# C. PROGRAM OPERATION

## C.1 Initial Stage: Formation of New Linkages and Upgrading Individual SMEs

### C.1.1 Start-up of New Cooperation Activities

#### *Assumption 1*

***A new group for cooperation needs to be established at the beginning of the pilot project.***

The pilot project commenced with the establishment of a new level of cooperation among SMEs in Serenan. Initially, a new unit, called "the Collaboration Unit", has been pursued. This would involve cluster members to the fullest extent possible to generate a willingness to work conjunctively for development of the Serenan cluster. It has been emphasized that the Collaboration Unit members should acquire some degree of ownership in the pilot project and would provide leadership to other cluster members in Serenan.

In the initial stage, participants outlined their possible contributions to the vision and their mission in the Collaboration Unit. This would lead to collaboration and achieve a growth through learning best practices both inside and outside the cluster. The executive members of the unit have been appointed (e.g., the chief, vice-chief, secretary, vice-secretary, treasurer and vice-treasurer).

Forming a new unit has initially become difficult in Serenan as they have experience in failures in operating cooperative activities. It is necessary to instigate concrete actions in uniting members of the Collaboration Unit for the Serenan cluster. Several joint actions, which are discussed later, have proved to be good opportunities for members to strengthen their base of cooperation.

**Lesson 1: Time is required for establishment of a new cooperation unit**

- The establishment of a new group is easy to plan at the beginning of the project; however, it takes time to carefully select members and pay close attention to the history of the cluster. Otherwise, the unit would be established simply as a shadow play and inactive.

#### *Assumption 2*

***Workshops designed to fully involve SMEs will have influence on the outcome of the project.***

The cluster members have also discussed the contents of workshops and seminars proposed in the action programs and developed appropriate schedules. As all participants are working day-time, workshops or seminars are scheduled after hours.

Consequently, the non-technical workshops are held in the evening, and technical training, which requires the use of machinery, is to be held in the day-time.

More than thirty (30) workshops have been held in Serenan cluster. Generally, workshops have been attended by a significant number of members on a consistent basis even though they are held on consecutive nights. This implies that the Collaboration Unit has already illustrated the development ownership and the initiative of the project.

**Lesson 2: SMEs prefer workshops at night-time rather than day-time**

- It is important to arrange workshops not only with appropriate content, but also with convenient schedule to encourage participants to attend. In the case of Serenan, SMEs are willing to come to workshops at night, as they are unable to participate in day-time workshops.

Collaboration with local government openly is vital for successful development. The Collaboration Unit and POU have held frequent discussions with Dinas Klaten and received its firm commitment to cooperate with and support implementation of the Serenan pilot project. This commitment was reconfirmed in a meeting among the Collaboration Unit, POU and Bupati of Klaten held in January, 2003.

### *Assumption 3*

***A BDS provider who supports the pilot project should be recommended by the Local Government***

A BDS provider will play a role of POU coordinator in the basic implementation structure of the pilot project (see Section B, 1.1). Initially, a local BDS provider located close to Serenan was appointed to facilitate the pilot project and assist the BDS facilitator from Jakarta. A BDS provider, initially introduced by Dinas Klaten, however, was insufficiently qualified as a POU coordinator, having no experience in supporting SMEs in the furniture industry.

Discussed with Menekop, Dinas Klaten and a BDS facilitator in Jakarta, two BDS providers have been identified as candidates for POU coordinator. Ultimately, a BDS provider located at the centre of the University of Solo (UNS) has been appointed to join the pilot operation.

The UNS based provider joined the Collaboration Unit as POU Coordinator, and assumed responsibility to formulate plans and coordinate workshops and seminars under the action programs, in conjunction with the BDS facilitator. The empowerment of local BDS in the management of action programs has therefore been achieving and it will be maintained in the future.

**Lesson 3: Select openly to meet an appropriate BDS provider**

- It is not always suitable to invite BDS or other partners based only on a recommendation of the local network. To open the selection process is important in finding the appropriate candidate and to minimise complaints from other providers.

### C.1.2 Basic Technical Upgrading of Individual SMEs

#### *Assumption 4*

***It is necessary to introduce basic knowledge on product quality enhancement at the initial stage of the pilot project***

Technology

The challenge to technical improvements was initiated at a seminar on European classic furniture in January 2003. The seminar attracted the participants who demonstrated keen interest in obtaining information on European classic furniture. They were also eager to compete with Jepara, despite their lack of speciality in design. As furniture producers simply imitated samples provided by buyers, they have no opportunity to obtain background information regarding their products.

Workshops on production and wood use management were held in January, May and June 2003. At the workshops, basic technology for furniture making such as use of drawings based on actual furniture dimensions and schedule tables were taught to the cluster members. Although participants have been aware of their deficiencies in skills, they did not know how to overcome the deficiencies. Accurate drawing preparation by themselves is difficult to achieve in a short period. They have been guided to read existing drawings and apply these to their products. To improve production efficiency, they have also been advised to reform their production procedure by learning production management techniques. The participants have attained a step forward in improving the product quality. This has been further enhanced by on-site consultation.

To improve the quality of Serenan furniture, a "Jig" method and appropriate use of machinery have been introduced to Serenan cluster. The rate of mechanization in Serenan clusters remains low, though it is possible to improve the quality by using a Jig and the existing machinery. At the workshops on jig and machinery use in May 2003, the Collaboration Unit visited a model factory appropriate to Serenan

Training on Jig and Machinery Use

SMEs. The participants learned how to properly use machinery and Jig for production.

Management

A workshop on business planning, held in January 2003, has been positively responded by received positive response from participants. None of the participants had experience in preparing a business plan. For the first time, they prepared production plans, calculated production costs, and recorded the information in documents. They have appreciated the usefulness of planning in developing their business. The participants are now requesting continuous guidance to develop more precise and applicable business plans.

A workshop on accounting, held in January 2003, was also appreciated. The participants have been unaware of the financial conditions of their own businesses, simply because they had not maintained accounting books. Being micro enterprises, they did not recognize their limited capabilities. It was found, however, that they are capable of learning the necessary accounting skills which are essential to enhancing their business administration capabilities.

Accounting practice by group work

Finance

Workshops on financial analysis and financial information sharing were held in the Serenan cluster. It was reported in the financial situation analysis that SMEs in the Serenan cluster have been faced with difficulties of financial access because of the high interest rates. Moreover, many have no experience of saving in their business.

Financial Situation Analysis
(Presentation by group)

In the workshop on financial information sharing, the Entrepreneurship Development Centre and the Bank of Kechamatan Juwiring (BKK Juwiring) were invited. The guests and participants discussed the possibility of utilizing financial support available at both institutions. Participants who had been totally without financial information, have opened their eyes through the workshop.

**Lesson 4: SMEs are willing to join technical workshops if they are designed with practical and discussion sessions**

- It is necessary to plan workshops to attract the interest and encourage participants through practical and discussion sessions. Workshop organizers will also be able to obtain actual information of SMEs.

## *Assumption 5*

***Frequent discussions among SMEs are required to accelerate their network***

The Serenan cluster has no vibrant and extensive range of linkages among SMEs. Serenan SMEs have had only limited opportunities to familiarize with each other even though they are all located in close vicinity.

Through workshops, sessions on group work and discussions have been designed as much as possible. At the very beginning of the pilot project, a limited number of SMEs were able to express their opinions explicitly. Provided with many opportunities, they gradually spoke out and shared opinions. As a result of these frequent discussions, SMEs in Serenan achieved an improved level of communication and they became capable of outlining their visions for future development of Serenan.

**Lesson 5: Workshops provide opportunities to acquaint members**

- To overcome a lack of interaction among cluster SMEs, workshops can provide a good opportunity to discuss a wider range of topics, even though some are not directly intended. Since a majority of the participants can be categorized into a group that has willingness and eagerness towards the project, it is expected that frequent and open discussions would stimulate collaborative relationship.

## *Assumption 6*

***Consultation for individual SMEs has to be extended to follow up what is taught at the workshop.***

To follow up a series of workshops, JICA experts visited SMEs for individual consultations in conjunction with local experts. The individual consultations have particularly focused on production, wood use management, and improvement of dry kilns. Position of SMEs in terms of these topics varies widely. To ensure accurate advice on individual SMEs, a great amount of time has been spent by experts, discussing such issues with individual

Production Management

entrepreneurs or workers and stimulating their motivation.

**Lesson 6: One-on-one consultation with the local expert is effective**

- One-on-one consultation will directly fit the needs of SMEs and facilitate accurate advice by the expert. Individual consultation extended with the local expert, would facilitate and ensure better application of what they have learned in workshops to their business.

It is observed that many participants at workshops and individual consultations have initiated installation of parts of production and wood use management methods to their business operations as taught in the workshop. The challenge of technical upgrading has attained gradual but steady outcome. Further individual consultation focused on the individual level and individual issues has been extended, and each SME becomes more understandable on the points in which improvement is required.

SMEs challenges

## C.2 Middle Stage: Strengthening the Collaboration Unit

### C.2.1 Joint Actions

#### *Assumption 7*

***Attending the exhibition would be a good incentive to stimulate cooperation among SMEs in the cluster***

Planning for joint participation in an exhibition was launched as part of joint marketing in June 2003. At that time, the Collaboration Unit decided to attend the PPE (Resource Indonesia) held in October 2003.


PPE Preparation
(executive member meeting)

At the preparatory workshop, the Collaboration Unit indicated that the aim of participating in the exhibition was to promote Serenan furniture cluster to buyers at home and abroad, making their industry more widely recognized. Members discussed the detailed programs; e.g., what type of products they should bring, who would produce the products, and how to share the costs related to the exhibition. This joint action continued under the initiative of the

Collaboration Unit (JICA experts did not attend the joint action but prepared a manual for exhibition planning[1].) The Collaboration Unit discussed with members on the product selection, how to estimate and share costs, who are attending the exhibition representing the Unit, and how to design a brochure to promote the Serenan cluster.

In fact, the exhibition is expected to be a good opportunity for the Collaboration Unit members to conduct market research on export furniture. The exhibition will also serve as a study tour for the members.

**Lesson 7: The exhibition is not only a good opportunity for SMEs to collaborate but also the best chance for SMEs to accumulate experience in joint planning and preparation**

- To set a clear target (e.g., participation in the exhibition) stimulates collaboration greatly. The joint planning and preparation process supports SMEs to understand marketing and to demonstrate what they have learned through workshops.

### *Assumption 8*

***A private buyer-type BDS provider would provide effective services to SMEs.***

The products for the exhibition were prepared with the advice of a new buyer-type BDS provider who had worked at one of the largest furniture clusters, Jepara. A buyer-type BDS is quite effective for giving demand-side advice on how to improve their product quality and management. As Serenan SMEs had no direct interaction with buyers, they were unable to obtain useful information on improving their product even if it had been rejected.

The number of finished products (e.g., chairs, tables, cabinets) were in excess of forty, and only half the products satisfied the minimum requirement of product quality for the exhibition as judged by the BDS provider and JICA expert. The BDS provider and members of the Collaboration Unit collaborated in the final finishing work for the exhibition.

[1] The sample of the exhibition preparation manual is placed in Section E.

At the commencement of the finishing work, the majority of members hesitated to join it, as they had previously produced semi-finished products and they had little knowledge on how to undertake a proper finishing process. When they saw that their products had been repaired and joined the finishing process to produce a completed product for the exhibition, their motivation was significantly enhanced.

Work with buyer-type BDS

**Lesson 8: Buyer-type BDS provider is one of the most effective BDS**

- To call a buyer-type BDS provider will have a large impact to SMEs by providing real market information and quality requirement of buyers. Since not all buyers provide useful BDS to SMEs, cluster SMEs and facilitator need to exert an effort to find the buyer-type BDS provider.

Development of the Brochure

The participation in the exhibition encountered many difficulties involving decisions have been made by themselves. Preparation of a brochure for exhibition is an example. The person in charge of brochure development continually responded that "it is OK", despite the lack of action. It was completed only 4 days before opening of the exhibition opened when it was found that selection of photographs had still not been completed yet.


Brochure of BKS (Collaboration Unit)

The person in charge and JICA expert rushed to select the design, layout and script, and requested the design agent to complete the manuscript and forward it to a printing shop. The person in charge was scheduled to bring the printed brochure by night train, arriving in the morning of the opening day of the exhibition. All involved were relieved when the brochure was delivered on time.

### *Assumption 9*

***It is difficult to ask SMEs for the cost sharing of the project.***

The cost to participate in the exhibition has been shared by members of the Collaboration Unit. Around 60 members agreed to contribute a certain amount depending on their situation. This cost sharing is a proof of the progress of SMEs in terms of joint actions in informal group activities. As a result of their contribution, the Collaboration Unit covered the costs for finishing work, transportation, and accommodation of members attending the exhibition (not all members could attend).

**Lesson 9: Cost sharing is acceptable to SMEs if its purpose is business-oriented**

- SMEs are willing to share the cost of joint actions when they understand that the target of the actions is business-oriented as they expect clear and visible benefits from the actions. Once they agree on the purpose of the actions, they do not mind contributing a certain amount even if their business is not sufficiently profitable.

### *Assumption 10*

***Experience in direct transactions with buyers is essential to improving business in the cluster***

The 5-day exhibition in Jakarta (PPE: Resource Indonesia, 2003) opened on 15 October 2003. At the commencement, representatives of the Collaboration Unit were not actively dealing with buyers who visited the booth. Buyers showed some interest in their products; however, nobody distributed brochures or name cards without the support of BDS and JICA experts. SMEs did not know how to communicate with buyers directly as they have no experience in this area of business. An evaluation workshop was held at the end of the first day to discuss how to promote and communicate with buyers.


Booth of Collaboration Unit


Promotion to Buyer

They adjusted their approach to buyers gradually in the course of the exhibition; however, they had little knowledge on how to directly negotiate with buyers. They

were not able to expand their negotiations to relevant business details, for example, knowing the capacity of containers or the payment terms for exports. BDS providers and JICA experts provided advice at the exhibition in the form of on-the-job training. Further training in these respects is necessary for the Serenan SMEs.

**Lesson 10: Direct interaction with buyers**

- Buyers are central actors for producers. It is crucial for SMEs to develop an intimate relationship with buyers to obtain useful information on markets, to improve the quality of their products and to reduce transaction costs.

## *Assumption 11*

***An exhibition is a good opportunity to stimulate entrepreneurship of SMEs***

A broad variety of products and sizes of enterprises have been exhibited in the PPE (resource Indonesia). Many enterprises exhibited furniture of similar types as produced in Serenan. It was in fact the first time for Serenan SMEs to see such varieties of furniture and enterprises.

Another purpose to join the exhibition was to expand the vision of SMEs and stimulate their level of entrepreneurship. The participants recognized that they were in the midst of many competitors in the export furniture market. The exhibition has provided them with a good opportunity to gain valuable experience and combine their linkages to better compete in the market.

**Lesson 11: The exhibition stimulates entrepreneurship by forcing SMEs to open their eyes and recognize their position**

- Attending a relatively large-scale exhibition will give SMEs a chance to understand the actual business conditions. The exhibition provides an opportunity to observe many competitors and products with which SMEs have to compete. The exhibition is expected to stimulate SMEs in many areas.

## *Assumption 12*

***Joint action is a useful approach to increase cooperation in the cluster***

Kiln Improvement

There are two types of kilns in Serenan. One is a public kiln, a so-called “government kiln” by the Central Java government. The other is the individually owned kiln. Methods to improve the efficiency of both kilns have been discussed among experts, local BDS and the Collaboration Unit. For the public kiln, BDS and the Collaboration Units prepared a report outlining several points for improvement and forwarded it to the Dinas Klaten.

Members of the Collaboration Unit recognize the necessity to jointly operate their kiln. Issues related to the joint are operation is to be discussed further, as members have gradually come to understand the market requirement for the moisture contents.

Joint Action in Finance

The Collaboration Unit has discussed the possibility of operating their own village bank in Serenan. To examine the opportunities of micro finance in Serenan, a local BDS provider has assisted in obtaining information. For instance, there is a system of village banks named Swamitra, which was established jointly by the Bank Bukopin and a village cooperative. Another possibility is to form a credit cooperative. It is expected that the Collaboration Unit will continue research to improve their access to finance.

**Lesson 12: Joint action strengthens the internal linkage or partnership among the cluster members**

- Joint actions will enhance effectiveness and efficiency and will reduce costs and risk for individual SMEs. As there are many types of joint action, approach should be carefully taken to determine those suitable for each cluster based on the respective situations. It can be concluded that joint actions are conducive to dynamic clusters through strengthening their internal linkages.

## C2.2 External Linkage

### *Assumption 13*

***SMEs hesitate to cooperating with external stakeholders as they prefer to be independent***

The association, the ASMINDO (Association of Furniture and Handicraft Industry) supports furniture exports, and it has branch offices in Surakarta region. Although, a majority of Serenan products are exported, only a small number of SMEs are registered as members of ASMINDO or know of its existence. In August 2003, ASMINDO was invited to Serenan to introduce their activities and benefits for SMEs.

Information Seminar of ASMINDO

It was found that Serenan SMEs had negative views towards buyers who usually pressed them on price without providing any useful advice to improve quality. On the other hand, buyers and traders also have similar views towards SMEs due to qualitative deception by SMEs. Such being the situation, discussion with ASMINDO and introduction of a buyer-type BDS provider was the first occasion in which SMEs

had obtained the views of buyers or traders on their product. This type of discussion seminar is effective in Serenan, improving communication and collaboration among SMEs, buyers and traders.

**Lesson 13: Open information system through seminars on information sharing is indispensable**

- In reality, SMEs in the cluster face a lack access to useful information. They are looking for information but do not know how to obtain it. Information seminars, regular or occasional, are useful for cluster SMEs to obtain information and to recognize their actual position. Information seminars also provide opportunity to increase communication between SMEs and stakeholders.

## C.3 Final Stage: For Self-Sustainable Development

### C.3.1 Strengthening the Linkage with External Stakeholders

Linkage with Local Government

A workshop with local government was held with Dinas Klaten in October 2003. Representatives of Serenan SMEs and BDS provider reported their experience in the exhibition and pilot project. SMEs emphasised that the exhibition opened their eyes on competitors and requirements in the export furniture market. They also confessed that the Collaboration Unit had difficulties in reaching a consensus among members and spent significant time on this aspect.

Presentation to Local Government

The head of Dinas Klaten suggested legally formalising the activities of the Unit and increasing ownership. The Dinas assumed the willingness of local government to support the Collaboration Unit and joint efforts to work for development in Serenan.

Linkage with Local BDS

The pilot project has been supervised by JICA experts in conjunction with the POU cluster coordinator and BDS providers. The BDS providers had followed the JICA expert throughout on-the-job training. The motivation and ownership of BDS in developing the Serenan cluster had been enhanced by their contribution to the pilot project. They have already taken initiative in supporting the Collaboration Unit after completion of the pilot project.

## C.3.2 Further Steps for Collaboration Unit

### *Assumption 15*

***SMEs need further action plans to expand their activity for development of the cluster***

All action programs of the pilot project in Serenan were completed by the end of October 2003. The Collaboration Unit discussed on their vision and actions to be followed. Their vision for the next three years is to improve product quality and expand their share in the export furniture market.

Action planning by group work

Actions envisaged under the vision will include enhancement of linkages with buyers and any business partners, improvement of product quality by production and wood use management, upgrading of management, and promotion of standardization. The action plan, as discussed in the workshop, still needs to be designed in detail. However, their initiatives for development of Serenan cluster are major outcomes of the pilot project.

Presentation by SMEs

**Lesson 15: Action planning by SMEs increases their ownership**

- To develop an action plan for the next few years, it is crucial to increase involvement of SMEs through increased ownership. Even if the plan is simple, it is important to formulate a plan based on the needs and initiative of SMEs.

### *Assumption 16*

***The new forum of cooperation would be established based on the Collaboration Unit.***

It must have been a great challenge for the cluster members to have formed the Collaboration Unit. At last, they have succeeded in the pilot project by the actions designed and executed by the members. Through many discussions and activities within the Collaboration Unit, the participants have created and enhanced trust relationships and internal connections.

The Collaboration Unit formed for the pilot project is an informal grouping. Members of the Collaboration Unit further discussed to modify their structure to be a more legal

format. In November 2003 it was agreed to formalize the Collaboration Unit as a cooperative.

**Lesson 16: Targeting a new group more active than the existing cooperatives**

- The existing cooperative is not always active and efficient in rural areas. There are many non-member SMEs willing to exert effort to improve their businesses. In the pilot project in Serenan, a new "Collaboration Unit" was formed by furniture producers, collectors and material suppliers, and it has been formalized after its operation for one year.

It is necessary to focus on SMEs or groups who have a strong willingness to develop their businesses. Formation of the new active group will be a leading engine for further cluster development.

# D. PROGRAM EVALUATION

## D.1 Evaluation by Determinants

### D.1.1 Demand Conditions

***Expected outcomes***

- *Absorb the basic knowledge of how to improve their orders*
- *Increase demand for Serenan product*

***Achievement***

*Direct promotion to buyers for expansion of the export market*

The exhibition has been a significant experience for Serenan SMEs to learn how to promote their products directly to buyers. Although the amount of sales at the exhibition was small, they had many discussions to improve their communication skills with buyers. The Collaboration Unit has initiated preparation of a mailing list of visitors.

Internal Meeting at the Exhibition

### D.1.2 Factor Conditions Expected Output

***Expected outcomes***

- *Enhance awareness of technical upgrading to improve quality*
- *Enhance entrepreneurship of SMEs*
- *Absorb basic knowledge of how to improve product quality*
- *Reduce financial constraints*

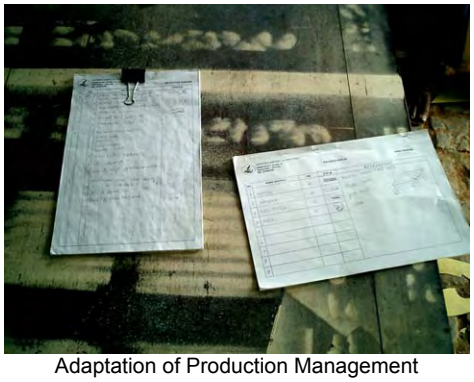
***Achievement***

Realize the importance of product quality

At the initial stages, SMEs in Serenan have been unaware of the importance of product quality and competition in the export furniture market. Frequently held workshops highlighting to change the minds of SMEs in the furniture business, they gradually moved their attention to product quality. At the end of the pilot project, SMEs have remarked on their awareness of quality improvement and how it affects their business.

Production management applied to their business

During the one-year pilot project, consultation has been extensively and intensively provided on quality improvement, particularly associated with the introduction of production management, proper wood drying and precision of products. Some SMEs have increased their interaction with buyers, requiring more information on products and markets. Some cluster SMEs have requested buyers to send drawings of products instead of simply sending pictures or samples.



Adaptation of Production Management

Application of proper wood drying process

In terms of wood drying, SMEs have come to realise that the moisture content of furniture is one of the most crucial aspects in product quality. The Collaboration Unit has launched a program to renovate the public dry kiln, provided by the provincial government of Central Java. On an individual basis, however, SMEs are obliged to review the manner in which they apply for wood drying. It seems to take a longer period to strictly meet the requirement for drying.

Increase their knowledge and awareness of the export market (marketing ability)

The pilot project concentrated on increasing knowledge of European classic furniture and its market. It also provided the opportunity for SMEs to become more familiar with the concept and actions of entrepreneurs. Through the exhibition and factory visits, SMEs indicated these activities provided an insight and expanded their awareness of the intense competition in the export furniture market.

Although SMEs come to understand the existing business environment, most SMEs face a lack of negotiating capacity with buyers. They must learn how to deal with buyers in the export market by means of training or attending seminars on dealing.

Improve financial accessibility

To improve financial accessibility, an information seminar has been held, inviting a bank officer. SMEs and the bank officer have discussed the difficulties and necessity to have access to banks, and how to improve their conditions. Likewise, the Collaboration Unit has examined the possibility of establishing a village bank in Serenan as a joint action. This action is to be followed with a support by BDS providers.

SMEs have also participated in an accounting workshop to learn how to calculate costs and benefits and improve their bookkeeping skills. Much more time is needed to accomplish these skills and apply them practically to their businesses.

Collaboration with wood supplier

The Collaboration Unit has succeeded in involving a wood supplier in the Unit, as the majority of Collaboration Unit members are producers of furniture. With a chain of members in the Unit, the internal linkage has been strengthened. The Unit is expected to efficiently manage procurement of raw materials by strengthening linkages with material suppliers.

Although no quantitative indicator is made available on the cost of production, improved wood drying and wood use management in the pilot project have resulted in a reduction in the cost of raw materials.

### D.1.3 Structure and Rivalry

***Expected Outcome***

- *Enhance awareness of cooperation among SMEs in the cluster*
- *Implement joint actions by SMEs*

***Achievement***

Formation of new cooperation

The formation of a new internal linkage of SMEs or the Collaboration Unit has attained a significant achievement through the pilot operation. SMEs in Serenan, who were unable to cooperate even with neighbours, have come to be aware of the importance of working together to overcome their constraints due mainly to small sizes. Their ownership to sustain the Unit has been consolidated, and it has been decided to legalize the Unit as a new cooperative.

Members of Collaboration Unit

Generate several joint actions

A joint participation in the exhibition has been an epoch-making event. By attending the exhibition, the Collaboration Unit has achieved the aim of sharing the cost among members. Other joint actions such as improvement of the public kiln and improvement of financial access through establishment of a village bank in Serenan are underway. This is one of the outcomes of the empowerment of SMEs in the Serenan cluster.

### D.1.4 Related industry and supporting institutions

***Expected Outcome***

- *Enhance awareness the importance of networking with stakeholders*
- *Strengthen the linkage with related agencies*

***Achievement***

Increased utilization of BDS and its localization

To strengthen the capacity of BDS, the pilot project provided them with the opportunity of on-the-job training by a JICA expert, as it was difficult to find a capable local expert for Serenan cluster specialized in the niche market of European classic furniture. Through on-the-job training over one year, BDS providers have internalized specific techniques on Serenan products and markets.

Collaboration with BDS provider

Great strides have been taken by mobilizing a buyer-type BDS provider in the latter half of the pilot operation. This buyer-type BDS provided useful guidance associated with buyers, e.g., market information, minimum quality requirement of buyers, appropriate information on prices. His service greatly stimulated the entrepreneurship of Serenan SMEs.

Generate linkages with supporting associations

SMEs in Serenan have had poor external linkages and, in particular, had no significant relations with furniture-related agencies. To overcome this situation, an information seminar has been held with ASMINDO. The seminar has promoted an exchange of views on the furniture business among SMEs and buyers or traders. The linkage and bridging among them has been generated through lengthy discussions.

Strengthen the linkage with local government

The majority of Serenan SMEs had relationships with local government authorities such as Dinas Klaten. During the pilot project, more active interaction and discussions have been promoted with Dinas Klaten, inviting her to workshops. Dinas Klaten has increased local government's interest in the Serenan cluster, noting the energetic activities of the pilot project. In the discussion workshop with local government at the end of the project, Dinas Klaten has reaffirmed their commitment to support the Collaboration Unit.

### D.1.5 Social capital

***Expected Outcome***

- *Re-build the trustful relationship among SMEs*

***Achievement***

Increase mutual understanding among SMEs

Through the one-year operation of the pilot project, a new spirit of collaboration has been created among SMEs overcoming the past negative attitude towards cooperative. SMEs who had not fully agreed on working jointly in the project have gradually been eliminated and SMEs willing to collaborate and contribute to Serenan cluster have remained. A trustful relationship among SMEs has been established, providing a positive impact on their further actions.

## D.2 Sustainability

### D.2.1 Measures taken to ensure sustainability?

Expectedly, in a longer-term perspective the impact of the pilot project operation in Serenan will be expected and sustained for the following reasons:

Firstly, SMEs have become active in their businesses, trying to extricate themselves from the previous stagnation and the limited entrepreneurship observed before the pilot project. Ownership in activities of the new cooperation, namely the Collaboration Unit, has been enhanced through legal formation of the cooperative.

Secondly, the pilot project has focused on the introduction of appropriate technology to suit each SME. It has been programmed within the capacities of the participants to absorb new information. Advanced concepts and techniques can hardly be absorbed by SMEs, as well as to local BDS in a short period. It is expected that SMEs will enhance their level of technology, step-by-step.

Thirdly, a linkage with external stakeholders has been strongly formed by the pilot project. It is expected that the current business interaction will continue, generating further vital linkages. Once this interaction attains a positive output, more buyers or related agencies will come to the cluster, further increasing a positive spiral.

Fourthly, BDS providers have been trained to provide in-depth support. Moreover, BDS providers have raised their level of willingness to involve themselves in developing the Serenan cluster once the pilot project is completed.

Finally, the pilot project has succeeded in convincing the local government to play a role in Serenan cluster. The local government has also elevated their level of commitment and support to SMEs in Serenan.

### D.2.2 What needs to be considered further?

In fact, a consensus among SMEs takes a considerable period. By the end of the pilot project, the Collaboration Unit has been strengthened by the pilot activities. However, a credibility gap still remains substantially. When the Collaboration Unit expands its activities to businesses with profits and losses, the Unit must pay closer attention to equitable distribution among members. This could be the most difficult issue for any SME when they have aspired to undertake something jointly. An external support, either public or private, would therefore be required.

In terms of external factors, several issues would negatively affect Serenan cluster. For example, Serenan SMEs tend to be affected by a fluctuation in the size of export markets on which they are totally dependent. If the fluctuation is positive, cluster development would be accelerated. On the contrary, if negative the outcome of their efforts on the pilot project could be minimized.

In addition, SMEs have to consider effective use of raw materials. Environmental impacts of logging is one of the major concerns, as the level of restrictions on logging will be intensified. Another concern is the price increase of wood and for protection of the environment. Serenan SMEs are now using village teak in their products, albeit to some extent. Utilization of other types of wood is an alternative solution. Nonetheless, it is time for SMEs to think seriously about the use of raw materials.

It should be emphasized that Serenan cluster should not look to become a mass-production type furniture industry that requires a large volume of logging, but remain a manufacturer of a niche product (European classic furniture) that consumes a relatively small volume of raw materials. A traditional practice to cultivate village teak should be encouraged in order to create a circular system for producer and use of raw materials at the cluster level.

In conclusion, Serenan would be a dynamic cluster in five to ten years, provided that the approaches initiated by the project would be continued for upgrading of individual SMEs, strengthening internal and external linkages. The strengthening of external linkages, in particular, calls for the inflow of new information and new business contacts. That inflow accentuates the importance of the function of cluster strengthening. Once it commences growing, Serenan will develop as a dynamic without negative external factors to be caused.

## D.3 Findings and Lessons Learned

Experience from the one-year pilot project provides many lessons and findings, which are to be reflected in i) the strategy and program of cluster strengthening, and ii) in the cluster and SME development. Lessons on cluster and SME promotion can be further reflected in the improvement of BDS and the role of the government.

### D.3.1 Findings and lessons to be reflected in the program of cluster strengthening

(1) Strategy to stimulate the organization

- When a new organization is intended in the cluster, adequate time should be allocated to carefully select its members and closely look into the historical background of the cluster. Otherwise, the unit would not work actively and would not be sustainable.
- The existing cooperative is not always active in rural areas. Many SMEs are willing to improve their businesses though they are not members of a certain cooperative.
- It will not always be suitable to invite BDS or other partners based merely on a recommendation of the local network. The selection process with in-depth discussions with stakeholders is important to find appropriate candidates and reduce complaints from other providers.

(2) Strategy to stimulate the linkage

- Joint actions will enhance effectiveness and efficiency, reduce costs and minimize risks for individual SMEs and be more beneficial than individual activities if successfully operated.
- Many types of joint action are conceivable; however, careful attention should be paid to determining those suitable for each cluster Properly programmed joint actions are conducive to consolidate clusters through strengthening their internal linkage.
- A clear target should be defined for joint actions, such as joint participation in the exhibition. It will stimulate the cluster members to collaborate much more intensively.
- Participation in a relatively large scale exhibition provides the opportunity for SMEs to fully comprehend the actual situation in their line of business. The exhibition gives an opportunity to meet competitors and see product with which

SMEs need to compete. The exhibition is expected to stimulate SMEs in many senses.

(3) Strategy to stimulate business

- To activate business, buyers are central actors. It is crucial for SMEs to develop an intimate relationship of trust with buyers to obtain useful information on markets, to improve the quality of their products, and to reduce transaction costs.

### D.3.2 Lessons reflected into cluster and SME development in common

(1) General Issues for SME / Cluster Development

- A majority of SMEs in Serenan cluster operates their businesses without phone and fax as the telecommunications networks are yet to be installed in the Serenan area. It is necessary to have IT access to expand business in the global market. It is obvious that these essential conditions have affected their business. There is an urgent need to improve local infrastructure.

- The basic education system should be upgraded in rural areas. SMEs in Serenan cluster are heterogeneous with educational backgrounds varying from the illiterate to the advanced academic background. Education has a significant impact on SMEs in their long-term business capabilities. Limited education will discourage them from improving their businesses and force them to leave from the employment.

- To improve interaction among SMEs in clusters, workshops can be a good opportunity for them to discuss a wider range of topics, including those not directly intended for discussion. Open discussions in workshops will stimulate and connect the participants, enriching the social capital.
- In reality, SMEs face a lack of access to useful information. Public and private information seminars, regular or even occasional are useful for cluster SMEs to obtain wider information.

(2) Program Operation

- It is important to appropriately arrange workshops not only in their content but also in their scheduling to encourage participants to attend. In the case of Serenan, SMEs prefer to make it at night (as they requested).
- Workshops should be programmed to satisfy the interests of SMEs and promote participation in the topic. SMEs become more involved in practical and

discussion sessions of workshops. It is also useful for workshop organizers to obtain actual information regarding SMEs.

- One-on-one consultations meet the direct needs of SMEs. The one-on-one consultations by local experts would be more effective, reducing the language gap and making use of local information.
- To develop an action plan for the next few years, it is crucial to increase the involvement of SMEs and promote their ownership. Even if the plan is simply designed, it is more important that the plan be based on the needs and priorities of SMEs.

## D.4 Towards the Dynamic Cluster

### D.4.1 Position in the development scenario

Along with the development scenario formulated by the Serenan cluster members (see FigureB.1), the pilot project has primarily achieved Step 1 and some components of Steps 2 and 3. The program of wood use management and production management has contributed to the improved working environment in Step 1. It has also enhanced the level of appropriate knowledge and techniques of wood drying and furniture making in Steps 2 and 3. Likewise, the joint exhibition in Step 1 has been achieved. In addition, joint use of the kiln has been launched during the pilot operation. The pilot project also provided the opportunity to hold regular study seminars in Step 3. These achievements have not only improved the knowledge of participants but also reduced the communication gap among the cluster members. If the development scenario is followed, Serenan cluster could become a dynamic cluster within a five-year-period.

The effort of the Collaboration Unit has been outstanding throughout the pilot operation. However, there remain some issues that could restrict the outcomes and potential to become a dynamic cluster. Although SMEs have learned how to upgrade their product at the basic stage, it must be reiterated continually to make it sustainable. There is a risk of returning to the dormant cluster if the level of effort is not maintained, thus losing the goal of becoming a dynamic cluster.

### D.4.2 Towards the dynamic cluster

As noted in Section A, Serenan cluster is composed of 730 wooden furniture and related SMEs. Members joining the pilot project numbered around 60. The Collaboration Unit has been formed with members who have willingness to exert efforts required for the pilot project.

If the Collaboration Unit follows their designed scenario (see FigureB.1), Serenan cluster would become a dynamic cluster though it would not cover cluster SMEs totally. The Collaboration Unit is an open organization, and those motivated and willing to exert efforts can join and collaborate. However, SMEs having no willingness to exert efforts for improvement should be separately motivated by re-education and training. A selective approach is required in making SME clusters dynamic.

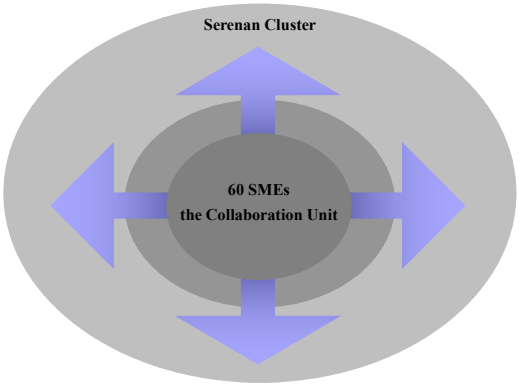



**Figure D.1 Image of the dissemination of the pilot project in the cluster**

The Serenan pilot project proves that the Collaboration Unit can be a core engine of cluster development. It would be applicable as a model unit to other cluster SMEs. It is recommended that advice to Serenan cluster be continued periodically to ensure success as a dynamic cluster.

# Part 3

# Pilot Roof-tile Cluster

# Kebumen

## - 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 Kebumen

### A.1.1 Location

Kebumen roof-tile cluster is located in Kebumen Regency and covers three villages in Kechamatan Pejagon. The Regency is situated in the southern part of Central Java, approximately 100 km to the west of Yogyakarta. Rice production and inshore fishery are dominant industries in Kebumen. The cluster extends along the road, which connects to Yogyakarta and Bandung.


### A.1.2 History

Roof-tile production in Kebumen dates back to the time when Mr. Van der Sook and Vlams of the Netherlands East Indies Government found quality clay material suitable for tile production in Pejagon village. One of the roof-tile producers, known as Jaya, established the first roof-tile factory known as AB Sokka, in 1913. Thereafter, many farmers took up roof-tile production as another cash income source.

### A.1.3 Regional Economy

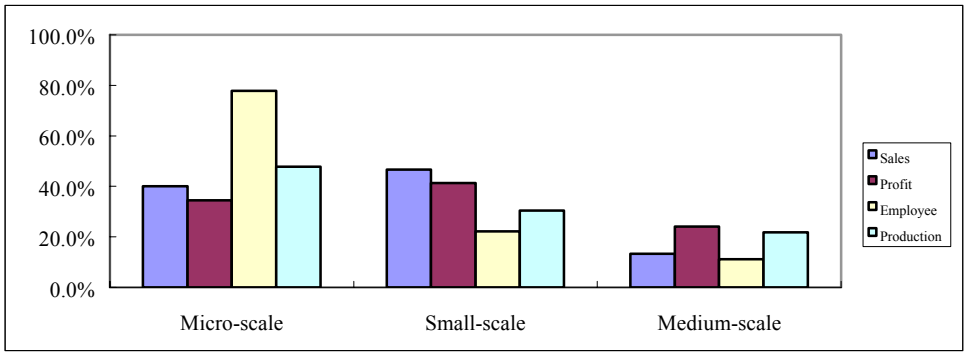
The roof-tile industry in Kebumen plays a relatively insignificant role in the regional economy. In 1999, the value-added amounted to about Rp. 15 billion or about 2% of the Gross Regional Domestic Product (GRDP). Employment by the industry in 1999 was estimated to be around 5,800 workers, or around 1% of the district workforce.

## A.2 Cluster Characteristics

### A.2.1 Size and Scale

Most roof-tile enterprises in Kebumen are small and micro-scale units, handling all production processes (from clay preparation to burning). Some enterprises rely on out-

sourcing for clay preparation and processing. The number of roof-tile SMEs in Kebumen is approximately 800, almost all spreading over the three villages in Kechamatan Pejagon. Of the total, around 290 have business registration status, certified by Kabupaten DINAS for Industry, cooperative and SMEs (DINAS Perindakop). At present, there is no active production cooperative in the cluster.




Note : Sales - Micro (< 0.2 bil.), Small (0.2 bil. < 1 bil.), Medium (1.0 bil. >)
Profit - Micro (< 20 mil.), Small (20 mil. < 50 mil.), Medium (50 mil. >)
Production - Micro (< 0.8 mil.), Small (0.8 mil. < 2 mil.), Medium (2 mil. >)
Employees - Micro (1-4 per.), Small (5-19 per.), Medium (20 per. >)
Source : JICA Study Team (Cluster SME sample survey)

**Figure A.1 Dispersion of SMEs by scale in Kebumen roof-tile cluster**

According to the statistics, the scale of business and productivity of the roof-tile cluster is lower compared to the national average of roof-tile clusters. Nevertheless, Kebumen has been one of the leading tile clusters in Central Java.

**Table A.1 Comparison of the business scale and performance**

| Roof-tile clusters (average figure for province and national) | Kebumen | Central Java | National |
|---|---|---|---|
| Registered enterprise per cluster (unit) | 290 | 360 | 280 |
| Employment per enterprise (person) | 5 | 3 | 5 |
| Investment per employment (Rp.) | 86 | 36 | 103 |
| Productivity per employment (Rp.) | 327 | 275 | 1,167 |

Source : Ministry of Industry and Trade, 1996

## A.2.2 General Situation

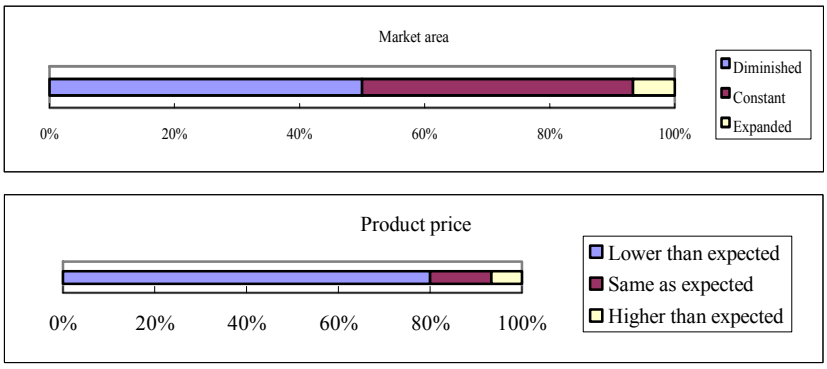

Roof tile product (sample)

Roof-tile products in Kebumen are widely known by the brand name of *Sokka*, especially in Central Java (also some regional cities in West and East Java), and are mostly preferred by the middle and lower income groups. Approximately 50% of Kebumen roof-tile products are marketed in Central Java. Roof-tile customers and buyers are mainly contractors, material shops (also referred as agents), farmers, fishermen, school committees, and individuals.

Throughout Java-Bali Island, there exist around 65 roof-tile clusters. Competition in the roof-tile market has been and will be intensified further in the coming decade. Kebumen roof-tile cluster, though still regarded as a prominent roof-tile cluster in Central Java for its brand name of *Sokka*, will be subject to severe competition in the region. Kebumen's presence is found in the middle level and is characterized by its traditional technology and second-rate quality.

Major threats to the cluster are two-folded. Firstly, regional market demand for Kebumen roof-tile product is declining due to reduced purchasing power in the market after the economic crisis. Besides, roof-tile consumers and buyers in the existing market are increasingly sensitive to prices. In Central Java, there are a number of roof-tile clusters, and Kebumen cluster faces a harsh price competition with such clusters offering lower quality products at lower prices to the same market. Consequently, the market share of Kebumen in the region has decreased over the last five years.

Secondly, Kebumen cluster faces competition with the large-scale roof-tile manufacturers, who achieve higher efficiency and product quality.




Source : JICA Study Team (Cluster SME sample survey)

**Figure A.2 Market performance of Kebumen cluster**

The roof-tile cluster in Kebumen relies on traditional technology and its technical innovation processes are slow. Kebumen producers still use manual hand-presses introduced in the mid-1970s and clay extruders (*mollen*) adopted in the 1980s. Burning still relies on fuel wood in traditional kilns.

Typical kiln in cluster

Product quality is at the medium level, due mainly to the favorable quality of clay available to the cluster. The cluster can obtain high quality clay from a nearby village and the surrounding area. Fuel wood is another important material for the industry and it is supplied from outside traders. The product is mainly

a non-grazed roof-tile with a variety of forms. Standardization of the roof-tiles in size, weight and quality among the cluster SMEs has not been achieved yet.

## A.3 Determinants of Cluster Dynamism

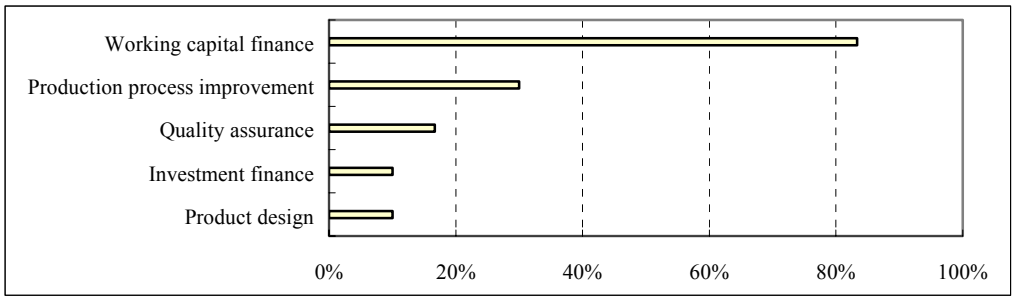
### A.3.1 Demand Conditions

Roof-tile agent

Although a vertical linkage with markets exists through the buyer and agent (or material shop), it is yet insignificant. Marketing and sales activities are generally undertaken in a passive manner, with producers waiting for calls from buyers and agents. Although they are expected to play an important role in connecting the cluster SMEs to more updated market trends, many buyers and agents function as "passive agent", simply waiting for the order from consumers. Therefore, they do not really provide any valuable market information that stimulates the cluster activities.

The dominant market of the cluster is middle and low income level customers, and the main concern of buyers is increasing sensitivity to price and not product quality . A few SMEs, however, have a sound linkage with buyers who prefer the *Sokka* brand. The buyer's contribution to the cluster is limited to the working capital finance.

To avoid further price competition, the cluster SMEs should develop a market channel, through which their product can be judged in terms of quality rather than price. The channel will facilitate the access to market information and technical innovation.




Source : JICA Study Team (Cluster SME sample survey)

**Figure A.3 Availability of support from buyer, trader & agent**

Currently no sales representatives are posted by the cluster in major consumer cities. So far, the cluster SMEs have not initiated any significant marketing and sales promotion activities. Despite substantial price-reduction pressure from other clusters, no action has been implemented for market segmentation and product differentiation.

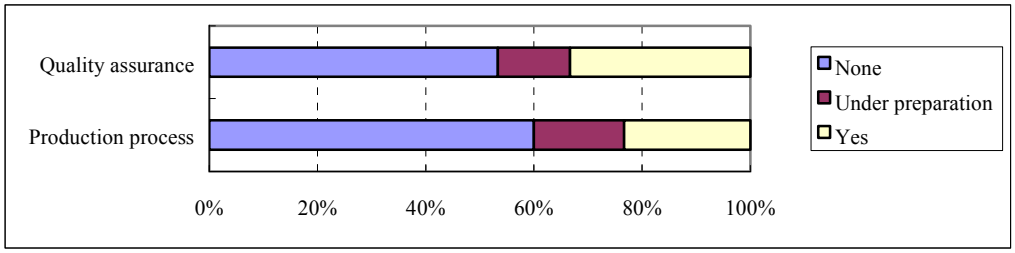
## A.3.2 Factor Conditions

Production Technology and Material

Manual hand-press

No notable innovation in technology has been attained since the 1980s, except for some minor modifications of facility and production practices. Roof-tile producers in Kebumen are still using equipment and machinery introduced in the mid-1970s and 1980s. Burning still relies on fuel wood in traditional kilns. It is widely observed that the cluster has been concerned with increasing demand, rather than improving the production process and quality.

Availability of high quality clay has also retarded the introduction of new technical innovation processes. Kebumen cluster remains at a level of producing medium quality roof-tile, while placing less attention on improvement of the production process.




Source : JICA Study Team (cluster SME sample survey)

**Figure A.4 Technical modification and improvement**

Depending on the traditional technology, the cluster enterprises face a high defect ratio (25%-30% on an average) in the production, and find it difficult to ensure a sizable production while maintaining a certain quality level. The following issues are identified as the major technical constraints attributable to such poor production performance and efficiency:

- Low temperature and heat localization in the burning process, resulting in high water content ratio and weak tile structure
- Abrupt drying practice, bringing about damage in clay product
- Inefficient extruding practice with small power capacity, requiring high water content in clay and resulting in over-stressing in clay product
- Insufficient clay stocking, resulting in less bio-chemical fermentation and less standardized composition

Products have not been diversified since the commencement of the industry, and the cluster has been primarily dependent on non-grazed roof-tiles. In terms of grazing technology, skills developed in advanced clusters like Jatiwangi near Jakarta, have not been disseminated in Kebumen.

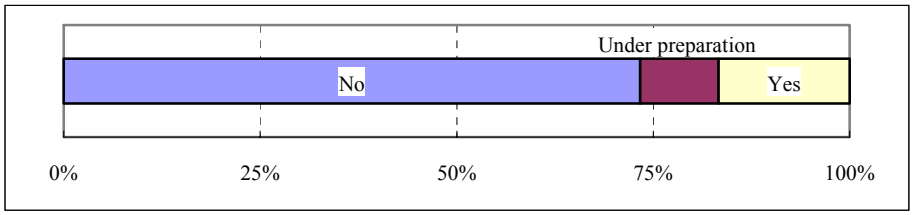
Regarding the material, the cluster enjoys access to quality clay in a nearby village and the surrounding area. However, material composition (when mixing with other agent materials such as sand and kaolin) has been neither measured nor standardized. When mixing the material clay with agents, the process is still dependent on the worker's intuition, making it hard to ensure a certain product quality.

Capital Formation and Accessibility

Almost two-thirds of cluster SMEs rely on a simple financial recording procedure (cash-based sales and expenditure book)[1]. Proper accounting and cost calculation practices have not been followed, mainly because SMEs have not intended to learn.

Clay deposit location

Consequently, most SME owners make a decision on expenditure (i.e. routine production) and capital investment by referring to their individual savings and availability of borrowing. The product price is usually set at a level sufficient to cover costs of labor, materials, machinery, mobilization, and margin. Such an accounting and financial management practice has brought about sluggish capital formation.



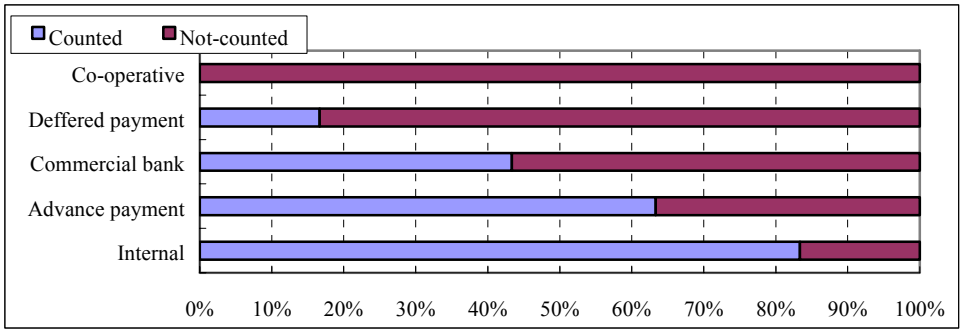

Source : JICA Study Team (cluster SME sample survey)

**Figure A.5 Capital investment in year 2002**

Middle-scale roof-tile enterprises in the cluster have an access to the state banks such as BRI and BNI for their working and investment capital requirements[2]. Accessibility to these banks by small-scale enterprises is limited due to lack of collateral and high borrowing cost (21% annual interest rate with 1.5 year repayment period on an average). They are familiar, however, with the procedures to apply for the borrowing.

[1] From the cluster SME sample survey by JICA Study Team

[2] There are also the branch offices of Central Java Development Bank, Bank Danamon, Lippo Bank available in Kebumen.




Note : Co-operative here means a production co-operative excluding savings / credit co-operatives.
Source : JICA Study Team (cluster SME sample survey)

**Figure A.6 Source of working capital**

Many small and micro-scale producers usually rely on working capital finance from the medium-scale collectors and buyers who purchase the product (in the form of down-payments).

There are several cooperatives, engaged in savings and crediting activities (working capital only). Such savings and credit cooperatives are available for all types of industry on a collateral and membership basis. However, according to a financial institution in Kebumen, lending to the roof-tile industry is currently restricted to those who have a strong market channel. This is because roof-tile demand is declining, and overdue is often recorded in repayments.


Saving / credit co-operative

## A.3.3 Structure and Rivalry

Internal Network and Linkage through Cooperative

To strengthen social cohesion among cluster SMEs, around 30 SMEs formed a production cooperative in the early 1980s. They jointly procure clay material and fuel wood, receive and distribute orders. As observed in many other cases in Indonesia, this cooperative was formed based on the existing production group (tied by the relation between the enterprise acting as a leader or collector, and its companions or sub-contractors).

The challenge to formally strengthen cooperation among SMEs has not been successful due mainly to poor managerial capacity and lack of rationality. Poor management practice has favored a few influential members, that is often observed in the budget allocation and order-distribution. In addition, the cooperative did not

possess enough capacity to realize an economy of scale in bulk-material procurement by involving other non-member SMEs.

Business scope of the cooperative no longer attracts the members' attention, and the business practices have became merely institutionalized under the cooperative system. The substance has not been changed from the time of the companion group (*kelompok*). The cooperative still exists[3]. It consists of around 30 SMEs but it is no longer active due to a lack of mission and functions.

Internal Network and Linkage

With the insignificant presence of cooperatives, sales and delivery has been gradually shifted to the scope of individuals or groups of SMEs. Those activities are mostly controlled by some 40 medium-scale producers, who play a role as "internal agent" in the cluster and function as collector (or bulk-buyer). Those producers form a production group with tens or hundreds of small-scale producers, in order to correspond to a large volume of order and to achieve a sizable production network.

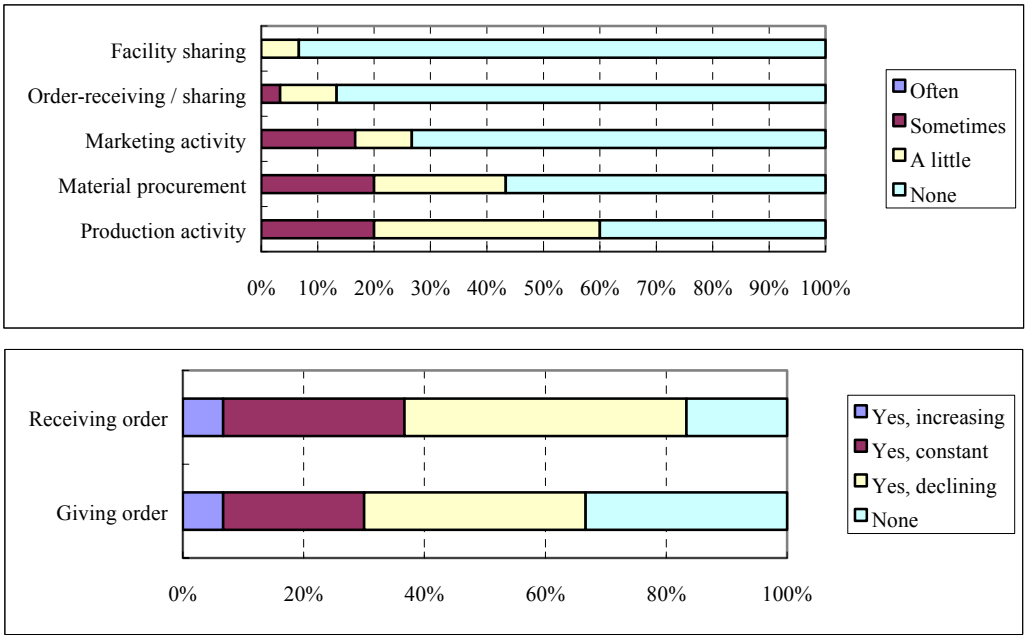
Such producers are usually vested with abundant capital, transportation means (truck) and sales agent network. Many small-scale enterprises rely on them for receiving orders, delivery and finance. There are a few enterprises specialized in sales and marketing, without having sufficient production facilities.

Most SMEs carry out the production process by themselves. It is observed however that the small and micro enterprises which do not possess clay extruder "mollen", borrow the machine or purchase semi-processed clay from the other SMEs and clay providers in the cluster.

Accordingly a phenomenon of "rudimentary specialization" has begun in sales, delivery, and clay provision activities, through it is not comprehensive. A specialization process, which will serve for improvement of process efficiency and product quality, has not been observed yet.

Internal cooperation (voluntary or informal) in the form of subcontracts and exchange of material or semi-finished product is also observed, particularly when responding to the large orders. However, collective actions like common facility operation to enjoy a scale merit of agglomeration have remained minimal. Order-sharing is inactive, since it is difficult to assure standardization of quality and product feature among SMEs.

[3] At the beginning of the pilot project, another co-operative was newly established, consisting of around 100 SMEs. This co-operative is also based on the social tie among the one existing production group, and its scopes of business is the same as the old one except for rendering the finance service.



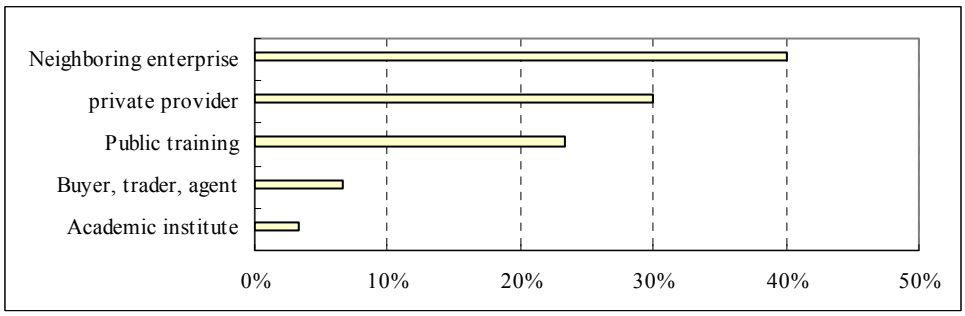

Source : JICA Study Team (Cluster SME sample survey)

**Figure A.7 Type of cooperation and trend of sub-contracts**

## A.3.4 Related Industry and Supporting Institutions

BDS and Supporting Institutions

Motivation for technical innovation usually comes from neighboring SMEs (in the form of friendly advice), and private and public support institutions nearby (in the form of training provision). However, technical advice, training and guidance brought from the neighboring community are considered to be quite basic and general, sometimes not based on scientific and engineering grounds.



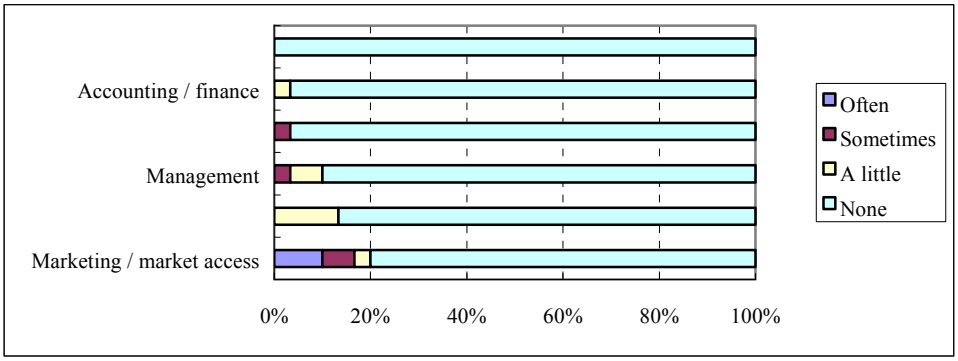

Source : JICA Study Team (cluster SME sample survey)

**Figure A.8 Source of technical upgrade**

Linkage with outside public supporting and academic institutions is extremely limited. This is primarily due to the fact that any material, technologies and services required for the current roof-tile production practice are obtained and managed by the cluster and its locality. In the past, DINAS Perindakop has provided technical training for the

modern management, glazing and kiln burning, through cooperation with universities and Bandung Ceramic Center (BCC). However, these programs have been extended on an ad-hoc basis, and the supply-driven programs are found to be less attractive to the cluster SMEs.

A few BDS providers are available in the vicinity of the cluster, but do not run BDS on a commercial basis. Besides, they are not able to provide the demand-oriented services on a "fee for service" basis.




Source : JICA Study Team (cluster SME sample survey)

**Figure A.9 Type of BDS provided**

Accordingly, BDS for the cluster SMEs has been mostly limited to technical training programs rendered by public institutions like DINAS Perindakop, and "casual" market information. Their familiarity and willingness to use commercial BDS are yet immature.

Role of Related Industry (machinery supplier)

Manufacturers producing clay processing and pressing machines in Tegal (a metal work cluster in Central Java) traditionally supply machinery to the cluster SMEs. However, this linkage is somewhat "one-way" and not reciprocal. Machinery makers just sell their product, and the cluster SMEs rarely receive feedback from the makers. Such machinery makers are not in a position to provide advice on technological improvement and use of new machinery to SMEs.

# B. STRATEGY AND ACTION PROGRAMS

## B.1 Vision

To survive in a competitive domestic market in the coming years, Kebumen roof-tile cluster should transform itself into a competitive structure, attaining production efficiency through modernization. SMEs should pursue joint-activity and specialization in respective processes and establish a new business structure.

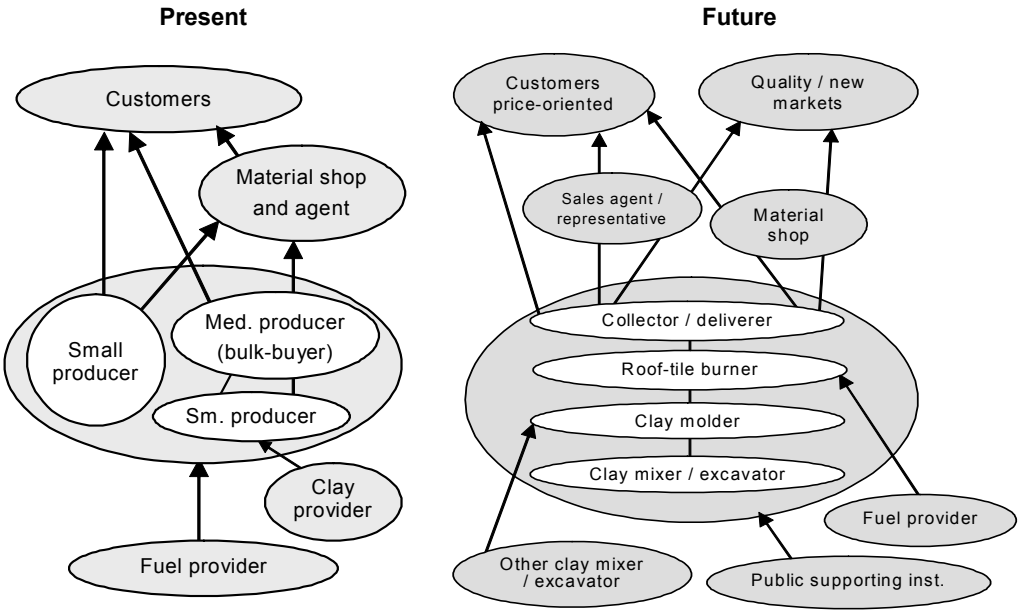



**Figure B.1 Vision for the cluster (compared with the present situation)**

## B.2 Strategy

The strategy to achieve the above vision has been worked out as outlined below, based on the SWOT analysis undertaken by the cluster SMEs. It puts emphasis on a strengthening of sales base at initial stages, quality improvement (standardization), and the specialization through adoption of modernized equipment at the later stage.

### B.2.1 Short-Term Strategy

Kebumen cluster should develop potential markets and regain competitiveness in the existing market, aiming at widening the sales base. At this stage, intensive marketing and sales promotion will be prioritized. In parallel, Kebumen should address improvements in material quality and production process to achieve product quality improvement/standardization and cost competitiveness. To this end, the cluster will challenge to incorporate common facility sharing and operation.

The cluster also challenges to form a new organization for clay provision and roof-tile marketing/trading, and will commence a specialization effort in these processes through joint-activity.

The main achievement at this stage is to widen the sales base, while improving product quality and cost competitiveness. Increased income will be accumulated for financing subsequent initiatives in the mid-term. Actions at this stage will require assistance by BDS and other technical service providers.

### B.2.2 Mid-Term Strategy

A specialization in clay provision and marketing/trading will be further advanced, and many producers will detach those processes. Common facility sharing and operation will be disseminated throughout the cluster.

Some leading SMEs further advance the production technology level in order to catch up with other advanced roof-tile clusters, starting operation of modern and sophisticated production equipment (kiln, extruder, etc). Capital requirements are met by internal funds and commercial/public finance. Technical service providers are still required to facilitate such a technologically sophisticated process.

Product quality will be further improved and standardized with advanced technology and specialization efforts in collective material supply. Kebumen, through strengthening the incentive-based agent network, can regain a larger presence in the existing market, expand the new markets, and gradually penetrate into the high quality market. Joint-marketing/trading organizations will contribute to this process.

### B.2.3 Long-Term Strategy

Leading SMEs in Kebumen cluster will enlarge the scale of production and automatic production, corresponding to the increasing demand and further cost competition. Clay provision service is more specialized, offering some types of material composition for roof-tiles of different quality. Joint-marketing/trading organizations will have a corporate status.

Both internal funding and commercial finance will meet capital needs for enlargement of machinery. By this time, machinery suppliers will also have grown to function as important supporting industry. Kebumen can successfully penetrate into the major markets, competing with the other surviving clusters.

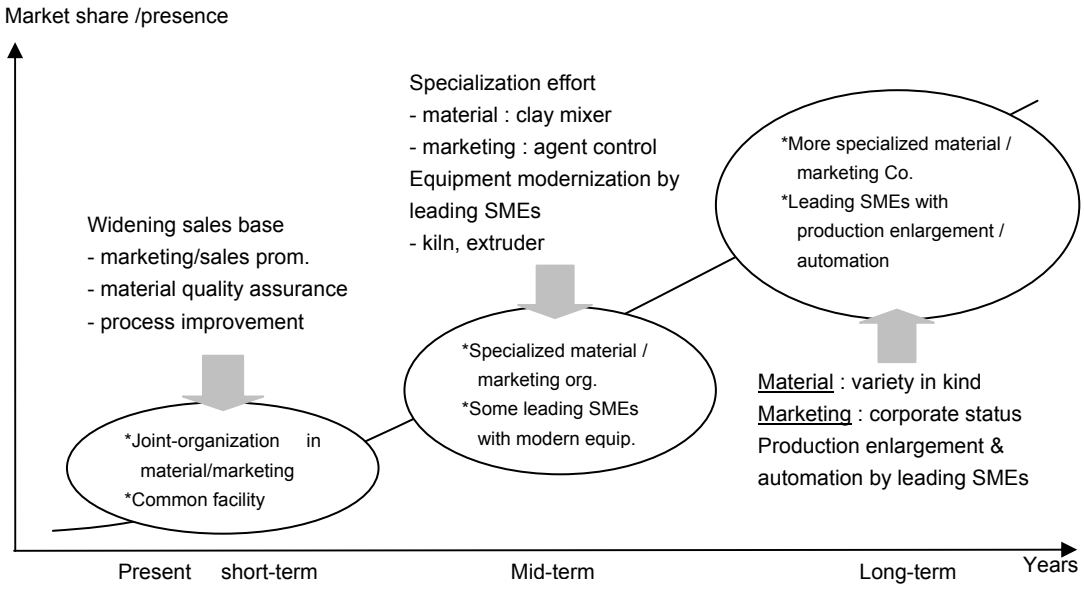



**Figure B.2 Development strategy of Kebumen roof-tile cluster**

### B.2.4 Approach to Cluster Development

Approaches to be applied to cluster development in Kebumen are set as follows:

1) Adopting a "bottom-up" approach with an adequate "pull-up" by the outside resource to guide the cluster in appropriate directions, while maintaining the ownership
2) Targeting the motivated group among the cluster SMEs through an open participation at the initial stage
3) Strengthening collaborative action (or horizontal integration/internal network) to efficiently utilize the internal resources, and enjoy a scale-merit of agglomeration and reduced transaction cost
4) Enhancing outward-networking and vertical integration to let the cluster SMEs become more sensitive to the market and competition, and tightly connected to the supporting industry and institution to make up for a lack of resources
5) Socializing the necessary business and technical skills to realize innovations and shifts to a more competitive cluster

## B.3 Pilot Project : One-year Action Program

### B.3.1 Lines of Action Program

Workshops have been held for problem identification and needs assessment to identify the area of the action programs. After clarifying the action area (e.g. co-operative management, marketing and sales, technology and production process), the action program has been designed by the cluster SMEs.

The one-year action program has been worked out as an initiative to respond to the short-term strategy, aiming at formation of a basis for the sustainable cluster development. A focus is selectively directed to SMEs, having willingness to improve and potentials in leading other SMEs at the later stage.

**Table B.1 One-year action program for Kebumen roof-tile cluster**

| Name of Program | Objectives / Contents |
|---|---|
| 1. Initial socialization and development strategy building | Cluster development strategy will be reviewed through discussion among the cluster SMEs after learning modern business planning skills. Also, technical issues and areas of possible improvement will be cleared and shared by the production process measuring activities. |
| 2. Study tour | Study tour to learn from an advanced cluster and seeking technical partnership with an academic institution will be conducted. This will result in acquiring more valuable information necessary as inputs into the programs followed. |
| 3. Marketing strategy and sales promotion planning (followed by implementation) | The method to formulate marketing strategy and action plan will be learned. Marketing strategy will be prepared with proposed sales promotion actions and disseminated. Sales promotion actions will be later conducted under the cluster's own initiative so that new linkage to buyers / agents will be sought. |
| 4. Revitalization of co-operative functions | The existing co-operatives will be revitalized through identifying new activities and services. Then a co-operative action plan will be prepared and executed. |
| 5. Production process improvement program : UGM collaboration program | New clay processing practice will be experimented to analyze whether to improve the defect ratio and quality of product (production trial).<br>Other possible innovations in production processes, in accordance with Standard Indonesia, will be also researched and proposed through collaborating with a research institution. The proposals will then be challenged in the field. |
| 6. Business planning | A business plan will be prepared to newly establish the joint-organization for clay product provision and tile market development services, which adopt new clay processing practices tried in P5 and marketing actions in P3. Furthermore, the process improvement measurements (proposed by research institution) may bring a necessity of common facility sharing among SMEs. This will also be the subject of business planning. |

## B.3.2 Implementation Structure

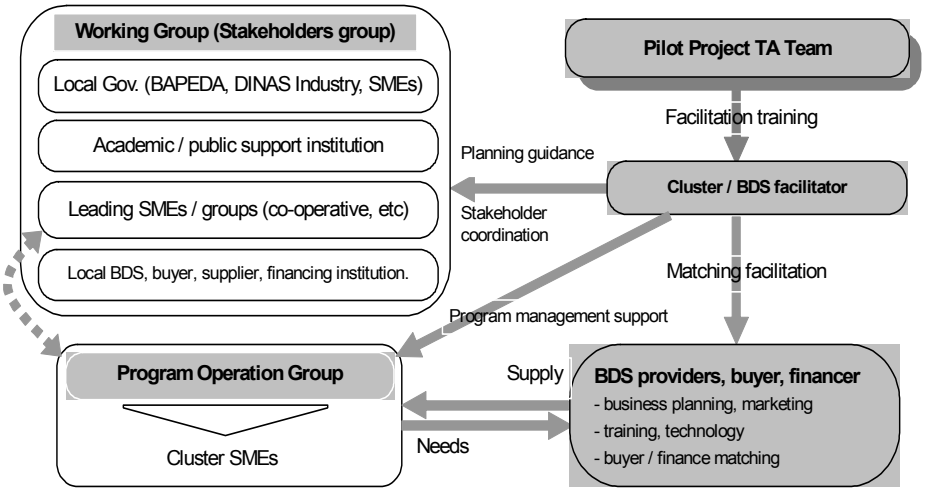



**Figure B.3 Implementation structure for one-year action program**

A working (stakeholders) group for Kebumen roof-tile cluster has been organized as listed below;

| Name | Organization |
|---|---|
| Mr. Joko SUDIBYO | Dinas for Industry, SMEs and Co-operatives |
| Mr. Sri KAWURYAN | District Government Kebumen, Economic Affairs Division |
| Mr. Abduh HISYAM | Buana Sokka (BDS Provider) |
| Mr. SUDIRMAN | BMT Al Amanah (Savings and Credit Co-operative) |
| Mr. WARSUDI | Roof-tile Enterprise |
| Mr. Budi HARTONO | Roof-tile Enterprise |
| Mr. Eko Tri SUMARNADI | Laboratory of R&D Center for Geo-technology (LIPI) |
| Dr. Samsul KAMAL | University of Gadjah Mada, Faculty of Technology |
| Mr. Bambang SUTRISNO | District Government Kebumen, Environmental Division |

Furthermore a program operation group, responsible for execution of the one-year action program, has been organized by the following six persons who represent the cluster:

| | |
|---|---|
| Mr. Abduh HISYAM | Buana Sokka (BDS Provider) |
| Mr. WARSUDI | Roof-tile Enterprise |
| Mr. KARTIKO | Roof-tile Enterprise |
| Mr. WIDODO | Roof-tile Enterprise |
| Mr. FUED | Roof-tile Enterprise |
| Mr. ARDANI | Roof-tile Enterprise |

## B.3.3 Implementation Schedule

The one-year action program will be executed in accordance to the following schedule:

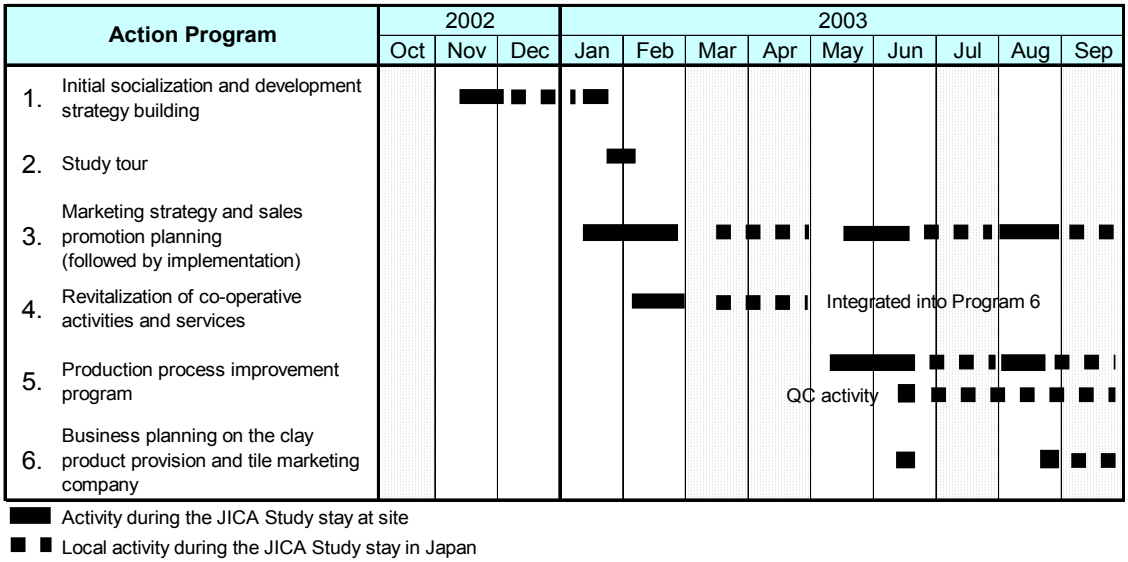



**Figure B.4 Implementation schedule for one-year action program**

# C. PROGRAM OPERATION

## C.1 Initial Stage of Pilot Project Operation

### C.1.1 Socialization and Strategy Sharing

Kick-off meetings for the pilot project at Kebumen roof-tile cluster were held with 25 SMEs and the stakeholders. The meetings were directed to socialize the cluster approach and design development strategy, based on the cluster profile and analysis.

Kick-off meeting

The merits of the cluster approach (collective action, business networking and linkage strengthening) were stressed by introducing successful case studies on Indonesian SME clusters and foreign roof-tile clusters. Then, the discussion and information exchange among the cluster SMEs were facilitated so that they could fairly reflect their voices in designing a realistic development strategy.

**Business environment analysis and the development strategy planning**

The working (stakeholder) group together with the cluster SMEs were firstly requested to assess business environment. The facilitator was central for fairly picking up the voices from the participants and leading the discussions. The factors analyzed and shared regarding the business environment are summarized below:

| Strength | Weakness |
|---|---|
| * Brand name *Sokka* has been famous for a long time<br>* Loyalty of manpower is high<br>* Raw material is high quality | * Quality of human resources is still low<br>* Business manner is too individualistic<br>* Technology is traditional<br>* There is no quality standardization<br>* Investment capital is limited |
| **Opportunity** | **Threat** |
| * Availability of raw material (in terms of location, stock volume, quality) is desirable<br>* Housing construction demand is promising<br>* Location of the cluster is strategic<br>* Credibility by bank is rather high | * Imitated brand is supplied to the market<br>* Competitors are increasingly offering lower price<br>* Clay roof-tile might be substituted with others<br>* Illegal transactions in transportation are increasing<br>* Raw material will be limited in the long-term |

Based on the above result, the cluster SMEs prepared the following development strategy:

- Optimizing resource utilization (expanding the raw material procurement network)
- Improving production performance and efficiency
- Strengthening marketing and conducting sales promotion activities
- Activating co-operative functions
- Applying quality assurance activity and more advanced technology

The cluster SMEs were mostly concerned with "activating the cooperative functions", discussing the merits of agglomeration through enhancing a collective action. The business areas, which SMEs found as desirable for collective action, were "marketing and sales promotion", "brand utilization", "quality assurance" and "application of advanced technology".

**Lesson 1 : What is expected from involvement of the outside resource person - facilitator**

- Adequate "pull-up" by the outside resource person is required on a case-by-case basis to guide them to a more appropriate development direction and facilitate action planning activity.

### C.1.2 Group Formation for Program Operation

Some motivated SMEs, able to take a leading role, have already been observed at the strategy planning workshops. The formation of a Program Operation Group (POG) as a planning and execution body of the subsequent action programs was then suggested. However, it was found that the participants at this time, were biased to one particular production group of SMEs. Therefore, the other groups were additionally invited to discussion to impartially reflect their opinions in the pilot project.

Program Operation Group discussion

At the first meeting, the cluster SMEs were divided into two different opinions on the strategy of "activating the cooperative functions". One indicated a revitalization of the existing (old but inactive) cooperative, while the other favored the establishment of a new cooperative. The confrontation was not easily solved, and the latter group then established a new cooperative particularly to attract more attention from the stakeholders right after the meeting.

The facilitator explained that impartial involvement of all the SMEs interested in the pilot project is desirable and does not cause inconvenience later on. At the subsequent meeting between the old and newly established cooperatives, they finally agreed to commit themselves to jointly working for the pilot project. POG members were amicably selected from the two cooperatives and other non cooperative SMEs.

**Lesson 2 : What is taken into account when interacting with SMEs**

- Beginning with the organizational set-up may result in confining members at the early stage and foregoing an opportunity to involve the better human resource.
- SMEs or young entrepreneurs with willingness to improve can not always voice their opinions, depending on the composition of groups to which they belong.

## C.1.3 Stimulating and Motivating SMEs (creation of ownership)

Although the business areas which should be tackled had been identified by the cluster, the action programs were not yet sufficiently detailed. The cluster SMEs and other stakeholders still lacked ideas on what and how actions should be taken. They were less capable of designing the details of actions or not so motivated to assume ownership of action programs.

***Production process monitoring and testing***

Many SMEs expressed their concern that the present tile production was similar to "gambling", implying a large fluctuation in the defect ratio and difficulty in constantly assuring the desired volume at the standardized quality. The defect ratio of the final product in the cluster has ranged from 25% to 30%.

Present extruding practice

The cluster SMEs were not able to definitely explain which production process caused a poor production performance, nor identify the priority area for technical improvement. Accordingly, quantitative measurement was conducted to reveal how the present production practice resulted in poor performance, by employing monitoring and testing apparatus.

**Production process monitoring and testing**

The purpose of this activity is for the Cluster SMEs to understand the relation between the existing production practice and poor performance (defect ratio and quality of product), and share the results among SMEs. The guidance on the activity was undertaken by a technical expert, who firstly identified the following production practices as targets of monitoring.

- Burning process (low kiln temperature and heat localization in the traditional kiln)
- Drying (abrupt drying of clay product with high water content)
- Clay processing (mixing / blending, extruding and pressing practices)

Monitoring data from the sample SMEs were then collected and analyzed with support of the technical expert. Findings obtained were briefly as follows:

- Kiln temperature was less than 800°C even at its maximum, and heat localization (in the kiln) was observed for 8 hours from the start-up of firing. Such a performance was not assumed at all by the SMEs before this monitoring. Some SMEs even considered that the temperature reached 1,000°C.
- Water content of clay product reached around 25%, forcing SMEs to quickly carry clay products to the drying process before pressing. Such high water content was partly brought about by the existing extruder machine with a small horsepower, which needs high water absorption of clay.
- Marking test revealed there were particularly weaker parts of the pressed clay product. Weak part arose because the present pressing method gives unbalanced pressure to clay product.

Monitoring and testing results were disseminated to and discussed by the cluster SMEs. As a result, they were able to quantitatively know how their practice affects the performance of production and recognize the necessity of measurements to improve clay processing practice.

Kiln temperature monitoring

### *Study Tour*

To make SMEs more sensitive to the changes in markets and competition, and strengthen the planning capacity for action program, a study tour to the advanced roof-tile cluster at Jatiwangi was conducted. The study tour expected SMEs to shape and prioritize the actions more realistically through awareness raising.

**Study tour**

A five-day comparative study tour was conducted, subsidizing 8 peoples' travel expenses. The study tour had two main objectives of stimulating SMEs and connecting them to the supporting R&D institution, and covered the following scopes of activity:

- Comparative study in Jatiwangi roof-tile cluster (an advanced roof-tile cluster)
- Customer discussions and market trend study (the existing market near the cluster)
- Visiting Bandung Ceramic Center (a public-based R&D institution) to learn the advanced technology and find opportunities for technical assistance

Significant findings and outcomes to the participants were as follows:

- Tasikmalaya (one of the largest markets) faced a declining trend in demand like other markets in Central Java. Rival clusters lowered price, increasingly shifting Tasikmalaya into a price-sensitive market. As a result, the importance of market segmentation and incentive system to the agents to find the quality-oriented buyer were recognized.
- Some entrepreneurs spun-out from Jatiwangi cluster to specialize in marketing and sales in Jakarta, and Jatiwangi used much cheaper clay and innovated a clay processing practice. The participants were motivated to focus on an improvement of clay processing and to establish a new organization, which specializes in clay product provision.

The findings obtained by the study tour were disseminated to other cluster SMEs as valuable inputs into the planning of the action program. The trip to Jatiwangi proved to be significant in the sense that SMEs realized the differences in technology and marketing from the advanced cluster.


Study tour reporting

This effectively stimulated the SME's way of thinking. They came to know why rival clusters innovate some production and marketing practices, and what resources lack in comparison with rivals. The dissemination workshop identified an agent-networking in the high quality and

potential markets as well as improvement of clay processing as priority actions. It was also assumed that these actions require collaboration among SMEs. As a result, SMEs became more realistic and selective and result-oriented in designing the actions. The ownership of the cluster SMEs was also enhanced through the study tour program.

**Lesson 3 : How the bottom-up planning approach is led to success**

- Problems and needs of the cluster SMEs may become more specific and realistic, once they are exposed and open-minded to stimulus or outside change.
- Bottom-up will be the more effective approach for the better design of action and decision-making, if adequate stimulus and information (market, rival, potential supporter and surrounding environment) are given to SMEs.

## C.2 Middle Stage of Pilot Project Operation

### C.2.1 Appearance of Own Initiatives and Leadership Group

Both existing and new cooperatives jointly initiated the planning work of the marketing and sales promotion action program and clay processing improvement program, subsequent to the said study tour.

**Marketing and sales promotion action program**

Cluster SMEs were requested to prepare the marketing and sales promotion actions to be immediately executed within the cluster's resources. Firstly, the present market situation was discussed among SMEs as follows:

- Almost all participants were facing the declining trend of market demand for their products.
- Price competition with the other clusters became more intense. The customer and buyer in the dominant market (Central Java) became more price-oriented.
- Roof-tile products in Kebumen are largely marketed to Central Java (approximately 50% or more), with the rest to several parts of West and East Java.
- There is a variety of product quality and price level (Rp. 400 to more than Rp.1,100 per sheet) among the cluster, and most SMEs belonged to medium to low level.

Marketing and sales promotion action programs were then prepared as follows:

| | |
|---|---|
| I. Action plans<br>(Advertisement and tool development) | 1) Preparation of product pamphlet and brochure<br>2) Product advertisement through the following means:<br>- newspaper, radio, roadside signboard, ad-sticker on public transportation<br>3) Participation in the construction material exhibition |
| (Product supply chain strengthening) | 1) Project (real estate and public facility project) marketing<br>- identification of target cities in Java<br>- identification of qualified agents and negotiation with candidate agents<br>- project marketing contract with the agents<br>2) Posting sales representatives in the larger cities in East and West Java |
| II. Market study<br>(New market development) | - Identification of location (Kalimantan, South Sulawesi, Bali)<br>- Market study and data collection<br>- Making contact with local government and other organizations<br>- Identification of the agents, important figures in the locality |

POG, together with the other SMEs, proposed several marketing and sales promotion activities, and prioritized the advertisement and promotional tools, and new market development (parallel with agent networking) in the high quality and potential markets. They agreed to share part of the budget by collecting contributions from SMEs.

For improvement of clay processing, the cluster SMEs suggested commencement of the joint-clay provision business, which specializes in clay processing. The objective of this joint-business would be to expand the clay procurement network, and improve and standardize the quality of clay products by using new processing practices. As advised by the JICA's technical expert, the cluster SMEs agreed to conduct a production trial. In the trial, new clay processing methods would be tested on whether to decrease the defect ratio and improve the quality.

Preparing the above plan of joint-business for clay provision, each cooperative member voiced a necessity of strong partnership and suggested the establishment of a new cluster consortium. Around 20 SMEs supported this idea at the beginning. The consortium then established two internal working units, a production process and a marketing group.

Discussing new consortium and actions

**Lesson 4 : How SMEs having willingness are found when forming a group**

- Targeting the motivated group among the cluster is a key to better outcomes, but it is not an easy task for the outside experts. Open participation, bottom-up planning and cost-sharing (not only in a monetary sense) naturally highlight the better targets.
- It is not advisable to only target cooperative members. Cooperatives are in many cases organized by a closely related group (*kelompok*) and do not necessarily represent the motivated (local leadership) group of SMEs in the cluster.

### C.2.2 Quality-driven Market as Change Agent to Technical Innovation

The consortium initiated preparation of pamphlets as a tool for marketing and sales promotion. A new pamphlet was designed to penetrate a new brand name of *Kebumen Sokka* into the new market and to prepare for the future integration into one product brand. This was a quite new and innovative initiative to the cluster. The pamphlet was initially distributed to the regions subject to the market study and agent finding.


New pamphlet

Bali and East Kalimantan were selected as targets for the market study and agent finding. BDS provider assisted the consortium in preparing the terms of reference and questionnaire for the market study. The marketing group of the consortium identified a list of contact organizations and agents in the target regions.

**Market study and agent finding in Bali**

The roof-tile market in Bali is more quality-oriented, largely dominated by products from advanced clusters in Jatiwangi and East Java and frequently visited by foreign buyers. The market study in Bali brought back a few fruitful results to the consortium, including:

- Identification of some potential agents who would consider trading with the cluster
- Identification of a candidate location that could be used as a stocking and distribution center

The consortium then commenced negotiations with a few potential agents (a large volume of product sample had already been sent), and a study on the candidate location for product stocking.

However, many agents and buyers had a negative impression on the product quality, referring to non-consistency in size, weight, surface and color. Non-consistency of the product feature was attributed to a reliance on traditional technology, a lack of quality inspection, and non-standardized production process among the SME clusters.

During the market study in Bali, the consortium received negative comments on product quality from many buyers, together with some positive feedback. Consequently, a necessity for process improvement was further voiced after obtaining the comments from the high quality markets.

Market survey reporting

Negative comments from Balinese buyers did really help the consortium members understand how quality-sensitive buyers judged their product and what improvement would be required to attain better quality. Driven by such experiences, the consortium gave thought to how and which production processes were to be immediately improved. A consensus was reached that the production trial be revised.

**Production trial for the new practice of clay processing**

The following new practices to improve clay processing were applied and tested. The consortium shared the trial costs related to labor mobilization, molding and burning facility. Production performance was to be quantitatively compared before and after the trial.

- Clay stocking : clay material needs to be piled up to a certain height for around two months to let clay (from various sites) homogenize and soften.
- Extruding through mouth-piece : a mouth-piece in the shape of the final product is attached to the extruder machine to directly form a clay product in the final shape instead of the present cubic shape. This practice may avoid uneven pressure onto roof-tiles during pressing.

The result was judged as “not satisfactory”. The ratio of cracked or gritty (i.e. defect) tiles after burning increased, compared to the conventional practice. Furthermore, the mobilizing time of the modified extruder increased, leaving the issue of cost efficiency unsolved.

Production trials, however, certainly brought about positive changes to the cluster. The Cluster SMEs began QC-like activities where they periodically exchanged technical observations in the production process improvement.

New practice under trial

Clay stocking practice

Discussing technical issues

New clay processing practices tested under the production trial have proved to be less efficient and unsatisfactory. The consortium then discussed alternative measures aiming at achieving assurance of quality improvement and standardization as outlined below.

- Assuring the best composition of clay material may be more reliable than modifying the extruder machine, however, it will require simple measuring tools.
- Stocking of clay is essential to assist the standardization of material composition, however, it will require more working capital and space.
- Reducing drying process time and design modification of the kiln are also inevitable.
- Vacuuming the extruder process might be another option in assuring an improved production performance but this is not a matter of high priority.

Experiences gained from the market study and agent finding activity have generated other notable initiatives for the cluster. Five SMEs in the cluster have conducted similar actions in other regions at their own expense. The consortium has recognized the importance of continuous marketing and agent networking activity and has agreed to set up a market development business.

**Lesson 5 : What are the initial actions**

- It is effective to start with short-term actions, which will bring about quick outcomes (not only in a monetary sense) to maintain the motivation and optimism of SMEs about the programs.
- Technological improvement is closely linked with changes in market and buyer's preferences. Visits or any form of interaction to the higher quality market or demanding buyer are effective and should be programmed at the beginning. It will help SMEs identify technical problems to deal with in catching up with market trends.

## C.2.3 Linkage to the Supporter for Technical Innovation Process

Upon the request of the consortium to renew the process improvement program, the cluster facilitator initiated sourcing technical service providers who could render technical assistance for improvement of the roof-tile production process. The facilitator initially contacted with a vocational college near the cluster, as well as the Bandung Ceramic Center (BCC). BCC, though renowned for its technical capabilities and ample facilities, was found to be fully engaged in research activities for the larger manufacturers. The distance from BCC to Kebumen is also too far to allow frequent visits.

UGM laboratory

Finally, the facilitator identified the local experts in the University of Gadjah Mada (UGM) and facilitated technical consultation between the consortium and UGM to discuss the work plan of the process improvement program.

**Terms of Reference for process improvement program by UGM**

Work I : Laboratory work
- To identify the existing raw material characteristics
- To find the best composition between clay and other agent material, and process parameters such as molding pressure and kiln temperature to assure the best product quality

Work II : Field / production process analysis work
- To confirm the possible processes which result in defects and deviation from standard production
- To make comparative analysis with modern roof-tile production
- To study measurements for quality improvement and standardization
- To recommend socialization of the proposed measurements

Work III : Other works
- To design (basic) and estimate the cost of improved kiln
- To identify alternative source of clay material and analyze properties

It was then agreed that feasible measurements for improvement and standardization of the product quality (in accordance with the Indonesian Industrial Standard) should be proposed to the consortium. As agreed by the terms of reference, UGM technical experts focused on an improvement in clay processing (material composition control and blending), drying (water content control) and burning processes (design of oil-burner kiln).


UGM proposal presentation

UGM technical experts conducted several site visits and held technical consultations to confirm if the proposed measurements for process improvement would really suit the existing capability of the cluster and result in cost efficiencies. The proposal was then finalized (see Workshop Materials and Product) and disseminated to the consortium members. UGM will extend the technical assistance in the proposed measurements and tests in the field.

**Lesson 6 : What constraints and opportunities are found in linking with supporters**

- Strengthening linkages with supporting institutions is vital for cluster SMEs to complement resources and knowledge (particularly in technical aspects). Matching service between the supporting institutions and cluster SMEs is not readily available.
- Information on BDS (both private and public) at Kabupaten level is still limited. SMEs are not well informed on where better supporting resources are available. Information access to capable BDS depends on personal networks.
- SMEs in the cluster require specific rather than generic support (such as production process improvement and machinery modification). However, local BDS providers can rarely afford to meet such specific needs.
- Universities (LPM or BDS Center) are capable of providing technically-specific services by sourcing expertise from its own resources.
- SMEs prefer the outcome-based payment for BDS. They can barely afford to pay the fees simply for BDS provision, not to mention R&D type services. Technically-oriented BDS, such as R&D and product development support, which usually involve risks, would better be extended by the public-private partnership (through subsidy or matching grant).
- Improvement of financial accessibility is not a solution to renovate machinery and equipment. In parallel, SMEs need technical assistance or consultation to manage the process of technical innovation.

## C.3 Final Stage of Pilot Project Operation

### C.3.1 Structural Innovation

One of the most serious issues facing the cluster SMEs is a slow response to changes in the market and the business environments. Even though they recognize a requirement for change and what actions should be taken, individual SMEs are unable to initiate such actions due to lack of resources, assistance and capital. As a break through to these constraints, a collaborative action amongst the cluster SMEs was suggested to complement individual deficiencies.

Knowing the results and findings of the marketing and process improvement programs, the consortium agreed to commit itself to the following innovations, which would then require changes in marketing and production practices:

- Continuous market development (agent networking) and trading service on behalf of the small producers
- Introduction of new practices for clay processing (longer clay stocking and material blending using a mixer, while maintaining the best material composition)
- Development of an oil-burner kiln designed by the technical expert of UGM

The consortium recognized that it was unlikely that the above challenges could be managed by individual SMEs, in view of the start-up capital requirements and associated high risks. Therefore, the consortium decided to adopt a collective action to realize these innovations, and prepare a bankable business plan (see Workshop Materials and Product) for the following joint-business activities:

Business planning session

- Market development and trading service
- Clay product provision with new clay processing practice
- Common facility (oil-burner kiln) operation

**Joint business by the consortium**

1) Market development and trading service

The consortium started negotiations with a few agents in Bali (as a result of the market study in Bali) to secure permanent locations for stock. The consortium also proposed in the business plan the establishment of sales offices (*antenna shop*) in new or potential markets as a priority action. Regarding trading for small producers, it has commenced an operation by establishing a management office and product collection and stocking of the small producers. A sign board for the marketing business has also been erected on the main roadside to attract buyers from the outside.

Management office


Signboard


Business plan by the consortium


2) Clay product provision

The business plan for the joint-clay production had already been prepared to ensure improvement and standardization of clay product quality, adopting the new practices and equipment. In the plan, clay materials sourced from various locations are to be collected at one location, and mixed with a certain amount of agent materials in a proposed manner by UGM to ensure the optimum composition of clay material. This joint-business will start in January 2004. Capital needs are to be partly financed from the income of joint-marketing business. The clay product, produced by the consortium, can also be sold to non-member SMEs.

3) Common facility (oil-burner kiln) operation

Technical experts of UGM proposed the development of oil-firing kilns and prepared the basic design. Considering the production capacity and capital requirement of the kiln, the consortium decided to share the facility and jointly establish an operating body. By the time joint-kiln operation starts, the operation body should have produced a final product under a single brand, in accordance with the Indonesian Industry Standard. However, the capital requirement for construction and operation of the new kiln is presently beyond the capacity of the entire whole consortium membership. Accordingly, the consortium needs to first raise the capital. Kiln development is proposed to start in September 2004.

Agreements related to the joint-business operation of the consortium

- Management staff including the head, secretary and treasury has already been appointed.
- Management staff shall be responsible for start-up operation and monthly meetings.
- Each member joining the consortium shall provide a contribution fund in the form of cash or final product.
- The consortium shall follow an informal status and be later transformed to a legal entity.

The consortium's strength is *collective specialization*. The above collective actions aim at detaching particular processes from the overall process. Individual SMEs would collectively specialize in them. Rather than expecting specialization of individual SMEs in specific processes, collective specialization is considered to be more likely and realistic, since individual SMEs can minimize the risks associated with the new challenges. The business plan was presented and disseminated by the head of the consortium prior to receiving a consensus among the members (eleven SMEs).

Business plan presentation

**Lesson 7 : What is taken into account when promoting joint-action**

- Promoting collective action for all business activity (or production processes) is not valid. Competition and collaboration both exist in the cluster. Joint-action can be undertaken not only by the co-operative but also by any form of SME group.
- Joint-action can be applicable to the following business activities:
  - activity where scale-merit is workable
  - activity that requires standardization (up to a certain level) instead of letting SMEs form each own standard
  - activity that involves intolerable risks to individual SME
  - activity that offers explicit financial merits to each joining SME

## C.3.2 Towards Self-management

The consortium is to establish a joint-marketing business to promptly secure sources of income to finance the initial capital required for the joint-clay provision business and new kiln development. A loan from the commercial bank is also required to raise a start-up capital for the joint-marketing business. The cluster facilitator will follow up the loan application on a continuous basis.

From the technical point of view, UGM technical experts of UGM decide to extend their assistance (under the *Due Like Program* subsidized by government) so that proposed measurements for the process improvement will be socialized in the field. The field experiment on new practices for clay processing is scheduled to start in January 2004, and will be followed by the commencement of clay provision business.

Through these activities, the consortium has been guided to work for building a viable model applicable to other groups of the cluster SMEs. To facilitate the expansion of such a model, local government should play more active roles in disseminating the best practice.

**Lesson 8 : What else is observed during the course of pilot project**

- It appears difficult for cluster SMEs to initiate, manage and facilitate the clustering process (action programs and their derivatives). BDS providers (at Kabupaten level), local government and cooperatives have also limited capability for program management and clustering facilitation.
- The public support programs (such as finance, technical training, exhibitions and comparative study support) are not impartially provided or available. Kabupaten Dinas (in the case of Kebumen) discloses such information only to a limited number of SMEs to avoid difficulties in application handling.
- Good practices of cluster development exist, however, there is no practical guidance or regular opportunity to share them among stakeholders.

# D. PROGRAM EVALUATION

## D.1 Evaluation by Determinants

### D.1.1 Demand Conditions

***Expected outcome***

- *Vertical linkage connected to an agent network in the higher quality markets*
- *Sustainable base for marketing activity to challenge higher quality markets*

***Achievement***

Strengthening of Linkages with Higher Quality Market

The dominant market of Kebumen cluster is still lower to middle income class, and the cluster faces increasingly severe price-driven competition and is less motivated to initiate quality improvement efforts. However, through the market study in Bali, the consortium has established direct contacts with buyers who demand improved product quality. These contacts have clarified a number of inferior points associated with the Kebumen products if compared with the other advanced clusters, and revealed the core and urgent items of production process modification.

Information on the market requirements and customers in the higher quality market has thus been of particular value. To further strengthen the linkage to Balinese market, the consortium has located a few potential agents, and is scheduled to set up a roof-tile delivery depot in Bali. The pilot project has thus facilitated the strengthening of linkages to the high quality market.

A roof-tile agent in Bali

Continuous Initiative to Develop Market Linkages

Through the pilot project, the consortium has started a joint-business of market development, and proposed to set up sales representative offices (*antenna shop*) in some high-quality and potential markets as a priority action. A management office for this joint-business has already been established in the cluster.

Management office

## D.1.2 Factor Conditions

### *Expected outcome*

- *Brand building, and development and use of marketing tools*
- *Improvement and modification of production process and worker's skill*
- *Improvement and modification of raw material procurement*
- *Building of capital formulation mechanism through internal and outside finance*

### *Achievement*

Strengthening of Product Brand through Pamphlets

The consortium agreed to elaborate a representative product so that consumers would be able to readily distinguish their products from other lower quality products (which are produced in other clusters using the same *Sokka* brand name).

New pamphlet

One of the notable achievements is a pamphlet prepared as a marketing tool using a new brand name of *Kebumen Sokka*. This will promote consumer awareness of *Sokka* as a brand of Kebumen roof-tile. The pamphlet has been also regarded as the first step towards standardization of product quality at the higher level. Hundreds of pamphlets have already been distributed to the potential buyers and agents in five target regions identified in the market study and agent finding activity.

Innovation of Production Technology

During the pilot project, quantifiable improvement in production performance has not been achieved. The production trial to assess new practices of clay processing has turned out to be unsuitable for the cluster's present situation. There are, nonetheless, some other notable outcomes achieved from this trial.

*Quality circle* activity among the cluster SMEs has been initiated and problems associated with the present production process have been regularly discussed. The consortium has come to recognize the following technical findings for improvement and standardization of the product quality in accordance with the market requirements for the higher quality products.

- Assurance of good composition of clay material through adequate blending practice is more significant, in comparison with mere modification of the production machinery.

- Clay stocking [1] is essential to promote standardization of material composition, through it will require additional working capital and space.
- Drying process needs sound control of water content, and burning process needs modification of the kiln structure to minimize the defect ratio.

Clay stocking in practice

- Vacuuming the extruder machine will be another important option to assure better production performance and quality.

Clay stocking has already been adopted by a few medium-scale enterprises and the consortium's joint-business of clay product provision. Measurement to assure the best composition of clay material and control the water content, and kiln modification (from wood-firing to oil-burning) have been proposed by UGM technical experts and the consortium supported by UGM has initiated a field experiment for these measurements.

Proposed oil-burner kiln (image)

Strengthening of the Capital Base (accessibility of finance)

Access to investment capital has been a major constraint for many cluster SMEs due to recent declines in roof-tile demand. The pilot project suggested that cluster SMEs collectively accumulate funds as a means of strengthening the overall capital base of the cluster. The consortium has newly initiated a joint-business of roof-tile trading to assist smaller-scale producers in marketing.

The profit to be accrued is accumulated internally to meet future investment in the proposed measurements for technical innovations. Such an initiative for collective raising of investment capital is quite innovative for the cluster. By setting up a mechanism through technical assistance in business planning, the pilot project has encouraged the consortium to promote this initiative.

### D.1.3 Structure and Rivalry

***Expected outcome***

- *Enhancement of a new internal network through joint-actions*

[1] Clay materials extracted from various sources are piled at one sizable location and fermented to the degree that quality of clay materials is standardized.

- *Change in cluster's structure towards specialization process*
- *Awareness-raising of competition and rivalry*

### *Achievement*

Creation of Joint-business and Structural Innovation for Specialization

The cluster SMEs have newly established a consortium made up of two existing cooperatives and other non-cooperative SMEs. The consortium, initially formed as a joint-executor of the pilot project, has worked out business plans incorporating the following collective activities:

Business planning session

- Market development and roof-tile trading
- Clay product provision
- Common facility (oil-burner kiln) operation

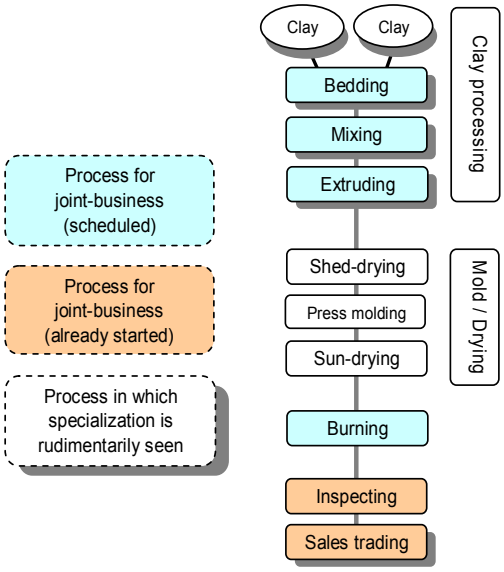



**Figure D.1 Structural innovation of the cluster**

The business plan by the consortium seeks *collective specialization*. The collective action aims at detaching particular processes from the overall production process, and allow SMEs to collectively specialize in such processes. Rather than expecting an individual initiative for specialization, promotion of collective specialization is more realistic, as each individual SME can minimize the risks associated with the new initiative.

It is thus assessed that the pilot project has successfully brought about a structural innovation in the cluster that facilitates the specialization process and enhance competitiveness. The consortium has already commenced the joint-business of market development and trading service, and prepared for the clay provision business and common facility operation.

Enhancement of New Internal Network

Prior to the pilot project, an internal network functioned only in some cases of sub-contracting (or order-sharing) and exchange of production equipment when a pressing and large order was received (under the conventional *kelompok* system). As noted above, however, the pilot project has widened the scope of internal networks by initiating several joint-business.

Awareness-raising of Competition and Rivalry


Visit to Jatiwangi

The study trip to Jatiwangi (an advanced tile cluster) had an immense impact on raising awareness of competition and rivalry. The participant SMEs in the study trip have opened their eyes in the significant gaps in marketing and production practices and their position in the market competition. The cluster SMEs had in-depth discussions on the deficiencies to be tackled with and the contents of action program more realistic and concrete manner after the dissemination of the study results. Ownership of the action program has been enhanced as well, resulting in creation of a leadership group (consortium later on).

### D.1.4 Related Industry and Supporting Institutions

***Expected outcome***

- *Strengthening of the linkage with outside supporting institutions*
- *Enhanced use of Business Development Service*

***Achievement***

Strengthening of the Linkage with Supporting Institutions


Discussion with the experts

Technical improvement, though intangible, was left to the capacity of individual SMEs in the past. Unlike roof-tile clusters around larger cities, Kebumen is not blessed with supporting resources (such as public R&D, academic institutions and related machinery industry) nearby. It has been difficult for SMEs' own resource to realize technical innovation required by the market.

In this regard, the pilot project has assisted in connecting the cluster SMEs to supporting resources like academic institution experts. The cluster facilitator approached UGM upon the consortium's request for the production process improvement. Technical experts of UGM has assisted the consortium in clay material analysis (laboratory test), improvement of clay processing and drying processing, and design of an oil burning kiln.

The consortium and UGM experts have held a series of technical consultation and field study, and thoroughly discussed on the applicability of the proposed measurements by assessing the resource capacity of the cluster.


Consultation by the expert

Such a viable linkage with supporting institution should be maintained. To sustain the consortium's initiatives in R&D activity, UGM decided to extend the technical assistance under the government- subsidized program, *Due Like Program*. UGM will continuously test the proposed measurements in the field and transfer the necessary technology and skills.

Enhanced Use of BDS

The cluster SMEs generally recognized the merits of BDS use and displayed a willingness to pay for it provided their needs (very specific in many cases such as sales by proxy, production process improvement, and machinery modification) were adequately addressed. However, they did not find it a realistic option to approach local BDS providers and academic institutions for their lack of capacity to address such specific issues.

The pilot project therefore highlighted on matching between BDS demands and supply, particularly on the BDS facilitation. A local BDS provider has been trained to function as a facilitator, and contributed to the creation of linkage with UGM experts as well as linkage with buyers and agents in the Bali market.

Affordability of SMEs to pay for BDS still remained weak. The concept of *fee-for-service* has not infiltrated into the cluster SMEs.

**Box D-1 : Comparison with performance of a similar cluster (Boyolali roof-tile cluster)**

Boyolali roof-tile cluster in Boyolali Regency in Central Java had similar characteristics (such as type of market, marketing practice, production process, type of network and group activity, availability of linkage with supporting institution, financial accessibility, etc.) to Kebumen cluster except for the scale of cluster and quality of product.

According to a few leaders, the cluster has also tried to create technical support connections to an advanced cluster (Jatiwangi) and requested the local DINAS for financial support on new kiln design. However, their request has not yet been fulfilled. The status remains the same as prior to the first observation. Throughout discussions, the same leaders pointed out a number of issues related to this sluggish performance:

- There is no official commitment by the local government under the comprehensive cluster promotion framework, nor funds to commence intended initiatives such as study trips, visiting the buyers and other supporting institutions.
- There is no outside care-taker for the cluster except for the existing *Kelompok* leader, who can assist the promotion and bring external information back to the cluster.

Thus, comparison with the cluster without interventions also reveals that stakeholders' involvement, subsidies for study-oriented trips and facilitation services, as verified by the pilot project, are an effective approach for intervention to generate positive changes in SME clusters.

## D.2 Sustainability

### D.2.1 Sustainability of the Cluster's Initiatives

In order to maintain the initiatives created and promoted by the pilot project, the consortium should work continuously for the joint-business activities as proposed by the business plan. It should, however, overcome the following issues, which would otherwise constrain the initiatives:

Financial constraints

The consortium has planned to purchase the machinery and equipment required for the new clay processing and burning practices, and to secure enough income to finance the initial capital for these machinery through promoting the joint-marketing business (trading on behalf of small producers). However, the internal fund raising will be still insufficient for such a capital requirement. External borrowing should therefore be sought by the consortium, and the cluster facilitator is expected to assist in the loan application work.

The group of SMEs in Indonesia, which faces relatively large capital needs, usually opts to form a cooperative system. The cooperative receives public financial support, which is unavailable to informal or voluntary groups. A cooperative system itself is recommendable, as far as the role and service to SMEs are clear, profit-oriented and even reviewed according to the necessity.

The consortium members should also be reminded of the experience of a Japanese roof-tile cluster. In Mikawa roof-tile cluster, those SMEs which invested their profits in machinery renovation or transport means have survived stronger.

Technical constraints

The consortium and SMEs should utilize the outside supporting resource for technical improvement. In this context, it is necessary to maintain and further strengthen linkages with the technical supporting institutions including UGM. The consortium and SMEs should be also encouraged to work with such supporters under the concept of *fee-for-service*. Funds for such fees can be raised by the consortium, saving part of the incremental profit.

Issues on the environment related to clay excavation should be adequately addressed. Such solutions as agricultural use for fishery pond and filling of sediment dredged at reservoirs, need to be technically and financially examined.

## D.3 Findings and Lessons Learned

The one-year pilot project operation provides many lessons to be reflected in (i) the strategy and program of cluster strengthening, and (ii) cluster and SME promotion in common.

### D.3.1 Lessons to be Reflected in Cluster Development Strengthening

#### (1) Strategic Issues

- It appears difficult for cluster SMEs to initiate, manage and facilitate the clustering process (action programs and their derivatives). BDS providers (at Kabupaten level), local government and cooperatives have also limited capability for program management and clustering facilitation.
- Strengthening linkages with supporting institutions is vital for cluster SMEs to complement resources and knowledge (particularly in technical aspects). A matching service between the supporting institutions and cluster SMEs is not readily available but should be facilitated.

#### (2) Program Issue : initiation, action planning and group formation

- In addition to the participatory bottom-up approach, adequate "pull-up" by an external resource person is required on a case-by-case basis to guide them in a more appropriate development direction and facilitate the action planning activity.
- Beginning with the organizational set-up may result in confining members at the early stage and foregoing the opportunity to involve the better human resource and knowledge at the later stage.
- Cluster SMEs or young entrepreneurs, having willingness to improve, can not always voice their opinions, depending on the composition of beneficiary groups in which they belong.
- Problems and needs of the cluster SMEs may become more specific and realistic, once they are exposed to stimulus or outside change.
- Bottom-up will be a more effective approach for the better design of action and decision-making, if adequate stimulus and information (market, rival, potential supporter and surrounding environment) are given to SMEs.
- Targeting the motivated group among the cluster is a key to better outcomes, but it is not an easy task for the outside experts. Open participation, bottom-up planning and cost-sharing (not only in a monetary sense) naturally highlight the better targets.
- It is not advisable to only target cooperative members. Cooperatives are in many cases organized by a closely related group (*kelompok*) and do not necessarily represent the motivated (local leadership) group of SMEs in the cluster.

#### (3) Program Issue : implementation

- It is effective to start with short-term actions, which will bring about quick outcomes (not only in a monetary sense) to maintain the motivation and optimism

of SMEs about the programs.

- Technological improvement is closely linked with changes in market and buyer's preferences. Visits or any form of interaction to the higher quality market or demanding buyer are effective and should be programmed at the beginning. It will help SMEs identify technical problems to deal with in catching up with market trends.
- Improvement of financial accessibility is not a solution to renovate machinery and equipment. In parallel, SMEs need technical assistance or consultation to manage the process of technical innovation.
- A shift from empirically optimized production practices (as in the case of roof-tiles) is found to be challenging and sometimes time-consuming, as SMEs have been accustomed to conventional practices.
- Promoting collective action in every business activity (or production process) is not valid. Competition and collaboration both exist in the cluster.
- Joint-action can be undertaken not only by cooperatives but also by any form of SME group, and applicable to the following business activities:
  - activity where scale-merit is workable
  - activity that requires standardization instead of letting SMEs form each own standard
  - activity that involves intolerable risks to individual SME
  - activity that offers explicit financial merits to each joining SME
- Many variations in the business practice (such as sales and production) are observed even in the seemingly homogeneous SME cluster. Learning about difference in those practices among SMEs may facilitate a sharing and dissemination of best practices eventually, leading to their improvement.

### D.3.2 Lessons to be Reflected in Cluster and SME Development

#### (1) BDS Provision (including public support program)

- SMEs in the cluster require specific rather than generic support (such as production process improvement and machinery modification). However, commercial and rural BDS providers can rarely afford to meet such specific needs.
- SMEs prefer the outcome-based payment for BDS. They can barely afford to pay the fees simply for BDS provision, not to mention R&D type services. Technically-oriented BDS, such as R&D and product development support, which usually involve risks, would better be extended by the public-private partnership (through subsidy or matching grant).
- Universities (LPM or BDS Center) are capable of providing technically-specific services by sourcing expertise from its own resources.

#### (2) Role of the Government

- Information on BDS (both private and public) at Kabupaten level is still limited. SMEs are not well informed on where better supporting resources are available. Information access to capable BDS depends on personal networks, unless the

government prepares provincial or nation-wide data bases or similar (such as BDS directory).

- The public support programs (such as finance, technical training, exhibitions and comparative study support) are not impartially provided or available. Kabupaten Dinas (in the case of Kebumen) discloses such information only to a limited number of SMEs to avoid difficulties in application handling.
- Public support providers (not only by government but also public supporting institution) are many but scattered. An information center (or information provision tools such as handbook), which updates all information related to the public support program, is considered as necessary.
- Good practices of cluster development exist; however, there is no practical guidance or regular opportunity to share them among stakeholders.

## D.4 Towards Dynamic Cluster

Updating Market Information

Although a challenge to penetrate into the higher quality market has been initiated by the consortium, the dominant customers are more sensitive to price rather than quality. For the SMEs which have motivation to improve product quality, public assistance in market information provision and quality inspection should be facilitated by the local government in collaboration with public support institutions.

Facilitating the Matching of BDS Supply and Demand

Since the cluster SMEs do not know the capabilities of BDS provider and often lack information on the sources of such providers, the local government or its agent are required to provide a facilitation service to match the demand and supply of BDS as well as the public support program. Furthermore, they can hardly afford to pay for the BDS. In this regard, the government (at national or provincial level) can prepare the matching grant scheme to enhance the use of BDS.

Disseminating Viable Model (best practice)

The consortium will generate a model of cluster strengthening, which the other willing groups of SMEs can follow to bring about innovation. To facilitate the other SMEs to learn about the model, the local government should play a primary role of disseminating the model and best practice.

Leading Technical Innovation

Related industries (machinery maker and supplier in the case of Kebumen) are important stakeholders in realizing technical innovations. This linkage in Kebumen is still “one-way” and not reciprocal. It is expected that related industries be encouraged to provide such incidental services to machinery and equipment procurement as technical information provision, feasibility study and finance support.

# Part 4

# Pilot Project Review :

# Lessons learned from the JICA Pilot Projects

**June 2004**

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# Introduction

KRI was commissioned by JICA to carry out the pilot project 'Strengthening the Capacity of SME clusters in Indonesia. This project focuses on three clusters: Sidoarjo-Waru (metal working), Klaten-Serenan (furniture), and Kebumen (roof tiles). The main purpose of the Pilot Project is to derive policy lessons for creating dynamic clusters in Indonesia and to do this for clusters operating in different contexts:

- domestic market oriented (Kebumen)
- export oriented (Klaten – Serenan)
- supplying components for metal and machinery industry (Sidoarjo-Waru).

This report assumes that the reader is familiar with the history of the pilot project.

I was asked to review the progress made in the three clusters and draw out the lessons for future cluster policy. This assignment was carried out with the assistance of Lienda Loebis of MOIT. Our observations are contained in this report which is based on:

- visits of the three clusters and interviews with local entrepreneurs and managers, associations/cooperatives, consultants, and industrial development officers in district level government. On average, 2.5 days were available for each cluster visit;
- the international experience in the field of cluster development.

The visits and interviews were carried out in the first half of June. At that time the Project had a further five months to run. This report should therefore be seen as an interim review. It also needs to be taken into account that it was based on very short visits to the three clusters and cannot substitute for a full evaluation. In spite of the brevity of the assignment, a number of clear issues emerge for discussions of next steps and of lessons from the project.

The Report has two parts. Part I draws together the main lessons from the visits to all three clusters and weaves in observations from the international experience. Part II then provides separate observations on each of the three clusters. The central messages of this mission are contained in Part I of the Report.

## A. General Lessons

The role of SMEs in economic development has occupied the attention of researchers and policy makers for many decades. In recent years, the cluster approach has attracted enormous interest. In both developed and developing countries, many studies have been carried out on industrial clusters. While the literature on clusters has grown very fast, the lessons for policy makers are far from clear. Policy makers and practitioners in local, national and international agencies are desperate for specific advice on how to promote clusters at different stages of development. In order to make progress, one cannot just rely on research. Experimentation is required. The JICA project for strengthening the capacity of SME clusters in Indonesia represents an opportunity for such experimentation.

This report seeks to bring out some of the lessons which one can derive from this project. Note that the project has a duration of only one year and that - at time of our visit - it had a further five months to run. The conclusions are therefore tentative.

### 1. Strengthening the organisational capability of the cluster

The JICA Pilot Project has an ambitious objective: to contribute policy recommendations for creating dynamic clusters in Indonesia. Internationally there is no agreement on what constitutes a dynamic cluster. One of the features which has been discussed particularly in the policy debate is the 'organisational capability of the cluster'. Strengthening this organisational capability is a particular concern of the JICA project. It seeks to strengthen the local co-operative or business association. Recognising that these collective organisations are often weak, the project seeks to identify potential cluster co-ordinators and prepare private consultants for this role. If successful, they would then ensure the provision of 'cluster development services' (CDS).

Our observations on these initiatives of the JICA project are as follows:

- **The emphasis put on strengthening the organisational capability of the clusters is justified**. Taking advantage of major opportunities and coping with crisis often requires organisational and financial resources which go beyond the means of the individual enterprise.

- **Selective co-operation is stronger than comprehensive co-operation**. Two of the three clusters had previous negative experiences with cluster-wide co-operation. One of the reasons was that co-operatives were set up which sought to include all enterprises and conduct all operations together. The all-inclusive cooperative, which used to be promoted by SMOCSME, does not seem to be a good role model. 'Competition + cooperation' seems to be a better role model. Firms can be fierce competitors in the product market, but benefit from co-operation in areas such as

training or the joint acquisition of expensive machinery. We saw a very good example in the roof-tile cluster where a group of ten young enterpreneurs had set up its own collective organisation in response to training offered by the JICA project on how to organise collectively. This example underlined the effectiveness of selective co-operation.

- **Allow for different forms of collective organisation.** The Sidoarjo-Waru metalworking cluster had one co-operative with many members but only a small number of active members. In contrast, in the roof-tile cluster we observed three different forms of collective organisations, all seemingly providing effective advantages to its members. Such organisational diversity should be encouraged. Each cluster has its own history and dynamics and it would be wrong to impose one model.

  This emphasis on organisational diversity could be in conflict with SMOCSME incentives for co-operatives to legalise. Legal status is essential for access to financial support from SMOCSME. While the Ministry clearly needs qualifying criteria for granting support, there is a danger that legalisation requirements lead enterprises to focus on formalities and subsidies and takes the attention away from discussing the common problems and engaging in collective self-help to deal with these problems.

- **Who should take the lead in cluster co-ordination and conflict management?** In principle, this role can be carried out by one of three actors: the local co-operative/association, a local government agency, or a private consultant. The JICA project has opted for the latter. At present, it is hard to judge the outcome.

  The skills required to do this job are considerable: the consultant taking on this role requires good knowledge of the sector in question as well as the political skills and legitimacy in bringing local enterprises and institutions together and mediating between them. Even if the skills are present, there is the question of whether there will be effective demand for such a 'cluster development service'. In other words, who would pay the consultant for carrying out this service? The demand, if it arises at all, would tend to be intermittent. The need for co-ordination or conflict management varies enormously over time. It is most needed when major new opportunities or crises arise while at other times there may be no need for such co-ordination activity. Because of all these issues, there is no easy solution and selecting and preparing a private consultant to take on this role is probably not a solution that can be generalised.

- **Strengthen the capability of local <u>public</u> agencies.** Our discussion with district-level government officials suggests that they are keen to take initiatives but do not know what to do. This impression also emerged on a previous mission to Semarang and Jepara. Both provincial and district level government have industrial development officers. Amongst them one detects an ambition to conduct local or

regional industrial policy. The new legislation also gives them resources for new initiatives. Often however they lack experience and capability. Such industrial development officers would benefit from capacity building. Preparing them for cluster co-ordination and promotion could be particularly useful. Experimenting with such capacity building would have been worthwhile. Local government officials are not ignored in the current JICA project; in each of the three clusters they are members of the Working Group which has an advisory function. This is good but perhaps not sufficient. In future, the issue of capacity building in the public sector deserves more attention, particularly in Indonesia.

The suggestion is not that only public agencies should be entrusted with cluster promotion. Far from it, the international experience suggests that where cluster promotion is successful, it is based on private and public actors working together. The JICA project, however, concentrates its efforts almost entirely on capability building in the private sector: enterprises, associations/co-operative and consultants. One of the key aims of the project is to make recommendations for future cluster policy. Our recommendation would be to give more attention to provincial and district level government agencies and to strengthen their capabilities. We will return to this issue later in our report.

## 2. Individual enterprise support remains important

In all three clusters we had the opportunity to visit factories and ask the entrepreneurs questions about the advice received from the Japanese consultants. Most of them stated that the advice received had been very valuable, in particular on issues of material handling, factory level organisation and other managerial matters. We were able to observe a number of concrete examples where such advice had been useful. The question then is what are the lessons for future cluster policy?

While the cluster approach emphasises the quality of relationships between local enterprises, the internal improvement of enterprises continues to be important and support for intra-firm upgrading is not redundant. Traditional instruments of providing advice to individual enterprises continues to be relevant.

The question is how to make the relevant support services sustainable. The advice from the Japanese consultants was free of charge and the positive reaction of the entrepreneurs was presumably influenced by the fact that they did not need to pay. The question of whether there would be a demand for paid services is difficult to answer.

Some of the international debate on consultancy services for small enterprises insists on full cost recovery. We do not share this view. We believe that small enterprises should contribute to the cost but that a subsidy is justified. In the Indonesian context this is in

fact feasible because it is widely accepted that the provision of services for SMEs is a legitimate area of government intervention. For example, MOIT offers extension services and has specialised technology institutes such as MIDC (for metal industry) and BCC (ceramics industry). And SMOCSME is supporting the establishment of business development services throughout the country. All of these service providers have problems in that there is often a mismatch between what they offer and what the enterprises need. (The needs of enterprises differ greatly according to sector and stage of development.) This match will only improve if the two sides are brought together. The JICA project provides no new insights in how to achieve this but it confirms that individual enterprise continues to be important.

### 3. Strengthen the knowledge flow from outside

**Leaning-by-visiting:** for a cluster to become dynamic it needs to be able to tap outside knowledge. In this respect, the JICA project had a positive impact, particularly in the roof tile cluster of Kebumen. One of the best project activities seems to have been a study tour to the Jatiwangi cluster and the Bandung Ceramics Centre. It opened the minds of local entrepreneurs and made them more receptive to new ideas from elsewhere. A similar message comes from the metal working cluster of Sidoarjo-Waru. Two successful entrepreneurs, who were interviewed, found study tours to other East Asian countries (one funded by JICA and one funded by MOIT) directly useful for thinking and acting on innovation in their own enterprise.

In this respect two clear lessons emerge from the JICA project:

- Learning by visiting is very effective - provided the study tours are well-organised.
- In future, more resources should be spent on such learning-by-visiting.

These recommendations and the reasons behind them are further detailed in Part 2 of this report.

Of course, it needs to be acknowledged that such learning-by-visiting is not a new idea. Its value has long been recognised internationally and in Indonesia. MOIT in particular has experience of taking groups of business people on study tours, for example, jewellery producers have been taken to Thailand, and component makers were taken to Korea and Taiwan. These study tours tend to be for the leading enterprises. Perhaps the main lesson from the JICA project is that such study visits can also be very beneficial for entrepreneurs who are less advanced in their fields.

**Learning-by-exhibiting:** Participating in national or international trade fairs is another way of tapping outside knowledge. In Klaten-Serenan we witnessed how local entrepreneurs were assisted in preparing for a national furniture exhibition. This seemed

an excellent way of encouraging group-learning about the requirements for competing in new markets.

The effects of exhibiting at the trade fair remain to be seen. Initially the effects on sales may be low but the learning effects are likely to be high. Again, however, we need to acknowledge that support for such 'learning by exhibiting' is not a new idea and has long been practiced by UNIDO, GTZ and other agencies. The key lies in preparing the entrepreneurs for the exhibition so that they can organise it for themselves on subsequent occasions. It will be useful for the JICA study team to record its experiences in this respect when the project ends.

## 4. Combine the cluster approach with the value chain approach: the supply of raw material

The cluster approach concentrates on local linkages. Its central proposition is that the ability to compete in national or global markets depends on the quality of the local linkages, both between enterprises in the cluster, and between enterprises and institutions. More recent international research on industrial clusters suggests that this approach has many strengths but is ultimately too narrow. More attention needs to be given to linkages external to the cluster. Both backward linkages to the suppliers of inputs and forward linkages to the customers need to be considered explicitly. In other words, the cluster needs to be analysed in the context of the value chain(s) in which it is inserted.

Some of this recent research suggests that the extent and mode of insertion in these value chains have a decisive influence on the dynamics of the cluster and provide new insights on whether and how clusters can be helped to upgrade. The three clusters supported by JICA in Indonesia confirm this view. The implications are discussed in this and the next section. This section deals with issues arising from the supply of raw material. Section 5 then discusses issues arising from the connection between producers in the clusters and customers from outside.

**Take into account opportunities and constraints that arise in the supply of raw materials:** one does not need to be familiar with the latest international literature to recognise the importance of the value chain for a cluster. When we talked to local government officials in Kebumen, their prime concern were not problems internal to the roof tile cluster but the question of raw material supply. The reasons are detailed in the Kebumen section of Part 2. The upshot is that the raw material supply is of prime importance for two reasons: first, the roof tile manufacturers' ability to compete is influenced by the cost and quality of the raw material, i.e. clay. Second, accessing the cheapest raw material is in direct conflict with agricultural development because the clay often comes from local rice fields. This conflict in fact paralysed local government because support for one worthwhile sector, namely roof tile manufacture, seemed to be in

conflict with support for another, namely agriculture.

A conflict arises also in the Klaten-Serenan furniture cluster. Teak is the main raw material for this cluster. This raw material is in short supply. Since wood constitutes more than half of production costs of furniture and since there is severe price competition in the market in which Serenan competes, obtaining access to cheap raw material is often critical to enterprise survival. Because wood from illegal sources is much cheaper expanding the furniture industry in price-sensitive market segments contributes to illegal logging. The consequences are well known: the growth of the furniture industry contributes to rapid deforestation (there are also other causes) and continued growth of the industry is not sustainable, at least not in the market segments in which most Java furniture makers have specialised.

**Without regulating the raw material supply and certification, cluster promotion is unlikely to succeed**. There are no easy solutions to such conflicts and it is therefore tempting to ignore them and concentrate on issues internal to the clusters concerned. Local government however cannot adopt this position, because it is responsible for the overall development of the district and not just a particular cluster. Similarly, JICA cannot ignore such conflicts because the focus on clusters is only a means of contributing to economic development and the sustainability of this economic development is an explicit JICA objective, as borne out by the agency's environmental programme.

So what are the lessons for future cluster initiatives? In principle, there are two options. One possibility is to avoid working on clusters in which such conflicts can be predicted to arise. Given that one needs to select and that it is never possible to promote all clusters, this is a defensible option. If the decision is to work on such clusters, then the conflicts need to be addressed.

Addressing the conflict does not mean taking on the task of resolving it. But it does mean trying to contribute to the search for solutions. The starting point for such a search is as follows: there is not necessarily a conflict between promoting the industrial cluster and the development of agriculture or forests - if access to raw material is regulated. Such regulation cannot just be left to the state, it also requires involvement of local communities. Outside advice on lessons from other sectors or countries is often useful. In the case of Kebumen, for example, it would be helpful to bring all the stakeholders together since a good deal of local knowledge already exists on the extent and causes of the conflict and on potential solutions. This knowledge needs to be brought together and it needs to be complemented with external advice on how the problems can be overcome. In order to kick off this process one could hold a workshop on these issues. Further details are suggested in Part 2 of this report.

In Klaten-Serenan, it is more difficult to see a way forward: the conflict is less localised,

the issue of wood supply and deforestation is a national issue. However, effective solutions cannot just come from national-level action. The furniture producing districts need to recognise that a continuation of current illegal logging is not in their interests and provides only a temporary escape. Furniture makers need to be informed that they are undermining their own image in international markets: deforestation in Indonesia is widely discussed in the international press and international buyers are moving away from Indonesia as the preferred supply base. Regulation and certification could make a huge difference. Workshops could be offered on how regulation and certification could work, why it is currently not working and what contribution each district could make to render furniture production sustainable. Such workshops are important not just for furniture makers but also for local consultants and local government officials.

## 5. Combine the cluster approach with the value chain: approach: the relationship with customers

The importance of forward linkages for cluster development has long been recognised. A decade ago, Hermine Weijland showed - on the basis of a very large sample of Indonesian clusters - that enterprises with effective trade links to final markets have higher incomes. Recent research has shown that not just the existence of the linkage but the quality of the linkage is of great importance.

**Buyers have a major influence on the acquisition of capabilities by SMEs.** The type and quality of the feedback of the customer matters. Dissatisfied customers, who simply move on to other producers, leave the producers without idea as to why they lost the business. Dissatisfied customers who point out what is wrong are more helpful. The best customers are those who provide indications as to how problems can be avoided in future. In many cases, substantial improvements in product quality and timely delivery require action on both, the producer and customer side. Where such a commitment to 'learning-by-interaction' exists, the conditions for improving processes and products are ideal.

There is thus a spectrum of vertical relationship, ranging from discouraging to very conducive for upgrading. Similarly, there is a spectrum from even relationships, in which both producer and supplier have equal power, to very uneven relationships where a big customer has many options and a small supplier is totally dependent on the big customer. Such uneven relationships are not necessarily bad for the small supplier, especially if the big customer is willing to assist the small supplier in upgrading its capabilities. The Japanese subcontracting literature has long emphasised the relevance of such relationships for supplier development. More recently, research on buyer-driven value chains has shown how insertion in such chains can provide local producers with a fast track for upgrading. While the benefits are not automatic, there is agreement that explicit attention to the quality of the relationship between producer and customer is important if one wants to understand or foster the upgrading possibilities of small producers.

The relevance of this conclusion from recent value chain research is confirmed by the JICA project. This is perhaps clearest in the case of the metalworking cluster of Sidoarjo-Waru. Transforming Waru into a dynamic cluster is extremely difficult even though the local institutional conditions are favourable. The difficulty arises from the fact that most local producers are trapped in value chains which provide no pressure or incentive for upgrading. Some producers indicated that they would want to shift to higher quality products but that their customers prefer the products in the lowest price range – in which quality is not an order winning criterion.

**Involving buyers in the upgrading of producers does not work if the competence gap is too large.** Can the Waru enterprises be helped to shift to other value chains? In one sense, the conditions are favourable; Sidoarjo and Surabaya host a lot of metal and machinery industry, including very capable firms who need suppliers specialised in particular parts or processes. However, with very few exceptions, the Waru enterprises are unable to take advantage of the proximity of these potential customers. It seems that the distance in capabilities and equipment - between what these customers require and what the Waru enterprises can offer - is too great. In such circumstances it is very difficult for outside actors, such as the JICA study team, to help local enterprises to bridge the gap, especially in a project of one-year duration.

It would be wrong to conclude therefore that the JICA study team cannot provide useful support for local enterprises. As pointed out in Part 2, helpful assistance is being provided. At present however it is hard to see how the work in Sidoarjo-Waru can provide new insights on how to transform a stagnant into a dynamic cluster– which is a major objective of the Pilot Project.

It would be useful for the JICA study team to explore this further. The question of how to involve customers in the upgrading of producers is relatively new territory. Sometimes the customers themselves need advice on how to assist the small suppliers. The term 'buyer mentoring' has been coined for this purpose. The likely lesson from the JICA project is that fostering customer - supplier relationships cannot work if the gap in capabilities is too great.

## 6. Insights from pilot project and choice of clusters

Development agencies around the world are looking for ways of transforming stagnant into dynamic clusters. Experimentation is essential for making progress and gaining new insights. The JICA pilot project is such an experiment.

No pilot project can be expected to achieve all its objectives. Some things work, others do not; this is normal. The ambition however is to derive positive lessons that add value

to the current policy debate. The ability to do so is very much influenced by the location for the pilot project. In other words, a lot depends on a good choice of cluster.

Selecting clusters is always controversial. The Interim Report of September 2002 provides a detailed discussion of how and why Sidoarjo-Waru, Klaten-Serenan and Kebumen were selected. Rather than comment in detail on this process, let us contrast two ways of making a choice. From a cluster perspective, which prioritises local factors and local relationships, the selection that was made seems good. However, if one adopts a value chain perspective, one comes to a different conclusion; major drawbacks in the selection become apparent.

The recent international experience suggests that one needs a combination of the two approaches. Using the cluster approach alone is too narrow. The value chain approach provides crucial insights into obstacles for cluster development and upgrading opportunities for clusters. The problem of insufficient consideration of the value chains are apparent in all three selected clusters. They face serious problems in raw material supply and/or in connecting with capable buyers. For the reasons set out in sections 4 and 5, such issues deserve more attention. Disregarding them limits the scope for positive experimentation and for drawing useful lessons on how existing clusters can be helped to become dynamic.

This is not just an analytical issue of combining two approaches (clusters and value chains). It is an issue with profound implications for the current policy debate in Indonesia and other countries. The question of sustainability of industrial development is high on the agenda, internationally and in Indonesia. Recommendations for cluster policy which leave out considerations of sustainability are hard to defend. Yet, the pilot project has not paid much attention to the issue of the raw material supply in the work on the export-oriented cluster (Klaten-Serenan) and the domestic market oriented cluster (Kebumen). If one wants to steer clear of these complicated sustainability issues (arising in the raw material supply) it would have been better to select different clusters.

In the case of the third cluster, Sidoarjo-Waru, its selection also has major implications for the possibility of contributing to the policy debate in Indonesia. The Indonesian government has a particular interest in developing SMEs that supply components for the metal and machinery industry (often called ‘supporting industry’ in Indonesian policy documents). The importance of strengthening this industry is also emphasised in the ‘Policy Recommendations for SME Promotion in the Republic of Indonesia’, a study funded by JICA and carried out by Shujiro Urata in 2000. Providing new more specific policy recommendations is not easy. By selecting Sidoarjo-Waru, it became extra difficult. As pointed out above, the competence gap between the Waru producers and potential customers in the metal and machinery industry is very large; many producers in this cluster do not even attempt to become suppliers for this industry and produce simple

products for the final market. In this situation, it is difficult to derive new policy recommendations for the 'supporting industry'.

## 7. Three suggestions

In addition to the suggestions made in the course of Parts 1 and 2 of this Report, we would like to make three recommendations. The first one is for consideration by KRI, the second for JICA, and the third for MOIT.

- For consideration by KRI: the main purpose of the Pilot Project is to provide recommendations on how to make existing clusters more dynamic. What value added does the project provide for MOIT and SMOCSME? In order to answer this question one needs to a) distil the lessons from the Pilot Project and b) compare them with existing knowledge and experience in the two Ministries. The latter is not an easy task but it is essential. Completing this task could be helped greatly by drawing on inputs from the two counterparts that KRI has in both MOIT and SMOCSME.

- For consideration by JICA: it would be useful to carry out an evaluation of the Pilot Project one year after its completion. The Pilot Project has absorbed substantial resources and it is important that the lessons from this project are learnt. Announcing that there will be such an ex-post evaluation might also have a good effect on the various actors within the three clusters. It indicates that the follow up of project activities will be reviewed.

- For MOIT: the pilot project has concentrated on capability building in the private sector. This report has indicated that capability building is also needed in the public agencies operating at provincial and district level. MOIT has already set in motion a process for achieving this. This process however needs to be accelerated substantially. The question is how this can be achieved and whether and how donor agencies can contribute to this process. In order to explore this question it would be useful to bring together the relevant actors for a brainstorm. The effectiveness of future government support to SMEs depends heavily on the capabilities at provincial and local level.

## B. Cluster Specific Observations

This part of the report details some of the observations and suggestions made in Part 1. It also contains some cluster specific recommendations.

### The metal working cluster of SIDOARJO - WARU

The Pilot Project in Sidoarjo-Waru focuses on two problems:

1. Lack of specialisation
2. Low product quality

The study team argues quite rightly that without progress in these two areas, dynamic cluster development is not possible. Substantial progress in these two areas is however difficult to achieve for the following resources:

1. Diversification (lack of specialisation) is a rational response to domestic markets which are (a) volatile and (b) are not growing in overall terms.

2. Raising product quality is difficult because customers are not challenging the producers; there is little customer feedback on what specifically needs to be improved. This arises first because producers operate in price – driven market segments, second because producers have many customers (mainly wholesalers), who deal with quality problems by reducing payment or requesting replacement of faulty part. Producer – buyer – interaction focused on quality is very rare.

The study team recognises these obstacles, but seeks to influence the entrepreneurs' decision in the following ways:

1. By introducing the idea of core products in the training workshops.

2. By offering training workshops concerned with quality improvement and by offering advice during factory visits.

What follows are comments on these initiatives:

1. Core Products: The importance of focusing on core competence is well recognised in the international management literature. Core competence can mean focusing on a particular stage of the production or distribution process, or it can mean focusing on a core product. At the level of the enterprise this makes a lot of sense. We are not sure, however whether the idea of a core product for the cluster is useful. (Of course it is true that some famous clusters are identified with particularly types of products. For example in metal working, there is the surgical instrument cluster of Sialkot,

Pakistan; but that cluster produces hundreds of different surgical instruments and different enterprises are specialized in different products and processes.) Our discussion with the entrepreneurs suggests that they have doubts about the usefulness of the "core product" idea. It seems the study team has begun to recognise that the concept is problematic. The study team has moved away from using "core products" as a central instrument to its cluster promotion strategy. Now it is using "core product" as a pedagogical tool for classes on, for example, drawing or feasibility study. This seems a good idea. However, the usefulness of the "core product" idea for purposes of cluster transformation is doubtful.

2. Teaching quality awareness in the classroom is difficult. More effective is advice given in the factory. Advice at the enterprise level is a traditional instrument of improving industrial development and remains important also for cluster promotion activities. The "old" instrument continues to be useful.

Recommendations

We recommend that the following questions be addressed:

- Factory level advice has been useful. Who will provide this service after departure of JICA study team? Will Centrama and KKB be able to provide this? Are they being trained for this? Does the training include the question of cost sharing? Does it include generating demand for consultancy services?

- Who will provide technical advice? Is there discussion or exploration of alternative providers such as BPT and ITS? Discussion would be needed, because currently their services are geared towards more advanced enterprises. But more attention needs to be paid to connecting Waru producers with existing providers of technological support so that the process of approximation can begin.

- Are there discussions with MOIT's Division of Extension Services? MOIT at provincial/district level has a budget for co-funding such services. Exploring this is above all a task for the co-operative but the JICA Study Team could prompt action in this respect. The question of the sustainability of future services needs to be addressed explicitly in the remaining project time.

- Learning by visiting. We asked the two most successful entrepreneurs of Waru where the ideas for their new initiatives came from. They both stressed the value of the study tour abroad: one of them had visited enterprises and support institutions in Japan (supported by KRI/JICA), and one in Taiwan, Singapore and China (supported by MOIT). Such visits, if well organised, are very effective.

- The JICA support for this metal working cluster will finish in November 2003. For follow up to happen, there needs to be a champion who mobilises resources and takes up the recommendations. In this respect, the project will benefit from its institutional anchor in the Waru co-operative. It would be useful for MOIT and SMOCSME to visit the cluster one year after project completion and assess whether there has been any follow up. Or JICA might want to commission an independent evaluation that would draw on MOIT and SMOCSME inputs.

## The furniture cluster of KLATEN - SERENAN

The pilot project for this furniture cluster focuses on two issues:

1. quality improvement and
2. marketing

The main instruments used for improving quality are training workshops and factory level advice. The work on marketing relies primarily on two initiatives: helping the cluster to acquire a reputation in a particular niche market: European classic furniture; and helping local enterprises to participate in a major trade fair in Jakarta.

What follows are comments on these initiatives.

1. Quality improvement and management: The entrepreneurs we interviewed found the training workshops useful, particularly the sessions on management and efficient use of wood. Similarly, they found the factory level advice from the Japanese consultant was very helpful. However, some of the entrepreneurs said that the training sessions and the factory level advice put too much emphasis on the acquisition of new technology. While recognising that new technology would be superior they felt that in most cases it would be inappropriate for their conditions.

   Whether the training workshops and factory level advice will lead to a lasting quality improvement is hard to tell. While customers demand quality improvement, this takes the form of complaints and price reductions; rarely is there a process of learning-by interaction between producers and customers. The Serenan producers tend to work for many intermediaries who rarely give specific suggestions on the type and methods of improvements required. Producers also feel that efforts to improve quality are not rewarded by higher prices. No doubt, this is a reflection of the intense national and international competition in furniture.

2. Marketing: the strongest feature of the Serenan pilot project is the work on marketing. This included a workshop on ‘European classic furniture’, a niche market in which Serenan can specialise and develop a reputation. Given the intense competition in the

furniture market, such an attempt to specialise and develop a reputation for a particular product line seems sensible.

Equally, if not more, important is the effort to help local producers to get to know the furniture market directly. At the time of our visit to Serenan, training workshops were taking place to prepare the entrepreneurs for a trade fair. The immediate aim is to have a collective stand at the next Jakarta furniture fair and to learn from exhibiting at this fair. This seems an excellent initiative for which the furniture consultant from Japan and the consultant from the Indonesia Design Centre gave a lot useful hands-on advice. Even if this first ever participation of the local producers in a major trade fair does not lead to big contracts, there are likely to be major benefits in terms of learning. Such learning will include observing the market, comparing oneself with competitors, obtaining new ideas of what to make and how to position oneself in the market.

3. Raw material supply - an issue for debate. A recent paper by Muhtaman concludes: 'The raw material supply is an evolving key constraint for the MSME furniture industry in central Java. The overuse of forests and inadequate [forest] management practices have in many cases depleted the resource base for the industry and as a consequence undermined the sustainability of the wood based industry'. (source: Dwi R. Muhtaman, Raw Material Supply for the MSME Furniture Industry in Central Java, 2003). The Study Team has chosen not to address this issue. The problems of not dealing with such a central policy issue are discussed in Part 1 of this report.

Recommendations

- The main recommendation is that this pilot project should maintain its emphasis on marketing. Support measures for enterprises and clusters tend to be supply driven and the need to change to a more demand driven approach is generally agreed. Serenan is little known in the furniture trade and needs to get onto the radar screen of more buyers. The problem becomes clear when one compares Serenan with Jepara. We had visited Jepara a month earlier and found that its producers continued to attract orders from global and national buyers in spite of generally unfavourable conditions. In contrast, even the more capable producers of Serenan were struggling to find buyers. Clearly the Jepara producers benefit from operating in a well-known cluster.

- Strengthening the marketing efforts is only worthwhile if it continues to be accompanied by quality improvement. The high water content of the wood is one of the key problems and attention to kiln facilities is therefore paramount. A kiln was installed as a common service facility (in 2001) but it has major defects. Since the kiln was funded by MOIT (provincial level budget), it is important that the Pilot Project use its MOIT connection to get the problem rectified. Sorting out this specific

technical problem would also have an important symbolic value. It would show that the Pilot Project can make effective use of its institutional connections.

- The Study Team needs to give more attention to follow up after the end of the project. Who will lead collective initiatives after November 2003? Perhaps the group of entrepreneurs preparing for the furniture fair could form the nucleus of a new local business association. Perhaps ASMINDO, which is very active in other furniture clusters, could provide help. Strengthening the organisational capability of the cluster is an important task for the remaining months of the project. Obviously this cannot be imposed but it is a key task for the local facilitator working with the study team.

- The Study Team has involved the DINAS in Klaten in the early stage of the project but in recent months there has been much less contact. It is recommended to involve the Klaten DINAS more heavily in project activities. Effective cluster policy rarely works without active participation of public agencies. More attention needs to be given to building the capabilities in the public sector. Involving the relevant district government officials in the project activities is a way of strengthening such capabilities.

## The roof tile cluster of KEBUMEN

The study team in Kebumen has the ambitious objective of strengthening the managerial, technical, marketing and institutional capacity of the cluster. These objectives have been pursued through a range of measures, including training workshops, technical experimentation and advice, and visit of a more advanced cluster.

The most important outcome of the pilot project in Kebumen is that it has '**opened the mind'** of the local entrepreneurs. All the stakeholders in the private and public sectors stressed that they benefited in terms of receiving new ideas from outside. This is a considerable achievement.

**Learning-by-visiting**: particularly useful was the visit of local entrepreneurs to the roof tile cluster in Jatiwangi which is more advanced than Kebumen. The Bandung Ceramics Centre was also visited. This four day trip was judged by all involved extremely useful – in making them receptive to new ideas. Unfortunately this study tour was limited to 8 people from Kebumen. Considering the enormous learning effect of this activity it would have been desirable to take many more people on this visit.

The **training workshops** were considered useful by all interviewed participants, particularly with regard to managerial, material handling, and marketing aspects. There were however reservations on the appropriateness of the technology discussion.

The Japanese consultant was experimenting with a **new technical method**, based on a Japanese extrusion idea but using locally adapted equipment. The entrepreneurs

experimenting with this new method were keen for the experiment to continue even though its viability was still uncertain at the time of the visit.

In its **institutional work**, the study team faces a difficult situation because there are several co-operatives, each with its own strengths, but none representing the cluster as a whole. These so-called 'co-operatives' are enterprise groups with which are organised in different ways. We encountered three: one is very hierarchical, led by a powerful local entrepreneur who has brought together his subcontractors into one organisation. Another much smaller enterprise group is comparatively egalitarian, led by a young local entrepreneur who has fully recognised the value of joint action and brought together some of his neighbouring enterprises (all of a similar size). A third one, is led by an entrepreneur who is eager to change the traditional in-ward looking culture. (However, in his own family business, he adopts a strategy of diversifying risk by developing his roof tile business while simultaneously looking for other business opportunities, one of them managed by his wife. This is perhaps not a bad strategy in a locality which is overly dependent on roof tile production.) The leaders of all three enterprise groups showed a remarkable openness towards ideas from outside - partly as a result of the pilot project. The problem for the study team is that none of the groups could speak for the cluster as a whole. The study team quite rightly has not tried to impose a solution but encouraged discussion which focusses on issues rather than personalities.

It seems then that the work in Kebumen has a number of strengths. But there are also two weaknesses. One of them concerns the choice of **facilitators**. Currently the Study Team faces an awkward situation: the capability of the selected local facilitator is in doubt. Whether he will slowly grow into his role is hard to judge. There is a capable external facilitator but he comes from Jakarta and this is a problem. It is predictable that once the project ends, this Jakarta-based facilitator will cease his work in Kebumen. It is hard to imagine anybody incurring the considerable expense of bringing him frequently from Jakarta to Kebumen to engage in facilitating, mobilising and co-ordinating; such work tends to be intermittent and can rarely be carried out in planned chunks of continuous time.

The second weakness concerns the little attention paid to the question of **raw material supply**. Discussions with DINAS officials (district level government) showed that they were well informed about the Pilot Project, that they value very much the training workshops and external visits that had been organised. However, in their view the priority lay elsewhere, namely in dealing with the question of the raw material supply. Currently most of the clay used for tile production comes from land used for agricultural purposes, notably rice fields. There is a conflict between promoting the Kebumen roof tile industry and the development of agriculture. This conflict currrently immobilises government initiatives for the roof tile sector. The JICA study team cannot solve the conflict but not engaging in the ongoing debate and struggle is not a defensible option.

Recommendations

**Raw material supply:** The JICA study team cannot resolve the raw material problem but it can contribute to the search for solutions. The most promising starting point for engaging in this very difficult debate is to adopt the following position: there is not necessarily a conflict between promoting the local roof tile cluster and developing agriculture. Two areas need be addressed: first, regulating the extraction of clay and second, opening up new supplies. Regulation requires action by the local state and monitoring by the local communities. There are guidelines for clay extraction and the reasons why they are well known. But it is equally clear that new ways of regulating the raw material supply need to be found because the current situation is not sustainable. Opening up new supplies is possible by bringing clay from a mountainous area near-by (which is not used for agriculture). This however requires considerable investment.

So what can the JICA study team do in this very difficult situation? Judging from our discussions with entrepreneurs and DINAS officials, a good deal of local knowledge already exists on the extent and causes of the conflict and of investment requirements. This knowledge needs to be brought together and it needs to be complemented with external advice on how the problems can be overcome. It is recommended to hold a workshop on these issues in Kebumen. The JICA Study Team could hold the workshop in conjunction with the Kebumen DINAS, with the JICA Study taking the lead in organising the event in exchange for a DINAS commitment to take the lead in follow-up.

**Training and advice:** the Bandung Ceramics Centre can offer technical training and advice. Current connections with this Centre are weak. The Study Team should ensure that more entrepreneurs are familiar with the Centre and its extension services. If these services need to be adjusted to the needs of the Kebumen entrepreneurs this discussion should be initiated before the project ends so that - following the end of the project – the entrepreneurs have a clearer idea of the technical resources available to them.

**Learning-by-visiting:** the interviews in all three visited clusters show that learning-by-visiting was successful. In the case of Kebumen, the visit of a cluster member to Japan has yet to happen. It is recommended that instead of sending just one member, three members should be sent. Of course this will have cost implications. But it is important to remember that the greatest cost is the preparation of the visit and its detailed organisation. This cost remains the same irrespective of the number of participants of the study tour. The additional expense for travel and hotel accommodation seems small in comparison with most other types of project costs. Decisions on such expenditure should keep in mind that study tours, if well organised, are very beneficial.