

資 料

- 1．ミニッツ
- 2．現地新聞記事
- 3．討議議事録（R / D）
- 4．暫定実施計画（TSI）
- 5．R / D署名交換時のミニッツ

* 3 ～ 5 は1998年9月3日、ジャカルタにおいて、JICA
インドネシア事務所長とインドネシア農業省食用作物園
芸総局長との間で署名・交換が行われたものである。

資料1. ミニッツ

MINUTES OF UNDERSTANDING
ON JAPANESE TECHNICAL COOPERATION
FOR THE DEVELOPMENT OF
HIGH QUALITY SEED POTATO MULTIPLICATION SYSTEM PROJECT

The Advisory Team (hereinafter referred to as "the Team") organized by Japan International Cooperation Agency (hereinafter referred to as "JICA") and headed by Dr. Motoyuki Mori visited the Republic of Indonesia from July 18, 1999 to 27, 1999 for the purpose of formulating the detailed Tentative Schedule of Implementation for the Development of High Quality Seed Potato Multiplication System Project (hereinafter referred to as "the Project") as well as discussing the major issues related to the implementation of the Project.

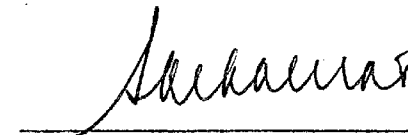
During its stay in the Republic of Indonesia (hereinafter referred to as "Indonesia"), the Team exchanged views and had a series of discussions with the authorities concerned of the Government of Indonesia in respect of various issues for sharing common understanding on the Project.

Understanding between the Team and the authorities concerned of the Government of Indonesia is recorded as shown in the document attached hereto.

Jakarta, July 27, 1999



Dr. Motoyuki Mori
Leader
Advisory Team
Japan International Cooperation Agency



Ir. Subagyono Darmowiyono
Director
Directorate of Seed Development
Directorate General of Food Crops and
Horticulture
Ministry of Agriculture
Republic of Indonesia



ATTACHED DOCUMENT

1. Purpose of the Project

The Team and Indonesian side confirmed the purpose of the Project that was mentioned in the Master Plan of the Record of Discussions signed in Jakarta on September 3, 1998.

2. Outputs and progress of the Project activities

2-1. Multiplication / Cultivation

Situation of the multiplication and cultivation of G0 to G3 in BBI and BBU were investigated. Based on that result, the expert offered the guidance for increasing amount of the production and stabilizing it.

2-2. Pest and disease control

The guidance has been chiefly focussed on measures to reduce the damage caused by root-knot nematodes. In addition, the experts offered the guidance on identification (by a short-term expert), ecology and control of aphids.

2-3. Distribution system

The expert conducted the survey on seed growers and analyzed the current situation and problems of seed potato production and distribution. Also planning for setting up demonstration fields has been started and a survey has been conducted to seek the farmers who are willing to conduct a demonstration activity. Also, the enhancement of supervising function for seed potato production in West Java Provincial Agriculture Service was guided on occasion.

2-4. Training

Training coordination committee was held to discuss framework of the training courses.

3. Detailed Tentative Schedule of Implementation (d-TSI)

The Team and the Indonesian side formulated the d-TSI as shown in the Annex I, and confirmed detailed activities and framework of the Project for other 6 provinces (North Sumatra, West Sumatra, Jambi, Central Java, East Java, South Sulawesi), shown in the Annex II and III, respectively.

4. Project Design Matrix (PDM)

The Team and the Indonesian side made the PDM as shown in the Annex IV.

5. Discussed items and recommendation

The Team and Indonesian side discussed the matter related to the Project and the Team requested the Indonesian side to make necessary arrangements for the smooth

implementation of the Project.

5-1. Relationship between the Project and the expanding plan of seed potato production in West Java.

West Java Provincial Agriculture Service showed their expanding plan of seed potato production. The Team explained the necessity of clarifying for the relationship between the Project and the expanding plan.

The Team confirmed that the framework of the Project should not be changed, and requested the Indonesian side as follows;

- 1) to prepare the input necessary for expanding plan such as human power, equipment, facility and operation cost, as separate unit to the Project, by Indonesian side,
- 2) to ensure the facilities, equipment and machinery which is necessary for the Project,
- 3) to continuously ensure the counterpart personnel and technical staff who are presently engaged in the Project,
- 4) to ensure the necessary budget allocation for production, maintenance of facilities and machinery and other operation cost for the Project, and
- 5) to distribute enough amount of G0 to North Sumatra and Central Java.

5-2. Seed potato distribution plan in West Java

West Java Provincial Agriculture Service explained that G2 produced by BBI was presently distributed to BBU and the selected seed grower, and that necessary amount of G2 would be distributed to BBU as a first priority.

5-3. Enhancement of implementation condition of West Java Provincial Agriculture Service

The Team explained the necessity of enhancement of West Java Provincial Agriculture Service for stabilization of seed potato productivity. Concerning this matter, the Team suggested that West Java Provincial Agriculture Service enhance their implementation condition through the allocation of enough budget and assignment of the full-time counterparts for the Project.

West Java Provincial Agriculture Service explained that one new staff had been allocated for the Project recently. Also, West Java Provincial Agriculture Service insisted that they would make an effort to get him permanent staff.

5-4. Enhancement of production condition in BBU

The decrease of G3 production in BBU after the termination of the last project was caused by lack of adequate management of P.D. Mamin (parent company of BBU before). The Team appreciated the recent efforts of P.D. Agribusiness (parent company of BBU in present) also requested West Java Provincial Agriculture Service and P.D. Agribusiness to make necessary arrangements for allocation of enough budget, insurance of water resources, maintenance and periodic replacement of equipment.

P.D. Agribusiness explained their expanding plan of seed potato production, and the Team requested as mentioned above in 5-1. 1) to 4).

5-5. Organization of the guidance team

In order to foster the seed growers, West Java Provincial Agriculture Service should manage and coordinate the guidance team that consist of West Java Provincial Agriculture Service, BPSB, BBI, BBU, regency offices of Provincial Agriculture Service and BPSB inspectors stationed in regencies. The Team requested Ministry of Agriculture and West Java Provincial Agriculture Service to allocate the necessary budget for its activities.

5-6. Planned production system

In order to assure the stable seed potato production, West Java Provincial Agriculture Service should take initiative in G0 to G4 production. Concerning this matter, West Java Provincial Agriculture Service, BBI and BBU should have discussion and make a decision for distribution and recipients under consultation with the experts of the Project.

5-7. Technical guidance for other 6 provinces

It is planned to train the staff of other 6 provinces, and the Project will supplement the techniques especially to staff of North Sumatra and Central Java. Experts and Counterparts of BBI and BPSB in West Java will visit both provinces to guide their technical matter when necessity arises.

The Team requested Ministry of Agriculture and West Java Provincial Agriculture Service to ensure budget allocation for travel allowance of counterpart personnel when they visit these two provinces.

5-8. Bringing up the seed growers

The Project will mainly train the seed growers whose seeds are from BBU.

5-9. Enlightenment of concerned personnel

In order for personnel concerned of seed potato production to get common understanding, the Project will implement the enlightenment program.

5-10. BPSB's activity

The Team requested Ministry of Agriculture to prepare monitoring field for following generation monitoring and its operation cost, to allocate travel allowance for inspection and others for the Project.

5-11. Plan for construction of facilities of seed multiplication (Potato, Soybean and Corn) loaned by OECF

Ministry of Agriculture explained the progress of the above plan. The Team recommended Ministry of Agriculture to discuss with the Experts before making of its detailed plan.

5-12. ELISA kit

During the last project, the techniques of making the antibody for ELISA test has already been transferred to Indonesian side, therefore, the Team requested the Indonesian side to examine necessary measures to conduct the self-preparation of

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ELISA kit before the termination of the Project.

5-13. Price of seed potato

The Team advised the Indonesian side to set appropriate price for seed potato because it is one of the important assumptions for the effective implementation of the Project.

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Annex I Detailed TSI of SPP II

Activities	1998			1999			2000			2001			2002			2003			Remarks
	4	7	10	4	7	10	4	7	10	4	7	10	4	7	10	4	7	10	
<i>1.Improvement of multiplication techniques and pest and disease control techniques in West Java</i>																			
<i>(1-1) To improve multiplication techniques</i>																			
(a) To establish the planned production system of seed potato (BBI, BBU)																			
(b) To improve the production techniques in the field (BBI, BBU)																			
(c) To improve the production techniques of G0 and G1 in screen house (BBI)																			
(d) To establish tissue culture techniques (BBI)																			
(e) To make manuals																			
<i>(1-2) To improve pest and disease control techniques</i>																			
(a) To improve control techniques of virus diseases and aphids																			
(b) To improve control techniques of soil-borne pests and diseases																			
(c) To improve other pest and disease control techniques																			
(d) To make manuals																			

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Activities	1998	1999	2000	2001	2002	2003	Remarks
	4 7 10	4 7 10	4 7 10	4 7 10	4 7 10	4 7 10	
2. Improvement of cultivation and management techniques of seed growers in West Java (2-1) To develop a guidance system for seed growers (a) Fact finding survey on seed growers (b) Field guidance for seed growers (c) Training for seed growers and guidance team (2-2) To verify and modify seed production and management techniques in seed grower's field (a) To set up and manage the demonstration field							
3. Improvement of management of seed potato distribution system in West Java (3-1) To establish a method for planning the supply of seed potatoes based on demand (a) To make a supply plan of seed potatoes based on demand (3-2) To improve the seed potato supply system (a) Fact finding survey on seed potato supply system (b) To improve supply system of seed potatoes (3-3) To improve the seed potato inspection and certification system (a) To establish the nationwide inspection standard for seed potatoes (b) To monitor the application of the nationwide inspection standard (c) To evaluate the implementation of the nationwide inspection standard							

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Activities	1998			1999			2000			2001			2002			2003			Remarks
	4	7	10	4	7	10	4	7	10	4	7	10	4	7	10	4	7	10	
<i>4. Enhancement of training system in West Java</i>																			
<i>(4-1) To improve training plan, curriculum and materials</i>																			
(a) To improve the planning ability of training staff in MOA, BPSB and DINAS Pertanian																			
(b) To improve the training curriculum in BBI and BPSB																			
<i>(4-2) To enhance the seed potato production and inspection techniques for personnel concerned in North Sumatra and Central Java through training programs</i>																			
(a) To enhance the seed potato cultivation and certification techniques (BBI)																			
(b) To enhance the seed potato inspection techniques (BPSB)																			
<i>(4-3) To train personnel concerned in other provinces (West Sumatra, Jambi, East Java and South Sulawesi) concerning seed potato production and inspection through training programs</i>																			
(a) To train personnel concerning seed potato production (BBI)																			
(b) To train personnel concerning seed potato inspection (BPSB)																			

(Note) • "MOA" means "Ministry of Agriculture".
• "Dinas Pertanian" means "West Java Provincial Agriculture Service".

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Annex II Items and contents of activity of SPP II

Items of activity	Expert	CP Org.	Contents of activity
<p><i>1. Improvement of multiplication techniques and pest and disease control techniques in West Java</i></p> <p><i>(1-1) To improve multiplication techniques</i></p> <p>(a) To establish the planned production system of seed potato (BBI,BBU)</p> <p>(b) To improve the production techniques in the field (BBI,BBU)</p> <p>(c) To improve the production techniques of G0 and G1 in the screen house (BBI)</p> <p>(d) To establish tissue culture techniques (BBI)</p> <p>(e) To make manuals</p>	Multipl /Culti.	BBI BBU	<ul style="list-style-type: none"> To improve the seed potato production system at BBI and BBU toward the development of the reasonable system to produce systematically according to the users' needs. In concrete, (1) to make guidance on the planning method to make the reasonable schedule of seed potato production through G0 to G3, which enable to timely produce and supply enough seed potatoes needed by seed growers, (2) to make guidance on the techniques for coordination of production schedule, such as control techniques of the dormant period, adapting techniques of the planting period and techniques to avoid the instability of the yield. (1) To make a survey on the present production techniques in the field, such as planting density, number of stems, cultivation period, dormant period and harvesting time. (2) To improve the present cultivation techniques of G2 and G3 in order to increase the yield, to stabilize the productivity and tuber size. (It is needed to increase and stabilize the yield as well as to control tuber size.) (1) To make a survey of the present production techniques in screen house. (2) To improve the multiplication and cultivation techniques in screen house A and B in order to increase the yield. (It is needed to raise the productivity in screen house partly because of the G0 production for other provinces, North Sumatra and Central Java.) Short term expert (if necessity arises) To establish the practical techniques for the multiplication of virus free potato at BBI by tissue culture techniques. In concrete, to make guidance on set up of laboratory for tissue culture, making culture medium, non-symbiotic treatment, multiplication techniques and so on. Short term expert (if necessity arises) To make or revise the manuals on planned production system, cultivation in the field, cultivation in the screen house and technology of tissue culture.

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Items of activity	Expert	CP Org.	Contents of activity
(1-2) To improve pest and disease control techniques	Pest/ Disease	BBI BBU	
(a) To improve control techniques of virus diseases and aphids			<ul style="list-style-type: none"> To investigate the population change of aphids in BBI periodically and continuously in order to obtain the basic data necessary for the integrated preventive measures against re-infection of virus, and to implement following generation monitoring, improvement of seed production environment. Short term expert (if necessity arises)
(b) To improve control techniques of soil-borne pests and diseases			<ul style="list-style-type: none"> To obtain the basic data on the relationship between density of root-knot nematode and the damage of potato caused by it and to review the effects of crop rotation, fallow, weeding, drying, rain, chemical treatment, anti-nematode plants on the reduction of the nematode density based on the investigation on the density of nematode in the field, the damage of potatoes and so on. To decide the tolerable level of the density of the nematode, and to establish the method to manage the density of the nematode under the tolerable level based on the data above mentioned. Short term expert (if necessity arises) To observe the effect of soil changing for common scab in screen house, and if necessary to examine the method to reduce its damage.
(c) To improve other pest and disease control techniques			<ul style="list-style-type: none"> To improve control techniques of pests and diseases whose prevention is difficult by present techniques, if necessary, among late blight, bacterial wilt, thrips, leaf miners and so on by introducing a integrated control method including the controlling methods by cultivation such as crop rotation. <ul style="list-style-type: none"> *Late blight : control methods by chemical have been nearly established *Bacterial wilt : control methods by crop rotation have been nearly established *Leaf miners : control methods have not been established (Countermeasures can be considered depending on the damage) *Thrips : to guide control methods depending on damage level *Potato tuber moth : to guide proper enforcement of basic control techniques
(d) To make manuals			<ul style="list-style-type: none"> To make manuals on the control techniques of virus diseases and aphids, nematode and other pests and diseases

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Items of activity	Expert	CP Org.	Contents of activity
<p>2. Improvement of cultivation and management techniques of seed growers in West Java</p> <p>(2-1) To develop a guidance system for seed growers</p> <p>(a) Fact finding survey on seed growers</p> <p>(b) Field guidance for seed growers</p> <p>(c) Training for seed growers and guidance team</p> <p>(2-2) To verify and modify seed production and management techniques in seed grower's field</p> <p>(a) To set up and manage the demonstration field</p>	Distribution	<p>DINAS (BBI) (BBU) (BPSB)</p>	<ul style="list-style-type: none"> To do fact-finding survey on the productivity of seed growers and ordinary farmers in order to find out the actual situation and problems of cultivation techniques and management. To make the direction to improve the G4 production clear based on the fact-finding survey, and to make guidance for the production of seed growers by the guidance team directed by DINAS Pertanian according to the direction of improvement. (Target : existing seed growers) <ul style="list-style-type: none"> To examine the participation of the staff of regency offices of DINAS Pertanian and BPSB inspectors stationed in regencies to the guidance team in order to enhance the guidance system in the region. Technical instruction by the staff of BBI, BBU and BPSB (if necessity arises) To train the seed growers in the training course at BBI in addition to the field guidance for the production above-mentioned. (Target : existing seed growers, candidate of seed growers) To train the members of guidance team such as staff of regency offices of DINAS Pertanian and BPSB inspectors stationed in regencies as early as possible in the training courses at BBI and BPSB on the seed potato production and inspection. To set up and manage demonstration field on the seed potato production for the purpose of dissemination of the techniques of seed potato production and bringing up new seed growers under the direction and management of DINAS Pertanian. (Target : candidate of seed growers) <ul style="list-style-type: none"> Demonstration fields are managed by seed growers themselves, and planning and guidance are done by DINAS Pertanian. The guidance members such as staff of regency offices of DINAS Pertanian and BPSB inspectors stationed in regencies make guidance for seed growers as well as the technical instruction by the staff of BBI, BBU and BPSB.

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Items of activity	Expert	CP Org.	Contents of activity
<p><i>3. Improvement of management of seed potato distribution system in West Java</i></p> <p><i>(3-1) To establish a method for planning the supply of seed potatoes based on demand</i></p> <p>(a) To make a supply plan of seed potatoes based on demand</p>	Chief Advisor	MOA	<ul style="list-style-type: none"> To make a supply plan of seed potato based on the demand of each province according to the supply system made up by 7 provinces including West Java. To hold and manage "National coordinating meeting for seed potato production (draft name)" with the members of each province concerned to discuss the supply plan of seed potato.
<p><i>(3-2) To improve the seed potato supply system</i></p> <p>(a) Fact finding survey on seed potato supply system</p> <p>(b) To improve supply system of seed potatoes</p>	Distribution	DINAS	<ul style="list-style-type: none"> To do fact-finding survey on seed potato supply in West Java in order to find out the actual situation and problems of supply system of seed potato. To enhance the managerial system of DINAS Pertanian on seed potato supply in order that seed potatoes can be supplied according to the plan at each stage of G0 to G4. To improve the supply system of seed potato in model areas by organizing of seed growers and making necessary guidance for the smooth distribution of seed potatoes. (Model areas will be set subject to the seed growers of the demonstration field mentioned at 2-2-a)
<p><i>(3-3) To improve the seed potato inspection and certification system</i></p> <p>(a) To establish the nationwide inspection standard for seed potatoes</p> <p>(b) To monitor the application of the nationwide inspection standard</p> <p>(c) To evaluate the implementation of the nationwide inspection standard</p>	Short-term Exp. (Pest/Disease)	BPSB MOA	<ul style="list-style-type: none"> To implement the basic examination necessary for the establishment of new nationwide inspection standard for seed potato, such as evaluation of the results of application of the tentative inspection standard enforced in March 1997, field survey to grasp present situation of inspection, suggestion for making new standard and other related matters. To give suggestions to improve the operational problems of new standard. To give suggestions for technical matters including the management of laboratory if necessary. To evaluate the operation of inspection after the enforcement of the new standard considering other 6 provinces.

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Items of activity	Expert	CP Org.	Contents of activity
<p><i>4. Enhancement of training system in West Java</i></p> <p><i>(4-1) To improve training plan, curriculum and materials</i></p> <p>(a) To improve the planning ability of training staff in MOA, BPSB and DINAS Pertanian</p> <p>(b) To improve training curriculum in BBI and BPSB</p> <p><i>(4-2) To enhance the seed potato production and inspection techniques for personnel concerned in North Sumatra and Central Java through training programs</i></p> <p>(a) To enhance the seed potato cultivation and certification techniques (BBI)</p> <p>(b) To enhance the seed potato inspection techniques (BPSB)</p> <p><i>(4-3) To train personnel concerned in other provinces (West Sumatra, Jambi, East Java and South Sulawesi) concerning seed potato production and inspection through training programs</i></p> <p>(a) To train personnel concerning seed potato production (BBI)</p> <p>(b) To train personnel concerning seed potato inspection (BPSB)</p>	<p>Pest/ Disease</p>	<p>MOA DINAS BBI BPSB</p>	<ul style="list-style-type: none"> ● To improve the planning and management ability for the training course including annual plan, scope of trainee, period and so on. ● To improve the curriculum according to the purpose of each training course and trainee. ● To implement the training programs on the production and management techniques in the screen house, cultivation techniques of G2 and G3 in the large scale field, techniques necessary for guidance to seed growers for the purpose of obtaining the practical techniques including checking by antiserum as well as basic techniques. ● To follow-up the result of training in West Java to make guidance on the site of both provinces, North Sumatra and Central Java, if necessity arises. ● To implement the training programs on the practical techniques for high accuracy inspection including finding method of pests and diseases as well as basic techniques. ● To implement training programs on the basic techniques for cultivation of G2 and G3 in the field and techniques necessary for guidance to seed growers. ● To implement training programs on the basic techniques for seed potato inspection.

(Note) • Column of "Expert" shows the person with responsibility in each activity. Other experts cooperate the activities related if necessity arises.

• Project activities should be reconsidered at the middle of project term because the situation of the seed potato production in Indonesia including West Java is changing drastically.

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Annex III

Framework of the Project for other 6 provinces

1. Basic Concept on R/D

- It is impossible to conduct same technical cooperation activity as one in West Java to other 6 provinces, because of limitation on input from JICA.
- Therefore, cooperation activity should be done only for making a foot hold towards the future development of seed potato production system by Indonesian side.
- It is basically intended to conduct technical transfer to other provincial staff by training course in West Java.
- On North Sumatra and Central Java, which have responsibility to distribute to other 4 provinces, counterparts will be assigned. Also for them, direct technical transfer by Japanese Expert (Follow up on Post-training) will be done.
- Small equipment necessary for post-training will be procured for North Sumatra and Central Java.

2. Contents of Activity

1) Training Program in West Java

i) For North Sumatra and Central Java

- Techniques for G1 production
- Techniques for G2 production
- Techniques for G3 production
- Techniques for guidance of G4 production
- Techniques for seed inspection

ii) For West Sumatra, Jambi, East Java, South Sulawesi

- Techniques for G2 production
- Techniques for G3 production
- Techniques for guidance of G4 production
- Techniques for seed inspection

2) Follow up on post-training

Technical transfer by experts (for North Sumatra and Central Java)

- Techniques for G1 production
- Techniques for G2 production
- Techniques for seed inspection

Note: Counterparts in West Java accompany to Expert by direction of MOA, if necessary.

3) Provision of Equipment

Small equipment necessary for post-training is procured for North Sumatra and Central Java.

4) Acceptance of trainee to Training Program in Japan

Counterparts at BBI, Provincial Agriculture Service and BPSB in North Sumatra and Central Java will be accepted to Japanese Training course.

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Annex IV Project Design Matrix

Project title: Development of High Quality Seed Potato Multiplication System Project

Duration: October 1, 1998 ~ September 30, 2003

Target area: Bandung, West Java

Target group: MOA, DINAS Pertanian, BPSB, BBI, BBU, Seed growers

Narrative Summary	Objectivity Verifiable Indicators	Means of Verification	Important Assumptions
Overall Goal To increase the amount of high quality seed potatoes. To develop the nationwide high quality seed potato multiplication system.	To increase the seed potato production and stabilize the productivity in each province.	Records of production and inspection	1. The basic policy of seed potato production in Ministry of Agriculture is not changed.
Project Purpose To develop the high quality seed potato multiplication system in West Java as a model for nationwide system.	To increase the seed potato production and stabilize the productivity in West Java until Sep.2003 compared with those before starting the Project.	Records of production and inspection	Necessary facilities of seed potato multiplication are developed in each province by OECF loan.
Outputs 1) Seed potato production technology in BBI and BBU in West Java is strengthened. 2) Seed potato production technology of seed growers in West Java is improved. 3) Seed potato distribution in West Java is effectively managed. 4) The training system in West Java for staff of other provinces is strengthened. In particular, seed potato production technology at BBIs and inspection technology at BPSBs in North Sumatra and Central Java are improved through training programs in West Java.	1. To increase the seed potato production and stabilize the productivity at BBI and BBU compared with those before starting the Project. 2. To increase the seed potato production of G4 production farmers. 3. To stabilize the planting area of G3. 4. Staff of other provinces participate the training program of seed potato production techniques and inspection techniques.	1. Records of production and inspection 2. Records of production and inspection 3. Records of inspection 4. Records of result of training	1. Price of the imported seed potato does not decrease. 2. The basic policy of seed potato production in West Java is not changed. 3. Seed growers secure the funds for seed potato production.
Activities 1) Improvement of multiplication techniques and pest and disease control techniques in West Java. 1-1) To improve multiplication techniques. 1-2) To improve pest and disease control techniques 2) Improvement of cultivation and management techniques of seed growers in West Java. 2-1) To develop a guidance system for seed growers. 2-2) To verify and modify seed production and management techniques in seed growers' field. 3) Improvement of management of seed potato distribution system in West Java. 3-1) To establish a method for planing the supply of seed potatoes based on demand. 3-2) To improve the seed potato supply system. 3-3) To improve the seed potato inspection and certification system. 4) Enhancement of training system in West Java. 4-1) To improve training plan, curriculum and materials 4-2) To enhance the seed potato production and inspection techniques for personnel concerned in North Sumatra and Central Java through training programs. 4-3) To train personnel concerned in other provinces (West Sumatra, Jambi, East Java and South Sulawesi) concerning seed potato production and inspection through training programs.	Inputs Japanese side 1) Long-term experts Chief advisor Coordinator Pest and disease control Cultivation and multiplication Distribution system 2) Short-term experts When necessity arises 3) Equipment and machinery 4) Counterpart training in Japan 5) Dispatch of study team When necessity arises	Indonesian side 1) Counterparts Project director Project manager At least two full-time C/Ps for each expert Administrative and technical staff 2) Land, buildings and facilities 3) Running expenses 4) Others	1. Counterpart personnel of BBI, BBU and BPSB in West Java are assigned properly. 2. Results of production and inspection are recorded correctly. 3. Ministry of Agriculture and Dinas Pertanian allocate necessary budget for the Project. 4. Abnormal weather and disaster does not occur. 5. Seed potatoes are sold in adequate price. Pre-conditions 1. Demand for seed potatoes is increased in Indonesia. 2. Public peace is stabilized.

Dr. Motoyuki Mori: "Untuk Tingkatkan Produktivitas

Kentang Butuhkan Benih Berkualitas

BANDUNG, (PR).-

Produktivitas kentang di Jabar dan Indonesia dinilai masih bisa lebih ditingkatkan, sehingga dicapai hasil optimal dan menguntungkan. Syaratnya, selain harus menerapkan sistem budidaya kentang secara baik dan melakukan pengendalian hama penyakit tanaman, petani juga harus menggunakan bibit kentang sehat dan berkualitas.

"Petani di sini (Jabar - red) bisa meningkatkan produktivitas kentangnya. Caranya harus menggunakan bibit yang bagus dan berkualitas karena bibit yang bagus akan berdampak pada hasil yang meningkat," kata Motoyuki Mori, Chief of Potato Breeding Laboratory Upland Agriculture Research Center Hokkaido National Agricultural Experiment Station Jepang, menjawab pertanyaan "PR" di sela-sela peninjauan ke lahan penangkaran kentang di Desa Cikembang Kec. Kertasari Kab. Bandung, Rabu lalu.

Motoyuki Mori, pakar dan breeder kentang cukup ternama di Jepang, bersama beberapa pakar kentang lainnya melakukan misi kunjungan ke Indonesia, untuk mengevaluasi dan meninjau langsung lahan pembenihan kentang hasil proyek Japan International Cooperation Agency (JICA) di Jabar.

Didampingi Chief Advisor JICA, Keishi Katayama, Kasubdin Bina Produksi Hortikultura Dispartan Jabar, Lukman Hakim, serta pihak terkait seperti dari Subdit Hortikultura Deptan dan BPSB IV Jabar/DKI, Mori bersama tim juga berkunjung ke Balai Benih Induk (BBI) dan Balai Benih Utama (BBU).

Dari hasil pengamatannya di beberapa lahan penangkaran milik petani, Mori masih menemukan tanaman kentang yang mengidap penyakit, terutama virus mosaik dan layu bakteri. Namun di lahan lainnya sudah cukup bersih dari penyakit. "Selain benih harus bagus, sedapat mungkin penyakit juga dikendalikan," kata Mori.

Sejauh ini produktivitas kentang di Indonesia masih tergolong lebih rendah dari produktivitas di negara

lain. Misalnya, pada tahun 1998 produktivitas kentang Indonesia hanya mencapai rata-rata 18,5 ton/ha, sedang Jepang bisa mencapai antara 20-40 ton/ha dan negara-negara Eropa lebih tinggi lagi. Salah satu faktor penyebab masih rendahnya produktivitas kentang Indonesia, kualitas benih yang kurang bagus.

Menurut Chief Advisor JICA, Keishi Katayama, keberadaan proyek JICA di Indonesia adalah untuk membantu meningkatkan kualitas benih kentang. Proyek yang kini tengah berlangsung (1998-2003) merupakan yang kedua kalinya, setelah proyek pertama selesai pada periode 1992-1997.

Seorang petani kentang Desa Cikembang Kec. Kertasari, Achmad (45) mengemukakan, sebelum ada program JICA di daerahnya, para petani banyak mengalami kesulitan dalam mengendalikan penyakit kentang.

"Namun sejak ada program JICA, kami para petani jadi banyak tahu. Misalnya, dulu petani mengira gejala rancung akibat iklim, tapi setelah ada JICA kami tahu bahwa gejala itu akibat virus," kata Achmad.

Masih kurang benih

Sementara itu, H Ubu Burhanudin, seorang petani kentang di Desa Cikembang Kec. Kertasari Kab. Bandung menyatakan, selama ini dalam melakukan usahanya para petani kentang masih kekurangan benih. Sebagian besar benih yang digunakan petani merupakan benih impor dari negara Jerman atau Belanda.

Namun sayangnya harga benih kentang impor relatif lebih mahal, padahal kualitasnya tidak jauh berbeda dengan benih hasil penangkaran petani lokal. Harga benih kentang impor bisa mencapai Rp 20.000,00/kg.

"Tapi sejak ada program pembenihan dari JICA kami petani lebih suka benih lokal, sayangnya BBU tak mampu memproduksi banyak sehingga harga juga jadi mahal dan ini kendala bagi petani," kata Ubu.

Harga benih kentang lokal G3 hasil penangkarnya cukup ber-

variasi, tergantung ukuran. Misalnya untuk benih G3 ukuran L dijual dengan harga Rp 10.700/kg, ukuran M Rp 14.900/kg dan ukuran S Rp 19.000/kg. Sedang benih G4 dijual dengan harga rata-rata Rp 12.000/kg. "Kalau kentang konsumsi cuma dijual dengan harga Rp 1.900 - 2.000/kg," lanjutnya.

Kasubdin Bina Produksi Hortikultura Dispartan Jabar, Lukman Hakim mengakui selama ini kebutuhan benih kentang di Jabar masih belum terpenuhi.

Data 1998 misalnya, dari 20.000 ha lahan yang diusahakan untuk tanaman kentang butuh 40.000 ton benih. Dari kebutuhan sebesar itu, produksi benih G4 baru mencapai 700 ton per tahun, sehingga hanya menyumbang 2% dari kebutuhan.

"Kekurangannya ya terpaksa kita impor atau menggunakan benih sendiri dari G4 menjadi G5 hingga G8, jika sudah G8 tidak bisa lagi dijadikan benih karena produktivitasnya sudah menurun," kata Lukman.

Karena produksi benih masih sedikit, menurut Lukman, otomatis harga jadi tinggi. Karena itu, petani kentang sebenarnya kini memiliki peluang usaha sangat besar, bukan saja untuk memenuhi kebutuhan kentang konsumsi, tapi yang lebih menguntungkan lagi adalah memenuhi kebutuhan benih kentang.

Pihaknya menargetkan, produksi benih berlabel G2 dan G3 sebesar 15 ton/ha, G4 12 ton/ha. Sedang target produksi kentang konsumsi sekitar 30 ton/ha. "Kini produktivitasnya di Jabar rata-rata 17-18 ton/ha. Jika penggunaan benih berlabel dan bermutu tinggi sudah membudaya, saya optimis produktivitas kentang di Jabar bisa ditingkatkan," kata Lukman.

Lukman juga mengemukakan, Jabar akan dijadikan sebagai sentra produksi benih kentang di Indonesia.

Tiap tahun ditargetkan Jabar bisa menghasilkan benih kentang sebanyak 10.000 ton. Saat ini, kontribusi kentang Jabar terhadap nasional merupakan yang terbesar jika dibandingkan dengan daerah lain, yakni mencapai sekitar 30 %.

23 Juli

"Pikiran Rakyat"

POTATO NEEDS HIGH QUALITY SEED

Productivity of potato in West Java and Indonesia can rise much more until it reaches at optimum yield and get benefit. To apply the potato cultivation system in good condition and to do the control of field disease are required, besides Farmer has to use the good and quality seed potato.

"Farmers around here can increase their productivity of potato. The way is that they use the good and high quality seed, because the good seed will impact on the increase of the yield" Motoyuki Mori, a Chief of Potato Breeding Laboratory, Upland Agriculture Research Center, Hokkaido National Agricultural Experiment Station in Japan, said on the survey at the seed growers' field in Desa Cikembang, Kecamatan Kertasari, Kabupaten Bandung, on last Wednesday.

Motoyuki Mori, an expert and famous potato breeder in Japan, made a survey with another experts, as a mission that is dispatched to Indonesia for evaluation and observation on the potato cultivation field, which is output by JICA project in West Java.

Accompanied with JICA Chief Advisor, Keishi Katayama, Head of Sub Division of Horticulture Production, Food Crops Agricultural Service of West Java Province, Lukman Hakim and some concerned organizations such as Sub Horticulture Division, Ministry of Agriculture, and BPSB I in West Java / DKI, Mori and his team also visited BBI and BBU.

As a result of his observation on several seed growers' field that is owned by farmer, Mori did find the potato which is infected by disease, especially "mozaik virus" and bacterial wilt. However, other field has already been free from disease. "The seed should have high quality, also the disease should be controlled as much as possible." Mori said.

Up to now productivity of potato in Indonesia is still classified at low level compared to one in other country. For example, in 1998, productivity of potato reaches only 18,5ton / ha on the average of Indonesia. On the other hand in Japan it can reach 20 ~ 40 ton / ha, and in the Europe, it is much higher. The one of

reason that productivity of potato in Indonesia is still low, is that quality of seed is not so good.

According to Keishi Katayama, implementation of JICA project in Indonesia is for support to raise the quality of seed potato. The project which is going on (1998 ~ 2003) is the second stage, after the first project finished on 1992 ~ 1997.

Ahmad (45), one of potato farmer in Desa Cikembang, Kecamatan Kertasari said that before JICA project existed in his region, too many farmers had a trouble with controlling potato disease.

"But since JICA project started, we got many knowledge. For example, before the farmer paid attention on "Rancung" by climate, but after JICA Project started, we know that that attention should be paid on virus," Ahmad said.

Still Lack Seed

During that time, H Ubu Burhanudin, a potato farmer in Desa Cikembang, Kecamatan Kertasari, Kabupaten Bandung said that up to now, the potato farmer still lack seed for doing their work. A large amount of seed which is used by farmer is the seed imported from German and Netherlands.

Unfortunately, the price of import seed potato is even more expensive, but actually the quality is not so different with seed which is produced by local seed farmer. The price of import seed potato, can reach Rp. 20.000,-/kg.

"But since seed potato project started by JICA, we have been using the local seed but unfortunately BBU can not produce enough seed. So, the price becomes high, and this is the problem for farmer, " Ubu said.

The price of G3 local seed potato, has many variation depending on their size. For example, L size of G3 seed is sold on Rp. 10.700,-/kg, M size is sold on Rp. 14.900,-/kg and S size is sold on Rp. 19.000,-/kg. But G4 seed is sold on Rp. 12.000,-/kg on the average. "As for consumption potato, it is sold on only Rp. 1.900 ~ Rp. 2.000,-/kg." he said.

Lukman Hakim, Head of Sub Division of Horticulture Production, Food Crops Agriculture Service of West Java Province, admitted that up to now the production of seed potato in West Java was not enough yet.

For example, according to 1998 data, 20.000 ha cultivation area on which potato will be planted need as much as 40.000 ton seed. To that large necessity, production of G4 seed just reach 700 ton/ year, which means just 2% contribution to the necessity.

"The shortage forces us to import or use our own seed G5 to G8 which are produced from G4, it can not be utilized as seed anymore, because the productivity has already decreased." Lukman said.

According to Lukman, production of seed is still small, as a result the price will become high automatically. Therefore, actually now, potato farmer makes very big effort, not only to fulfill the necessity of consumption potato, but also to get much benefit by the fulfillment of necessity of seed potato.

His objective of production of seed potato with the label G2 and G3, is actually 15 ton/ha, and G4 is 12 ton/ha. The objective of production of consumption potato is around 30 ton/ha. "Now, productivity in West Java is 17 ~ 18 ton/ha on the average. If we use high quality seed certified by the label, I am optimistic that productivity of seed potato in West Java can increase." Lukman said.

Also he said that West Java would become a center for seed potato production in Indonesia.

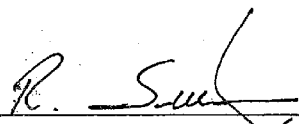
As for the objective on every year, West Java should produce seed potato as much as 10.000 ton. At this time, the contribution of potato from West Java to nationwide is bigger than from other region, which means to reach about 30 %.

**RECORD OF DISCUSSIONS
BETWEEN
JAPAN INTERNATIONAL COOPERATION AGENCY
AND AUTHORITIES CONCERNED OF THE GOVERNMENT
OF THE REPUBLIC OF INDONESIA
ON JAPANESE TECHNICAL COOPERATION FOR
DEVELOPMENT OF HIGH QUALITY SEED POTATO MULTIPLICATION
SYSTEM PROJECT**


With regard to the Minutes of Understanding of the Long-Term Study on December 12, 1997, Japan International Cooperation Agency (hereinafter referred to as "JICA") had a series of discussions through the Resident Representative of JICA in the Republic of Indonesia with the Indonesian authorities concerned on desirable measures to be taken by both Governments for successful implementation of the Development of High Quality Seed Potato Multiplication System Project in the Republic of Indonesia.


As a result of the discussions, JICA and the Indonesian authorities concerned agreed to recommend to their respective Governments the matters referred to in the document attached hereto.

Jakarta, September 3, 1998



Ryo Suwa
Resident Representative
Indonesia Office
Japan International Cooperation Agency
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Dr. Ir. Chairil Anwar Rasahan
Director General
Directorate General of Food Crops
and Horticulture
Ministry of Agriculture
Republic of Indonesia


ATTACHED DOCUMENT

I. COOPERATION BETWEEN BOTH GOVERNMENTS

1. The Government of the Republic of Indonesia will implement the Development of High Quality Seed Potato Multiplication System Project (hereinafter referred to as "the Project") in cooperation with the Government of Japan.
2. The Project will be implemented in accordance with the Master Plan which is given in Annex I.

II. MEASURES TO BE TAKEN BY THE GOVERNMENT OF JAPAN

In accordance with the laws and regulations in force in Japan, the Government of Japan will take, at its own expense, the following measures through Japan International Cooperation Agency (hereinafter referred to as "JICA") according to the normal procedures under the technical cooperation scheme of the Colombo Plan for Cooperative Economic and Social Development in Asia and the Pacific (hereinafter referred to as "the Colombo Plan").

1. DISPATCH OF JAPANESE EXPERTS

The Government of Japan will provide services of the Japanese experts as listed in Annex II.

2. PROVISION OF MACHINERY AND EQUIPMENT

The Government of Japan will provide such machinery, equipment and other materials necessary for the implementation of the Project as listed in Annex III (hereinafter referred to as "the Equipment"). The Equipment will become the property of the Government of the Republic of Indonesia upon being delivered C.I.F. to the Indonesian authorities concerned at the port(s) and/or airport(s) of disembarkation.

3. TRAINING OF INDONESIAN PERSONNEL IN JAPAN

The Government of Japan will receive Indonesian personnel connected with the Project for technical training in Japan.

4. SPECIAL MEASURES TO BE TAKEN BY THE GOVERNMENT OF JAPAN

- (a) To ensure the smooth implementation of the Project, the Government of Japan will take, in accordance with the laws and regulations in force in Japan, special measures through JICA for supplementing a portion of the local cost expenditures necessary for the execution of the mid-level trainees training program.
- (b) Support for the above-mentioned expenditures will be reduced annually. The reduction portion of the expenditures will be replaced by the Indonesian side.

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III. MEASURES TO BE TAKEN BY THE GOVERNMENT OF THE REPUBLIC OF INDONESIA

1. The Government of the Republic of Indonesia will take necessary measures to ensure self-reliant operation of the Project during and after the period of Japanese technical cooperation, through the full and active involvement of all related authorities, beneficiary groups and institutions in the project.
2. The Government of the Republic of Indonesia will ensure that the technologies and knowledge acquired by the Indonesian nationals as a result of Japanese technical cooperation will contribute to the economic and social development of the Republic of Indonesia.
3. The Government of the Republic of Indonesia will grant, in the Republic of Indonesia, privileges, exemptions and benefits to the Japanese experts referred to in II-1 above and their families, which are no less favorable than those accorded to experts of third countries working in the Republic of Indonesia under the Colombo Plan.
4. The Government of the Republic of Indonesia will ensure that the Equipment referred to in II-2 above will be utilized effectively for the implementation of the Project in consultation with the Japanese experts referred to in Annex II.
5. The Government of the Republic of Indonesia will take necessary measures to ensure that the knowledge and experience acquired by the Indonesian personnel through technical training in Japan will be utilized effectively in the implementation of the Project.
6. In accordance with the laws and regulations in force in the Republic of Indonesia, the Government of the Republic of Indonesia will take necessary measures to provide at its own expense for the Project:
 - (1) Services of the Indonesian counterpart personnel and administrative personnel as listed in Annex IV;
 - (2) Land, buildings and facilities as listed in Annex V;
 - (3) Supply or replacement of machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than the Equipment provided through JICA under II-2 above;
 - (4) Means of transport and travel allowances for the Japanese experts for official travel within the Republic of Indonesia; and

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- (5) Suitably furnished accommodations for the Japanese experts and their families.
7. In accordance with the laws and regulations in force in the Republic of Indonesia, the Government of the Republic of Indonesia will take necessary measures to meet:
- (1) Expenses necessary for transportation within the Republic of Indonesia of the Equipment referred to in II-2 above as well as for the installation, operation and maintenance thereof;
 - (2) Customs, duties, internal taxes and any other charges imposed in the Republic of Indonesia on the Equipment referred to in II-2 above; and
 - (3) Running expenses necessary for the implementation of the Project.

IV. ADMINISTRATION OF THE PROJECT

- 1. Director General, Directorate General of Food Crops and Horticulture (DGFCH), Ministry of Agriculture (MOA) will bear overall responsibility for the implementation of the Project.
- 2. Director, Directorate of Seed Development, DGFCH, MOA will bear administrative responsibility for the implementation of the Project.
- 3. Head, Sub-Directorate of Horticultural Seed, Directorate of Seed Development, DGFCH, MOA, as the Project Director, will bear administrative responsibility for the Project.
- 4. Head, Horticulture Division, Provincial Food Crops Agriculture Service in West Java Province, as the Project Manager, will bear responsibility for the Project.
- 5. The Japanese Chief Advisor will provide necessary recommendations and advice on any matters pertaining to the implementation of the Project, to the Director General of DGFCH, MOA; the Director of Directorate of Seed Development; the Project Director; and the Project Manager.
- 6. The Japanese experts will provide necessary technical guidance and advice to the Indonesian counterpart personnel on technical matters pertaining to the implementation of the Project.
- 7. For the effective and successful implementation of technical cooperation for the Project, a Joint Coordinating Committee will be established whose functions and composition are described in Annex VI.

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V. JOINT EVALUATION

Evaluation of the Project will be conducted jointly by the two Governments through JICA and the Indonesian authorities concerned, at the middle and during the last six months of the cooperation term in order to examine the level of achievement.

VI. CLAIMS AGAINST JAPANESE EXPERTS

The Government of the Republic of Indonesia shall bear claims, if any arises, against the Japanese experts engaged in technical cooperation for the Project resulting from, occurring in the course of, or otherwise connected with the discharge of their official functions in the Republic of Indonesia except for those arising from the willful misconduct or gross negligence of the Japanese experts.

VII. MUTUAL CONSULTATION

There will be mutual consultation between the two Governments on any major issues arising from, or in connection with, this Attached Document.

VIII. MEASURES TO PROMOTE UNDERSTANDING OF AND SUPPORT FOR THE PROJECT

For the purpose of promoting support for the Project among the people of the Republic of Indonesia, the Government of the Republic of Indonesia will take appropriate measures to make the Project widely known to the people of the Republic of Indonesia.

IX. TERM OF COOPERATION

The duration of technical cooperation for the Project under this Attached Document will be five (5) years from October 1, 1998.



ANNEX I MASTER PLAN

1. OVERALL GOALS

To increase the amount of high quality seed potatoes.

To develop the nationwide high quality seed potato multiplication system.

2. PROJECT PURPOSE

To develop the high quality seed potato multiplication system in West Java as a model for a nationwide system.

3. OUTPUTS OF THE PROJECT

(1) Seed potato production technology in BBI and BBU in West Java is strengthened.

(2) Seed potato production technology of seed growers in West Java is improved.

(3) Seed potato distribution in West Java is effectively managed.

(4) The training system in West Java for staff of other provinces (North Sumatra, West Sumatra, Jambi, Central Java, East Java and South Sulawesi) is strengthened. In particular, seed potato production technology at BBIs and inspection technology at BPSBs in North Sumatra and Central Java are improved through training programs in West Java.

4. ACTIVITIES OF THE PROJECT

(1) Improvement of multiplication techniques and pest and disease control techniques in West Java.

(2) Improvement of cultivation and management techniques of seed growers in West Java.

(3) Improvement of management of seed potato distribution system in West Java.

(4) Enhancement of training system in West Java.



ANNEX II LIST OF JAPANESE EXPERTS

1. Long-term experts

- (1) Chief Advisor
- (2) Coordinator
- (3) Experts in the fields of:
 - 1) Pest and disease control
 - 2) Multiplication and cultivation
 - 3) Distribution system

2. Short-term expert(s)

Short-term expert(s) will be dispatched when necessity arises for the smooth implementation of the Project.

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ANNEX III LIST OF MACHINERY AND EQUIPMENT

1. Machinery and equipment for activities of pest and disease control
2. Machinery and equipment for activities of multiplication and cultivation
3. Machinery and equipment for activities of distribution system
4. Vehicles and their spare parts
5. Other necessary equipment and materials for technical cooperation

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ANNEX IV LIST OF INDONESIAN COUNTERPART AND OTHER PERSONNEL

1. Project Director
2. Project Manager
3. Necessary number of Counterpart Personnel for long-term and short-term experts
4. Administrative Personnel
 - (1) Administrative Officers
 - (2) Accounting and Budget Officers
 - (3) Secretaries
 - (4) Drivers

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ANNEX V LIST OF LAND, BUILDINGS, AND FACILITIES

1. Buildings, facilities and office space for the Project
2. Space for the machinery and equipment provided
3. Electricity and communication facilities
4. Other land, buildings and facilities necessary for the implementation of the Project

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ANNEX VI JOINT COORDINATING COMMITTEE

1. Functions

The Joint Coordinating Committee will meet at least once a year and whenever the necessity arises, and will function:

- (1) To formulate the Annual Work Plan of the Project in line with the Tentative Schedule of Implementation formed under the framework of the Record of Discussion.
- (2) To review the overall progress of the Project as well as the achievement of the Annual Work Plan mentioned above, and
- (3) To review and exchange views on major issues arising from or in connection with the Project.

2. Composition

(1) Chairman

Director General, Directorate General of Food - Crops and Horticulture (DGFCH), Ministry of Agriculture (MOA)

(2) Vice-chairman

Director, Directorate of Seed Development, DGFCH, MOA

(3) Indonesian side

- a) Head, Agricultural Bureau, National Development Planning Agency (BAPPENAS)
- b) Head, Bureau of Foreign Technical Cooperation, Cabinet Secretariat
- c) Vice Governor, West Java Province
- d) Director, Directorate of Programing, DGFCH, MOA
- e) Head, West Java Provincial Food Crops Agriculture Service
- f) Head, Bureau of Planning, Secretariat General, MOA
- g) Head, Bureau of Foreign Cooperation, Secretariat General, MOA
- h) Head, Sub-Directorate of Horticultural Seed, Directorate of Seed Development, DGFCH, MOA

(4) Japanese side

- a) Japanese Experts
- b) Representative from JICA Indonesia Office
- c) Personnel concerned to be dispatched by JICA, if necessary



Note: If the member of the Joint Coordinating Committee described above cannot attend the meeting, representative(s) can attend the meeting in place of the member(s).

Official(s) of the Embassy of Japan and the heads of the six provinces' (North Sumatra, West Sumatra, Jambi, Central Java, East Java, South Sulawesi) Food Crops Agriculture Services may attend the Joint Coordinating Committee as observer(s).

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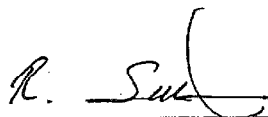
資料 4 . 暫定実施計画 (TSI)

**TENTATIVE SCHEDULE OF IMPLEMENTATION
OF JAPANESE TECHNICAL COOPERATION
FOR
DEVELOPMENT OF HIGH QUALITY SEED POTATO MULTIPLICATION
SYSTEM PROJECT**

With regard to the Minutes of Understanding of the Long-Term Study on December 12, 1997, Japan International Cooperation Agency (hereinafter referred to as "JICA") had a series of discussions through the Resident Representative of JICA in the Republic of Indonesia with the Indonesian authorities concerned on the Tentative Schedule of Implementation for Development of High Quality Seed Potato Multiplication System Project (hereinafter referred to as "the Project") as annexed hereto.

This has been formulated in connection with the Attached Document of the Record of Discussions signed between the Resident Representative of JICA in Republic of Indonesia and authorities concerned for the Project on condition that the necessary budget will be allocated for the implementation of the Project by both Governments, and that the schedule is subject to change within the framework of the Record of Discussions when necessity arises in the course of implementation of the Project.

Jakarta, September 3, 1998



Ryo Suwa
Resident Representative
Indonesia Office
Japan International Cooperation Agency

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Dr. Ir. Chairil Anwar Rasahan
Director General
Directorate General of Food Crops
and Horticulture
Ministry of Agriculture
Republic of Indonesia



1. Activities of the Project

Item / Activities	Year	Schedule					
		1998	1999	2000	2001	2002	2003
1. Improvement of multiplication techniques and pest and disease control techniques in West Java.							
(1) To improve multiplication techniques.							
(2) To improve pest and disease control techniques.							
2. Improvement of cultivation and management techniques of seed growers in West Java.							
(1) To develop a guidance system for seed growers.							
(2) To verify and modify seed production and management techniques in seed growers' field.							
3. Improvement of management of seed potato distribution system in West Java.							
(1) To establish a method for planning the supply of seed potatoes based on demand.							
(2) To improve the seed potato supply system.							
(3) To improve the seed potato inspection and certification system.							
4. Enhancement of training system in West Java.							
(1) To improve training plan, curriculum and materials							
(2) To enhance the seed potato production and inspection techniques for personnel concerned in North Sumatra and Central Java through training programs.							
(3) To train personnel concerned in other provinces (West Sumatra, Jambi, East Java and South Sulawesi) concerning seed potato production and inspection through training programs							

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2. Technical Cooperation Program (Japanese Side)

Item	Year	Schedule					
		1998	1999	2000	2001	2002	2003
1. Dispatch of Long-term experts							
(1) Chief Advisor							
(2) Coordinator							
(3) Pest and disease control							
(4) Multiplication and cultivation							
(5) Distribution system							
2. Dispatch of Short-term expert(s) (When necessity arises)							
3. Provision of machinery and equipment							
4. Acceptance of Indonesian counterpart personnel for training in Japan (A few personnel per year)							
5. Dispatch of missions (When necessity arises)							

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3. Technical Cooperation Program (Indonesian Side)

		Schedule					
Item	Year	1998	1999	2000	2001	2002	2003
1. Counterpart							
(1) Project Director							
(2) Project Manager							
(3) Counterpart personnel for long-term experts							
(4) Counterpart personnel for short-term experts (When necessity arises)							
(5) Administrative personnel							
2. Allocation of running cost of the Project							
3. Land, buildings, facilities and equipment							

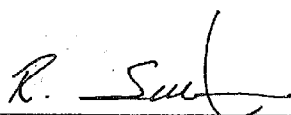
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**MINUTES OF UNDERSTANDING
BETWEEN
JAPAN INTERNATIONAL COOPERATION AGENCY
AND AUTHORITIES CONCERNED OF THE
GOVERNMENT OF THE REPUBLIC OF INDONESIA
ON JAPANESE TECHNICAL COOPERATION FOR
DEVELOPMENT OF HIGH QUALITY SEED POTATO MULTIPLICATION
SYSTEM PROJECT**

The Resident Representative of JICA in the Republic of Indonesia and the Indonesian authorities concerned of the Government of Indonesia signed the Record of Discussions (hereinafter referred to as "R/D") on the Technical Cooperation for the Development of High Quality Seed Potato Multiplication System Project in the Republic of Indonesia.

The Minutes of Understanding attached hereto documents the details of the R/D.

Jakarta, September 3, 1998



Ryo Suwa
Resident Representative
Indonesia Office
Japan International Cooperation Agency



Dr. Ir. Chairil Anwar Rasahan
Director General
Directorate General of Food Crops
and Horticulture
Ministry of Agriculture
Republic of Indonesia



Attached Document

1. Project preparation

- 1) The Government of Indonesia will submit to the Embassy of Japan the application form (A1 form) for five (5) long-term Japanese experts by the end of September 1998, the form for the provision of machinery and equipment (A4 form) and the form for technical training of the Indonesian counterparts (A2-3 form) as soon as possible after the consultation with the Japanese side through the JICA Indonesia Office.
- 2) The Government of Indonesia will submit to the JICA Indonesia Office a list of the Indonesian counterparts for Japanese experts and the distribution organization for each provinces by the end of September 1998.
- 3) Indonesian side confirmed that office with enough space in Provincial Food Crops Agriculture Service of West Java province and Directorate of Seed Development of MOA will be provided for the Project.

2. Project activities

To attain the purpose of the Project, namely "Development of High Quality Seed Potato Multiplication System", smooth distribution of produced seed potato is very important. For this reason, the item "Improvement of management of seed potato distribution system in West Java" has been incorporated into the Project activities. However, both sides recognize that the development and management of the distribution system itself is the matter of Indonesian side's responsibility and exclude such activities from the project activities. So Japanese side expects Indonesian side's due effort to establish an appropriate and efficient system for seed potato distribution.

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