No.

Japan International Cooperation Agency (JICA)

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

PILOT PROJECTS REPORT

- Steps taken towards Dynamic Cluster -

Part 1 Pilot Metal Cluster, Waru - Sidoarjo
Part 2 Pilot Wooden Furniture Cluster, Serenan - Klaten
Part 3 Pilot Roof-tile Cluster, Kebumen
Part 4 Pilot Project Review : Lessons learned from the JICA Pilot Projects

MARCH 2004

KRI International Corp.

MPI
JR
04-066

Currency Equivalents
(Average Exchange Rate in
January to December 2003)
US$1 = Rp.8,000

(Unless otherwise specified)

THE STUDY
ON
STRENGHTENING CAPACITY OF SME CLUSTER
IN INDONESIA

PILOT PROJECT REPORT

CONTENTS

Part 1

Pilot Metalwork Cluster

Waru - Sidoarjo

- Steps Taken towards Dynamic Cluster -

A. Cluster Profile
B. Strategy and Action Programs
C. Program Operation
D. Program Evaluation

A. CLUSTER PROFILE

A.1 Background of Waru-Sidoarjo Cluster

A.1.1 Location

The metalwork cluster in Sidoarjo Regency is located adjacent to the second largest city in Indonesia, Surabaya. Its advantage of location is the major factor that has supported the growth of the cluster, situated between the airport and Surabaya with seaports nearby. Despite such advantage of location, the land cost is relatively low in comparison to the main city area. The highest concentration of the cluster is found in an area of 10 km^2 spread across five villages in Waru District as circled on the right map below (Map A.1). These villages are Ngingas, Wedoro, Kurekasari, Kedungrejo, and Waru. Approximately 300 SMEs are engaged in metalwork in Waru. There are many large enterprises near the cluster including Maspion, Boma Bisma Indra, Garuda, and Barata. Some SMEs in Waru directly or indirectly receive orders from nearby large-scale enterprises. Seven industrial districts are also located near the cluster.

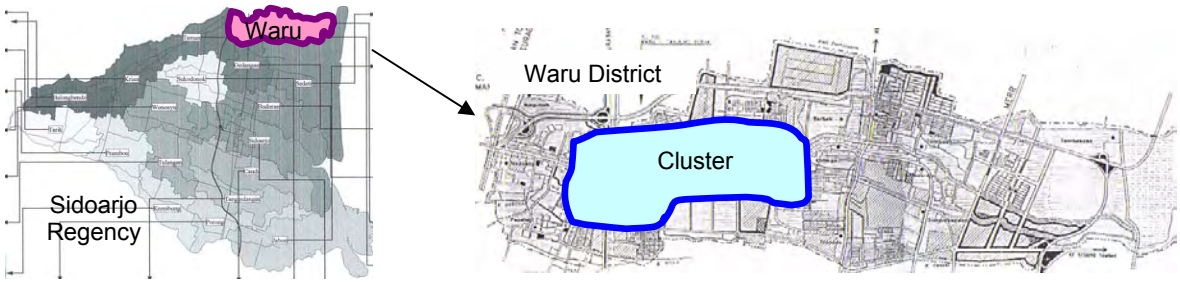


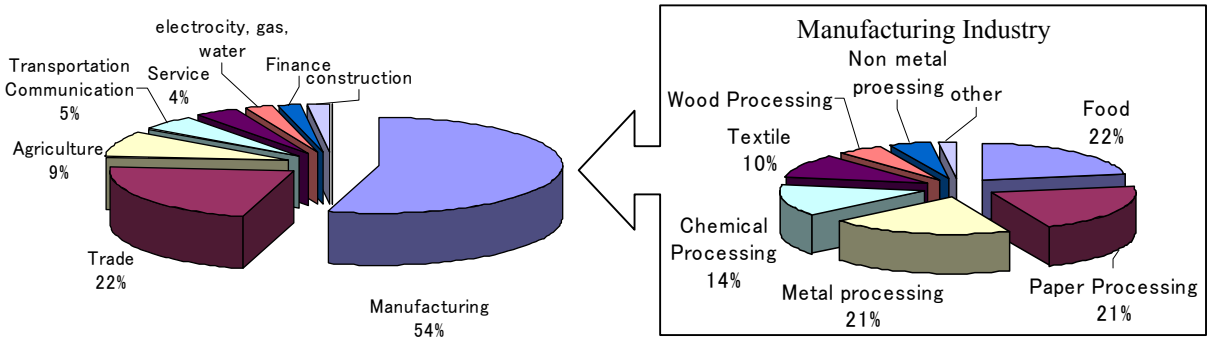
Figure A.1 Location of Waru-Sidoarjo Metalwork Cluster

A.1.2 Brief History

Sidoarjo has been active in trading since the 11th century, and the metalwork cluster has developed in a natural progression since the Colonial era. Its origin is said to have initiated with three blacksmiths who produced simple metal tools such as knives, sickles, and hoes. Their success attracted the descendents to follow the footsteps and established separate companies. Backed by the population growth, the size of SMEs grew rapidly to form the cluster. Many SME owners in Ngingas village, where the highest concentration of the SMEs is observed, are said to be the descendents of the same family. Yet, family links have not necessarily lead to establishing close business linkages.

A.1.3 Economy

Sidoarjo Regency, located close to the centre of East Java, enjoys favourable economic conditions. The Regional Gross Domestic Product per capita in Sidoarjo was approximately Rp. 6 million in 1999 (current prices). The manufacturing industry is the major source of income, accounting for 54% of RGDP, followed by trading, 22%. The metalwork industry is one of the three most important industrial sectors in Sidoarjo (Figure A.2), representing 21% RGDP in the manufacturing sector. During the last 5 years, the population of Sidoarjo has grown annually at a rate of 3% on average.



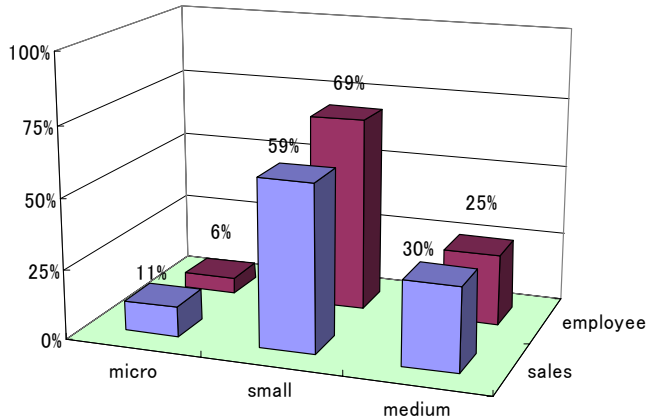
Source : BPS-Sidoarjo (2001) Sidoarjo Regency in Figures 2001

Figure A.2 Distribution of RGDP in Sidoarjo in 1999

A.2 Cluster Characteristics

A.2.1 Size of SMEs

The majority of metalwork SMEs in Sidoarjo are small in scale, having 12 employees and annual sales value of Rp. 700 million on an average in 2002.



Employee - Micro (1-4 per.), Small (5-19 per.), Medium (20 per. - 99 per)

Source : JICA Study Team (2001) Cluster SME Sample Survey

Figure A.3 Distribution of SMEs by Size

A.2.2 Cluster Type

The metalwork clusters can be classified into two types in general. The first type of the clusters produces a homogeneous product such as the surgery instrument cluster in Sialkot, Pakistan and cutlery cluster in Tsubame, Japan. The homogenous cluster is formed by a strong demand from the market, primarily overseas. The other type of the clusters produces heterogeneous products such as Outa-ku, Tokyo and East-Osaka in Japan. The second type can be compared to a department store of component technologies in metalwork. The heterogeneity of the products is created by the market diversity that has most likely developed in locations close to urban areas. The linkage among SMEs in the heterogeneous type can be established on the basis of technological component in which each SME is competent.

The Sidoarjo metalwork cluster applies to an example of heterogeneous cluster. In early days, the cluster manufactured only agricultural tools; yet, the commodities gradually diversified in response to the market opportunities. The products of the cluster are categorized into

a) spare parts for automobiles and motor-bicycles,
b) parts for telecom and electronic networks,
c) bicycle parts,
d) agricultural tools,
e) house-ware, and
f) construction material for building.

Because of the diversity, marketing channels of cluster SMEs are different. Moreover, the fact that each enterprise is not specialized in a particular process causes limitations in developing linkages among SMEs. The leading firms find their subcontractors not only in the cluster but also in other areas. Their choices for subcontracting are based on capability and price rather than the geographical proximity.

Examples of Products in the Cluster

A.3 Determinants of Cluster Dynamism

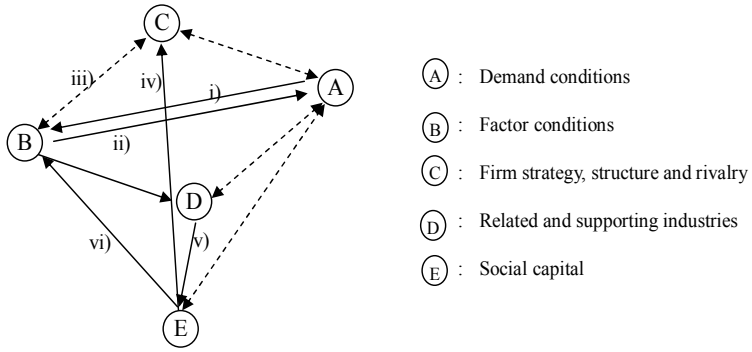


Figure A.4 Correlation among the Determinants for Cluster Development

Ⓐ Demand Conditions

The market condition is the main hindrance to development of the cluster. Indonesia, with a population of over 200 million, has a large demand for low priced products. Accordingly, most SMEs in the cluster have been serving for the low quality domestic market. Traders dealing with the cluster are concerned only with prices and do not make any attempt to improve quality. A shovel, for example, has a quality variation from A to D. The majority of orders coming to the cluster are C and D level shovels; the two lowest qualities.

i) ⇩

Ⓑ Factor Conditions

Receiving no incentive from the market, SMEs do not place priority in quality upgrades. Consequently, the production process is underdeveloped among SMEs. There are two serious defects. Firstly, SMEs often receive an order based on a sample. Without confirming the measurement on a drawing, SMEs produce the product by imitating the sample. This results in imprecise measurement. Secondly, most SMEs do not carry out an inspection before delivery. Traders, who are also not conscious of the quality, rarely return the products.

ii) ⇩

Ⓐ Demand Conditions

Due to lack of thought given to quality upgrade, the supply from the cluster is not linked to demand from higher markets nor from larger enterprises.

iii) ⇩

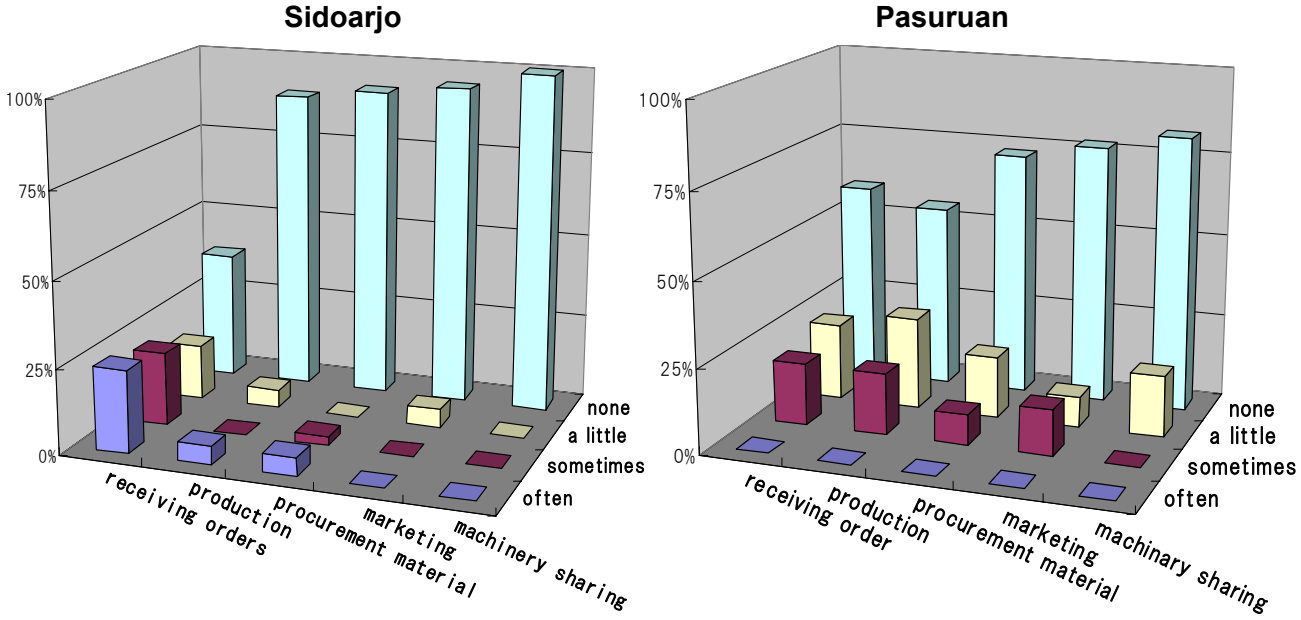
Ⓒ Firm's Strategy, Structure and Rivalry

Because SMEs compete against each other not on quality but on price, SMEs producing the same goods are not differentiated from each other. Buyers move to neighbouring SMEs as long as they agree to sell at a lower price. Thus unhealthy competition has developed in the cluster.

iv) ⇩

Ⓔ Social Capital

Unhealthy competition has undermined the social capital over time. In the late 1980s, the cooperative attempted to group its members based on a product type; however, this was unsuccessful due to distrust among member SMEs. The low level of cooperation among SMEs is observed in the comparison to the questionnaire taken in Pasuruan metalwork cluster in East Java 50 km away from Sidoarjo. Stimulated by the demand from the motor bike accessories sector, the Pasuruan metalwork cluster has rapidly developed over the last 5 years. Although the Pasuruan cluster does not have any cooperative, the social capital is higher in Pasuruan than Sidoarjo. Figure A.5 below shows that the relationship among SMEs in Sidoarjo is primarily based on business while SMEs in Pasuruan enjoy weak, but various linkages.



Source : JICA Study Team (2001) Cluster SME Sample Survey

Figure A.5 Type of Cooperation among Cluster SMEs

v) vi)

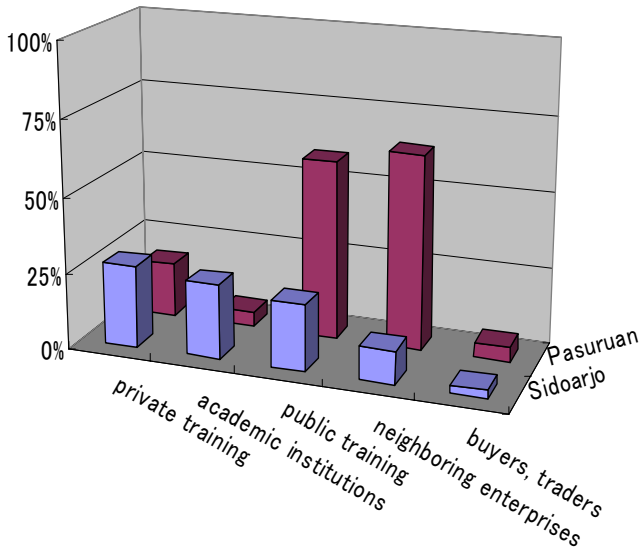
Ⓓ Relatedand Supporting Industries

Although the Sidoarjo metalwork cluster is in a favourable situation in terms of institutional development, the low level of social capital undermines the usefulness of supporting institutions. Waru Buana Putra Cooperative, established in 1978, has been serving for development of the cluster. Its main activities are to promote market

Ⓑ Factor Conditions

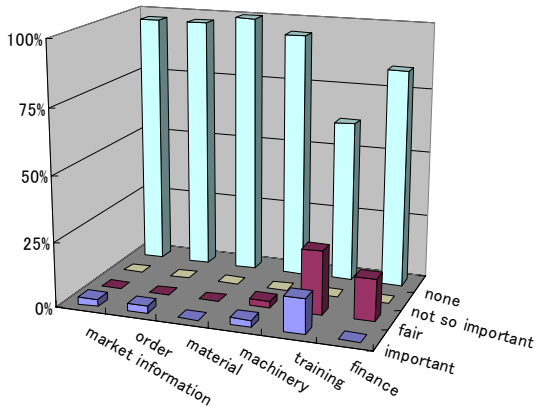
Although one strength of the cluster is diffusion of technology from neighbouring SMEs, the low level of social capital led to concealing information from each other. Contrary to SMEs in Pasuruan, SMEs in Sidoarjo do not consider that the neighboring SMEs are a major source for their technical upgrades (Figure A.6).

by organizing exhibitions, to negotiate with the government and donors in introducing programs, to provide emergency credit, and to mediate between banks and SMEs. In addition, KKB Astra, founded and supported by the Astra Foundation, is located in the Cooperative building and provides marketing, financial, and technological assistance in coordination with the cooperative. KKB dispatches technical experts from various institutes depending on the requirement. However, the survey results shows that SMEs do not place importance on the activities of the cooperative. The respondents' evaluation on the cooperative is mainly related to training and finance with a limited impact (Figure A.7).



Source : JICA Study Team (2001) Cluster SME Sample Survey

Figure A.6 Source of Technological Upgrade



Source : JICA Study Team (2001) Cluster SME Sample Survey

Figure A.7 Evaluation on the Type of Assistance from the Cooperative

B. STRATEGY AND ACTION PROGRAMS

B.1 Vision

Most SMEs in the Sidoarjo metalwork cluster are currently producing low-quality goods. They attempt to compete with other SMEs not on quality but on price and are consequently trapped in a circle of price competition in low-quality markets.

There are two options for each enterprise to take for its business upgrading. One is to produce a better quality final product. The other is to produce components for larger enterprises. The former case requires either involvement of demanding buyers in terms of quality or self-innovation effort by SMEs. The latter strategy requires SMEs to maintain QCD (quality, cost, punctual delivery) under the instructions of larger enterprise. Figure B.1 below shows the possible paths each enterprise may take.

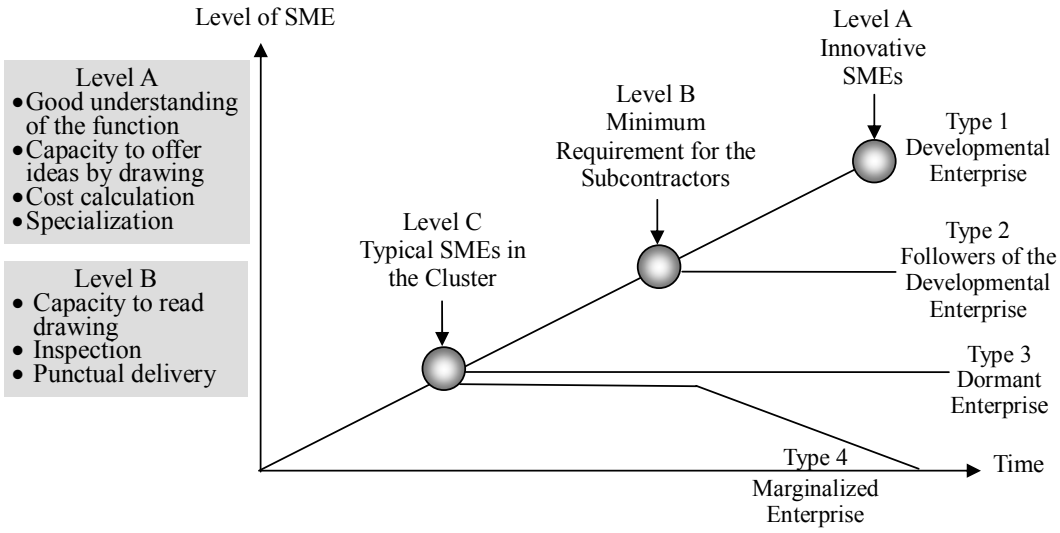


Figure B.1 Developmental Paths of the Metalwork SMEs

A few SMEs in the cluster have reached Level B, and none has attained Level A. The majority are in Level C. The most important factor for SMEs to move from Level C to Level B is the motivation of the SMEs to make an effort, or in other words, exhibit *entrepreneurship*.

An ultimate goal of Sidoarjo metalwork cluster, therefore, is to create a core of innovative SMEs to lead the cluster into the dynamic cluster while the linkages within the cluster and with the external stakeholders support the growth.

B.2 Strategy

B.2.1 Short-term Strategy

In the short-term, SMEs must become motivated to upgrade. Through contacts with larger buyers, they need to be aware of the requirements of potential buyers. At the initial stage, three factors are essential for upgrading.

- The first is factory management. Without improving production and quality management, SMEs do not meet the requirements as the subcontractors.
- The second factor is importance of production and inspections based on drawings.
- The third factor is to consider function of a product so that SMEs can design products based on their own ideas rather than simply imitating a sample.

To support the initiatives of SMEs, two conditions have to be met. The first is facilitation of information flow so that SMEs can reach necessary information. The second is to identify an effective supporting system for the cluster development with participation of the public and private sectors.

B.2.2 Mid-term Strategy

After SMEs become motivated, they obtain orders from larger enterprises and practice QCD (quality, cost, and delivery). This can be realized by demonstrating a higher level of 5S, inventory control, production control, and quality control. More importantly, they have to produce and inspect based on drawings. SMEs assist each other in upgrading and, at the same time, compete not by price but by quality. The supporting institutions also practice an effective system in assisting SMEs.

B.2.3 Long-term Strategy

Each SME finds a component technology, in which it specializes, and establishes a financial management system to upgrade the machinery. The cluster becomes a component market in the metalwork sector, capable of producing high quality goods. A vertical industrial

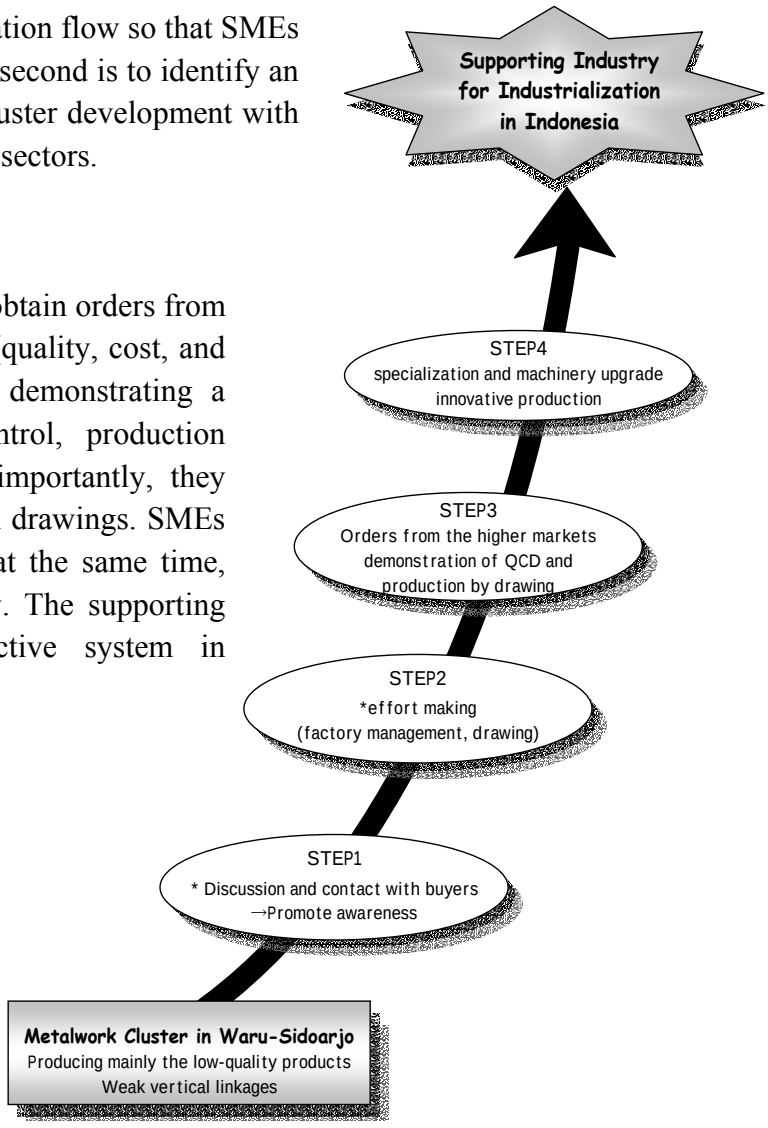


Figure B.2 Steps Towards the Dynamic Cluster

linkage is created, and the cluster acquires a status of a supporting industry.

B.2.4 Approach to Cluster Development

In promoting the cluster, three approaches have been simultaneously taken; i.e., (i) upgrading of individual SME, (ii) strengthening linkages within the cluster, and (iii) strengthening linkages with external stakeholders.

(i) Technical Upgrading of Individual SMEs

A low level of factory management and negligence of drawings are the two main problems among SMEs. To change business practices, the Pilot Project attempted to motivate SMEs by offering a series of workshops, joint production, and joint meetings with larger enterprises. Concurrently, one-on-one consultation was extended to deal with specific needs of individual SMEs and to direct them to practice what they learned in the workshops.

(ii) Strengthening of Linkage within the Cluster

The Pilot Project has facilitated information flow and cooperation among SMEs by holding workshops, joint production, and visiting factories of other SMEs. It was intended that the less advanced SMEs would learn from the leading SMEs through this process.

(iii) Strengthening of Linkage with Outside Stakeholders

Located close to Surabaya, the cluster is favoured by external stakeholders including R&D institutions, universities, and BDS providers. After identifying the topics that the cluster could not solve internally, assistance was sought from external stakeholders. The Pilot Project mobilized many external stakeholders and sought for methods to strengthen the linkages with them.

B.3 Pilot Project: One-year Action Programs

B.3.1 Lines of Action Programs

Table B.1 Line of Action Programs (Sidoarjo)

Program Name	Objective / Content
1. Guidance	At the initial stage, workshops were held to form the Working Group and POU and to share good understanding of the pilot project. The workshops were repeatedly held during the pilot project to review its purpose and progress. An emphasis was placed on development of entrepreneurship.
2. Development of the Core Products	A collaborative production program was implemented in order to let SMEs experience an innovative production process.
1) Initial Planning	SMEs discussed and identified the products. They then undertook marketing research to identify specifications of the demand, marketing method, and profitability of the product.
2) Designing	SMEs learned the function of the product and designed the product by drawing.
3) Experimental Production	SMEs implemented the experimental production.
4) Business Plan	SMEs learned the cost calculation method and produced a business plan for the product.
3. Factory Management	The program aimed at emphasizing the importance of factory management for improving productivity and becoming a subcontractor. It provided a series of workshops and factory visits to equip SMEs with knowledge to practice factory management.
1) 5S	5S is a well-known slogan in the cluster, but it has not been fully implemented. This program attempted to put the slogan into practice in order to organize placement of material and tools and to gain trust as a subcontractor.
2) Inventory Control	Calculating the optimal level of inventory was taught.
3) Production Control	Production control, using the Gantt chart, was taught.
4) Quality Control	Sampling method for inspection was taught.
5) Customized Consultation	One-on-one consultation was given to SMEs to practise higher levels of factory management.
6) Meeting with Potential Buyers	This program requested the buyer to express its requirement. On one occasion, SMEs visited a large company to observe the level of factory management practised, and on another occasion, a buyer came to the cluster and provided advice.

B.3.2 Program Implementation

To implement the action programs, a working group and a program operation unit (POU) were formed. The working group, comprised of the stakeholders from both public and private sectors, functioned as an advisory body during the Pilot Project. On the other hand, POU comprised of a few leading SMEs, the cooperative, and the cluster facilitator. POU was an integral part of the working group not only representing the voices of the cluster but also executing the Pilot Project.

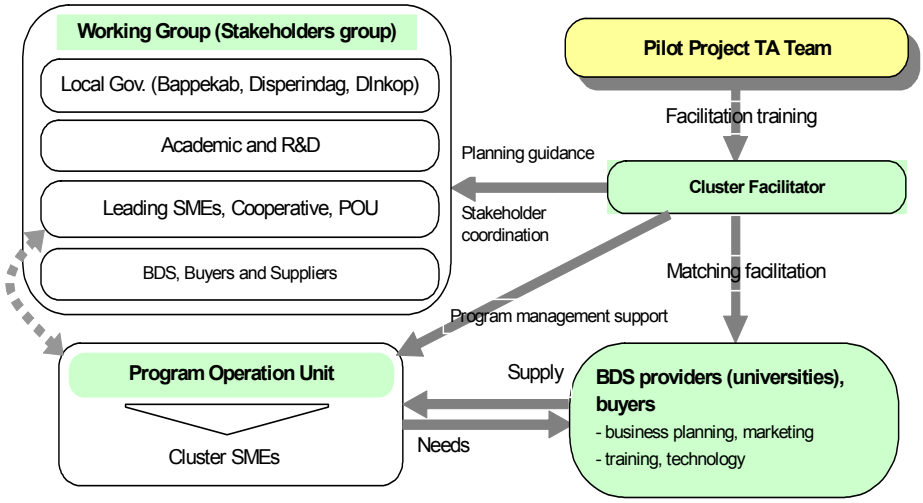


Figure B.3 Operational Structure of the Pilot Project

Table B.2 Members of the Working Group (Sidoarjo)

Name	Organization
Members of Government	
Mr. Vino Rudy Muntimumu	Head, Bappekab-Sidoarjo
Mr. Agoes Boedi Tjahjono	Head of Unit, Bappekab-Sidoarjo
Mr. Putu Sri Suyoga	Head, Disperindag-Sidoarjo
Mrs. Tipluk Lestari	Staff, Disperindag-Sidoarjo
Mr. Effendy	Head, Dinkop-Sidoarjo
Mr. Kusno	Head, Licensing and Capital Investment Agency - Sidoarjo
Mr. Irwan	Head, Disperindag-East Java
Mr. Syafril Fauzi	Head, Dinkop-East Java
Academic and R&D Members	
Mr. Saleh	Head, Balai Pelayanan Teknis (BPT)
Dr. Suharto	Chairman, LPM-Institute of Technology Surabaya
BDS and Traders	
Mr. Dicky Irwanto	Manager, KKB
Mr. Syafi'i Tamam	BDS Provider
Mr. Samsul	Chairman, Association of BDS Indonesia
Mr. Oke	Trader
Mr. Santosa	Trader
<Program Operation Unit>	
Mr. Miftakhul Ulum	SME
Mr. Imam Syafi'i Siddiq	SME
Mr. Abul Muchid	Head, Cooperative
Mr. Moh. Abbas	Supervisor, Cooperative
Mr. Winarko	Cluster Facilitator

B.3.3 Implementation Schedule

One-year action programs were executed in accordance with the schedule below.

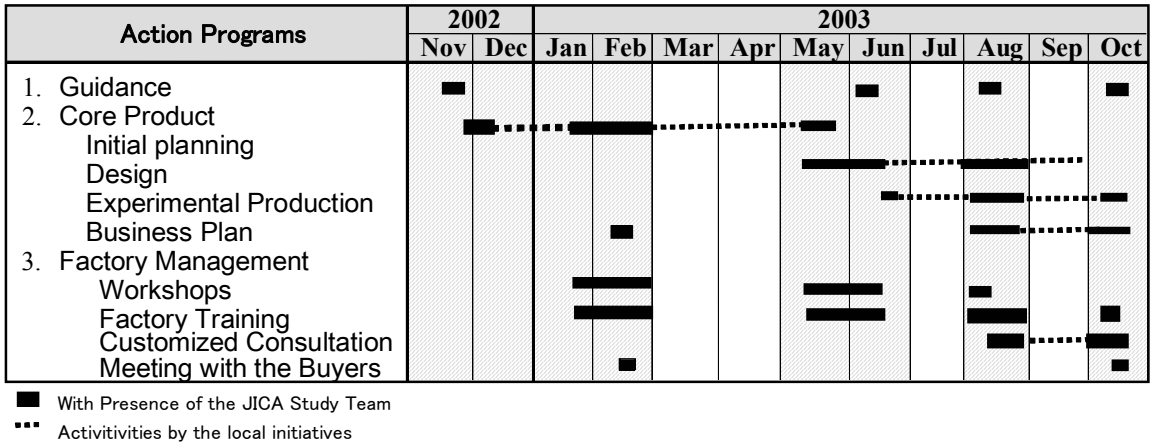


Figure B.4 Schedule of the Pilot Project (Sidoarjo)

The context of the action programs were modified as the Pilot Project progressed in a way to maximize the incentives of SMEs. The next section explains the process taken in the Pilot Project.

C. PROGRAM OPERATION

C.1 Initial Stage of Pilot Project Operation

C.1.1 Formation of the Working Group

Assumption 1

A local group who supports implementation of the pilot project must be established at the beginning of the pilot project.

After JICA Study Team explained the purpose and the function of the Working Group (WG) to the local government and the core cluster members, the local government officially appointed WG members. Both positive and negative aspects have been observed in establishing the Working Group at the beginning of the program operation.

The positive impact is that the key stakeholders were involved in the pilot project from the beginning. This was helpful in the cluster development planning with full involvement of the local stakeholders. On the other hand, there were three problems. Firstly, many members were appointed without knowing the purpose of the project. After explaining the WG function, many members were disappointed to learn that they were not paid for their participation. Secondly, many appointed members were heads of institutions. They frequently sent their subordinates to the meetings to act on their behalf. It was difficult to share understanding in progress of the pilot project while different members attended each meeting. Although members were not officially changed throughout the pilot project, the active members were identified by its completion. Thirdly, only two SMEs were appointed in the Program Operation Unit. Although there were other SMEs who became active in the pilot project, new members were not added. A consensus should have been reached at the beginning that membership could be dynamic.

Lesson 1: Working Group members can be changed dynamically so that the members are those who are fully involved in the cluster development.

- The members should join the Working Group after understanding the purpose and function of the Working Group. The membership should also be dynamic rather than static in order to adjust to the nature of activity, which calls for new stakeholders.

C.1.2 Appointment of a Cluster Facilitator

Assumption 2

A cluster facilitator is necessary to take the lead of cluster development, and a BDS provider should be appointed to the role.

Through lessons learned from the MENEKOP-BDS scheme, a BDS provider was appointed as a cluster facilitator at the beginning of the pilot project. The cluster facilitator closely worked together with JICA Study Team to implement the programs. There are some lessons gained from this experiment. Firstly, work of the cluster facilitator is laborious. The facilitator must have good insight about the direction in which the cluster must move. At the same time, he/she has to be sensitive to nurturing social capital in the cluster. The combination of the business and social development was found difficult for a specific person to undertake. His/her task has to be backed by good involvement of the cluster SMEs and the WG. It is more practical to assume that the cluster facilitator would be a group of experts (e.g., LPM in the university) rather than an individual. Secondly, the work of the cluster facilitator is time consuming and most likely not very profitable. It is difficult to expect that a profit-seeking company would undertake the full role unless WG carefully monitors the progress.

Lesson 2: The cluster facilitator has to be backed by SMEs and the Working Group.

- The cluster facilitator should have a good sense in both business and social development.
- It is unrealistic to expect that one single person can undertake this role without support.

C.1.3 Cluster Development Strategy

Assumption 3

The pilot project should be implemented on the basis of the Cluster Development Strategy.

In selecting the pilot project site, a baseline study and local workshops were conducted. Based on the analysis made in these initial activities, a Cluster Development Strategy was developed prior to operation of the pilot project. It was assumed that the pilot project would be implemented in accordance with this Strategy.

While it makes sense to have a good view on the direction of the pilot project prior to its implementation, actual implementation depends on the motivations of SMEs. As the pilot project progressed, a diversity of opinions in the cluster were identified. The action programs in the pilot project should not be imposed by external stakeholders

but developed by SMEs as part of the activities of the pilot project. A Cluster Development Strategy developed prior to the pilot project operation should be treated as a blue print. The Strategy should be reviewed and modified as one of the major activities in the pilot project.

Lesson 3: Action programs should be developed by SMEs themselves.

- A Cluster Development Strategy, if made prior to the pilot project operation, should be treated as a blue print and should be modified in the course of the project operation.

C.1.4 Advertising

Assumption 4

The activities in the pilot project should be widely notified to SMEs in the cluster.

The cooperative in Waru-Sidoarjo managed to call 20 SMEs, equivalent to about 7% of the total cluster SMEs, at the beginning of the pilot operation. The non-cooperative members, who comprised approximately half of the total number of cluster SMEs, were not informed of the pilot project. The pilot project attempted to reach these non-cooperative members and other cooperative members, but this proved to be difficult since the directory of the non-cooperative members did not exist. The village administration is only concerned about the residents and does not keep a company directory. It was also discovered that the information delivery method within the cluster was very poor.

There was no information delivery method to reach out to a group of SMEs. Staff resorted to door knocking when delivering information, which was a very time consuming task. However, without such efforts, the information would only be delivered to specific SMEs while the majority would be disregarded. This matter was discussed with the Working Group, but they seemed comfortable with the existing labor-intensive method of delivery as if they were unconcerned about inequalities created by the traditional method.

Lesson 4: Information System has to be developed in the cluster.

- The data on the SMEs should cover not only the cooperative members but also the non-cooperative members.
- One-to-x information delivery method should be developed to facilitate information flow in the cluster.

(more fully discussed in Chapter 5 in the Main Report)

C.2 Middle Stage of Pilot Project Operation

C.2.1 Core Products

(1) Selection

Assumption 5

SMEs should select a product which they are producing in common and should work together towards improvement.

There are many products in the cluster. To work on product improvement in the pilot project, certain products had to be targeted. SMEs were quite enthusiastic about the program idea and voluntarily held meetings. The Waru SMEs had repeatedly received donor intervention, which they claimed not fitted for their needs. SMEs wanted to make a change in this pilot project and were willing to make the decision by themselves. After lengthy discussions, SMEs took up a portable cooking gas stove and a propulsion system of a fishing boat as the core products. Furthermore, the fishing boat team prepared the questionnaire and went to the fishery villages to identify the demand specifications. Contrary to the intention by the JICA Study Team that SMEs select the existing products, the selected products had not been produced in the cluster. However, the initiatives of the SMEs were well respected. It was assumed that SMEs were not willing to work together on products, which were already in the market because of mistrust among them.

Nearby Fishery Village from the Cluster Sidoarjo has many fishery villages, which are famous for fishing shrimps.

Discussion on Core Products Selection

Lesson 5: Expecting that SMEs voluntarily select an existing product for a program is not realistic in the heterogeneous-product cluster unless the SMEs have trustful relationships among them.

- SMEs were not willing to cooperate on their existing products, and they felt more attracted to utilizing this occasion for challenging a new product. Selecting a new product made the program more challenging for SMEs. If existing products are to be targeted, the external stakeholder has to take a lead in selection.

(2) Implementation

Assumption 6

SMEs should learn a process of innovation through developing a new product.

Selecting new products for the action program caused confusion thereafter as some other SMEs questioned whether the portable cooking stove and propulsion system would deserve the name of the "core products". The direction of the program was also adjusted. An emphasis was placed on teaching the step-by-step process of product development, which equips the SMEs with skills in developing a core product in the future. The concept was ideal but was found to be too difficult for SMEs. Every step was an entirely new experience for the SMEs, and more guidance was needed than initially anticipated. While emergence of self-effort of SMEs was sought, they gradually lost confidence and indicated a desire to withdraw from the program. Then collaboration was requested to the ship building technical school in Sidoarjo and the Institute of Technology Surabaya to keep the program moving.

Lesson 6: Collaboration with external stakeholders should be arranged for those subjects that SMEs can't solve themselves.

- Learning innovative production process without collaboration from the external local stakeholders is too difficult for the cluster SMEs.

(3) Drawing

Assumption 7

SMEs should acquire basic skills in technical drawing.

Drawing was the most controversial issue in implementing the pilot program. In discussing the core product, it has been found that there is a fundamental lack of skills in technical drawing. Although drawings was considered essential skills in product development, SMEs insisted that creating drawings of the core products should not be included in their task. As a result of discussion, drawings were completed by the SMEs with the assistance of experts from Ship Building High school. However, general classes on drawing offered by the Institute of Technology Surabaya were cancelled in the middle of the course due to the low attendance. After discussing this issue with the Head of the Metalwork Industry Development Center (MIDC), he also expressed disappointment at the degree of indifference towards drawing by SMEs, claiming that drawing is a basic skill in metalwork.

Lesson 7: Negligence of drawing is a serious issue for the development of the metalwork industry.

- The pilot project failed to convince SMEs of the importance of drawing. To tackle this situation in the long-term, drawing skills should be equipped before graduating high school.

(further discussed in Chapter 5.2 (6) in the Main Report)

C.2.2 Factory Management

Assumption 8

To meet QCD requirements, the basics of factory management should be thoroughly taught by a combination of lectures and factory visits.

Various attempts were made to improve factory management of SMEs. Firstly, a series of workshops were held covering various topics on the factory management (i.e. 5S, inventory control, production control, and quality control). The workshops were followed by factory visits to encourage SMEs to practise what they learned in the workshops.

Konsultasi di suatu pabrik

The combination of workshops and factory visits thoroughly covering the factory management topics did not create any incentive to rectify the practice prevailed among SMEs. However, 5S was an exception. 5S is well-known in the cluster because the government subsidized paving and construction of shelves for implementing 5S in the mid-1990s. Hearing about 5S again, some SMEs were motivated and raised their levels of effort.

salah satu pabrik

Before implementing 5S

After implementing 5S

At a large factory in Surabaya. 5S is translated into 5R or 3K in Indonesia.

Cluster SMEs consider their main problem to be not factory management but machinery level. Then, a simpler approach was attempted. The importance of

production and quality control was stressed by showing simple examples from a small factory in Japan (below photos) in order to show SMEs that it is not machinery but the production process that matters. Regretfully, this approach also did not produce any impacts.

Lecturer from ITS trying to emphasize importance of the factory management

Examples of the factory management from a small factory in Japan, showed in the workshop

Observing the difficulty in making impacts on factory management in the cluster, sustainability of the factory management activities was sought by improving the knowledge of local experts. A three-day workshop was held on factory management for the local experts. Many attendants came from the larger enterprises, R&D institutions, universities, the local government, and private consultants. This activity was found to be useful for strengthening the linkage with the local experts for implementing the pilot project thereafter.

Seminar Tenaga Ahli Lokal

Lesson 8: A combination of workshops and factory level consultation by consultants was not effective in motivating SMEs to change production practices in Sidoarjo-Waru cluster.

- Incentive has to be provided by another method.
- 5S was implemented because of the subsidies granted in the past.

C.2.3 Study Trip to Japan

Assumption 9

A SME sent to Japan will be the leader in implementing the pilot project.

A representative of the cluster SMEs recommended by the Working Group was sent to Japan to study various networks in the country. He visited three types of networks in the metalwork industry; i.e. an industrial park led by an association, an informal network led by SMEs, and a strategic network led by a local government. As a consequence of the study, the

Study Trip in Japan

trained representative has understood the importance of cooperation and entrepreneurship.

After returning to the cluster, he proposed to other SMEs to form an informal network in order to discuss various issues. The leading eight SMEs agreed and joined the network. The network has not yet undertaken any concrete actions, but the members intend to cooperate and assist each other in those areas in which they have a common interest.

This is a very challenging move for the cluster. The network would provide SMEs with a chance to learn from each other. However, it has been difficult for the representative to share his experience in Japan with other members. He was the only person sent to Japan from the region, and no one could exchange ideas at the same level. Although the informal network studied in Japan stressed the importance of social capital and entrepreneurship, other members are likely to be more interested in short-term profits such as facility improvement.

Lesson 9: The trip to Japan on studying the SME networks has created dynamism in the cluster.

- However, the impact would have been greater if there were more than one person sent to Japan from the region.

C.2.4 Course Arrangement

Assumption 10

More SMEs may join in the program if the workshops are conducted on Saturdays and in the evenings.

In the pilot projects in Klaten and in Kebumen, SMEs preferred to have activities on Saturdays and in the evenings so that the activities do not hinder SMEs from business activities. Sidoarjo pilot project also attempted to hold the workshops on Saturdays and in the evenings, but SMEs refused to meet outside of business hours. They also claimed that they have to pay their employees overtime if they order them to attend in lectures in the evenings.

It is observed that the urban settings of the Sidoarjo cluster made the difference. The majority of SMEs commute from outside the cluster, and they are eager to go home as soon as the work is finished. On the other hand, villagers are used to be called for meetings outside of business hours. However, the newly established informal network in the cluster is reportedly enjoying meetings in the evening over drinks. This means that they do not mind spending evenings if the atmosphere is more relaxing.

Lesson 10: Cluster SMEs in the urban area are unlikely to spend their time for formal meetings and lectures outside of business hours.

C.3 Final Stage of the Pilot Project Operation

C.3.1 Core Products

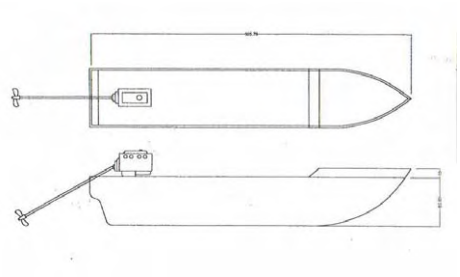
Assumption 11

Product development program will provide motivation towards innovative production.

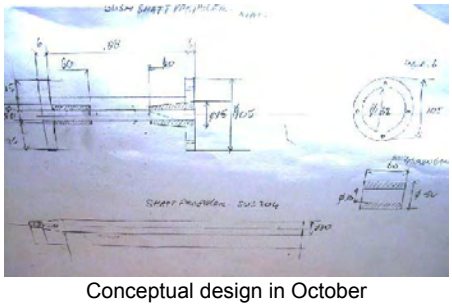
With the assistance of the ship building technical high school in Sidoarjo, SMEs have learned the functions of the propulsion system and managed to make a propeller based on technical drawings. The number of enterprises that participated in this program reduced as the program progressed, and the benefits have been enjoyed by a small number of SMEs. SMEs complained about the difficulty of the program and appreciated not the knowledge gained in the program but the outcome, i.e. the product. However, an obvious improvement was observed among the SMEs who participated in the program. SMEs have become capable of understanding the function of propellers. Moreover, those who had not been comfortable with manual drawing became more capable of sketching the design by hand. They intend to continue producing other parts of the propeller shaft. This may indicate that they are being stimulated towards the innovative production process. It is, however, too soon to make a full assessment on sustainability of their motivation.

Produced propellers

Gliding propeller



Conceptual design in March



Conceptual design in October

Lesson 11: A product development program may be one possible way to change the motivation of SMEs.

- A product development program is very challenging for SMEs, and the number of participants is small. However, remarkable progress can be observed among SMEs who participate in the program.

C.3.2 Factory Management

(1) Customized Consultation

Assumption 12

Customized consultation by a local expert may work better to give incentive to SMEs on factory management.

In the final stage, customized consultation was given to SMEs. This was directed by a local expert from the Institute of Technology Surabaya with assistance from the JICA expert. Although proposals were given to six most active enterprises in the pilot project, only the top company, a tier-2 subcontractor of a large enterprise, applied to this program. It was confirmed that other companies had no incentive to upgrade their factory management.

The topic given by the top company was to develop a methodology to maintain the angle of a particular product. The local expert solved the problem with advice from the JICA expert. Both the company and the local expert considered that the process of finding the solution was a useful lesson.

Product in question

Inspecting the variance of the angle

Lesson 12: Consultation on factory management is appreciated only by the SME that has the actual needs.

C.3.3 Matching with Buyers

(1) Raising incentive

Assumption 13

The potential buyers may have more impact on raising incentives towards the factory management than the consultants.

The last methodology attempted in the pilot project was to obtain advice from some potential buyers of the SMEs. The pilot project offered two opportunities to meet with the potential buyers. The main intention of the activity was to raise the incentive of SMEs to upgrade. However, SMEs were more interested in obtaining orders from these buyers than reflecting upon advice from potential buyers..

The first occasion that SMEs visited PT Yanmar Agricultural Machinery Manufacturing Indonesia did not bring about any success. PT Yanmar wanted subcontractors who could undertake simple work while strictly observing "quality, cost, delivery" (QCD). Although PT Yanmar stressed the importance of QCD, its advice was not practised by SMEs.

Visti to Yanmar

The second occasion was more promising in terms of creating a business linkage. It was a visit by Barata Indonesia. PT Barata has adopted a policy of subcontracting 60% of the parts and desperately needed good subcontractors.

visit by Barata

Previously, Barata had given a sample order to seven SMEs through the cooperative in the cluster; however, one SME had failed to observe the specifications of the order, and all samples were returned to the cooperative. It then took one month until Barata received the whole samples again. The business connection ceased after this. All contacts were made only with the cooperative and KKB, and Barata had not visited the cluster or contacted the SMEs directly. The visit arranged during the pilot program helped to improve this situation. Barata learned the capabilities of SMEs and was hopeful to resume business.

The example of the sample order from Barata shows difficulty in joint sales due to the different technological capability among SMEs. Facilitating the direct meeting between the buyers and SMEs is more effective than coordinating the sales. While the

interest had shifted to obtaining a job order, SMEs did not appreciate suggestions from Barata to observe QCD and drawing.

Lesson 13: The visit by a potential buyer to SMEs is more effective than the visit to a buyer by SMEs.

- "The visit by the buyer" is a more practical approach to create a business linkage than "the visit to the buyer" since the buyer can identify the capability of each SME in the former.
- In any case, the discussion with potential buyers has failed to create incentives to improve the factory management among the SMEs.
- The majority of SMEs in the cluster are unlikely to improve the factory management unless they are faced with a situation in which the practice directly influences their revenue.

(2) Receiving a visit

Assumption 14

SMEs shall courteously receive visits of potential buyers.

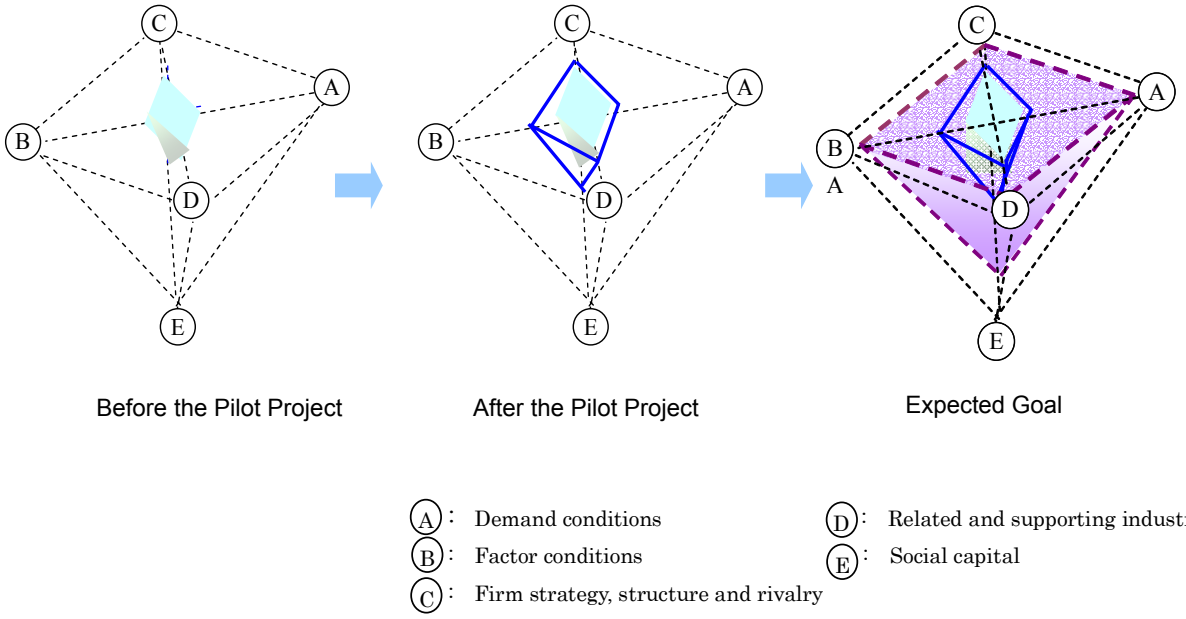
The visit of Barata was requested by SMEs who were willing to receive orders. The organizer intended Barata to leave with a good impression of the cluster and to allow sufficient time for discussion. The program was supposed to start with a welcoming ceremony in the meeting hall, followed by visits to SMEs in the morning, and a lunch-on-discussion afterwards. However, SMEs did not attend the welcoming ceremony and stated that they preferred to wait for Barata at their individual factories. On one occasion, an owner appeared in casual shorts when Barata had already left the reception for ten minutes. Another SME did not attend the lunch-on-discussion, claiming that they had not intended to have lunch on that day. Furthermore, no SMEs waited for Barata to see them off. Although Barata did not appear to be affected at all, such behaviour may disappoint some other more strict buyers who are used to be treated with more courtesy by their suppliers.

Lesson 14: It is necessary to give SMEs a guideline on receiving the visit of a potential buyer.

- The majority of cluster SMEs are not acquainted with appropriate business manners. To leave the potential buyer with a good impression on the cluster, the visit has to be arranged carefully beforehand.

D. PROGRAM EVALUATION

D.1 Evaluation by Determinants



D.1.1 Demand Conditions

(1) Expected Output

- Linking SMEs to "demanding" buyers in terms of quality

(2) Impact

The majority of cluster SMEs are connected to the buyers who demand not quality but price. Receiving no incentives from the buyers to improve in quality, SMEs are not concerned about quality improvement. This is the most critical factor for the cluster development.

Therefore, the ultimate goal of the cluster development is to connect the cluster with the buyer who demand on quality, yet this is difficult to achieve for the metalwork cluster without improving the factor conditions; namely factory management and usage of drawings.

SMEs, having full support from the government and donors, already have pamphlets for marketing. In addition, the pilot project recommended that SMEs register their company profile on the database provided by the Chamber of Commerce, East Java (http://www.eastjavabiz.org).

Furthermore, SMEs exercised on market research for the product development. They went to the final markets and tried to identify the market specifications. Yet, they have not established market outlet schemes for the new product. Assisting in market establishment was difficult since their product design kept changing during the product development process.

The pilot project offered two occasions to meet with the potential buyers. It was found that requesting the buyers to visit the SME factories is an effective approach. The capabilities of SMEs differ within the cluster. By observing the individual firms, the buyer can have a better understanding of each SME. Although no new order has been generated by the end of the one-year pilot operation, the pilot project has produced some potential links to a demanding buyer.

(3) Lesson

In clusters where products are diversified, joint sales activity is difficult to coordinate. In addition, the capabilities of SMEs differ each other. It is practical to guide the leading SMEs to link to better markets while the social capital supports the vertical and horizontal linkages within the cluster. Facilitating direct meetings between buyers and leading SMEs is an effective approach to support cluster development. Yet, care must be taken that the facilitator, who has to be concerned about development of the social capital, is not seen as giving privileges to specific SMEs and neglecting others. Instead of the cluster facilitator, BDS providers may be in a better position to invite potential buyers as part of their private activities.

D.1.2 Factor Conditions

(1) Expected Output

- Improve production management
- Become aware of importance of drawing
- Become conscious about technological upgrading
- Acquire knowledge to improve productivity and profitability

(2) Impact

■ Improve production management

This objective was attempted by applying various methodologies including a combination of workshops, factory training, customized advisory services, and visits to and from potential buyers. With a few exceptions, none of these activities have produced much success. Firstly, 5S, though at a basic level, was implemented by some SMEs as they were familiar with the concept from past activities supported by the local government. Secondly, the top SME already practicing factory management has

appreciated the advice. Realizing that this problem cannot be solved in the short-term, a 3-day workshop was held for the local experts to enhance their knowledge on factory management.

The level of production management is closely linked with demand conditions. Unless SMEs link to buyers who demand quality in the products, it is difficult to motivate SMEs to improve QCD.

■ Become aware of importance of drawing

This was attempted both through the factory management program and the core product program. There are only three SMEs that undertake production based on drawing. The majority of others continue to produce products by imitating a sample and checking the order using a simple sketch.

Given the limited availability of computer systems in SMEs, manual drawing was encouraged instead of CAD during the pilot operation. SMEs insisted that drawing is a special skill and is not something the owners should learn. Furthermore, some leading companies stated that they already have one person in the company who can draw and that it is not necessary for other employees to learn. Their awareness did not change throughout the pilot project.

However, SMEs involved in the production of the propeller shaft had to learn drawing in the process. Although they complained about the difficulty and time consuming nature of the program, their drawing skills had improved significantly after the program.

■ Become conscious about technological upgrading

SMEs are likely to consider that the only way to upgrade the technological capability is to equip factories with better machinery. The pilot project challenged this view through the core product development program. Those SMEs who joined the program learned about the function and quality throughout the process. Although SMEs did not show any appreciation of their improvement in knowledge, their technological capability actually improved during the program. SMEs are willing to continue producing other parts with assistance from the local government and the local experts.

■ Acquire knowledge on improving productivity and profitability

The transfer of knowledge was attempted through lectures on production management and the cost calculation methodology. However, SMEs lacked in interest in the lecture-type lessons and did not receive incentives to practice what they learned in the lectures.

(3) Lessons

Technological upgrading is closely linked to the demand conditions. The metalwork cluster in Waru-Sidoarjo has been heavily supported by the government and donors. Lectures presenting similar lines of topics have been repeatedly taught to SMEs. They are unlikely to be motivated to practice the knowledge provided through lectures.

Instead, an approach to raise incentive has to be adopted. Because the products for the core product program are chosen by SMEs, they have an interest in continuing the program. The participation number decreased gradually due to difficulties and the time consuming nature of the program. Yet, those who remained in the program gained significant knowledge in the course of the one-year project operation.

D.1.3 Firm Strategy, Structure, and Rivalry

(1) Expected Output

- Initiate to compete not on price but on quality
- Initiate to specialize in a certain production process
- Increase production under the vertical and horizontal linkages

(2) Impact

■ Initiate to compete not on price but on quality

This links directly to the demand conditions and factor conditions. The pilot project has not attained a big change in this area. The majority of SMEs do not question the level of quality demanded by the current buyers and do not have any incentive to upgrade quality. Rather, SMEs consider cutting cost and complain about the increases in minimum wage requirements. If they had implemented the factory management methods taught in lectures, they could have improved productivity and reduced cost per unit. However, cluster SMEs were not interested in implementing the factory management procedures.

■ Initiate to specialize in a certain production process

This issue also links to the factor conditions and market conditions. In general, the pilot project failed to make a direct impact on this. Specialization is indeed a key factor for SMEs to demonstrate their competence against larger enterprises. SMEs can better demonstrate their capability by concentrating on one area because of their limited capital and human resources. Specialization is more beneficial than diversification if SMEs can expect larger sales by producing higher quality products.

However, what is observed in the cluster is a diversification strategy rather than specialization. SMEs take whatever work is offered. As a consequence, 70% of the

machinery in the factory is left idle (see table below for the facilities of SMEs). Diversification is a natural tendency for SMEs because specialization as a strategy for growth requires higher skills in marketing, management, and techniques unless SMEs collaborate with other firms to compliment the requirements. Moreover, it is difficult to expect higher sales from specialization because SMEs are not linked to buyers who demand higher quality products.

Table D.1 Facility of SMEs Participating in the Pilot Project

SME No.	Sheering	Machiening	Press	Welding	Glinding	Assemble	Piping	Forging	Casting	Tapping	Drilling	Plating	Painting	Strengtening Wire	Injection
1		○	○	○		○							○		
2	○	○	○	○		○	○			○	○		○		
3			○					○							
4			○								○	○			
5		○	○			○				○					
6		○		○						○	○				
7			○	○		○				○					
8	○		○	○									○		
9												○			
10		○			○										
11		○	○												
12			○												
13		○								○	○				
14			○	○											
15			○												
16	○		○												
17		○													
18			○	○											
19	○	○	○	○	○	○					○		○		
20				○		○						○			
21			○	○		○							○		
22		○	○	○		○					○	○			
23			○	○		○							○		
24			○	○											
25	○	○	○	○	○	○							○	○	
26	○	○	○	○	○	○		○							
27	○	○	○	○	○	○					○				
28	○	○	○	○	○	○					○		○		○

■ More production under the vertical and horizontal linkages

Vertical and horizontal linkages already exist to some extent but are less likely to be associated with neighbouring firms. SMEs have preference to subcontract to a company in another village because nearby firms could easily meet buyers and take direct orders. In addition, SMEs would become envious when they discover that orders were placed with another SME in the same village. This situation is closely linked to a low level of the social capital in the cluster.

The core product program intended to create joint production through vertical and horizontal linkages. Since initial planning was mainly undertaken by the two leading SMEs and KKB, the extent of cooperation remained small during the pilot project. Yet, this challenge may provide positive impacts if continued.

On the other hand, the leading SMEs started to realize importance of networking through the discussion in the newly formed informal network. They are willing to share orders when a chance comes.

(3) Lesson

The extent of cooperation in the core product program was small. To make an impact on firm strategy, structure, and rivalry, the core product program has to extend over one year until the actual sales are realized.

The newly established informal network has brought about an optimal balance between "cooperation" and "competition" among the leading SMEs in the cluster. Although any significant output has been so far observed, continuation of the collaboration is highly expected.

D.1.4 Related and Supporting Industries

(1) Expected Output

- The cluster facilitator and Working Group support for cluster development.
- Local experts support the cluster development.

(2) Impact

■ The cluster facilitator and Working Group support cluster development.

The pilot project made a positive impact in this regard. The appointed cluster facilitator was mainly interested in improving the demand conditions, linking with buyers. He intends to continue the activity of inviting buyers to the cluster. However, the pilot project failed to involve KKB in participating in the facilitation work despite KKB, together with the cooperative, having been the main facilitator of the cluster. This was partly because KKB was involved in its own activity, and partly because there was a level of silent tension between KKB and the appointed cluster facilitator. KKB was invited to the national training in order to transfer lessons learnt in this project.

The cooperative has and will continue supporting the cluster development. Yet, assistance by the cooperative is limited to the cooperative members. To create cluster dynamism, a cluster facilitator has to reach beyond the cooperative members.

On the other hand, the local government as part of Working Group was supportive throughout the pilot project. However, if a specific request was necessary, direct consultation was necessary. Involvement of majority of Working Group members remained passive.

■ Local experts support the cluster development.

The Sidoarjo area has many technical institutions in the vicinity, including technical high schools, universities, BDS providers, and Barai Pelayanan Teknis (BPT). They are willing to extend assistance provided that their job description is clarified and that

a proper budget is allocated for their work. Institute of Technology Surabaya (ITS) and ship building high school became involved in the pilot project. Collaboration from ITS was sought on the factory consultation service and workshops on drawing and on business planning for the core product program. ITS is the top technical university in East Java, and owners of some SMEs are graduates of ITS. ITS has been closely associated with the cluster and is willing to continue collaboration. In addition, the ship building high school collaborated in the manufacture of the propulsion system in the core product program. Series of lectures from them kept the action program running.

Workshops on the Propulsion System at the Shipbuilding High School

(3) Lesson

It is possible for external experts to assist SMEs in the cluster as long as their job description is clarified, and the proper budget is allocated. The Working Group and the cluster facilitator should help SMEs identify the effective area of support from external stakeholders. SMEs are accustomed to full financial support from the government agencies and are reluctant to share the portion of fees; however, if motivated, they will continue activities even with some payment. The Working Group has to encourage self-effort of cluster SMEs.

D.1.5 Social Capital

(1) Expected Output

- Collaborative atmosphere is created in the cluster.

(2) Impact

This was attained to some extent through the core product program and establishment of the informal network. However, those who collaborated were limited to the eight leading enterprises. Less advanced SMEs were reluctant to speak up in workshops although they often appeared at the meetings. If vertical linkages are not to develop, a

division line between the advanced and backward SMEs may become more clear-cut in the future.

(3) Lesson

It was difficult to change awareness of all the participants in the pilot project. An open information system should be created particularly for the less advanced SMEs in order to provide them with the opportunity for gaining necessary experience. If the division line between leading SMEs and less advanced SMEs becomes more clear-cut, the social capital in the cluster shall be undermined.

D.2 Replicability

D.2.1 Product Development

Although the product development program has created some impact towards upgrading, SMEs had to be heavily assisted throughout the process. Firstly, an arrangement with a group of experts was necessary. SMEs wanted to skip some processes and immediately commence manufacturing. They also tended to be narrowly focused. Both technical knowledge and managerial skills have been necessary to coordinate between the experts and SMEs. Secondly, SMEs demanded financial support for the material cost of the experimental product. However, once they were convinced that the material would not be financed in full, they commenced purchasing at their own expense.

Considering such difficulties and level of efficiency in implementing the product development program, it is recommended that the product development program be implemented at the regency level rather than the cluster level. This will allow more participants to join the program. If a large number of the cluster SMEs participate, subgroups can be formed in the program.

D.2.2 Factory Management

(1) Workshops

Almost no SME in the cluster were interested in the lecture-type lessons. The workshops should be arranged at the regency level with the local government, placing seminar notices in the newspaper, so that those who are interested have an opportunity to learn (discussed further in “open information system” in Chapter 5.3 (2), Main Report*)*.

(2) Consultation at the factory

The subcontractor of larger enterprises with an actual demand for improving the factory management was the only SME that appreciated this program. It also hired local experts to receive advice. Consultancy service for the factory management should be targeted at viable SMEs while the main task of the government to facilitate this service should be focused not on financing but on the human resource development of the experts.

(3) Subsidies

Although subsidies provide an incentive to SMEs, their impact tends to fade away as time passes. The factories of SMEs that previously received subsidies for 5S were unclean at the beginning of the pilot project. The sustainability of the impact is in question.

D.2.3 Meeting with Buyers

If the purpose is to raise incentives of SMEs, it makes sense that the Working Group and the cluster facilitator lead the meeting with buyers. However, if the purpose is to make an actual business linkage, it is better to allow the activity to be undertaken by BDS providers as part of their private business.

There are only a few SMEs which can leave good impressions to the buyers. Consequently, the limited SMEs receive more frequent visits. If such visits are arranged by the cluster facilitator, other SMEs would feel that they have been neglected. This undermines the social capital in the cluster. Therefore, the BDS provider may be in a better position to lead the program as part of their business (discussed further in “enhancing entrepreneurship”, Chapter 5.2 (5) in the Main Report).

In considering the reliability of the programs, the table on the next page summarizes the recommendation for arrangement of each program.

Table D.2 Recommended Programs Experimented in the Pilot Project

Program	Type	Organizational Level	Main Facilitator	Role of the Government
Product Development		Regency	Disperindag	Arranging the program
Factory management	Seminar	Regency	R&D, universities, BDS providers	Advertising the seminars (*open information system*)
	Consultation	Regency	BDS providers	Accumulating the human resource Matching Fund
Meeting with the Buyers	To raise awareness	Cluster	Cluster facilitator	Requesting the buyers for collaboration
	To create business linkages	Cluster	BDS providers	Requesting the buyers for collaboration

D.3 Findings and Lessons Learned

Findings in the pilot project in Sidoarjo have provided many lessons for the policy recommendations. Many of the lessons are reflected in the action programs, which contribute to (1) the cluster strengthening and (2) cluster and SME strengthening. Details on the action programs are discussed in Chapter 5 in the Main Report.

D.3.1 Lessons reflected in the cluster strengthening programs

(1) Formation of the Cluster Forums

Experience of Working Group in the pilot project has led to the proposal for establishment of the cluster forums both at provincial and regency levels. There are four reasons that support effectiveness of forums.

(i) The pilot project discovered that there are many stakeholders for the cluster development from both public and private sectors. The local government alone has many different sections including Bappeda, Disperindag, and Dinkop. It is necessary to call all the local stakeholders at one place in order to consolidate individual effort into one direction.

(ii) It was found that the capability of SMEs in the *sentra* is limited. The forum has to mobilize outside stakeholders in order to extend necessary assistance to SMEs.

(iii) Considering the limited number of viable SMEs in the *sentra*, there is a need to plan the cluster development in the wider geographical coverage. Forum, which

has various stakeholders, has to create dynamic linkages between viable SMEs outside the *sentra* and those in *the sentra.*

(iv) The task of cluster facilitation is too demanding to rely on one BDS provider, or what this Study calls the *cluster facilitator*. Its task has to be backed by the forum members.

On the other hand, the experience of Working Group in the pilot project left two issues for improvement.

(i) Membership of the forum should be dynamic so that newly involved stakeholders can easily join in the forum.

(ii) Responsibilities should be designated to those who attend meetings. Memberships of Working Group for the government officers were officially given only to the heads of departments. Since they were too busy to attend meetings, they often had their subordinates attend the meetings on behalf of them; however, their responsibilities were not designated. Having no authority to make a decision, the majority of officers remained with a passive attitude in Working Group although they frequently attended in meetings.

(2) Strengthening Capacity of Cluster Facilitators

The concept of the "cluster facilitator" has been clarified as the pilot project progressed. The task of the cluster facilitator is different from that of the BDS provider and the BDS facilitator. The BDS provider provides specific service to SMEs while the main task of the cluster facilitator is to mobilize the local human resources. On the other hand, the function of cluster facilitator has both similarity and unluckiness. They are similar in a sense that they both mobilize the BDS providers; yet it is different in a sense that the cluster facilitator directly deals with the SMEs.

The cluster facilitator is devoted to cluster development, which key factors are identified as strengthening social capital and entrepreneurship in the cluster. The cluster facilitator has to have a good view on the cluster development and has to encourage SMEs for upgrading. At the same time, the cluster facilitator has to be concerned about building trustful relationships among SMEs. This task is not only a new concept but also quite demanding for any individual person to undertake by oneself. There is a need to proliferate the function of cluster facilitators by training potential candidates.

(3) Strengthening Social Capital and Entrepreneurship in the Cluster

Strengthening social capital and entrepreneurship was found to be the most important factor for the cluster development. The cluster SMEs used to conceal information each

other and were not willing to collaborate. Pilot project managed to make a change in this after one leading owner, who was sent to a study trip in Japan, established informal network among the leading SMEs. They now understand that collaboration maximizes their business opportunities.

In addition, the pilot project faced dormant attitudes among the cluster SMEs who are not willing to change their business practices. Unless SMEs are linked to "demanding buyers" in term of quality, it is difficult to motivate SMEs to make an effort for upgrading. In the process of trial and errors during the pilot project operation, providing a proper stimuli is found to be most important. The pilot project implemented two effective stimuli; i.e. i) the trip to Japan on studying the networks by a leading SME and ii) factory visits to the cluster by potential buyers.

The pilot project tried to take the bottom-up approach in order to equip SMEs with the ability to plan by themselves. However, the total reliance on SMEs to make a decision was too heavy a burden for them since they are not used to such a habit. Adequate guidance is necessary from the outside stakeholders so that they gain courage to move forward.

D.3.2 Lessons reflected in the cluster and SME strengthening programs

The pilot project identified some fundamental problems for the cluster development. A number of recommendations are made to rectify the situations, which contribute not only to the cluster development but also to the SME development as a whole.

(1) Manufacturer's Directory, Open Information System, and One-Stop-Service

The first fundamental problem was lack of information concerning cluster development. Three proposals were made to rectify the situation.

(i) Manufacturer's Directory

Although the pilot project intended to grasp an overview of cluster SMEs at the initial stage, lack of information on non-cooperative members made this difficult.

Opportunities for collecting information on SMEs have been neglected. Firstly, assistance towards the cluster has been extended through the cooperative, leaving the non-cooperative members out of reach. Secondly, the village offices collect information only on the inhabitants and do not have the list of SMEs in the village. Thirdly, the regency offices also did not have the list of the cluster SMEs. Fourthly, it was discovered that the economic census is taken every 10 years, but the BPS in

Sidoarjo does not keep the basic data and simply forwards the data to the central BPS for analysis.

It is, then, recommended that the basic data shall be utilized and compiled into the manufacturer's directory regardless of the size of SMEs in the next economic census, scheduled in 2006.

(ii) Open Information System

A system, enabling bottom-up-application to the SME assistance programs, is recommended to be established. Information is currently delivered to cluster SMEs through the cooperative one-by-one. While the majority of SMEs do not have fax machines, invitation is sent by hand delivery. Inevitably, selected SMEs are repeatedly invited to assistance programs while the majority of others are neglected. Those SMEs which are repeatedly invited do not consider these opportunities as rare chances for them to take full advantage of.

It is, therefore, recommended to create the information system, which brings about competition among SMEs in receiving public services. The system involves two steps. Firstly, the regency government is to take responsibility in providing information on assistant programs by media such as newspaper and radio. Secondly, the SMEs shall apply the programs in response to the information. Such an open information system shall facilitate bottom-up application instead of top-down selection and ensure that those "willing SMEs" receive the service.

(iii) Strengthening Capacity of CD SMEs

The third recommendation is about promotion of information center. The information necessary for cluster development is scattered and not consolidated. It is recommended that the existing initiative is fully utilized in order to increase accessibility towards information.

There is a SME center in Bank Rakhayat Indonesia, Sidoarjo Barnch. This is a newly established center, intending to provide Web-based information services for the SMEs. Its headquarter, Center for Development of SMEs (CD-SMEs), is run under the collaboration among various stakeholders including Bank Rakhayat Indonesia, PT Telekom, Chamber of Commerce, BDS Associations, and MENEKOP. CD-SMEs now have 18 regional centers nationwide in the branches of Bank Rakhayat Indonesia. Utilizing this initiative is proposed in order to improve accessibility of information for the cluster SMEs.

(2) Strengthening Capacity of BDS Providers as Financial Intermediary

Lack of financial management skills is observed among the cluster SMEs. The majority of SMEs cannot differentiate between business expenses and household expense. They may book the cash flow, but they do not have skills in preparing the balance sheet and profit and loss. Under such circumstances, it is too risky for the banks to lend a loan to the SMEs. To tackle such a situation, it is recommended to train BDS providers as financial intermediaries who assist SMEs in preparing necessary financial records and business plans in order for the SMEs to apply for bank loans. The training program called "KKMB" is already under implementation, but the program needs to be reviewed and strengthened for effective implementation nationwide.

(3) Machinery Renovation

Lack of skills in financial management and marketing makes it difficult for SMEs to renovate machinery. Cluster SMEs use obsolete machinery, which causes lower productivity and imprecise production. Ministry of Industry and Trade tries to tackle this by providing the common facility. However, this policy is not working well in Waru-Sidarjo. Firstly, UPT in the cluster is not utilized by the leading SMEs. The cluster SMEs did not share financial responsibility for machinery usage, and UPT could not accumulate the capital to renovate its machinery. Leading SMEs claim that machinery at UPT is also obsolete. Secondly, there is Balai Pelayana Tekniks (BPT) near the cluster. SMEs can use the machinery with payment, but only a few SMEs utilize the facility. It is, therefore, recommended to study the methodology to renovate machinery of SMEs by utilizing the reconditioned used machinery.

(4) Technical Drawing Lessons at SMUs

In the pilot project, SMEs were not willing to send their employees to learn drawings although the lectures were offered free of charge. Instead of directly targeting at SMEs, a longer-term solution is recommended in the action program; that is to offer a technical drawing lesson at an ordinary school (SMU) as an optional course. This idea was well received by educational officers in Sidoarjo since they consider that ordinary high school should offer practical skills in order to help the graduates get good jobs. This proposal also matches the new policy adopted by Ministry of National Education, which encourages each high school to take up a curriculum in accordance with the local needs.

(5) Short Term Training Courses

Willing SMEs have to have opportunities to acquire know-how in time of necessity. Yet, most programs offered in Sidoarjo are either ad-hoc or too long-term for the

SMEs to attend. Courses offered by BPT in Sidoarjo are the latter case. Their program ranges from one- to six-month and is participated mainly by newly graduates. In addition, ad-hoc programs are notified only to the selected SMEs through cooperatives. This combination makes the situation worse.

However, there is an exception. Regional Export Training Promotion Center (RETPC) in Surabaya, assisted by JICA, has short-term programs and notifies short-term programs by newspaper. This good example is recommended to be followed by other institutions.

D.4 Towards the Dynamic Cluster

The key characteristics of the dynamic clusters can be summarized as the following three:

(i) The cluster produces high quality goods.

(ii) Each company is specialized in certain production technique or certain production process.

(iii) The cluster has an open nature, which calls in new SMEs to join in the cluster.

Among the above characteristics, Sidoarjo-Waru metalwork cluster is equipped with the third characteristic. The two top companies in technological performance are new comers in the cluster. Strategic location of the cluster with relatively cheaper land cost has attracted the companies to join in the cluster.

The question is whether other existing firms can be influenced by such developmental firms. The pilot project left a hope that they do learn from the new companies since the informal network established during the pilot project actually includes these top companies.

Yet, in terms of specialization, the pilot project could not see a shift in the direction. The majority of SMEs survive on diversifying strategy. There is no necessity for specialization as long as SMEs are not willing to produce higher quality products.

The fatal characteristics of the dormant SMEs are their unawareness to manufacture products based on drawing. The pilot project also failed to change their willingness in the usage of drawing. Under such conditions, it makes it difficult to create viable vertical linkages.

Parentalship assistance to the dormant SMEs would not make any change in their way of thinking. SMEs have to learn by themselves through increased opportunities to associate with viable SMEs in the horizontal relationship.

A methodology to make the Sidoarjo-Waru cluster dynamic, therefore, is to plan the cluster development in a geographically wider context so that more viable SMEs shall closely associate with less advanced SMEs in the cluster. The Sidoarjo-Waru cluster as a matter of fact used to be considered as small, just in Ngingas village, whereas the cluster has actually spread across five villages.

The government should provide opportunities to meet other viable SMEs and encourage collaboration among them in a wider geographical context. This helps create dynamism in the cluster.

Part 2

Pilot Wooden Furniture Cluster

Serenan - Klaten

- Steps taken towards Dynamic Cluster -

A. Cluster Profile
B. Strategy and Action Programs
C. Program Operation
D. Program Evaluation

A. CLUSTER PROFILE

A.1 Background of the Cluster

A.1.1 Location

Klaten Regency is located in Central Java Province. It extends to the edge of a trunk road between Yogyakarta and Solo, and 113 km from Semarang, the Provincial Capital. There are 26 districts in Klaten Regency. Serenan is a village in Juwiring District.

Situated 28 km to the northeast of urban Klaten, Serenan covers a total land area of 134.3 hectares and has a total population of 3,817. A larger proportion of the area (88 hectares) is used for agricultural purposes, with the balance for housing, industry, trade and public facilities.

A.1.2 History

Serenan is a home of skilled carpenters. During the reign of the Sultanate Surakarta, many residents of Serenan and its surrounding areas were employed in the palace of the Sunan (ruler) of Surakarta and engaged in the production of wooden furniture. More recently, during the Soekarno administration and the New Order era in the 1970s and 1980s, carpenters were employed by the government in the building and construction industries. Carpenters from Serenan and surrounding villages were also employed in the construction of Giri Bangun Palace, owned by the former President Soeharto.

In the 1970s and 1980s, Serenan and its surrounding areas were extensively used to supply simply designed furniture such as school desks, public houses and apartment furniture. The area was prosperous with a large volume of government orders, resulting in accelerated development of Serenan's furniture industry. Manufacturing

of classic furniture only occurred in the 1990s when buyers and intermediaries came to the cluster and export demand increased.

A.1.3 Regional economy

Klaten Regency possesses fertile land for agriculture and has significant industrial and services potential due to its location between major cities in the Central Java and Yogyakarta Regencies. Recent economic growth in the area has been high. Most of the regency's population depends on agriculture, trade and industry for its livelihoods. Economic activities in the agricultural sector include rice, tobacco, and coffee while in the trade and industry sectors they include metal, garments, ceramics, earthenware and wooden furniture.

Figure A.1 shows the share of the gross domestic product by industries in Klaten Regency in 2000. The trade, hotel and restaurant industries account for the highest share of around 27% of the Klaten economy. The manufacturing industry, which includes the furniture industry, accounts for around 23% and is the second largest contributor to the GDP of the regency.

Serenan cluster has a relatively large impact on the furniture industry. It produces between 15% and 20% of the overall production in Klaten Regency and 60% of the overall production in Juwiring District. Around 90% of furniture products in Serenan

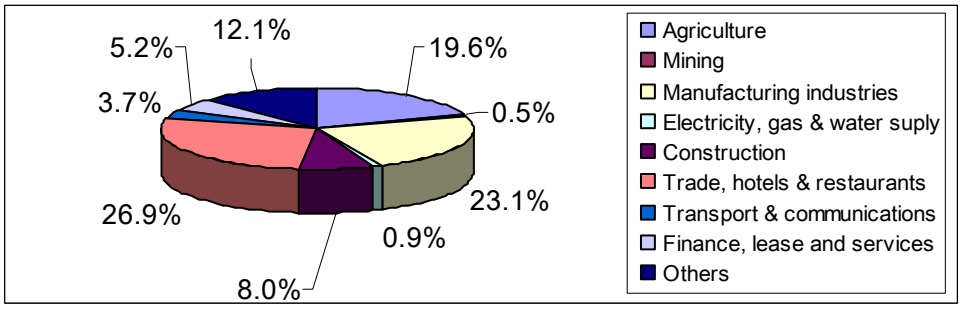


Figure A.1 Gross Regional Domestic product in Klaten Regency (Year 2000)

are produced for export. On a provincial basis, however, these exports only make a relatively small contribution to the total furniture exports from Central Java.

In terms of infrastructure, the cluster has adequate coverage of electricity and water supply but the telephone network is poor and has not yet been installed in some areas. The level of education provided in the Serenan cluster varies from elementary to academic institutions.

A.2 Cluster Characteristics

A.2.1 Size and Scale of the Cluster

Serenan cluster encompasses 730 SMEs in total, comprising 637 micro enterprises, 76 small enterprises and 17 medium enterprises. Nearly 90% of Serenan SMEs are therefore micro enterprises. Around 450 SMEs are engaged in furniture production, and the remainders are mostly engaged in furniture-related industries such as sawmills, mechanical workshops or wood supply.

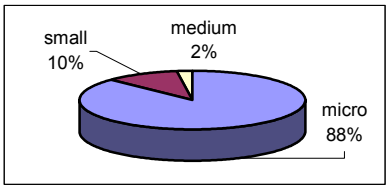


Figure A.2 Size of Serenan SMEs

According to the questionnaire survey[1], annual sales in Serenan cluster vary from Rp.10 million to Rp.600 million. Judging from the fact that nearly 90% of SMEs are micro enterprises, there might be a large variation in the existing conditions in Serenan cluster.

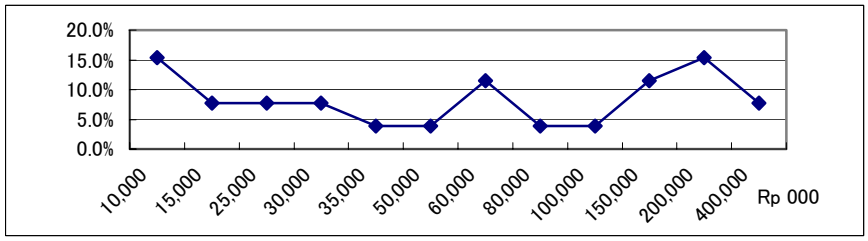


Figure A.3 Annual Sales of Serenan SMEs

A.2.2 Cluster Type

There are several product types categorized in wooden furniture production, especially those targeting the export market. These include classic furniture, garden furniture, modern furniture, carving as traditional furniture. They require different types of skills and machinery.

Jepara cluster is one of the largest wooden furniture clusters in Indonesia. Jepara cluster is distributed over several villages and districts in Regency. A wooden furniture cluster like Jepara produces many types of furniture, their product and enterprise conditions are widely diversified.

On the other hand, Serenan cluster primarily produces European classic furniture with few other product types manufactured. It is therefore possible to classify

Product of Serenan cluster

[1] 30 SMEs have been extracted as sample SMEs for questionnaire survey.

Serenan cluster as homogeneous in terms of product type and skills. In addition, Serenan cluster consists of only one village.

A.3 Determinants of Cluster Dynamism

A.3.1 Demand Conditions

Most furniture produced in Serenan and its vicinity area (Yogyakarta and Solo) can be categorized as a reproduction of European classic furniture. SMEs in Serenan produce various types of cabinets, tables, chairs, sofas and mirror frames. Production depends on buyers coming mainly from European countries such as Italy, Spain, Belgium, France and Germany, as well as traders from Singapore.

The recent highlight has been reproduction of classic furniture for the international furniture market for use in everyday living (ordinary furniture). Some consumers prefer reproductions rather than real antique furniture for daily use. Presently, the demand for European classic furniture tends to increase steadily.

A.3.2 Factor Conditions

(1) Technology

The quality of Serenan products is quite low. Overseas buyers need to repair or provide additional finishing to the exported Serenan products prior to their marketing overseas. This is a reason why buyers are negotiating hand to reduce prices of Serenan products. The main quality-wise problems include high water content of the timber which causes cracks or deformation, improper and unskilled finishing, and in some instances primitive furniture-making techniques.

The furniture from Serenan is valued for the old-time production methods based on hand manufacturing. For example, only natural solid wood (not chipboard) is used and carvings are handmade. However, the current skills of SMEs are in many instances not comparable to those of earlier craftsmen. Doors or drawers often cannot be opened or shut smoothly because of inaccuracies in the measurements and their primitive finishing skills.

Even if Serenan SMEs want to use machinery in their production processes to improve efficiencies and finishing skills, they should learn how to manufacture products as if they had not been produced by machinery. Notwithstanding, preservation of the current features of Serenan products, namely production based on the old-time method and quality, would be vital to maintain and expand such niche markets.

Wood Drying

One of the crucial requirements for furniture manufacturing is to maintain low moisture control. In the international markets, a moisture content of around 10% is required for exports to Europe, Japan and some Asian countries, while 8% is strictly required for the U.S. market. In Serenan, however, there is a severe problem of higher moisture contents. Most of Serenan SMEs use wood without proper drying. Moisture contents of timber used in some SMEs reach as high as 18%, 22%, or even more than 35%. The high moisture content is the most urgent issue to be addressed in improving the quality of products.

A small number of Serenan SMEs have their small kiln in their factory; however, most of them are operated for limited periods. They tend to avoid drying process in their production. Although the high moisture content is one of the main reasons for the low price products, Serenan SMEs pay less attention to this issue.

Sun drying of wood
(Putting wood against wall makes wood twist)

Additionally, there is a bigger kiln for common use built previously by the Provincial Government of Central Java. A part of the operation has been shifted to a voluntary group in Serenan; however, this kiln has not been operated recently due to design defects.

(View from outside/ Capacity is too big)

(Fireplace, approach is too low to lay more wood)

(Inside, difficult to keep hot air)

Dry Kiln given by Provincial Government (not being used)

(2) Marketing

Sales of furniture are made by simply signing the purchase orders, prepared by the buyers. Under such circumstances, most deals are significantly in favour of the buyers. Serenan SMEs have little negotiating power against buyers, or in other words, they are too dependent on buyers for their business.

Neither the cluster as a whole nor any of the cluster members has enough marketing ability. All jobs are given by the traders from outside Serenan (e.g., in Solo, Yogyakarta or Semarang).

In terms of market promotion, there was an attempt by cluster members to establish a furniture market in Delanggu located along the trunk road from Yogyakarta to Solo. However, it has been forced to close as the participants have not continued to honour their contracts for financial resource. They have also had to give up contracts for billboards along the trunk. Only recently, one enterprise created a website for its products. A few enterprises have occasionally produced and issued enterprise brochures.

(3) Finance

In terms of working capital, around 50% of Serenan SMEs in Serenan are supported by internal finance from family, relatives, friends or neighbouring communities. Around 22% request support from buyers or traders as a down payment. Access to other forms of working capital is limited to around 24%.

Around 30% of Serenan SMEs have no access to banks. The interest rates offered by banks are 20% to 30% annually, and land certificates are required for collateral. For micro and small enterprises, it is difficult to absorb such a high interest rate in their business. This situation seriously impedes businesses of micro enterprises.

There are few SMEs who understand accounting or bookkeeping in their business. Most cluster members could not give accurate figures on their own businesses. The lack of financial knowledge may seriously affect their business. Without accounting records, they cannot grasp the actual cost, quote the selling price, know the necessary loan amount, make precise business forecasts or make business plans. It is absolutely essential for them to improve their financial knowledge.

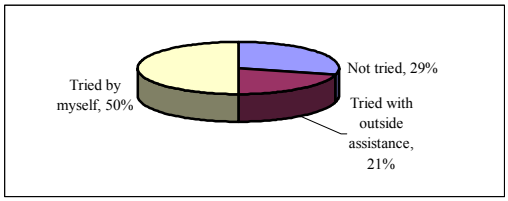


Figure A.4 Experience of Borrowing Fund from the Banks

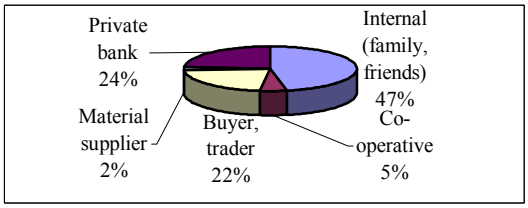


Figure A.5 Finance of Working Capital

(4) Raw Material (Wood)

In the case of Serenan SMEs, raw wood supplies are usually obtained in Central Java. They use mainly Java teak and mahogany. It is possible to obtain supplies from East Java, but increased transportation results in higher overall costs. Wood traders in Serenan obtain raw wood from plantations of wood suppliers in Central Java. These suppliers can also supply other types of raw wood, which they do not possess, by purchasing from other agents. That is to say, wood suppliers double as wood traders depending on the order.

Wood Supplier in Serenan

Currently, the Indonesian Government is seriously concerned about illegal logging. To deal with this, purchased raw wood needs to have a permission note attached, which is issued by the Ministry of Forestry. This permission is often checked by inspectors. Illegal logging is severely punished by the Government. For example, a wood supplier was recently arrested in a neighbouring village to Serenan. Since the risk is higher for the wood supplier or trader, they tend not to trade illegal wood in Serenan. Also related associations promote awareness of illegal logging by operating seminars.

Village Teak

A relatively thin raw wood similar to Java teak is often found in Serenan. Called “kampong jatik (village teak)”, this is planted freely along roads or in household yards. It is able to be traded legally within the village without any certificate.

A.3.3 Structure and rivalry

(1) Less Active Cooperative

There is only one formal cooperative in Serenan. This cooperative was registered at the local government in October 2002. Its function is to supply auxiliary materials for

furniture production to the members. There is no other active cooperative in Serenan. Presumably Serenan SMEs are not willing to form cooperatives and any type of cooperation among group members is inactive.

In the past there was one cooperative, covering most SMEs in Serenan, aiming at joint acceptance of orders. However, it was dissolved for having failed in properly sharing orders and benefits among members. With this background, the majority of Serenan SMEs appear to be cautious about forming a cooperation among themselves.

Recently, several small groups (e.g., collector and kiln operation groups) have been developed in Serenan without forming cooperatives. Since these groups have been informally formed, they are unable yet to be engines for Serenan development.

(2) Internal Business Linkage

Serenan SMEs are classified into three categories; i.e., (i) collectors or traders of final products, (ii) furniture producers, and (iii) suppliers of wood material (sawmills). A simple linkage among collectors, producers and sawmills is observed along with the flow of production. For instance, a collector gives an order to a producer, who in turn gives an order for materials to a sawmill. The sawmill then supplies materials to the producer, and the producer delivers their furniture to the collector. Even though there are collectors or traders in Serenan, they are fully dependent on external buyers or traders to obtain orders and any related information. There is no SME which is able to develop its original plan and collect information on international markets.

In terms of division of labour, in Serenan cluster, there are two types of SMEs, i.e., those who process most of their furniture internally, and those who adopt the same division of labour into their production. The former case is prevailing as SMEs found it difficult to trust each other and were unable to proceed with interactive work. In addition to a lack of trust, independent production appears to be more efficient as there is no need to incorporate low quality parts supplied from other SMEs. In the latter case, where division of labour is introduced, one producer divides into component parts and gives his partners the order by part. He finally assembles them into one product and delivers to the collector or buyer. This type of SMEs has maintained their relationships for several years. This linkage, however, is quite limited or small in scale as orders tend to be in small scale. Division of labour on a large scale is therefore said to be impractical.

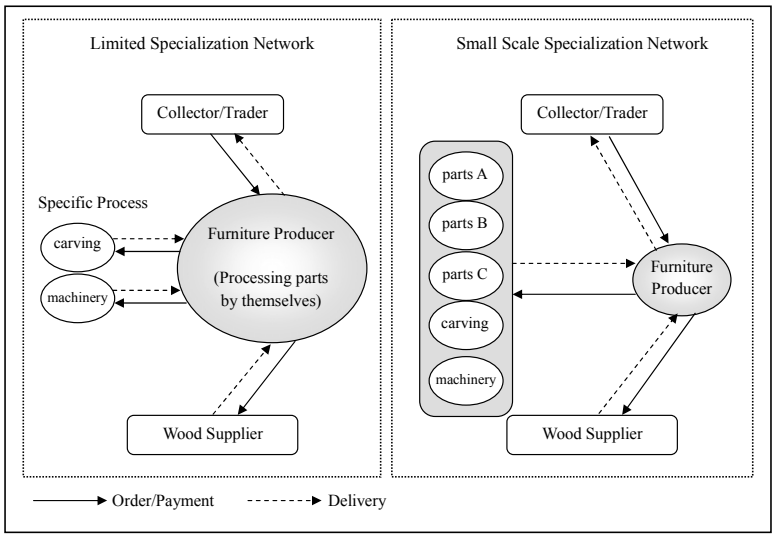


Figure A.6 Specialization in Serenan Cluster

(3) Linkage with Outside

Wholesalers or finishing agents are limited in number, if compared with the number of furniture factories in Serenan. The linkage with external clusters is also negligible. Likewise there is little direct connection with European buyers, as collectors and producers have a business relationship only with domestic traders. These circumstances have impeded self-improvement in Serenan.

A.3.4 Related industry and supporting institutions

(1) BDS (Business Development Service)

There is no BDS provider in Serenan at present. Even in the Klaten regency, no active BDS provider is available. This indicates that the accessibility to BDS is exceedingly limited in Serenan. As a result, most SMEs in Serenan have no idea what BDS actually is.

Under this circumstance, buyers, traders and agents generally take the role of BDS provider in Serenan (see Figures below). BDS provided to Serenan SMEs is related to marketing and market access, technology and skill training, and accounting and finance. Since local government agents have provided training to SMEs, free of charge, Serenan SMEs are not accustomed to paying for services provided by BDS.

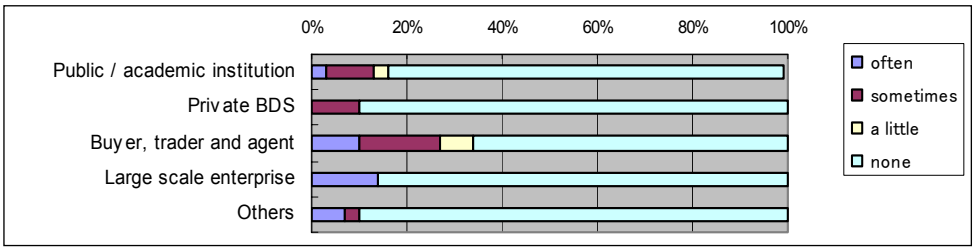


Figure A.7 Types of BDS Provider

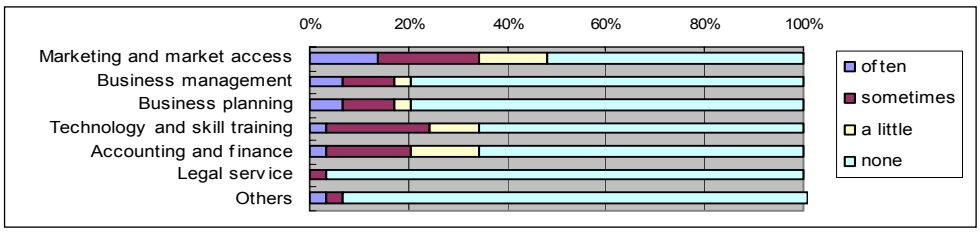


Figure A.8 Kinds of BDS

(2) Linkage with Supporting Association

The largest associations in the furniture sector is ASMINDO (Association of Furniture and Handicraft Industry), which mainly supports furniture and handicraft exporters. Since the majority of Serenan SMEs are producers and not exporters, they are not members of ASMINDO. Only two enterprises in Serenan are ASMINDO members. ASMINDO's services (e.g. provision of market information and exporter's training) have not been made available to Serenan SMEs.

A.3.5 Social Capital

(1) Weak Trust Relation Among SMEs

As previously mentioned (Chapter A.3.3), the negative experience of non-cooperative activity has adversely affected the trust relation among Serenan SMEs, and caused a serious sense of mistrust each other. The mistrust has been enlarged when someone imitated a design or style of other SME's product, and SMEs are obliged to hide their information even from neighbouring SMEs. Consequently, Serenan cluster has a reduced capacity in terms of trust relation which is a fundamental component of social capital.

(2) Diversified Education of Background

SMEs in Serenan cluster are heterogeneous in their educational background, ranging in the business area from the illiterate to academics and in the production area from a large number of apprentice craftsmen to a few entrepreneurs. This diversification has negative influence on the current business and Serenan SMEs remain as the lord of simple and traditional management, using simple technology, accepting order-based designs and often producing products of low quality.

B. STRATEGY AND ACTION PROGRAMS

B.1 Vision

Currently, Serenan cluster specializes in European antique reproductions. This specialization would be significantly effective for Serenan cluster in enhancing its competitiveness. Although there are some SMEs who produce low-quality, low-cost furniture, then would be less competitive. Once Serenan cluster accomplishes quality enhancement in the specialized product, many buyers would be attracted to the cluster even though they produce only European classic furniture.

Since there are many other clusters producing different types of export furniture, such as garden furniture or special carving furniture, it is not recommended to compete in such a new market. Serenan cluster would better be concentrated on the European classic furniture production.

B.2 Strategy

B.2.1 Short-term strategy

Serenan cluster will continue to supply low-quality European classic furniture though it will attain essential technology improvements, such as moisture control, adoption of drawing and production management. Moreover, joint actions are being applied to their businesses, such as wood drying, machinery use and material procurement to overcome various inefficiencies.

B.2.2 Mid-term Strategy

Not only unfinished products but also properly finished products will be produced by adopting appropriate finishing technology. Some SMEs will achieve improved skills through precise processing of furniture, allowing them to diversify their product qualitatively. Some expanding SMEs will apply mechanization in their processing. Moreover, through joint action in sales and marketing, SMEs will attain more independent sales activities by creating interactive relationships with buyers.

B.2.3 Long-term Strategy

Serenan cluster will develop multiple relationships among SMEs, allowing its members to manufacture products with a range of qualities. SMEs will therefore seek partners in the cluster to produce either lower or higher quality products. Further, many buyers and material suppliers will be attracted to the cluster and have positive interactions with SMEs.

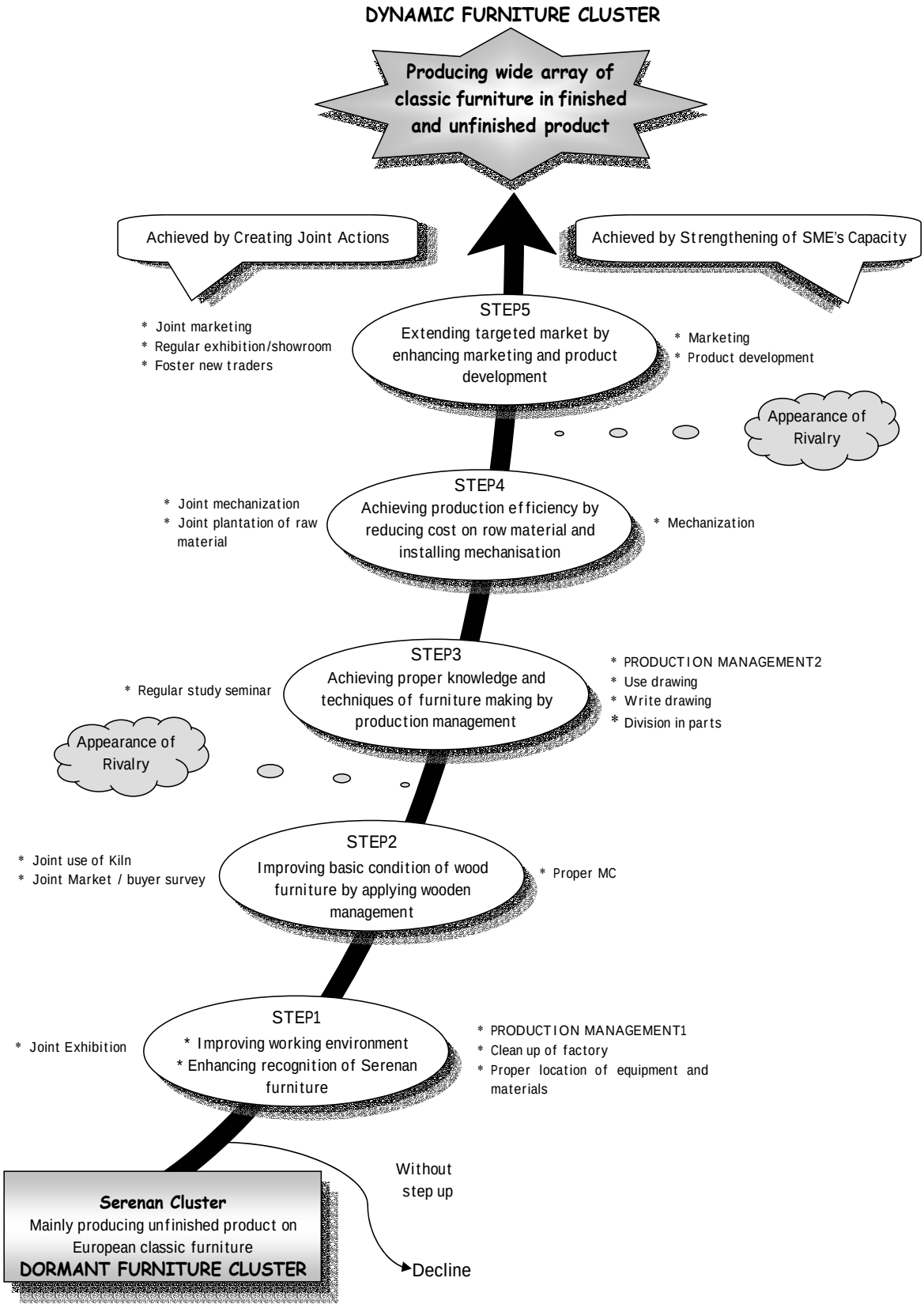


Figure B.1 Development Scenario

B.2.4 Approach of Cluster Development

(1) Technical Upgrading of Individual SMEs

To strengthen the capacity of Serenan furniture cluster will require the upgrading of the technical capacities of individual SMEs is essential. A two-step approach will be applied in this case. Firstly, to improve the technical capacity and conduct of SMEs, a series of workshops will be held. SMEs will be able to select topics according to their individual requirements.

Secondly, the lessons and knowledge gained at the workshops will be followed by one-on-one consultations. During these consultations, SMEs are advised individually depending on the needs and prevailing condition of each SME. This approach will provide SMEs with an opportunity to apply the lessons learned in workshops directly to their operations.

(2) Strengthening of Linkage among Serenan SMEs

The ultimate aim is to generate a new cooperation among SMEs in Serenan beyond the limited existing views of the present cooperatives. Programs are open to any SMEs in Serenan who are willing to participate in the activities. Several joint actions can be challenged in this new cooperation. Such joint actions can be planned and implemented by SMEs with the process leading to a strengthening in the overall level of cooperation.

(3) Strengthening of External Linkage with Stakeholders

To shift a dormant cluster into an active cluster, interactive relationships with external stakeholders such as buyers, related associations, BDS, academic institutions and local government are indispensable. Currently, Serenan SMEs have little interaction with these stakeholders. An approach to improve such a linkage will result in improving the level of mutual trust among the parties. It would have significant impact on the businesses by, for example, reducing transaction costs.

B.3 Pilot Project: One-year Action Program

B.3.1 Lines of Action Program

Workshops on problem identification and needs assessment are held to identify the area for the action programs, (e.g., co-operative management, marketing and sales, technology and production process). Once the action area is defined, SME cluster will develop an action program, setting the objective and scope of each component program.

A one-year action program is proposed as "an initiative" under the aforementioned short-term strategy, aiming particularly at the establishment of a basis for sustainable cluster development. A focus of the program has been directed towards those SMEs having potential to assume a leadership role of later stages.

Table B.1 One-year Action Programs in Serenan-Klaten

Name of Program	Objectives / Contents
1. Institutional Strengthening of the Cluster	Serenan collaboration unit (voluntary group for cluster development) will be formed with its mission and roles.
2. Seminar on the European Antique Furniture	Seminar on the European Antique Furniture will be held by the institute (Indonesia Design Centre: IDC) to transfer knowledge and information through the provision of lecture text and material.
3. Cluster Analysis	Cluster analysis (on technical, production and linkage aspects) will be implemented.
4. Technical Training and Business Planning	Method & practice to formulate business plan will be studied. Training and business plan will be prepared with proposed sub-training program and business action plans.
5. Training on Wood Use Management and Pre-treatment with Production Management	Wood-use management / pre-treatment skills will be introduced for the members of the collaboration unit through training and direct application in their factories.
6. Training on Jig-making and Machinery Use	Jig-making and machinery use skills will be introduced for the members of collaboration unit through training and direct application in their factories.
7. Study on Joint-use of Kiln and Machinery	Business plan on the joint-use of machinery and dry kiln will be prepared to realize the cost efficiencies.
8. Marketing/Product-tracing Study and Exhibition Planning	Product-tracing study will be undertaken by giving interviews to the wholesalers, exporter's agents or foreign buyers on their product's reputation and/or markets.

B.3.2 Implementation Structure

A Collaboration Unit, composed of motivated SMEs in Serenan cluster, is a core of the pilot project operation. The Collaboration Unit is expected to play a primary role in strengthening institutional capacity. A Working Group and Program Operation Unit (POU) have been organized under JICA technical assistance who in turn applied two-step assistance approach to Serenan cluster.

Some components of the technical assistance are provided directly by JICA expert while other parts are provided by local BDS facilitator or provider. The overall

assistance is expected to strengthen the capacity of local resources and sustainability of the program after completion of the pilot project.

The program implementation structure in Serenan is formed as presented below.

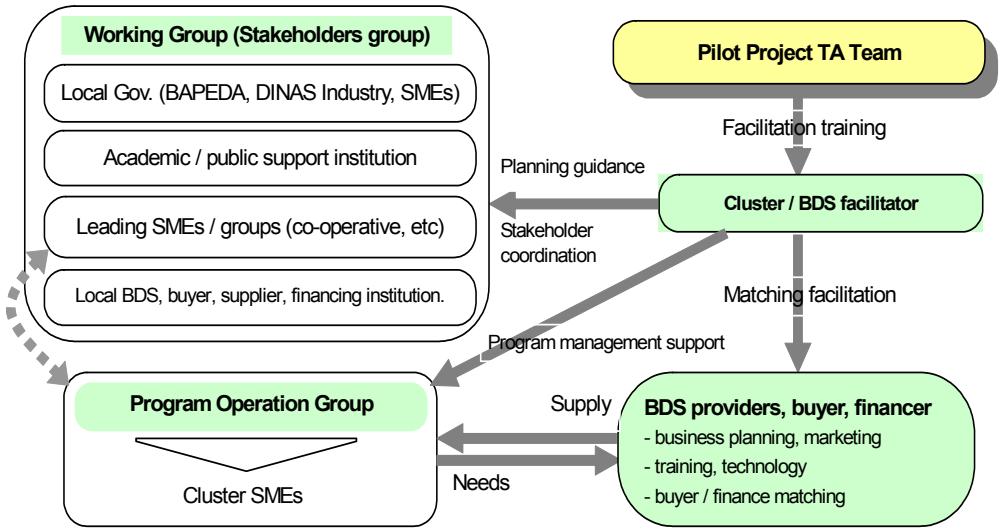


Figure B.2 Implementation Structure of the Pilot Project

A member list of the Working (Advisory) Group and Program Operation Unit (POU) responsible for coordination of the action program for the Serenan wooden furniture cluster development is presented below.

Table B.2 List of Members of Working Group

Name	Organization
Mr. H. Wiyoto	SMEs Representative (POU)
Mr. Puruhito	SMEs Representative
Mr. Mariman	SMEs Representative
Mr. Mulyadi	Serenan Desa Chief
Drs. Pranoto	POU Cluster Coordinator (UNS: University of Solo)
UNS	BDS provider
Ir. Suprihari Mursito	Assistant Chief Director of Klaten, Sub-DINAS Industry
Ir. Hermanto	Assistant Chief Director of Klaten, Sub-DINAS Cooperative

B.3.3 Implementation Schedule

The one-year action program is executed in accordance with the following schedule:

Table B.3 Implementation Schedule

Action Program	2002			2003									
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1. Institutional Strengthening of the Cluster													
2. Seminar on European Antique Furniture													
3. Cluster Analysis													
4. Technical Training and Business Planning													
5. Wood Use Management and Pretreatment with Production Management													
6. Technical Training on JIG-making and Machinery Use													
7. Study on Joint-use of Kiln and Machines													
8. Marketing/Product-tracing Study and Exhibition Planning													

Activity during the JICA Study stay at site

Local activity during the JICA Study stay in Japan