THE DEVELOPMENT OF SMALL AND MEDIUM ENTERPRISES CLUSTERS IN INDONESIA

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Small and Medium Enterprises (SMEs) in Indonesia are very impor-tant not only for employment creation, but also as important sources of economic growth and foreign currencies generation through exports. Since the early 1980s, the Indonesian government has adopted SME development policy through a clustering approach. This paper reviews the existing empirical studies on development of SME clusters in Indonesia. This paper deals with two main questions. First, what are the critical success factors of development of an SME cluster. Second, to what extent this policy has contributed to the dynamic of SME clusters in the country. The paper argues that in many cases, the development policy has not been so successful. In essence, most failures can be attributed to the fact that one or more critical factors for successful SME cluster development were either not existing or not addressed correctly. Neglecting cluster linkage to markets is one reason of the failure. Prerequisite for successful cluster development is the cluster's potential to access to growing market, either domestic or abroad.

Introduction

Small and Medium Enterprises (SMEs) are important in Indonesia for several reasons, such as potential sources of employment creation, economic growth and foreign currencies through export. They are also important as an important source of domestic production of cheap import substitution consumption goods, especially for low income population, and as supporting industries producing components, tools and spare parts for large enterprises (LEs), including multinational companies. Moreover, when the economic crisis hit the country in 1997, SMEs were found to have been weathering the crisis better than LEs, because their greater flexibility allows them to adjust production process during the crisis, though many have been hit hard too. Many argue that being less reliant on formal markets and formal credit, SME are able to respond more quickly and flexibly than their larger counterparts to sudden shocks (Berry et al. 2001).

Recognizing the important role of SMEs as mentioned above, and in responding to the crisis, since 1998 the government has launched various new development programs, including credit schemes, technical assistance and introduced some new regulations including laws on competition and business linkages. Also, the government, with intensive donor assistance, started to review its policy on SME cluster-based development.

The main aim of this paper is to review the empirical literature on development of SME clusters in Indonesia. This paper deals with two main questions. *First*, what are the critical success factors of development of an SME cluster. *Second*, to what extent this government policy through a clustering approach has contributed to the dynamic of SME clusters in the country. For this purpose, the framework of the paper is organized as follows. *First*, we will discuss the importance of clustering for SME development. *Second*, we briefly review the development of SME clusters in Indonesia which further followed by discussion on critical success factors of development of an SME cluster. Further, we present some findings of existing studies that may provide a good example of various critical success factors discussed in the previous part. Finally, conclusions and policy recommendations are withdrawn.

The Importance of Clustering for SME Development

In the era of trade liberalization and economic globalization, where competition will become heavier, and two critical factors determining the global competitive edge are the mastery of technology and high skill human resource, businesses of all scales will face challenges as well as various kinds of problems. This is especially true for SMEs in Indonesia, considering their weaknesses, as compared to LEs in almost all aspects related to business development, e.g. limited funds, lack of experts, and poor technological mastery and business knowledge, particularly on global market.

In this era great demands are made on the ability of SMEs not only to increase their efficiency and productivity but also to adapt and be flexible as regards to markets, products, technology and organization. As the era generates larger market opportunities, many individual SMEs in Indonesia are unable to capture these opportunities that require products with better quality and prices and good services

after sale, larger production quantities, products with international standards, and regular supply. Many SMEs, particularly those located in rural/backward areas experience difficulties in meeting these requirements. They also constitute a significant obstacle to internalize functions such as training, market intelligence, logistics and innovation in product as well as production process.

Experiences in many developed countries show that clusters can be a powerful means for SMEs to overcome the above constraints and succeeding in an ever more competitive market environment. Based on empirical findings in a number of West European countries, Richard (1996: 4) argues that: *The European experience seems to suggest that SMEs might not be at a disadvantage at all compared to larger firms, as long as they were able to benefit from the advantages of clustering.* Through clustering and networking, SMEs can address their problems related to size, production process, marketing and distribution, procurement of raw materials and other inputs, risks associated with demand fluctuations, market information, and improve their competitive position. Through a cooperation of enterprises in a cluster, SMEs may take advantages of external economies: presence of suppliers of raw materials, components, machinery and parts; presence of workers with sector-specific skills; and presence of workshops that make or service the machinery and production tools (Humphrey and Schmitz 1995). Clusters will also attract many traders to buy the products of the producers in the clusters and sell them to distant markets. Buying large amount from many producers in the clusters through a single visit reduces transaction costs (Berry et al. 2001). It also makes easier for the government, LEs and local universities/research and development institutions to provide services, such as technical development and management training, and general facilities such as a large machinery for raw material drying and processing into half-finished goods, to clustered enterprises than to dispersed enterprises (Tambunan 2000).

Clustering not only generates external economies but it also creates joint actions among SMEs in the clusters and increases their scope of businesses. So, in effect, individual enterprises in the clusters can gain collective efficiency. Likewise, business networks can be better created. But, these economic advantages of a cluster can only be achieved as long as there are developed internal networks among enterprises inside the cluster and external networks between the enterprises and actors outside the cluster. Based on the experiences of UNIDO in many developing countries, Ceglie and Dini (1999) stated that collaborate actions through well developed business networks involving SMEs and LEs, suppliers of inputs, providers of business services, financial institutions, other supporting private and public institutions, and local and regional governments offer new opportunities for developing specific location advantages and the competitive strengths of clustered SMEs. Business networks among enterprises and with other actors mentioned above also give rise to a collective learning space, where ideas are exchanged and developed and knowledge shared in a col-

lective attempt to improve product quality, upgrade technology and move to more profitable market segments (ADB 2001).[1]

With the above expected advantages of a clustering for developing countries, particularly for big countries with large rural areas such as Indonesia, China and India, the development of SME clusters can be an effective way of promoting their rural industries in particular and rural economic development in general. Especially, through their strong and well-organized external networks, including in the form of production linkages with LEs located outside the clusters, well-performing SME clusters will produce positive externalities to other activities in the areas, such as in the forms of a more widespread uses of skilled labor force, increased local demand for goods and services and the emergence of various types of joint community actions.

Another important dimension of a cluster organization that often mentioned in the literature on SME in developing countries is the role of private or public service institutions, which include cooperative associations of the enterprises themselves and the authorities responsible for the national and local regulatory environment of business. Such institutions do not generally operate on pure free-market competitive principles. Nevertheless, they may participate in and contribute to market and product development, and likewise, in training and technical development; financing; the provision of infrastructure and specialized production and service facilities. Such institutions may also represent common policy problems of the enterprises to the local and national authorities.

Development of SME Clusters in Indonesia

The term "cluster" in the Indonesian context is only adopted recently. In the 1970s, the Ministry of Industry used a different term of so called *sentra industri* (industrial center) which was defined as geographical groupings of at least 20 enterprises in the industrial manufacturing sector producing more or less the same products. In 1979, the ministry also introduced what was formally known as *Lingkungan Industri Kecil* (Small-scale Industrial Estate) by inducing and bringing together many SMEs at one location. *Sentra industri* grows more naturally, as traditional activities of local communities whose locations and specific products have long been proceeding. Based on comparative advantages of products they made, at least with respect to the abundance of local raw materials and workers who have special skills in making such products, many of these clusters have a large potential to grow. For example, the clusters of batik producers which have for long been existence in rural areas in many districts in Java. Whereas, the emergence of *lingkungan industri kecil* has grown out of government involvement (Supratikno 2002a).

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[1] The are two types of inter-firm cooperation which can be developed by SMEs in the clusters: horizontal cooperation (i.e. among SMEs occupying the same position in the value chain) and vertical integration (i.e. among SMEs as well as with LEs along the value chain). Through the first type of networking, enterprises can collectively achieve economic of scale beyond the reach of individual enterprises and can obtain bulk-purchased inputs, achieve optimal scale in the use of machinery, and pool together their production capacities to satisfy large-scale orders. Through second one, SMEs can specialize in their core business and give away to an external division of labor.

When defined as *sentra industri*, industrial clusters in Indonesia are relatively "well documented" because they are special target group for industrial policy (Klapwijk 1997; Weijland 1999). Most of the SME clusters are located in rural areas as the bulk of SMEs in Indonesia is also found in the rural areas. According to the data of the Ministry of Industry, some 10,000 out of the nearly 70,000 villages in the country are registered as industrial clusters. The most widely used data date from 1994, which show the number of SME clusters by provinces supported by the government (Table 1). The more recent economic cencus or surveys either did not specify clusters of SMEs or did not include the small enterprises (Kuncoro 2002). Most of the clusters are located in

Java, as the majority of the SMEs and population in Indonesia are found in Java.

Various studies show the importance of clustering not only for the development of SMEs but also for the development of villages/towns in Indonesia. Smyth (1990, 1992) described how clustering of rattan furniture producers has absorbed an entire village in Tegal Wangi, West Java, and created numerous satellite small-scale industrial activities in neighboring hamlets. Schiller and Martin-Schiller (1997) also provide the same evidence showing how the clustering of wood furniture producers and exporters in Jepara (Central Java) has transformed the town into a thriving commercial center with a five-mile avenue of such as furniture showrooms and factories, modern hotels, new

Table 1. **Number of SME Clusters supported by the Government by Provinces in Indonesia (1994)**

Province	Total unit	Province	Total unit
D.I Aceh	192	West Kalimantan	121
North Sumatera	636	Central Kalimantan	151
West Sumatera	313	East Kalimantan	215
Riau	180	Bali	677
Jambi	83	West Nusa Tenggara	275
Bengkulu	107	East Nusa Tenggara	238
South Sumatera	175	South Sulawesi	538
Lampung	108	North Sulawesi	253
DKI Jakarta	127	Southeast Sulawesi	83
West Java	921	Central Sulawesi	172
Central Java	970	Maluku	257
D.I. Yogyakarta	520	Irian Jaya	110
East Java	1204	East Timor	101
South Kalimantan	313		
		Indonesia	9022

Source: BAPIK, Ministry of Industry (1994).

commercial banks, supermarkets, telephone and fax stalls, and European restaurants. Soemardjan (1992) also presented an interesting story on how the development of a roof tile cluster in a small village in Bali has turned poverty in the village into prosperity.

Based on evidence from their field studies on SMEs in rural Java, Klapwijk (1997) as well as Weijland (1994, 1999) argue that SME clusters are important for the development of rural industries because productivity in clusters appears to be higher than in dispersed enterprises. One of the main reasons is that clustering stimulates active involvement of traders and LEs in agglomeration of SMEs. In this respect, clustering allows a broader divison of labor and lower the transaction costs among firms. A more interesting finding is from Sandee (1994, 1995, 1996), which shows that enterprises in clusters are in a better position to adopt innovations in products as well as production process than dispersed enterprises. Firms seem constantly compare between each other and any progresss become neighborhood conversation.

At this juncture, it is quite safe to state that clustering is important for the development of SMEs in Indonesia. However, some remarks should be made. Based on her study on SEs in a rural cluster in Indonesia, Sato (2000) found little evidence of positive effects of clustering: no inter-firm specialization of work processes and no joint actions, which are important ingredient for a cluster to grow, among the firms inside the cluster. Based on a research of eight clusters in rural Central Java, Supratikno (2002b) also presented

the same story: inter-firm specialization and cooperation among producers inside the clusters are very limited, and they are fully dependent on outside merchant capital. It is also hard to find SMEs in Indonesia, which have linkages with LEs. Data from Central Bureau of Statistics (CBS) in 2001 show that more than 90 percent of these enterprises do not have linkages with LEs (Supratikno 2002a).

Now the question is whether cluster diversity as evident in Indonesia is an evolutionary process or a dual structure. More specific, why do some clusters do well, even without government supports and others not or stagnate, even with government supports. In short, the evidence in Indonesia as discussed above indicates that there are differences between clusters, within clusters and over time, and, as stated in Schmitz (1997a,b), finding systematic explanations is not easy.

Obviously, according to their level of development, there are four (4) types of clusters in Indonesia. The *first* one is called "artisanal" cluster, which dominated clusters in Indonesia (roughly speaking more than 90%). This type of cluster displays many characteristics of the informal sector consisting of mainly micro enterprises with level of productivity and wages being much lower than that of SMEs.[2] In these clusters the degree of inter-firm cooperation and specialization is low, reflecting the lack of specialists in the local labor force as well as a fragile social fabric. The process of clustering of this type is still at an infant stage, as many of the clusters are stagnated in the sense that for many years there has hardly been any development in terms of market expansion, increased in-

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[2] According to official definition of industrial unit adopted by CBS, micro enterprises are units of production with 1 to 4 workers; small enterprises (SEs) are units of production with 5 to 19 workers; medium enterprises (MEs) 20 to 50 workers; and more than 50 workers are large enterprises (LEs).

Table 2. **Leading Firms in Some Active and Dynamic Clusters**

Cluster	Location	Leading Firms*
1. Wig and hair accessories	Purbalingga (Central Java)	PT Royal Korindah, PT Indo Kores
2. Handicraft	Kasongan and Sleman (Yogyakarta)	PT Out of Asia
3. Textile Weaving	Pekalongan (Central Java)	PT Pismatex
4. Furniture	Jepara (Central Java)	Duta Jepara, Grista Mulya, Satin Abadi
5. Brass Handicraft	Juwana (Central Java)	Krisna, Samarinda
6. Roof Tile	Kebumen (Central Java)	Mas Sokka

Note: *) PT means a limited corporation
Source: Supratikno (2002a).

vestment and size of production, improved production methods, management and organization, and product development (ADB 2001). Sandee and ter Wingel (2002) argue that artisanal clusters are characterized by lack of change through time: the producers produce the same products, with the same technology that are sold to the same local markets as decades ago.[3] But, they still exist because there is still market for their products, mainly from local demand, from low-income households. Altenburg and Mayer-Stamer (1999) refer to such clusters as "survival" clusters of micro enterprises.

The second type is called "active" cluster. Clusters of this category have developed rapidly in terms of skill improvement, technological upgrading and successful penetration of domestic and export markets. Such active clusters may still be artisanal in character, which still face quality-related problems and their markets are mainly local or domestic. Typical examples of active artisanal clusters are such as roof tiles clusters, metal casting clusters, shuttlecock clusters, shoe clusters and brass-handicraft clusters (Supratikno 2002a). These clusters can be found in many parts of Java. In these clusters, some enterprises start to influence the development trajectory of the clusters, and some enterprises produce for export through middlemen or traders from outside clusters.

The third type is called "dynamic" cluster, such as textile weaving clusters in many areas in Java. Many producers in these clusters have developed extensive trade networks not only domestic but overseas. Internal heterogeneity within clusters in terms of size, technology, and served market is more pronounced. Inter-firm

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[3] Producers in these clusters are truly marginal almost in all respects. They only use primitive or obsolete tools and equipments. Many of the producers and workers are illiterate. They are very passive in marketing. Many of the producers even do not have idea where their goods are sold and how big is the market potential for their products. They just stick to known products and wait for buyers or traders to come. They remain so poor and stagnant that one may wonder whether the producers would not be better off elsewhere (Supratikno 2002a).

specialization and cooperation among firms inside clusters are well developed. But, one of the most striking features of this type may be the decisive role of leading/pioneering firms, usually larger and faster growing firms, to manage a large and differentiated set of relationships with firms and institutions within and outside clusters. Some leading firms in active and dynamic clusters are presented in Table 2. Interestingly, in some cases, such as in furniture cluster in Jepara and hair accessories cluster in Purbalingga, there are considerable direct investments made by foreign immigrants[4] (Supratikno 2002a).

The fourth type is so-called modern or "advanced" cluster. Only a very few clusters can be included in this category. They are more developed active clusters that become more complex in structure. Main characteristics of this type of clusters that make it different from the third type are especially in the following areas. The degree of inter-firm specialization and cooperation is high, and enterprises in these clusters have developed business networks with suppliers of raw materials, components, equipment and other inputs, providers of business services, traders, distributors, banks and other supporting institutions. This type of cluster has good cooperation with local, regional or even national government, as well as with specialized training and research institutions such as universities. Within this process, the clusters may also expand geographically, e.g. by regularly drawing on inputs from a nearby region, or developing regular cooperation with a university or re-

search institution in another city. Many enterprises in this type of clusters are export-oriented. But indirectly as most of them export their products through trading houses or export companies (ADB 2001). In these clusters, some leading firms have utilized cutting-edge technologies in production (Supratikno 2002a). Examples are clove cigarette cluster in Kudus, tea-processing cluster in Slawi, and tourism cluster in Bali. In the case of clove cigarette cluster in Kudus, their products are able to outperform products from Philip Morris and BAT. Similarly, tea-processing cluster in Slawi, led by a big company named Sosro, has grown up as the market leader in the Indonesian soft drink market, leaving a giant Coca Cola behind (Supratikno 2002a).

Moreover, advanced clusters often overlap and inter-link with other clusters in the same region. Such cluster agglomerations or often-called as industrial districts (the Italian term) form the most complex form of clustering, where different sectors or sub-sectors mutually depend on and benefit from each other. In Indonesia one example of a cluster agglomeration is the "three angular" Yogyakarta-Solo-Semarang area with its tourism, furniture and interior decoration, metal processing, leather goods and textile/clothing clusters, which all mutually benefit each other. For instance, metal processors provide spare parts for clothing companies and metal components for furniture makers, and interior decorators provide services to tourism companies.

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[4] Foreign immigrants who established production facilities have contributed significantly to the clusters' dynamics. They are clearly in advantageous position vis-à-vis local producers in the clusters, as these foreign immigrants have better accesses to market, technology, and financing sources (Supratikno 2002a).

Critical Success Factors of Development of SME Clusters[5]

This section deals with two related questions. *First*, is market-based development of SME clusters more or less successful than policy-driven one? *Second*, is government policy one among critical success factors of development of a SME cluster? These questions are especially important for the Indonesian case, since development of SMEs through a clustering approach has been the most important element of SME development policy in Indonesia. This section tries to answer these questions by reviewing the existing empirical studies on development of SME clusters in Indonesia.

In Indonesia, efforts to develop SMEs through a clustering approach can be traced back to the 1950s. Initiatives on a somewhat larger scale were started in the late 1970s under the BIPIK program, a program for assisting and developing small-scale industries (SSIs), of the Ministry of Industry. The program basically focused on promoting existing SSI clusters, showing some dynamism or having a good market potential. Policy tools comprised such as training and provision of cheap credits for enterprises, and the setting up of common services facilities in the supported clusters (Sandee and Hulsen 2000). The common service facilities include the so-called Technical Service Units (UPTs): each unit provides machine and equipment required by individual enterprises in the clusters. Besides the establishment of UPT, in efforts to strengthen the offering position and to increase the marketing and raw material supplies, the government has also been trying to assist the development

of clusters by developing cooperatives, known as KOPINKRA (Small-scale Craft Industry Cooperative) inside the clusters. The government also promoted the partnership system under the so-called Foster-Parent (F-P) Scheme between SMEs and state-owned enterprises such as the State Electricity Company (PLN) and the State Oil Company (Pertamina). An important instrument for development of SMEs in the rural areas is the promotion of external agro-processing investment (nucleus) coupled with preferential SME credit for local suppliers (estate), in particular in the oil palm and shrimp hatching sectors. Finally, considerable investment into transport and communication infrastructure and facilities such as small industrial estates and business incubators took place in a number of key clusters.

Now, the question is: do the government policies in supporting clusters in Indonesia show successful stories or failures? Barkley and Henry (1997) provide an overview of the advantages and disadvantages of promoting SME clusters as an industrial development strategy. They argue that the disadvantages of a clustering approach in developing SMEs are the difficulties in picking winners or industries with high growth potentials, that best fit to their local conditions, the timing of development, and in providing supportive institutions. These disadvantages lead to many failures of industrial development policies with a clustering approach. According to Supratikno (2002a), to justify SME development policies with a clustering approach, some seeds of an existing cluster should have already passed a market test. At the macro level, Porter (1998) argues that government should aim to reinforce the devel-

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[5] This section draws extensively from a recent study of ADB (2001) on factors determining the development of SME clusters in Indonesia.

opment and upgrading all clusters, not choose some among them. This implies that the best way to do is that government should create a good business environment for the cluster to develop and grow. While, at the cluster level, according to Porter, government should support or reinforce established and emerging clusters, rather than to create entirely new ones.

In the Indonesian case, in the view of the complexity of SMEs cluster development processes and the wide range of instruments applied, it is hardly possible to determine policy contribution to successful SME cluster development in Indonesia. Nevertheless, public intervention is likely to have contributed to few success stories such as the development of the wooden furniture cluster in Jepara (Central Java). A comprehensive development package during the late 1980s and early 1990s helped the cluster to gradually develop export markets, which before the economic crisis in 1997 accounted for some 70 percent of total sales.[6] Similar effects were brought forwards by creating a small industrial estate combined with a common service facility for wood processing, a joint showroom, and trade fair participation support in Sidoarjo near Surabaya (East Java).

A recent study of ADB (2001) identified, however, other factors that have significantly contributed to the aforementioned success stories. *First,* strong local sector associations are the main important factor. *Second,* long exposure to foreign tastes brought forward by international traders has been a crucial factor. *Third,* a considerable medium-scale direct investment by western immigrants married to Indonesians js an important determinant factor. *Fourth,* a strong role of trading houses in brokering and organizing exports is also another crucial factor. Exports seem to be in particular benefit from some trading houses' traditional connections to China, which is one of the worlds' largest markets for furniture.

So, back to the question: is government intervention necessary for successful development of a SME cluster? The relevance of public intervention has to be seen in the light of the fact that two large and successful SME clusters for leather goods and traditional handicrafts in the Yogyakarta area (Central Java), comprising some several thousand producers altogether, have developed virtually without public intervention. The clusters' initial driving force was demand from international tourists visiting Yogyakarta. In the early 1990s, trading houses started to purchase part of the clusters' production for sale to large retail chains in Jakarta and for exports. The handicraft case in particular interesting, as the trading house employs some 40 own staff for on the job training and quality control in the cluster, and exports some 80 percent of the clusters' production to South-East and East Asia. The other side of the coin, however, is that the cluster now depends almost completely on a single buyer.

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[6] But, after the crisis the performance of Jepara's furniture cluster started to decline. Sandee et al (2002) report that the current poor performance of the cluster is due to three reasons. *First,* quality control has no longer received sufficient attention. *Second,* overcrowding and the somewhat unfavourable location of the Jepara cluster have stimulated group of producers to try new business elsewhere. *Third,* the International Monetary Fund (IMF) agreements with the Indonesian government in helping the country to recover from the crisis have allowed again the export of wood logs and, consequently, prices of input for the cluster have increased significantly.

In most cases, SME development policies through a clustering approach in Indonesia have not been successful. In essence, most failures can be attributed to the fact that one or more critical success factors for successful cluster development were either not existing or not addressed correctly. Neglecting linkage of government supported SME clusters to potential markets is one reason of the failure. In other words, prerequisite for successful SME clusters development is the clusters' potential to access to growing market. Otherwise, any technical upgrading activities are bound to fail, as cluster members will not receive financial rewards for their investment. However, based on centralized policy-making and oriented on standardized instruments rather than a diagnosis of each cluster's specific potential and constraints, the clusters' existing and potential market linkage was often neglected in project design.

Neglecting existing and potential market linkage is also a key factor behind the frequent failure of technical upgrading programs provided by the government for metal small-scale processing clusters on Java. Many of these clusters were already successfully supplying vehicle spare parts to motorcycle and car repair workshops in nearby large cities, and so, they have a great potential as supporting industries for LEs through subcontracting. When the economic crisis hit the country and as a consequence, domestic demand for cars declined significantly, many of these small- and medium-scale metal processing units were out of business (Knorringa and Weijland 1993; Tambunan 1999, 2002).

Lack of continued supply of raw materials is another reason of government policy failure in supporting many existing SME clusters. For example, nucleus-estate programs that developed small-scale agricultural producers around large-scale external processing units proved to be a successful in many rural areas outside Java. However, when the concept was implemented on Java, it failed. Due to lack of sufficient raw material supply, export-oriented medium-scale processing units such as baby corn canning in Sukabumi or pineapple juice concentrating in Subang, which had been built with considerable government subsidies, had to be closed shortly after starting operation. The reason of this lack was that local primary producers supplied only factories that were already successfully linked to the growing and highly attractive fresh product markets of Java's urban centers that paid better prices (ADB 2001).

Neglecting or even eroding SME's self-organization potential is also a reason of the failure. Strong and active self-help organizations of cluster members facilitate collective learning and processes of strategic orientation can play an important role in developing new markets and supply channels. They are indispensable for implementing advanced cluster development strategies comprising collective branding, standardization and distribution, collective interest representation against monopsonistic client structure, or enforcement of quality standards on input suppliers. Moreover, with public support to SME clusters development often restricted to specific impulse programs, the task of

sustaining long-term SME clusters development usually falls on cluster members and their self-help organizations.[7]

A limited support of local government is another reason of the failure. Most local governments seem to be aware of specific constraints of SME clusters in their areas that are often related to insufficient transport, telecommunication or electricity infrastructure, capital, and market. Anecdotical evidence suggests that local officials were prepared to flexibly extend support whenever possible, e.g. by assisting producers in finding an appropriate location for sales on an interregional road, or by providing enterprises without terrestrial telephone connection with a hand phone on personal credit. However, lacking budget autonomy severely restricts local government's abilities for appropriate and hands-on support like e.g. repairing defects in a trunk road connecting producers to the main road. The ongoing process of regional autonomy in Indonesia may provide challenges and full freedom for local governments to initiate, formulate as well as implement development policies or programs on SMEs in their own territory. But, unfortunately, most of the local governments at the district (*kecamatan*) level are not ready yet in doing such tasks independently. They have been lived too long under the 'top-down' system during the Soeharto regime; they have no idea what to do, especially in formulating a good policy or program, nor any experience in implementing such a program without guidance from the central government.

Most recent study from Supratikno (2002b) notes that some SME clusters that were prospering in the past that have received facilities provided by the government now are struggling. Various reasons have been expressed by the clusters' producers, such as the frequent increases in the prices of raw materials, gasoline, minimum wage level and taxes, high import content of the products made that led to high import costs in rupiah due to the weakness of the currency against US dollar, and heavy burden from bureaucratic red tapes. This report suggests that an inappropriate macroeconomic policy that has created an "unfriendly" business environment, such as free import policies and tight credit allocation for SMEs, is also a reason of the failure of development of many clusters, despite direct supports from the government to the clusters.

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[7] Supporting self-organization of clusters was part of the BIPIK concept but never implemented. Existing strong local associations in large clusters may in some cases have been able to influence and shape public support for their clusters. Overall, however, policy design was centralized and top-down, and implementation driven by quantitative targets and constrained by budget ceilings with little consideration to the clusters' specific requirements. Even worse, certain instruments such as training selected cluster members as 'motivators' or donating equipment to a few individual enterprises regularly stimulated greed, mistrust and tension among cluster members, thereby eroding the self-organization potentials. A specific case in point is the common service facilities (CSF). When installed, the facilities provided a focal point for cluster members and stimulated co-operative spirit and learning. However, instead of gradually involving self-help organizations/cooperatives and companies in the management and financing of the CSF as a means to strengthen intra-cluster linkages, and also to build 'ownership', the facilities remained under government management and budget. As most CSF charged only small fees if any, and budget constraints led to drastic declines in government funding, equipment became outdated fairly rapidly and service levels could not be maintained. Over time many if not most CSF have lost their relevance as service providers, and are now in a desolate physical and financial state. In short, failure to partly transfer CSF 'ownership' to the respective cluster was not only detrimental to the facilities' sustainability but also a missed opportunity for strengthening the cluster's self-organization (ADB 2001).

In summary, Schmitz and Musyck (1994) conclude that successful SME clusters in developed and developing countries share six (6) common characteristics that relate to market, specific knowledge and skill of entrepreneurs and workers, internal organization, the role of self-help organizations and common service facilities, the quality of local government support, and networking with local providers of education and technology. Based on his own research, Supratikno (2002a: 10) argues that *successful Indonesian clusters seem to support these characteristics, with extra weights should be given to the market-related conditions and the pace of technological upgrading. The growing market condition justifies new needed investment, whereas the latter enables firms to serve more demanding segments.* So, it can be argued that these characteristics are the critical factors that should be for a successful cluster development policy.

Conclusion and Policy Recommendations

From experiences on development of SMEs in Indonesia, it can be concluded that market-based development of SMEs clusters have more successful stories than policy-driven one. It appears from the existing empirical studies that the successful development of a SME cluster depends on a number of critical factors, of which the most crucial ones are access to output market, internal organization and cooperation/joint actions among firms inside cluster, sustainability of the supply of raw materials and other necessary inputs, the role of self-help organizations and common service facilities, the quality of local government support, and external networking with such as LEs, banks, and local providers of education, technology, and information.

So, from the point of view of the role of government in this respect, it can be said that, as the necessary condition for successful SME development policies through a clustering approach, these critical factors should be addressed correctly by the government. In other words, the sustainability of markets for output and inputs should be the first priority of the policies, rather than such as providing subsidies, special credit schemes and technical upgrading programs. Therefore, to justify such policies, existing SME clusters to be supported should only those that have potential growing output market, domestically or overseas, as well as secured supply of raw materials and other necessary inputs.

Further, such policies should be combined with a good business environment for the clusters to develop and grow, that can be created by appropriate macroeconomic policies such as trade policies, investment policies, monetary and fiscal policies, competition policies, wage and other labor market policies, education and technology policies, and agricultural, industrial and other sectoral policies. In other words, SME development policies with a clustering approach should be fully supported by appropriate macroeconomic policies that preventing distortions on both output as well as inputs markets, including monopolistic or oligopolistic practices by LEs, including multinational companies.

As SME development through a clustering approach is about improving the economic performance of individual enterprises inside clusters by improving, enhancing and exploiting internal cooperations/joint actions among them to gain collective efficiency as well as linkages to market for output and inputs, so, the government's main task should be to guide

and coordinate actors, not only enterprises inside clusters but also local institutions outside the clusters who are important for the development of the clusters such as banks, university, government, trading companies etc., in such a way, that internal cooperation as well as market linkages are effectively enhanced.

This does not mean, however, that all initiatives should be taken by the government. On the contrary, the private sector should take the lead. Only in cases where SMEs are weak to organize joint actions or to create external linkages, the government might need to play an active role in initiating necessary actions. But, in the long-run, the role of government is only as the provider of facilities and regulators. Many cases in Indonesia show that too heavy involvement of government in developing SMEs clusters only make the clusters weaker, i.e. producers in the clusters become more passive instead of more active in taking initiatives in such as production improvement and market diversifications.

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