluster, preference is given to highlighting how the project attempted to tackle a specific problem of the cluster as well as what results were achieved. This section also provides an introduction in terms of industrial sectors (textile, machine tools and food processing) and in terms of challenges addressed (export promotion, human resource development and compliance to legal standards).

15 UNIDO, Expert Group Meeting on Impact of Cluster Development Projects
16 Full version of the end-of-project reports are available at the site www.laghuudyog.com/clusters/index.html
Addressing labour shortages in the knitwear cluster of Ludhiana

Background

The Ludhiana knitwear cluster is more than a hundred years old. Its origin can be traced to migrants from Kashmir, who settled in Ludhiana after the 1833 famine. Presently the cluster, also known as the Manchester of India, hosts 12,000 units covering the entire knitwear value chain and including 10,000 knitting units, 500 processing units, 100 machinery manufacturers and 200 spinners. Most of the units are small in scale, that is with a total investment in plant and machinery under USD 1 million. The total output of the cluster is of around USD 800 million, one fourth of which from exports. The Ludhiana knitwear cluster employs about 40,000 workers that manufacture the entire spectrum of winter and summer wear, including T-shirts, sweat shirts, pullovers, jackets and even grey fabric, using a wide range of cotton, synthetic and wool based yarns. Ludhiana rules the Indian market with a 95% share in the domestic woollens market. The cluster is also a large manufacturer and primary supplier of fabric to units based elsewhere in India.

Despite these impressive figures, the Ludhiana cluster was facing a severe challenge in the late 1990s. As a matter of fact, 1997 was the year when the cluster activity began to slow down after several decades of relentless growth while the export growth rate turned negative in 1998. The Manchester of India was feeling the pressure of the increasingly liberalised Indian economy, saw its traditional domestic market challenged by the inflow of products from the Far East, most notably China, while the traditional low-quality export markets in the Soviet Union and Eastern Europe were drying up rapidly.

Addressing such a challenge required cluster-wide upgradation, most notably in the following four areas:

- **Human Resources Development:** Nearly all the workers in the cluster, most of their supervisors and a good portion of the entrepreneurs had acquired skills on the job, which resulted in low productivity, wastages, poor workmanship and quality. The lack of a formally trained workforce paradoxically coexisted with the presence of a well-known knitting institute and several industrial training institutes in Ludhiana, all of which were, needles to say, very poorly relied upon by the private sector.

- **Value Chain management:** The value chain inside the cluster was found poorly integrated: each segment worked in isolation and never tried to understand the needs of buyers and/or final consumers. Lacking clear direction and coordination, the cluster was not in a position to respond to mounting competition.

- **Market networking:** The practice of selling through intermediaries provided little customer feedback to producers. Each year, a manufacturer would start a fresh
relationship with the final consumer. Consequently the marketing expenses made every year never proved productive.

- Infrastructure: The lack of an export zone, of a trade fair complex and of an airport implied high export costs but also made visits by potential buyers to Ludhiana prohibitively expensive.

### Human resource development: UNIDO support

The objective of UNIDO intervention in the field of human resource development was to enhance the technical knowledge base of workers and supervisors, increase the share of women workers in knitwear factories and create a sustainable system to provide training inputs to the labour force in the cluster. This objective was tackled by first identifying training needs, locating BDS providers, continuously improving training courses as per the needs of the industry through benchmarking, arranging resources for conducting the programmes and, finally, institutionalising the process.

In a major departure from past practices of supply-pushed education imparted by local technical institutes, the project-supported Apparel Exporters Association of Ludhiana (APPEAL) created a core group of 3 manufacturer-exporters who, along with one shop floor manager, listed the typical mistakes made by workers that led to productivity losses or product rejection. Based on these inputs, five training modules were identified jointly by the entrepreneurs. These included industrial stitching and tailoring, linking, cutting and pattern making, designing and merchandising and overall supervisory skills. This process of self-monitoring was supported by the project through visits to international (China) and national (Tirupur) producers, with a special emphasis on involving women workers at the shop floor.

The provision of this demand-based training required space and a suitable environment that would not discourage trainees, especially young women not used to access formal training. For these reasons, the APPEAL team in collaboration with the project CDA contacted a local women college – Government Polytechnic for Women (GPW). Furthermore, the CDA sounded out a number of local NGOs already operating in the field of gender mainstreaming and sought their support in the identification of potential trainees.

In the absence of seed money for these new programmes, various types of innovative fundraising were undertaken by the CDA. Discussion held with the Department of Technical Education, Government of Punjab led to the provision of space for the programme at no cost. The Department of Science & Technology provided financial support for the women’s training programmes. At the same time, the private sector agreed to cover 50 per cent of the cost incurred, sensing the likelihood of rapidly acquiring much needed skilled workers. By the same token, capital investment was supported by the industry: a Japanese machinery manufacturer of stitching equipment agreed to provide 13 machines for a value of 22,000 USD and another 20 machines were provided by the local entrepreneurs.

The training programme was constantly monitored and changes were made in the course content as well as in its duration: for example, the programme for women was initially thought of a one-month duration, but it later had to be stretched to three months so that the trainees did not have to come to class every day (thus having more time for their household activities) but also to increase the syllabus. After 3 runs of such programme were held, a cluster firm requested re-training of all its 65 workers. This resulted in a further revision of the course methodology.

The success of the woman training programme led to three more initiatives in related technical fields (linking, cutting and pattern making, designing and merchandising). Furthermore, re-training of supervisors was entrusted with the Government Institute of
Textile Chemistry and Knitting Technology. Here again, all the training course material was finalised in consultation with APPEAL. After the first run of such course, and in order to accommodate the needs of the supervisors, the venue of the programme was shifted to an industrial unit itself. The number of participants doubled as a result.

Institutionalisation of the programme was launched on day one. APPEAL took all the initiatives in ensuring that industry demands were met, including the types of modules, sustainability, spread of information across the industry, etc. On the supply side, local service providers (technical and marketing experts, quality advisors, etc.) were progressively tuned by the CDA to the needs of the industry. Presently, all these training programmes are run on a fully commercial basis, with training fees recovered either from the trainees themselves or from the firms requesting human resource development.

The women’s training programme, which was introduced in the last quarter of 1999 has so far trained around 350 women, 90% of whom obtained a paid employment after the end of the course. Beside breaking a long-established prejudice against women workers in the cluster, this training also had a positive impact on poverty reduction as many of the trained women came from a very poor background. Moreover, over 80 supervisors improved their level of technical knowledge and 75 firms benefited through these training programmes.

Conclusion

A large number of other activities were implemented in the cluster of Ludhiana thanks to the financial support of the UNIDO Cluster Development Programme and the full-time involvement of the CDA. Special attention was placed on the provision of infrastructure, on product diversification, and innovative marketing techniques. The approach followed was however remarkably similar to that highlighted in the above section. Close attention to the actual demands of the cluster entrepreneurs, intense liaison with providers of support services, networking between the public and the private sector to re-engineer existing support schemes and a keen emphasis on sustainability in terms of private ownership were the trademarks of the approach.

In terms of cluster level impact, several million USD worth of exports and new domestic sales were generated and sustained after the completion of the project. The cluster associations are now in a position to liaise independently with public support bodies as well as local government. Several projects in the field of marketing promotion and international linkages are under way, fully steered by a handful of committed and visionary cluster stakeholders. Finally the cluster appears in a far better position to tackle the mounting competition in the global market place. Indeed, upon conversation with a random sample of clusters entrepreneurs, the mood is of vibrancy and optimism, perhaps the best sign that the under-performance is a thing of the past.
SME Consortia promotion in the handtools cluster of Bangalore

Background

Machine tool manufacturing developed in Bangalore with the creation, by the Government of
India, of one of first machine tools company in India, at a time when World War II
prevented imports thus causing a severe shortage of machine tools. Growth was further
spurred with the establishment of large-scale public enterprises such as the Hindustan
Machine Tools (HMT) in 1953. Up until the early 1990s, a ban on imports first and
subsequently very high tariff barriers effectively protected the sector and led to the growth
of a cluster of approximately 150 units, 50 of which small-/medium-scaled machine tool
manufacturers and the rest support units (heat treaters, foundries, abrasive units). With the
liberalization of the Indian economy, the inflow of cheaper and better imports from Taiwan
as well as the collapse of the reserved Soviet market, the cluster was faced with the need to
rapidly restructure and radically redesign its production.

At the start of the UNIDO intervention in 1999, the cluster had a turnover 50 million USD, or
approximately 40% of India’s total production. The domestic market consumed 90% of the
cluster output and the rest exported. The diagnostic study indicated the following problems:

- Poor market presence: Traditionally, small manufacturers sold their products only
  within Southern India. Most of the units did not have dealers across the country and
  were not market-/customer-oriented. There was no focus on the marketing with
  small firms solely oriented on production. Further, the industry was focused entirely
  on the domestic market, the mindset “we cannot export” was pervasive among
  smaller units.

- Skill upgradation in the area of machine assembling was absent. No training course
  was available on heat treatment. In small units, second line management was
  missing and entrepreneurs were more focused on routine than on strategic issues. An
  information gap was significant in the field of exports.

- Low level of competitiveness: with the inflow of cheaper imports, all units were
  finding it difficult to survive even in the local market. Production and inputs costs
  were high, while a significant scope existed for reductions through improved raw
  material sourcing or product standardization, quality enhancement, energy audit or
  introduction of world class manufacturing practices. These improvements were
  however perceived as too costly for any single small firm and there were only a few
  very expensive consultants in the cluster that could address these issues.

- Insufficient backward linkage: falling market share put pressure on cost and small
  units were compromising on quality. This resulted in a complete de-linking between
larger and smaller units. Large firms were investing on more integrated production systems, not necessarily within the cluster.

- Weak institutional framework: the local producers’ association represented mostly the large and medium units and was concerned with policy issues. Not being members, the small firms did not have any platform to discuss their concerns. Overall, the capacity of the cluster to identify issues of mutual business interest and implement strategies through intermediaries was very low.

### Promoting marketing (and export) consortia: UNIDO support

The objective of this specific project intervention was to increase market reach for the smaller firms of the cluster through joint marketing. As a by-product of the process, an enhanced level of mutual understanding was expected to lead to a broader platform for collaboration among these units. This objective was tackled by first spelling out in detail marketing-related problems, followed by the creation of a pilot networks whose members had an ideal mix in terms of production leading to trust building among firms (from relatively simple joint marketing ventures to more complex ones). The results thus achieved were then actively disseminated by the CDA to replicate the experience throughout the cluster.

The diagnostic study and the ensuing two validation workshops (one with manufacturers and the other with support units) revealed that marketing was the principal area of concern for the cluster firms. Moreover, informal visits and discussions that followed revealed that proactive marketing was perceived as a high cost proposition. In small group meetings, however, some firms agreed that common marketing could be a viable solution for such problem.

One of these informal groups displayed a rapid change in attitude as a result of the inputs provided by the CDA and soon established itself as a informal network of 8 firms supplying complementary machine tool products. With active stewardship by the CDA, the group members started to trust each other and eventually accepted to legally register their consortium as the Bangalore Machine Tool Manufacturer’s Association. At this stage, the firms agreed to hire a common consultancy firm for quality upgradation (ISO-9001). Although this was not an area of immediate concern, the firms agreed to experiment joint action on this front as it required little sharing of “critical information” and returns were high and relatively certain. Initially, entrepreneurs would not agree to meet other consortium members within their premises. As initial inhibitions faded away, however, the entrepreneurs started to pay group visits to each other’s shop floors.

While work on quality upgradation was under way, the members agreed to produce a common brochure, which would help them identify potential customers in their endeavour of proactive marketing. Thereafter, they participated jointly in fairs. The success derived from these new marketing channels gave them confidence in jointly exploring new export destinations, namely the Chinese and Brazilian markets. At this stage firms started sharing orders with other consortium members.

The message of success soon spread round the cluster and another group of small manufacturers with complementary products settled directly for a common marketing brochure and started participating in fairs. They rapidly went on to appoint a marketing agent in Bangalore. The confidence gained in the process led the two consortia to invite large firms to visit their factories, so they could evaluate their production capacity and seek orders. New orders started to be registered through these new channels as well. Very soon, 6 new networks came into existence and started exploring new marketing channels including common web site, common dealers and common advertisements.
Initially, the project supported up to 50% of the costs of the initiatives launched by the consortia. Gradually, this was reduced and soon the groups started to manage all expenses related to marketing by themselves.

Presently, 45 cluster firms (nearly one third of the cluster population) are organised in five consortia that had generated additional sales worth little under 1 million USD by the time the project was operationally completed in December 2002 (when business enquiries for further 10 m. USD had been received by the consortia). Three new Indian markets and two new export destinations were actively explored and generated new orders. Member firms produced eight new common brochures and four joint marketing set-ups, two common marketing offices within India and two common web sites.

Conclusion
Joint marketing by SMEs producing complementary products proved to be a fully viable proposition within a cluster development project. However it surely takes time to ensure that small firms start trusting each other. The identification of the right product mix offered by the consortium is crucial in this respect as it reduces the scope for conflict among the consortium’s members. However, once positive outcomes are demonstrated, this mode of cooperation spreads rapidly within the cluster. Indeed, while some support may initially be needed to motivate firms on joint activities, as soon as the results start emerging, joint marketing becomes a fully sustainable activity.

The cluster development initiative in Bangalore addressed also the other areas that were identified by the diagnostic study. As a result, 40 firms made a saving exceeding 150,000 USD through energy audits, implementation of world-class shop floor practices, reduced production cycle time and common procurement of material or other inputs, with nearly USD 130,000 as savings recurring annually. Twenty support firms upgraded their manufacturing capacities with an own investment of USD 1 million. Four new training programmes were introduced in the cluster leading to the training of around 200 people from 50 firms. Moreover, several techniques to raise competitiveness such energy saving, world-class shop floor practices etc. have been introduced. Finally the local producers association has set up its own cluster development cell, hired an executive who was subsequently trained by UNIDO, and it further decided to launch its own cluster programme in other machine tools clusters in India.
Strengthening compliance to legal standards in the food processing cluster of Pune

Background

A strategically important town during the British rule, Pune saw the growth of bakery units as early as in the nineteenth century. During the late 1960's, small scale and cottage units mushroomed in a wide variety of processed food items as an outcome of (a) the emergence of marketable surplus through improved farm technology and (b) the low cost of processing technology. With the growth of local demand, from the rapidly industrialising town of Pune, the number of small and micro-scale units steadily grew from the late 1960s till the early 1980s, using low cost technology and locally available raw materials to service the local market. With the onset of liberalisation in the early 1990s, food processing was de-reserved (that is previous legal requirements that small units only could operate in this sector were progressively scrapped) and medium and big units rapidly moved in, including some foreign investment. The cluster involves 1,200 units (20 of which medium-scale and the rest small ones) with an annual turnover in excess of USD 100 million and a direct employment of around 15,000 workers.

With the emergence of stricter food regulations in the late 1980s, the cluster, and especially the large number of small units, were literally thrown in disarray. The severity of this challenge was repeatedly voiced by the great majority of entrepreneurs that were contacted for the diagnostic study. Upon closer scrutiny and interaction with knowledgeable experts from the different corners of the cluster, it however emerged that lack of compliance was just the tip of the iceberg. More structural problems were identified in the following areas:

- Scarce knowledge about food regulations but also standards and consumers’ demands severely limited growth in the industry, even for larger firms, preventing firms from reaching the markets outside the local area.

- Lack of facilities for product testing and research: only one laboratory, normally clogged with the heavy burden of testing for the Public Health Department, could be found in the cluster. A vast array of specialized tests could not be undertaken in Pune in a sufficiently timely manner, since no laboratory had the necessary equipment. The scope for product development with better shelf life was limited by these factors.

- Inadequate technical knowledge: Formal technical knowledge (both on production and legal aspects) was limited among entrepreneurs, most of whom had acquired business skills and technical knowledge through experience rather than through training. There was virtually no venue for such training in the cluster.
- Weak information channels: information on issues like rights and obligations of the industry, food standards, sources, price and availability of raw material, new markets, etc. was not available from sources that the small enterprises could afford.

- Non-developmental role of institutions: Most of the product-level associations were found to be either inactive or engaged in sheer lobbying. Furthermore there was no apex organisation that could work on developmental activities or ensure dialogue among the various product-level associations.

**Strengthening compliance to legal standards: UNIDO support**

The objective of this activity implemented under the framework of the UNIDO cluster development project in Pune was to strengthen the knowledge base of the cluster in terms of both legal and quality-related information as a springboard towards reduction in the number of legal cases faced by the cluster firms. This objective was achieved first of all through an awareness building campaign to change the mindsets of entrepreneurs. Subsequently, firms were provided with adequate support services to enhance their knowledge base leading finally to the institutionalisation of this process in the cluster.

At the time of the diagnostic study, most of the entrepreneurs in Pune identified stringency of the Prevention of Food Adulteration Act as the greatest obstacle to cluster growth. As a matter of fact, the first requests that were addressed to the CDA were to interact with the most senior level regulators in order to relax such legislation. In collaboration with a leading opinion maker from the cluster (himself the owner of a local private testing facility), the CDA undertook an awareness-building campaign that lasted over four months, in an attempt to help the entrepreneurs re-focus their thinking. Bilateral as well as group meetings were organised to identify in detail the reasons behind failure to meet regulations. Because of these initiatives, a good number of entrepreneurs admitted their limited understanding of the law and their inability to keep up with its continuous amendments. As this issue was further discussed, the request shifted towards the need for an information point within the cluster where all relevant legislation and quality standards could be easily addressed. The need for expert training and consultancy services also emerged.

Through the *Consortium of Food Industries* (simultaneously developed under the framework of the project to address the lack of responsive private associations), the CDA started addressing the gaps at the firm level that had already emerged through technical workshops and seminars. The range of advisory services provided on an ad-hoc basis by project-funded experts included consultancy on the Prevention of Food Adulteration Act and on machinery maintenance, quality control checks, and shelf-life studies. Furthermore a bimonthly bulletin was started in February 1998 to provide news about the food industry, new products and processes and to answer some of the common problems faced by the industry on technical issues. An Agricultural Information Centre was launched in 1998 with the financial assistance from UNIDO and USAID to update the cluster enterprises about rules, regulation and standards on day-to-day basis.

After the merger of the Consortium into the local Chamber of Commerce the database assembled by the Agricultural Information Centre was made available on-line through the dedicated portal www.foodindia.org, including around 30,000 pages of data relating to Indian food industry. Furthermore, a *Gramin Information Network* was launched to enable farmers & food processing units to plan their activities on commercial lines. The first access point, established in the nearby village of Chale and immediately subscribed to by 74 paying members, enabled stronger networking among agriculture business and food processing units by supplying information on technology, market intelligence, prices, demand and supply situation in the international market, rules and regulations for exports, import duties, standards and specifications.
Visits to several reputed firms and international exhibitions also helped firms benchmark their current technical and technological parameters and learn through that process.

As an outcome of these activities, which were all fully taken over by the local Chamber of Commerce by the time the project was operationally completed, compliance levels to the food legislation improved significantly. For example, the bi-weekly advisory services provided by the consultant helped in reducing the level of litigation in the cluster. Furthermore, already in 2001, the number of legal cases against the cluster producers shipping products beyond their expiry date dropped to zero. It is estimated that around 400 firms, or one third of the cluster population, directly benefited as a result of this initiative.

**Conclusion**

It is not always true that a bottom-up approach is the best and most effective way to address the actual needs of the beneficiaries. As indicated in the example above, it took some time for the CDA to understand, and even longer to convince the cluster entrepreneurs, that the problems they faced in terms of compliance to laws and regulation were only the tip of an iceberg involving poor quality control, lack of training and poor access to information services. This is indeed a common phenomenon in many under-performing clusters, where perceptions are biased and knowledge dispersed among many stakeholders, often in conflict with one another. However, as already stressed at the beginning of this paper, this feature must not prevent the cluster development process from being only endorsed but also sustained and indeed driven by the cluster stakeholders themselves. This is perhaps the hardest component of a CDA’s work.

The project involvement in the cluster of Pune came to an end in December 2001. By that time the local Chamber of Commerce had taken over the leading role in the process and was heavily involved in the construction of a long-awaited state-of-the-art food testing laboratory with a cost of USD 300,000 funded by the local firms, the industry association, the Ministry of Food Processing Industries, and the Small Industries Development Bank of India.
Policy recommendations

The work undertaken by UNIDO in the field of SME cluster/network development over the last decade and more specifically the experience gained in India, leads towards a set of policy recommendations for developing countries that intend to actively support SME clusters. While the basic messages have already been presented in the preceding sections, it may be useful to recall them and to further elaborate upon them. This is indeed the purpose of this final section of the paper.

Creating vs. assisting clusters: a false dichotomy

The evidence presented in this paper reflects UNIDO’s work to assist existing SME clusters that, for a variety of reasons, find themselves challenged by the broad economic trends of globalisation and rapid technological changes. It has been repeatedly argued that there is probably a very large number of such clusters around the world, and especially in developing countries. Indeed it is fair to expect that many such clusters can be found in those low-tech sectors (e.g. textile and garment manufacturing, handicraft, food processing) that provide employment and income for a large number of poor people in the rural countryside as well as in rapidly growing metropolis. Unless proper assistance is offered to these clusters, their chances for survival, let alone growth, are slim with obviously negative implications in terms of poverty reduction.

The examples provided from India show that even SME clusters operating in relatively low-tech industrial sectors can be significantly upgraded, whereby the levels of cluster productivity and participation in international markets are enhanced. The significance of such experience in terms of preserving jobs but also investing in the skills and competences already available in the country has been repeatedly exposed in the above examples.

To say that underperforming clusters can be effectively assisted is not to claim that SME agglomerations cannot be created in green field areas. There are certainly very interesting experiences around the world of dynamic export processing zones or technology incubators that have delivered sustainable results. However, as emphasised above, the existing SME clusters, even when underperforming, already constitute ideal targets for a SME support agency. The concentration of largely homogenous enterprises within a relatively limited geographical area facilitates the intervention because of the similarity of needs and support requirements, speeds up the dissemination of best practices because of the pervasiveness of demonstration effect, and allows for a distribution of the fixed costs of interventions among a large number of beneficiaries.
Duration of cluster support initiatives

Supporting underperforming clusters is a process that takes time and that generates visible results only after an initial incubation that can last a couple of years in the most challenging cases. The Indian experience, which is validated by other UNIDO experience across the developing world, shows that a period of 3 to 5 years is required to mend inner conflicts, revive trust among cluster stakeholders, revitalise producers’ associations, build local capacities of BDS delivery and change mindsets. Whereas visible results can be generated quite rapidly within small networks of like-minded entrepreneurs, as discussed in the example of Bangalore, disseminating the principles of cluster development takes more time. This is clearly no excuse for the assistance to be provided on an indefinite basis. Indeed the lack of a clear disengagement strategy would create an unhealthy dependence of the cluster as a whole upon the CDA and, more generally, upon external assistance. On the contrary, the cluster development approach calls for strong participation of the stakeholders in the process of local development. Indeed, the examples presented above where all concluded with clear references to the sustainability of the approach. However, sustainability can only be expected at the right time, namely when the stakeholders have internalised the need for collaboration and the means to achieve it. If this process is hastened, it may simply fail to be sustainable and rapidly wither after the CDA withdraws from the cluster.

The need for an empowered local broker

As repeatedly emphasised in the above sections, the process of cluster development needs to be properly sustained, especially in the most underperforming clusters. A full-time local broker, be it an individual or a team, needs to be available in the cluster for the entire duration of the intervention. The broker needs to gain an in-depth understanding of the cluster, to win over the trust of the stakeholders, to act as an honest reference person in their interactions, to make proposals on their behalf and finally to help them familiarise with the principles of collective efficiency. A broker that comes and goes, or that is frequently changed, or that does not stand up for the needs of the cluster is unlikely to provide the needed spark for an underperforming cluster to move away from its declining path. While some of the tools pertaining to cluster development can indeed be transferred through class teaching and on-the-job training, a crucial determinant of brokers’ success rests with the mandate that is placed upon it.

Empowerment of the broker has a further dimension in terms of flexibility. By its very essence, the process of cluster development is driven by the need and priorities of the stakeholders. A broker that does not enjoy a sufficient degree of flexibility in terms of
allocation of time as well as support resources, cannot respond effectively to the needs emerging from the cluster. As flexibility comes hand in hand with responsibility, this calls for strengthened management and assessment capabilities by the institutions that intend to embark upon supporting underperforming SME clusters in their own countries.

Finally, a further issue needs to be clearly spelt out. Cluster development, at least if implemented following the UNIDO methodology, calls for long-term investment in local experts. Brokers cannot be perceived as aliens by the cluster stakeholders: they must speak the local language, appreciate local customs, understand local culture and interpret local visions and apprehensions. While drawing international expertise is of great importance to provide knowledge inputs to an underperforming cluster and also to frame the strategy for a cluster development initiative, there is surely no substitute for the long and often less than enticing work that national experts need to carry out day in day out in the cluster.

The need for a holistic approach

It should be understood, especially after what has been argued above in terms of broker’s empowerment, that the cluster development approach builds upon a holistic approach to the needs of underperforming SME clusters. The examples quoted earlier on in the paper display the broad range of activities that may be called for during a cluster assistance initiative. This is not surprising as the problems faced by small enterprises, especially the most challenged ones, are broad-based and deeply inter-linked. As a result, support policies need to be properly packaged and integrated so that they can simultaneously address the multi-faceted requests coming from the stakeholders. For example, technology or quality upgradation policies proved to be much more palatable to small entrepreneurs after the latter had been exposed to new markets, for example through buyers-sellers meets or participation in foreign fairs.

To express the same idea differently, the reader may want to think of the cluster broker as a system integrator operating inside the cluster. While part of his/her work entails integrating the work and vision of the stakeholders inside the cluster, an important component relates to integrating the different support programmes that the cluster may in principle draw from but that are frequently under-utilised, and heavily so. This second type of integration often requires the broker to interact closely with local government, SME support agencies, development banks and multilateral donors in order to fine-tune the assistance they offer to the needs and absorption capacity of the cluster stakeholders.

Whether or not the broker is in a position to discharge such duty crucially depends on the guidelines and incentives provided by the institution that is implementing the cluster
development initiative. The experience of UNIDO is that the holistic approach, if properly introduced, can greatly enhance the outreach, effectiveness and efficiency of SME support policies. Indeed, in many of the UNIDO-sponsored cluster development initiatives, close cooperation was established between the CDAs and other UNIDO-implemented projects in the field of specialised technical assistance, quality and technology upgradation, investment promotion, environmental management, and efficient energy consumption. By building up awareness among cluster entrepreneurs (along the lines presented above, namely through presentations, workshops and study visits) and pooling demand (as explained above through the formation of like-minded consortia), a more efficient and sustainable delivery of support can be ensured.

The search for a comprehensive policy package

Needless to say, the above recommendations can only become effective if they are properly enshrined in a comprehensive policy instrument. This is because the effective implementation of a cluster development initiative requires a number of changes in the way assistance is provided to enterprises. This is certainly true in terms of the beneficiaries of support that are no longer individual small enterprises but at least networks thereof, and ideally clusters as a whole. A shift may also be required in terms of implementation practice with a move to a medium-term perspective. Moreover, the effective empowerment of cluster brokers calls for an adjustment in career development strategies to ensure that committed field level officers find a binding interest in the development of a single cluster. This may need to be regularly integrated with supportive messages from the top management of the institution implementing the support initiative. Finally, the endorsement of a holistic approach requires the provision of seed money to be invested in capacity-building activities at the cluster level (as described above), decisions on which rest with the cluster broker.

In collaboration with the Ministry of Small Scale Industries, Government of India, UNIDO is working on a policy package to achieve precisely these objectives. Very encouraging results have already been reached as the existing UPTECH programme, initially heavily tilted towards technology-based interventions in pilot enterprises, has been reframed as the Small Industries Cluster Development Programme\(^7\). The scheme, with an initial endowment of USD 4 million, provides seed funds for institutions that take up one or more clusters for a medium-term (i.e. 3 years) upgradation initiative on activities such as:

\(^7\) An in-depth presentation of the programme is available at the address: http://www.laghuudyog.com/schemes/scuptech.html
➤ Conducting a diagnostic study of the cluster.
➤ Carrying out industries related R&D.
➤ Setting up of new technology demonstration plant
➤ Setting up of a Common Facility Centre.
➤ Training of beneficiaries.
➤ Seminar, workshops, study visits for quick dissemination of technology among the enterprises of the cluster

The amount of financial support is decided by the Programme’s Steering Committee on a case-to-case basis, though preference is granted to initiatives that can already muster a broad alliance of supporting partners (including cluster stakeholders themselves), where “soft” interventions are envisaged (such as in the area of trust/awareness building, network creation, joint initiatives), and where the long-term commitment of a CDA (be it an individual, a team or a local agency) is ensured. While the implementation of this policy is still quite novel, this is already emerging as a policy instrument that, based on the peculiar Indian experience, can become readily available to other developing countries.
UNIDO PUBLICATIONS ON SME CLUSTER AND NETWORK DEVELOPMENT

All the documents listed below, and referred to in the paper, have been prepared under the framework of the UNIDO Cluster/Network Development Programme. They are available at request (clusters@unido.org), and can be downloaded in electronic format from the site www.unido.org/clusters under the Documents section.

**Development of Clusters and Networks of SMEs** (also available in French and Spanish)

**A Guide to Export Consortia** (also available in French and Arabic)

**Expert Group Meeting on Impact of Cluster Development Projects**

**Cluster Development and Business Development Service Promotion - The UNIDO Experience in India**

**SME Clusters and Network Development in Developing Countries: The Experience of UNIDO**

**Industrial Clusters and Networks: Case Studies of SME Growth and Innovation**

**Principles for Promoting clusters and networks of SMEs**