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**Republic of Indonesia**  
**Coordinating Ministry for Economic Affairs**  
**Ministry of Industry and Trade**  
**State Ministry of Cooperatives, Small and Medium Enterprises**

**THE STUDY**  
**ON**  
**STRENGTHENING CAPACITY OF SME CLUSTERS**  
**IN INDONESIA**

**FINAL REPORT**

**MAIN REPORT**

**MARCH 2004**

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## **Preface**

In response to the request from the Government of the Republic of Indonesia, the Government of Japan decided to conduct “The Study on Strengthening Capacity of SME Clusters in Indonesia” and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA dispatched a study team led by Hajime Koizumi of KRI International Cooperation to Indonesia 12 times from November 2001 to February 2004.

The study team held a series of discussions with the concerned officials in the Government of Indonesia and conducted related field surveys. After returning to Japan, the study team conducted further studies and compiled the final results in this report.

I hope that this report will contribute to strengthening capacity of SME clusters in Indonesia and to enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the concerned officials in the Government of Indonesia for their close cooperation extended to the study team.

March 2004

Izawa Tadashi

Vice - President

Japan International Cooperation Agency

March 2004

Mr. Izawa Tadashi  
Vice-President  
Japan International Cooperation Agency (JICA)

Dear Mr. Izawa,

### **Letter of Transmittal**

It is our great pleasure to submit the Final Report of the “Study on Strengthening Capacity of SME Clusters in Indonesia” which has been jointly conducted by the JICA Study Team and the counterparts assigned by Coordinating Ministry for Economic Affairs, Ministry of Industry and Trade, and State Ministry of Cooperative, Small and Medium Enterprises of the Government of Indonesia, from October 2001 to March 2004.

The Study has worked out strategies and action programs to make industrial clusters more dynamic. The recommendations are presented on the basis of one-year operations of three pilot clusters, as well as the baseline study at ten sample clusters and the overall review of nearly 10,000 clusters scattered over the country. Cluster strengthening is urgently needed to motivate dormant cluster enterprises and to challenge the changing markets, thus contributing to the economic growth balanced with social development. The Study stresses on the importance of strengthening cluster SMEs which have strong passion towards self-improvement while nurturing the social capital in SME clusters.

Since a participatory approach has been taken for the pilot cluster strengthening, the development process is still being continued by the cluster SMEs. Experiences and lessons being learned by the pilot cluster SMEs as well as service providers associated with our Study Team are quite valuable in disseminating proposed strategies to many other clusters.

We wish to take this opportunity to express our sincere appreciation for the kind assistance and cooperation extended by JICA, counterparts, the working group members in the pilot clusters, and the experts in the public and private sectors who collaborated with us in the course of the Study.

Very Truly Yours,

Hajime Koizumi  
Team Leader

**THE STUDY ON  
STRENGTHENING CAPACITY OF SME CLUSTER  
IN INDONESIA**

**MAIN REPORT**

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## **ABBREVIATIONS**

ADB	: Asian Development Bank
AFTA	: ASEAN Free Trade Area
AMT	: Achievement Motivation Training
AMV	: Astra Venture Capital
APBD	: Regional Government Budget
ASMINDO	: Association of Furniture and Handicraft Industry
ASPEP	: Association of Scientists and Professional Engineering
BAPPENAS	: National Development Planning Agency
BBLM	: Metal and Machinery Research Unit
BDS	: Business Development Services
BIPIK	: Guidance and Development of Small Industries
BPPT	: Agency for the Assessment and Application of Technology
BPS	: Central Statistical Office
BPT	: Technical Service Institute
CAD	: Computer Assisted Design
CD-SMEs	: Center for Development of Small and Medium Enterprises
CEFE	: Creation of Enterprise through Formation of Entrepreneur
DG	: Directorate General
DINAS	: District Office (for Industry, Trade, Cooperative and SMEs)
EHRD	: Economic and Human Resources Development
EKUIN	: Coordination Ministry for Economic Affairs
FEDEP	: Forum for Economic Development and Promotion
GOI	: Government of Indonesia
GTZ	: Deutsche Gesellschaft für Technische Zusammenarbeit
HRD	: Human Resource Development
IBI	: Institute of Banking Indonesia
IETC	: Indonesia Export Training Centre
IMF	: International Monetary Fund
ISIC	: International Standard for Industrial Classification
ITS	: Institute of Technology
JICA	: Japan International Cooperation Agency
KKB	: Business Consultation Clinic
KKMB	: BDS for Financial Consultant
Kopinkra	: Industrial Cooperative
KPEL	: Partnership for Local Economic Development
LIPI	: Indonesian Institute of Sciences
LPBT	: Development of Technical Business and Technology

LPM	: Institute for Community Service
MOCSME	: Ministry of Cooperative and Small Medium Enterprises
MOF	: Ministry of Finance
MF	: Micro Financing Institutions
MIDC	: Metal Industry Development Centre
MOHA	: Ministry of Home Affairs
MOIT	: Ministry of Industry and Trade
MOM	: Ministry of Manpower
MTAP	: Mid-Term Action Plan for SME Promotion
NAFED	: National Agency for Export Development
OSS	: One-stop Service
PCM	: Project Cycle Management
PROPENAS	: National Development Plan
RED	: Regional Economic Development
RETPC	: Regional Export Training and Promotion Centre
RGDP	: Regional Gross Domestic Product
SMEs	: Small and Medium Enterprises
SMECDA	: Small and Medium Enterprise and Cooperative Development Agency
SMERU	: Institution for Research and Policy Studies
SOEs	: State-Owned Enterprises
SATGAS	: Small Task Forces at Provincial Level
SAWARUNG	: NGO consortium in Kabupaten Lombok and a civil society forum in Bandung
SMU	: High School
SMK	: Vocational High School
TFPP	: Permanent Field Consulting Staff
TOT	: Training of Trainers
TPL	: Public Field Consulting Staff
UMR	: Regional Minimum Wage
UNS	: University of Solo
UGM	: University of Gadjah Mada
UPT	: Technical Service Unit
WARSI	: Information Kiosk operated by POS Indonesia
YDBA	: Astra International Foundation

## CHAPTER 1 INTRODUCTION

### 1.1 BACKGROUND

Strengthening capacity of small and medium enterprise (SME) clusters is important for economic and social development of Indonesia, where geographical concentrations of SMEs are notably spread nationwide. For over three decades since the early 1970s, the Government of Indonesia (GOI) has been supporting SME clusters through promotion of cooperatives and provision of common facilities, training, advisory services, and loans. Some clusters now show distinctive features as advanced clusters. For example, a furniture cluster in Jepara and batik clusters in Klaten and Bali are renowned for production centers of high quality products. However, a majority of clusters have lagged behind the change in the markets, both domestic and overseas.

This Study has been designed as a follow-up to the Japanese mission on the *Policy Recommendation for SME Promotion in Indonesia* (2000). Recognizing the importance of SMEs in Indonesia, the Report recommended enhancement of industrial linkages to create dynamic clusters through expanding market contacts and improving technologies of the cluster.

The cluster approach based on the concept of Michael Porter is widely known nowadays. Generally, a cluster is defined as a geographically proximate group of related industries and institutions. The Report put emphasis on viable SMEs and their linkages as an industrial cluster. If focused on viable clusters with a significant number of viable SMEs, commercial activities by the private enterprises spontaneously strengthen collective capacity of SME clusters. However, most SME clusters in Indonesia are mere agglomerations of small and micro enterprises, which cannot be good customers of profit-oriented BDS providers. Further, clusters strengthening and promotion of industrial linkages cannot be planned merely in the economic aspects in Indonesia, which has a large gap between the rich and the poor, but the social aspects should be taken into account as well.

The economic and social environments have distinctly changed in the last decade. The economic crisis, which abruptly occurred in 1997, was reported to have had little impact on SMEs, but difficulties faced by small and micro enterprises by the crisis had never been correctly surveyed. At the same time, globalization under World Trade Organization (WTO) and the ASEAN Free Trade Area (AFTA) has gradually penetrated into the markets, making SMEs face global and regional competition. Most cluster SMEs are, in fact, at a critical point as to whether they can survive or not by

adjusting to the sudden changes in the markets. Thus, the issues are how to direct the SME clusters into dynamic clusters for economic and social development in Indonesia.

Under these circumstances, the Scope of Work for this Study was defined and agreed upon in July 2001. The agreement was concluded among the Coordinating Ministry for Economic Affairs (EKUIN), Ministry of Industry and Trade (MOIT), Small and Medium Enterprise and Cooperative Development Agency (SMECDA)<sup>1</sup> attached to the Ministry of Cooperative and Small and Medium Enterprises (MOCSME) of the GOI, and JICA.

## 1.2 STUDY OBJECTIVE AND EXECUTION

### (1) Study Objective

Attempts to apply a cluster approach have become popular as a tool for SME development. Geographical proximity gives a ground for creating linkages among enterprises in a cluster. Policy makers and researchers are apt to develop ambitious plans referring to the existing dynamic clusters, for example, in Third Italy and Silicon Valley. These examples represent the cases where SMEs have collectively demonstrated their competence against large enterprises. However, there is no set rule on the most effective approach to replicate such successful cases or what constitutes dynamic clusters.

The purpose of this Study is to implement pilot projects in the selected target clusters for strengthening their collective capacity and to present a set of policy recommendations with a master plan and action plans for creating dynamic SME clusters in Indonesia. The recommendations are after the baseline studies, one-year operation of the pilot projects, experience gained from other clusters world-wide, and the debate on the concept.

### (2) Framework of the Study

#### Target

The Study covers all clusters in Indonesia with a focus on the following three groups:

- (a) Metal and machinery part and component clusters
- (b) Export-oriented clusters
- (c) Rural, indigenous product clusters

At the commencement of the Study, the GOI and JICA selected ten (10) sample clusters for the baseline study. These ten sample clusters are listed in Table 1.1, while

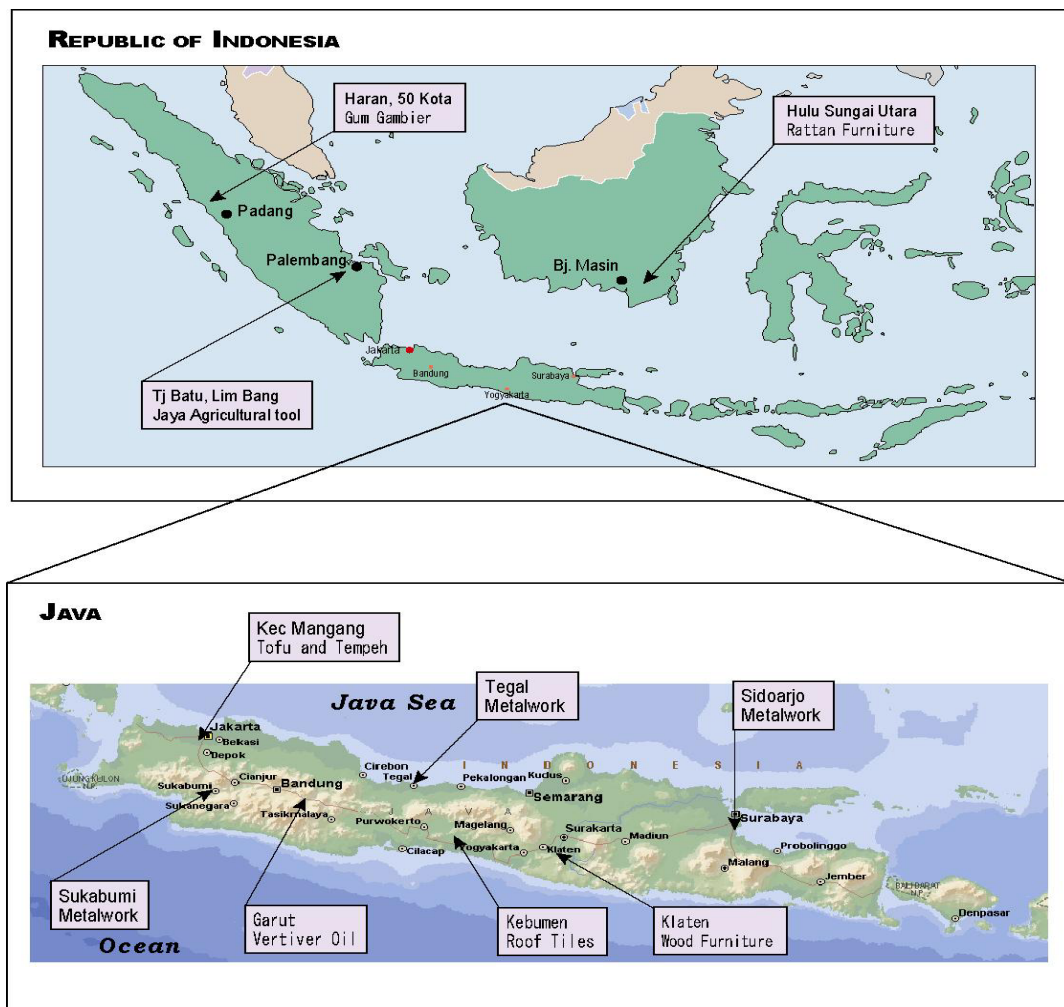
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<sup>1</sup> SMECDA was merged into MOCSME in January, 2001.

their locations are shown on Figure 1.1. In each group, a single cluster is to be selected for a one-year operation of pilot projects.

**Table 1.1 Ten Sample Clusters**

Cluster Group	Place / Type of Industry
Metal Work and Machinery Part and Component Clusters	1) Tegal / Metalwork
	2) Sukabumi / Metalwork
	3) Sidoarjo / Metalwork
Export-Oriented Clusters	4) Serenan-Klaten / Wooden Furniture
	5) Hulu Sungai Utara-Amuntai / Rattan Furniture
	6) Haran 50 kota / Gums of Gambier
	7) Garut / Vetiver Oil
Rural, Indigenous Product Clusters	8) Tanjung Batu / Agricultural tools
	9) Manpang / Tempe and Tofu
	10) Kebumen / Roof-tile



**Figure 1.1 Location Map of Ten Sample Clusters**



### Study Process

The Study comprises four phases. Initially, a baseline study on the sample clusters and selection of the pilot projects are conducted. During the second phase, the pilot projects are implemented in three clusters. The third phase is programmed for the formulation of a strategic proposal and action plans based on the lessons gained through the pilot projects. For the purpose of dissemination, a guideline for cluster strengthening is also prepared. Finally, dissemination workshops are held at the national and regional levels. The overall study process is illustrated on Figure 1.2.

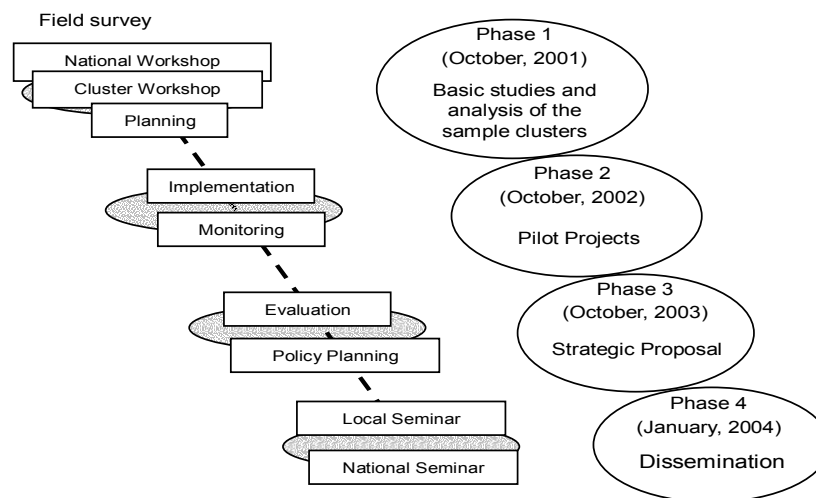


Figure 1.2 Study Process

### Study Formation

To identify the real needs for SME clusters development, the Study has been designed to collaborate with the central and local governments in Indonesia. At the national level, EKUIN acts as a coordinating agency while the counterpart agencies are the Directorate General of Small and Medium Industry and Trade, under MOIT, and Department of Cooperatives and SMEs and Resources Assessment, under MOCSME. A Steering Committee, comprising EKUIN, MOIT, MOCSME, Ministry of Finance (MOF), and Ministry of Home Affairs (MOHA), and National Development Planning Agency (BAPPENAS), has been formed to assist in the smooth implementation of the study. In addition, working

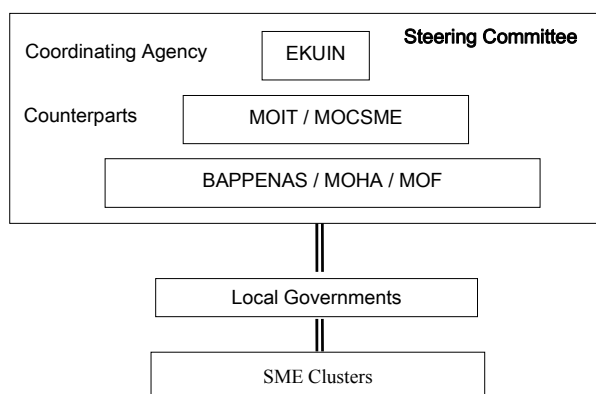


Figure 1.3 Formation of Indonesian Counterparts

groups incorporating the local governments have been formed for the execution of pilot projects at the selected sites (see Figure 1.3).

### 1.3 Discourses on the Cluster

#### (1) Definition of the Cluster

Although the term “*cluster*” has become popular, a common understanding of the term is not readily defined. A working definition is often given as a “*geographical concentration of related industries and institutions*”. While this definition does not clearly identify geographical boundaries, it leaves some flexibility in identifying the beneficiaries in accordance with the nature of the program.

Clusters are studied from various perspectives. On the basis of business strategy science, the cluster is identified over a broad area along industrial linkages. Conversely, from the viewpoint of development study, greater importance is placed on geographical proximity, highlighting the weakness of the industrial linkage in developing countries.

Indeed, geographical proximity has been traditionally considered to be the most important factor contributing to the external economy. However, development of transport and telecommunication infrastructures reduces importance of geographical proximity. Researchers now agree upon the importance of identifying the linkages regardless of the boundaries of the cluster.

“*Sentra*” in Indonesian is a similar term to the cluster as it is defined as a geographical concentration of manufacturers in the same sector. According to the 1996 census, there are nearly 10,000 *sentra* in Indonesia, of which 80% had less than 50 enterprises (see Figure 1.4). The number of enterprises in a *sentra* is, to some extent, an implicit indicator of the market size. It implies that the larger the *sentra*, the greater its importance to the regional economy.

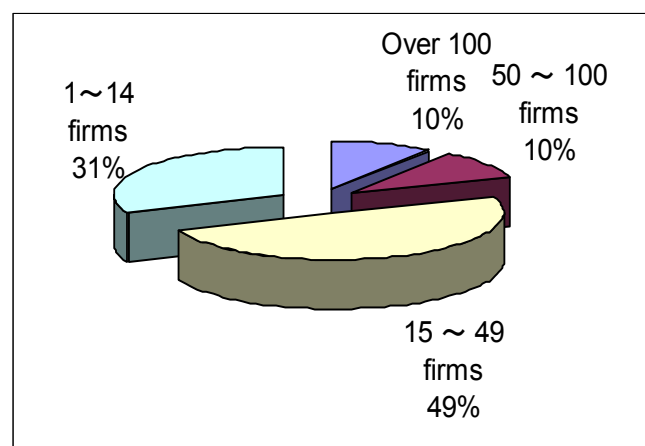


Figure 1.4 Sentra Classified by Number of Firms (National)

Although the clusters and *sentra* are not necessarily synonymous, this Study focuses on strengthening collective capacity among SMEs in *sentra* in view of the fact that the 10 sample clusters given by GOI and JICA at the commencement of the Study are all *sentra*.

**(2) Approach to Cluster Strengthening**

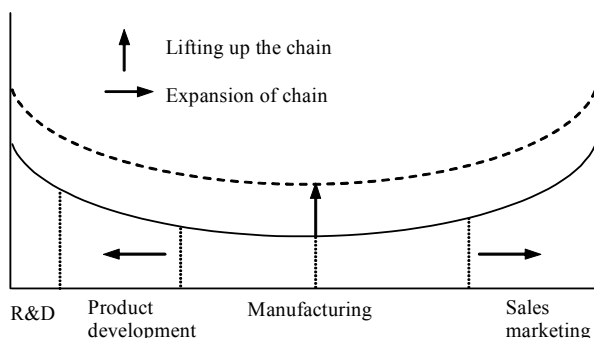
There are two approaches to cluster development. One approach targets at maximizing industrial competitiveness through strengthening linkages among the related industries and institutions with less emphasis on geographical concentration. The other approach attempts to maximize the “external economy” that arises from the geographical concentration of SMEs operating in the same sector. This study has adopted the latter approach in accordance with the GOI policy that has long been aimed at strengthening collective capacity of *sentra*.

**Table 1.2 Advantages of External Economy**

Examples of Passive Advantages
<ul style="list-style-type: none"> <li>• Advertisement impact</li> <li>• Higher chance of receiving subcontractor</li> <li>• Offer of materials by suppliers</li> <li>• Joint use of machinery</li> </ul>
Examples of Active Advantages
<ul style="list-style-type: none"> <li>• Joint marketing</li> <li>• Join purchasing</li> </ul>

Programs promoting clusters are considered to be more advantageous than those targeting individual enterprises, not only because of cost efficiency but also because of the external economy that provides a range of advantages to the cluster. Cluster enterprises can obtain various advantages that can be strengthened and expanded if they actively pursue (See Table 1.2).

For example, the geographical concentration of cluster SMEs will enhance buyer’s awareness of enterprises supplying the required products. SMEs in the cluster are then found in a better position to receive orders. Joint marketing and purchasing are typical examples of collective actions. In order to strengthen the collective capacity of cluster, internal linkages as well as external linkages with outside stakeholders should be promoted.



Source: MOIT, National Industry Strategy, 2001

**Figure 1.5 Value Chain**

At the same time, the Study will apply a method to attain a more advanced form of internal bonding, i.e., inter-firm specialization and joint production. Based on this approach, a “value chain” is to be

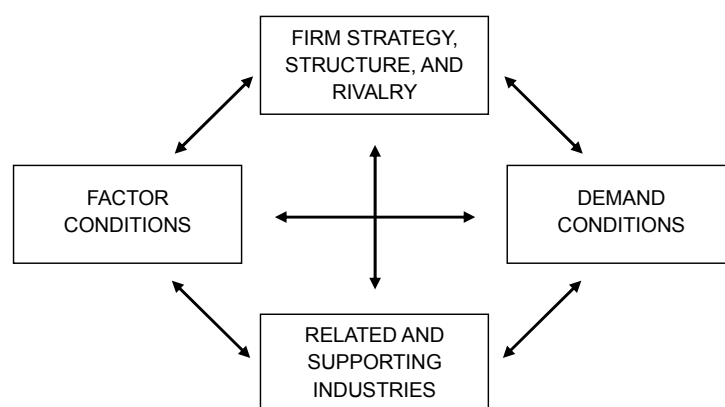
strengthened. Figure 1.5 illustrates a mechanism of the value chain in the context of an industrial cluster. Establishing a link with a new market would trigger off a group formation of producers specialized in logistics and sales activities. Specialization in raw material procurement also represents a possible value chain that could be promoted. Although product development appears to be the most challenging aspect for cluster SMEs, a value chain approach enables product development, which can increase competitiveness of the cluster.

### (3) Dynamic Cluster

Unlike the definition of the cluster, few researchers have clearly defined the dynamic cluster. In this Study, the diamond model of Michael Porter and the dynamic cluster model of Michael Best (1999)<sup>2</sup> are referred to.

Porter's diamond model identifies four determinants that lead to industrial competitiveness. He argues that successful clusters are those in which the four determinants are most dynamically correlated as illustrated in Figure 1.6. These four determinants are:

- (a) Factor conditions (conditions of the factors of production such as raw material, labour, and infrastructure)
- (b) Home demand conditions (quality of the national demand)
- (c) Related and supporting industries (existence of competitive suppliers and related industries)
- (d) Firm strategy, structure, and rivalry



**Figure 1.6 Porter's Diamond Model**

Best explored the diamond model and the process towards the dynamic cluster (see Figure 1.7). Best's model states that the process is firstly initiated by the appearance of a developmental firm, which in turn leads to a technological spin-off to the cluster.

<sup>2</sup> Best, M. (1999), *Cluster Dynamics in Theory and Practice: Singapore/Johor and Penang Electronics*. UNIDO/ISIS.

Although a cluster as a whole shows some technological variation, it retains its open system nature and attracts other enterprises. As a result, each SME demonstrates its competence in a specialized production process and technology.

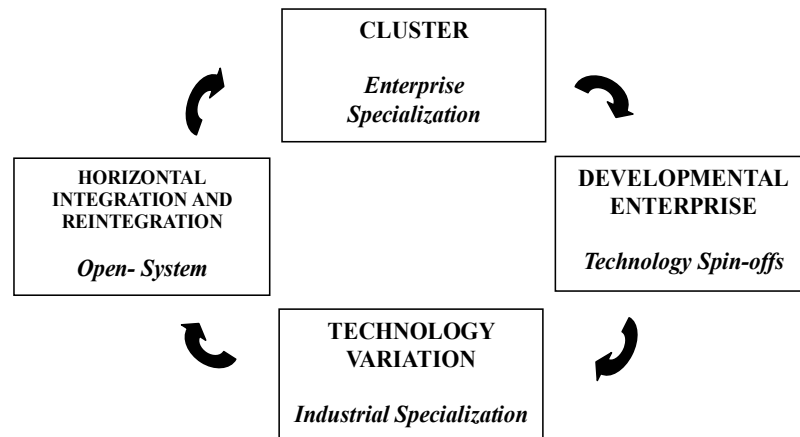
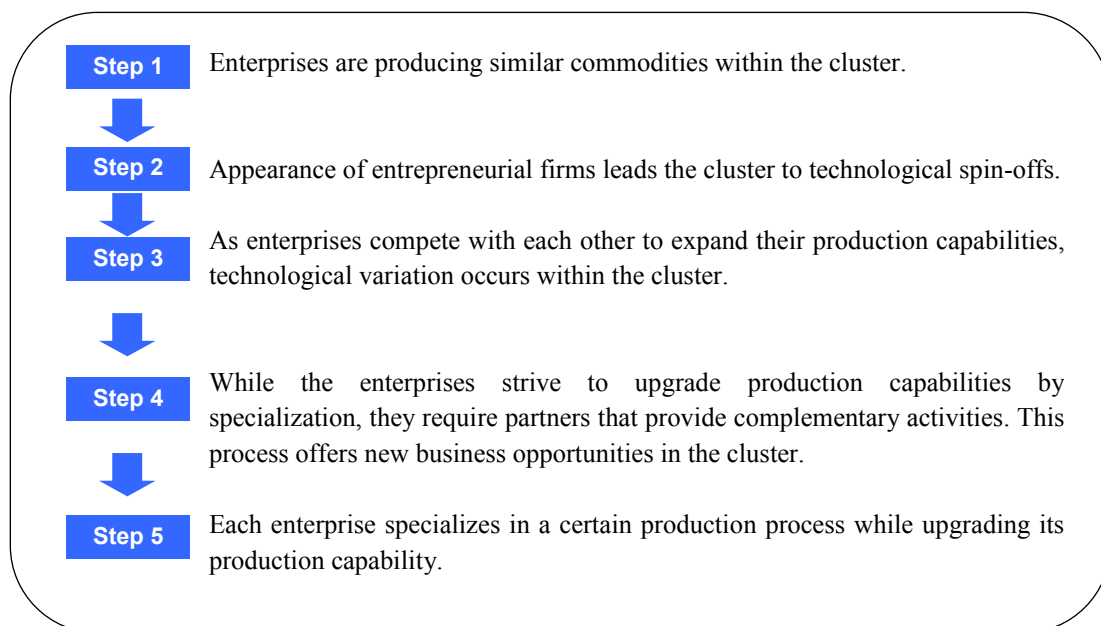


Figure 1.7 Best's Dynamic Cluster Model



The following lessons can be learned from Best's model:

- (a) How to utilize the existence of a developmental firm as a stimulant to a cluster
- (b) How to maintain technological variation and open nature of a cluster
- (c) How to direct each enterprise towards specialization

This Study will therefore identify how Porter's diamond model and Best's dynamic cluster model can best be applied to create dynamic clusters in Indonesia.

## CHAPTER 2 OVERVIEW OF SME SECTOR AND CLUSTER

### 2.1 SME AND SME CLUSTERS

#### (1) Economic Performance

Significance of the SME sector in the national economy is well recognized in Indonesia. The Central Statistical Office (BPS) classifies the enterprises by the numbers of employees; e.g., (i) large (employees: more than 100), (ii) medium (employees: 20 to 99), (iii) small (employees: 5 to 19) and (iv) micro (employees: 1 to 4). As shown in Table 2.1, large and medium enterprises only account for 0.9 percent of the manufacturing enterprises. Accordingly, manufacturing enterprises are mostly composed of small and micro ones though the term SME is an abbreviation for small and medium enterprise. Small and micro enterprises contribute to abortion of labor force, amounting to 59% of the total employment in the manufacturing sector; yet, their share in value added production was only 9% in 1999. A distinctive difference between the large/medium and the small/micro enterprises is observed in terms of value added per employee: i.e. Rp. 45 million for large/medium and from Rp. 2.5 to 4.6 million for small/micro enterprises.

**Table 2.1 Major Indicators of Manufacturing Industries (1999)**

Industries	Value added (Billion Rp)	Enterprises	Employment (‘000)	VA per worker (Million Rp)
Large/Medium	191,393 (90.9%)	22,070 (0.9%)	4,234 (40.9%)	45.2 (222.7%)
Small	8,182 (3.9%)	225,564 (8.9%)	1,779 (17.2%)	4.6 (22.7%)
Micro	10,875 (5.2%)	2,289,252 (90.2%)	4,337 (41.9%)	2.5 (12.3%)
Total	210,450 (100%)	2,536,886 (100%)	10,351 (100%)	20.3 (100%)

Source: Statistic Indonesia 2000

**Table 2.2 Number of Employment  
(1997-2000)**

Years	Employment (‘000)	
	Small	Micro
1997	2,077	4,275
1998	1,505	3,796
1999	1,779	4,337
2000	2,004	4,502

Source: Statistic Indonesia 2000

By sub-sector, small/micro enterprises are concentrated in Foods, Beverage and Tobacco Products and Wood and Cork Products, Furniture. Value added in the food industry amounted to Rp. 5,816 billion or 31% of total value added in the sector (Rp. 19,355 billion in 1999). These products are final consumer goods primarily for low income consumers. On the other hand, value added in the Fabricated Metal, Non-electrical and

Electrical Machinery industry amounted to Rp. 1,000 billion, or 5% of total manufacturing value added. In this sub-sector, little dynamism is yet observed though production of intermediate inputs or components is expected.

A decline in purchasing power caused by the economic crisis in the late 1990s (with a massive devaluation of Rupiah) severely hit the manufacturing industries, including small/micro enterprises. BPS statistics actually show a sharp decline of employment in 1998. But employment in 2000 shows a steady recovery to the level of pre-crisis(1997) which can be seen in wood and fabricated metal sub-sectors.

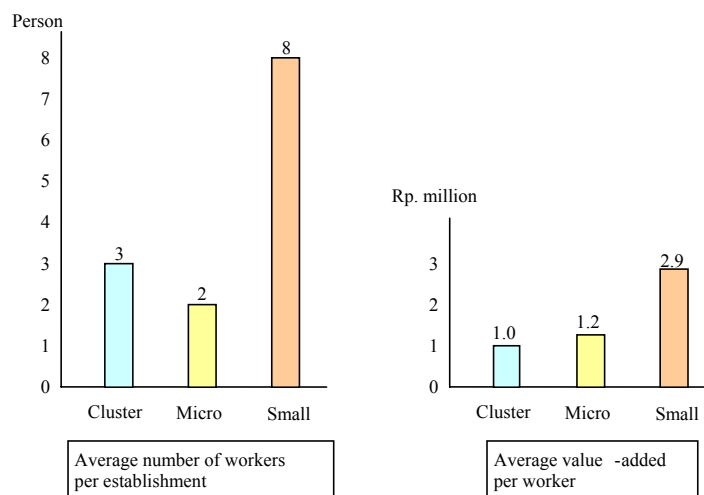
**Table 2.3 Employment and Value Added by Sub Sector and Year**

ISIC	Year	Employment		Value Added <sup>(*)</sup>	
		Small	Micro	Small	Micro
(1)		(2)	(3)		
31 Foods, Beverage and Tobacco Products	1997	780,136	1,794,794	1,551	1,677
	1998	402,558	1,487,258	1,701	3,291
	1999	521,157	1,645,003	2,085	3,731
	2000	594,923	1,722,711	2,203	3,605
32 Textile, Wearing Apparel and Leather	1997	375,294	456,214	1,220	462
	1998	261,643	397,196	1,449	808
	1999	332,059	454,355	1,831	587
	2000	370,218	456,729	1,846	852
33 Wood and Cork Products, Furniture	1997	325,964	1,254,595	849	926
	1998	383,506	1,261,894	2,026	2,550
	1999	402,381	1,438,151	2,386	3,715
	2000	424,937	1,445,664	2,260	3,035
34 Paper, Printing and Publishing	1997	60,823	38,285	107	91
	1998	22,009	25,089	123	125
	1999	24,531	25,105	120	95
	2000	44,961	35,883	172	135
35 Chemical, Petroleum Rubber and Plastic	1997	41,708	44,751	136	65
	1998	13,437	33,195	58	81
	1999	20,482	45,202	139	45
	2000	31,116	52,554	153	80
36 Ceramic, Glass, Other Non- Metallic, Mineral	1997	356,252	453,225	595	674
	1998	307,741	397,356	928	1,028
	1999	326,775	508,277	951	1,457
	2000	383,911	532,797	1,059	1,351
37 Basic Metal	1997	6,494	5,847	18	23
	1998	942	1,488	6	5
	1999	5,896	2,568	19	11
	2000	5,405	2,380	20	0
38 Fabricated Metal, Non-electrical and Electrical Machinery	1997	68,487	124,223	191	261
	1998	81,926	110,306	496	465
	1999	67,313	111,158	378	609
	2000	78,198	132,517	439	563
39 Other Manufacturing	1997	62,140	103,490	131	108
	1998	31,842	82,812	133	324
	1999	78,214	107,642	270	321
	2000	71,021	120,948	223	338
Total	1997	2,077,298	4,275,424	4,802	4,292
	1998	1,505,604	3,796,594	6,923	8,681
	1999	1,778,808	4,337,461	8,181	10,874
	2000	2,004,690	4,502,183	8,380	9,961

Source: Statistic Indonesia 2000

(\*) Rp billion

“*Sentra*” is a village-based agglomeration of small/micro enterprises. In 1996, some 9,800<sup>1</sup> *sentra* were scattered nationwide. The *sentra* is merely an agglomeration of SMEs producing homogenous products (mostly for final consumption) or heterogeneous products (parts or components).



Source: MOIT’s electronic data<sup>2</sup>

**Figure 2.1 Comparison of Average Number of Workers and VA (1996) between Cluster and Small/Micro Enterprises**

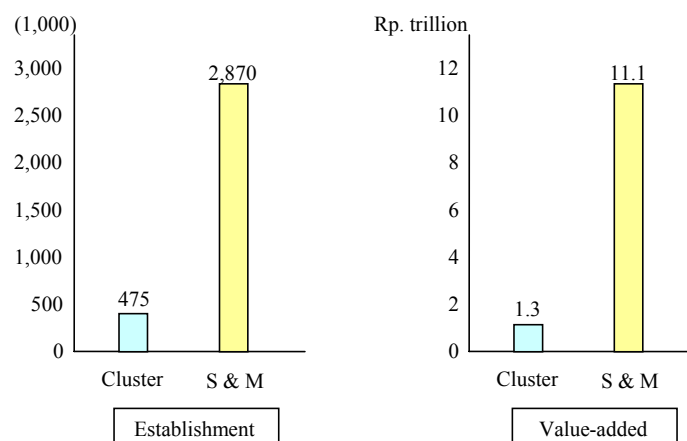
Figure 2.1 above shows a comparison among cluster, small and micro industries in terms of the average number of workers per establishment and average value added per worker, based on 1996 data. The majority of cluster enterprises has an average of 3 employees per establishment. The average value added per worker was around Rs.1 million, which was lower than the averages of micro (Rp. 1.2 million) and small industries (Rp. 2.9 million).

As a whole, cluster enterprises are mostly small-scale and micro enterprises. Figure 2.2 below shows the number of establishments and value added in 1996. The number of cluster enterprises was around 475,000 while the aggregate number of small and micro industries was about 2,875,000. Approximately 17% of small and micro industries are therefore concentrated in clusters. Likewise, about 12% of the value added by small and micro industries are concentrated in clusters.

<sup>1</sup> Although *sentra* is defined as concentration of manufactures in the same sector operating more than 15 enterprises within 5 km diameter, 3,329 *sentra* included in the Census have less than 15 enterprises. This chapter includes these small *sentra* because these are inseparable in the data analysis.

<sup>2</sup> The data on cluster enterprises has to be relied on Economic Census 1996. The MOIT electronic data referred in this chapter is also from the Census. The exchange rate of rupiah against US\$ at the end of 1996 was US\$1=RP. 2,380.





Source: MOIT's electronic data

**Figure 2.2 Comparison of Number of Establishments and Value-added (1996) between Cluster and Small/Micro Enterprises**

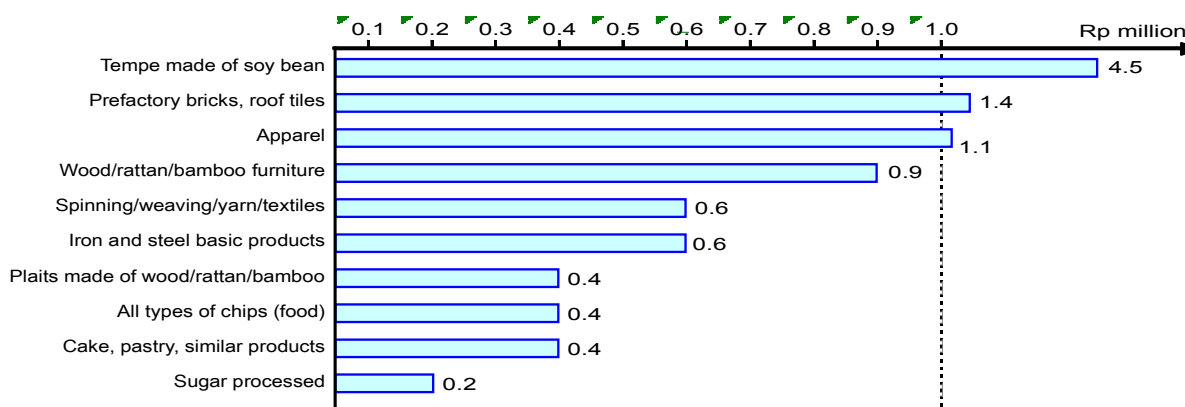
The following table presents the ten (10) largest sub-sectors (ISIC 4 digits) of clusters enterprises:.

**Table 2.4 Ten Largest Sub-sectors of Clusters**

No	ISIC	Sub-sectors	Units	Labor	VA ('000 Rp)	Clusters
1	3313	Plaints made of wood / rattan / bamboo	107,350	229,000	86,789,000	1,433
2	3642	Refractory bricks, roof tiles	45,530	175,000	243,412,000	935
3	3118	Sugar processed	63,760	126,000	20,643,000	677
4	3211	Spinning/weaving/yarn/textiles	51,930	117,500	73,028,000	880
5	3124	Tempe made of soy bean	25,660	65,500	295,317,000	660
6	3125	All types of chips (food)	22,630	64,700	27,624,000	413
7	3221	Apparel	16,030	62,400	67,104,000	454
8	3321	Wood/rattan/bamboo furniture	13,030	53,690	50,284,000	468
9	3127	Cake, pastry, similar products	15,210	44,490	17,649,000	327
10	3710	Iron and steel basic products	9,980	35,950	22,598,000	458
Sub-total for the above sectors			371,110	974,230	904,448,000	6,705
Total for the all Sub-sectors			(75%) 475,000	(75%) 1,295,000	1,270,405,380	(68%) 9,800

The ten (10) largest sub-sectors account for around 68% of the total number of clusters (about 9,800). Some 75% of the total labor force and 78% of the total number of cluster enterprises fall in the ten largest sub-sectors. The largest sub-sector is plaints made of wood/rattan/bamboo. This accounts for about 18% of all cluster workers. The second to sixth largest sub-sectors are primarily for the domestic markets. Apparel and furniture sub-sectors are for both domestic and export markets. The iron and steel products sub-sector produces various parts and components primarily for domestic consumption.

The average value added per labor of all clusters was estimated to be Rp. 1 million in 1996. Figure 2.3 shows the value added per labor by sub-sector. The tempe sub-sector (ISIC 3124) is surprisingly high, amounting to Rp. 4.5 million. The brick/roof-tile (3642), apparel (3221) and wood furniture (3321) sub-sectors are at an average level of the clusters. The remainder indicates a lower performance. The sugar processing sub-sector (3118), in particular, has the lowest value added (Rp. 0.2 million). This may reflect its low labor productivity.



Source: MOIT's electronic data

**Figure 2.3 Average Value Added per Labor by Sub-Sector**

Overall features of the business environment associated with SME clusters are summarized below:

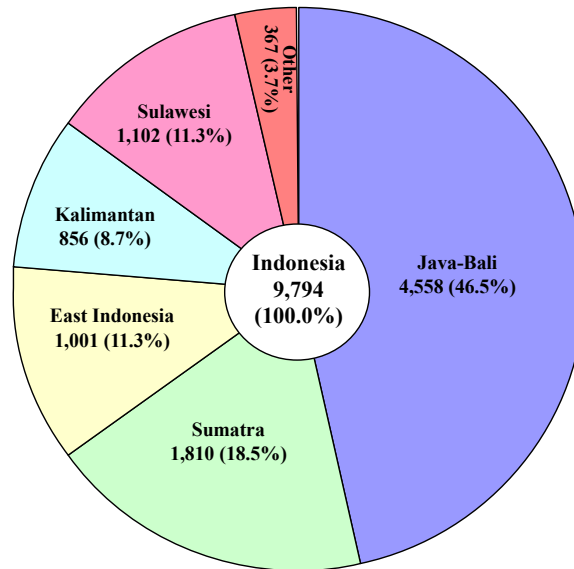
- There are many identical clusters, with no product differentiation and under price competition
- Profitability is low because of low value added per labor
- Products are typically labor-intensive and low technology

The majority of cluster enterprises are in the low strata, far from viable SMEs, they are an agglomeration of local industries. This phenomenon may be attributable to the historical background of cluster formation traced back to the colonial era. For instance, many wood furniture clusters in the southern part of Central Java were formed by migrant craftsmen who had dedicated themselves to perpetuate historic dynasties. Some products such as roof-tile and sugar were promoted by the colonial administration leading to many identical clusters scattered nationwide. The majority of metal work clusters originated from blacksmiths producing agricultural tools.

## (2) Regional Distribution

Indonesia is divided into several regions; i.e., Java-Bali, Sumatra, Kalimantan, Sulawesi and Eastern Indonesia. The regional distribution of clusters is more or less balanced, as seen in Figure 2.4 below. The number of clusters in Java-Bali is 4,558

(46.5%), followed by Sumatra (1,810 or 18.5%) and Sulawesi (1,102 or 11.3%). Unlike this pattern of distribution, around 80% of large and medium scale industries are located in Java.

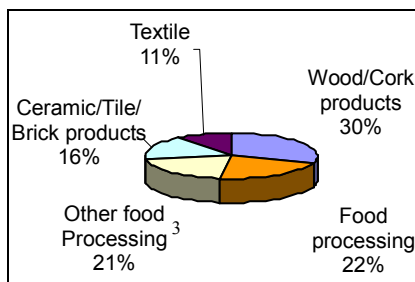


Source: MOIT's electronic data

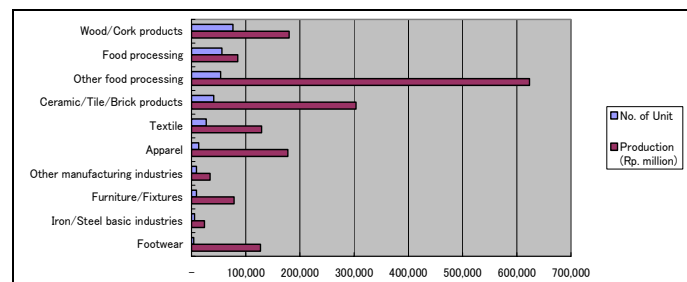
**Figure 2.4 Regional Distribution of Clusters**

Regional characteristics of SME clusters are summarized as follows:

Java-Bali



Whole Island

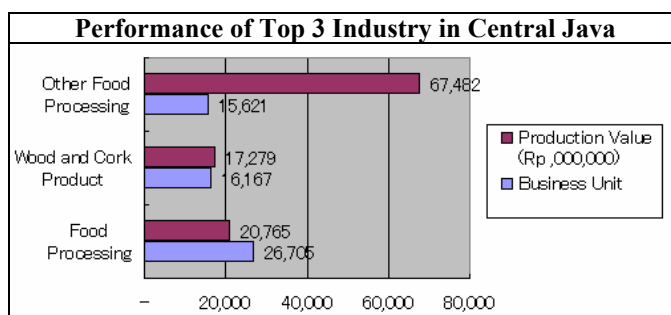
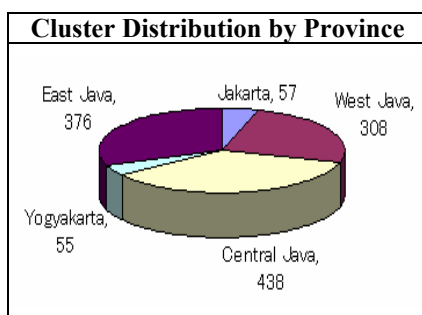


Whole Island

Source: MOIT's electronic data

In Java-Bali, the size of business units and production value are larger than those of other islands. The food processing sub-sector is significantly large in terms of production value, followed by ceramic/roof-tile/brick, wood/cork and apparel sub-sectors.

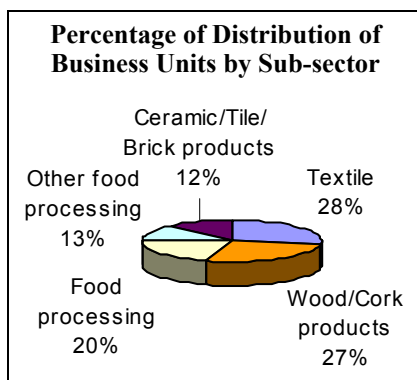
<sup>3</sup> Other food processing include tempe, tofu and all kinds of chips.



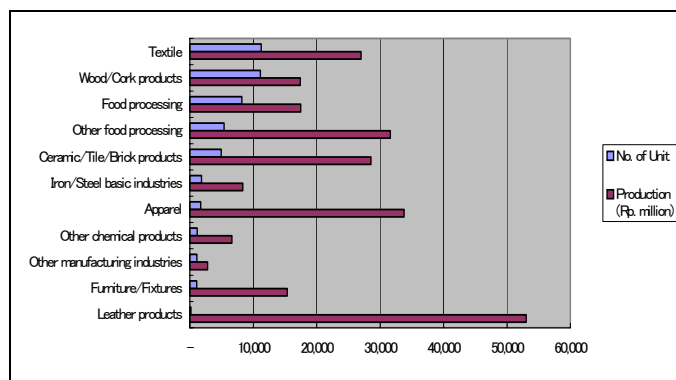
Source: MOIT's electronic data

Cluster distribution by province shows that Central Java has the largest number of clusters. The food processing industry sub-sector has the largest production value. A concentration of clusters in this sub-sector is closely correlated with the high population density in Java island.

Sumatra



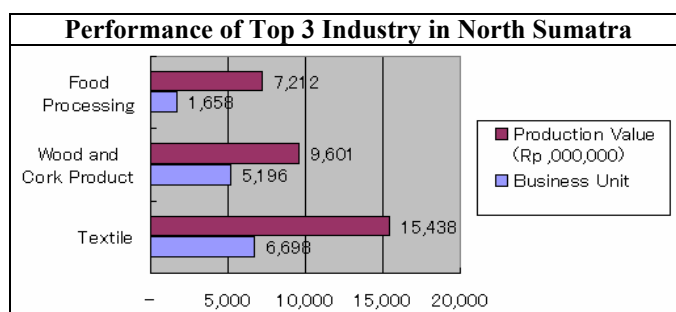
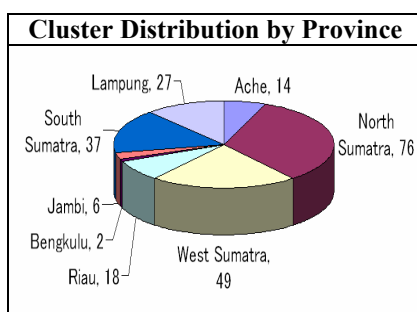
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Source: MOIT's electronic data

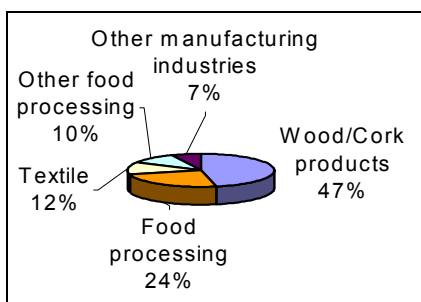
Leather products lead the sub-sectors in terms of production value, followed by apparel, other food processing and textiles. Leather products appear to be a focus, showing high productivity (high production value versus the small number of business units). Other chemical products (jamu, essentials) have the largest share of production throughout the nation.



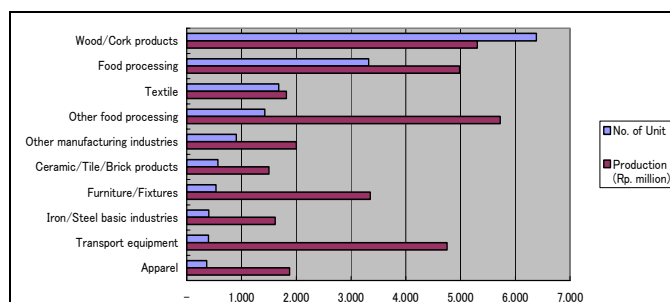
Source: MOIT's electronic data

North Sumatra encompasses the largest number of clusters, followed by West Sumatra and South Sumatra. In North Sumatra, the top three industries are textiles, wood and cork products, and food processing. The focus of the provincial strategy for cluster development in North Sumatra will be placed on these sub-sectors.

**Kalimantan**



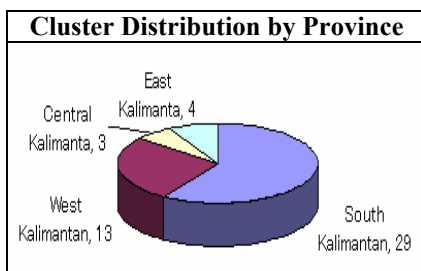
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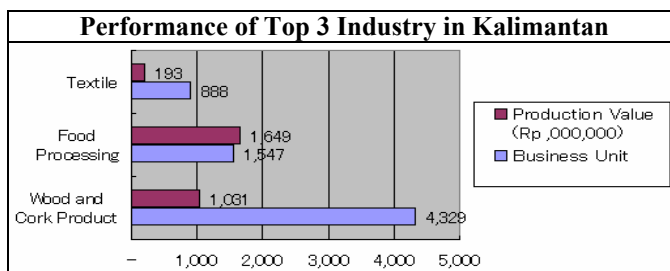
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Source: MOIT's electronic data

In Kalimantan, the wood/cork product sub-sector is the largest in terms of sizes of business units and production value. Sizes of business units and production are relatively small, and clusters are sparsely distributed in Kalimantan.



Whole Island

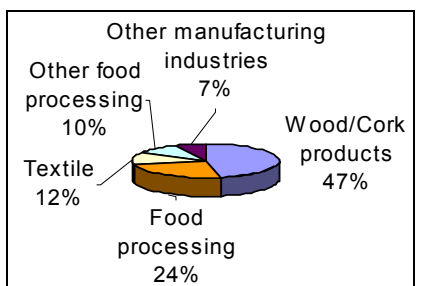


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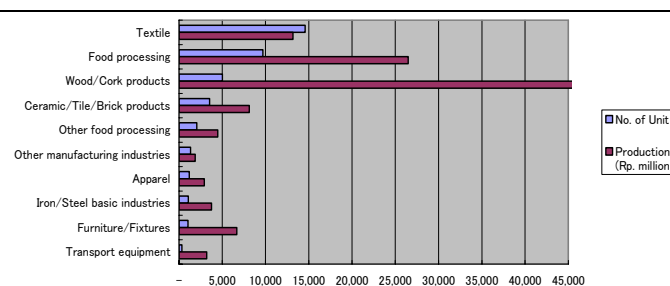
Source: MOIT's electronic data

Around 60% of SME clusters in Kalimantan are concentrated in South Kalimantan. Of the three leading industries, the wood/cork industry has the largest number of business units. Low productivity is common to these industries, indicating that natural resource-based cluster industries produce low value added products.

**Sulawesi**



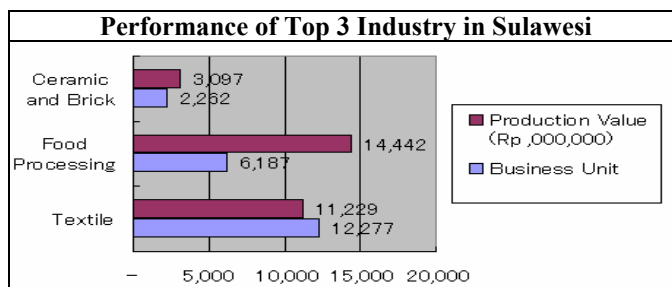
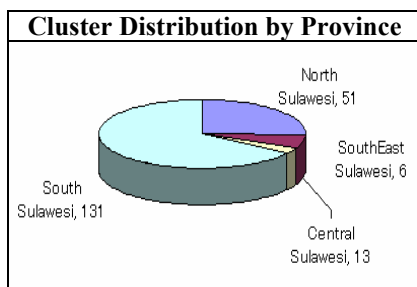
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Whole Island

Source: MOIT's electronic data

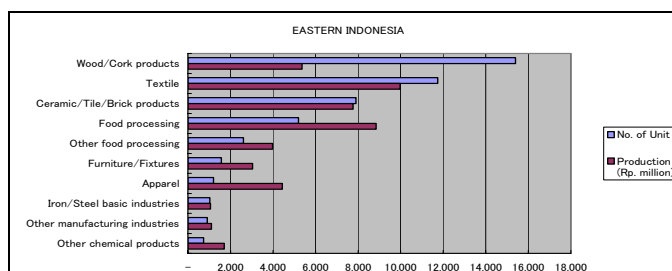
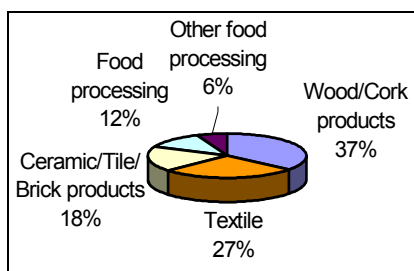
More than 70% of production value and business units in Sulawesi are shared by the wood/cork and food industries, showing a homogenous manufacturing structure on the island. The wood/cork industry produces medium to high value added products. Food processing is characterized by horticultural products in extensive plantations.



Source: MOIT's electronic data

About 65% of clusters in Sulawesi are concentrated in the province of South Sulawesi. The three leading industries are textiles, food processing and ceramic/bricks. The concentration of these industries in South Sulawesi is correlated with high population concentration in the Makassar area.

### Eastern Indonesia

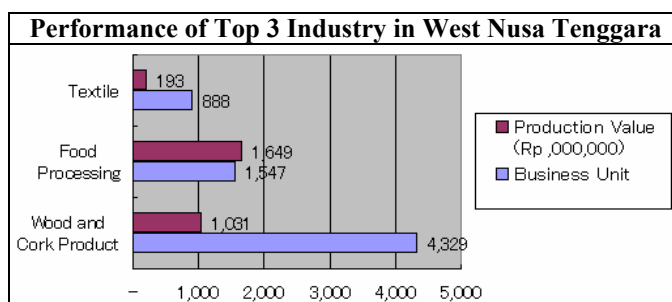
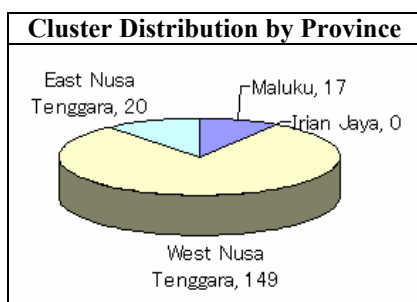


Whole Island

Whole Island

Source: MOIT's electronic data

In Eastern Indonesia, a large number of business units are concentrated in the wood/cork, textile and ceramic/roof tile/brick sub-sectors. Eastern Indonesia consists of small islands and is the least developed area in terms of industrialization. The performance of resource-based industries is therefore outstanding. Productivity of the wood/cork and textile sub-sectors is relatively low.

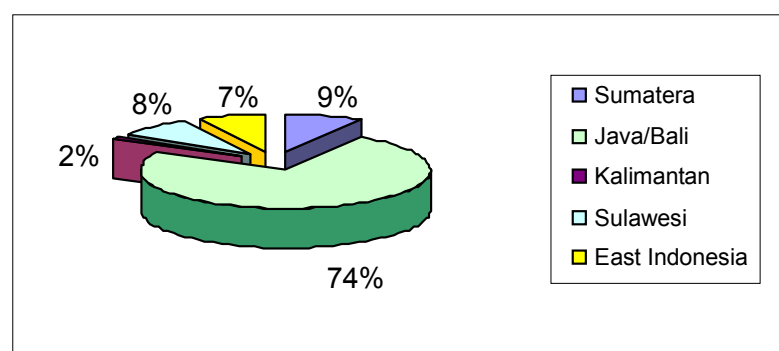


Source: MOIT's electronic data

About 80% of clusters in East Indonesia are concentrated in the area of West Nusa Tenggara. The three leading industries are wood/cork, ceramic/bricks and textiles. Low productivity is common in the three leading industries.

### Characteristics of Clusters in Java-Bali Region

Clusters in Java-Bali are looked into further, as nearly half of all clusters in Indonesia (9,800) are concentrated in this region. If counted by the number of clusters having more than 100 enterprises in the cluster, concentration in Java-Bali is more notable, accounting for 74% of larger clusters.



Source: MOIT's electronic data

**Figure 2.5 Distribution of the Larger Clusters having more than 100 SMEs**

Java-Bali clusters have high production values in most sub-sectors (except for textiles and other chemical products). This is attributable to (i) high consumption/population, (ii) concentration of buyers or traders in Java, and (iii) business linkages with other industries. Sub-regional characteristics are summarized as follows:

<b>Jabotabek Area</b>	:	The other food processing sub-sector was ranked highest, sharing more than 30% of all business units in Jabotabek area. This was followed by the apparel sub-sector (25%). The production values were 13% and 40%, respectively. These imply that many cluster enterprises engaged in other food production are micro/cottage/household types, supported by the high consumption population in the area. The apparel industry appears to achieve dynamic sales opportunities by linking to buyers.
<b>Inland Java</b>	:	The wood/cork sub-sector was ranked highest, sharing around 35% of all business units in the Inland Java area. This was followed by the ceramic/tile/brick industry (23%). The production values were only 5% and 40%, respectively. The ceramic/tile industry appears to produce the higher value added products.

<b>Coastal Cirebon</b>	:	The wood/cork industry, including rattan, was ranked highest (significantly above others), sharing 60% of production value of all manufacturing units in coastal Cirebon. The area is well known for the agglomeration of the rattan industry.
<b>Semarang/Surabaya</b>	:	The manufacturing structure in Semarang was somewhat similar to that of inland Java, as around 50% of business units were shared by the wood/cork and ceramic/tile sub-sectors. Semarang is also famous for furniture/fixtures, particularly high value added components like laminating board. The manufacturing structure in Surabaya appears to be balanced, represented by footwear, textile, apparel and other food processing sub-sectors supported by urban consumption and industrial activities in East Java.
<b>Yogyakarta/Bali</b>	:	Because of many tourism locations in Yogyakarta and Bali, the wood/cork industry shared more than 35% of all business units in these areas. They were also characterized by furniture and textiles linked to the traditional culture of Java.

### (3) Manufacturing Structure

Products are largely classified into consumption, intermediate and production goods. Products manufactured by cluster enterprises are mostly confined to consumption and intermediate goods.

The manufacturing structure is broadly divided into minimum processing and division of labor. The former is featured by simple processing requiring a monotonous production line, while the latter is characterized by parts or components separately manufactured by the different production lines or enterprises. Most of cluster enterprises are under the minimum processing structure. The division of labor is not developed even in the metalwork clusters and furniture clusters.



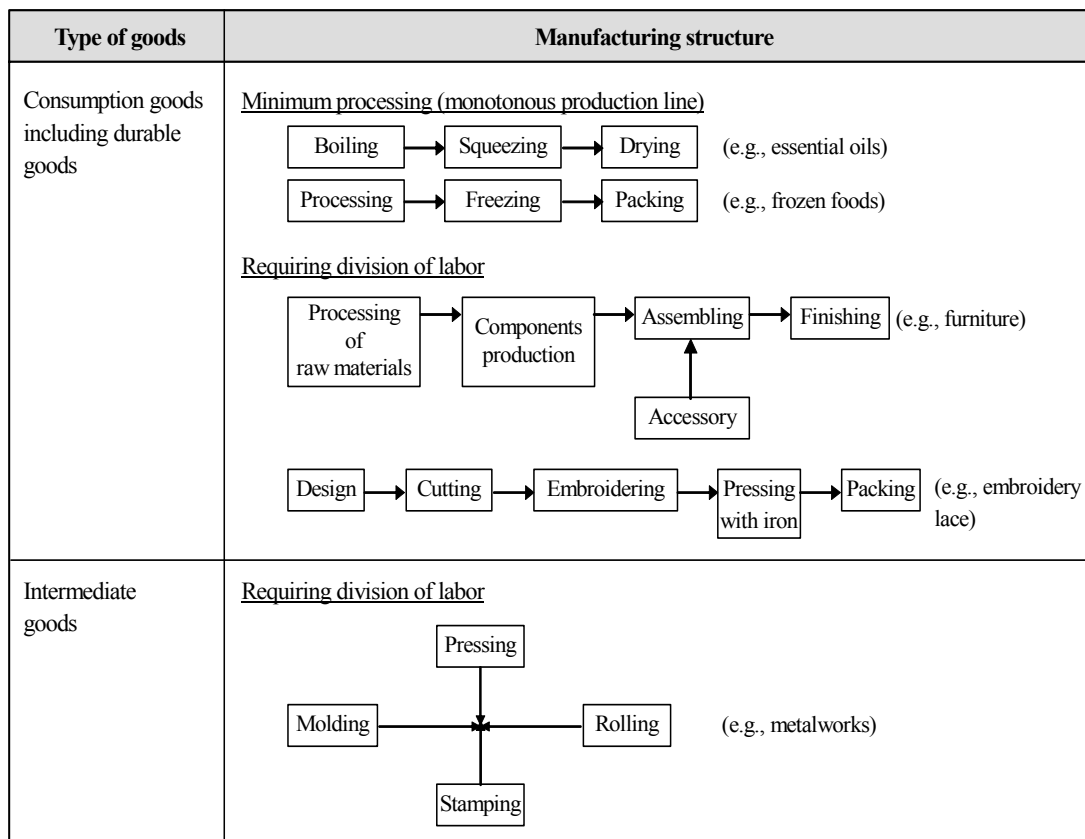


Figure 2.6 Manufacturing Structure

The various types of manufacturing structure form the different types of linkage.

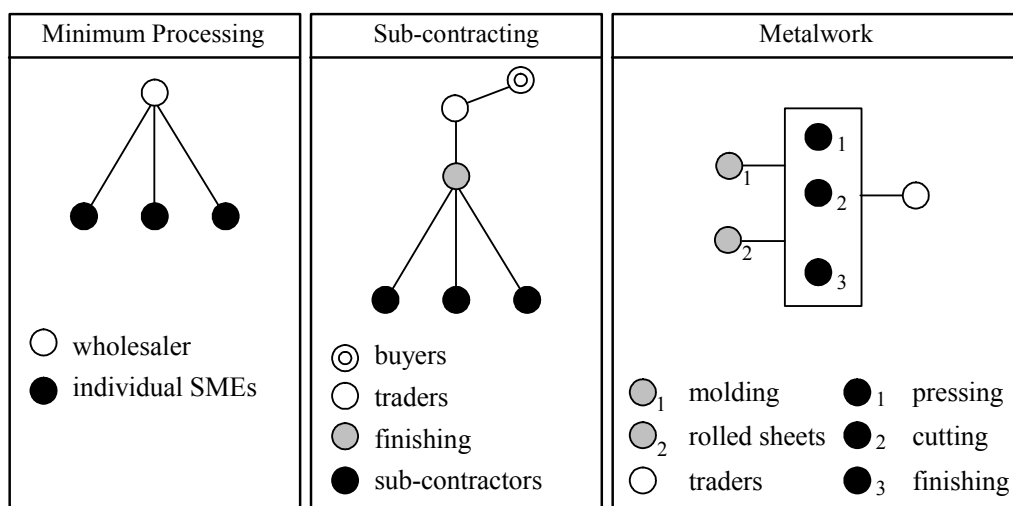


Figure 2.7 Linkage Based on Manufacturing Structure

Minimum processing forms the simplest linkage between wholesalers and individual SMEs. There are no horizontal linkages at all between enterprises. They have no bargaining power on prices with wholesalers, as market information is captured by

wholesalers. As noted before, most of the cluster enterprises are found in this type of minimum processing.

The sub-contracting system is developed for the division of labor. Usually, the metalwork industry depends on the sub-contracting. However, the sub-contracting system has not developed yet in the metal and machinery cluster group, and the majority of cluster enterprises, individually produce finished products (e.g., tools, fences, ornaments).

In the metalwork clusters, only a small number of viable SMEs are capable of undertaking the different processing skills such as pressing and cutting. Cooperatives are usually so weak they cannot control even a small number of SMEs undertaking the different processing. Apart from the viable SMEs, metalwork cluster enterprises usually make business transactions directly with traders.

It is concluded that most of cluster enterprises are individually operated for minimum processing and they are not properly structured. This is true even for the metalwork clusters. Most clusters remain as a simple geographical agglomeration of SMEs.

#### **(4) Financial Aspects**

##### Financial Management

For most SMEs, financial management is synonymous with cash flow management. They keep the record of orders and cash flow. The principal concern is how to retain sufficient working capital to receive orders, balancing cash for the purchase of raw materials, labor, transport, and cash received from buyers.

Not all SMEs maintain a full set of financial statements, including balance sheet. The importance of the balance sheet may differ from industry to industry, and whether the industry is labor or capital intensive. For example, cluster enterprises in Sidoarjo (pilot metalwork cluster) maintain more formal financial records than those in Serenan-Klaten (pilot wood furniture cluster). The former also appears to have a better understanding of the concept on depreciation.

Most SMEs consider the possibilities of external finance such as bank loans, and some are actually get financed. SMEs with bargaining power have a better chance in borrowing bank loans with lower interest rates. The viable SMEs, which keep the repayment schedules, are receiving good reputation from the financial institutions.

Other than external finance, SMEs attempt to manage cash flow through various strategies; e.g., (i) requesting advanced payment from buyers for purchasing materials, (ii) delaying payment to material suppliers, (iii) requesting a cooperative to purchase a

post-dated check before the payment date, (iv) purchasing materials with post-dated checks, and (v) retaining those products which are quickly sold using cash.

However, these strategies depend on the relationship with buyers or material suppliers. There have been cases that buyers have not made repayments on time even though there is a written agreement on the payment date.

#### Gap between Demand and Supply

In general, a loan of Rp. 10 to 50 million is available provided SMEs have sufficient collateral to cover loans. On the demand side, SMEs are reluctant to obtain loans due to the following reasons: (i) the business is not sufficiently stable to fulfil the monthly repayment obligation, (ii) the interest rate is so high (more than 20% p.a. in 2003) that after interest payments, there will be no profit remaining, (iii) the loan application procedure is too long, and (iv) the loan amount is limited to the value of tangible collateral.

The primary reason that SMEs do not approach formal financial institutions is their long loan application procedures. SMEs face harsh competition and when a major order is received unexpectedly, they require money quickly to ensure business opportunities are not missed. A complicated or long loan application system is often not compatible with the borrowing situation of SMEs.

#### Access to Financial Information

A workshop on financial issues, held in Serenan-Klaten to analyse the financial needs of SMEs and introduce several financial alternatives, indicated they do not have adequate information to compare the merits and demerits of different alternatives. Some obtained loans at higher interest rates, unaware that there were sources of funds offering lower rates. Some SMEs have fears about approaching financial institutions as they feel they would not be heard or treated properly. Some others consider they need introductions to financial institutions by others.

The on-going financial assistance scheme with preferential conditions, extended by MOIT, MOCSME and state-owned enterprises (SOEs), are less known to SMEs. A socialization process is incorporated into the MOIT and MENEKOP schemes; however, DINAS appears to disseminate information through limited channels such as cooperatives and SMEs who happen to visit them. SOEs are also not required to disseminate information on SME assistance schemes to the public. Thus, a large number of SMEs do not receive the available information.

### (5) Major Constraints of Cluster

External economies are thought to be the main reason why SMEs have been concentrated in clusters. Theoretically, the agglomeration of enterprises is expected to have external linkages to or transactions with buyers or traders, and linkages between core industries (firms of assembly or final products) and related industries (firms supplying similar products or services) outside clusters. Internal linkage of cluster enterprises is then the subsequent result of business transactions with outside enterprises. These would eventually form a joint operation/purchase of inputs or an internal sub-contracting system.

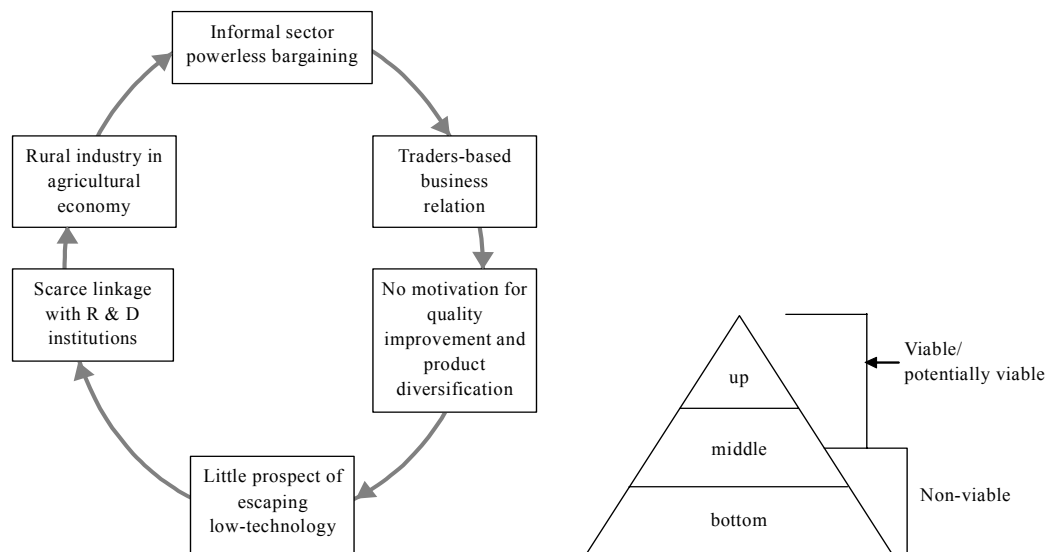
There are, however, several constraints which hinder external or internal linkages. Table 2.5 below outlines major constraints related to cluster industries. These constraints appear to be independent, but are actually inter-related. There are still many clusters where business transactions are monopolized by traders or wholesalers. Under such circumstances, most cluster enterprises have little motivation to improve the quality of product or increase the value-added.

**Table 2.5 Constraints of Clusters**

Description	Constraints
Products	Dominance of final consumption goods, low quality primarily for domestic market
Technology	Low-technology being for manufacturing industry
Market	Dominated by traders, little access to retail markets
Price	Low price controlled by traders or buyers
Institutional aspects	Weak bargaining power, most enterprises belonging to informal sector
Social	Supplement to agricultural incomes, linked to local history

The majority of commodities manufactured in clusters are homogenous, and dominated by final consumption goods. Quality and delivery are dominantly of secondary importance, primarily because the market outlet is not directly linked to buyers or core industries except for a few viable SMEs. Cooperatives or associations are generally inactive, resulting in weak bargaining power in price negotiation for the sale of commodities and purchase of inputs. It is also noticeable that the majority of cluster enterprises belong to the informal sector, which is hard to be considered to be business partners by the external formal sector. Most clusters are geographically dispersed in rural areas where farmers are seasonally engaged in production of commodities of simple processing.

The vicious circle is observed as shown in Figure 2.8 below. The difficulty is how to cut the vicious chain and attain improvement in the current status. There is no comprehensive approach to solve a vicious chain. Each cluster or each category of clusters has to work out its solutions respectively.



**Figure 2.8 Vicious Circle**

The triangle indicates a hierarchy of cluster enterprises. The “up” category primarily comprises viable and potentially viable enterprises. Cluster enterprises in the upper-middle category are supposed to be potentially viable. The bottom and middle-bottom categories would define strata consisting of non-viable micro enterprises. The up and upper-middle categories would be the initial target for uplifting of the entrepreneur status. This is probably because they are assumed to have a positive motivation in developing their industries through entrepreneurial support. The first step in such cases would be provision of comprehensive management training to potentially viable entrepreneurs. They would then be able to recognize that informal status is not legally acceptable in establishing a business partner relationship with firms outside the cluster.

## 2.2 REVIEW OF POLICY AND PROGRAMS

### (1) Previous SME Policies

For SME development, the government had previously been acting as a direct service provider.

#### Policy Formulation

SME development has been a government priority to promote private sector-led growth, generate employment and incomes, and alleviate poverty. Previous policies emphasized special measures to put SMEs on a playing field with larger enterprises. The government provided SMEs with a range of incentives and concessions including free access to business services and mandated targets to commercial banks to lend to the SME sector at market interest rates. The increased efforts to support SMEs have resulted in significant coordination problems. A large number of government agencies

are concerned with SME development but few systems are effectually employed for coordination.

#### Measures Taken after the Crisis

The extent of the economic crisis was revealed by a survey in mid-1998. It indicated that, out of 175,903 SMEs surveyed across Indonesia, 75,453 (43%) had closed their business, 44,305 (25%) had experienced a decline in activity, and 31,127 (18%) had stopped trading but had not closed yet. Such a serious impact on SMEs has initially led the Government to focus on subsidized financing to SMEs. The shift to the subsidized credit scheme is a departure from the previous policy that (i) emphasized delivery of SME credit at market interest rates, and (ii) reduced BI's liquidity support for SMEs. Such a scheme, however, has imposed an additional burden to the public financed sector.

#### Technical and Business Capacity Building

The government has established service centers to provide technical assistance to enhance managerial and technical capabilities of SMEs and improve their access to the markets. Nevertheless, the resources invested in such services have been dissipated, and this led to one-stop services to SMEs with little possibility of providing any follow-up. A centralized supporting system, an essential ingredient in capacity building, has changed thereafter with the adoption of decentralized administration.

The government extension officers generally have little technical or business experience, and training programs have been largely provided by central offices, with less attention to local needs. Vertical linkages between SMEs and large firms have been promoted through mandatory partnership programs. These programs have also had limited success in fostering viable business partnerships.

### **(2) Propenas (National Development Plan)**

The major drawback is attributable mainly to the lack of comprehensive approaches to encourage business activities in the SME sector. The year 2000 was a turning point in the SME policy. A spotlight was put on the term "SME cluster" in Propenas. Though there was no definite interpretation of the term "cluster", Propenas introduced the following basic guideline for the strengthening of cluster enterprises.

#### **Create a Climate Conducive to Business Expansion**

It is intended to improve the business environment for cluster enterprises, primarily by means of reducing transaction costs and facilitating business activities, through the following:

- Simplification of licensing procedures, regional regulations and levies

- Development of network system of supporting institutions such as micro financing institutions (MFI), credit guarantee institutions and BDS providers
- Provision of incentives to the concerned stakeholders and service providers
- Implementation of a government-led development program for SME clusters

Improvement in licensing procedures under administration of local governments is primarily targeted to streamline the business environment for SMEs. The emphasis on the network system of supporting institutions appears to contribute to SME development in view of the limitation on business linkages.

#### Access to Productive Resources

This aims at improving access of cluster enterprises to productive resources such as MFI, banks and training services through the following:

- Improvement of the quality of services rendered by MFI or local banks
- Development of a credit appraisal system and its information network
- Accreditation or certification of service providers
- Fostering of facilitators as professional consultants for cluster enterprises

A missing link is commonly observed between cluster enterprises and external productive resources. A spotlight is placed on a facilitator who is supposed to bridge the gap between clusters and productive resources. Resource personnel in charge of a credit appraisal system may function as a facilitator. Accreditation or certification of service providers would better define the quality of BDS on the supply side, bringing about improved choices of service on the demand side.

#### Develop Entrepreneurship and Competitive SME Cluster

This aims at developing entrepreneurship of SMEs and improve competitiveness of SME clusters through the following:

- Development of business incubators and technology-based SME clusters
- Incentive system to enhance SME's entrepreneurship for technical innovation
- Development of production and distribution networks among SME clusters to make them competitive

Entrepreneurship is entirely dependent on motivation of SME owners. Development of production and distribution networks among clusters appears to be the most advanced technique against the mounting pressure from external competition. Nevertheless, this appears to be ambitious judging from the dormant condition of cluster enterprises.

For now, SME policies in Propenas are comprehensive and logical, taking into account needs for strengthening of cluster enterprises. However, Propenas did not clarify how and to what extent the concerned stakeholders must cooperate to realize such policies.

### (3) Mid-Term Action Plan for SME Development (2002-2004)

The action plans proposed in the Mid-term Action Plan (MTAP) reiterates SME policies proposed in Propenas and emphasizes the strategic role of SMEs in the national economy. The main agenda for SME development are:

- Business environment
- Financing
- Supporting institutions
- Access to productive resources, and
- Entrepreneurship and competitive SMEs

MTAP highly lists cross-cutting issues, which would require close coordination among the relevant agencies. This will certainly entail tremendous efforts of the concerned stakeholders (public and private sectors) because the policies cover various aspects at different levels, and many stakeholders are involved in implementation.

MTAP appears to be slightly ambitious and designed primarily to strengthen market-oriented SMEs. It clearly outlines measures to be taken for developing viable SMEs/clusters in order to enhance competitiveness and productivity. It also emphasizes the necessity of creating a forum for better coordination at a regional level. MTAP expects that such a forum would be a platform for synchronizing the SME development programs. It is noted, however, that MTAP has not clearly defined fundamental strategy for cluster strengthening.

### (4) Previous SME Cluster Development Programs

**Table 2.6 Previous Programs**

Decade	Policy / Programs
1970s	“BIPIK” for cluster formation “Foster Parent” linking SMEs to big industries
1980s	KOPINKRA for organizational strengthening
1990s	Diversification of SME policies
2000	Cluster development approach

The government actions SME cluster for development dates back to BIPIK in 1974, when the Ministry of Industry planned small enterprise development through the formation of “*sentra*”. The government has also executed the Foster Parent Program, aimed at establishing linkages between large and small enterprises. In the 1980s, the government shifted its policy towards institutional strengthening



called KOPINKRA (organizing *sentra* enterprises into cooperatives), which has been executed jointly by the Ministry of Industry and Trade (MOIT), the Ministry of Cooperatives and Small and Medium Enterprises (MOCSME) and the Ministry of Manpower (MOM). MOIT was responsible for technical aspects, establishment of UPTs (common facilities), and deployment of TPL (extension workers employed on a yearly basis) or TFPP (advisors who are permanent employees of MOIT) to SME clusters. MOCSME has promoted cooperatives in *sentra*.

It is not surprising that inter-agency coordination emerged as the main shortcoming when the concerned agencies embarked on their respective measures to promote SMEs in the 1990s. In the late 1990s, other agencies also entered into the SME sector for training and manpower development. The central government-led promotion for SMEs and SME clusters has not been so effective due mainly to the following reasons:

- (i) Duplication of different policy measures
- (ii) Limitation on supply side measures
- (iii) Limitation of the government as service providers
- (iv) Limitation on the top-down approach

In 2000, MOIT published the white paper entitled “National Industry Strategy, 2001” emphasizing that industrial sector development under globalization should be based on industry clusters and thereby improve competitiveness in the manufacturing sector. The Five Years Development Plan for 2000-04 (PROPENAS) also states that SME promotion will be accelerated through the cluster development approach.

On the other hand, MOCSME started a three year program for cluster development in 2001. The program appoints a BDS provider per cluster, with a budget of Rp. 50 million. MOCSME also launched its financial programs called MAP, including a micro finance scheme for SME clusters through cooperatives.

## **(5) Observations**

Since 2000, many agencies have plunged into SME promotion and duplication of policy measures has become more apparent. The recent movements in promotion of SMEs and SME clusters are summarized with some observations as follows:

### **(i) Decentralization**

Main players of SME promotion have apparently shifted to regional stakeholders in line with the decentralization policy. A forum is an example of the participatory approach where regional issues including SME cluster development are planned and implemented under the consensus of different stakeholders. The “Economic Forum” in Central Java is a sort of experimental project assisted by BAPPENAS,

empowering local resources. It covers an SME cluster development program, starting with eight (8) clusters in 2003. It is observed that the formation of “Forum” is an appropriate approach in promoting decentralization, participation of stakeholders, and integrated rural and regional development, as well as in revitalizing SME clusters.

(ii) Demand-oriented Service Delivery

The previous policy and programs appear to have been supply-driven, and the use of facility resources has been less effective for the end users (SMEs and SME clusters). An emphasis has been increasingly placed on the demand-driven service delivery. MOIT, with the technical assistance of ADB, is currently undertaking a study on BDS development in Central Java and South Sulawesi. MOCSME is assisting in the formation of a BDS Association both at national and regional levels. In view of the fact that most SME clusters have lagged in adjusting themselves to the changes in the markets, the shift to the demand-oriented service delivery is believed to be appropriate and obligatory for SME cluster strengthening.

(iii) Bottom-up approach

A substantial gap between central and local sides has been observed in the recognition of status, needs and strategies to be taken for SME cluster development. The bottom-up approach will absorb more appropriately the actual needs of SMEs and clusters, as experienced by KAPEL for a regional development program based on SME cluster development assisted by BAPPENAS. It appears to be preferable that the bottom-up approach be adapted to the maximum extent in the SME cluster strengthening programs.

(iv) Public-private partnership

In principle the basic direction towards SME promotion is market-oriented, with the private sector playing a leading role. In this context, viable SMEs will be the main target. However, cluster enterprises are mostly small and micro enterprises and they are unable to be serviced by BDS providers on a commercial basis. Consequently, a public-private partnership should be envisaged. The question would be in what field and to what extent public support is to be extended. One of the issues to be addressed by the public sector is human resource development (HRD), as clearly noted in the Five Years Development Plan for 2000-2004 (PROPENAS).

(v) Cluster development approach

The theory is easy to understand but its application is time-consuming and laborious. The shortcomings in past programs are mainly attributed to the measures lack of strategies to make SME cluster promotion sustainable. No official report or guideline for SME cluster promotion has been prepared to date. A key issue is to

identify systems adaptable to SME clusters in Indonesia, given the limitation on capacities of the existing stakeholders. It is observed that a focal point would be the role of BDS facilitators (coordinators). The identical scheme is currently applied for MOCSME's ongoing BDS program; however, this program still needs to be improved, especially the capability of BDS facilitators.

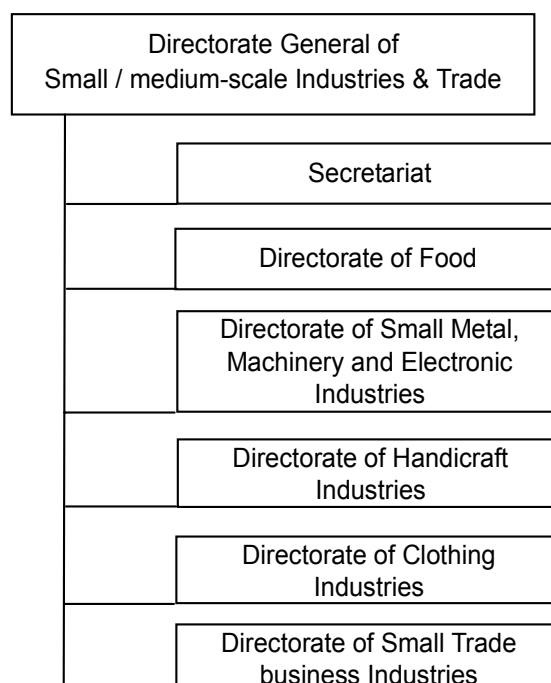
## 2.3 RELATED STAKEHOLDERS

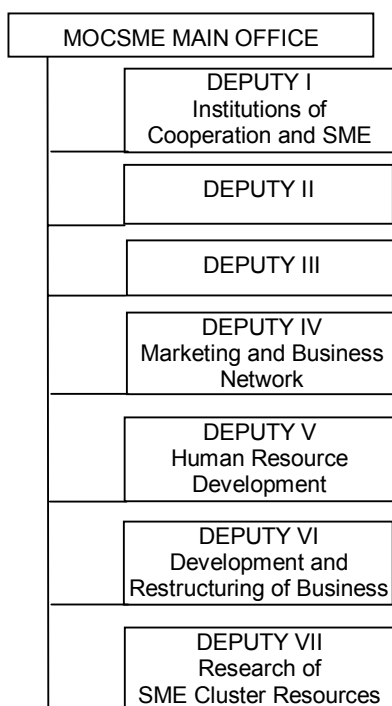
The stakeholders for SMEs cluster development are largely classified into policy makers, executors and supporters. Policy makers are supposed to be represented by MOIT and MOCSME. Cluster development basically requires integrated or inter-departmental coordination. However, the structure of the central government is not well-organized enough for making a sustainable policy/program for cluster development. Executors are primarily local stakeholders represented by provincial/regency governments, BDS providers/facilitators and cluster SME cooperatives.

Supporters are stakeholders at local and regional levels, represented by associations, R&D institutions, as well as large/medium industries around SME clusters. Geographical proximity is an important factor to sustain assistance by supporters.

### (1) Policy Makers

The Directorate General (DG) of Small/Medium Scale Industries and Trade is in charge of SME promotion in MOIT. MOIT's definition of SME comprises industries, trade and services. DG has four Directorates for industry and one for trade business. The current structure is apparently functional by industry and trade. The policy guideline for SME promotion is also based on a commodity development concept supported by resource-based, strategic export commodities and high value-added products. The current structure of DG, however, will not suit a matching of policy-making and cluster development.





MOCSME is more service-oriented, consisting of BDS promotion, SME finance and resources assessment of cooperatives and SMEs. MOCSME is to date the only agency implementing the three year development program for SMEs cluster, development focusing on BDS and micro-finance programs. MOCSME is also carrying out monitoring/evaluation and in-country training programs aimed at capacity building of BDS providers. MOCSME acts as policy makers as well as executors.

MOCSME's assistance for the BDS association and capacity building of BDS providers is an example of public-private partnership. It is observed, however, that MOCSME's policy for cluster development is one-sided, mainly focusing on BDS promotion and empowerment of cooperatives.

BAPPENAS, known as the agency for policy and planning, assists regional stakeholders in organizing a forum as an instrument for cluster development. A forum is simply regarded as an instrument to facilitate cluster development programs through a participatory approach. In view of the fact that globalization and decentralization will require more integrated or interdepartmental approaches, BAPPENAS is expected to lead policy making for SME cluster development.

## (2) Executors

Executors are primarily classified into two groups. One is institutions responsible for evaluation of clusters, coordination among stakeholders, and programming and budgeting of cluster development projects. The other is the implementing body responsible for planning, implementation and monitoring/evaluation of projects at site.

**Table 2.7 Comparison of Cluster Development between Forum and MOCSME**

Responsibilities	Stakeholders	
	Forum	MOCSME
1) Selection of cluster	FEDEP	Provincial office
2) Cluster development plan	BDS/FEDEP	BDS
3) Evaluation	FORUM	R&D
4) Programming	BAPPEDA	Main Office
5) Budgeting	BAPPEDA	Main office
6) Implementation	BDS/SMEs	BDS/Cooperative
7) Monitoring	FEDEP	BDS
8) Post-Evaluation	FORUM	R&D

Remarks : FEDEP (Forum at the regency level)  
FORUM (at the provincial level)  
R&D (University of MOCSME)

“Forum” means a decision-making body for regional development including SME clusters. It consists of the provincial government, BDS Association, banks and other associations.

FEDEP corresponds to the forum at the regency level. It comprises the regency government, BDS providers and associations. It is responsible for selection of clusters and formulation of the cluster development plan. BAPPEDA, with a leading role in the Forum, is responsible for coordination among the Forum members, programming of selected cluster development plans and budgeting. For the MOCSME’s scheme, selection of cluster is entrusted to the provincial office of MOCSME.

The table above contrasts the two schemes (FORUM and MOCSME) in terms of responsibility. The notable differences are:

- Participatory approach (FORUM) versus agency-based implementation (MOCSME)
- Decision-making for selection of cluster at regency level (FORUM) versus decision-making at the provincial level (MOCSME)
- Central management body (provincial BAPPEDA) close to FEDEP at regency level versus the main office (MOCSME)

The two schemes have advantages and disadvantages. The Forum appears to be more appropriate in methodology, complying with the decentralization and the bottom-up approach. Nevertheless, the following fundamental constraints need to be improved:

- No methodology on a cluster selection
- Poor capacities of stakeholders at regency level in the fields of planning cluster development
- Lack of competent manpower coordinating the different tasks at provincial level
- Unorganized or scarce information on SME clusters including their membership

- Poor capacities of BDS providers in the field of cluster management
- Little knowledge on monitoring/evaluation methodologies
- Powerless cooperatives in almost dormant condition

The most serious constraint is that all concerned stakeholders generally lack a clear strategy and planning capacity for cluster development. The question is who should be empowered to strengthen the capacity for planning and implementation.

Local government should upgrade their capacity for cluster selection in the context of regional development and post evaluation (impact on regional economy). Depending on the size of budget, they should also be responsible for information management for SMEs and SME clusters. Information is of prime importance for the selection of potential clusters or SMEs when implementing cluster development programs.

### (3) Supporters

Potential stakeholders providing necessary support to SME clusters encompass public authorities attached to the line agency, private organizations and large enterprises.

**Table 2.8 Stakeholders relating to SME Cluster Development**

<b>Organization</b>	<b>Present Activities</b>	<b>Application to SME cluster promotion</b>
NAFED	<ul style="list-style-type: none"> <li>• Trade Fair</li> <li>• Dissemination of export information</li> <li>• Indonesian Trade Promotion Centre</li> <li>• Consultation on exporting</li> </ul>	<ul style="list-style-type: none"> <li>• Dissemination of export information through website</li> </ul>
IETC (attached to NAFED)	<ul style="list-style-type: none"> <li>• Training on export business</li> <li>• Training on quality inspection of exports</li> </ul>	<ul style="list-style-type: none"> <li>• Training on introductory trade, business know-how to SMEs having a business transaction with foreign buyers</li> </ul>
RETPC	<ul style="list-style-type: none"> <li>• Training on trade business in Surabaya and Medan, Makassar and Banjarmasin in the near future</li> <li>• Visiting consultation and dissemination of information</li> </ul>	<ul style="list-style-type: none"> <li>• Training on delivery, quality inspection, packaging and marketing to SMEs</li> <li>• Facilitation of marketing coordination between buyers and SMEs</li> </ul>
KADIN	<ul style="list-style-type: none"> <li>• Training on marketing or sales promotion</li> </ul>	<ul style="list-style-type: none"> <li>• Training on marketing and sales promotion in regional KADIN</li> </ul>
Associations (ASMINDO) (ASPEP)	<ul style="list-style-type: none"> <li>• Exhibitions</li> <li>• Technical training</li> </ul>	<ul style="list-style-type: none"> <li>• Consultation or BDS to SMEs(ASMINDO)</li> <li>• Technical training on tier-3 group of metal work SMEs (ASPEP)</li> <li>• Sales promotion to tier-2 or tier-1 (ASPEP)</li> </ul>
Bank Indonesia	<ul style="list-style-type: none"> <li>• Financial assistance to BDS centers of universities</li> </ul>	<ul style="list-style-type: none"> <li>• Training on university resources as BDS facilitators</li> </ul>
Export Bank	<ul style="list-style-type: none"> <li>• Technical training to SMEs of tier-3 in collaboration with ASTRA FOUNDATION</li> </ul>	<ul style="list-style-type: none"> <li>• Application of tier-3 training to SME clusters</li> </ul>
Universities	<ul style="list-style-type: none"> <li>• LPM (public service) including BDS</li> </ul>	<ul style="list-style-type: none"> <li>• BDS facilitator</li> </ul>

Services provided by IETC or RETPC (Regional Export Training and Promotion Centre) are vital for SMEs engaged in export manufacturing. Traders undertake delivery, packaging and preparation of documentation for inspection and shipment. Some SMEs (collectors) in clusters have a potential to undertake export business in place of traders.

KADIN, or associations (e.g., ASMINDO, ASPEP) are active service providers to SME clusters. Actually, ASMINDO provides consultation to SMEs of wood furniture/handicraft industries. The presence of ASPEP is also important because it gives technical training to Tier-3 SMEs engaged in metalwork and machinery.

Since 2000, the BI (Bank of Indonesia) has changed its role to SMEs from banking to bank supporting SMEs or BDS providers. The BI now has close contact with the BDS Association or universities to explore opportunities to make more effective use of financial assistance. The Export Bank has also committed itself to lending fresh money to SMEs through channeling banks, recognizing the importance of its status in society, and contributing 1% of its profits for community development.

The Foster Program by state enterprises is still active, lending 5% of their profits to SMEs. However, the extension of technical assistance from state enterprise to SMEs is scarcely observed. On the other hand, universities are playing an increasing role as a key regional stakeholder. A center of public services, called LPM, appears to be a symbol indicating that universities have a special function to feed back their expertise to regional societies. For example, LPM of the Solo University consists of seven service centers. One center is for entrepreneurial development with a BDS center of 30 staff members. The center is financially supported by the Ministry of Education.

It is noted that most supporting institutions are located in urban centers far from SME clusters located in rural areas. Accessibility to supporters' services is one of the issues to be addressed.

## CHAPTER 3 PILOT PROJECT

### 3.1 OBJECTIVES OF PILOT PROJECT

Pilot projects have been executed in three clusters with the aims of investigating and testing a number of measures thought to be effective for the cluster strengthening and formulating appropriate policies and strategies based on their evaluation. Details are reported in the Pilot Project Report.

The measures to be investigated through pilot project operations are defined as follows:

#### SWOT (Strengths, Weaknesses, Opportunities, and Threats) Analysis

A SWOT analysis has been conducted on the 10 sample clusters to identify potential and constraints of each cluster. It is considered that a cluster has potential to become dynamic when the decisive four factors in the Porter's diamond model are more favorable.

#### Market-oriented Strategy

Market-oriented programs are considered effective in stimulating the changes required for a dynamic cluster. Programs like visits to potential markets, meeting with potential buyers, and participation in an exhibition are examined. Other programs are developed to satisfy the needs of the potential markets.

#### Participatory Approach

A participatory approach is applied when implementing the pilot project for two reasons; (i) it is considered effective in promoting self-help awareness of SMEs; and (ii) a participatory approach is considered necessary to identify the common interests of SMEs and to promote joint actions.

#### Role of Leader and Cooperative

The pilot projects identify how the SME leaders and a cooperative can function in strengthening the SME clusters.

#### Role of BDS Providers

The pilot project is executed in combination with MOCSME's SME Cluster Development Program under which one BDS provider is appointed to each cluster. The appointed BDS provider extends services based on its initial proposal submitted to the regional government. Because some similarities are found between the MOCSME's BDS scheme and the pilot project, the role of BDS provider/cluster facilitator is reviewed in the course of these combined operations.



### Joint Action

In order to strengthen collective capacity of SMEs in the cluster, the pilot project will identify the common areas of action and guide cluster SMEs to work jointly in achieving their common interests.

### Decentralization

The cluster approach matches the decentralization policy because the local government is considered to be in a more favorable position to identify needs of a cluster and to implement the appropriate action programs, which fits to the regional context. The pilot projects are operated in close relation with the local governments, with the aim of assigning the cluster development role to the local government after completion of a one-year operation.

## 3.2 SELECTION OF PILOT PROJECT SITE

Three clusters were selected from the 10 sample clusters for a one-year operation of the pilot projects. One cluster was selected from each of the following groups:

- Metalwork and machinery component clusters
- Export oriented product clusters
- Rural, indigenous product clusters

A primary concern in the selection process was to identify clusters that could serve as a model for future dissemination. In this regard, two main criteria were established for the selection, i.e., “growth opportunity factors” and “planning and action-taking capacity”.

“Growth opportunity factors” is derived from the decisive four factors of the diamond model by Michael Porter. In applying these factors, sub-criteria have been re-defined to better fit the SME cluster (see Table 3.1). The level of each sub-criterion has been determined by assigning a score from 0 to 3.

#### **Decisive four factors**

A cluster's distinctive functions (agglomerative functions) are not always enjoyed by all SME clusters. Those merits, as the main drivers for self-reliant innovation, will be fully exercised, provided essential conditions are readily available to the cluster. The “*decisive four factors*” are identified as necessary conditions for cluster dynamism according to Porter's model. The Study team re-defined the “decisive four factors” to better fit the context of the SME cluster setting as below:

- \* Structure, business-conducive and competitive (rivalry) environment
- \* Availability of local demand requiring higher quality
- \* Availability of quality production factor such as human resource, material, logistics facility
- \* Existence of innovative supplier and related industry, and supporting institution

“Planning and action-taking capacity” has been observed in the cause of regional cluster workshops held at 10 sample clusters in June 2002. Some 30 participants have

been invited to conduct joint-planning sessions by employing the Project Cycle Management (PCM) method (SMEs and stakeholders) in each cluster. Participants in those planning sessions clearly revealed the level of planning and action-taking capacity of the cluster (see Table 3.2 for details of the criteria). The importance of each criterion has been determined by assigning a score from 0 to 4.

**Table 3.1 Criteria for the Growth Opportunity Factor**

Production factor condition	General factor	1) Geographic location 2) Neighboring infrastructure 3) Environmental impact 4) Importance in regional economy
	Specialized factor	1) Training opportunity 2) Major material / input 3) Distance to material source 4) Formal financial access 5) User / customer information
Demand condition		1) Trend in demand volume 2) Quality of demand
Related industry and supporting institutional condition	Supporting institution	1) Government support to SME clusters 2) Local BDS providers 3) R&D related institution
	Related industry	4) Local input / material supplier 5) Competitive related industry that shares common input / skill / technology in proximate area
Rivalry and collaboration factor		1) Competition among cluster 2) Cooperative / collective action and activity

**Table 3.2 Criteria for the Cluster's Capacity**

Planning capacity	1) Understanding on planning method 2) Activeness in the workshop 3) Level of cooperation among participants 4) Ownership in the problem and solution analysis 5) Capacity of problem identification
Action-taking capacity	1) Presence of leadership 2) BDS provider's capacity 3) Cluster's aspiration for change and competition 4) Other important factors

The overall evaluation has been based on the total scores marked under these criteria as shown in Table 3.3. Under such a process, Waru-Sidoarjo, Serenan-Klaten, and Kebumen have been selected as the pilot clusters.

**Table 3.3 Result of Pilot Cluster Selection**

Group	Cluster	Growth opportunity (total score)	Cluster capacity (total score)	Percentage of scoring	Rank in group	Pilot cluster
Metalwork/ machinery component	Tegal	31	10	45.6%	3	
	Sukabumi	33	18	56.7%	2	
	<b>Waru-Sidoarjo</b>	<b>38</b>	<b>21</b>	<b>65.6%</b>	<b>1</b>	⊕
Export product -oriented	<b>Serenan-Klaten (Wooden furniture)</b>	<b>36</b>	<b>20</b>	<b>62.2%</b>	<b>1</b>	⊕
	Amuntai (Rattan product)	30	5	38.9%	4	
	50 Kota (Gambier)	29	8	41.1%	3	
	Garut (Vetiver oil)	33	5	42.2%	2	
Rural Indigenous product -oriented	OKI-Tanjung Batu (Agricultural tool)	30	7	41.1%	3	
	Mampang / Bekasi (Tofu / tempe)	27	11	42.2%	2	
	<b>Kebumen (Roof tile)</b>	<b>36</b>	<b>21</b>	<b>63.3%</b>	<b>1</b>	⊕

Three pilot clusters are considered to have promising factors that would lead them towards dynamic clusters.

#### Metalwork and Machinery Component Cluster

The main target of the metalwork and equipment component clusters is to guide them to become supporting industries. However, a low level of factory management has been considered to be a major hindrance in strengthening the cluster. In addition, each enterprise has a tendency towards diversification rather than specialization. Such a tendency is common to three metalwork clusters. Sidoarjo metalwork cluster has been selected, primarily because of the relatively well-developed institutions, including the cooperative and KKB (an Astra founded BDS provider serving for the Waru-Sidoarjo cluster), and its strategic location, which supports market expansion.

#### Export-oriented Product Cluster

Four sample clusters have comparative advantages in utilization of local resources, although differences are observed in the level of entrepreneurship.

The rattan mat furniture cluster in South Kalimantan has a well-developed vertical linkage and specialization in each firm. The design and orders are given from traders in the city and manufacturers in the villages undertake the dying, cutting, and weaving processes. Yet, market prospects are not promising due to a declining demand in its main market, Japan, and competition from Chinese products.

On the other hand, the manufacturing processes in the gambier and vetiver oil clusters are homogenous and basic. The finishing processes depend on traders outside the cluster, and the cluster SMEs have no bargaining power. Their production processes are too simple to test various measures for the cluster development.

Contrarily, the furniture cluster in Serenan-Klaten shows some degree of vertical linkages to the cluster. The product designs have some variations, and it is the only cluster in which potential entrepreneurs are examined among cluster enterprises.

#### Rural Indigenous Product Cluster

All three sample clusters are vital as suppliers to local markets, but they demonstrate low technological competence. The agricultural tool cluster is simple in production process, comprising smelting and forging by using scraps of used iron and steel. The production process of tempe and tofu is also simple, and no distinctive division of labor is foreseeable. On the other hand, the Kebumen roof-tile cluster has a large number of SMEs, but the cluster is found to be in critical shape for survival under competition by more advanced roof-tile clusters. Yet, its product is well known in central Java by the brand name “Sokka”. The production process has a number of stages, which can potentially lead to a division of work.

### 3.3 FRAMEWORK OF PILOT PROJECTS

#### (1) Operational Steps

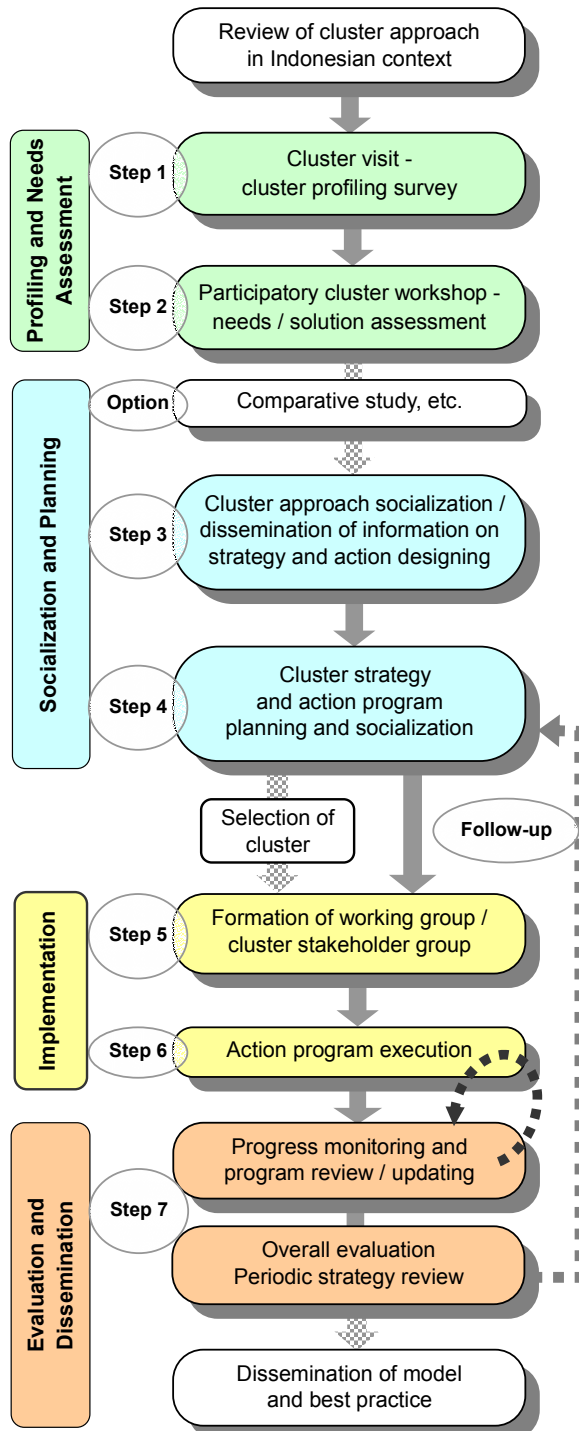


Figure 3.1 Steps for Pilot Project

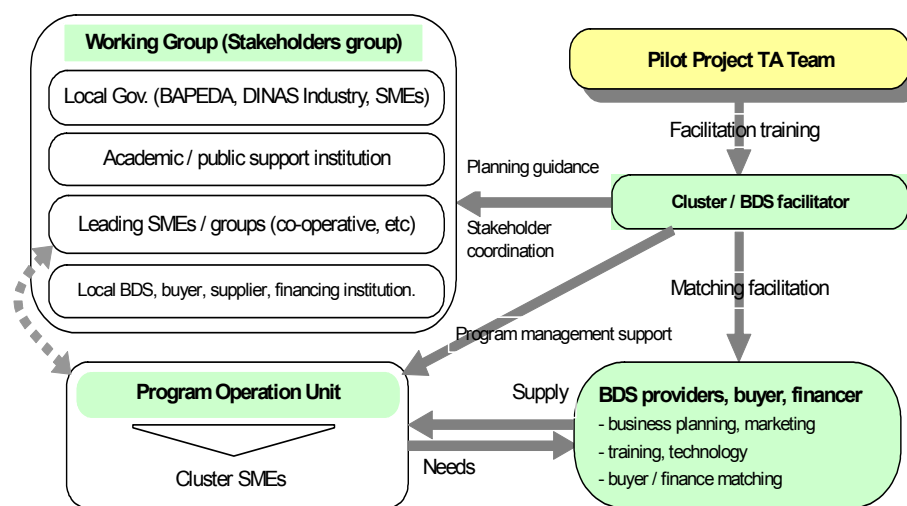
In general, the pilot project encompasses activities as depicted in Figure 3.1. It starts with profiling/needs assessment, followed by socialization/planning, action implementation, and finally by evaluation. Based on the survey results of the profiling/needs assessment, the cluster development strategy, including one-year action programs, has been prepared for 10 sample clusters.

During the socialization/planning phase, a series of planning sessions have been implemented in the SME clusters to have tailor-made and viable options, based on the environment faced by each cluster. There is a need for flexible feed-back between program execution (step 6) and program planning (step 4). Such feed back is programmed because a strategy for cluster strengthening identified at the planning stage may be found less appropriate or overly ambitious for the real capacity of SMEs. Another reason for the feed-back is to allow SMEs to re-plan the programs after their motivation is raised through receiving “stimuli” such as visiting more advanced SMEs/cluster or conducting market research.

Overall evaluation provides lessons to the concerned stakeholders. Such lessons become “inputs” to modify or to improve the initial cluster development strategy. Then, the pilot clusters are expected to follow the cluster promotion cycle.

## (2) Operational Structure

A working group has been formed to act as a consulting body and to facilitate close cooperation among the stakeholders. The program operation unit (POU) has also been organized particularly to oversee program preparation and execution. Activities of these groups have been guided and strengthened by a local BDS provider appointed to each pilot cluster (referred to as a “cluster facilitator”). The standard operational structure for the pilot project is outlined in Figure 3.2 below.



**Figure 3.2 Operational Structure of the Pilot Project (One-year Action Program)**

### Working Group

The working group, established in each pilot cluster, is composed of the representatives of the local stakeholders; i.e. the local government, universities, R&D institutions, BDS providers, buyers/suppliers, associations, and POU. The group is to define the planning of the strategy and action programs together with cluster enterprises and to function as an advisory body to direct and back-up the cluster promotion process.

### Program Operation Unit

Emphasis has been given to a formation of the program operation unit by SMEs who are expected to take a strong initiative in program management (scheduled execution, monitoring and reporting, program review, budgeting and staffing, follow-up). Further, the program operation unit is expected to facilitate the future institutional or structural changes in the cluster.

### Cluster Facilitator

A competent BDS provider has been appointed to play the role of a cluster facilitator in each pilot cluster. The cluster facilitator should be active in the following fields:

- Guidance and facilitation for working group and stakeholder coordination
- Program management support for program operation unit
- Matching facilitation of BDS

The cluster facilitator is also expected to provide skills in business planning and to facilitate the planning process among SMEs. In general, a facilitator is expected to have sufficient knowledge in management of action programs and to bridge the gap between SMEs and external stakeholders.

#### BDS Provider

BDS providers (private or public including academic and research institutions) are essential stakeholders in rendering the training and service required for the action programs and tailor-made support for specific needs of the cluster. A geographical proximity is an important factor in continuing a close relationship between the cluster and BDS providers.

### **(3) Monitoring and Evaluation**

#### Evaluation Focus

Evaluation is basically focused on the outcomes of action programs in the light of Porter's decisive four factors as well as lessons, which would be ingredients for policy recommendation and action plans to be proposed for SME cluster strengthening at the nation level.

#### Achievement by factors (before and after the pilot project)

The achievements of action programs are evaluated by notable change or innovation identified on each factor. At the same time, issues and constraints, which hinder the expected outcomes, are reviewed.

#### Findings and lessons learned

Findings are based on comprehensive evaluation indicating why programs fail to fulfill the expected achievements, or to what extent they contribute to the expected outcomes. Lessons are to be reflected in strategies to maximize realization of the expected outcomes.

#### Monitoring

The cluster facilitator has been primarily responsible for preparation of the progress monitoring report on the achievements and changes brought about by the action programs. The working group has periodically reviewed the action programs, based on the progress monitoring reports, and has provided timely advice and measures to facilitate the cluster development process.

### 3.4 OUTLINE OF PILOT PROJECT

Each pilot cluster commenced the project by setting and sharing a long-term vision and strategy for cluster development. This led to designs and formulation of the one-year action programs in line with the cluster development approach that has placed importance on a bottom-up planning, linkage strengthening, and collaborative efficiency.

In general, the one-year action programs for each cluster is composed of organizational strengthening, networking, marketing promotion, product development/process innovation, and technical training. Programs are designed to strengthen conditions necessary for enhancing the competitiveness of the cluster. The outlines of the pilot projects are presented in the box below.

**Box 3-1 Outlines of the pilot projects in three pilot clusters**

**a) Waru-Sidoarjo, metal and machinery component cluster**

*Vision and strategy* : Vision is to enhance competitiveness of the cluster in order to acquire the status of a supporting industry. This vision requires improvement in designing capacity, production process, and quality control.

*One-year action programs*

Program	Objective / content
Guidance	To form an operational structure, define its role and responsibility, and share the strategy and context of the action programs. To stress importance of entrepreneurship.
Core product development	To develop products through a collaboration among SMEs with step-by-step approach. Propulsion system of a fishing boat and a cooking gas stove were chosen for the product development. Innovative product development was emphasized in the process.
Factory management training	To improve skills in factory management through a series of lecture and on-the-spot advice in the topics of 5S, inventory, production, and quality controls



**Box 3-1 (continued)**

**b) Serenan-Klaten, wooden furniture cluster (export market-oriented)**

*Vision and strategy* : Vision is to enhance competitiveness by expanding access to the market through launching the finishing process and preparing a variety in quality of classic furniture. This vision requires the cluster to employ the strategy of concentrating on the classic furniture business, improving and mechanizing processing practice (such as moisture control, finishing skill), creating interactive relationships with buyers, strengthening collaboration basis for future multiple relations among SMEs, specialization by parts and process.

*One-year action programs*

Program	Objective / content
Institutional strengthening and training in business planning	To form program operation group, define its role and responsibility, to train in business planning skill and have SMEs prepare sub-programs for technical training and details of action program.
Antique furniture seminar	To transfer knowledge and information on the European antique market through lectures
Technical training	To provide training in production management skills (wood use and material pre-treatment) and equipment use (jig and wood-processing machinery) through class room lectures and actual application in the factory
Study on joint use of dry kiln and machinery	To prepare a business plan on the joint-sharing and operation of dry kiln and machinery to make up for lack of capacity of SMEs
Exhibition participation	To provide an opportunity for preparation of an exhibition ranging from product development, finishing, product brochure making, show-room design, and to develop new linkage to buyers and establish the system of joint-order windows

**c) Kebumen, roof-tile cluster (domestic market-oriented)**

*Vision and strategy* : Vision is to catch up with more advanced clusters and to enhance competitiveness by improvements in standardized production quality and in production efficiency. This vision requires the cluster to employ a strategy of forming the networks through marketing activity, innovative production process, material supply and employing joint activities in order to complement limitations of individual SMEs.

*One-year action programs*

Program	Objective / content
Initial socialization	To socialize the strategy and action programs among SMEs through reviewing the program, and identifying technical issues and areas of possible improvement
Study tour	To conduct study tours to learn from other advanced clusters and seek technical partnerships with supporting institutions
Marketing strategy and sales promotion planning (followed by implementation)	To provide training on business planning and formulate marketing strategy and action plans, and to later execute the action plans (brochure, market study, agent finding)
Revitalization of co-operative activity and service	To review the services rendered by co-operatives, prepare action plans, and later execute the plans
Process improvement program	To conduct a process improvement program through establishing a linkage with supporting institution, particularly to improve and standardize production performance / quality in line with Standard Indonesia
Business planning	To prepare a business plan in view of newly established joint organization for material supply, market development service, or common facility sharing / operation based on the results to date

Details of the pilot project operation are presented in Pilot Project Report.

### 3.5 EVALUATION OF PILOT PROJECT

#### (1) Evaluation of Outcomes by Determinant

The actual outcomes of the pilot project operations in three clusters are compared to those expected before the project, based on the four determinants defined under the Porter's model. The distinction between actual and expected outcomes may be ascribed to a variety of constraints observed during the pilot operation. This leads to lessons for strategy applicable to cluster strengthening.

In general, SMEs in the furniture cluster and roof-tile cluster have been well motivated to initiate joint actions during the pilot projects while the pilot project in Sidoarjo has left less impact on the determinants. This is due to three characteristics associated with the Waru-Sidoarjo cluster; i.e., (i) heterogeneous nature of products limits the area of joint actions; (ii) most owners and workers commute from outside villages and are reluctant to have meetings outside of business hours; and (iii) indifferent attitudes attributable to continuous assistance from donors and government have made SMEs less enthusiastic in participating in the pilot project.

#### Demand Conditions

Demand conditions vary from the low to high level markets in Indonesia. Three clusters have been linked to the lower quality market, but the pilot projects have aimed at exploring the requirements of the higher markets and improving the factor conditions based on the market requirement.

Pilot Cluster	Expected Outcomes	Actual Output
Waru-Sidoarjo	To link SMEs to "demanding" buyers in terms of quality	Although some meetings have been arranged with potential buyers, no significant initiative has been observed from the SMEs to change their business practices to meet the requirement of the higher markets.
Serenan-Klaten	Increase demand for Serenan products	Participating in the national exhibition has provided SMEs with an opportunity to negotiate with potential buyers directly and to learn about market requirements.
Kebumen	Sustainable linkage to higher quality market.	A consortium, established during the pilot project, has initiated direct sales to the market in Bali.

The product heterogeneity in Waru-Sidoarjo cluster has been regarded as a constraint in implementing collective actions. The concept of “core products” has been introduced to have a sub-group of enterprises work on certain products, which was intended to promote sales to the “demanding buyers”. This strategy has eventually been found too demanding for cluster enterprises with their limited capacity especially because the SMEs chose new product development instead of modification of existing products. The pilot project could only reach to the experimental product stage and has not realized sales.

Homogeneity has actually made it less difficult for clusters to link to buyers outside. Serenan products are more homogeneous, and effort has been taken to develop a loose formation of cluster enterprises, called the Collaboration Unit. It actually took time to expand the collective minds of them belonging to the Unit, but this enhancement culminated in participation in a national exhibition where they not only gained a chance to negotiate with the potential buyers but also learned about requirements in the competitive markets.

The homogeneity of the product helped Kebumen to achieve the expected outcomes despite the initial disharmony among cluster enterprises. They have shared their common interests and put them into actions in market promotion and technological improvement. A newly formed consortium has found some potential agents and is setting up storage in Bali where they target to expand their products.

#### Factor Conditions

Depending on the nature of problems observed initially, various options have been applied to improve factor conditions. It has become clear that their improvement is attributable to the level of awareness of cluster enterprises on entrepreneurship. A lower emphasis on enhancing entrepreneurship could result in a failure to improve factor conditions.

Pilot Cluster	Expected Outcomes	Actual Output
Waru-Sidoarjo	Improvement in factory management. Enhancement of awareness about drawing and quality improvement.	Little success of awareness of SMEs about improvement of factor conditions.
Serenan-Klaten	Enhancement of awareness to manufacture higher quality products	Some signs showing enhancement of SMEs' awareness on higher quality.
Kebumen	Brand building. Improvement of production process and of raw material supply. Building of capital formation.	The expected outcomes have almost been realized except production process.

The Sidoarjo metalwork cluster has executed two main activities in improving the factor conditions. The first activity is factory management. Although various attempts have been made to make cluster enterprises aware of the importance of factory

management, dependence on replacement markets among the cluster enterprises in Waru-Sidoarjo has made it difficult to raise an incentive towards implementation. Mastering the essence of drawing and factory management means changing production practices, and almost no cluster enterprises in Waru-Sidoarjo were willing to change them. On the other hand, the second activity, the product development program, has left some hope towards improvement. Cluster enterprises have upgraded their skills in production to some extent.

The Serenan-Klaten pilot project has involved grass-rooted socialization or a step-by-step approach to improve existing conditions. The socialization process has been time consuming, but the Collaboration Unit has gradually exerted its strength towards achieving the expected outcomes. Willingness to improve product quality has become clearer after cluster enterprises jointly participated in the national exhibition in Jakarta.

A growing concern for survival under competition has brought SMEs in Kebumen to work together towards a common interest. Making pamphlets was the first step towards brand building activities. Standardized production processes have been set including clay stocking, control of water content, and kiln modification from wood-burning to oil-burning. The pilot program was initially designed to focus on modification of extruder machines rather than the blending practice of clay material. This approach has almost failed, but the involvement of the University of Gadjah Mada (UGM) in the program as a BDS provider altered the situation. Cluster enterprises are discussing on a methodology to accumulate profits in a newly established consortium.

#### Related and Supporting Industries

The availability of stakeholders depends on the location of SME clusters. Geographical proximity to Surabaya is a favorable location for Sidoarjo cluster. On the other hand, the rural locations of other clusters handicap their accessibility to stakeholders. The real issue may be a lack of reliable stakeholders as business partners. Supporting industries are still at a premature stage while the BDS market is in its infancy.

Pilot Clusters	Expected Outcomes	Actual Output
Waru-Sidoarjo	Support from local stakeholders	Positive signs of local stakeholders to assist the cluster in the pilot operation
Serenan-Klaten	Networking with stakeholders	A successful linkage with a university and a buyer-type service provider but poor linkage with business associations
Kebumen	Strengthening of linkage with supporting institutions	A successful linkage with a university but difficulty in sustaining linkage with public R&D

The availability of supporting institutions depends on the location of SME clusters. Geographical proximity to Surabaya gives a favorable condition for the Sidoarjo metalwork cluster to strengthen linkages with local stakeholders. There are ample human resources ready to extend assistance as long as the TOR is specified with proper payment. Institute of Technology Surabaya and the Sidoarjo ship-building high school became the main BDS providers during the pilot operation.

The Klaten furniture cluster and Kebumen roof cluster have employed support from the LPM in universities: Solo University (UNS) and Gadjah Mada University (UGM). Yet, the remoteness in Kebumen is disadvantageous in continuing a close relationship with UGM. The pilot project in Klaten also managed to link the cluster with a buyer-type service provider.

None of the pilot projects has been able to find a capable cluster facilitator from the private BDS providers in the region. Performance of LPM-UNS has left a clue that the cluster facilitator requires the spirit of contributing to the society.

Public R&D institutions have not been fully exploited during the pilot operation. As a result of the autonomous policy of raising service fees from SMEs, it will be difficult to depend on a direct extension services from public R&D to SME clusters. Geographical distance is another difficulty in getting extension services from the centrally located institutions.

#### Firm Strategy, Structure, and Rivalry

Geographical proximity should make it easier to collaborate among SMEs; yet, three clusters did not have a collaborative atmosphere at the beginning of the pilot projects. SMEs were quite individualistic and were not open to each other. The pilot projects successfully made changes in such an atmosphere. Cluster enterprises now understand the importance of collaboration if they want to improve.

Pilot Clusters	Expected Outcomes	Actual Output
Waru-Sidoarjo	Competition by quality Specialization in certain production processes Vertical and horizontal linkages	Little change in quality consciousness and specialization Yet, some signs towards vertical and horizontal linkages through collaboration among the leading enterprises
Serenan-Klaten	Awareness about cooperation Joint actions	Formation of new cooperation Joint marketing efforts through participating in an exhibition
Kebumen	Awareness of rivalry Structure towards specialization	Awareness of market competition through a study tour to an advanced cluster and market research Selective specialization in material supply and sales through collaboration

The core product program has not made a significant change in firm strategies among the SMEs in Waru-Sidoarjo cluster. Heterogeneous nature of the cluster, not only in product but also in the technological level, made it difficult to collaborate among cluster enterprises in the core product program, and focus has shifted to acquiring skills in product development. Yet, the pilot project made enterprises aware of the importance of collaboration after the represented enterprise owners sent to Japan for studying the SME network. The leading 8 enterprises have formed an informal network and are willing to collaborate in the area where they find their common interest.

In Klaten, a loose structure of the Collaboration Unit has allowed enterprises to take a flexible reaction to the pilot operation. Most enterprises participating in the Unit have been controlled by a collector undertaking finishing work. As the project progresses, some enterprises have shown willingness to manufacture products of improved quality. The self-improvement process has cultivated through their joint participation in the national exhibition in Jakarta. They gradually obtained a sense of cost sharing. Change in their business sense will require more time, but the continuous discussion at the Collaboration Unit shall facilitate such change.

The Kebumen cluster might be a successful model in the sense that the expected outcome has been realized although the initial phase was proceeded on a trial and error basis. A critical point in the pilot operation was a realization of market competition through a study tour to Jatiwangi. The awareness of the market threat solved meaningless conflict between cooperative and non-cooperative enterprises. The consortium has accelerated the initial step of cluster transformation, formulating their business plan for clay provision (a raw material supply) and joint marketing trading services. The approach to a material supply and sales promotion implies that the cluster is expected to gain more value added activities.

## **(2) Important Lessons Learned from Pilot Operations**

Three most important lessons have been learned from the pilot project operations. The first lesson is the importance of entrepreneurship or passion to improve business. Visits to the advanced clusters and factories have placed the first step towards the creation of a dynamic cluster. A study tour may bring about a change in participants' awareness, but such a change is much dependent on the level of entrepreneurship of the cluster enterprises. Some will have a strong motivation or willingness for self-improvement, while others will only remain passive in the presence of competitors.

The second lesson is the importance of social capital, or "reciprocal trust", built among cluster members, that gives an impact on the four determinants of the Porter's Diamond Model. A formal consensus building may not guarantee a virtual building of reciprocal trust among members. Instead, informal networking sometimes plays an important

role. The homogeneity nature is an important factor that leads to the collective actions. The pilot project indicates that the more homogeneous enterprises, the greater the probability of horizontal linkage. For a heterogeneous cluster, the size of cooperation tends to be smaller.

Measures to strengthen internal bonds have become a challenging issue during the pilot operation. Participation in the exhibition has brought about a “seed of trust” built through “working together” in the Serenan-Klaten cluster. The consortium formed in the Kebumen cluster is another indication of fostering reciprocal trust by pursuing common interests. A step-by-step building of a business relationship would create “trust” between enterprises and external buyers.

The third lesson is the importance of cluster facilitator, who guides the cluster enterprises to collaborate and to identify the areas for strengthening. The pilot project has learned valuable lessons on the difficulties faced by the cluster in accessing external stakeholders. The role of a facilitator is, therefore, extensive. It has to facilitate the linkages with external stakeholders and to conduct planning, management, and monitoring activities. This lesson calls for development of human resources to work as cluster facilitators. The pilot project also suggests that the support of the Working Group formed by stakeholders is necessary for the cluster facilitator to conduct his/her role.

Other major lessons learned from the pilot project are summarized below.

#### Identification and selection of Clusters

Lessons	Strategy
Selection of clusters based on Porter’s four (4) determinants does not cover evaluation on enterprises’ willingness to collaborate each other.	Social capital may be added to Porter’s determinants in order to identify and select potentially viable SME clusters.

#### Cluster Development Strategy

Lessons	Strategy
An assumption that the cluster can have one voice as envisaged in the cluster development strategy has been found to have limitation for the heterogeneous cluster. The size of the horizontal linkage in the heterogeneous cluster also tends to be small.	It is important to facilitate the exchange of opinions and promote the collaboration among enterprises in the area they find the common interest. Collaborative network does not necessarily have to be formalized.

### Social Capital Formation

Lessons	Strategy
Social capital formation is a time-consuming process. A cooperative is not necessarily an effective organization to strengthen social capital formation.	Attention should be paid to a group of enterprises which have willingness for self-improvement. The key words would be “ability” and “willingness” for self-improvement.

### Enhancement of Entrepreneurship

Lessons	Strategy
Majority of cluster enterprises are unwilling to make efforts and take risks for self-improvement.	Proper stimuli should be given to open up the minds of enterprises.

### Supporting System

Lessons	Strategy
BDS is notably short of competent providers especially in technical and financial services while the demand for such services is high.	There would be a need for establishment of intermediary functions to bridge between the BDS providers and enterprises. Capacity building of BDS providers should also be promoted.

### Implementation System

Lessons	Strategy
Although the decentralization has shifted authority to local governments, they lack capacity in taking the initiatives for SME and cluster development.	Instead of strengthening capacity of respective local government agency, establishment of a regionalized forum system would be more practical for implementing a cluster development program as is the case in the Forum in Central Java.

### **(3) Cluster Strengthening Approach in Indonesian Context**

Despite the achievements and lessons being limited to only three pilot clusters for one-year operation, they have provided significant sources to determine the cluster development approach that fits the Indonesian context. The cluster strengthening approach can be summarized as simultaneous implementation of the following three principles:

- (i) Upgrading of individual SME
- (ii) Facilitating linkages and joint action among cluster enterprises



(iii) Facilitating external linkage in accordance with the needs of the cluster

(i) Upgrading individual SMEs

#### Stimulus for change

Most enterprises in clusters are just manufacturers without innovative ideas. They are mostly serving for the low quality markets caught in price competition. Despite market contraction, most enterprises are unwilling to attempt venturing into the higher quality market. Under such situations, the provision of any program remains inefficient unless proper stimuli are provided to modify their way of thinking.

Experience of the pilot projects suggests that the most influential stimulant is a demanding buyer in terms of quality. If a cluster demonstrates comparative advantages, buyers may be sufficiently patient to teach cluster enterprises how to upgrade their quality. Because of the available natural resource, rattan and wood product clusters have comparative advantage in this aspect. If clusters are devoid of comparative advantages, buyers are likely to move away and look for those manufacturers with higher capabilities. This is why the foster parent program did not bring about the anticipated results despite its initial ambition.

The second stimulant can be a developmental enterprise operating in clusters. Yet, it is unlikely such developmental firms can effectively influence others in a horizontal manner because other enterprises usually lack in the capacity to analyze the success factors of the developmental firm. Instead, it is more likely that the developmental firm will influence others through subcontracting although the size of such influence may be limited.

The third stimulant is “learning by visiting” to more advanced clusters or organizing an exhibition in which enterprises have the opportunity of hearing directly from potential buyers.

The least effective stimulant observed in the pilot project is an advisory service from a consultant. Unless advice is specifically given to fit the needs of each enterprise or directly linked to sales, enterprises are less likely to implement recommendations of the consultant. They tend to disregard class room type lectures, claiming that they are irrelevant to their immediate needs.

#### Basic education

Effectiveness of trainings of enterprises for basic skills and management is limited because of their unwillingness to move forward. The basic skills essential for manufacturing should be taught before graduating from schools. The pilot project has revealed a lack of basic skills such as measuring, sketching, and drawing.

### Program continuity

Various institutions offer training courses to SMEs, but most of their schedules are “ad-hoc” and depend on availability of resources. Moreover, the offer of programs is notified to a limited number of SMEs. These conditions make it difficult for SMEs to fit in a program at the necessary times. In order to maximize the use of programs, a local government has to coordinate with institutions to schedule the programs on a regular basis and notify them in public by the open information system (discussed below). Moreover, the courses should be short-term so they do not cause much disturbance to the daily activities of enterprises.

#### (ii) Facilitating the linkages and joint action among cluster enterprises

Enhancement of social capital is a critical factor to facilitate linkages and joint actions among enterprises. Effective implementation of the pilot project was firstly hampered by the individualistic nature of enterprises.

### Open information system

It should be borne in mind that collaboration in a cluster is usually found in a small rather than big group. A cooperative only represents part of the cluster enterprises. Non-cooperative members sometimes see a cooperative serving only particular families and networks of friends.

The undermining of a cooperative is closely linked to the lack of an information system. Information on the SME programs has been delivered through a cooperative, which accesses enterprises *one-by-one* using hand delivery. In villages, telecommunications facilities are poor. Improvement of the information delivery by the initiatives of cooperatives is time consuming and expensive.

Non-cooperative members are likely to be neglected. Provision of services through a cooperative has created distrust among cluster enterprises. Development of a *one-to-x* information system is a necessary condition for providing equal opportunities to cluster enterprises. A local government has a role to develop the *one-to-x* information system such as by placing advertisements of the programs in local newspapers.

### Specialization

A key to creating the dynamic cluster is specialization of each firm. Enterprises can better demonstrate their capability by concentrating on one area because of limited capital and human resources. However, what is generally observed among them is a diversifying strategy rather than specialization. Diversification is a natural tendency for them because specialization requires higher skills in marketing, management, and techniques, unless they collaborate with other firms to compliment the requirements. In

this context, strengthening the social capital is a necessity to promote collaboration among enterprises.

(iii) Facilitating external linkage in accordance with needs of the cluster

There are many stakeholders who can contribute to cluster development, and a function is required to mobilize all resources within and over the cluster. The formation of a working group and program operation unit in the pilot project is an attempt to institutionalize such a function, and its result leads to formation of a forum, which involves all stakeholders including a local government, local institutions, and representatives of enterprises, and a cluster facilitator. The members of the forum have to be dynamic, and new stakeholders should be called for any time. It is also recommended that a provincial cluster forum be established in addition to the local forum. The provincial forum would be particularly useful in creating dynamic linkages among viable SMEs at the provincial level.

Furthermore, a cluster facilitator should be someone who is fully conversant with local conditions so that he/she can coordinate the voices of cluster enterprises and bring in the stakeholders to the forum. In the pilot projects, a BDS provider appointed from the LPM at a local university has demonstrated a higher potential to undertake this task than a private BDS. A local university is considered better suited to this role because of its financial stability, abundant human resources, and its public nature to serve the area. This role can be seen as part of the community service of the universities, and it can in turn provide the university with practical lessons on SME development.

MOCSME's SME Cluster Development Program under which one BDS provider is appointed to each cluster, one BDS provider is appointed to each cluster to assist development of the cluster. The role of the appointed BDS may be seen as a candidate for a cluster facilitator. However, the support from the working group, or a forum, and capacity building of such BDS providers are necessary in order for the appointed BDS provider to become a successful cluster facilitator.

## CHAPTER 4 POLICY AND STRATEGY FOR STRENGTHENING CAPACITY OF SME CLUSTERS

### 4.1 OBJECTIVES OF SME CLUSTER STRENGTHENING

Clustering refers to the process in which geographically proximate producers, suppliers, buyers, and other related agencies intensify collaboration with mutually beneficiary effects. In the most rudimentary form, a cluster is composed of only a few micro enterprises that produce the same goods for local consumers in nearby local markets. This type of cluster is characterized by a group of SMEs located close to each other and operating in the same sector (Schmitz and Nadvi 1999)<sup>1</sup>. In its most advanced form, a cluster is a geographically proximate group of interconnected entities including government institutions, business associations, and BDS providers.

Most SME clusters in Indonesia can be classified into the rudimentary type. The geographic delineation of a cluster may vary widely, ranging from a village to coverage of a whole district or regency.

#### Status Quo

Most SME clusters are just an agglomeration of enterprises with a fragile social fabric and are dormant or at the survival stage. The common features of SME clusters in Indonesia are:

- (i) Although only 17% of the total number of small and micro enterprises is located in the clusters, they are considered to be the key economic stakeholders contributing to community and regional development.
- (ii) Most of cluster enterprises are micro ones controlled by local collectors or traders in terms of price, market and technology, thereby eradicating entrepreneurship and craftsmanship.
- (iii) Products are dominated by local, replacement and niche markets that have not required, so far, technology and quality improvement.
- (iv) Most cluster enterprises are independent with minimal internal bonding in a cluster, with no foundation for “trust build”.
- (v) A “missing link” between cluster enterprises and external stakeholder is the common constraint, so that cluster strengthening is difficult without a facilitation bridging the gap.

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<sup>1</sup> Schmitz, H. and Nadvi, K. (1999), '*Clustering and Industrialization*' in *Industrial Clusters in Developing Countries, World Development*, Volume 27 Number 9. Oxford: Pergamon.

- (vi) There exists very few viable SMEs, but some are potentially viable, exhibiting a “strong willingness” to develop.

#### Changing Business Environment

The business environments are clearly changing in line with globalization.

- (i) With a steady increase of per capita income in urban areas in particular, consumers’ tastes for products have shifted to medium and high value added quality, implicating a gradual fade-out of markets of low quality on which most SME clusters are dependent.
- (ii) Indonesia will definitely face global competition because trade liberalization under AFTA triggers a flood of cheap, good quality imports.
- (iii) AFTA and future FTA with China will certainly shift to horizontal linkages of industries across the countries; chances are decreasing for development of supporting industries in Indonesia.
- (iv) Though it is reported that the economic crisis had less impact on local resources-based SMEs, unmeasured impacts are observed particularly in the informal sector of the industry. Further, a growing competition in the domestic market would directly affect SMEs.
- (v) An IMF condition on free export of raw materials will favor Chinese competitors, impede consolidation and increase in value added, and apt to deteriorate the environment as observed in the rattan industry; although it requires more time for SMEs to compete against outside competitors.

#### Implications of SME Cluster Strengthening

Figure 4.1 shows the majority of SME clusters in the most inner circle. The status quo of the inner circle can be explained that the degree of inter-firm specialization and linkages with outside stakeholders is low or almost nothing, reflecting a lack of specialists and a weak socialization. Most SME clusters are community-based producers that procure raw materials or inputs from nearby places and distribute products to local markets.

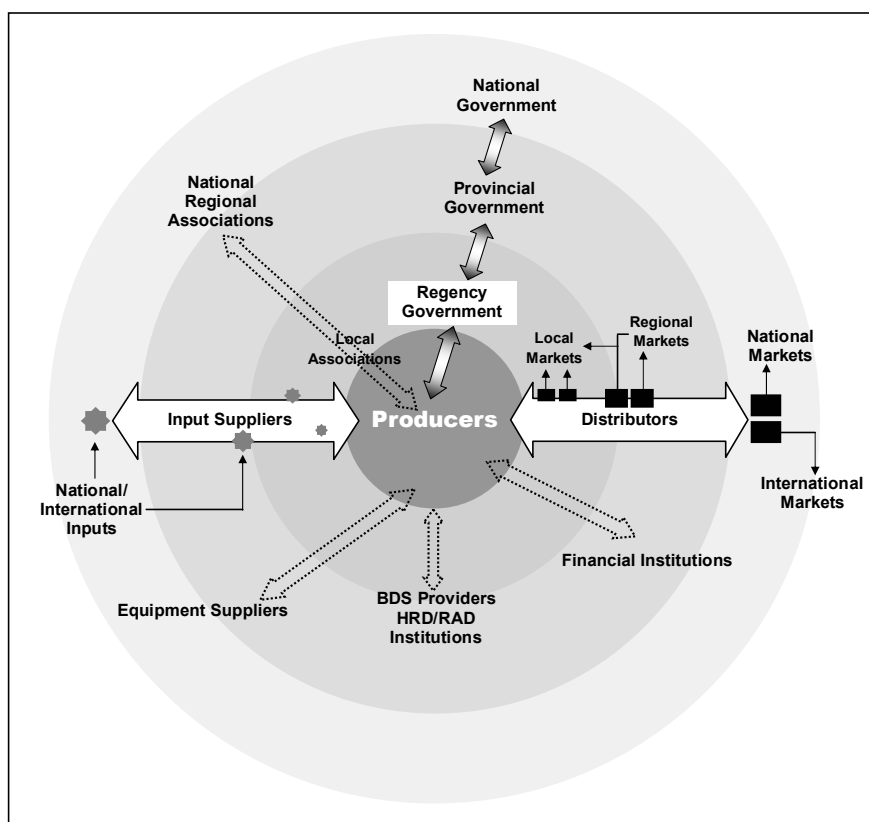
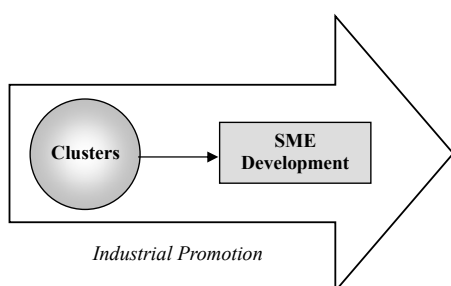


Figure 4.1 Cluster: Continuum<sup>2</sup>

Cluster strengthening is to facilitate formation of a continuum. The pilot projects have been executed as an instrument of capacity strengthening to facilitate a continuum.



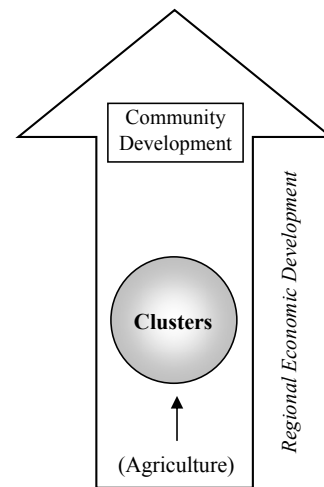
SME cluster strengthening will make some cluster enterprises develop and become like engines to take a leading role in cluster development. In this context, SME cluster strengthening has the objective of developing SMEs in the direction of industrial promotion.

Furthermore, the recent movement towards decentralization has resulted in a growing concern for SME clusters in the context of regional and community development. For instance, GTZ currently implements a Regional Economic Development (RED) program in Central Java, under which a cluster is expected to play a significant role in job creation, regional commodity promotion and, most importantly, community development.

The cluster strengthening in this context is justified for the following reasons:

<sup>2</sup> Policy discussion Paper No. 8, 2001, "Best practice in developing Industry Clusters and Business Networks, ADB TA papers

- 1) Contribution of cluster enterprises to the national industrial economy is relatively small (less than 1% of the value added in the manufacturing sector); however its contribution to the regional and rural community development is significant because about 17% of small and micro enterprises are concentrated in clusters, mostly in rural areas. Many of the rural communities are still dependent on an agriculture-based economy. Because of the limitation of agricultural development due particularly to the limitation in land resources, cluster strengthening could be a driving force for rural and regional development. As a matter of fact, SME clusters (*Sentry*) have shifted local communities from mere dependence on agriculture to a diversified post-agricultural economy, providing opportunities for employment to the increased population and thus preventing excessive migration to the urban centers.
- 2) Cluster strengthening will certainly strengthen the community network and “trust building” in the community. Equal access to various information is indispensable for trust building and community development; thereby an emphasis is given to make SME cluster community an open information society through cluster strengthening.
- 3) Cluster strengthening will play a role in more balanced regional development, making use of local resources and mitigating excessive resource concentration in urban areas.
- 4) Both prosperity and stability are to be ensured for economic and social development. Globalization in pursuit of prosperity is apt to create winners and losers in the society and insure the risk of social instability. A new type of localization, therefore, should be sought in parallel with globalization. Community-based cluster strengthening would certainly satisfy both prosperity and stability.



The above explains why cluster strengthening is needed in the context of economic/industrial and social development of Indonesia.

It is added to note that SME clusters have internal momentum to transform an agglomeration of enterprises into a productive formation in line with specialization. Such a transformation is a challenging task, but it is a very important task for the locally based cluster to gain competitiveness in the globalized economy.

### Objectives of SME Cluster Strengthening

In view of the status quo and the environments surrounding SME clusters, and based on possible economic and social implications as noted above, the objectives of SME cluster strengthening are defined as follows:

#### SME Development

Cluster strengthening is to develop SMEs for further industrialization and accelerated economic development, promoting potentially viable SMEs to viable SMEs and shifting dormant SME clusters to dynamic clusters.

#### Strengthening Social Fabric

A dormant cluster implicates a weak socialization and resultant fragile social fabric. Cluster strengthening would involve various actors and stakeholders in the process of clustering, hence contributing to strengthening of the community-based social fabric and social stability.

#### Stabilization and Sustainable Development

Strengthening of community-based SME clusters nationwide is to attain stabilization and sustainable development of the country through employment creation, poverty alleviation, trust building, and networking.

## **4.2 BASIC POLICIES**

An image of capacity strengthening of SME clusters is illustrated in Figure 4.2. Basically, capacity strengthening of SME clusters is designed to motivate potentially viable SMEs, working independently yet having willingness to step forward, to work jointly and to specialize. These potentially viable SMEs will be a core for creating the dynamism in the cluster. Such a shift is not attainable by SMEs and SME clusters alone, and cooperation of stakeholders is indispensable for capacity strengthening of SME clusters. Stakeholder participation is expected from the central government (policy makers), R&D, local governments, cluster facilitators, forums, and BDS providers.

Policies for capacity strengthening of SME clusters to shift them to be dynamic clusters are recommended in line with “3C” principle: i.e., *competition*, *cooperation* and *concentration*. Lessons from the pilot project operation have endorsed that “3C” is a key for cluster strengthening.



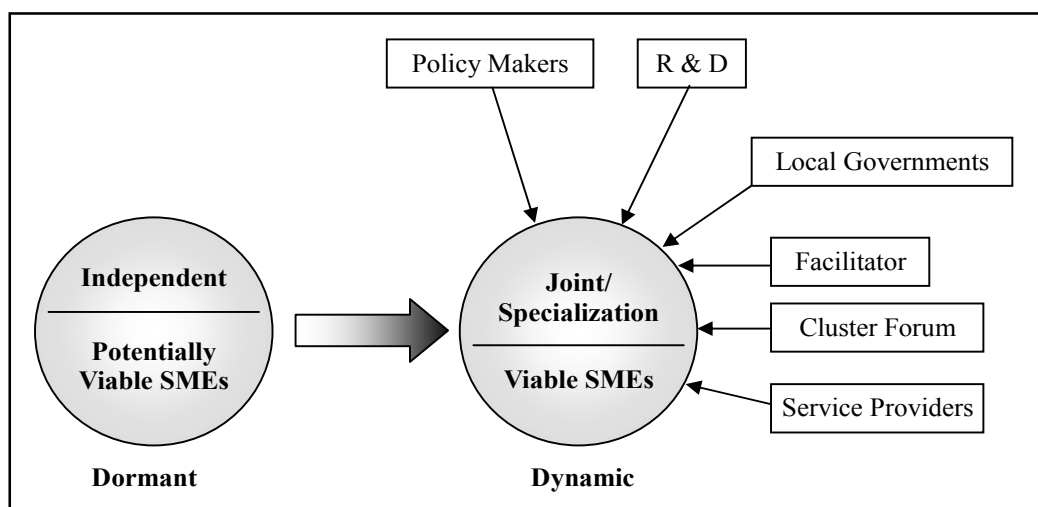


Figure 4.2 Capacity Strengthening of SME Clusters

### Competition

- (i) Unlike large industries featured by mass production and capital intensive production, SME clusters composed of small and micro industry are local industry based, requiring technology intensive and resource saving craftsmanship. Technology and craftsmanship is of primary importance for them to enhance competitiveness in the markets. More attention should be paid to the improvement in technology/craftsmanship of SME clusters.
- (ii) Promoting information flow is of vital significance for SME clusters to survive in competition. An open information system should be established and maintained, enabling equal access of SME clusters to various information. Improvement in telecommunications should be accelerated in this context.
- (iii) In view of the fact that enterprises in dormant clusters have often been drown in price competition, SME clusters should be guided to become aware of customers' demands for high quality and value added products, leading to their efforts for enhancement of competitiveness through quality improvement.
- (iv) As a general tendency in society, indigenous cultures and customs make it difficult for a new leader to emerge. The emergence of such leader, however, will be a pre-condition to shift the status quo to a competitive environment. In this context, potentially viable SMEs should be encouraged to take a leading role in cluster development. A road to create dynamic clusters is highly dependent on the leadership of potentially viable SMEs.
- (v) Competitiveness is more attainable for SME clusters by collective actions. Efforts should therefore be directed to encourage collective actions in the clusters. However, the lesson learnt from the pilot project suggests that collective actions are rather difficult in clusters manufacturing heterogeneous products. Under such

circumstances, emphasis should be given to the individual SME having a strong willingness to link with dynamic markets.

#### Cooperation

- (i) A cooperative will no longer be a uniform set of organizations for SME cluster strengthening. It is recommended that a more flexible form of cooperation be encouraged, e.g., a collaboration unit, a company or partnership, a consortium. In this context, it will not be desirable that the government incentives be granted with limits to the members of the cooperative. Such incentives will better be extended to those who have strong willingness to develop and have a viable plan for investment.
- (ii) Adherence to a bottom-up or participatory approach will render a more effective cluster promotion, promoting trust building and collaboration spirit for joint activities. Local governments are suggested to play a leading role in adopting the participatory approach and promote collaboration among cluster SMEs as well as cooperation with stakeholders. Under the decentralization policy, a co-funding between central and local governments will be an alternative to be considered for SME cluster strengthening.
- (iii) A Public-Academic-Private partnership is a basic form of cooperation required for capacity strengthening of SME clusters. BDS delivery on a private commercial basis will not necessarily be effective to the middle-lower class SMEs in clusters. Government support for service delivery, especially SME cluster facilitators, is desirable to overcome low capacity-to-pay for such services in the form of Public-Private Partnership. Yet, public support is to be extended based on demand-driven delivery. The academic sector is to be encouraged to more actively participate in cluster strengthening, assuming a role, for instance, as a cluster facilitator.

#### Concentration

- (i) To target the entire membership of the existing cooperative or the majority of SME clusters will require much time for socialization, and it will not always be successful. It is recommended that targets be concentrated on those having the ability and strong willingness to develop. A selective approach is recommended under the equal access to information.
- (ii) Cluster transformation is attainable through cluster capacity strengthening. It is difficult, however, to attain it due to individuality or diversity in SME clusters. With limited resources made available, it is recommended to allocate first the resources to the collective activities in clusters, like joint production or inter-firm specialization. Concentration of available resource on collective activities is more sustainable in cluster strengthening.

- (iii) Because of a great number of SME clusters (around 10,000 nationwide), a cluster promotion should better be concentrated on export oriented clusters and those clusters producing the target products, supported by a commodity development plan by MOIT.

### 4.3 BASIC STRATEGIES

Strategies for capacity strengthening of SME clusters will be worked out in pursuit of the Porter's Diamond Model which shows that four determinants are dynamically correlated in successful clusters. Porter's model is applicable to interconnected enterprises in the advanced cluster where network or linkage among stakeholders is established. Nonetheless, SME clusters in Indonesia are constrained by the fragile formation of social capital. Consequently, "social capital" is added as the fifth determinant to work out the strategies to be taken for realization of the policies and to attain capacity strengthening of SME clusters in Indonesia.

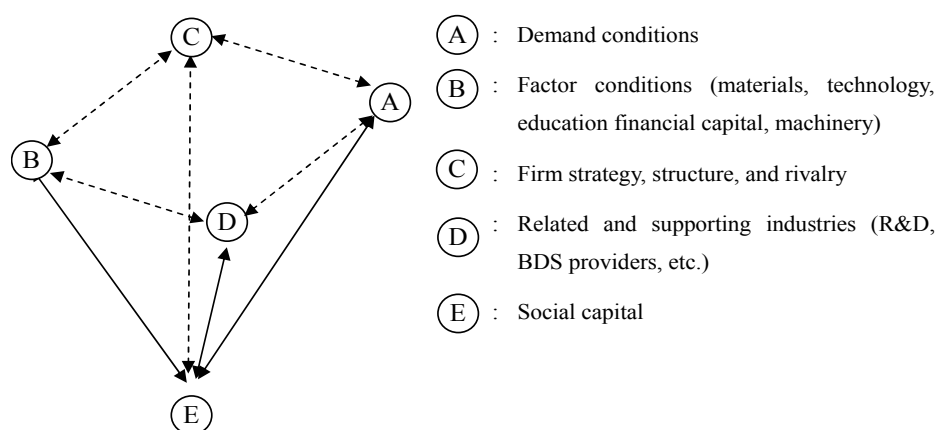


Figure 4.3 Five Determinants for Capacity Strengthening

#### (1) Demand Conditions

Vertical linkages to dynamic markets are usually dependent on scale and quality of national and regional demand, and traders connecting clusters and markets. Most cluster enterprises manufacture products of low quality under fierce price competition. SME clusters still hold the market of low quality, though the domestic and export markets are changing. For instance Kebumen roof-tiles are mostly non-glazed quality while Serenan-Klaten furniture products are linked to European niche markets. Metalwork products in Sidoarjo are mostly sold to replacement markets through traders. Internal structure of the clusters is featured by dominance of a few collectors or wholesalers. Most collectors are interested in their own business, not in dynamic markets demanding medium to high quality products.

Business conditions surrounding SME clusters are far from competitive markets to be generated by globalization. National/regional markets would demand higher value-added products with the rise of peoples' income. Most SME clusters at the dormant stage show a lack of awareness that they might fade out if they were satisfied with the status quo and if they had no willingness to grow. Demand conditions will surely be more competitive through trade liberalization (WTO and FTA) and the emergence of formidable competitors like China. Majority of cluster SMEs are suspected to be ejected from the coming competitive market; however, there exist potentially viable SMEs having basic technology and willingness to link to dynamic markets. An emphasis should therefore be given to such enterprises that might take a leading role in cluster development. A missing link between SME clusters and dynamic markets is the major constraint to gain access to dynamic markets. A priority should be placed on the matching service to connect potentially viable SMEs and players in dynamic markets.

## **(2) Factor Conditions**

Most SME clusters are perhaps lacking in resources consisting of human, natural, financial and capital (i.e. machinery). Given resource limitation, it should be determined on what resource a priority would be placed or to what extent such factor conditions are to be strengthened.

### Education

A cluster strengthening owes much to development of human capital, that is SME owners. Given the situation that most SME clusters are dependent on sample orders from traders or buyers, some inputs should be given to them to stimulate their awareness for self-development and to improve basic skills or knowledge in order to access the more dynamic markets. The on-going programs, such as Achievement Motivation Training (AMT) or Creation of Enterprise through Formation of Entrepreneur (CEFE) practiced as a Training of Trainers (TOT) to educate provincial government staff, appear to be less effective and strategic. It is primarily because a TOT only indirectly contributes to capacity strengthening, and effectiveness of one-sided education through trainers in changing the awareness of enterprises is questionable.

It might be unrealistic to expect that the majority of SME clusters to be strengthened in basic skills and knowledge. Key words are those having "willingness to change" as the target of gaining basic skills. But what is needed in terms of basic skills and how to strengthen them is debatable. Basic skills might be interpreted as something required for SMEs registered in the formal sector. The pilot project also gave enterprises various programs corresponding to basic skills in the fields of factory management, cost estimation, drawing and business planning skills. The effectiveness of these programs

for enterprises is dependent on how receptive the trainees were. The point is that they themselves have to learn lessons. The more effective way is direct instruction from clients (i.e. buyers) to them. In the long run, some school curriculums at secondary and senior levels need to be more practical, taking into account the next generation of SMEs.

### Technology/Resources

Cluster enterprises lack in chances to learn about the consumer's tastes, which demand for quality improvement, since they are not directly linked to the final markets. Having no incentives for the markets, most SME clusters are likely to be indifferent to production and quality management. The necessity of technology improvement involves daily management in connection with the effective use of raw materials or reduction of the default ratio. Some SME clusters linked to buyers or undertaking subcontracting works from the medium/large industries would be aware of the necessity for technological improvement.

The following table contrasts factors required for medium/large industry and SME clusters. Basic technology is built in large/medium industry so that the primary factors to make them competitive are resource and capital intensive.

**Table 4.1 Contrast of Technology Requirements between Medium/Large and Cluster Enterprises**

INDUSTRIAL TYPE	FACTORS	THREAT	BDS FOCUS
Medium-Large Enterprises Mass-Production Industry	Resource-intensive  Capital-intensive	Over-production Sudden changes in demand condition	Marketing Management
Cluster enterprises Craft Industry Household Industry e.g. Klaten Kebumen Sidoarjo	Labor-intensive → Technology-intensive Drying, effective material use Niche product Raw material processing Decrease in defects	Craftsmanship Small Market Negligence	Technology Marketing Management

The major threat is market contraction leading to over-production. This is why marketing and management are the primary targets for BDS. SME clusters with low levels of technology, engaged in small production of homogeneous or heterogeneous products, must be technology-intensive and resource-saving. Technology improvement is ideally linked to craftsmanship works in the fields of design, art, and parts/components using machining, casting or welding. Technology improvement is

imperative for SME clusters to link to dynamic markets. The major threat is a loss of craftsmanship, resulting in fading-out of SME clusters in local markets.

Given the scarcity of natural resources, resource saving might be in the realm of public hands to regulate exploitation of raw materials based primarily on an environmentally friendly concept. For instance, the wood furniture cluster should make moderate use of raw materials and promote forestry (e.g., village teak). The roof-tile cluster should reduce the defect ratio and suppress random exploitation of clay in rice fields. Resource savings could be maximized by mobilizing resource saving technology in combination with regulation on material use. Resource saving technology discussed here is nothing special, but is simply linked to effective material use and a reduction of production defects. This kind of trial should be incorporated into the production process.

### Capital

Renovation of production facilities; i.e. kiln or machinery, is the fundamental requirement for improvements in production and quality management. It has often been reported that the majority of cluster enterprises, especially micro enterprises, cannot afford to finance such capital investment. Even applications for bank loans to provide working capital can be constrained by a collateral problem which does not meet the criteria posed under bank guidelines. Under such circumstance, a leasing scheme may be appropriate as an instrument to strengthen capital resource of SMEs. The Report on “the Policy Recommendation for SME Promotion in Indonesia (2000)” also recommends promotion of the leasing industry in Indonesia. But it says that most local leasing companies operate as finance companies, engaging in consumer finance, factoring and venture capital finance. In fact, there are a small number of leasing companies for production renovation or machinery replacement as demanded by SMEs. Local leasing companies are also reported to be facing difficulty in obtaining bank loans for their fund raising. The government may be suggested to facilitate the following points:

- Fostering of the leasing industry for production renovation or machinery replacement
- Provision of concessionary loans to banks willing to provide on-lending schemes to the leasing industry

SMEs’ inability to prepare a proper application for loans and a lack of collateral has often been reported as the fundamental restriction to banks supplying a steady flow of new capital to SMEs. The Bank of Indonesia acknowledges that banks have a substantial amount of funds, but are reluctant to initiate new loans to SMEs due mainly to a lack of collateral. But it is also stated that bank officers have little capability in

assessing the prospect of business markets, cash flow analysis and whether projects proposed by SMEs are feasible. As a result, banks have continued to use collateral as their main criteria. In this sense, capacity of bankers in loan assessment has to be strengthened.

Nevertheless, SME capacities are to be strengthened in the field of preparation of business proposals to mobilize new loans from banks. The best practice would be, as seen in the Kebumen roof-tile cluster, the creation of a consortium that prepares its business plan. This appears to be an important outcome of capacity strengthening of SME clusters. Subsequently linking to actual lending from banks is also critical. Recently, a growing concern has been placed on the role of financial intermediaries in such a linkage. The KKMB program, under supervision of the Bank of Indonesia, will begin operations to improve access of SMEs to the banking sector. Eventually capacity strengthening of such intermediaries or consultants would bring favorable benefits to SMEs.

### **(3) Firm Strategy, Rivalry, and Structure**

The dormant status of SMEs and SME clusters is mainly ascribed to their lack of awareness regarding competition. The standard recommendation for capacity strengthening of SMEs to gain knowledge on competition would be provision of HRD training to make them aware of the necessity of innovation and links to dynamic markets. But such ready-made training would not be recommendable. The more effective approach could be the demonstration of a success story, explaining to what extent a successful SME was better off (benefit) against its efforts (cost). Examples of successful SMEs must be based on small enterprises with conditions similar to those of SME clusters in question. The contrast of benefits to costs based on these examples would provide practical directions for SME clusters. The case studies would include successful examples, explaining “why”, “how” and “what to do”. They should be simple, clear and suitable for use as textbook or learning material to enhance the competitive minds of SME clusters.

Emergence of a competitive mind would initially lead to a flexible formation or group of SMEs sharing a common interest (i.e. profit making). A flexible formation might differ according to the type of product or nature of SME clusters. Achieving economies of scale through the reduction of transaction or production costs might be applicable to a homogeneous product like roof-tiles. Specialization by process is the most advanced structure to gain a competitive edge against competitors. This would be the case for the Jatiwangi roof tile cluster. On the other hand, the structuring of the Consortium for the Kebumen roof tile cluster resulted in voluntary members undertaking similar actions in the fields of sales and raw material supply. A value chain is strengthened rather than joint production.

Furniture products appear to be less homogeneous. A loose formation (e.g., a collaboration unit in Serenan-Klaten) would be the best fit for a group of enterprises having different interests where some wish to remain independent while others are willing to link to dynamic markets. Joint participation in an exhibition has given this cluster a chance of sharing the common interest (challenge to dynamic markets) and trigger off the first step into competitive markets. A buyer-driven link (to specific buyers) will further strengthen the collaboration unit.

In the case of thorough heterogeneity or given nature of diversification, there is little allowance for attaining a common interest even if a flexible group is formed. This was observed in the Sidoarjo metalwork cluster. Rivalry has already been instilled in selective SMEs that wish to grow as independent industries. Under such circumstances, it would be better to emphasize promoting vertical linkages by targeting toward promising SMEs.

#### **(4) Related and Supporting Industries**

The stakeholders of cluster development refer to related and supporting institutions assisting cluster enterprises and clusters in self-development. The main actors are R&D including universities and BDS providers. Based on lessons from the pilot projects and other programs, recommendable strategies to improve the present conditions are outlined below.

##### BDS Providers

The fact that BDS currently receives an increased focus suggests some form of privatization of services, with even public agencies (R&D institutions and previous UPTs) ready to introduce a “fee-for-service” to SMEs. BDS in Indonesia is still at the experimental stage. Followings are some of the findings from the on-going studies on BDS.

- Though demand for BDS from micro enterprises is positive, its usage is low partly because of the high fee (more than Rs.100,000) and partly because the supply side does not match the demand for specific services.
- The majority of BDS providers concentrates on general training, management, marketing and business planning.

Source: The Study on Commercial BDS in Central Java BAPPENAS-GTZ SME Promotion Project.

- Low awareness and use of services by micro enterprises; most providers are reluctant on BDS provision to micro enterprise.
- Absolute deficiency of specific services while their demand is high.

Source: Strengthening of BDS, ADB TA



BDS (MOIT / ADB)	<ul style="list-style-type: none"> <li>• Inefficient in rural area</li> <li>• Mismatching in required technologies</li> <li>• Less attention to non-profitable services</li> </ul>
Cluster-BDS (MOCSME)	<ul style="list-style-type: none"> <li>• Spoilt by comprehensive (not selective) approach to cooperatives</li> <li>• Higher presence does not always mean potentially viable SMEs/clusters</li> <li>• Closed information systems</li> <li>• Low capability of some BDS providers</li> <li>• BDS and micro finance are not well linked</li> </ul>

Source: JICA Study Team

The major concern is who the specific service providers will be and whether or not such services are affordable to SME clusters. Specific services may be under the categories of technology, marketing, rental/lease services for equipment, exhibitions and brand/design registration. Some BDS providers are capable in the areas of marketing and exhibitions, but not technology. There are very few providers for technical services in Indonesia. In Japan, many suppliers and machinery suppliers provide consultation services to manufacturers as part of their business service. In the course of the pilot project operations, Kebumen roof-tile cluster mobilized the University of Gaja Mada (UGM) in request for a BDS in connection with specific production process improvement. For Klaten furniture cluster, the University of Solo (UNS) joined the collaboration unit as a cluster facilitator and played a leading role in coordination and capacity strengthening. Although it is preferable that BDS is a privately-oriented market, some public support is required for capacity strengthening of SME clusters. Public assistance may desirably be extended to provide and strengthen capacity of cluster facilitators to SME clusters.

### R&D institutions

Under the autonomy policy, most R&D institutions will have to shift their status to a more independent organization. This implies that the pursuit of “fee-for-service” could result in medium/large enterprises receiving priority. This tendency is observed, for example, in the Bandung Ceramic Institute. The effective use of R&D (public institutions in particular) for SME clusters could be questionable partly because of the large geographical distance between R&D institutions and clusters and partly because their autonomy policy would remain unchanged.

The only way to make the best use of public R&D institutions would be a provision of short-term training courses in connection with resource saving technology. Such training courses would take the form of a Training of Trainers (TOT), where trainers

would be officers of BPT (previous UPT) located in provinces or competent human resource personnel who had retired from medium/large enterprises. Such personnel are recommended to be dispatched to SME clusters as BDS providers.

#### Supporting Industry

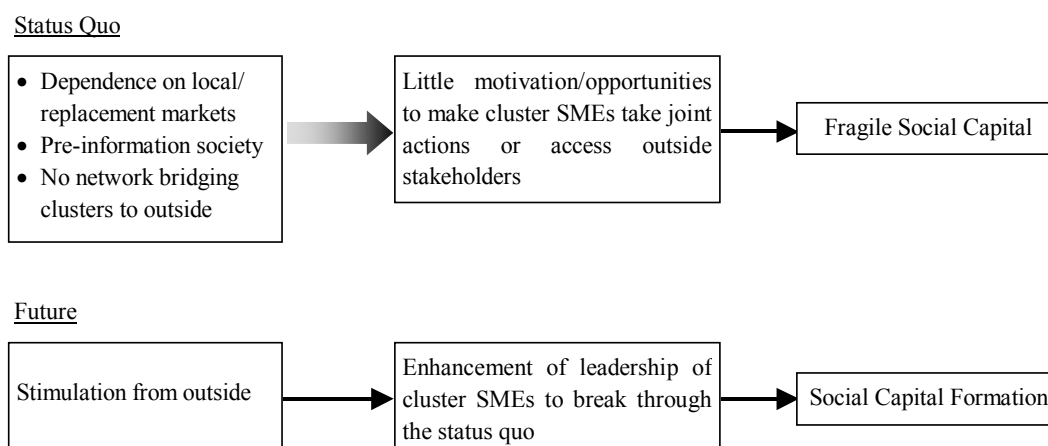
One of the most serious defects in SME development in Indonesia has been the lack of supporting industries. Many SME clusters in Indonesia are of little linkage to the external supporting industry. For example, it is geographically difficult to link Kebumen roof-tile enterprises to those manufacturers producing roof-tile molding machines in Tegal. The role of supporting industry through various business transactions can be significant since it actually provides market and technical information to SMEs. Despite this, the supporting industries (i.e. machinery and raw material suppliers) providing useful information to the SME cluster with trustful business relationships are almost non-existent.

Although the emergence of supporting industry among SME clusters (manufacturers) may occur as a result of the expected development of specialization during the process of cluster transformation, this could be rare. A more realistic approach will be how to link SME clusters to reliable, external stakeholders.

#### **(5) Social Capital**

Dormancy of SME clusters can be described as a status in which enterprises are almost independent with little collaborative action and with limited linkages to dynamic markets, stakeholders such as R&D and BDS providers. Such dormancy is caused by a lack of social capital. Social capital is defined as intangible assets such as “trust built” and “norms of reciprocity”. These can be observed in Indonesian society where people perceive mutual benefits in community activities (e.g., community infrastructure development). But the situation could be entirely different in the business activity of SME clusters. Almost no existence of built trust has been initially observed in the pilot clusters. Unexpected results attained in Sidoarjo cluster is partly attributable to the fact that this factor of social capital has been overlooked in the baseline study and initial workshop.

The status quo of SME clusters appears to be in a vicious circle. Unless stimulated from outside, social capital might remain weak or fragile.



**Figure 4.4 Formation of Social Capital**

A dormant status does not always mean all cluster enterprises are inactive with little capacity of self-motivation. Some clusters may have those having leadership for organizing collective efforts. Some form of input (stimulation) to the cluster’s social capital is necessary to break through the status quo and to enhance leadership. The emergence of “trust built” and “norms of reciprocity” shared among a small group of SME clusters would be the first signal to form internal bonding. Anyway, socialization and consolidation of social capital is a time consuming process.

A “missing link” to bridge SME clusters to the external environment has often been reported and was actually observed in the pilot projects. External bridging is therefore the most essential element of SME clusters in capacity strengthening; a fact emphasized during the pilot project. This is not, however, easily achieved in rural areas partly because many SME clusters are geographically isolated and partly because there are few stakeholders for bridging. The means to bridge the missing link is the primary subject to facilitate a continuum. Cluster facilitators are expected to assume this role in SME cluster development.

#### **4.4 STRATEGY IMPLICATIONS FOR CLUSTER STRENGTHENING**

With the policies and strategies recommended for capacity strengthening of SME clusters, as presented in the foregoing sections, it is now discussed how to apply these strategies in attaining the cluster development in Indonesia.

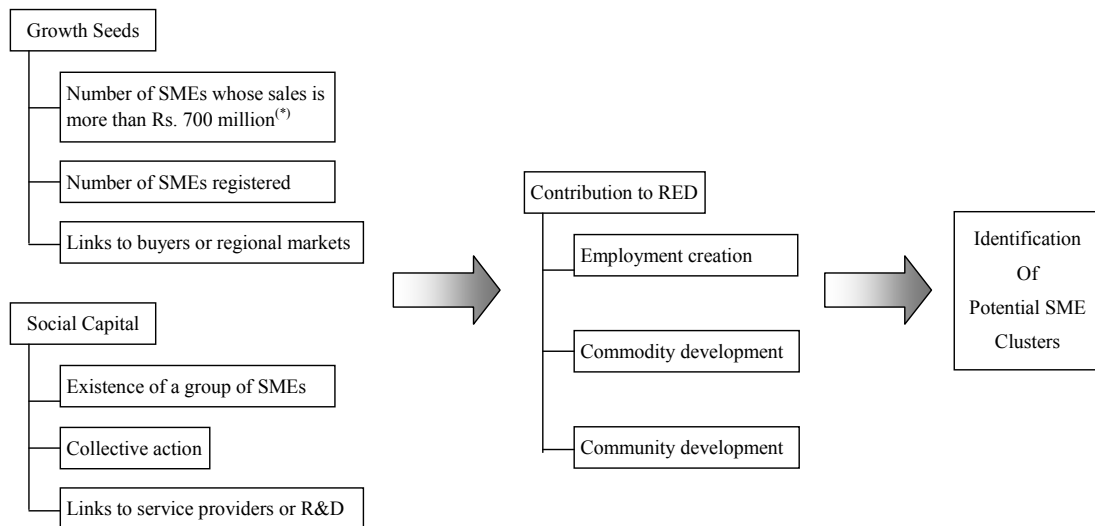
##### **(1) Identification of Potential SME/Clusters**

To distinguish prospective from less prospective clusters is a difficult undertaking. This Study was initially given ten (10) sample clusters, and was not directly involved in identification of potential SME clusters from clusters nationwide. A lesson from the Study itself is that the scope of works should have included the identification process.

The primary approach to identification of potential SME clusters, based on the pilot projects and associated discussions are presented below.

### Criteria of Potential Cluster

There is no standard set of criteria to determine potential SME clusters. Some argue that sales of SME clusters are relevant while others define clusters according to the commodity development plan, or a combination of both. The Study employed a scoring method based on Porter’s four determinants (Discussed in Chapter 3). The sample clusters were given a score based on each determinant during selection of the pilot clusters. Given many SME clusters exist within a regency (Kabupaten), this scoring method appears to be time consuming and laborious. Less complicated criteria are preferred, partly because there are very limited data on SME clusters and profiles and partly because there are many *sentra*-based clusters. The following procedure may broadly be adopted to assess the potential.



(\*) Rs.700 million is the average of sales of small industries.

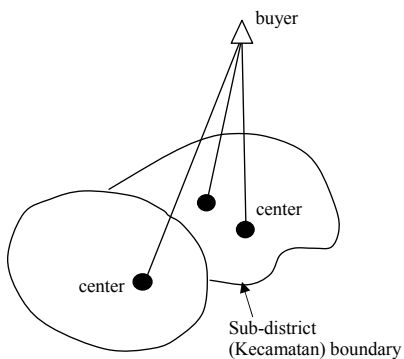
**Figure 4.5 Procedures to Assess Potential SME Clusters**

The term “potential” is essentially determined by availability of growth seeds and social capital. It is recommended that scoring of the growth seeds and social capital be avoided at this stage of screening, as this could lead to an evaluator losing sight of potential clusters with relatively low scores.

The target clusters are then evaluated at the second stage in terms of their contribution to regional economic development (RED) prior to their finalization. Identification is to some extent a trial and error process, subject to the different statements of concerned stakeholders.

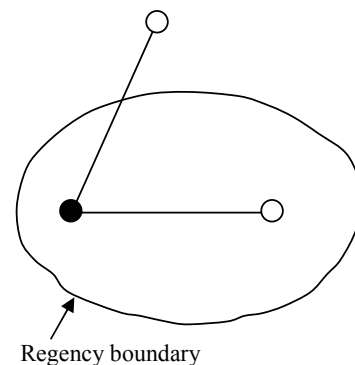
### Geographical Area of Potential Cluster

A small industry center (*sentra*) geographically covers a single, or number of villages. The target area does not always need to be confined to a particular *sentra*, and, a few centers may be targeted provided their geographical proximity is sustained. Concentration on an individual center might have a risk of losing the dynamic linkage between adjacent centers. To some extent, the target area could also be extended to identify growth seeds as well as social capital formation.



The left diagram shows three centers (●) with a common buyer (△); for example a furniture buyer with an interest in European classic handicraft and furniture. Interactions of the three centers would reduce the favorable business relationships, possibly leading to specialization in parts/components or a particular product (chair, table).

A potential center (●) may be a roof-tile or a textile industry. Needless to say, lack of supporting industries becomes a major constraint for the achievement of cluster dynamism. For example, supporting industries (metalwork/machinery components) marketed by (○) could receive favorable benefits by linking to the potential center. In this case geographical proximity could be a secondary factor.



### Who identifies?

The forum will serve as a body of consensus building, organized by various stakeholders including public and private sectors. Its status is unique and can meet a bottom-up approach. The Economic Forum of Central Java is a spearhead of RED including cluster development. The Economic Forum places an emphasis on FEDEP (the Forum at regency level) where members of FEDEP are responsible for identification, planning and implementation of cluster development programs. Decentralization, featured by a bottom-up or regionalized system, would eventually require capacity building of various stakeholders at regency level. However, it has been observed that there are very few competent human resources at the regency level and that the provincial level may offer human resources of a better quality.

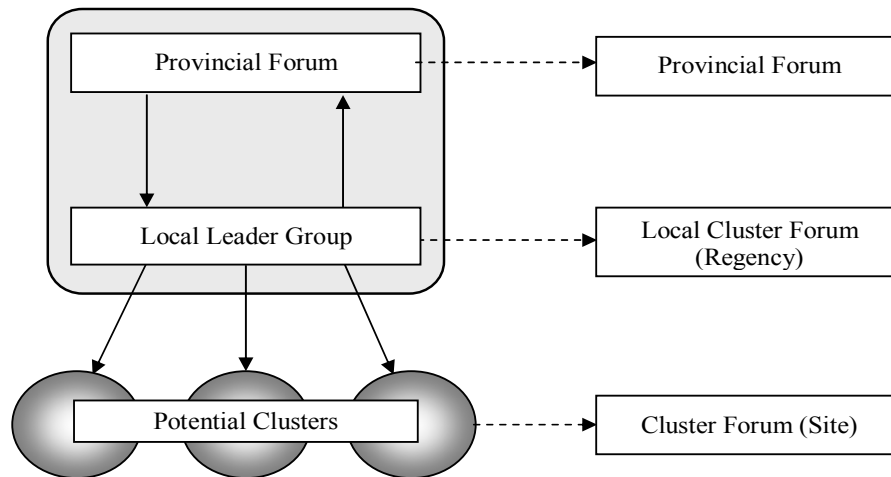


Figure 4.6 Formation of Forums

A provincial forum is initially created. Simultaneously a “local leader group” is established at the regency level. The provincial government (e.g., BAPPEDA), having constituted a forum, is then responsible for identifying potential clusters. To determine growth seeds, the local leader group is mobilized to assist the forum in their identification. This group is supposed to comprise the regency government, BDS providers, NGOs and SMEs. Following identification of potential clusters, the local leader group shall be transformed into a “local cluster forum”.

## (2) Fostering of Growth Seeds and Entrepreneurship

The success of cluster strengthening is primarily dependent on availability of potential viable SMEs. These can be referred to as growth seeds and could become an engine to strengthen SMEs cluster.

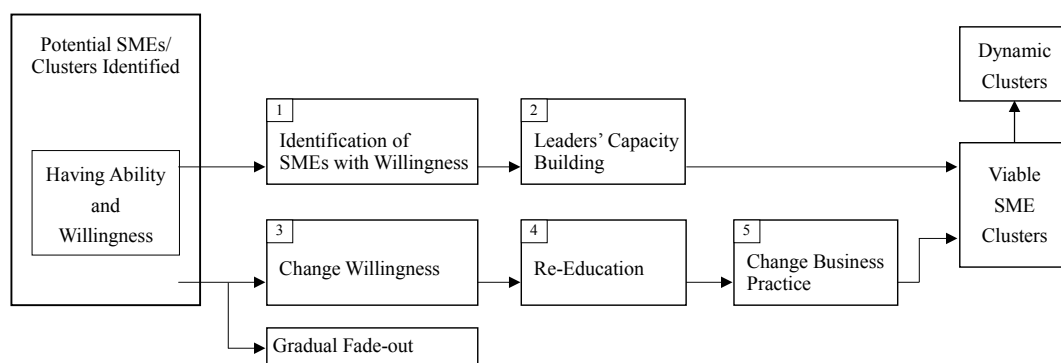


Figure 4.7 Fostering of Growth Seeds

Cluster enterprises are largely divided into those having ability and willingness for self-improvement or self-organization/networking with other stakeholders, and those without willingness. The schematic view to change growth seeds, as shown in Figure 4.7 above illustrates the approach to fostering of potentially viable SMEs.

### SMEs with Willingness

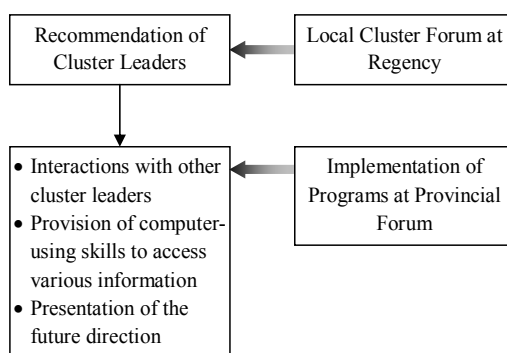
#### 1) Identification

Some cluster enterprises have their own ability to achieve self-improvement. They are keen on product development and external market information primarily for their business. But individual efforts have some limitations in terms of business development. Under such circumstances, mobilization of the collective minds of stakeholders and maximization of benefits accruable from business development has been quite challenging and laborious in the pilot projects. Intangible assets such as “willingness” are initially difficult to discern, and it actually takes time to identify those who may be eligible for enterprises “with willingness”. Generally, enterprises eligible to participate as leaders of a cluster are the young, university-educated generation. Their exploitation appears to be a strategic key in breaking through the dormant condition. Identifying enterprises with the requisite resources is largely dependent on the efforts of cluster facilitators. This is why the role of a cluster facilitator is of vital significance in cluster strengthening.

#### 2) Leaders’ capacity building

Cluster leaders do not necessarily require planning and implementation skills of cluster development activities. These are to be supported by BDS providers and cluster facilitators. They need coherent views on the future direction of cluster development, comprehensive information to support such views, and strong leadership to organize cluster activities. Lack of leaders who support a bottom-up approach to cluster activity often results in its weak sustainability. In this sense, a leader’s capacity building is clearly a pre-requisite condition for sustainability of cluster strengthening.

Nevertheless, there have been no programs to support capacity building of the cluster leaders. The primary objective of capacity building of leaders is to develop an independent mind to undertake cluster strengthening in a self-effort. Programs for capacity building of leaders should be tailored, as ready-made approaches would be less effective in developing a self-reliant mind that remains receptive to ideas.



Cluster leaders identified are firstly recommended by the local cluster forum, and then organized by the provincial forum to further strengthen their leadership. Three elements would be necessary to generate their self-reliant minds. The first is encounters with other leaders to discuss problems, status quo, and what areas are to be improved. The discussion is intended to

expand a leaders’ problem-solving capability. The second is provision of practical

skills (computer-based) to enable them to access information as required. This aims at developing a leaders' ability to access information from external sources without relying on service providers. The third is presentation of the future direction in cluster development. This is intended to enhance their strategy for cluster development. Programs are consistent with human resource development (HRD). HRD issues should be under the responsibility of the central government.

### SMEs without Willingness

A significant number of enterprises in clusters fall within this category. Their transformation into growth seed of clusters is therefore regarded as the most laborious task of capacity strengthening for SME clusters. Targets are enterprises with a spontaneous mind and desire to improve their business situation. Three steps are proposed to develop their minds so that they can become viable SMEs. The change of willingness represents the overall outcome, with those enterprises not reaching this final step dropping out during the process. Enhancement of entrepreneurship primarily takes the form of HRD training to ensure existing schemes/programs are fully utilized. In this sense, co-funding between central and local governments will be recommended.

#### 1) Change willingness

The MOIT has been implementing Achievement Motivation Training (AMT) and Creation of Enterprise through Formation of Entrepreneur (CEFE) to primarily develop business mind of SMEs. Both have been practiced as a Training of Trainers (TOT) to educate provincial government staff.

#### **Box 4.1 MOIT's Training**

It may be too optimistic to say that changes in external circumstances, as represented by globalization, would yield the clusters' growth seeds step by step. The reality is that community-based clusters appear to remain conservative and prefer the status quo to business reform. Most owners of cluster enterprises are realistic, and one-sided training to enhance entrepreneurship would not change their willingness. The on-going programs of MOIT appear to be somewhat effective in terms of

dissemination but not decisive in changing enterprises' willingness. The pilot project has endorsed learning through visiting as the most effective means to reconsider the status quo. A bottom-up approach would be more effective than a top-down measure as represented by AMT or CEFE. The better way would be for local governments (regency) to be entrusted to organize a study tour mission to learn through visits. A mission is composed of government officers (district), SME owners, and officers trained in AMT or CEFE.

#### 2) Re-education

Re-education refers to the fundamental skills and capabilities to enter SME business in the formal sector. Most SME clusters manufacturing parts or semi-finished products



based on sample orders do not need to learn drawing, cost estimation, and quality management to reduce a default ratio. Business transactions with the formal sector certainly demand quality and scheduled delivery stipulated in contracts. This requires enterprises to obtain production and management skills. But, who would take care of their re-education? Foster Companies might be the best stakeholders to disseminate skills to enterprises in the form of practical learning. The Foster Company Scheme has a long history, enabling Foster Companies to purchase products from SMEs or to finance part of their profits. It is recommended that the role of Foster Companies be adjusted to cover re-education or HRD of SME clusters.

### 3) Change business practice

The “change business practice” implies transformation of business practices adopted in the informal sector to those required in the formal sector. Customers also change from traders/brokers to buyers or medium/large enterprises. Business relationships require that SMEs follow official registration and business practice in the form of contracts. Ready-made BDS to comply with such business practices is available, but low capacity-to-pay of SME clusters usually hampers them in receiving proper services. A matching grant scheme may suit BDS for the “change in business practice”.

### **(3) Enhancing Social Capital**

Social capital formation and consolidation is found to be a core element of cluster strengthening. The cluster’s social capital constitutes trust building that supports internal bonding and bridging to external stakeholders. The lessons to the Study indicate that internal cohesion is, to a great extent, influenced by the nature of enterprises, that is their homogeneity or heterogeneity. “Trust built” among SME clusters might have been hampered by the cultural practice which tends to conceal information. A missing link between SME clusters and external stakeholders is almost an identical feature common to SME clusters nationwide. Under such circumstances, strengthening of the cluster’s social capital is primarily related to the capability of the cluster facilitator in introducing a flexible plan according to the nature of cluster and implementation of programs.

#### 1) Allow a Flexible Form of Cooperation

Many policy papers present affirmative comments on the limitation of cooperatives in terms of collective activities. The limitation appears to be a weak organization of cooperatives although a more decisive reason could be diversity among cooperative members. The lessons from the pilot project also suggest that a comprehensive approach targeting all members of a cooperative or a large number of cluster enterprises will require time-consuming socialization procedures. The cooperative is no longer a uniform set of organizations representing voices of all members.

Clustering is a learning process of all participants. There has been no guideline for structural transformation in cluster development. Figure 4.8 shows the indicative transformation of cluster organizations. The status of a present cooperative constitutes enterprises with and without strong willingness. Some enterprises with willingness will not necessarily remain cooperative members. They are free to organize groups independent of a cooperative. Information development would facilitate or accelerate reshuffling of cluster organization.

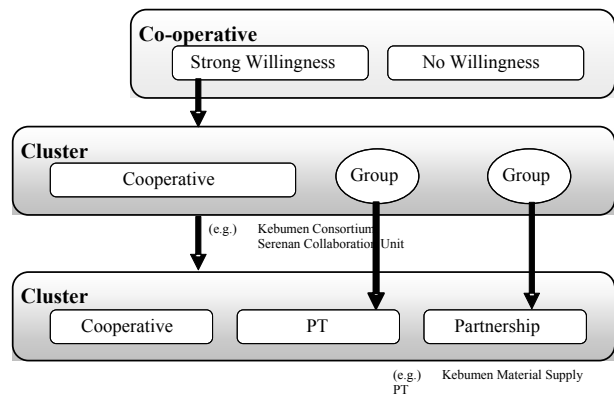


Figure 4.8 Transformation of Cluster Organization

While the principle of “3C” (competition, cooperation, and concentration) is applied to cluster strengthening, groups of different types would emerge within and outside the cooperative. The three pilot projects have demonstrated such transformation. In Kebumen, collective actions for clay provision (raw material supply) and marketing/trading are introduced in pursuing a common interest among enterprises. Then a consortium, comprising two cooperatives, has been established to implement the collective actions. Similar initiative is taken for improving common facility sharing of a dry-kiln in the Serenan-Klaten furniture cluster, which formed a collaboration unit. In Sidoarjo, an informal network, comprising eight leading enterprises, was established to identify the area of cooperation.

At the time when a spontaneous group of SME clusters are formed, a cluster facilitator assists SMEs in preparing a business plan including business model, business activities, investment plan and cash flow analysis. As time passes, the cluster transformation would be further accelerated so that one group establishes a joint venture while the other forms a partnership. An idea to establish the Kebumen Material Supply PT corresponds to the former case.

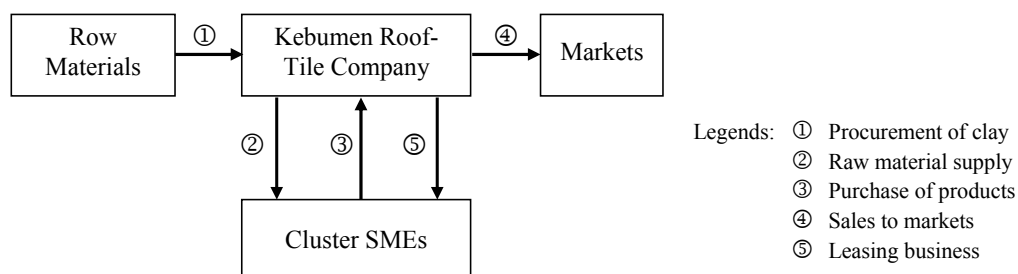


Figure 4.9 Indicative Business Model

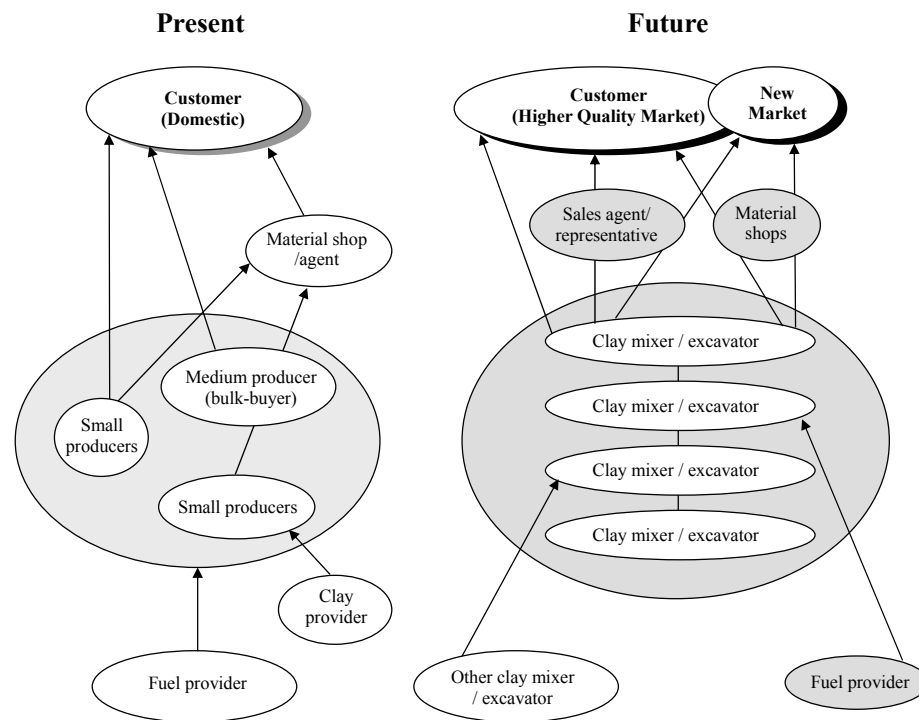
This diagram shows an indicative business model that the spontaneous investors (Kebumen Pilot Cluster enterprises) establish as “Kebumen Roof Tile Company”. A new business handles raw material supply, sales of roof-tiles to markets, and leasing business (e.g. roof-tile production machine). It would take some years to accomplish the goal set by Kebumen Roof Tile Company. Investors or cluster members firstly concentrate on business activity of raw material supply, then sales activity, and finally leasing business. The model appears to be dynamic, gaining a bargaining power against external buyers. Investors also receive the benefits (dividend) from the new business. The expectation that a company can play a role in supporting industry (leasing business) is not ambitious and can be realized.

## 2) Joint Actions

Patterns of joint actions differ between clusters, and no standard pattern is found to be apparent. Despite difficulties in defining a standard business pattern, the pilot project provided a number of valuable findings on collective activities.

### Specialization Linked by Commonalities

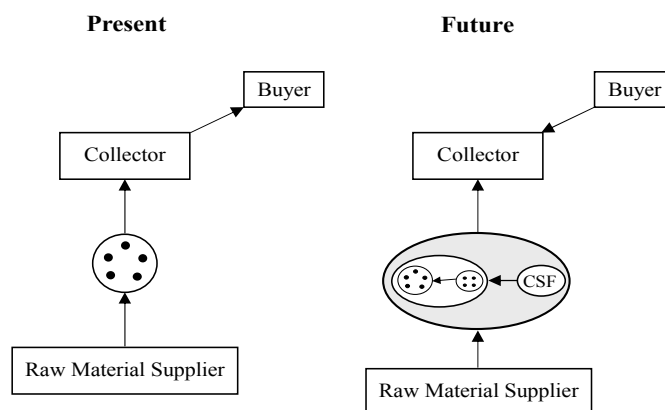
A cluster that produces homogeneous products is generally characterized by a reduced heterogeneity among enterprises. A roof-tile cluster in Kebumen may be representative of this case. The following Figure contrasts the present status with the likely future formation. The significant feature in the future is a thorough division of work in the process of manufacturing, as experienced in the Japanese case of Mikawa roof-tile cluster. Vertical specialization in manufacturing does not necessarily take the form of joint production, as specialization in manufacturing appears to be difficult unless such a specialization can be proved to achieve economies of scale, leading to reductions in production costs.



**Figure 4.10 Transformation Expected in Kebumen Roof-tile Cluster**

Instead, specialization in clay provision (raw material supply) and marketing/trading will be more apparent as these areas are commonalities shared by enterprises. A factor of commonality is particularly important. Such a specialization linked by commonalities would be the first step towards cluster transformation in joint actions.

Another case linked by commonality is a buyer-driven type of SME cluster, exemplified by the Serenan-Klaten wood furniture cluster. Both collectors and raw material suppliers exist in most wood furniture clusters. The chance to participate in exhibitions has made it simple for enterprises to have access to buyers and triggered off a joint cooperation among the different enterprise groups. A buyer becomes the common item in forming a SME group and common service facility (CSF) for collective use (e.g., kiln and machinery). The collaboration unit in Serenan-Klaten cluster is designed to promote joint actions in this way.



**Figure 4.11 Transformation of a Collaboration Unit in Serenan-Klaten**

#### Thorough Heterogeneity

A thorough heterogeneity is an unavoidable constraint hampering a cluster from taking collective activities. The metalwork cluster at Sidoarjo is found to be this case. The concept of core products has been introduced with the aim establishing vertical linkage with external industries. The idea of core products was assumed to facilitate specialization in the form of subcontracting.

#### Box 4.2 Comments on Core Products (Schmitz 2003)

Diversification (lack of specialization) is a rational response to domestic markets, which are volatile and not growing in overall terms. The usefulness of the “core product” idea for the purpose of cluster transformation is doubtful.

Doubts on the concept of “core products” for the purpose of cluster transformation were outlined in the paper of Prof. Schmitz (see Box 4.2<sup>3</sup>). He further explained the other metalwork cluster in Sialkot, Pakistan. This cluster produces hundreds of different surgical instruments and different enterprises are specialized in different products and processes.

In fact, individuality rather than collectivity appears to be strong among SMEs in other metalwork clusters including Sukabumi and Tegal, which are other sample clusters.

What type of development would then be expected in metalwork clusters? Joint activities would be not only time-consuming but also doubtful of sustainability of such activities. Alternatively, priority would better be given to a few potentially viable SMEs having willingness to diverge from replacement markets. It might also be a better strategy to focus on the size of a district or province encompassing similar metal work clusters, rather than focus on a single cluster.

<sup>3</sup> Prof. Schmitz joined the Study in June, 2003 to evaluate the progresses of the pilot projects. The whole report is presented in Part 4, Pilot Project Report.

#### (4) Cluster Facilitator

The role of cluster facilitator is extremely important in cluster strengthening. His/Her responsibilities are extensive and encompassed as follows:

- orientation to cluster development
- identification of related stakeholders
- promotion of participatory approach to clustering
- socialization of cluster members
- identification of SMEs having willingness/passion to step forwards
- motivation/stimulation to joint actions
- analysis and improvement of a value chain
- assistance in preparation/implementation of action plans
- promotion of linkages (horizontal and vertical)
- advice in technology, management, and marketing
- channeling to BDS providers and the financial sector
- monitoring and evaluation of clustering

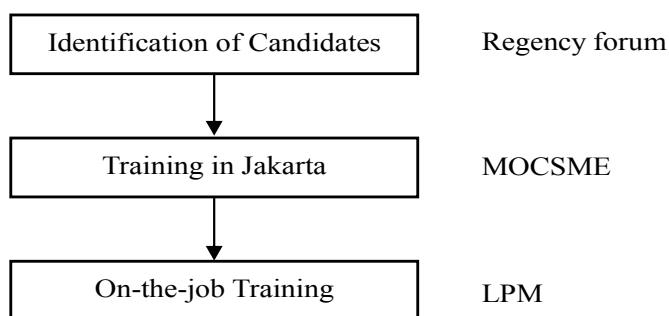
<b>Box 4.3</b> <b>Skills required for Cluster Facilitators</b>
Problem identification/Needs Assessment/Strategy
Building/planning skills/Monitoring skills (PDM)
Information management
BDS matching/support

The skills required for the cluster facilitators are listed in Box 4.3 on the left. The question is who would be eligible to act as cluster facilitators. MOCSME actually employs a number of BDS providers to implement its three-year BDS program nationwide. Their actual roles are almost equivalent to tasks required by cluster facilitators.

Nevertheless, the MOCSME program per regency suggests how difficult it is to identify high-quality BDS providers. The Economic Forum of Central Java is reported to have mobilized BDS providers as cluster facilitators, to some extent for the purpose of its program implementation. The performance of some providers is reported to be fairly good, particularly in the field of bridging to external stakeholders. It is officially stated, however, that further training is necessary for needs assessment and planning skills.

One cluster facilitator per regency would be standard criteria provided that a potential cluster is identified per regency. Two approaches can be taken to meet the requirements. One is to identify resource personnel from various business authorities. Candidates would come from universities, private and public BDS providers, and NGOs. The other is to regionalize foster systems of facilitators. LPM (Institute of Community Service in the universities) would be the best organization for fostering of cluster facilitators. LPM is traced back to government regulation No.153 in 2000,

mandating that each university establish a community service function. For example, there exist seven (7) centers under LPM in the University of Solo (UNS).



The cluster forum at regency level is responsible for identification of the best candidates. MOCSME is currently implementing an “In-country Program” to foster BDS providers and BDS facilitators and is regarded as the appropriate training institution in Jakarta. Candidates are further strengthened in the form of on-the-job training at LPM.

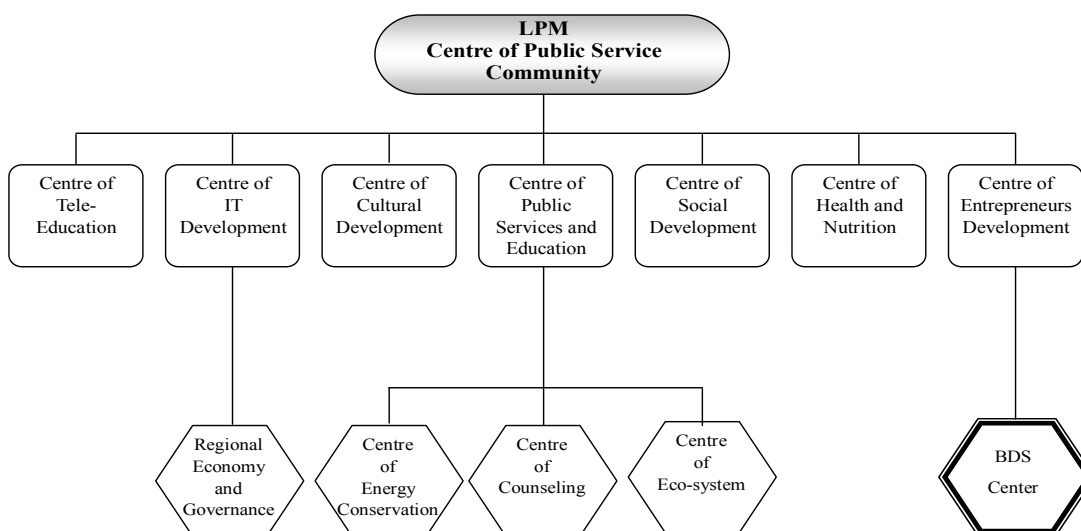


Figure 4.12 Organizational Structure of LPM (UNS)

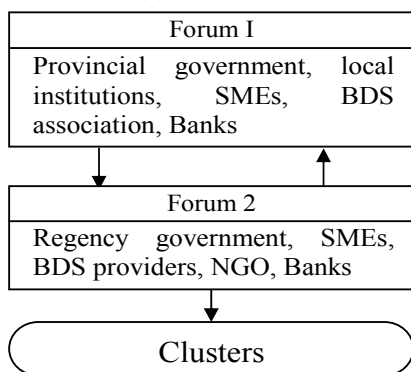
In the case of UNS, a BDS Center has already been established under the Center of Entrepreneurs Development. The BDS Center is scheduled to expand its facilities by receiving Institution Development Funding from the Ministry of Education. A Cluster Facilitator Center is proposed to set up under the Center of Entrepreneurs Development.

MOCSME is expected to play a coordination role with Forums (province/regency) and the Ministry of Education on behalf of LPM. A co-funding system could be ideal, consisting of the MOCSME budget for training in Jakarta and the regency government budget for on-the-job training at LPM.

### (5) Regionalized SME Strengthening

“Regionalization” and “bottom-up” approach are the key words in defining the more appropriate organizational structure for SME cluster strengthening.

Basic Form (1)



The Economic Forum currently operating in Central Java is regarded as a decision-making body based on consensus building among stakeholders. The Forum structure is twofold:

Forum 1: approval of cluster selection, cluster development plan, budgeting, cluster promotion

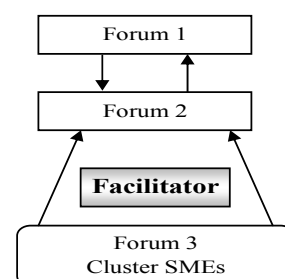
Forum 2: cluster selection, planning, implementation, monitoring

Since cluster development is associated with the regional and community development issues, the Forum could basically be adapted for cluster strengthening.

The key issues in Basic Form (1) are capacity building of local (regency) governments and needs assessment of BDS. Local government, supported by the regency forum, is entrusted with cluster selection and management. But, lack of a cluster development strategy makes it difficult for the regency forum to carry out cluster selection and planning. A lack of planning capacity often results in poor needs assessment by BDS.

Input from a facilitator acting between the regency forum and clusters, as shown in Basic Form (2) would contribute to problem solving observed in Basic Form (1). Facilitators should be in a position to provide support to the regency forum on issues related to cluster selection and management. They must therefore be competent in addressing all cluster issues as advisors/consultants.

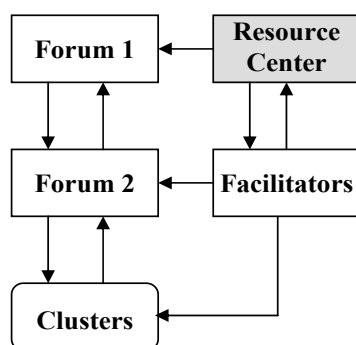
Basic Form (2)



Forum 3 in the Basic Form (2) corresponds to the “Program Operation Unit” as experienced in the pilot project and includes representatives of SME clusters. Its responsibilities include program operation and management with the assistance of cluster facilitators.



Basic Form (3)



Basic Form (3) appears to be a more advanced organizational structure. A Resource Center, regarded as a one stop service (OSS) center, should be a tool to deliver various services/advice to the provincial Forum and facilitators. The function of a Resource Center would be: (i) SME and BDS database, (ii) Matching service, and (iii) BI financial consultation

The idea of a Resource Center is not new, and it was actually proposed in the BAPPENAS-GTZ SME Promotion Project in 2001. Although this idea was rejected by the provincial parliament due to its high cost, it is still in demand by actual stakeholders participating in the provincial Forum (Forum 1) in Central Java. For example, a lack of the SME/cluster database makes it difficult for the provincial Forum to approve clusters selected by the regency forum. Such a database could be established and operated by the Resource Center. Although provision of an OSS will certainly empower the Forum system, the Resource Center would face two constraints; i.e., (i) How to mobilize competent staff working in OSS, and (ii) High project cost

#### 4.5 Strategy Implications for Cluster and SME Strengthening

Strategy implications proposed in this section are not cluster specific but are comprehensive, targeting clusters and SMEs as a whole. They are proposed primarily referring to the outcomes from the pilot project and consist of three components, i.e., (i) information management, (ii) intermediary services, and (iii) One-Stop-Services (OSS).

##### (1) Information Management

###### 1) Open Information System and Networks

Unlike information societies in developed countries, there appears to be a lack of media facilities for the dissemination of social/economic activities in regional societies. Due to lack of information, SME tend to become ignorant of outside stimuli and lack incentive towards challenging something new. Community-based clusters are generally characterized by those observed in the pre-information society, which makes it difficult for SMEs to obtain access to external markets and support programs.

MOIT attempted to promote information services to SMEs under the WARSI (*Warung Informasi Konservasi*) program. This included provision of internet access points distributed within the nationwide network of postal offices. The WARSI program was intended to:

- Become the means of communication between SMEs and traders
- Advertise products of SMEs electronically
- Provide information supporting the development of SMEs and traders

The homepage on the internet is a primary communication medium for users (SMEs); however as most SMEs in the pre-information society have no computer facilities, access to the homepage is not possible. It is reported that the WARSI program has not been actively utilized.

Open information using newsletters or “Kairan-box” (passing the notice board to the neighbor) could be a more realistic medium to disseminate information to cluster enterprises. The image for the information delivery method is presented in Figure 4.13. The regency government is recommended to collect and deliver various information relating to training of SMEs, government notices, R&D activities, SME activities, and so on. An open information system does not always need to be managed by public authorities. For example, the system could be operated under the control of DINAS but contracted to the private sector with the regency government budget.

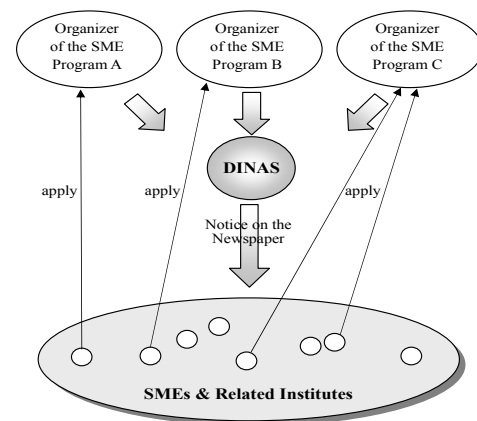


Figure 4.13 Information Delivery System

SMERU, a research unit in Jakarta, was established with the assistance of the World Bank. It undertakes the following dissemination activities:

- SMERU prepares comic strips showing how the minimum wage is determined, as requested by BAPPENAS. Comic strips have been distributed throughout the Indonesian society.
- SMERU uses radio stations to inform villagers of a variety of information including local government programs.

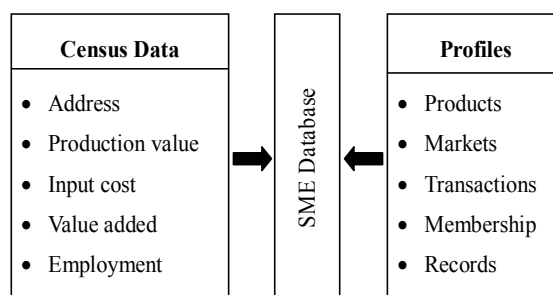
An organization called SAWARUNG was established in Bandung to publish monthly newsletters. These facilitate participation of local people in community activities and promote dialogue with local governments. A newsletter appears to be the most practical medium. SWARUNG, sponsored by the Ford Foundation, is actually a private organization focusing only on dissemination activities. This private sector-based activity has proven to be more cost effective than those implemented by public authorities.

## 2) SME Database

The lack of an SME database is a significant drawback for strategic planning of clusters and SME strengthening. This lack of information on SMEs would certainly make it difficult for a provincial forum to identify potential SMEs/clusters. Nothing has been done since 1996 to renew the database of MOIT, which included nationwide SME clusters. The database of micro enterprises is mainly derived from the Economic Census. This is published every 10 years and is the only source of information regarding small and micro enterprises. BPS publishes a series of industry statistics including a directory of large and medium sized industries and statistics on industries by size. Statistics have been periodically renewed every two years, based on minimal sampling of around 2 to 3 samples per village. Due to this restriction, the revised statistics are of limited value in providing indicative indications of the average performance of SMEs and clusters.

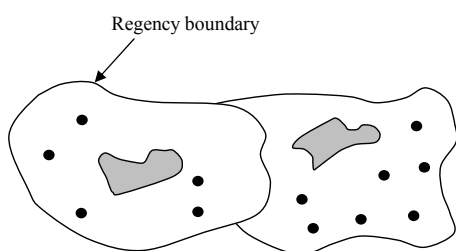
The question is whether a SME database should be dependent on the Economic Census or not. The answer is basically “yes” because the fundamental data are provided by the Census. But, it should be kept in mind that the database should include profiles of SMEs surveyed. These would indicate products, markets (domestic or export), business transactions (foreign buyer, trader, sub-contractor, assembler and so on), membership in any business associations, records of fund borrowing, records or willingness of application for the type of BDS.

The SME database should be an output of cooperation between central (census) and regional (profiles) information. Because of the cost and timing of a census (every 10 years), priority should be given to local initiatives in preparing a SME database. For example, under the direction of the provincial forum, the concerned parties could prepare the database as a collaborative undertaking.



**Figure 4.14 Composition of SME Database**

The regional statistics on SMEs (2002), edited by the provincial government of Central Java, is a good illustration of local initiative. The directory does not necessarily cover all SMEs in the target area. At the time of local forum formation (regency and cluster) formation, the provincial forum is requested to coordinate with local forums to screen targeted SMEs for listing in the database.



The shaded area on the Figure indicates potentially viable clusters selected while (●) indicates potentially viable SMEs outside those clusters selected. The database should cover SMEs from both inside and outside the selected clusters.

## (2) Intermediary Services

### 1) Markets and Technology

Links to the dynamic markets at population centers or overseas would be a trigger to move from a dormant to a more developed stage. Dynamic markets are supposed to be prime agents in regional cities, overseas niche markets or the first-tier subcontractors. Links to the dynamic markets by cluster enterprises themselves are extremely difficult so it would need a matching scheme connecting SMEs with market players. BDS providers or business associations would be stakeholders to undertake a matching scheme (intermediary services).

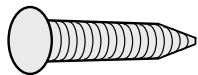

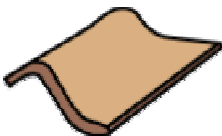
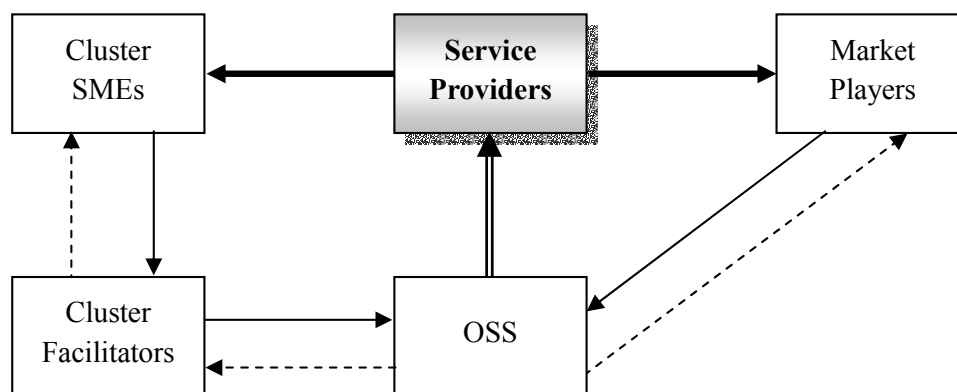
Products	Dynamic Markets	Technology
	Subcontractors	Costing Stamping Machining
	Overseas Niche Market Foreign Buyers	Culture Based Sculpture Unique Design
	Regional City Prime Agents of Construction Materials	Glazing Extrusion Molding

Figure 4.15 Relation between Dynamic Market and Technology

Supply and demand in the scheme needs OSS (one-stop-service) to receive applications and introduce service providers. A matching scheme system is illustrated as follows:



Legend: —> Application of the Scheme    - - -> Introduction of service providers  
 ==> Request for a matching service    OSS: One-Stop-Service  
 —> Practice of a matching service

**Figure 4.16 A Matching Scheme**

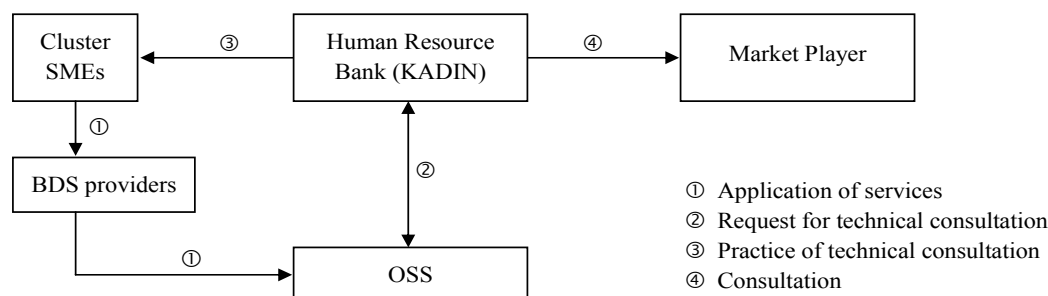
The idea of an OSS is not new, but its function in the scheme needs to be more dynamic. This is primarily because the OSS in the scheme requires an information system. Information required is preferably computerized in databases, covering SMEs, service providers and market players. The WARSI program has partially contributed to the proposed information system, but not entirely. Database providers are expected to be the MOIT, BDS Association and Business Associations. As a minimum, the database would contain profiles and business performance information. (OSS is discussed further in the final part of this Section.)

Cluster facilitators are also regarded as resource personnel conducting a matching service. However, in general, they do not have the professional background specializing in a particular industry. Specialized service providers would be the more appropriate resource personnel in matching services. In fact, some BDS providers in the program for the Economic Forum of Central Java are reported to be good facilitators in matching services.

Very few references propose solutions for the chronic technological problem currently faced by SMEs. As discussed in Chapter 4.3, dependence on markets of low quality would not make SMEs change their awareness of technology improvement. They would probably continue to be receptive, but some SMEs (possibly potentially viable SMEs) appear to be aggressive. The problem is that SMEs do not have the ability to

assess their problems. It has been often observed during the pilot project that the interview with SMEs on technology improvement results in their demand for new machinery. A grassroots consultation with SMEs during the pilot project has gradually changed their awareness towards the principle that access to markets are closely linked with the technology improvement they actually require. Technology improvement is ideally linked to work of craftsmen in the fields of design, art, parts/components using machining, casting or welding.

In order to uplift manufacturing technology of SME clusters, the question is who will be responsible for the transfer of technology to them and how will it be undertaken. The BDS may be one solution, but there are very few service providers in the field of technical services. The conceivable scheme is shown in the Figure below.



**Figure 4.17 Technology Improvement Scheme**

A human resource bank is a databank of skilled resource personnel (i.e. retired craftsman) registered in KADIN. A central KADIN (Jakarta) is currently prepared to have such a databank installed. Regional KADINs are expected to follow suit. A databank is ideally established at the regency level. Upon receiving a request for service, OSS will coordinate with the regional KADIN to request it to furnish a technical consultation with SME clusters.

Applicants are expecting practical solutions for the technical problems they face. A consultation would take the form of question and answer analysis, the necessity of training, renovation of machinery, and so on. The area of consultation is so wide that an expert dispatched from KADIN would be requested to further consult with market players such as buyers, subcontractors or assemblers, should technology improvement be linked to the markets. KADIN is expected to undertake intermediary services between SME clusters and market players.

## 2) Financial Services

Despite the efforts of the banking sector to develop a system of micro lending units throughout the country, lending to cluster enterprises remains restricted. This is primarily due to the fact that the SME sector can not fulfill the loan requirements

(mainly lack of collateral) set by the banking sector. Public criticism is sometimes concentrated on the banking sector. It is thought that many bank staff engaged in SME finance do not have the ability to undertake risk, cash flow and feasibility analyses, which has resulted in business-like demands for loan requirements (i.e. collateral). The status quo of SME finance appears to be chaotic and something must be done to bridge the gap between banks and SMEs.

A program called “Konsultan Keuangan Mitra Bank” (KKMB) has been initiated to improve access of the SME sector to credit for productive purposes. This is under the direction of the Bank Rakyat Indonesia (BRI). Competent service providers (BDS) will be trained and identified as key agents under the KKMB program. Although still in the initial stages, pilot programs have been executed in West Java where a number of potential service providers are identified. The program needs to be extended to other provinces.

The question is who will take care of intermediary services for SME finance. BRI might be a good candidate as the large number branch offices under its control provides easy access for SMEs. OSS could be utilized as the access channel to BRI facilities. Another question regards the level of fee to be charged to applicants (SMEs). Fees for financial consultation are

usually high, which would make SMEs reluctant to utilize intermediary services to arrange SME finance. A possible way to lower consultation fees is to internalize consultation services inside BRI. To do so, BRI staff engaged in SME finance must be trained as credit officers. The first screening would be undertaken by credit officers free of charge. SMEs submitting business proposals which are not feasible would not have to pay consultation fees. Business proposals which may be feasible would then be subjected to a second screening by financial consultants. It would take a few weeks for consultants to evaluate proposals from various aspects.

SMEs would pay for the second screening. BRI would pay fees to the consultant in place of SMEs, while SMEs would be permitted to make repayments in installments. Interest on the loan must be concessional. Lower interest rates will not harm business performance of banks because a good return on investment would bring them favorable benefits.

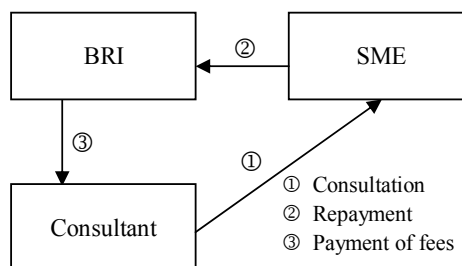


Figure 4.18 Financial Intermediary Scheme

### **(3) One-Stop-Services (OSS)**

#### **1) Center for Development of SMEs**

The realization of the need for an OSS is now becoming more pronounced in the fields of business registration and formalization. These were previously managed by different windows within the local (regency) government. Now the two business procedures are served by a single window in order to enhance efficiency of public services. The OSS discussed in this Report is more comprehensive, primarily contributing to bridging services between SMEs and BDS providers.

Cluster facilitators certainly have a limitation in bridging the gap between SMEs and BDS providers. No matter what services are requested by SMEs, facilitators may feel less constrained if an OSS is available nearby. OSS is preferably a comprehensive service body (the different services being handled by a single window). A cluster facilitator can request the OSS to introduce different services simultaneously, such as a BDS provider undertaking a matching service and a resource person providing technical consultations.

To assist the facilitation of SMEs under the trade and investment liberalization, the Center for Development of Small and Medium Enterprises (CD-SME) was established with an initiative from KADIN in 2001. CD-SME is a center of multi-dimensioning of networking services for SMEs. Its missions are planned to include:

- Information center,
- Access to markets, capital, human resources,
- Matching service for quality certification, and
- Matching service for insurance / loan guarantee.

CD-SMEs, with support from BRI and PT. Telecommunications, is currently operating 18 offices. In the near future; however, the CD-SME itself is not sufficiently disseminated or functioning well. The most acute problem is to attain a financially sustainable operation. Fees for services have not yet been determined.

## **4.6 EFFECTIVE RESOURCE ALLOCATION**

The issue on an effective resource allocation has long been argued as a development policy in Indonesia, and many agencies are involved in identical policies/programs, resulting in their duplication. Governments have been criticized for their lack of coordination, the principal reason being administration interests by various agencies. However, there had been almost no overall strategy for SME development until the Mid-Term Action Plan (MTAP) was prepared by ADB. Even the MTAP appears to entrust the issue on resource allocation to the SME commission at a ministerial level.



Given that Indonesia is currently on the threshold of cluster development that requires an integrated approach involving various stakeholders, resource allocation is an unavoidable issue and will be vital for capacity strengthening of SME clusters. The following Table shows a matrix of the roles or responsibilities of stakeholders to be involved in capacity strengthening of SME clusters.

**Table 4.2 Responsibilities of Stakeholders for Capacity Strengthening of SME Clusters**

Strategies Required for Capacity Strengthening of SME Clusters	Central Govt			Forum			Local Govt		Private Sector						
	MOIT	MOCSE	BAPPENAS	Province	Regency	Cluster	Province	Regency	BDS provider	KADIN	Foster Company	BRI	BDS Association	Facilitators	CD-SMEs
<b>(1) Cluster Strengthening</b>															
1) Identification of Potential SMEs/clusters			○	○	○										
2) Fostering of Growth Seeds and Entrepreneurship	○	○		○	○	○		○	○		○		○	○	
3) Enhancing Social Capital		○		○	○	○								○	
4) Facilitator		○											○		
5) Regionalized SME Strengthening				○	○		○	○							
<b>(2) Cluster and SME Strengthening</b>															
<b><u>Information Management</u></b>															
1) Open Information and Networks	○	○			○			○							
2) Directory of SMEs	○			○			○								
<b><u>Intermediary Services</u></b>															
3) Market and technology									○	○				○	○
4) Financial Services											○			○	
<b><u>One-Stop-Service (OSS)</u></b>															
5) CD for SMEs										○		○			○

All items are supposed to be fundamental requirements to support basic policy or strategy for capacity strengthening of SME clusters. SME cluster strengthening, to be implemented primarily on a regionalized basis, places priority on mobilization of local resources. However, local resources (human and capital) are constrained in quality and quantity. Higher quality human resources are almost totally concentrated in Jakarta, while there are only scarce resources available in local areas.

### Central Government

Government agencies at the central level are primarily responsible for policy issues. MOIT, in particular, concentrates on dissemination of its main policies (i.e. commodity development or enhancement of SME entrepreneurship) to regional stakeholders. For example, direct dialogue with local governments on how to effectively use the existing program for entrepreneurship (AMT or CEFE) is required for capacity strengthening of

SMEs. MOCSME has also been the only agency carrying out cluster specific programs including the three-year BDS scheme and micro financing. Lessons have been probably learnt by MOCSME that on-going programs diffused nationwide without clear strategies for the cluster development strategies. MOCSME is expected to produce strategies for cluster strengthening, concentrating initially on fostering of cluster facilitators and then on executing specific programs such as “leaders’ capacity building” in collaboration with provincial forums.

### Forum

A participatory approach is considered to be the most effective way to implement cluster strengthening. A forum is a consensus-building body where local resources participating in the forum are fully utilized. Despite limitations in the executing power of the forum, it appears to be the best approach to develop a community-based activity. It has often been stated that capacity strengthening of local governments is a necessity for regional development in line with decentralization. However, a forum appears to be a better approach rather than capacity strengthening of respective local government agency in terms of implementation of the cluster strengthening programs. Given the scarcity of financial resources, the priority of resource allocation would be given to forum formation.

### Local Governments

Local governments (province and regency) are to be primarily responsible for forum formation and information management. An observation during the pilot projects is that there are very few resource personnel suitable for planning, implementation or monitoring of specific community activities for cluster strengthening. Those resources would better be used for policy or planning of regional development. In addition, the local governments should pay attention to the task of information delivery in adjusting to changes of business environment.

### Private Sector

Dynamism of clusters and SME development will be much dependent on the activities of the private sector. BDS and intermediary services are now on the threshold of their business activities. Though the markets of BDS and intermediary services are still at the infancy stage, a substantial number of BDS providers have entered the markets. The principle would be to allow them to do as the market demands. The principle is a privately-oriented approach, but public support to small and micro enterprises is still necessary as a safety net. An ideal model for the public-private partnership should be established such as collaboration in the forums.

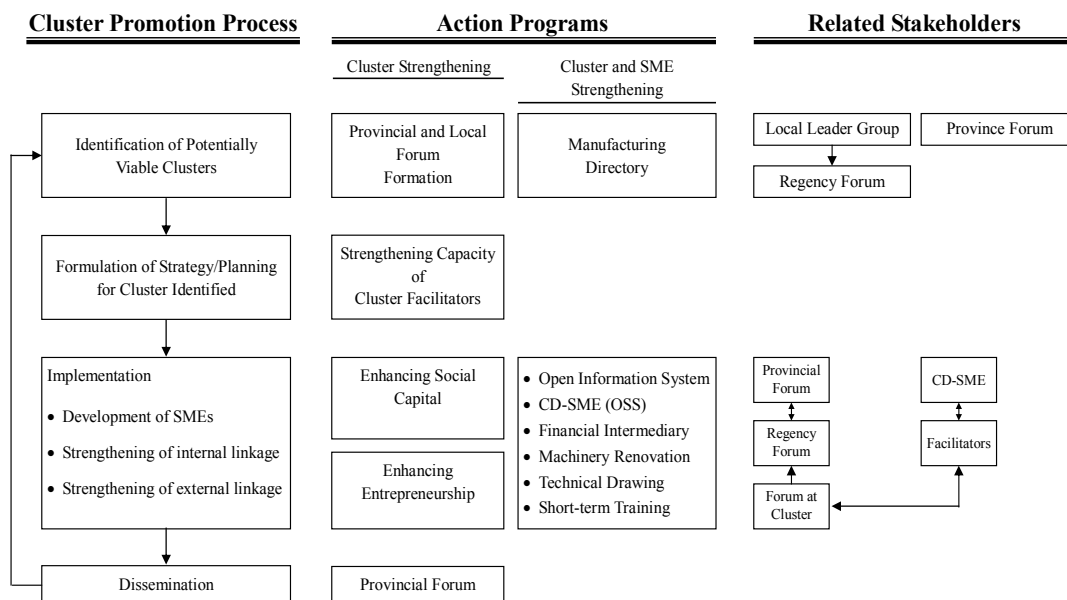
### Co-financing

Many developing countries use co-financing schemes as key tools for central government support in the local cluster development process. Co-financing schemes would be in the form of either co-funding between central and local governments, or cost sharing (matching grant). The HRD issue is still apparent with existing programs of central government agencies. Agencies may use the “Specific Allocation Fund” or “Block Grant”. The “Specific Allocation Fund” needs a scope of works as a condition, which is appropriate for the extension of the existing programs. On the other hand, local (regency) governments are requested to finance routine activities such as operation of a forum.

## CHAPTER 5 ACTION PROGRAMS

### 5.1 GENERAL SETTING

Based on the one-year operations of three pilot clusters and study on strategies for cluster strengthening, a dozen action programs are proposed for implementation. The action programs include those applicable to cluster strengthening and those applicable not only to clusters but also to SMEs as a whole. Setting up of the latter programs is based on the recognition that the cluster development cannot be realized without development of individual enterprise in the cluster. The Figure 5.1 illustrates how action programs are applied to the cluster promotion process.



**Figure 5.1 Cluster Promotion Process and Action Programs**

The proposed Action Programs are summarized on the following page:

**Table 5.1 Action Program for Strengthening Capacity of SME Clusters**

<b>CLUSTER STRENGTHENING</b>	<b>WHY</b>	<b>WHO*</b>	<b>WHAT</b>
1 PROVINCIAL CLUSTER FORUM FORMATION	Needs an institutional arrangement to facilitate the linkages in region	BAPENAS, <b><u>BAPPEDA</u></b> , Provincial Dinas, Regency Disperindag and Dinkop, SMEs, NGOs, Universities	1) Formation of provincial forum 2) Identification of potential cluster
2 LOCAL CLUSTER FORUM FORMATION	Needs an institutional arrangement to facilitate the linkages in clusters	Provincial Forum (BAPPEDA), Regency Gov., <b><u>Regency Disperindag and Dinkop</u></b> , SMEs, NGO, Universities, Cluster facilitator, CD-SMEs	1) Formation of local forum (at Kabupaten and cluster) 2) Capacity building of local forum
3 CAPACITY BUILDING OF CLUSTER FACILITATOR	To manage cluster promotion programs and to facilitate clustering process	<b><u>MOCSME</u></b> , Provincial and Regency Disperindag and Dinkop, BDS, Extension workers, LPM	1) Development of model training curriculum 2) Training of the candidate for cluster facilitator
4 ENHANCING SOCIAL CAPITAL IN CLUSTER	To enhance trust relationship among SME clusters	<b><u>Provincial and Local Forums</u></b> , MOCSME, cluster facilitators and SMEs	1) Information seminar 2) Regular meeting 3) Joint actions
5 ENHANCING ENTREPRENEURSHIP IN CLUSTER	To increase SME's motivation	<b><u>Provincial and Local Forums</u></b> , MOCSME	1) Study tour to more advanced cluster 2) Exhibition holding 3) Matching with buyers
<b>CLUSTER AND SME STRENGTHENING</b>			
6 MANUFACTURERS' DIRECTORY	Required for baseline study for implementing any programs	Provincial and regency BOS, <b><u>Regency Disperindag and Dinkop</u></b>	Processing Economic Census data (year 2006) in detail to make manufacturers' directory at Regency level
7 OPEN INFORMATION SYSTEM	To provide an equal opportunity for SMEs to join in a program	<b><u>Regency Disperindag and Dinkop</u></b>	1) Regular promotion of information in TV, newspaper, notice board 2) Information seminar 3) CD-SMEs
8 CAPACITY BUILDING OF CENTRE FOR DEVELOPMENT OF SMES	To complement lack of information for SMEs and Clusters	<b><u>MOCSME, CD-SMEs</u></b> , KADIN, BRI, PT.Telekom	1) Training the staff in management (coordination and dissemination) 2) SME advisory service 3) KKMB service 4) Establishing revenue model
9 BDS AS FINANCIAL INTERMEDIARY	To increase the accessibility to the finance	BI, <b><u>BRI</u></b> , IBI (Institute of Banking Indonesia), BDS	1) Review of current KKMB program 2) Training BDS 3) Establish certification
10 MACHINERY RENOVATION PROGRAM	To provide alternative opportunity of machinery upgrading or replacement	MOIT(IDKM), Ministry of Finance, <b><u>Venture Capital</u></b>	1) Selecting the models 2) Order in response to the purchasing request 3) Profit sharing
11 TECHNICAL DRAWING LESSON IN SMU	To increase basic skill for technology	Ministry of National Education, <b><u>Regency Disperindag</u></b> , SMU	Adding technical drawing lesson optional to 2004 curriculum
12 SHORT TERM TRAINING COURSES	To open up training opportunities for SMEs	<b><u>MOIT (IDKM)</u></b> , LPM (University), R&D institutes, BPT, Extension workers	1) Transfer resource saving technology and cleaner production for SMEs 2) Establish model courses

\* The agency highlighted by boldface and underline will take an initiative in each action program.

## 5.2 ACTION PROGRAMS FOR CLUSTER STRENGTHENING

### (1) Provincial Cluster Forum Formation

#### Background

The Forum in Central Java, established in 2001 and organized at province and regency levels with technical assistance from BAPPENAS and GTZ, is a spearhead in promoting public-private partnership. This forum for Economic and Human Resource Development (ERRD) covers wide range of issues. The forum for EHRD, comprising public and private sectors, is regarded as an agent, which optimizes the process towards market orientation and creating competitiveness under the flag of a public-private partnership.

The proposed provincial forum in this action program is similar to the forum for EHRD except that this proposed forum focuses on a single purpose of cluster development. The reason for the choice of a single purpose forum is mainly attributable to the presumption that a single purpose forum would need less time and administration costs than a multi-purpose one. The forum basically serves as a mediator between public and private sectors. Thus, the members in both sectors are called in the different fields.

The main tasks of the provincial forum are:

- (i) identification of potentially viable clusters,
- (ii) approval of development programs of clusters selected at regency forums,
- (iii) programming and budgeting, and
- (iv) cooperation and coordination among stakeholders.

#### Actions

##### Formation of a Provincial Forum

The procedures to form a provincial cluster forum are proposed as follows:

- (i) Preparation of a guideline for the provincial forum with respect to role, status, membership, voting, establishment of working groups, and operation rules
- (ii) Approval of the guideline by the provincial parliament
- (iii) Appointment of membership

A good example of the guideline is demonstrated by GTZ at the time of establishment of the EHRD Forum. Provincial BAPPEDA is to prepare the guideline and chair the tasks required for the formation of provincial forum. The appointment of membership is endorsed by the governor and members of the provincial parliament.

### Formation of a Local Leader Group

A local leader group is interpreted as a preliminary organization of the local cluster forum. The primary task of this group is to assist the provincial cluster forum in identifying potential clusters. Upon determination of the target regencies, the provincial forum will initiate formation of local leader groups through:

- (i) workshops between the provincial forum and regency government and
- (ii) appointment of membership of the local leader group (e.g., regency government, KADIN, business associations, regional universities, service providers and viable SMEs).

### Identification of Potential Clusters

Potential clusters shall be identified under the collaboration between the provincial forum and the local leader group at the regency level. A comprehensive evaluation method will be required for identification of potentially viable clusters. The working group members of the provincial cluster forum, headed by BAPPEDA, will be responsible for this task. The procedures to identify potential clusters are proposed as follows:

- (i) Provision of basic policy and guidance for evaluation method
- (ii) Preparation of questionnaire forms
- (iii) Site survey of candidate clusters in collaboration with the local leader group
- (iv) Identification of potentially viable clusters

### Schedule

An indicative time frame for implementation of this action program is set as follows.

- Formation of provincial forum : Three (3) months
- Formation of local leader groups : One (1) month
- Identification of potential clusters : Six (6) months

### Budget

Budgetary arrangement is subject to a legal or an administrative procedure set by the provincial parliament or government. Accordingly, a budget is to be earmarked after forum formation. The costs of meeting and communication required for forum formation are to be borne by the routine budget. The budget required for the identification of potential clusters depends on the number of candidate clusters to be surveyed. The cost of the reconnaissance survey is preliminarily estimated at Rp. 3 million per regency.

## **(2) Local Cluster Forum Formation**

### Background

The policy and movement towards decentralization are putting a spotlight on capacity building of local stakeholders including regency governments. A forum of public and private sectors can take an important role as a consensus-building body. Although the decentralization has shifted authority to local governments, they are often reported to be short of planning capacity. Instead of strengthening capacity of respective local government agency, establishment of a regionalized forum system would be more practical for implementing a cluster development program as is a case in the Forum in Central Java. Thus, the local cluster forum is proposed for establishment under an umbrella of the provincial forum. The local forum at the regency level is similar to the Forum for Economic Development and Employment Promotion, except that the proposed forum has a single purpose of cluster strengthening.

### Actions

This action program is to be executed at regencies, with which the provincial forum made an appointment, or those which are willing to execute programs voluntarily.

#### Formation of a Local Cluster Forum

Upon identification of the potential cluster, local leader group, formed as a preliminary organization of the local cluster forum, is legally transformed to a local cluster forum. The procedures to form a local cluster forum are proposed as follows:

- (i) Preparation of the guideline for the local cluster forum with respect to role, status, membership, voting and ballot, establishment of working groups, and operation rules
- (ii) Approval of the guideline by the regency parliament
- (iii) Appointment of membership

If necessary, the preparation of guideline is assisted by the provincial forum.

#### Cluster Guidance

Some members of the local cluster forum are called to the provincial forum to be acquainted with the cluster guidance, strategies, and lessons learned from the MOCSME's cluster BDS scheme.

### Schedule

An indicative time framework for implementation of the action program is set as follows:



- Formation of the regency forum : Three (3) months
- Cluster guidance : A few days

### Budgeting

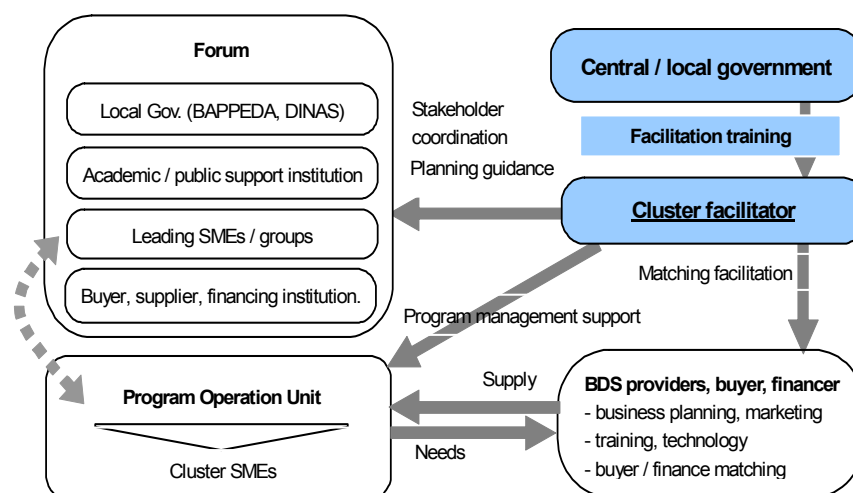
To finance the training programs for the cluster guidance, a budget of Rp. 10 million shall be allocated per province.

## **(3) Capacity Building of Cluster Facilitator**

### Background

Cluster-based development and business networking are effective means to strengthen competitiveness of SMEs. Collaborative actions and networking offer opportunities for creating comparative advantages of SME clusters. Strengthening of SME clusters through collaborative action and business networking requires tailor-made planning and implementation. This should take account of capacity of the cluster, present demand and factor conditions, and available facilities and services. To this end, voluntary group formation, which promotes implementation of action programs and involvement of stakeholders, is essential.

However, human resources required for clustering is usually unavailable inside SME clusters. Accordingly, presence of a cluster facilitator becomes indispensable. The cluster facilitator promotes strengthening the linkages with outside stakeholders. The government should assure the quality of such cluster-specific professionals through training and information sharing.



**Figure 5.2 Operational Structure of Cluster Promotion**

## Actions

### Training of Trainers at the Central Level

#### Purpose:

To train and pool trainers of cluster facilitators at the central level in order that the facilitators at the provincial level are properly trained.

#### Target:

Any BDS providers, regardless of private- or public-based (Universities, NGOs, and others) that have field experience in SME cluster development programs and have capacity to become leading disseminators.

#### Training Program:

Training programs for the trainers for cluster facilitators should equip participants with the following capacities.

- (i) Understanding of the cluster theory, approach, and case studies
  - Theoretical background of clustering
  - Cluster development approaches
  - International and Indonesian best practices, case studies, and lessons.
- (ii) Program management capacity
  - Cluster profiling (skills in field survey and cluster linkage analysis)
  - Group formation of stakeholders
  - Group formation for program operation
  - Problem identification and needs assessment (workshop-based SWOT analysis and Project Cycle Management skills)
  - Cluster strategy building and action planning (workshop-based planning skills)
  - Business planning skills including financial planning
  - Monitoring and evaluation (progress reporting and PCM)
  - Budget management skill
- (iii) Matching capacity between BDS/Financial sources and cluster enterprises
  - Comparative study planning
  - Information collection methods
  - Information provision of the public support programs for SME clusters and their enterprises
  - Financial intermediation and proposal writing skills

The central government will prepare a training module, calling for a sufficient number of human resources inside and outside the government.

### Training of Cluster Facilitators at the Regional Level

**Purpose:**

To train and pool the quality-assured cluster facilitators who will be assigned to cluster development programs at the regional level

**Target:**

Any BDS providers regardless of private- or public-based (Universities, NGOs, and others) that have been involved in SME cluster-related services and evaluated as competent candidates.

**Training Program:**

Trainers who have been trained at the central level will execute this program. Firstly, the same training program as the one at the central level shall be implemented. Then, the training will be followed by on-the-job-training (OJT) in order to acquire more practical skills and knowledge. The OJT program includes the following:

- (i) Preparation of cluster profiling report (with particular attention to social capital)
- (ii) Formation of cluster stakeholders' group and socialization of cluster SMEs
- (iii) Conduct of problem identification and needs assessment through the cluster stakeholders' group discussion
- (iv) Preparation of cluster strategy and action programs through the cluster stakeholders' group discussion
- (v) Formation of the program operation group
- (vi) Trial execution of the proposed action programs
- (vii) BDS and financial matching according to the needs of action programs
- (viii) Monitoring and evaluation

The OJT program will last around six months after preparation of the cluster strategy and action programs. After this period, the cluster development programs at the selected SME clusters will be continued until the completion of action programs.

### Schedule

A few model provinces are to be selected. Capacity building of cluster facilitators is to be implemented as follows:

### Training of Trainers at Central Level

Executor : MOCSME

Period : About 10 days

Trainers : Qualified trainers selected by MOCSME

Others : MOCSME will prepare the training module through consultation with the consultants and select the qualified trainers.

#### Training of Cluster Facilitator at Regional Level

Executor : Provincial government (DINAS) at model provinces

Period : About 10 days (class-based training)  
About one year (OJT-based training)

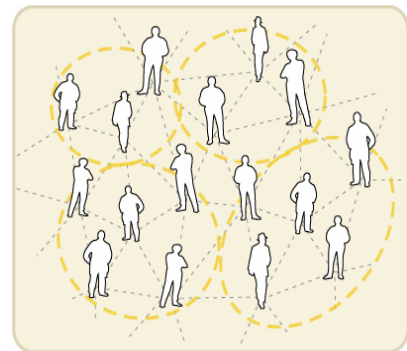
Trainers : Trainers participated in the trainers' training

Others : The same facilitator training will be extended to other provinces.

### **(4) Enhancing Social Capital in SME Clusters**

#### Background

Joint action is crucial for successful SME cluster development. Through joint actions, a cluster can enhance its collective capacity and linkages. Whether joint actions take place or not depends on the level of social capital in the cluster. Reciprocity and trust are key elements in the formation and strengthening of social capital. The pilot projects identified three activities that would contribute to the enhancement of social capital in clusters. The proposed action program is based on these activities.



#### Actions

##### Organizers

The cluster facilitator will play a leading role in the execution of this program with support of the regency forum.

##### Beneficiaries

While the cluster facilitator makes an effort to mobilize enterprises to join in this program, participation of SMEs will remain voluntary. Consequently, the beneficiaries shall consist primarily of motivated enterprises, instead of those who attend activities with feelings of obligation.

##### Approach

While inducing motivation of SMEs by taking a bottom-up approach, adequate levels of guidance and assistance shall be extended by external stakeholders.

### Activities

#### (i) Information Seminar

An information seminar is to be held to socialize various SME programs offered by the government and donor agencies. Currently, many SMEs feel that access to such programs is biased towards entrepreneurs who have connections to the bureaucracy. This activity will contribute to raising motivation among cluster enterprises as they feel that they have equal access to information. The information seminar is open to all enterprises and stakeholders in the cluster.

#### (ii) Regular Meetings

Meetings will be organized periodically in order to exchange views and concerns among cluster enterprises and identify areas where they can work jointly. The meetings shall emphasize importance of “*Competition*”, “*Cooperation*”, and “*Concentration*” (See Chapter 4.2 on discussions on “3C”). The regular meetings have two objectives; i.e., (a) exchanging views and concerns among cluster enterprises and (b) motivating them towards self-help efforts and joint actions. The regular meetings are open to all SMEs and stakeholders in the cluster.

#### (iii) Joint Actions

It is expected that the regular meetings will be guided to joint actions among entrepreneurs. Depending on the interests of cluster enterprises, there are various types of joint actions that can be promoted, e.g., joint marketing, joint purchasing, joint training, joint use of facility, and joint testing. These actions do not necessarily require involvement of a large number of cluster enterprises. Small groups having a strong tie are usually more sustainable than large groups of them.

### Schedule

The schedule for these activities is determined by the cluster SMEs. An indicative schedule is presented for reference.

- Information seminar : once every 3 months
- Regular meetings : once a month
- Joint actions : to be determined according to the context of actions

### Budget

In order to maintain sustainability and proliferation of the activities, self-funding effort by cluster enterprises shall be encouraged. If the joint actions cannot be fully financed by cluster enterprises, they should seek funding from the local cluster forum item by item. This will preclude a fee payable to the cluster facilitator, which is to be covered

by regency DINAS. Fee for the cluster facilitator is estimated to be Rp. 500,000/month for part time assignment and Rp. 1,000,000/month for full time assignment.

## **(5) Enhancing Entrepreneurship in Clusters**

### Background

While enhancing social capital is a key factor to strengthen collective capacity of SME clusters, enhancement of entrepreneurship is the other important factor to motivate enterprises for improvement. The enhancement of social capital brings a greater awareness among enterprises that a joint work brings benefits. Likewise, strengthening of the technical and management skills of individual entrepreneurs will make such collaborations effective. A combination of these two factors is essential for turning dormant clusters into more dynamic ones. The pilot projects identified three types of activities that contribute to enhancement of entrepreneurship among cluster enterprises, and the following action program is proposed accordingly.

### Actions

#### Beneficiaries

While a cluster facilitator makes an effort to mobilize enterprises towards joint activities, participation of them is voluntary. The joint activities are geared primarily towards SMEs that have strong willingness and ambition to upgrade.

#### Approach

This program concentrates on strengthening of skills for individual entrepreneurs to ensure that joint activities are more effective. To this end, stakeholders from outside the cluster will play a decisive role in motivating dormant entrepreneurs to implement the cluster development strategy.

#### Activities

(i) Study tour to more advanced clusters and SMEs (learning-by-visiting)  
The local cluster forum will deliver this service under the coordination of a cluster facilitator.

- Identification of a proper place for visits.

Visits should be carefully planned. The clusters to be visited should offer scope for learning while visitors should become inspired that development of their own enterprises and cluster is a realistic trajectory.

- Arrangement for the visit

If cluster enterprises do not have a business linkage with the visiting place, the cluster facilitator, assisted by the regency forum, will support to make appointments.

- Discussion

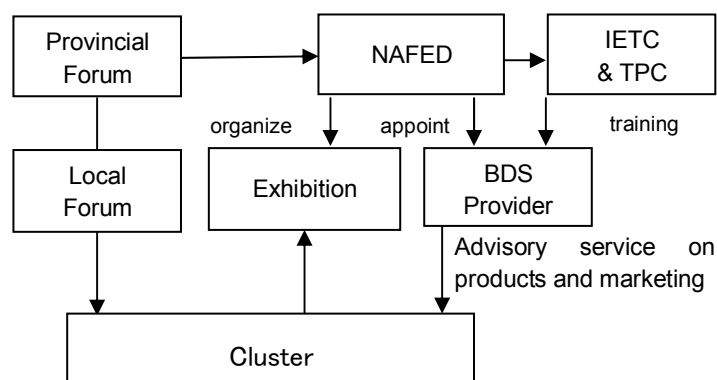
Cluster enterprises should be fully involved in the study tour throughout the activity. The purpose of the visit needs to be well understood, and it is important to ensure plenty of opportunities to discuss findings. The cluster facilitator should coordinate such discussions.

(ii) Participation in exhibitions

This activity requires participation of two stakeholders. One is the provincial and local cluster forums that will be responsible for coordinating with the organizer of exhibitions. The other is the National Agency for Export Development (NAFED), Indonesia Export Training Center (IETC), and Regional Export Training and Promotion Center (RETPC) that will be responsible for ensuring that cluster SMEs will be prepared for participation in the exhibitions with good products in terms of quality and price.

Participating in a national exhibition is particularly effective for export-oriented clusters having competitiveness in the international markets. Exhibitions are quite effective in strengthening the skills of entrepreneurs. At the same time, they allow entrepreneurs to be in touch with and learn directly from buyers and customers. Participation in exhibitions will offer dormant enterprises a chance to be motivated to improve quality as required in the markets. They can learn a lot from buyers and observe competitive products in the exhibition.

The government has been fully involved in promoting exhibitions for SMEs. The effects of participation in exhibitions shall be elevated if such efforts are synchronized with advisory services on product management and marketing skills in which BDS providers can play an important role. IETC and RETPC are recommended to train BDS providers to deliver such services, while NAFED shall register and dispatch the trained BDS providers to the cluster.



**Figure 5.3 Operational Structure of Exhibition Support**

(iii) Visits by potential buyers

This activity shall be facilitated by the local cluster forum under coordination of the cluster facilitator. Matching buyers with clusters has proven to be of great importance for cluster development. The program shall be arranged in a way that buyers are convinced that the visit to clusters is worthwhile. The cluster facilitators will assume the task of guiding the meetings between buyers and producers in clusters to create and ensure win-win relations.

For buyer:

Buyers will identify capabilities of producers and become curious as business opportunities are spotted.

For producers:

Cluster enterprises will learn requirements of buyers and receive incentives to upgrade their technologies and enterprises.

For cluster facilitator:

Cluster facilitators will obtain trust both from buyers and producers through facilitation services.

It is essential that cluster enterprises are well prepared for the visits by potential buyers. Cluster facilitators should be selective in arrangement of such visits.

Schedule

The program mainly aims at raising awareness of cluster enterprises about the competition and conditions in the potential markets. The activity should be scheduled so that the SMEs can fully utilize the events and opportunities. An indicative schedule is presented for reference purposes.

- (i) Study tour to more advanced clusters/SMEs : once every year
- (ii) Participation in exhibition : once every three years
- (iii) Visits by potential buyers : once every year



### Budget

In order to maintain sustainability and proliferation of the activities, self-funding efforts by cluster enterprises shall be encouraged. If this financial resource cannot fully cover, they shall seek a fund through the local cluster forum item by item. It is however considered that many enterprises are willing and able to pay for participation in tours and exhibitions when they are convinced of their business opportunities through the activities. Examples of major cost items are:

- Study tour to more advanced clusters/SMEs:  
Travel cost: rental bus Rp.700,000/day for 30 pax. (→ Rp.23,000 per person)
- Participation in exhibition:  
Rental booth (3m x 3m) Rp.5,600,000 → subsidized by DINAS  
Travel cost (train and accommodation for 4 nights) → Rp.600,000- /person  
Product transportation → Rp.3,000,000/truck
- Visits by potential buyers:  
Appreciation for the visit: Rp.200,000/visit

## **5.3 ACTION PROGRAMS CLUSTERS AND SMES STRENGTHENING**

### **(1) Manufacturer's Directory**

#### Background

The BPS-Statistics Indonesia compiles a manufacturing industry directory of large and medium enterprises, but there is no official directory of small and micro enterprises. Some regencies voluntarily compile a directory for SMEs, but the majority have yet to have complete information. Lack of a database frustrates program design as there is no insight into status and the number of enterprises that need to be taken into consideration. The pilot projects have encountered many problems in identifying beneficiaries and potentially viable SMEs due to lack of appropriate data and information.

In fact, compilation of a database is not a new activity, but it can be linked well to the Economic Census carried out nationwide every 10 years. Currently, the data collected by regencies are forwarded to the national BPS office without analysis in the regencies. A program is therefore proposed that the raw data be copied at the regency level before sending them to Jakarta.

The manufacturer's directory can be utilized for two purposes; (i) the directory enables planners/organizers of SME promotion to identify beneficiaries and design the program based on their characteristics; and (ii) Both buyers and suppliers can utilize the directory in identifying potential business partners.

### Actions

Regency BPS should conduct a baseline survey for the Economic Census in 2006. The regency Disperindag will assume responsibility of compiling the data into the manufacturer's directory covering micro, small, medium, and large enterprises. The required actions are:

- (i) MOIT and BPS prepare a format for the manufacturer's directory. It should cover company name, address, telephone, fax, sector, cooperative name, sales volume, number of employees, year of establishment, and product specification.
- (ii) Regency BPS undertakes a baseline survey for the Economic Census in 2006.
- (iii) Information for the directory is passed to the regency Disperindag which in turn compiles it into the manufacturer's directory (print out) for each regency.
- (iv) The directory becomes available to the related agencies and data centers such as Kantor Pengeloann Data Elektronik (KPDE) and Center for Development of Small and Medium Enterprises (CD-SMEs).

### Schedule

This action is scheduled to be implemented in Year 2006 with preparatory works prior to the Economic Census.

### Budget

Since this action plan utilizes the existing scheme of the economic census and data centers, the only proposed additional cost is associated with planning and compiling the data into the manufacturer's directory, as outlined below:

- Planning and requesting to the regional offices (MOIT and central BPS):  
2 managers x 1 month x Rp.1,500,000 = Rp.3,000,000
- Compiling data into manufacturer's directory (prints): (regency Disperindag):  
2 managers x 1 month x Rp.1,500,000 = Rp.3,000,000  
30 pages x 1,000 copies x Rp.150 = Rp.4,500,000

## **(2) Open Information System**

### Background

Information on the SME promotion programs usually passes through cooperatives that will select and contact SMEs *one-by-one* and deliver at the doorstep of entrepreneurs. Enterprises in the cluster are often poorly equipped with telephones and, in particular, faxes. This closed information delivery system is time consuming and expensive. Inevitably, information is not delivered equally. Non-cooperative members are most likely to be precluded from the opportunity to participate. Provision of the services

through cooperatives is not always welcomed by cluster enterprises and has created distrust among the cluster enterprises. It is, therefore, proposed that the information delivery system be improved for cluster enterprises so that they can enjoy equal opportunities to participate in the SME promotion programs. Instead of a top-down approach in which the program organizers select SMEs, proposed information system shall allow spontaneous SMEs to apply for the program in which they want to participate.

Actions

Regency Disperindag places a notice in regional newspapers every first Monday of the month. Many cluster entrepreneurs, however, do not have a habit of reading newspapers. It is therefore essential that other delivery methods be taken simultaneously such as notice boards, advertisements through local radio, and information seminars in the cluster.

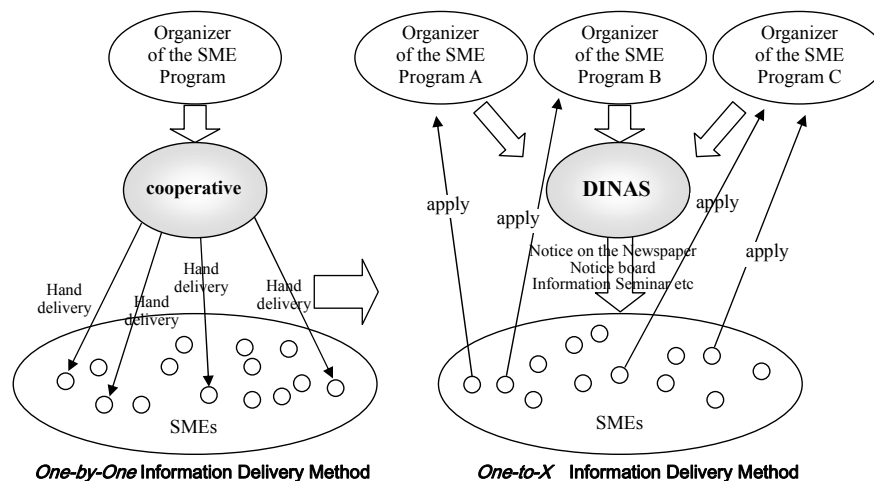


Figure 5.4 Information Delivery Method

SME Programs in January, 2004	
Please contact by phone for further information.	
<Seminars and Workshops>	<Subsidies >
Seminars on Business Plan 19-21 Jan JICA, Rp. 50,000- TEL 853xxx	Exhibition Support Program For the SMEs with experience in exporting only Disperindag, TEL 583xxx
Seminars on Drawing 26-28 Jan ITS, Rp. 50,000- TEL 792xxx	Cleaner Production Program For the SMEs in electro plating only Disperindag, TEL 583xxx
Seminars on Production Control 13-15 Jan, BPT Rp. 50,000 TEL 823xxx	
Workshops on Entrepreneurship 23 Jan. JICA, Rp. 20,000 TEL 853xxx	

Figure 5.5 Example of Notice in Newspapers

### Schedule

Starting from Year 2004

### Budget

Notice in newspaper: Rp. 4,800,000 / 2 columns x 10 cm (per month)

Radio advertisement: Rp. 2,000,000 / 30 seconds x 3 times/day x 7 days (per month)

## **(3) Capacity Building of CD-SMEs**

### Background

Revolution in information technology (IT) has given SMEs a great chance to overcome limitations arising from their size and geographical location. However, the majority of SMEs in developing countries does not have access to IT and is trapped in the digital divide.



The Center for Development of Small and Medium Enterprises (CD-SMEs), established in 2001 under the declaration of G-15 member countries<sup>1</sup>, is a prominent initiative to make a change. CD-SMEs has involved many stakeholders. Its board of trustees includes ministers for five ministries<sup>2</sup>. Then CD-SMEs, in collaboration with the Chamber of Commerce, Bank Rakyat Indonesia (BRI), and PT Telekom, has set up 18 SME centers<sup>3</sup> in the BRI branches. The centers create a database for SMEs, using a portal site at <http://www.sme-center.com>. The centers are designed to provide SMEs with information and intermediating services, bridging over the business partners and various institutions including banking, insurance, logistics, and quality assurance. CD-SMEs also made an agreement with BDS Associations, expecting BDS providers will utilize the CD-SMEs and work as information intermediaries for the SMEs.

In spite of the innovative effort, these centers are not yet well known and are underutilized by SMEs. Three issues are to be tackled in order to make the best use of the CD-SMEs and maintain their sustainability. The first issue is coordination with other information centers. Databases should be linked with other IT initiatives such as those by the provincial chamber of commerce and local government (Badan

<sup>1</sup> A group of 17 developing countries from Asia, Africa and Latin America: i.e. Algeria, Argentina, Brazil, Chile, Colombia, Egypt, India, Indonesia, Iran Kenya, Malaysia, Mexico, Nigeria, Peru, Senegal Sri Lanka, Venezuela, Zimbabwe, and Jamaica

<sup>2</sup> Minister of Finance, Minister of Industry and Trade, Minister of Foreign Affairs, Minister of Communication and Telecommunication, Minister of Cooperatives and Small and Medium Enterprises.

<sup>3</sup> 18 centers are located in Jakarta (Tenah Bang, Mangga Dua, and Jalan Prapanca Raya), Cirebon, Yogyakarta, Jepara, Denpasar, Sidoarjo, Makassar, Padang, Balikpapan, Medan, Batam, Banjarmasin, Manado, Kebumen, Malang, and Mataram.

Pengelolaan Data Elektronik). Secondly, CD-SMEs has yet to set a tariff structure. It has to establish a business model to cover the operational cost. Thirdly, CD-SMEs has to disseminate its function to SMEs and increase the number of users. These issues should be focused immediately so that CD-SMEs would be more effectively utilized by SMEs and SME clusters nationwide.

### Actions

The first action is training of local staff in management in order to equip them with skills in coordination with other resource centers and DINAS and in dissemination of the centers. MOCSME is recommended to support the training under the scheme of the BDS facilitators.

The second action is to add advisory services to the cluster facilitators and SME clusters in its service menu. While CD-SMEs is mainly targeting viable SMEs, the support of provincial DINKOP would become justifiable by adding this menu.

The third action is to establish a business model. CD-SMEs plans to run by membership fees. An appropriate level for the membership fees should be decided after surveying the level of willingness to pay by its target group. In addition, internet search service should be offered with fees for non-members to maximize its functional benefit. KKMB service (see Action Program 5.3 (4)) should also be conducted by the center as SMEs are more likely to pay fees for the financial intermediary service than other types of BDS.

### Schedule

The above action programs should be initiated by June, 2004.

### Budget

Cost for Management Training Program (3 days):

- Travel and accommodation cost:  
Rp.1,000,000 x 1 staff x 18 centers = Rp.18,000,000
- Fee for Designing Program and Lectures: Rp.12,000,000

## **(4) Strengthening BDS for Financial Intermediation**

### Background

Much progress has been attained in Indonesia in the provision of micro credit. The Bank Rakyat Indonesia (BRI) has developed a micro lending system that operates nationwide. These units rely on locally sourced deposits and charge commercial interest rates for loans that are widely used by micro enterprises in both urban and rural areas. However, the availability of credit for SMEs remains problematic. Banks argue

that SMEs frequently fail to prepare sound business proposals for credit. On the other hand, SMEs argue that access to such a formal credit is hampered because the enterprises cannot fulfill the loan requirements set by the banking sector, and loan procedures remain complicated.

The Government of Indonesia intends to strengthen financial intermediation to bridge the gap between banks and SMEs. A program called the “Konsultan Keuangan Mitra Bank’ (KKMB) (Financial Intermediation) is in operation. KKMB aims at improving access of the SME sector to credit for productive purposes. The program will train intermediaries who will assist SMEs in the preparation of a viable business plan in order to apply for credit. These intermediaries will be paid for their services by SMEs.

Private and public BDS providers have been identified as key agents in the KKMB program. It is expected that the selected providers are well positioned to expand their services to the SME sector and concentrate on financial intermediation between banks and small enterprises.

A taskforce has recently been formed so that the KKMB program shall be more strategically developed. The taskforce is developing training material for BDS providers in financial intermediation. The taskforce is also formulating criteria to determine the level that BDS providers are to be qualified as trusted financial intermediaries to serve for both SMEs and banks. Subsequently, a certification system will be developed.

The KKMB program is still in its infancy and some pilot activities have been executed in West Java where a number of potential BDS providers have been identified. Training modules are under preparation, and it is envisaged that the training will last for 20 days. KKMB intends to concentrate its program to 14 selected provinces at its first phase. In view of the fact that the total number of SMEs in Indonesia is quite substantial and that their demand for credit is high, it is expected that the current efforts of the Government of Indonesia be enhanced to ensure that the KKMB program will be offered extensively to SMEs and intensively to SME cluster.

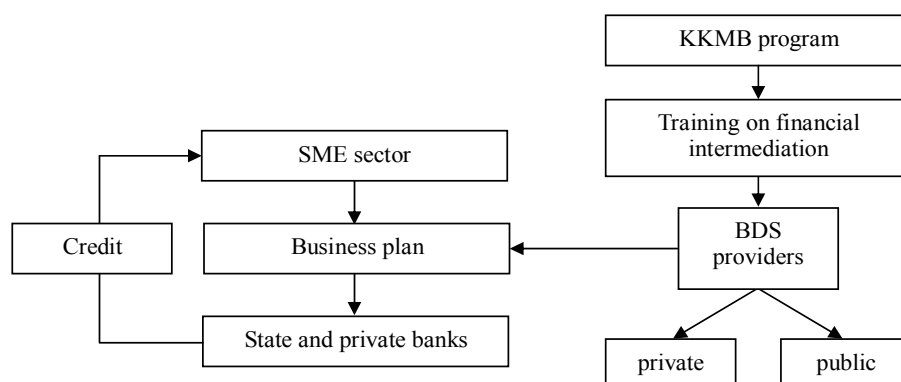


Figure 5.6 Strengthening of Financial Intermediation

### Actions

(i) Review of current KKMB Program

The current KKMB program should be improved further to ensure that the proposed strategy, training programs, and certifications will contribute optimally to the strengthening of high-quality team of trainers.

(ii) Learning from successful cases abroad

Successful cases abroad where financial intermediaries have improved the access of SMEs to the banking sector should be studied.

(iii) Institutionalize the KKMB program

The KKMB program shall be further institutionalized. A platform will be needed that facilitates the execution, monitoring and assessment of the program in the selected 14 provinces. This will include the appointment of a core program team responsible for planning in the selected provinces.

(iv) Selection and training of potential financial intermediaries

The trainers' team will be responsible for selection and training of potential financial intermediaries among existing public and private BDS providers. The team will be active in 14 provinces during the first phase of the execution of the program.

(v) Organize follow-up consultations with potential BDS providers

It is recommended to organize follow-up consultations with trained BDS providers to ensure that they have a good understanding of the jobs to be done. Likewise, there is a need for regular consultations with the banking sector to assess the progress.

(vi) Assessment of the first phase of the KKMB program

An assessment at the end of the first phase will evaluate how the program has been operated in the selected provinces and how it can be introduced to other provinces. The success indicators of the program have to be determined. The most relevant indicator is the extent to which access of the SME sector to bank credit has improved.

BRI is expected to assume responsibility for this action program as it has taken a lead in the formation of the taskforce. Both state and private banks will join the taskforce in addition to MOIT and MOCSME. The Institute of Banking Indonesia (IBI) is expected to join the execution of the KKMB program. It is proposed that technical assistance be made available to facilitate the work to be done by the core program team (SATGAS Pemberdayaan KKMB) whose main task is to develop training modules and a certification system. Pilot activities have already been carried out in West Java, showing that the financial intermediation is relevant and necessary. Although the private stakeholders are not included in the core program team, their participation is

recommended in order to ensure that the training programs will be developed in accordance with the needs of SMEs. The execution of the program at the provincial level will be the responsibility of the provincial authorities.

### Schedule

The above action programs should be initiated immediately. There are somewhat conflicting issues to be addressed in determining the time schedule of the proposed actions. The first issue is necessary to learn well from the pilot operations in West Java and develop high quality training programs including balanced decision making on certification and selection of potential BDS providers. The second issue is a need to make swift progress and commence training BDS providers in all provinces to ensure that banks throughout Indonesia will be able to support the SME sector.

## **(5) Machinery Renovation Program**

### Background

Quality and productivity of a product are closely related to the capacity of machinery; however, most cluster enterprises actually use obsolete machinery. To renovate the machinery, two conditions have to be met. Firstly, SMEs need capital to invest in the new machinery. Secondly, the new machinery has to generate additional profits to match with the rate of return from the investment. Fulfilling these two conditions is difficult for most SMEs because the majority of SMEs are not good at financial management. Moreover, they are not good at expanding markets rapidly to cope with the investment. Considering these circumstances, the use of reconditioned, used machinery is more realistic to provide SMEs with an opportunity for machinery renovation. The effective use of the second-hand machinery decreases the investment cost and helps increase the rate of return.

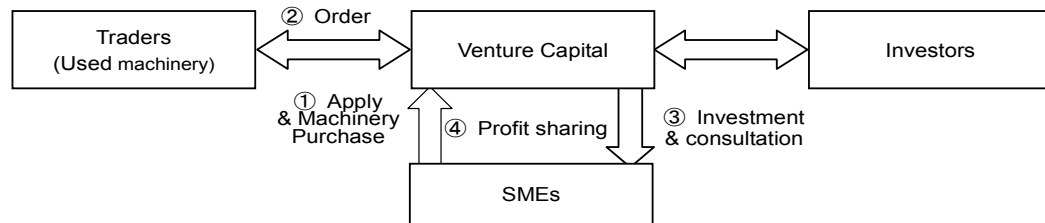
### Actions

Market survey and development of the used machinery should be led by the private sector, stimulated by public guidelines. MOIT is recommended to set up a task force to execute the study, inviting members from venture capital, leasing enterprises, traders, and machinery advisors.

- (i) Identification of potential demand/supply of used machinery  
Potential exporters of second-hand machinery need to be identified through industrial associations in developed countries. They are to facilitate reconditioned machinery export.
- (ii) Study on the outlet schemes  
Outlet schemes are studied and found among three options; i.e., a) a sales scheme, b) a leasing scheme, and c) a funding of venture capital. The venture capital, in the third option, will invest into SMEs to purchase the reconditioned machinery,



which serves as collateral. Then the venture capital provides SMEs with consultations to enhance the rate of return. The profit, therefore, is shared between the SMEs and the venture capital.



**Figure 5.7 Machinery Renovation Option 3 (Venture Capital)**

(iii) Study on maintenance and operation schemes

Maintenance and operation schemes are studied.

(iv) Establishment of guidelines

Based on above studies, the Government establishes guidelines and regulative settings to facilitate the machinery renovation scheme.

Schedule

- Study on potential demand and supply : 3 months
- Study on outlet schemes : 3 months
- Study on maintenance and operation : 3 months
- Study on establishing guidelines : 3 months

**(6) Technical Drawing Lessons in SMU**

Background

The majority of SMEs do not attach importance to technical drawing. They usually receive orders by samples and produce goods by imitation. Consequently, measurement of the product is not precise. As SMEs become more advanced, some hire an employee who has graduated from SMK, a vocational high school, and consider that having such an employee is sufficient to cope with the requirement. Most SME owners are not eager to have their employees study drawing. This situation is especially critical for metalwork SMEs which are willing to become subcontractors of larger enterprises. Change in this situation by directly targeting SMEs is difficult because most of them are satisfied with their current business practices.

To counteract this situation, an opportunity to learn drawing skills should be given before graduating from schools. Some 65% of high school students attend the regular high schools (SMU), and 70% of SMU graduates move on to work after graduation. Yet, the industrial sector usually treats SMU graduates and those from secondary schools at the same level because SMU is not considered to provide additional value as

industrial workers. The regional educational officers consider this situation critical and are placing importance in adding more practical lessons in SMU.

A new curriculum starting in 2004 is a good opportunity to make a change. The new scheme will allow schools to take up some curriculum that meet the regional demand more appropriately as long as it follows the principles provided by the Ministry of National Education.

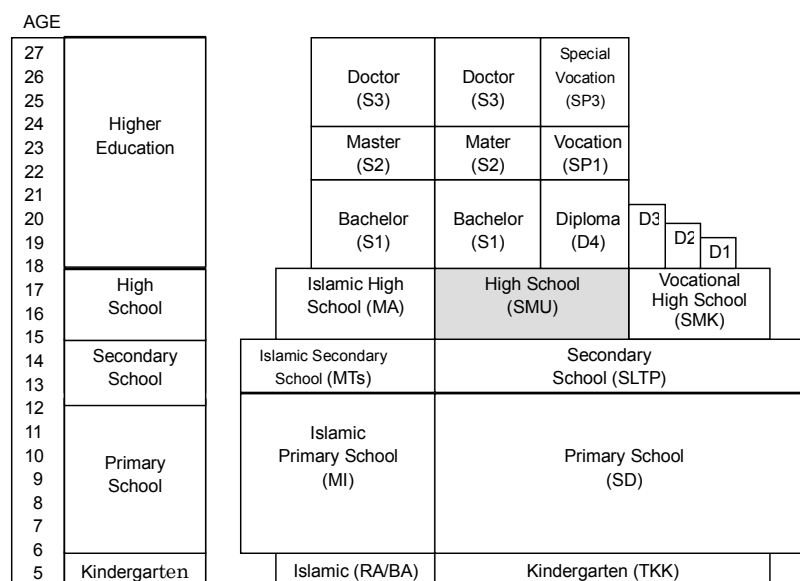


Figure 5.8 Educational System in Indonesia

Actions

The regency government, SMUs, and SMKs jointly discuss the purpose and the methodology of technical drawing classes in SMU as an optional curriculum. Considering the available facility at SMEs, an emphasis should be made on manual drawings than computer assisted design (CAD). The lecturer and the curriculum of technical drawing should be made available through SMKs.

Schedule

Discussions between the regency government, SMUs, and SMKs should start in March, 2004 so that the new course can be adopted in the 2004 curriculum.

Budget

Since the existing resource in SMK is utilized, and manual drawing is recommended, additional costs of this program are minimized.

- Cost for the Lecturer : Rp. 200,000/2 hours/week/school
- Text : Rp. 500,000/term/school

## (7) Short Term Training Courses

### Background

Although there are many institutions capable of providing technical training to SMEs, the training courses are not arranged in such a way that SMEs can easily take up the opportunity as required. Many training courses are provided on an ad-hoc basis depending on the availability of funds. Otherwise, the duration is too long for SMEs to accommodate their operation. Such inappropriate management of the training courses results in the training opportunities being underutilized by SMEs.

IETC, focusing the training courses on export promotion, has succeeded in establishing short-term training courses on an annual basis and is now disseminating the model courses to RETPC. The government is expected to direct the central R&D institutions to follow the model of IETC and to disseminate the results to the regional R&D institutions (such as Balai Pelayanan Teknis) and universities in order to realize the demand-oriented training service delivery to SMEs.

### Actions

(i) MOIT directs each central R&D institution to identify the context of the short-term training courses and makes the courses available periodically. The topics include not only manufacturing training but also improvement of resource saving and clearer production.

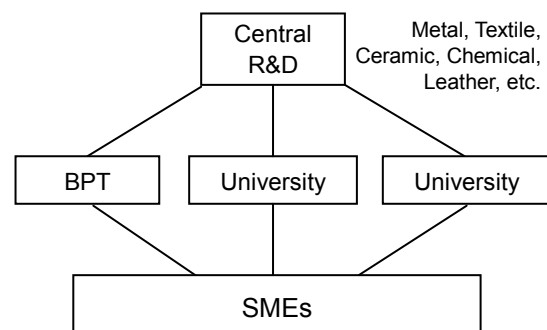


Figure 5.9 Dissemination of Model Courses

(ii) Each central R&D institute takes a lead in establishing model courses to satisfy SME demand.

(iii) The model courses shall be transferred to relevant regional R&D institutions and universities.

(iv) Regency Disperindag collects information on the short-term training courses and notifies the programs by media (Action Program 5.3 (2)).

### Schedule

- Study and scheduling of short-term courses : 6 months
- Establishing the model curriculum : 6 months
- Offering the model training courses : from Year 2005
- Disseminating the model courses to regional R&D institutions and universities : from Year 2006

## CHAPTER 6 RECOMMENDATIONS

Based on the review of the status of SMEs and SME clusters in Indonesia, as well as the one-year operation of three pilot clusters and study on strategies for strengthening capacity of SME clusters, the following recommendations are presented to stakeholders:

- 1) Given 10 sample *sentra* as SME clusters, this Study has focused on how to strengthen capacity of 10,000 *sentra*/clusters that involves about 475,000 small and household enterprises (about 17% of the national total establishments of small and household enterprises). There exist a few percentages of viable SMEs in clusters. Most cluster enterprises are operating in a traditional manner, irrespective of changes in the market. With a lowering competitiveness of their products in the market, they are in a critical position to survive. For national economic development, as well as for social stability of the country, it is urgently required to take appropriate actions to strengthen capacity of SME clusters and reactivate cluster enterprises over the country.
- 2) Most cluster enterprises are independently operating their business though they are geographically concentrated. Even though cooperatives are formed, little collaboration in production and marketing is observed among cluster enterprises (in both homogeneous and heterogeneous production activities). Marketing is mostly practiced through intermediaries, market demands are not informed to cluster enterprises. It is therefore recommended that the functions of cooperatives be reviewed from the viewpoint of clustering and that a new strategy be introduced in promoting collaborative activities and linkages in SME clusters.
- 3) Various models for clustering have been developed, including the diamond model of Michael Porter (1990). Through the operation of three pilot clusters in the course of this Study, it is found that the “social capital“ is an additional condition to the Porter’s model (i.e., demand condition, factor condition, related/supporting industries, and firm strategy/structure and rivalry). The social capital will involve “trust building”, “internal bonding”, “social/community networking” and “passion”. To make cluster enterprises dynamic, the formation and consolidation of the social capital is of prime importance in Indonesia. The cluster strengthening programs should therefore pay utmost attention to the consolidation of the social capital in enterprises clusters.
- 4) For the formation and consolidation of the social capital, a bottom-up approach or participatory approach is to be taken, as a top-down approach is found

difficult to change mind of cluster enterprises. Motivation to change should be created by themselves. It should also be recognized that it takes time to successfully apply the bottom-up approach and to set a common target of mutual interest among cluster enterprises.

- 5) Cooperatives have been formed in most clusters though there exist member and non-member of cooperatives in clusters. Three pilot cluster operations intended, at the initial stage, to motivate and mobilize as many cooperative members as possible. However, it has been found difficult to mobilize members who have no willingness to improve. If cluster enterprises, either cooperative members or not, have “passion” to step forward, they can be classified into “potentially viable SMEs”. With the limited resources made available, it is recommended that cluster enterprises having willingness or passion to improve be selectively attended for capacity strengthening. This selective approach should be affirmed by MOCSME and other stakeholders. Those having no willingness or passion should be separately attended for re-training/education for a paradigm shift.
- 6) It is generally observed that cooperative activities have emphasized cooperation among SMEs and set aside competitiveness. Cluster enterprises have been kept unaware of the progress made in rivals and competitors and changes in the market. Kebumen roof-tile cluster, for instance, was shocked to know the competitor (Jatiwangi) and motivated to form a cluster consortium. It is recommended that the principle of “3C” (Cooperation, Competition and Concentration) be applied as a basic strategy to strengthen capacity of SME clusters.
- 7) A fair competitiveness is unattainable unless information is evenly distributed to SMEs and clusters. A mind of distrust has been created in fact among cluster enterprises due to uneven delivery of information. It is therefore recommended that an open information system be established to secure the 3C strategy for strengthening capacity of SME clusters. It is also recommended that a demand-driven service delivery system be worked out not only for provision of information but also for business development services.
- 8) Most cluster enterprises are engaged in labor intensive industries. Consequently, technological improvement is of prime importance in capacity strengthening. While ordinary BDS pays more attention to marketing and management issues, BDS for SME clusters should be guided to provide more technical advice and production management based on technical improvement. In the event that the BDS provider or cluster facilitator has insufficient capability to guide the SME

clusters in a technical aspect, some specialized technical institutes should be mobilized in consultation with the local authorities and universities.

- 9) Viable SMEs can be attended by BDS providers but attendance of potentially viable SMEs in clusters seems to be difficult besides by the private sector. Cluster enterprises still require public support in securing information, technical improvement, and various training. Academic support is also required to solve technical and managerial difficulties. It is therefore recommended that a Public-Academic-Private Partnership (PAPP) be set up to strengthen capacity of SME clusters.
- 10) Capacity strengthening through PAPP cannot attend to all SME clusters extensively. In view of the current economic position of Indonesia and the limited resources made available, priority will be given to the export-oriented SME clusters and their linkage with the related cluster enterprises. It is suggested that a consensus be reached on the priority target of cluster strengthening.
- 11) Cluster strengthening involves many stakeholders, e.g., central and local governments, public agencies, academic circles, private institutions and entities. To coordinate with such stakeholders, it is recommended that a provincial/local forum be set up in line with the decentralization policy and PAPP strategy. A case of the Provincial Forum established in Central Java should be further evaluated to work out a management system of the proposed forum. When the provincial/local forums are set about, it is proposed to evaluate the necessity and sustainability of a national forum or committee to be formed for coordination and promotion of cluster strengthening at the national level. It is therefore recommended that a further study be conducted to formulate the Cluster Forum.
- 12) Under the given condition of 10 sample clusters, the Study has paid less attention to regional networking/linkage promotion outside the clusters. To make the cluster approach more effective, it is desirable that capacity is not limited to specific SME clusters but expanded to promote linkage with SMEs outside the cluster. It is particularly applicable to a few percentages of viable SMEs who would become dynamic with such extended linkages. It is therefore recommended that linkages and clustering be promoted in a wider range under management of the proposed forum at the provincial and local levels.
- 13) The provincial forum should selectively promote capacity strengthening of SME clusters. Priority may be accorded to the export-oriented clusters, as noted before, and the cluster enterprises that are capable of changing into dynamic clusters in the light of market conditions. It is therefore recommended that a developmental enterprise (as defined by the Best's dynamic cluster model) be

linked more effectively with other developmental enterprises outside the cluster than the enterprises within the cluster until the social capital is consolidated in such SME clusters.

- 14) How to motivate the cluster enterprises is the most significant issue in strengthening capacity of SME clusters. Three pilot cluster operations under the Study have revealed that it is indispensable to have a cluster facilitator for each SME cluster. With the JICA and local experts jointly working as a Cluster Facilitator, Kebumen roof-tile cluster and Klaten furniture cluster have come to know the non-competitiveness to work independently and formed collaboration groups voluntarily in the clusters that are different from the top-down guided cooperatives. It is therefore recommended that the Cluster Facilitators be appointed to the potential clusters and motivate cluster enterprises to step forward.
- 15) Since 2001, MOCSME has been promoting BDS to clusters (one cluster in each regency in principle). Although it is premature to evaluate the outcomes of MOCSME's cluster BDS, it is found that the capacity of BDS providers should be more enhanced to effectively facilitate socialization, innovation of technology, marketing and management of cluster enterprises. It is therefore recommended that the MOCSME's program be further strengthened for capacity building of the service providers and make them serve as Cluster Facilitators. A recently formed BDS Association and LPM of universities should also be encouraged to collaborate in the capacity building of Cluster Facilitators.
- 16) The pilot cluster operations have endorsed that clustering is a learning process. Although the Study has compiled a Guideline for Cluster Facilitator, it is recommended that the Guideline be refined by incorporating the experience accumulated by BDS providers and other stakeholders related to the cluster strengthening. Expectedly, the JICA Guideline will serve as the first edition in this context.
- 17) Through JICA pilot operations at three clusters, a large number of lessons have been learned as reported in the Pilot Project Report. These lessons, together with lessons learned by MOCSME's BDS program, should be widely referred to in promoting capacity strengthening of SME clusters. The dissemination workshops and 3-day training were held by JICA at the end of this Study. It is recommended that the GOI and local experts disseminate these lessons to Cluster Facilitator and cluster enterprises as far as possible.
- 18) JICA pilot operations at three clusters have encouraged SMEs to work out a 10-year vision and 3-year medium plan with a 1-year action program. This action

program has been attended by JICA experts and the clusters have been well motivated. As suggested by Prof. Schmitz (see Pilot Project Report), it is recommended that operations of these pilot clusters be monitored and evaluated periodically by GOI and the local experts and that required advices be extended at least during the period of the 3-year medium plan.

- 19) JICA pilot cluster operations have also revealed that some educational strengthening programs are required for capacity strengthening of SME clusters. For instance, a large number of cluster enterprises are not equipped with basic knowledge in accounting and technical drawing, as well as spirits of entrepreneurship. For the capacity building of them, appropriate measures should be taken to strengthen some educational programs to meet the requirement of market-oriented industries. It is therefore recommended that MOIT and MOCSME discuss with the Ministry of Education and take appropriate measures in basic education.
- 20) Most SME clusters have less impact on the environment compared with the mass-production type industries. However, utmost attention should be taken to mitigate the negative environmental impacts in promoting SME cluster strengthening. For instance, village teak cultivated in Klaten furniture cluster should be encouraged, and resource saving technology must be enhanced. Since most SME clusters are developed in close vicinity of the urban area, it is imperative to pay utmost attention to prevent any pollution in clusters. It is recommended that a cyclical and environment-friendly society be pursued in the communities where SME clusters are located.
- 21) With a reform in the banking sector, the Bank of Indonesia and private banks are paying more attention to the SME sector. Since capacity strengthening of SME cluster requires financial support, it is expected that the banking sector would be more actively involved in the cluster strengthening programs. Banks may be invited to the proposed Cluster Forum and encouraged to tighten linkages with Cluster Facilitator to extend loans to viable and potentially viable SMEs in clusters. It is recommended that a closer relationship be maintained with the banks in capacity strengthening of SME clusters.
- 22) Large enterprises are supporting SMEs as a return to the society (e.g., the case of KKB under ASTRA). Desirably, such programs of large enterprises would be integrated by formulating a Cluster Foundation. The Foundation, if formed, can more effectively support cluster enterprises through the Cluster Forum and Cluster Facilitator. It is recommended that such an idea be discussed among large/state enterprises and the ministries concerned.



- 23) The JICA Study is proposing 12 Action Programs as presented in Chapter 5. For each program, it is necessary to set up an institutional framework for implementation. It is recommended that EKUIN, MOIT and MOCSME take initiative to form a task force and nominate the responsible institution for each Action Program. The recommended actions should be taken immediately as they are urgently required by SME clusters.
  
- 24) Although this Study has been conducted to activate SME clusters and make them dynamic, it appears feasible that the cluster theory is applied to such other industrial activities as agricultural, commerce and other service industry. For instance, a production centre could be formulated and strengthened by clustering, regardless of either agricultural, agro-processing or service industries. Agricultural cooperatives might also be strengthened by means of the cluster and/or value chain approach. It is recommended that the application of clustering be studied more widely to accelerate and strengthen economic and social development of Indonesia.

# ANNEX

## 1. STEERING COMMITTEE MEMBERS

<i>Coordinating Ministry for Economic Affairs*</i>	
Dr. Ir. Dipo Alam	Deputy IV Coordinating Minister for Economic Affairs, Division of Industry, Trade and SME Empowerment
Drs. Djadmiko	Assistant Deputy IV
Dra. Wiwie D.S. MM	Head of SME Deputy IV
<i>Directorate General of Small and Medium Industry and Trade Ministry of Industry and Trade**</i>	
Ir. Agus Tjahajana Wirakusumah, SE, MSc	Director General of Small and Medium Industry and Trade
Drs. Nurdin Noor, MA	Secretary of Directorate General of Small and Medium Industry and Trade
Ir. Ramon Bangun, MBA	Head of Division for Extension Services and International Cooperation
Ir. Eddy Siswanto, MAM	Head of Division for Program Development, Directorate of Metal and Electronics Industry
<i>State Ministry of Cooperatives, and Small and Medium Enterprises**</i>	
Dr. Noer Soetrisno	Deputy Minister of SME and Cooperative Resource Assessment
Ir. I. Wayan Dipta	Assistance Deputy of Cooperation Resource Assessment
Drs. Hendrianto	Head of Planning and Monitoring
<i>National Development Planning Agency</i>	
Dr. Soekarno Wirokartono	Deputy Minister of National Development Planning Agency, Head of NDPA Economics Division
Ir. Eiko Whismulyadi, MA	Director of SME and Cooperative Empowerment
<i>Ministry of Finance</i>	
Drs. A. Anshari Ritonga	Deputy Minister of Budgeting
<i>Ministry of Home Affairs</i>	
Drs. H. Ardi Partadinata, MSi	Director General of Village Community Development

\* Coordinating Agency

\*\* Counterpart Agencies

## 2. STUDY TEAM MEMBERS

Hajime Koizumi, Mr.	Team Leader
Munenori Tada, Mr.	Sub-leader / Regional Economic Development
Tetsuya Ishii, Mr.	Participatory Approach / Capacity Building
Tarou Tsubogou, Mr.	Pilot Operation (Kebumen)
Maiko Otsuru, Ms.	BDS / Pilot Operation (Klaten)
Yuki Kobayashi, Ms.	Finance
Hubert Schmitz, Prof.	Cluster Analysis A
Henry Sandee, Dr.	Cluster Analysis B
<i>Metal component and machinery clusters</i>	
Takeshi Izumi, Mr.	Sector Leader / Institutional Development
Kazuo Yamane, Mr.	SME Development/Technical Advisor (Sidoarjo)
Shinichi Yabuki, Mr.	SME Development/Technical Advisor (Sidoarjo)
Naoyoshi Yoshida, Mr.	Metalwork
<i>Export oriented clusters</i>	
Youichi Matsui, Mr.	Sector Leader / Institutional Development
Ayako Ishiwata, Ms.	SME Development / Pilot Operation (Sidoarjo)
Yoshifumi Motoyasu, Mr.	Wooden Furniture / Technical Advisor (Klaten)
Yuzuru Yamakawa, Mr.	Rattan Furniture
Amos, Mr.	Gambier
Minoru Nagai, Mr.	Essential Oil
<i>Indigenous products clusters</i>	
Takashi Saitou, Mr.	Sector Leader / Institutional Development
Toshiyuki Saitou, Mr.	SME Development/Technical Advisor (Kebumen)
Moeljarno Djojmartono, Mr.	Agricultural Tools
Suyanto Pawiroharsono, Dr.	Tofu and Tempeh
Aizou Tanaka, Mr.	Roof Tiles
Kenji Kato, Mr.	Roof Tiles

### 3. LIST OF DOCUMENTS

Documents	Language	Submission Time
<i>Report</i>		
Inception Report	English, Indonesian	Nov. 2001
1st Progress Report Main Report Study on 10 Sample Clusters Study on Theory and Practice of SME Clusters in Indonesia	English, Indonesian English, Indonesian English, Indonesian	March 2002
Interim Report Main Report Cluster Development Strategies (for 10 sample clusters)	English, Indonesian English, Indonesian	Sep. 2002
2nd Progress Report Main Report	English, Indonesian	Mar. 2003
3rd Progress Report	English, Indonesian	Aug. 2003
Draft Final Report Summary Main Report Pilot Report	Japanese, English Japanese, English, Indonesian English	Oct. 2003
Final Report Summary Main Report Pilot Report	Japanese, English Japanese, English, Indonesian English, Indonesian (PDF)	Mar. 2004
<i>Working Papers</i>		
National Workshop Report	English	Mar. 2002
National and Regional Workshop Report	English	Mar. 2004
Cluster Development Guideline	English, Indonesian	Mar. 2004
<i>Video</i>		
The Study on Strengthening Capacity of SME Clusters in Indonesia: Video Report	English, Indonesian	Mar. 2004
<i>Homepage</i>		
<a href="http://ilmea.dprin.go.id/jst-sme-cluster/index.php">http://ilmea.dprin.go.id/jst-sme-cluster/index.php</a>	English	—