

1. ミニッツ：合同評価報告書

**THE MINUTES OF UNDERSTANDING  
BETWEEN THE JAPANESE EVALUATION TEAM  
AND THE AUTHORITIES CONCERNED OF THE GOVERNMENT OF  
THE REPUBLIC OF INDONESIA  
ON THE JAPANESE TECHNICAL COOPERATION  
FOR THE QUALITY SOYBEAN SEED MULTIPLICATION  
AND TRAINING PROJECT**

With about five months left to the termination of cooperation term of the Quality Soybean Seed Multiplication and Training (hereinafter referred to as "the Project") on June 30th, 2001, which started on July 1st, 1996, as stated in the Record of Discussions (hereinafter referred to as "R/D"), the Japanese Evaluation Team organized by the Japan International Cooperation Agency hereinafter referred to as "JICA"), headed by Mr. Nobufumi NOMURA, visited the Republic of Indonesia, in order to conduct an overall review and evaluation of the performance of the Project. In order to achieve this, a Joint Evaluation Team (hereinafter referred to as "the Team") was formed consisting of the aforementioned Japanese Team and the Indonesian Evaluation Team headed by Mr. Syarifuddin MUSA, Director of Cereal Crops, Directorate General of Food Crops Production, Ministry of Agriculture.

The Team conducted interviews with the Japanese experts and the Indonesian counterparts assigned to the Project, had a series of discussions with the authorities concerned of the Government of the Republic of Indonesia, made field surveys and exchanged views among themselves.

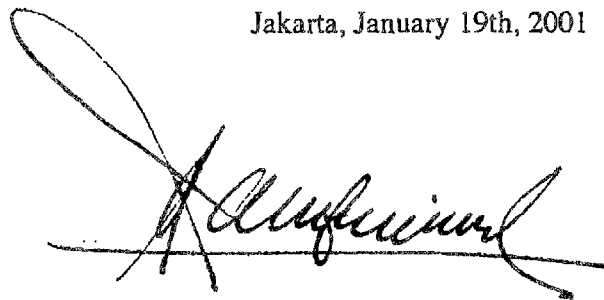
Mr. Syarifuddin KARAMA, Director General of Directorate General of Food Crops Production, Ministry of Agriculture, received and agreed the joint evaluation report which is submitted by the Team (attached hereto).

Jakarta, January 19th, 2001

野村 信史

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Mr. Nobufumi NOMURA  
Leader,  
Japanese Evaluation Team,  
Japan International Cooperation Agency,  
Japan



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Mr. A. Syarifuddin KARAMA  
Director General,  
Directorate General of Food Crops Production,  
Ministry of Agriculture,  
Republic of Indonesia

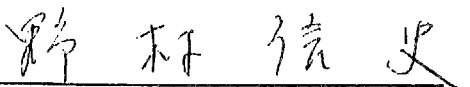
THE MINUTES OF UNDERSTANDING  
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The Team conducted interviews with the Japanese experts and the Indonesian counterparts assigned to the Project, had a series of discussions with the authorities concerned of the Government of the Republic of Indonesia, made field surveys and exchanged views among themselves.

As a result of discussions, the Team agreed upon forwarding to their respective governments the Joint Evaluation Report which is referred to in the document attached hereto.

Jakarta, January 19th, 2001




Mr. Nobufumi NOMURA

Leader,

Japanese Evaluation Team,

Japan International Cooperation Agency,

Japan



Mr. Syarifuddin MUSA

Leader,

Indonesian Evaluation Team,

Republic of Indonesia

**JOINT EVALUATION REPORT  
ON THE JAPANESE TECHNICAL COOPERATION  
FOR  
THE QUALITY SOYBEAN SEED MULTIPLICATION AND TRAINING  
PROJECT**

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## 1. INTRODUCTION

Agriculture is the key industry that amounts to 19% of Gross National Product and 51% of employment in the Republic of Indonesia. Apart from rice, the Government of the Republic of Indonesia has been promoting the production of "Palawija" as soybean, corn, cassava, sweet potato and peanut. Among these crops, soybean has the great role in daily diet as it is the main ingredient for "Tempe" and "Tafu". Because of its nutritional aspects and the above reasons, the Government of the Republic of Indonesia has been making efforts to attain self-sufficiency of soybean production.

The total harvested area was 1,140,000 hectare in 1999. The production was 1,383,000 ton, and the yield per hectare reached 1.2 ton, while the demand for soybean soared to 2,685,000 ton due to an increase in consumption and an increase in the amount of feed used for animals.

Taking into consideration the above-mentioned background, the Government of Indonesia requested a Project-type Technical Cooperation and grant aid from the Government of Japan, in order to promote the multiplication and distribution plan of high quality soybean seed in East Java where produces 34% of the domestic production of soybean.

In response to the above-mentioned request, the Government of Japan through JICA dispatched the Preliminary Study Team for the purpose of confirming the contents of the proposal submitted by the Government of the Republic of Indonesia concerning the Project for Multiplication and Distribution of High Quality Soybean Seed, examining the possibility of its implementation from a technical viewpoint, and scrutinizing its justification according to the Project-type Technical Cooperation Scheme. After this Study Team, the Long-term Study Team was dispatched for the purpose of confirming the basic framework and preconditions indicated by Preliminary Study Team for the proposed technical cooperation program.

Based on the above-mentioned studies, the Implementation Study Team was dispatched for the purpose of working out the details of the technical cooperation program concerning the Quality Soybean Seed Multiplication and Training (hereinafter referred to as "the Project"), and signed the Record of Discussions (hereinafter referred to as "R/D") for the Project on November 22nd, 1995, in order to commence a five year technical cooperation starting from July 1st, 1996.

In the course of the Project, the Consultation Study Team was dispatched for the purpose of formulating the detailed Tentative Schedule of Implementation (hereinafter referred to as "TSI"). In addition, the Advisory Study Team was dispatched for the purpose of conducting an overall review and a mid-term evaluation in the performance of the Project and providing technical advice for the respective activities for securing the smooth implementation of the Project.

## **2. OUTLINE OF THE PROJECT**

### <Project Purpose>

The multiplication system of high quality soybean seed is strengthened in East Java.

### <Outputs>

- a. High quality seeds are produced
- b. Technical skills of seed production and management are improved
- c. Technical skills of seed inspection are improved
- d. The training system is strengthened

In order to attain the above outputs and purpose, various kinds of activities are being conducted.

### ANNEX 1 (PDM)

## **3. MEMBERS OF THE JOINT EVALUATION TEAM**

### 3-1. JAPANESE EVALUATION TEAM

- (1) Mr. Nobufumi NOMURA: Team Leader / Seed Production  
Technical Advisor, Product Development & Registration, Novartis Agro K.K
- (2) Mr. Hisashi GOTO: Seed Inspection  
Senior Technical Officer, Crop Production Division, Agricultural Production Bureau,  
Ministry of Agriculture, Forestry and Fisheries (MAFF)
- (3) Mr. Kotaro OMAE: Training / Agricultural Administration Cooperation  
Senior Technical Officer, Technical Cooperation Division, International Affairs Department,  
General Food Policy, Ministry of Agriculture, Forestry and Fisheries (MAFF)
- (4) Mr. Hiroshi HASEGAWA: Evaluation Analysis  
Unico International Corporation
- (5) Mr. Satoshi FUJII: Plan Evaluation  
Deputy Director, Agricultural Technical Cooperation Division, Agricultural Development  
Cooperation Department, JICA

### 3-2. INDONESIAN EVALUATION TEAM

- (1) Mr. Syarifuddin MUSA: Team Leader  
Director of Cereal Crops,  
Directorate General of Food Crops Production, Ministry of Agriculture
- (2) Mr. Wayan Sidhya: Plan Evaluation  
Senior officer, Bureau of Planning and Foreign Cooperation, Ministry of Agriculture
- (3) Ms. Sarlistyaningsih  
Staff of Division of Data and Information, Directorate General of Food Crops Production,  
Ministry of Agriculture

#### 4. OBJECTIVES OF THE EVALUATION

- (1) To make a comprehensive evaluation of the achievement of the Project for five years from July 1st, 1996 to June 30<sup>th</sup>, 2001 with regard to the contents of R/D and TSI.
- (2) To make recommendations and suggestions to the authorities of both Governments concerned with regard to the activities after the termination of the cooperation term of the Project.

#### 5. EVALUATION OF THE PROJECT

##### 5-1. POINTS OF THE EVALUATION

The Team conducted the evaluation of the Project applying Project Cycle Management (PCM) method. Points of the evaluation were set according to the PCM evaluation method, which includes the following five aspects:

- (1) "Effectiveness (Achievement)" of the Project. Effectiveness of the Project is assessed by analyzing the Project achievements. There are two dimensions of the "Achievement." One is achievement of Outputs." "Outputs" refers to the direct products or concrete outcomes of the Project. The other dimension of the "Achievement" is achievement of "Project Purpose." "Project Purpose" refers to the overall accomplishment of the Project.
- (2) "Impact" of the Project. "Impact of the Project" refers to the direct contribution of the Project accomplishment to the "Overall Goal" or higher development goals.
- (3) "Efficiency" of the Project. "Efficiency" refers to the efficiency of inputs with regard to the realization of the "Outputs." Evaluation on the extent of the direct contribution of the "Outputs" to realization of the "Project Purpose" is another dimension of the "Efficiency."
- (4) "Relevance" of the Project. "Relevance" refers to the compliance of the Project framework with the needs of the country, the needs of the implementing agency and the needs of the beneficiaries of the Project.
- (5) "Sustainability" of the Project. "Sustainability" refers to capability of the implementing agency for continuation of the Project activities in terms of institutional capacity, financial capability, and technical capability.

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## 5-2. EVALUATION METHODS

This evaluation was conducted by the Joint Evaluation Team which was composed of the Japanese Evaluation Team and the Indonesian Evaluation Team in accordance with the R/D, the TSI and the Project Design Matrix (hereinafter referred to as "PDM") through report analyses, field visits, interviews and discussions with the personnel involved in the Project based on "Five Basic Evaluation points": Efficiency, Impact, Effectiveness, Relevance, and Sustainability.

PCM evaluation method requires a PDM which summarizes the framework of the Project. However, since the PCM method was not fully applied throughout the period of the planning and the implementation of the Project, the Team reviewed existing PDM formulated by the Project. The Team formulated a PDM based on the existing Project documents and information given from the members of the Project. This PDM is attached hereinafter (ANNEX 1).

The PDM contains "Objectively Verifiable Indicators" for "Project Purpose" and "Outputs," which shows the expected destinations of them. Those members of the Team who specialized in the subject matters of the Project were guided to evaluate the "Achievement" of "Outputs" of each subject matter according to the responding "Objectively Verifiable Indicator."

Evaluation of "Project Activities" was mainly conducted based on the information acquired from interviews, reports and other relevant Project documents. The Team set up the score to evaluate the Project clearly. The score table is as follows.

Score	Definition	Achievement
5	Completed	100%
4	Uncompleted, but the level of achievement is very high (highly expected to be completed by the first half of the remaining term)	more than 90%
3	Uncompleted, but the level of achievement is relatively high (expected to be completed by the end of the Project)	more than 80%
2	Uncompleted, the level of achievement is low (Completion by the end of the Project is uncertain)	more than 60%
1	Uncompleted, low level of progress (No possibility of completion by the end of the Project)	less than 60%

"Achievement" of "Project Purpose" was evaluated by all the members of the Team. Then the outputs were evaluated. During the evaluation of "Outputs," when any problems or inefficiency affected realization of "Outputs," the Team also analyzed causes of the problems, and made recommendations to solve them by reviewing the activities.

The other aspects of the evaluation such as efficiency, impact, relevance and sustainability of the Project were examined by the member of the through the discussions.



The process of the evaluation is as follows:

- a) General Discussion 1 : Formulation of PDM;
- b) Group Discussion : Group interviews for evaluation of each evaluation aspect;
- c) General Discussion 2 : Presentation of the results of the Group Discussion, and discussion on the achievement of "Project Purpose."
- d) Analysis based on the evaluation points: Effectiveness, Impact, Efficiency, Relevance and Sustainability

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## 6. RESULTS OF STUDY

### 6-1. EFFECTIVENESS (Accomplishment in terms of activities and outputs)

In this section, achievements of "Output" and the Project "Purpose" are discussed.

#### 6-1-1. ACHIEVEMENT OF THE OUTPUT

Output 1) High quality seeds are produced.

##### Objectively verifiable indicator and results of the evaluation

1)-1-1. The range of maturity in one variety is within two days.

Score: 5

A mass- pedigree selection was applied to "Wilis", the most typical variety and a pure-line selection has been done to "Mansuria", the original material of high quality variety "Bromo". As the results, the ranges of maturity were narrowed from more than five days to within two days.

1)-1-2. The number of hilum- type in one variety is one

Score: 5

The hilum-type is uniformed to one from several types in both cases of "Wilis" and "Mansuria".

1)-2. The germination rate of FS at the BBI is more than 90%.

Score:5

The germination rate of FS produced at the BBI has been improved from 84% in the beginning of the Project to 90% at present.

1)-3. The percentage of the normal seed as a component of pure seed in FS is more than 85%.

Score:4

The percentage of the normal seed as a component of pure seeds in FS has been improved from 73% in the beginning of the Project to 81% at present. It has not yet attained the Project target, however, it has already cleared the practical level. Furthermore it is observed that techniques on cultivation and seed management have been transferred to counterparts.

1)-4. The germination rate of SS at the model BBU is more than 85%.

Score: 1

SS production at the model BBU is not started in a large scale field due to the delay of the land acquisition, however, skills for the soybean seed production in the small scale field have been transferred by the experts. The land has been acquired in January 2001. Since the land issue at the model BBU had not been solved, the Project conducted the technical transfer to the other BBUs according to the recommendation of the middle evaluation team.

1)-5. The percentage of the normal seed as a component of pure seed in SS is more than 80%.

Score: 1

Same above.

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Conclusion on the evaluation of Achievement of output 1)

Score: 3

The technical transfer to the BBI such as purification and multiplication of seed has been completed. The technical transfer to the model BBU has been done to a certain extent in the small scale field, however, it has not been started in the large scale field.

Output 2) Technical skills of seed production and management are improved.

Objectively verifiable indicator and results of the evaluation

2)-1. The yield of FS at the BBI is more than 1.5 ton per hectare

Score: 4

The yield at the BBI has been raised to 1.2 ton per hectare from 0.9 ton per hectare by the technical guidance to the BBI staff for high quality seed production. It has not attained the Project target, however, skills on cultivation and seed processing have been transferred.

2)-2. The yield of SS at the model BBU is more than 1.5 ton per hectare.

Score: 1

SS production at the model BBU is not started in a large scale field due to the delay of the land acquisition, however, skills for the soybean seed production in the small scale field have been transferred by the experts. The land has been acquired in January 2001. Since the land issue at the model BBU had not been solved, the Project conducted the technical transfer to the other BBUs according to the recommendation of the middle evaluation team.

2)-3. The yield of ES by the model seed growers is more than 1.5 ton per hectare.

Score: 5

At the demonstration fields of seed growers, the yield has been raised to 1.6 ton per hectare from 1.2 ton per hectare on average.

Conclusion on the evaluation of Achievement of output 2)

Score: 3

The Technical transfer at the BBI and some seed growers' fields has been almost completed. The technical transfer to the model BBU and other key seed growers is not enough.

Output 3) Technical skills of seed inspection are improved.

Objectively verifiable indicator and results of the evaluation

3)-1. More than 80% of the laboratory inspectors for soybean seed at the BPSB master the practical inspection skills.

Score: 5

The rate of the laboratory inspection staff who has mastered the inspection skills on 10 items necessary for the inspection of seed has attained 90%.

3)-2. More than 80% of the field inspectors for soybean seed at the BPSB master the practical inspection skills.

Score: 4

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The experts conducted the training on eliminating off-type plants and disease infected plants in field. As a result, the rate of the field inspection staff who has mastered the inspection skills on 2 items necessary for the inspection of seed has attained to 60% from 10%. In addition, the general skill has been transferred to the counterparts. It is possible for the staff at the BPSB to conduct the training by themselves.

3)-3. The number of useful inspection items is increased at the BPSB; 10 in the laboratory inspection and 2 in the field inspection.

Score: 5

The quality of seed has been enhanced by the inspection of the BPSB. Experts introduced new inspection items to the existed Indonesian ones and instructed the skills regarding with the new inspection method.

New inspection items at laboratory: normal seed, immature seed, infected by seed-borne diseases, damaged by insects and other damaged seed

New inspection items at field: virus infected plant

Conclusion on the evaluation of Achievement of output 3)

Score: 5

The score of two parts attain 5 and another one output seems possible to be conducted by Indonesian side.

Output 4) The training system is strengthened.

Objectively verifiable indicator and results of the evaluation

4)-1. The total number of trainees is more than 600.

Score: 5

The Project has conducted the training for 1622 persons totally.

4)-2. The total number of training courses is more than 30.

Score: 5

The Project has conducted 30 training courses totally.

Conclusion on the evaluation of Achievement of output 4)

Score: 5

The number of trainee and course has attained the target more than the number expected in the Project. The Project has obtained a good result in the training for the key soybean seed growers. The number of the key soybean seed grower who participated in training is not so small for the Project period, but it is small to the demand of training under present situation. In this regard, it is desirable that the application of the training for the key soybean seed growers is expanded.

## 6-1-2. ACHIEVEMENT OF THE PROJECT PURPOSE

### Objectively verifiable indicator and results of the evaluation

The rate of high quality soybean seeds for reproduction is increased.

Score: 3

The rate of high quality soybean seeds for reproduction has been raised from 0.8% in beginning of the Project to 1.6% at present. This result comes from the fact that the technical transfer on seed production and seed inspection has been almost achieved in spite of the delay of the activities at the model BBU and its down-stream. Also the effects of the training to the staff of the BBI, the model BBU and the key seed growers contribute to it. While SS production at the model BBU and ES production at the model SPC were not conducted enough due to the delay of land reclamation at the model BBU. Consequently with some external conditions, the Project could not contribute to raise the rate of high quality soybean seed in East Java at satisfactory level.

## 6-2. PROJECT IMPACT

### 6-2-1. IMPACT

#### (1) Impact to the "Overall Goal"

From the result of demonstration farm, the DINAS recognizes the advantage of soybean production in farmer's income. By this fact the DINAS shows strong interest to expansion of high quality soybean seed production. In this regard Project gave the DINAS the impact in the increase of soybean production. While it is clarified that the development and extension of superior varieties and soybean cultivation skill should be tackled in addition to the expansion of high quality seed to attain the overall goal.

#### (2) Technical impact

The purification at the BBI brings the active communication between the BBI and the RILET, one of the research institutes for breeding. On the other hand demonstration farm promotes the connection between the BBI and the organization of extension. For the key seed grower the Project contributes to their awareness and ability of judgement to the quality of soybean seed. From now on with the cooperation between the counterparts and the extension organization, the training for the key seed grower will be strengthened through the demonstration farm, so that it is expected that the production of soybean in East Java will be increased.

#### (3) Institutional impact

In the Project activities, the high germination ability of soybean seed is recognized under the condition of more than four months long storage by means of the packing improvement and control of seed moisture. If the term of the validity of seed certificate is lengthened by the data obtained in the Project activities, it will give the strong impact to activation of the flow of seed production. While in Indonesia the distribution of multiplied soybean seed does not flow smoothly, since the seed distribution system to the farmer is not established and the suitable plan for soybean seed production on the basis of the demand is not established.

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(4) Economic impact

The advantage of soybean production in farmer's income, which is proved through the Project demonstration farm, gives the impact to the key soybean seed grower of East Java in their consciousness to soybean seed production.

(5) Social and cultural impact

The enhancement of soybean productivity will contribute to raise the rate of self-sufficiency of soybean in Indonesia. Not only for it, but also it will contribute to keep the materials for Indonesian traditional food like Tempe and to supply the protein to the remote place for the improvement of people's nutrition intake.

(6) Environmental impact

The character of soybean which actives with the nitrogen fixation bacterium symbiotically enables chemical nitrogen fertilizer to be reduced. It will prevent the ground water from pollution.

## 6-2-2. EXTENT OF IMPACT

(1) Project level

The quality of breeder's seed of "Wilis" supplied from the RILET is improved by the cooperation between the Project and the RILET in the purification of the variety. And the Project has got to have the assistance from extension organization by the implementation of demonstration farm, simultaneously the recognition of the farmer around the Project site and demonstration farm to the Project is raised.

(2) Sector level

The skill of the key seed grower is enhanced through the demonstration farm activity. It is expected that these farmers will be the leaders in their region and the skill of the cultivation there will be improved through them.

(3) Regional level

The system of soybean seed inspection to the whole province of Java is strengthened. In addition, there are requests for participating the training course from the outside of the Project area, thus it is expected that the Project effects proceed to the surrounded areas.

(4) Macro level

In the Project activities the germination ability of soybean seed is enhanced by the improvement of packing and seed moisture control. If the term of the validity of seed certificate is lengthened by the result of the Project activities, it will activate the flow of seed production. While it is clarified

that the development of superior seed variety, its extension and improvement of soybean production farmer in their skill should be considered all together.

### 6-3. EFFICIENCY

#### 6-3-1. ACCOMPLISHMENTS IN TERMS OF INPUTS

##### <Japanese Inputs>

##### (1) Dispatch of Japanese experts

A total of eight (8) long-term experts have been dispatched in accordance with the R/D and the TSI. They include a Team Leader, a Coordinator and experts in the fields of seed production, seed inspection, training as stated in the R/D.

A total of fifteen (15) short-term experts have also been dispatched. The details are shown in ANNEX 2.

##### (2) Acceptance of Indonesian Counterpart Personnel Technical Training in Japan

The technical training of Indonesian counterpart personnel in Japan started in the Japanese fiscal year 1996. Since then, a total of eighteen (18) counterparts were accepted by JICA to provide the technical training in Japan in order to upgrade the technical skills. All the training programs have been efficiently conducted in cooperation with the Tsukuba International Centre of JICA and related institutions of Ministry of Agriculture, Forestry and Fisheries (hereinafter referred to as "MAFF") and local governments. More detailed information is given in ANNEX 3.

##### (3) Provision of Machinery and Equipment

Machinery and equipment shown in ANNEX 4 were provided by the Japanese side in order to effectively implement the Project activities. All machinery and equipment provided have no doubt contributed to the Project activities and utilized properly for the Project activities.

##### (4) Supplementary Expenditure for Local Costs

The Japanese side provided a part of the Project management costs in order to implement the Project activities more effectively within the limited time allocation. JICA supplemented a portion of the local cost expenditures necessary for the construction of the irrigation facilities, farm road, training facility and laboratory, and training activities for the key seed growers and extension officers. Supplementary expenditure made by the Japanese side is shown in ANNEX 5.

##### (5) Dispatch of study teams

##### 1) Preliminary Study Team

The Preliminary Study Team was dispatched from October 6th to October 20th, 1993 in order

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to clarify the background of the request, identify problems for the implementation of the Project, and study the feasibility of the proposed technical cooperation program.

2) Long-term Study Team

The Long-term Study Team was dispatched from January 13th to February 9th 1994 for the purpose of confirming the basic framework and preconditions indicated by the Preliminary Study Team, and jointly formulating with the Indonesian side a tentative master plan of the proposed Project.

3) Implementation Study Team

The Implementation Study Team was dispatched from November 12th to November 25th, 1995 in order to finalize the master plan and the TSI of the Project.

The R/D and the TSI were then signed on November 22nd, 1995.

5) Consultation Study Team

The Management Consultation Study Team was dispatched from June to July, 1997 in order to formulate the detailed TSI as well as discussing the major issues related to the Project.

6) Advisory Team

The Advisory Team was dispatched from March 8th to March 20th, 1999 in order to conduct an overall review and an interim evaluation on the performance of the Project and provide advice for smooth implementation of the Project.

< Indonesian Inputs >

(1) Assignment of Counterpart Personnel and Administrative Personnel

Project Director, Project Manager, Project Sub-Manager, three (3) counterparts in the field of "Seed Production", five (5) counterparts in the field of "Seed Inspection" and two (2) counterparts in the field of "Training" have been assigned to the Japanese long-term experts. In addition, other personnel such as administrative personnel and support staff have been assigned properly in accordance with the R/D. A list of assigned counterparts is shown in ANNEX 6.

(2) Provision of Recurrent Expenses

The Indonesian side has allocated approximately 1,950 million Rupiah for the following operational costs: wages for secretaries, technical personnel, drivers, and field management laborers, traveling fees, telephone, fax, fuel, post, electricity, transportation and installation of equipment, etc. from the commencement of the Project up to the present.

The allocation of recurrent expenses by the Indonesian side allocated as shown in ANNEX 5.

(3) Provision of Land, Buildings and Facilities

The Indonesian side provided experimental fields, five office rooms for the use of Japanese

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experts, and other necessary buildings and facilities for the implementation of the Project. All the facilities of the Project sites have been effectively utilized for the Project.

For the BBU facility, the Indonesian side has completed acquisition of the land necessary for the seed production on the 19<sup>th</sup> of January 2001.

#### (4) Supply and replacement of machinery and equipment

All the machinery and equipment provided by JICA during the technical cooperation term have been used effectively and efficiently for the Project activities stated in the master plan of R/D. The Indonesian side has been maintaining the machinery and equipment properly; thus this equipment has been in good condition up to the present. The current condition of the machinery and equipment is shown in ANNEX 4.

### 6-3-2. INPUT / OUTPUT EFFICIENCY

#### <Seed production>

The machinery and the budget input are utilized properly for the technical transfer at the BBI. All of the input contributes to the output of the Project. However regarding the machinery and the budget input at the model BBU and the model SPC, they are not utilized well due to the delay of seed production at the model BBU by delay of land acquisition. It affected the seed flow to the model SPC too.

#### <Seed inspection>

The machinery and the budget input are utilized properly for the technical transfer of inspection staff of the BPSB. All of the input contributes to the output of the Project. As for the personnel matter, most of persons who had training still work at the BPSB and work for the technical transfer to the other concerned persons.

#### <Training>

The training has been conducted as planned. The input such as dispatch of Japanese expert, assignment of experienced counterpart, demonstration farm, the local cost shared are duly utilized.

### 6-3-3. ACTIVITIES / OUTPUT EFFICIENCY

#### <Seed production>

The technical transfer to the staff of the BBI has been done very smoothly. However regarding the model BBU, though the technical guidance of soil improvement, crop rotation and the management of the field is required there, it has not been done yet due to the delay of land acquisition. For the model BBU to carry out its duty, such guidance is indispensable. Some measures should be taken after the termination of the Project.

#### <Seed inspection>

The technical transfer to the staff of the BPSB has been done very smoothly, all of the training

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participants obtained the skills. In practical aspect, the skill of management for soybean seed production field and the skill of virus identification in the laboratory, such high skills are also transferred.

#### <Training>

Preparation of the training manuals and materials, improvement of the training curriculum, and middle level trainee training program are conducted efficiently.

### 6-4. RELEVANCE

#### (1) Relevance to the Sectional development Policy

The Project purpose that “ the multiplication system of high quality soybean seeds is strengthened in East Java.” can be thought to have been relevant throughout the Project from the guideline of the agricultural policies in Indonesia. In the Policy and Strategy of Agricultural Development for the year 2000 – 2004, the Indonesian government has given the high priority to soybean as one of the most important crops after rice. And in it, strengthening the seed system is treated as one of the significant issues. Also in the 10 Economic Recovery Acceleration Program, September 2000, “Seed Policy” is focused as an important factor to boost the agricultural productivity. At present, however, Indonesia imported soybeans of about 1,302,000 ton to meet the domestic demand of about 2,685,000 ton in 1999. The domestic demand for soybeans in Indonesia has been stable because the Indonesian people have traditionally had soybean products like “Tempe”. Moreover, in the recent years, soybeans are increasingly consumed for feedstuff. In the light of this situation, the Indonesian government has taken various kinds of measures and campaigns to promote the production of soybeans in the country.

In order to increase the domestic production of soybeans, it is indispensable to facilitate and strengthen the whole flow of soybean production ranging from the development of soybean seeds to the commercial production of soybeans. Since the Project covers from the production of high-quality FS to the production of ES by the key seed growers, it can be thought to have contributed to the improvement of the existing production technology of soybean seeds in Indonesia.

The overall goal that “ the production of soybeans is increased in East Java” can be also relevant throughout the Project, because East Java accounts for some 34% of total production of soybeans in Indonesia. Where the above Project purpose is attained, it is expected that the overall goal would be accomplished if some external conditions were satisfied.

#### (2) Relevance to the Needs of Implementation Agency

The Project purpose that “ the multiplication system of high-quality soybean seeds is strengthened in East Java.” can be thought to have been relevant throughout the Project, from the standpoint of meeting the needs of the implementing agencies including the BPSB, the BBI, the model BBU, the model SPC, and the key seed growers. During the Project, the model BBU in Pasuruan has

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failed to produce SS using FS from the BBI. But, this is because that the model BBU needed almost 4 years to purchase the farming lands from their owners. Therefore, this incident has had no influence on the relevance of the Project purpose to the needs of the model BBU.

It is clear that the overall goal that "the production of soybeans is increased in East Java." will meet the needs of the above implementing agencies, because all of them are engaged in production and/or inspection of soybean seeds

## 6-5. PROSPECTS FOR SUSTAINABILITY

### 6-5-1. PROSPECTS FOR INSTITUTIONAL SUSTAINABILITY

#### (1) Implementing agency

In the organization of Ministry of Agriculture Republic of Indonesia, Directorate General of Food Crops Production is responsible for increasing of major food crops production. Directorate of Seed Development is tackling the issues on increase of food production by promoting the supply of high quality seed. At present the Government of Republic of Indonesia is in the direction to decentralize the works and tasks. Regarding the control of the seed, however, it is still proceeding by the direct control from the Government with the cooperation of local organization. In this regard, the structure of organization concerned in this Project will remain as it is. And the activities there will be continued.

#### (2) Operation and management of the Project

The central Government controls and manages the Project, however, at the Project site the cooperation with the DINAS is indispensable. This relationship affects the Project achievement significantly. At present it is in good condition. And staff necessary for the Project is planned to be strengthened.

### 6-5-2. PROSPECTS FOR FINANCIAL SUSTAINABILITY

#### (1) Prospect for funding of recurrent costs

In the Government budget for Agriculture, the budget for the soybean seed production and multiplication is appropriated continuously. However the replacement of the equipment and machinery is supposed to be difficult.

#### (2) Public subsidiary and its stability

Public subsidiary to soybean seed grower is implemented through official organization as the free supply of soybean seed or fertilizer. Taking the Indonesian financial situation into account, subsidiary to the farmer is not essential measure to promote soybean production.

#### (3) Collection of expenses from the independent financial resources

In the soybean seed production, the Government organizations concerned this Project does not

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earn any profit from their work directly. The entire fund of the BBI, the model BBU and the BPSB is allocated from the Government budget. The model SPC is almost independent organization from the Government. It receives the fund only for the special program to promote the soybean seed production, and depends on selling rice seed mainly at present. The key seed growers get the profit, however, their situation under soybean low price is very severe. Therefore seed grower's decision to soybean production depends on the market price at present. Regarding this issue, the Government is trying to find out the way.

### 6-5-3. PROSPECTS FOR PHYSICAL AND TECHNOLOGICAL SUSTAINABILITY

#### (1) Contents of technical transfer and appropriateness of a technical level

##### <Seed production>

The skills transferred to staff of the BBI and the key seed growers will be maintained. However, at the model BBU and the model SPC, Project activities were done in only offering the training courses, so practical training at the model BBU is necessary.

##### <Seed inspection>

Since the BPSB recognizes the necessity of the revised manuals on seed inspection, standards and inspection items based on manuals are expected to be maintained by them.

##### <Training>

The training manuals and materials have been developed and improved, the training curriculum has been improved and middle level trainees training program has been implemented. In the second half of the Project period, the training has been conducted mainly by Indonesian staff. Since the training needs is very high and Indonesian side can operate the training by themselves, the technical level of the Project is recognized suitable.

#### (2) Assignment of staff

##### <Seed production>

At present the number of the staff is stable.

##### <Seed inspection>

At present the BPSB has two soybean seed inspection stations, and this fiscal year the BPSB proposed the Government the budget for the establishment of new four soybean seed inspection stations. In this regard, it is suggested that the BPSB increases the inspection staff.

##### <Training>

Two full time counterparts and assistant persons are assigned. Practical training has been conducted aiming at the technical extension under the cooperation of these counterparts.

#### (3) Stability of transferred techniques

##### <Seed production>

Since it has become possible that counterparts can conduct technical training to other staff, the skills based on seed inspection manual will be maintained.

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<Seed inspection>

It will be possible that skills on the basis of seed inspection manuals are maintained, because the training to the staff is available by the counterparts.

<Training>

In the first half of the Project period, design of the training activities and frame of action plan were made up. In the second half of the Project period, the training is conducted mainly by the Indonesian staff according to the action plan. From this point, it is judged that the skills in "Training" are settled enough.

#### (4) Maintenance of equipment and materials

<Seed production>

Regarding the facilities and equipment supplied to the BBI, the model BBU and the model SPC, these management can be done at the BBI by their staff. But at the model BBU and the model SPC, their staff will not be able to manage properly due to the lack of skills and knowledge.

<Seed inspection>

The Indonesian side will manage the equipment supplied.

<Training>

No equipment is classified in this category.

#### (5) Development of successors

<Seed Production>

Regarding the BBI, technical transfer has been done and there is no problem to train the successors. But at the model BBU and the model SPC, it is hard for them to train by themselves.

<Seed inspection>

In the BPSB it is recognized that the personnel training is important. Many of the junior inspectors join the training.

<Training>

From the point that Indonesian staff can conduct training course by themselves, successor training will be done steadily.

## 7. CONCLUSIONS

In general, most of the expected technical transfer has been achieved by the efforts of both Indonesian side and Japanese side according to the R/D and TSI. At the model BBU, however, where its activities have not been conducted well, some measures should be taken immediately, so that the Project can attain the Project purpose.

In the fields where the technical transfer have been completed, it is expected that the activities will be continued by Indonesian side, then the significance of the Project will be recognized widely

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On the other hand at the model BBU and the model SPC where SS and ES production are affected by the delay of land acquisition, those are supposed not to be utilized well. A certain extent of assistance will be necessary.

## 9. RECOMMENDATIONS

As a result of the review and evaluation of the Project, the Team has made the following recommendations to both the Japanese and Indonesian sides.

- (1) It is recommended that the Indonesian side should make more efforts to solve the issues, while the Japanese side will conduct the proper assistance until the termination of the Project.
- (2) The activities planned in the field of seed production at the model BBU and the model SPC have not been conducted enough due to the delay of the land acquisition at the model BBU. To make the effect of the Project clearer to the public, it is necessary to proceed land reclamation of the model BBU immediately and promote the activities at the model BBU to attain the Project purpose.
- (3) Further assistance from the Japanese side is necessary after the planned Project period for conducting the activities that are not expected to be achieved by the termination of the Project.
- (4) It is imperative that the Indonesian side should take appropriate measures in assignment of the personnel, allocation of enough budget and security issues for expediting of the Project activities at the model BBU.
- (5) The manuals made during the Project period for seed production, seed management, seed inspection should be authorized by the Indonesian responsible organizations in consideration of their efficacy.
- (6) It is desirable to expand the application of the training for the key soybean seed growers in order to promote seed production. In this case, to prepare the various cases which will arise in the fields, such as soil condition, water condition etc. and to conduct the training smoothly, it is desirable for the Project to have advice from Japanese expert for the time being.
- (7) The extension of high quality seed that is produced with the technology transferred by the Project needs various conditions, such as design of seed plan on the basis of demand, establishment of seed flow system to the soybean farmers, and lengthening of the term of validity for seed certification. The Indonesian side is required to recognize these conditions to take necessary measures.
- (8) For the effective utilization of technology, facilities and equipment after the Project, it is very important for the Indonesian side to consider some issues like the assignment of counterparts and the procurement of the budget.

## 10. Note

The evaluation Team visited a lot of sites and organizations concerned with the Project, during the survey there was the request to the Project extension as a follow-up program to attain the Project

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purpose from the Minister of Agriculture, Director General of Directorate General of Food Crops Production, and other persons concerned, because the production of soybean seed is regarded as the one of the most important things in agriculture promotion in Indonesia.

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