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1. ミニッツ

**MINUTES OF MEETING  
BETWEEN THE JAPANESE EVALUATION TEAM  
AND THE AUTHORITIES CONCERNED OF THE  
GOVERNMENT OF THE  
REPUBLIC OF THE PHILIPPINES  
FOR THE RESEARCH AND DEVELOPMENT PROJECT  
ON HIGH PRODUCTIVITY RICE TECHNOLOGY**

**Department of Agriculture**

Diliman, Quezon City  
Manila, Philippines

**27 February 2002**

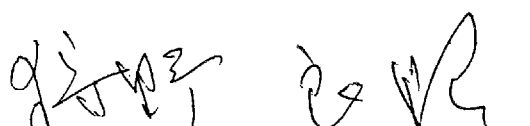
**MINUTES OF MEETING**  
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**THE REPUBLIC OF THE PHILIPPINES**  
**FOR THE RESEARCH AND DEVELOPMENT PROJECT**  
**ON HIGH PRODUCTIVITY RICE TECHNOLOGY**

With about five months left before termination of the terms of cooperation of the Research and Development Project on High Productivity Rice Technology (hereinafter referred to "the Project") on February 27, 2002, which started on August 1, 1997, 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. Yoshiaki KANO, visited the Republic of the Philippines, 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 Philippines Evaluation Team headed by Dr. Joseph J. C. MADAMBA.

The Team conducted interviews with the Japanese experts and their Philippine counterparts assigned to the Project, had interviews with Project collaborators and beneficiaries, had a series of discussions with the authorities concerned of the Government of the Philippines, made field visits and exchanged views among themselves.

The Team prepared the Joint Evaluation Report and presented it to the Joint Coordinating Committee. The Joint Coordinating Committee discussed the major issues pointed out in the Report, and agreed to recommend to the respective governments the matters attached.

Manila, February 27, 2002



**Yoshiaki KANO**

Team Leader

Japanese Evaluation Team

Japan International Cooperation Agency

Japan

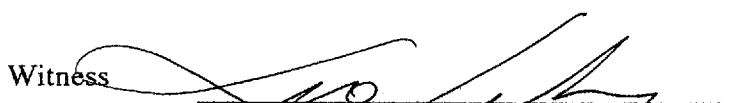


**Ernesto M. ORDONEZ**

Undersecretary

Department of Agriculture

Republic of Philippines

Witness 

**Leocadio S. SEBASTIAN**

Executive Director

Philippine Rice Research Institute

Republic of Philippines

## ATTACHMENT

1. The Joint Evaluation Team has presented the Joint Evaluation Report to the Joint Coordinating Committee.
2. The Joint Coordinating Committee has accepted the Report and taken notes of the recommendations aimed for successfully sustaining and extending the achievement of the Project.

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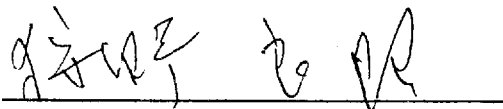
**JOINT EVALUATION REPORT  
FOR THE RESEARCH AND DEVELOPMENT PROJECT  
ON HIGH PRODUCTIVITY RICE TECHNOLOGY**

With about five months left before termination of the terms of cooperation of the Research and Development Project on High Productivity Rice Technology (hereinafter referred to "the Project") on February 27, 2002, which started on August 1, 1997, 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. Yoshiaki KANO, visited the Republic of the Philippines, 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 Philippines Evaluation Team headed by Dr. Joseph J. C. MADAMBA.

The Team conducted interviews with the Japanese experts and their Philippine counterparts assigned to the Project, had interviews with Project collaborators and beneficiaries, had a series of discussions with the authorities concerned of the Government of the Philippines, made field visits and exchanged views among themselves.

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

Manila, February 27, 2002



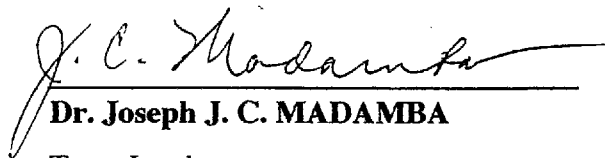
**Mr. Yoshiaki KANO**

Team Leader

Japanese Evaluation Team

Japan International Cooperation Agency

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**Dr. Joseph J. C. MADAMBA**

Team Leader

Philippines Evaluation Team

Republic of the Philippines

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## 1. Outline of the Project


### 1-1 Background of the Project

In the Philippines, rice is consumed as staple food, and is the most important crop that is produced annually by rice-based farmers in almost 4 million hectares nationwide. However, the national average of rice yield is still low, while production cost is relatively high. These twin-problems are the main obstacles in attaining rice self-sufficiency.

In the circumstances, the Government of the Philippines (hereinafter referred to as "GOP") requested a grant-aid cooperation and project-type technical cooperation from the Government of Japan (hereinafter referred to as "GOJ") for the Philippine Rice Research Institute (hereinafter referred to as "PhilRice"). In response, the GOJ provided grant-aid cooperation consisting of: laboratory, field service buildings, headhouses, greenhouses, a drainage canal for the experimental farm, as well as dormitory/hostel building and equipment for research and training. And also, JICA implemented the project-type technical cooperation titled "The Philippine Rice Research Institute Project in the Republic of the Philippines" from August 1, 1992 to July 31, 1997. This Project targeted the promotion and strengthening of research and training activities on rice production technology in PhilRice. Although these goals had been met, many technical problems regarding rice farming in the Philippines still remained.

The GOP requested another project-type technical cooperation from the GOJ, in order to develop better technology for high yielding rice production for small-scale rice farmers. In response to the request, JICA dispatched the Preliminary Study Team in February 1997 in order to confirm the contents of the proposal. After that, JICA dispatched the Implementation Study Team in May 1997, and both parties agreed to sign the R/D for the Project on May 28, 1997, in order to commence a five-year technical cooperation project starting from August 1, 1997.

In the course of Project implementation, JICA dispatched the Consultation Study Team in March 1998, for the purpose of formulating the detailed Tentative Schedule of Implementation ("hereinafter referred to as "TSI"). In addition, JICA dispatched the Advisory Team in March 2000, for the purpose of conducting an overall review and a mid-term evaluation of the Project.



## 1-2 Objective of the Project

In accordance with R/D and TSI in May 1997, and revised in March 2000, the outline of the Project is as follows;

### (1) Project Purpose

High productivity rice technologies for small-scale rice farmers are developed through the project implementation by PhilRice.

### (2) Outputs

- 1) High-yielding and better quality rice varieties which are suitable for mechanization are developed.
- 2) Farm machinery for small-scale rice farmers are developed.
- 3) Cultivation techniques for labor-saving and high-yielding rice production are improved.
- 4) Rice quality evaluation techniques are improved.
- 5) Mechanized rice-based farm management systems are developed.

## **2. Evaluation of the Project**

### 2-1 Members of the Evaluation Team

#### 2-1-1 Japanese Side

##### (1) Mr. Yoshiaki KANO (Team Leader)

Managing Director, Tsukuba International Center, Japan International Cooperation Agency (JICA)

##### (2) Dr. Kunio KARIYA (Agronomy / Plant Breeding)

Associate Director, Department of Low Temperature Science, National Agricultural Research Center for Hokkaido Region, National Agricultural Research Organization (NARO)

##### (3) Dr. Ken TANIWAKI (Farm Mechanization)

Head, Agro-Energy Laboratory, Department of Farm Mechanization and Engineering, National Agricultural Research Center, NARO

##### (4) Mr. Isao DOJUN (Evaluation Analysis)

Sub-Section Chief, Rural Development, Overseas Project Department, Chuo Kaihatsu Corporation

(5) Mr. Tomohiro AZEGAMI (Planning Evaluation)

Staff, Agricultural Technical Cooperation Division, Agricultural Development Department, JICA

#### 2-1-2 Philippine Side

(1) Dr. Joseph J. C. MADAMBA (Team Leader)

Consultant on R&D Management and Agribusiness Development, World Bank, Asian Development Bank, and USAID.

(2) Dr. Tomas M. MASAJO (Plant Breeding)

Former Plant Breeder, International Rice Research Institute (IRRI) and International Institute for Tropical Agriculture (IITA).

(3) Dr. Juliana B. DACAYO (Agronomy)

Professor of Soil Science, Central Luzon State University

(4) Dr. Silvestre C. ANDALES (Farm Mechanization)

Former Executive Director, Bureau of Postharvest Research and Extension (BPRE), Department of Agriculture (DA)

(5) Engr. Ramon Noriel B. SICAD (Evaluation Analysis)

Chief Economic Development Specialist, Project Monitoring Staff, National Economic and Development Authority

(6) Ms. Robema A. BOLIGOR (Planning Evaluation)

Project Development Officer, Project Packaging and Resource Mobilization Division, DA

#### 2-2 Objectives of Evaluation

(1) To make a comprehensive and objective evaluation of the achievements of the Project with regard to the contents of R/D, TSI and other official agreement concerned.

The duration of cooperation that is the subject of the evaluation is five years from August 1, 1997 to July 31, 2002.

(2) To highlight the insights learned in the course of implementation of the Project.

(3) To make recommendations and suggestions to the authorities of both Governments concerned with regard to the activities before and after the termination of the Project.

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## 2-3 Method of Evaluation

### 2-3-1 Joint Evaluation

The Project is jointly evaluated by Japanese and Philippine sides on five evaluation criteria. The Joint Evaluation Team is composed of members who are not directly involved in the Project. The Team conducted interviews with the Japanese experts and the Philippine staff assigned to the Project, made field visits, and exchanged views among themselves.

### 2-3-2 Five Evaluation Criteria

The Team conducted the evaluation of the Project, applying Project Cycle Management (PCM) method. In evaluation according to the PCM method, the following criteria are used:

#### (1) Efficiency

Efficiency of the Project implementation is analyzed focusing on the relationship between inputs and outputs in terms of timing, quantity, quality, and on the linkage with other cooperation schemes of JICA and other organizations.

#### (2) Effectiveness

Effectiveness is assessed by evaluating the extent to which the Project has achieved Outputs and the Project Purpose.

#### (3) Impact

Impact of the Project is identified as positive and negative changes produced by the Project directly and indirectly.

#### (4) Relevance

Relevance of the Project is assessed on the validity of the Project Purpose and Overall Goal in connection with the superordinate policies and plans (eg. development policy of the GOP), and needs of the beneficiaries.

#### (5) Sustainability

Sustainability of the Project is forecasted based on the organizational, financial and technical aspects by examining the extent to which the achievement of the Project is sustained or expanded after the assistance is completed.

### 3. Results of the Evaluation

#### 3-1 Efficiency

The Inputs by the Japanese and Philippine sides are summarized in ANNEXES 1 to 6.

##### (1) Dispatch of Japanese Experts

Eight long-term experts in 5 fields of specialty and 19 short-term experts have been dispatched; 2 more short-term experts will be dispatched. Almost all were properly dispatched with regard to quantity, duration and timing; however, there was an 8-month delay of dispatch of the long-term expert on agronomy.

##### (2) Assignment of counterpart staff

Fifty-five counterparts were assigned in total. Around 50 counterparts are engaged in the Project at present. Capability level of counterparts is very high, consisting of 15 with PhD degrees and 28 with MS degrees. Administrative and other staff to support the Project activities are also assigned according to the provisions mentioned in R/D and also contributed to progress of smooth project activities.

##### (3) Counterpart Training in Japan

Twenty counterparts completed training in Japan and 1 counterpart is currently under training in Japan. This counterpart training in Japan contributed directly to the technical improvement of each counterpart, especially to gain modern techniques, interact with the trainees from other developing countries, and also learn applicable lessons from the Japanese work system. Almost all Philippine counterparts trained in Japan continue to work at PhilRice. This has contributed to the smooth progress of the project activity.

##### (4) Equipment provided by Japanese side

Necessary equipment for project implementation was provided properly and appropriately. One-third of the equipment was procured in the Philippines in order to ensure easy maintenance and procurement of spare-parts. The Japanese side has allocated the equipment equivalent to 95 million pesos in total.

(5) Supplementary funds to cover local costs

The Japanese side provided a part of the Project operation costs, in total 17 million pesos, in order to implement the Project activities more effectively.

(6) Budget allocation by the Philippine side

From 1997 to 2001, the Philippine side allocated to PhilRice a total budget of 833 million pesos. Besides the counterpart funds and personnel provided by GOP to the Project, additional funds from other regular programs of DA were also provided in the conduct of field testing and trials. Although budget reductions occurred in 1998 and 1999 as an effect of the Asian financial crisis in 1997, PhilRice was able to maximize and achieve a synergy in the use of its financial resources.

(7) Provision of physical facilities

Building facilities, office spaces for the Project, electricity and communication facilities, experimental fields, and other utility facilities required for the implementation of the Project have been provided appropriately by the Philippine side in accordance with R/D.

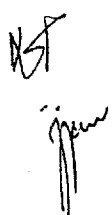
(8) Management of the Joint Coordinating Committee

Every March, meetings of the Joint Coordinating Committee were held for reviewing the overall progress of activities of the past year and authorizing annual work plans of the Project as stated in R/D with participation of Secretary and/or Undersecretary of Department of Agriculture. These meetings contributed to the efficient progress of the implementation of the Project.

3-2 Effectiveness

3-2-1 Project Purpose Level

Project Purpose: **High productivity rice technologies for small-scale rice farmers are developed through the project implementation by the Philippine Rice Research Institute.**



Indicator: Rice productivity at the experimental level increased by 10% in both irrigated lowlands and cool-elevated areas. Labor requirements in rice cultivation decreased by 25% in transplanted and 40% in direct-seeded rice resulting from developed agricultural machinery and labor-saving cultivation techniques.

Achievement: In general, the Project purpose has been satisfactorily achieved. By integrating outcomes/outputs of the project activities, it can be said that rice productivity at the experimental level increased more than 10% in both irrigated lowlands and cool-elevated areas. Labor requirements in rice cultivation decreased more than 25% in transplanted and more than 40% in direct-seeded rice resulting from developed agricultural machinery and labor-saving cultivation techniques.

### 3-2-2 Output Level

Output 1: **High-yielding and better quality rice varieties which are suitable for mechanization are developed.**

Indicator: Twenty promising lines with: (a) higher yield than and comparable grain quality with IR64 developed for irrigated lowlands; (b) yield of cold-tolerant lines increased 10% higher than that of commonly grown varieties.

Achievement: Output 1 has been achieved more than that of indicator. Nineteen promising lines were developed and 1 more promising line is expected by the end of the Project period. Average yield of all developed promising lines are 20% higher than that of commonly grown varieties. One line (PJ2) was approved and registered as a variety; PJ2 is characterized as high yielding with good grain quality.

Under Output 1, the following activities are highlighted.

- 1) The project has developed eight promising lines suitable for cultivation in irrigated lowlands. The lines were designated as PJ18, PJ19, PJ21, PJ22, PJ23, PJ24, PJ25, and PJ26. In experiments, yield advantage of these lines over commonly grown varieties ranged from 5 to 30%. Lines have good grain quality, improved lodging resistance, and less shattering grains. PJ21, PJ23, and PJ24 are lines with short to very short growth duration. Suitable for direct seeding are PJ21 and PJ26.
- 2) Cold tolerant lines developed include PJ2, PJ9, PJ10, PJ13, and PJ20. These lines have improved yielding ability, shorter growth duration, non-shattering habit, better resistance to blast, and good grain quality. PJ9, PJ10, PJ13, and PJ20 are highly cold tolerant. PJ2 yielded 13 to 28% higher than previously released varieties and 75% higher than farmers' traditional variety. PJ2 is now a recommended variety for cool elevated areas. It is now known as National Seed Industrial Council (NSIC) Rc104 (Balili).
- 3) Promoted to the national testing program for irrigated lowland rice were PJ21, PJ22, PJ23, PJ24, PJ25, PJ26, and PJ13 and PJ20 for trial in cool elevated areas. Initial results for two of the lines are available. PJ21 yielded the highest with 8.2t/ha compared to the check variety PSB Rc28 with 7.5t/ha. PJ21 can be used for both transplanting and direct seeding. PJ22, on the other hand is also high yielding with good grain quality, lodging resistance, and resistance to bacterial leaf-blight disease.

Output 2: **Farm machinery for small-scale rice farmers are developed.**

Indicator: Three prototype machines for plowing, harvesting, and gathering with 25% labor saved in transplanted, and 35% in direct-seeded rice as compared with existing practices.

Achievement: Six prototype farm machines were developed, thereby exceeding the target of 3 prototypes. The 6 prototype machines developed for



plowing, harvesting, and gathering; generated more than 25% labor saved in transplanted, and more than 35% in direct-seeded rice as compared with existing practices.

Out of six prototype machines, reaper and drum seeder have already been commercialized; while the side plow, leveler and attachment for gathering, is expected to be commercialized in July 2002.

Under Output 2, the following activities are highlighted.

- 1) Hand tractor (HT) drawn levee side disk plow was developed. Counter force from the plow was compensated by the thrust wheel, resulting in better maneuverability. The side plow for plowing the sides of the field levees could save 50% in man-hr requirement over the traditional method of using the carabao.
- 2) Leveler for HT was developed. Spring activated resistance control mechanism, L-shaped floating mechanism, and mud holding mechanism were major improvements. These gave better operating performance efficiency. A hand-tractor-drawn land leveler could save 75% in man-hr requirement over the carabao-drawn land leveler.
- 3) Six-row HT-drawn drum seeder was developed, which can seed 40-120 kg of seed in 5 man-hr/ha. Five modifications had been conducted in the development of the seeder considering the forced seed application, furrow-soil interaction and depth regulation. The hand-tractor-drawn drum seeder gave a 37% saving in man-hr requirement over the manual broadcasting and 74% over the manual drum seeder. It should be examined in future work that the evenness of the growth stage of the rice should be easily controlled with the leveler and seeder combination. It would be expected that the usage of leveler and drum seeder will keep uniform the moisture content and other physical and chemical characteristics of grains at harvest which influence the processing quality of rice.
- 4) A self-propelled rotary reaper was developed. Original mechanism was developed in

- the former Project. In this Project, the considerations of durability and adaptability were introduced. These considerations were as follows: low and high cutting level, short and thin crop adaptability, and trafficability on the soft and wet terrain, and workability in weedy terrain field. The rotary reaper harvests the rice crop with 92% savings in man-hr compared to manual harvesting.
- 5) Reaper-gatherer for harvesting and gathering the rice crop at 82% saving in man-hr requirement compared to manual harvesting and gathering was developed. As a whole, in direct-seeded rice production labor requirement of 480-624 man-hr/ha is reduced to 133 man-hr/ha, and the ratio of effectiveness was more than 70 %. In transplanted rice production, the labor requirement has been reduced from 784 to 524 man-hr/ha, resulting in an effectiveness ratio of 33%.
- 6) Combine harvester for harvesting and threshing the rice crop is undergoing refinements and field-testing. The performance is expected to have a capacity of 8 man-hr/ha. This means that using combine harvester could result in a 96% saving in man-hr requirement over the traditional manual harvesting and mechanical threshing practices.

**Output 3: Cultivation techniques for labor-saving and high-yielding rice production are improved**

**Indicator:** Labor requirements in wet direct-seeded rice cultivation reduced by 5% and yield increased by 10%.

**Achievement:** Level of achievement for Output 3 is likewise more than as targetted. Labor requirements in wet direct-seeded rice cultivation reduced by 11%, while yield increased by 15% compared to the conventional direct-seeded farmers' practice.

Under Output 3, the following activities are highlighted.

- 1) Development of techniques for direct seeding cultivation
  - Six varieties suitable for direct seeding cultivation, namely: PSB Rc34, PSB Rc54, PSB Rc56, PSB Rc66, PSB Rc74 and PSB Rc82 were identified.
  - A land preparation method was developed resulting in a 29 man-hr savings in labor.
  - Seeding at 40-60 kg per ha reduced seeding rate by 300 to 625%.
  - Identified seeding time after land preparation that would enhance seedling establishment.
  - Appropriate water management scheme after seeding to achieve high seedling establishment was identified.
  - Water management scheme that reduces irrigation frequency by 50% was established.
  - Developed a nitrogen (N) management technique that increased N-use efficiency, and reduced N-loss.
  - A weed management strategy resulting in 30-50% reduction in use of herbicide was identified.
- 2) Improvement of fertilizer application techniques for high yielding and better quality rice
  - Proper amount of fertilizer and time of application was identified using <sup>15</sup>N analysis.
  - A non-destructive method to determine N-status of rice plant was developed with the aid of chlorophyll meter.
- 3) Improvement of techniques for disease and insect pest management
  - Seasonal abundance of insect pests determined using sticky board and light traps.
  - Identified PJ lines that are resistant to rice blast.
  - ELISA technique for tungro virus detection identified genotypes that are tolerant or resistant to the virus
- 4) The Technoguide on wet direct-seeded rice which integrates the result of the Project was prepared and disseminated to extension and research related institutions.

Output 4: **Rice quality evaluation techniques are improved.**

Indicator: Rice grain quality evaluation capacity increased from 100 to 200 samples/day.

Achievement: The use of newly purchased Near Infra-red Reflectance (NIR) has yet to impact on rice quality evaluation of breeding materials at PhilRice as well as in the rice-based food technology field. The project target of achieving 200 samples/day capacity on rice grain evaluation is expected to be achieved by the end of the Project in July 31, 2002.

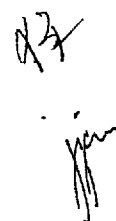
Under Output 4, the following activities are highlighted.

- 1) Amylose content is a major determinant of grain quality in rice, and will be analyzed using the newly purchased scanning type NIR.
- 2) Using tensipresser, it was determined that overall hardness in cooked rice was a more suitable index than surface hardness in detecting amylose content. Surface hardness, however, was useful in discriminating samples based on protein content among samples. Low and High Compression (LHC) test was useful in detecting differences in hardness and stickiness in cooked indica rice.

Output 5: **Mechanized rice-based farm management systems are developed**

Indicator: Evaluation and impact assessment model for new technologies developed; and a database for more reliable transfer of rice technology information produced.

Achievement: Under the evaluation and impact assessment model, three sub-modules developed are the following: (a) economic surplus model, (b) the assessment framework on mechanization, and (c) the crop suitability analysis methodology. In the rice technology



information aspect, PhilRice has produced a database consolidating all rice-related information.

Under Output 5, the following activities are highlighted.

- 1) Two ex-ante evaluation frameworks were developed, the economic surplus method and the rice farm mechanization framework. The economic surplus method looks into a macro level perspectives as it partitions the benefits of a technology among the stakeholders of the rice industry, the producers, consumers and the whole society. The mechanization framework, on the other hand, is more micro in its treatment as it looks only into the benefits and cost of the technology on the users side. In addition, indicative factors that influence farm mechanization were pointed out under the Project.
- 2) Spatial and temporal analysis of farming systems were conducted using GIS. The information generated out of this undertaking can be used to explain the variability in productivity of the different rice areas which can help determining the appropriate intervention for a specific area. Data bases of digital socioeconomic and biophysical data were assembled to determine the suitability of Nueva Ecija major crops.
- 3) The organization of information to be included under the ProRice has been improved. Five modules have been completed (and uploaded) for ProRice. These are Variety Selection; Land Preparation; Nutrient Management; Weed Management; and Harvest and Postharvest Operations. It is an HTML-based technology warehouse and decision support tool.

Links to ProRice that have been developed or are being developed include the following: Rice Visuals, Rice Doctor, National Rice R & D Network, PhilRice Website (including division, program, and special projects websites), Province-specific Production Data, and Rice Seed Information System.

### 3-3 Impact

#### 3-3-1 Technological Impact

- The PJ2 line was officially registered as a variety for cool elevated area.
- Out of 6 prototype machines, rotary reaper and drum seeder have been commercialized.
- Rice-research methodology developed from the output of the Project have been shared and released to other organizations and R&D institutions through appropriate R&D congresses and seminars.
- The Technoguide which integrates the result of the Project was prepared and disseminated to extension and research related institutions.

#### 3-3-2 Environmental Impact

- Contamination of the environment with pesticides and fertilizer residue will be prevented and minimized with the development of pest and disease-resistant varieties as well as fertilizer-management and weed-management strategies.
- Likewise, the risk of farmers being exposed to pesticides that will endanger their health is minimized.

#### 3-3-3 Organizational Impact

- Enhances ability of PhilRice to provide technology generation as well as technology-development support for training and capability build-up of extension workers of the LGUs (Local Government Units at provincial and municipals levels), the Agricultural Training Institute of DA, and the private sector.
- Enhanced ability of PhilRice to provide technical support and foundation seeds for the Philippines' Seed Industry in providing quality seeds towards improving farm productivity and income.
- Improved capability of PhilRice to screen interventions for rice-based farm management systems by determining the viability prior to field-testing and technology-dissemination.
- The knowledge gained from the Project will benefit PhilRice immensely as

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researchers have become more knowledgeable on laboratory techniques to help them develop better technologies that support rice production.

- The existence and availability of resources (physical and personnel) at PhilRice has resulted in strengthening its capability to establish relevant networks with the rice-based private sector.
- The R&D staff at PhilRice have garnered several awards in scientific and technical conferences in the country because of the top-class professional quality of their contribution.

#### 3-3-4 Financial Impact

- PhilRice will also gain revenues from the sale of foundation seed to seed growers; sale of CD-Rom on ProRice containing database on R&D findings as well as province-specific rice-based key commodity systems.

#### 3-4 Relevance

The project Purpose and Overall Goal are indeed consistent with the concerns of current government policy in terms of implementing the Agriculture and Fisheries Modernization Act of 1997 (AFMA) and priorities set by the Department of Agriculture (DA). The outputs of this Project are considered very relevant in terms of: improving yields and competitiveness of the rice-based industry; reducing production costs; enhancing sustainable agriculture; and improving the planning capability of both PhilRice and DA.

#### 3-5 Sustainability

##### 3-5-1 Organizational Sustainability

As an attached agency of DA, PhilRice is mandated to: develop and implement a national rice R&D program; sustain the gains made in rice production; solve location-specific problems of the whole rice industry; and improve the economic condition of rice-based stakeholders. The management of PhilRice is efficient and the existence of many PhD or MS staff will ensure the continuity of the research activity.



Almost all staff trained by the Project has continued to work at PhilRice. The motivation of staff at PhilRice is high. There are no major obstacles to the organizational sustainability of the institute.

### 3-5-2 Financial Sustainability

There are seven R&D programs in PhilRice. The activity of the Project is imbedded in these programs. PhilRice has been provided a regular budget by the GOP to cover each programs, and it is expected that this will continue to be provided subsequently. In addition, as a government corporation, PhilRice can get income through royalty of commercialized farm machinery prototypes, sales of foundation seed and so on.

### 3-5-3 Technological Sustainability

As the premier R&D institution for the rice-based industry in the country, PhilRice will continue to receive resources support from the government and donor agencies. As such, it can be competitive in attracting and keeping competent R&D manpower. Its current linkages with educational and other research institutions as well as rice industry organizations will ensure its technological sustainability.

## 4. Conclusions

Based on the findings of the evaluation, the Team confirmed that the Project activities have been successfully conducted under the collaboration between Japanese experts and Philippine counterparts, and the Project Outputs and Purpose are expected to be met by the end of the Project on July 31, 2002. Several outputs have been achieved more than that of objectively verifiable indicators; and one of the promising lines (PJ2) is now a registered variety. Another example of outstanding achievement is commercialization of rotary reaper and drum seeder.



## 5. Recommendations

Many tangible outputs achieved by the Project were obtained under experimental conditions. In order to disseminate the developed high productivity rice technologies for small-scale rice farmers, verification trials which will address location-specific applications and rice-based industry considerations are useful to expedite the technology transfer. Based on the results of such trials, therefore, it is recommended that further verification trials should be intensified and the feedback mechanism strengthened to increase and accelerate the adoption of high productivity rice technologies.

## 6. Lessons Learned from the Project

In this Project, the institutional sustainability has been ensured from the start of the Project by integrating this into the existing Program of PhilRice. In consequence, the operation budget and staff have been institutionalized. In the formulation of similar project, the lessons should be kept in mind.

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**ANNEX 1. LIST OF JAPANESE EXPERTS DISPATCHED**

<b>FIELD</b>	<b>NAME</b>	<b>ASSIGNMENT PERIOD (year.mo.date)</b>
<b>Long Term Experts (8)</b>		
1) Research and Training Planning	Dr. Hitoshi TAKAHASHI	1997.08.01 – 2000.07.31
	Dr. Norio NAKAYA	2000.08.01 – present
2) Coordination	Mr. Takanobu NAWASHIRO	1997.08.01 – present
3) Plant Breeding	Mr. Takehiko SASAKI	1997.08.01 – 2000.07.31
	Mr. Kunio MORIYA	2000.08.01 – present
4) Agricultural Machinery	Engr. Shuji ISHIHARA	1997.10.13 – 2000.07.31
	Engr. Hiroyuki MONOBE	2000.08.01 – present
5) Agronomy	Mr. Shoji FURUYA	1998.04.17 – present
<b>Short Term Experts (19)</b>		
1) Agricultural Machinery (Reaper)	Mr. Kunihiko MAEOKA	1997.10.23 – 1997.11.20
	Engr. Koji INOOKU	1999.03.16 - 1999.04.30 2000.03.23 - 2000.05.06
	Dr. Ryuji OTANI	1998.01.06 - 1998.02.18
2) Agricultural Machinery (Seeder)	Dr. Ryuji OTANI	1998.01.06 - 1998.02.18
3) Agronomy	Mr. Shoji FURUYA	1998.03.10 - 1998.03.28
4) Soil Chemistry/Soils & Fertilizers	Dr. Shigeru TAKAHASHI	1999.01.13 - 1999.02.24
	Mr. Mizuhiko NISHIDA	2000.02.22 - 2000.03.31 2001.01.29 - 2001.03.18 2002.01.21 - 2002.03.24
	Mr. Yoshiaki KAWANA	2000.01.16 - 2000.02.26
5) Weed Science	Mr. Yoshiaki KAWANA	2000.01.16 - 2000.02.26
6) Entomology	Mr. Shingo OYA	1998.11.10 - 1998.12.19

<b>FIELD</b>	<b>NAME</b>	<b>ASSIGNMENT PERIOD (year.mo.date)</b>
7) Plant Pathology	Dr. Shinzo KOIZUMI	2000.11.12 - 2000.12.09
	Dr. Hiroki KOGANEZAWA	2001.09.04 - 2001.10.06
8) Food Science	Dr. Tetsuo SATO	1999.02.24 - 1999.04.09
	Mr. Hiroshi OKADOME	2000.02.22 - 2000.03.31
9) Farm Management	Mr. Jinzo SAITO	1999.03.16 - 1999.04.30
	Ms. Kumi YASUNOBU	2000.10.16 - 2000.12.16
10) Information Systems	Mr. Tarayuki AIHARA	2000.03.14 - 2000.03.31
11) Milling Machine	Mr. Masayuki HORIGUCHI	2001.01.15 - 2001.01.21

**ANNEX 2. LIST OF PHILIPPINE COUNTERPARTS TRAINED IN JAPAN**

<b>FIELD</b>	<b>NAME (Position)</b>	<b>TRAINING PERIOD (year.month.date)</b>	<b>AFFILIATION/ DESTINATION</b>
<b>FY 1997</b>			
1) Farm Machinery Design	Engr. Rizaldo E. ALDAS (Sr. Sci. Res. Specialist)	1998.02.09 - 1998.10.23	Tsukuba International Agricultural Training Center
2) Food Processing	Ms. Juma Novie B. AYAP (Sr. Sci. Res. Specialist)	1998.03.31 - 1998.11.22	National Food Res. Institute (NFRI), Tsukuba & Niigata
3) Agriculture Extension Service	Engr. Leo C. JAVIER (Chief Sci. Research Specialist)	1998.03.16 - 1998.04.25	Ministry of Agriculture, Fisheries & Food (MAFF), National Agriculture Research Center (NARC)
4) Information Processing	Ms. Teodora L. BRIONES (Dev. Mgt. Officer III)	1998.03.31 - 1998.05.31	NARC
<b>FY 1998</b>			
5) Agricultural Extension	Mr. Paterno I. REBUELTA (Sr. Sci. Res. Specialist)	1998.05.05 - 1998.07.10	Tokyo International Center
6) Agronomy in Rice	Ms. Evelyn F. JAVIER (Sr. Sci. Res. Specialist)	1998.05.12 - 1998.11.14	NARC
7) Biotechnology	Ms. Victoria C. LAPITAN (Science Res. Specialist)	1998.06.15 - 1998.12.22	National Institute for Agro-biological Sciences
8) Plant Breeding	Mr. Hilario C. DELA CRUZ (Chief Sci. Res. Specialist)	1998.08.17 - 1998.11.01	Tohoku National Agricultural Experiment Station, NARC
9) Insect Pest Management	Dr. Alejandra B. ESTOY (Supvg. Sci. Res. Spec.)	1998.08.17 - 1998.09.29	Kyushu Experiment Station
10) Food Science	Ms. Marissa V. ROMERO (Sr. Sci. Res. Specialist)	1999.03.30 - 1999.09.11	NFRI
<b>FY 1999</b>			
11) Farm Management	Ms. Alice M. BRIONES (Sr. Sci. Res. Specialist)	1999.05.23 - 1999.10.29	NARC
12) Plant Physiology in Rice	Dr. Rolando T. CRUZ (Chief Sci. Res. Specialist)	1999.06.07 - 1999.08.13	NARC, Tohoku and Kyushu Experiment Stations

<b>FIELD</b>	<b>NAME (Position)</b>	<b>TRAINING PERIOD (year.month.date)</b>	<b>AFFILIATION/ DESTINATION</b>
13) Administration of the Institute	Dr. Leocadio SEBASTIAN (Deputy Exec. Director for R&D)	1999.08.23 - 1999.09.10	MAFF, NARC, NIAR, JIRCAS, NIAES, Hokuriku & Niigata AESs
14) Farm Mechanization	Engr. Elmer G. BAUTISTA (Science Res. Specialist)	2000.03.20 – 2000.06.25	Tsukuba International Center, and Bio-oriental Research Advancement Institution, Omiya City
<b>FY 2000</b>			
15) Information Systems	Mr. Roger F. BARROGA (Information Technology Officer III)	2000.05.18 - 2000.09.22	OIC
16) Soils and Fertilizer	Mr. Jovino L. DE DIOS (Sr. Sci. Res. Specialist)	2000.05.22 - 2000.09.16	NARC
17) Plant Breeding	Dr. Renando O. SOLIS (Supvg. Sci. Res. Spec)	2000.05.22 - 2000.11.04	Tohoku National Agricultural Expt. Station (NAES)
18) Seed Production	Dr. Frisco MALABANAN (Chief. Sci. Res. Spec)	2000.08.16 - 2000.09.06	Hokuriku NAES, Toyama Agricultural Tech Center
<b>FY 2001</b>			
19) Farm Management	Ms. Cheryll B. CASIWAN (Sr. Sci. Res. Specialist)	2001.07.09 - 2001.11.03	NARC
20) Plant Pathology	Dr. Fe A. DELA PEÑA (Supervising SRS)	2001.06.04 - 2001.12.07	Tohoku Agricultural Research Center
21) Biotechnology	Ms. Ma. Cristina V. NEWINGHAM (Sr. Sci. Res. Specialist)	2002.02.04 - 2002.07.20	National Institute of Agrobiological Resources

### ANNEX 3. LIST OF MACHINERY AND EQUIPMENT PROVIDED BY JAPAN

THE JICA PROJECT-TYPE TECHNICAL COOPERATION ON "RESEARCH AND DEVELOPMENT PROJECT ON HIGH PRODUCTIVITY RICE TECHNOLOGY". LIST OF FACILITIES, EQUIPMENT AND MATERIALS, FY 1997-2000.

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
<b>I. FY 1997</b>							
<b>A. Locally Purchased</b>							
A-1	Microscope lamp, 6630-H09, Leica general purpose, valuable for stereomicroscopy, wide aperture with heat-reflecting coating, 3-link arm, ventilated housing includes 6V halogen-cycle lamp, 3-wire and plug for 120V, 50 or 60 Hz with Lamp Bulb, 6630-H24, 20W	2  2 (pk of 10)	42,780  16,760	85,560  33,520	June 23, 1998	Tissue Culture	w/ manual
A-2	CO <sub>2</sub> Injector System for LI-COR LI-6400 photosynthesis analyzer, LI-6400-01 with CO <sub>2</sub> source assembly, CO <sub>2</sub> controller; and 3 packs (25/packs) 12 g CO <sub>2</sub> cylinders	1	268,290	268,290	June 23, 1998	ASPPD Staff Rm/ MD Malabayabas	w/ manual (separate cover)
A-3	Leaf Area Meter LI-3100, LI-COR, laboratory model, includes both 0.1 and 1.0 mm <sup>2</sup> resolution, interface connection for 3000A-01 & dust cover with: - 3100 fluorescent lamps (2 pcs) - 3100 lower & upper transparent belts (1 unit each) - 3100 TBL lower transparent belt - 3100 TBU upper transparent belt	1  4 4	544,500  2,904 2,904	544,500  11,616 11,616	July 9, 1998	Solution Extraction Lab/ JL De Dios	w/ manual
A-4	Desktop Computer, Compaq DeskPro 2000, 5200 MMX, M2100/Intel Pentium 200 MMX processor, 128 MB RAM, 1.44 MB floppy drive - COMPAQ 21" color monitor	1 1	76,370 81,330	76,370 81,330	March 26, 1998	SED Staff Rm/ SR Francisco	w/ manual (c/o SSPP)
A-5	Printer/Plotter, HP DesignJet 750 C plus color Inkjet printer, 72 MB RAM (to be used for mapping of rice varieties, insect pests & diseases, soil fertility, production, technologies, etc)	1	327,300	327,300	March 26, 1998	SED Staff Rm/ SR Francisco	w/ manual (c/o SSPP)
A-6	Digitizer, CALCOMP drawing board III, 36"x48"	1	122,000	122,000	May 26, 1998	SED Staff Rm/ SR Francisco	w/ manual (c/o SSPP)

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
A-7	PC Based GIS Software, ARCView ver 3.0 for Windows 95, CD - installation & delivery - training on Introduction to ARCView 3.0 for 3 days	1  1 pax	87,720  9,000	87,720  9,000	May 18, 1998 May 18, 1998 June 24, 1998	SED Staff Rm/ SR Francisco	w/ manual (c/o SSPR)
A-8	Computer, note-type, COMPAQ Armada 1510	1	54,950	54,950	Dec. 21, 1997	JICA Office/T Nawashiro	w/o manual
A-9	Cabinet, mini-multi purpose, SC-MM	1	6,000	6,000	Jan. 26, 1998	PBBD Staff Rm/ TF Padolina	w/o manual
A-10	Cabinet, steel, SC-SL	1	7,100	7,100			
A-11	Cabinet, filing, FC-SP	1	5,950	5,950			
A-12	Seed keeping chiller, KORIN KRS-130AF	2	23,800	47,600	Feb. 27, 1998	JICA Head House/ TF Padolina	w/o manual
<b>Sub-total</b>				<b>1,781,422</b>			

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
<b>B. Shipped from Japan</b>							
B-13	UV Transilluminator Workstation with the following: - desktop computer, IBM PC300GL; monitor, ATTIC; keyboard, IBM; and mouse - circuit board, camera controller, ARCHIVE, 120V drawing 135-175 - circuit board, display, ARCHIVE, drawing 135-176 - circuit board, VFD4 - PCI frame grabber/video card - printer, SONY digital graphic printer UP-D890 - convertible transilluminator, FOTODYNE, 220V - UV clear, removable eclipse, slide - CCD camera, 75CE for VII eclipse with mounting bracket, Foto/Analyst - CCTV lens, 48mm, Foto/Eclipse w/ XC75 version II eclipse - Foto/Analyst investigator, 220V Ver II Eclipse, FOTODYNE - Foto/Analyst Foto/Eclipse benchtop darkroom FOTODYNE - filter, interference, fluor grn - filter, Ethidium bromide 60-2030, eclipse Ver II - filter, COOMASSIE blue 60-2031, eclipse Ver II - software, PC Image CD ROM only - software, GELPRO 3.0 for Windows - cables and manuals	1	930,857.68	930,858	Oct. 16, 1998	Genetics Lab/ DA Tabanao	w/ manual
B-14	Nitrogen Analyzer, QDS-12M, Mitamura Riken Kogyo, AC220V with the following: - digestion controller, MRK - AVR stavol, Matsunaga, Model SVC 22364 - digestion tube rack with 12 holes - vapor still, Kjeldahl-Auto DS-4S - automatic buret, Model APB-410 and accessories - diaphragm vacuum pump MZ-2C - tubes and other accessories	1 lot	764,621	764,621	Mar. 23, 1999	Solution Extraction Lab/ AJ Espiritu	w/ manual
B-15	Spot Welder DAIDO, SN-31137 with accessory and consumables, manual	1	128,719	128,719	Oct. 16, 1998	Machine Rm/ EG Bautista	w/ manual



ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
B-16	Cone Penetrometer, SPAD DIK-5520 with spare parts, consumables, case (color: orange) and manual	1	91,045	91,045	Oct. 16, 1998	Instrumentation Rm/ CM Tado, AS Juliano	w/ manual
B-17	Floor Stand with 2 pcs middle board (color: avocado green)	1	12,558	12,558	Oct. 16, 1998	Tool Rm/ PS Ramos	w/o manual
B-18	Electronic force balance with tray, AND HP-22K, SN-13007223	1	20,721	20,721	Oct. 16, 1998	Instrumentation Rm/ CM Tado, AS Juliano	w/o manual
B-19	Electronic force balance (SN-D421301817) with tray and adaptor (SN-017390), SHIMADZU BL-220H	1	51,488	51,488			
B-20	Swing rotor HITACHI, P28S-999, Part No. 9022800 swing bucket rotor, 6x40 ml., 28,000 rpm for Himac SCP 85 H2 Ultracentrifuge with: balance H050, bucket stand, bucket tubes (6 pcs), centrifuge tubes 40PA (150 pcs) and manual	1	587,084	587,084	Oct. 16, 1998	Plant Pathology/ HX Truong	w/ manual
B-21	Centrifuge, TOMY Seiko MX-160 with rotor TMA-24 (1 pc); tube holder (24 pcs); microcentrifuge tubes 2.2 ml (500 pcs), 1.5 ml (500 pcs), 0.75 ml (100 pcs); lock; fuse; allen wrench; fix crew; and manual	1	257,438	257,438			
B-22	Sonic Sifter Separator, SEISHIN L-200P with fine collector holder, circuit board (spare), transformer (Toyuzumi, 500 W), cord, brush, spatula, stainless steel sieves 38, 75 and 150 microns and manual	1	882,196	882,196	Oct. 16, 1998	Biocon Lab/ AB Estoy	w/ manual (separate cover)
B-23	Vacuum pump, MILLIPORE CP8 DM-3836 with 50 m tygon tubing RE3603, transformer SE600 Maruman and manual	1	50,232	50,232	Oct. 16, 1998	Entom Lab/ ER Tiongco, HK Rapusas	w/ manual
B-24	Low temperature incubator HITACHI CR-32C, SN-289984; temp. range: -10 to 50°C; sensitivity: ±0.2°C; 100 VAC with transformer, keys, extra tray and manual	1	138,137	138,137	Oct. 16, 1998	Entom Lab/ ER Tiongco, HK Rapusas	w/ manual
B-25	Thermal Cycler, BIORAD Gene Cycler 170-6701, 200 V with cord and manual	1	116,161	116,161	Oct. 16, 1998	Plant Pathology/ HX Truong	w/ manual

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
B-26	Roller mill, BRABENDER Quadrumat Junior with 70 mesh sieve (34 pcs); transformer BRABENDER with cord; cleaning brush (5 pcs), paint/flat brush 16"; and allen wrench (1 set-10 pcs)	1	1,158,471	1,158,471	Oct. 16, 1998	Milling Rm/ PA Tibayan	w/ manual (separate cover)
B-27	Multi-media LCD Projector, EIKI LC-6200, SN-07401119 with case; cables VGA & MAC II, screen #032274, cover, remote control, and manual	1	222,903	222,903	Oct. 16, 1998	Social Hall/ JS Villanueva	w/ manual
B-28	Multi-media LCD Projector, EIKI LC-4300, SN-G7401700 with case, cables VGA & MAC II, screen #032283, cover, remote control, and manual	1	131,859	131,859	Oct. 16, 1998	PhilRice Batac/ RC Castro	w/ manual
B-29	Cutting Plotter, MIMAKI Pro Series Model CG-61 Type E-2IIC, SN-72807898 with accessories	1	109,882	109,882	Oct. 16, 1998	MIS Staff Rm/ Rf Barroga	w/ manual (separate cover)
B-30	Color scanner for film and print, SHARP JX-350, SN-85105575, 600 dpi with cord and film scanner SHARP JX-35F6, SN-8C100466, adaptor WINSTAR NF-100, 100 W UK reg#2043635	1	39,244	39,244	Oct. 16, 1998	Doctors' Rm/ RO Solis	w/o manual
B-31	Milling machine, universal type, Model" TK-US3N-LH with layout table and spare parts	1	2,933,361	2,933,361	Apr. 21, 1999	Machine Rm/ EG Bautista	w/ manual (separate cover)
B-32	Slotter machine, Model MY-160S with slotter chuck, round bites of different sizes and spare parts	1	718,689	718,689			
B-33	Foot shearing machine, Model: A4-620 with spare parts	1	1,593,868	1,593,868			
B-34	Bending roll machine, Model: 6 type 2000-3.2 with splashes of mud apparatus and spare parts	1	672,966	672,966	Apr. 21, 1999	Machine Rm/ EG Bautista	w/ manual

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
B-35	TIG ARC welding machine, Model: 500P with standard and special accessories, and spare parts: - power supply for welder, AVP-500 - Welding torch, AW-18 - Cable hose, BMRH-500H - Gas flow regulator, AR-2F - Remote controller, K5042B - Cable, 6m - Welding bar steel, 2.44mm, 3.2 mm - Cool water circulation, PU-301 - spare parts	1	408,288	408,288	Apr. 21, 1999	Machine Rm/ EG Bautista	w/ manual (separate cover)
B-36	Press brake, model APM-8020 - metal patterns (lower and upper) - holder, IVDH - spare parts	1	1,693,686	1,693,686	Apr. 21, 1999	Field Service/ BS dela Cruz	w/ manual (separate cover)
B-37	Electric dynamometer, Model DWE-7/20-P and spare parts	1	2,337,673	2,337,673	Apr. 21, 1999	Field Service/ EG Bautista	w/ manual (separate cover)
B-38	Flow meter, Model: FP-2140H with signal cable 5m FP-011 and spare parts	1	214,448	214,448	Apr. 21, 1999	Instrumentation Rm/ CM Tado, AS Juliano	w/ manual (separate cover)
B-39	Indicator, Model: DF-2410	1	137,491	137,491			
B-40	Mini-elf, Mitsubishi "cargo truck double cabin" and accessories	1	1,401,921	1,401,921	Oct. 9, 1998	PPD Motorpool/ LA Hidalgo	w/ manual (c/o SPO)
B-41	Light truck, Mitsubishi Pajero, high roof wagon and accessories	1	755,818	755,818			

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
B-42	Books, 14 volumes	1 lot	58,516	58,516	Aug. 19, 1998	Library/ EE Joshi	w/o manual
B-43	Journals	1 lot	426,504	426,504	May 30, 2000	Library/ EE Joshi	w/o manual
<b>Sub-total</b>				<b>19,046,843</b>			
<b>C. Brought by Experts</b>							
C-44	Balance, electric with adaptor, SB 800	1	32,663	32,663	Aug. 30, 1997	JICA Head House/T Sasaki, TF Padolina	w/ manual
C-45	Balance, electric with adaptor, PB 5001	1	27,413	27,413			
C-46	Balance, auto-B-type	1	16,215	16,215			
C-47	Dish, grain quality testing, S-100B	300	74	22,222	Aug. 30, 1997	PBBB Staff Rm/ JICA HH/T Sasaki, TF Padolina	w/o manual
C-48	Meter, grain moisture, PM-700	1	37,095	37,095	Aug. 30, 1997	PBBB Staff Rm/ JICA HH/T Sasaki, SMF Ablaza	w/o manual
C-49	Recorder, portable, WR 7400	1	87,489	87,489	Oct. 23, 1997	REM Staff Rm/K Maeoka, LB Molifawe	w/o manual
C-50	Computer, desktop, COMPAQ Presario 4190	1	83,610	83,610	Nov. 14, 1997	JICA/T. Nawashiro	w/o manual
C-51	Software, MS Office 97 ST (Japanese)	1	14,144	14,144			
C-52	Printer, color BJ 455J with adaptor, cable and ink cartridge	1	43,753	43,753			
C-53	Transformer, SVC-1000ND	1	7,145	7,145			
C-54	Dictionary	1	4,434	4,434			

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
C-55	Computer, Power Macintosh 7600/200 with monitor, keyboard, modem and interface cable	1	112,132	112,132	Jan. 12, 1998	REM/S Ishihara, BD Tadeo	w/o manual
C-56	Printer, Color, LaserJet 6L	1	17,469	17,469		REM/S Ishihara, CJM Tado	w/o manual
C-57	Scanner, JX-250 M3	1	11,024	11,024		REM/S Ishihara, H Monobe	w/o manual
C-58	Transformer, SVC-1000ND	1	6,707	6,707		REM/S Ishihara, CJM Tado	w/o manual
C-59	Software, MS Office Ver 4.2	1	14,523	14,523	Jan. 12, 1998	REM/S Ishihara, H Monobe	w/o manual
C-60	Software, Excel	1	8,749	8,749			
C-61	Video camera, digital DCR-PC10 SONY and accessories	1	70,400	70,400	Feb. 5, 1998	REM/R Otani, H Monobe	w/o manual
C-62	Chapter board, DVBK-W2000 SONY	1	14,873	14,873	Feb. 5, 1998	REM/R Otani, RJ Cruz	w/o manual
C-63	Thermo-hygrometer, Quartz 3-3121 ISUZU with cartridge pen	4	18,664	74,657	Mar. 10, 1998	ASD/S Furuya, AJ Espiritu	w/o manual
				<b>Sub-total</b>	<b>706,717</b>		
				<b>TOTAL (FY 1997)</b>	<b>21,534,982</b>		

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
<b>II. FY 1998</b>							
<b>A. Locally Purchased</b>							
A-1	Cold tolerance testing device (design and construction)	1 lot	1,450,000	1,450,000	June 30, 1999	Northwest side of screenhouse/TF Padolina	w/ manual (separate cover)
A-2	Generator, 35 KVA diesel generator set Perkins (USA), 27KW, 3-phase, 220V60Hz, 1800 rpm, driven by a radiator cooled Perkins diesel engine model 3.1524, 3-cylinders in line type coupled to a brushless alternator and installation	1 set	400,000	400,000	June 30, 1999	beside cold tolerance screening facility/TF Padolina	w/o manual
A-3	Pump, Service Submersible sewage pump, 300 LPM x 7m TDH EBARRA Brand Model 50DL6.75S	1	34,000	34,000	June 30, 1999	PBBB/TF Padolina	w/o manual
A-4	Computer, HP Brio PC Intel Pentium II-333 MHz	1	77,500	77,500	March 8, 1999	PBBB Staff Rm/ER Corpuz	w/o manual
A-5	Inkjet Printer, HP Deskjet 890C	1	17,500	17,500			
A-6	Refrigerator, SANYO 28-OD, 2-door, 8 cu. ft.	1	14,000	14,000	March 8, 1999	Gene Bank/RO Solis	w/o manual
A-7	Incubator, programmable, illuminated, -10 to 50°C, temperature range: ±0.2°C sensitivity, 220VAC. 348 lbs, Cole Parmer 95-96/Cat. No. H-39350-15	1	493,700	493,700	March 8, 1999	Head House/TF Padolina	w/o manual
A-8	Showcase refrigerator, CHEE PUCK, with 3-door, adjustable sheet shelves, cooling system air-cooled defrost circulation, 182Wx79Dx206H cm, 60 cu. ft. capacity, 220V 60 cycle	1	137,000	137,000	March 29, 1999	Cooking Rm/MJC Ablaza	w/ manual
A-9	Network printer, HP Laserjet 4V	1	71,000	71,000	March 8, 1999	MIS Staff Rm/LAI Tamani	w/ manual (separate cover)
A-10	Tape Recorder, SONY TCM 353	5	1,650	8,250	March 8, 1999	SED Staff Rm/SR Francisco	w/o manual
A-11	RISOgraph Digital Duplicator GR3770, Super digital printer with digital scanner, 600 dpi resolution, 60-120 copies per minute (plus delivery) - color drum (green and yellow)	1	374,500	374,500	March 4, 1999	DevCom Staff Rm/CG Dacumos	w/ manual (separate cover)
		2	37,000	74,000			

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
A-12	Computer parts, motherboard & HD for COMPAQ Presario 4190	1	43,184	43,184	June 29, 1998	JICA Office/T Nawashiro	w/o manual
A-13	Zip drive, lomega , RAMJ27B3VW	1	7,000	7,000	Sept. 5, 1998	REM Staff Rm/MJC Regalado	w/ manual
A-14	Modulator, PX SA-65	1	7,800	7,800	Dec. 15, 1998	JICA Office/T Nawashiro	
A-15	Note-type computer, IBM Think Pad 310-CD and printer	1	80,280	80,280	Feb. 7, 1999	REM Staff Rm/AS Juliano	w/o manual
A-16	Seed keeping Chiller, KORIN KRS-130AF	2	23,310	46,620	Feb. 7, 1999	JICA Head House/TF Padolina	w/o manual
A-17	Digitizer stand, power lift manual	1	60,000	60,000	Feb. 18, 1999	SED Staff Rm/SR Francisco	w/o manual
A-18	Hard disk, Seagate 9.1 GB, SCSI drive	1	23,000	23,000	Feb. 18, 1999	MIS Staff Rm/LAI Tamani	w/o manual
A-19	Software, Windows95	1	8,338	8,338	Jan. 25, 1999	REM Staff Rm/H Monobe	w/o manual
A-20	Hi-Lux Double Cab 4x4 TOYOTA, 3L straight diesel engine 2800 cc, 4 cylinder in-line, OHC 8 valves & 5-speed manual transmission, power steering, power windows, power door locks, front suspension	1	858,000	858,000	March 4, 1999	Motorpool/LA Hidalgo	w/ manual c/o SPO
A-21	Hi-Ace Commuter Van, 2L straight diesel engine 2446 cc, 4 cylinder in-line, OHC 8 valves & 5-speed manual transmission	1	609,000	609,000			
				<b>Sub-total</b>	<b>4,894,672</b>		

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
<b>B. Shipped from Japan</b>							
B-22	Temperature Cycler, Robocycler, Strategene Cat. No. 400982 with: 96, and 40 well interchangeable blocks; hot top assembly	1	851,608	851,608	Feb. 3, 2000	Genetics Lab/DA Tabanao, H Martin	w/ manual
B-23	Power supply, Power Pac3000 electrophoresis, BIORAD with: power output: 1-400 watts; current output: 1-400 milli amperes; temperature probe adopter	1	112,548	112,548	Feb. 3, 2000	PBB/TF Padolina	w/ manual
B-24	Nucleic acid electrophoresis cell system, BIORAD Sequi-Gen GT with accessories: 4 extra outer glass plates, 1 syringe-140 cc, vinyl spacers and comb, extra caster base, 2 caster gasket	2	49,870	99,740	Feb. 3, 2000	Genetics Lab/JC Duque	w/ manual
B-25	Centrifuge, high speed Himac CF15R Hitachi, max. speed 15,000 rpm with angle rotor T15A23, swing rotor T15S21, and bucket	1	410,611	410,611	Feb. 3, 2000	Plant Pathology Lab/DA Tabanao, H Martin	w/ manual
B-26	Mini-vertical electrophoresis system, P28551-00	1	19,076	19,076	Feb. 3, 2000	Genetics Lab/JC Duque	w/ manual
B-27	Sampling thresher, R-7	2	119,225	238,450	Feb. 3, 2000	JICA Head House/TF Padolina	w/ manual
B-28	Seed counter, Waver Model IC-1, Index Co. with turn table	2	374,707	749,415			
B-29	Altimeter, No. 3263 Sato Keiryoki	1	6,132	6,132	Feb. 3, 2000	PBB Staff Rm/TF Padolina	w/ manual
B-30	Clean bench, Hitachi, PCV-1305BNG3, stand height: over 70cm, width: 130cm, depth: 75 cm, right illumination: 40W x over 3	1	300,447	300,447	Feb. 3, 2000	Plant Pathology Lab/AS Villanueva	w/ manual
B-31	Autoclave, KT-30 LD, Tokyo Thermo Tec, max temp.: 120°C, inner diameter: over 30 cm, depth: 45 cm, plus drainage hose and 3 baskets	1	142,184	142,184	Feb. 3, 2000	Head House 2/TF Padolina	w/ manual
B-32	Incubator, TDH-120S # 119, temperature and humidity control type, temp. range: water temp. +3~ 40°C, volume: 1000 liter, temp. control system: water cooling	1	572,280	572,280	Feb. 3, 2000	JICA Head House/TF Padolina	w/o manual



ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
B-33	Incubator, CR41LC Hitachi, with transformer SE600 and spare lamps	3	233,681	701,043	Feb. 3, 2000	1 for PBBD: Entom Lab/FA dela Peña 2 for CPD: Plant Pathology/AB Estoy	w/ manual
B-34	Dissolved oxygen meter, MO128-2M with weight for sensor and spare parts	1	71,024	71,024	Feb. 3, 2000	PBBD/RO Solis	w/ manual
B-35	Sterilize drying oven SP 450 with base	1	78,348	78,348	Feb. 3, 2000	JICA Head House/TF Padolina	w/ manual
B-36	Seed moisture meter SP-1D2, Kett Electric	2	29,295	58,591			
B-37	Seed blower, Cat HF-1, Model 757, Fujiwara	2	218,012	436,023	Feb. 3, 2000	JICA Head House/TF Padolina	w/ manual
B-38	Plant canopy image analyzer CI-110, CID, Inc. with system and accessories (laptop computer, softwares, power supply, etc.)	1	347,456	347,456	Feb. 3, 2000	ASPPD Staff Rm/JL De Dios	w/ manual
B-39	Ion meter, Hitachi, C-141(NO3), C-131 (K+), C-122 (Na+) and standard solutions Y026, Y025, Y024	3	8,857	26,570	Feb. 3, 2000	ASPPD/JL De Dios	w/o manual
B-40	Hollow Cathode Lamps for atomic absorption spectrophotometer (AAS) HITACHI, Ca HLA4s, Mg HLA4s, K HLA4s, Zn HLA4s, Fe HLA4s, Cu HLA4s, Mn HLA4s (1 each)	1 set	92,314	92,314	Feb. 3, 2000	Solution Extraction Rm/AJ Espiritu	w/o manual
B-41	Computer Image analysis system, CI-400 with personal computer, transformer, digital camera C-830L CA media	1 lot	664,254	664,254	Feb. 3, 2000	REM Staff Rm/JL De Dios, BD Tadeo	w/ manual (separate cover)
B-42	Partition plate	200 roll	238	47,690	Feb. 3, 2000	ASPPD	w/o manual
B-43	Platform balance, Ohaus P-01006-42, capacity-200kg; readability-0.1kg; Platform size; 20.5"L x 15.75"W x 2.75"H; 220 VAC, 60 Hz with AC adapter	1	20,439	20,439	Feb. 3, 2000	Instrumentation Rm/CM Tado, AS Juliano	w/o manual

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
B-45	Soil Moisture measurement unit, CR-10X Campbell Scientific with power supply, rechargeable battery, softwares, etc.	1	113,093	113,093	Feb. 3, 2000	Instrumentation Rm/CM Tado, AS Juliano	w/ manual (separate cover)
B-46	Printer/Plotter, HP DesignJet 750/C Plus, prints in D/A1-size black or color plots in less than 4 minutes	1	352,225	352,225	Feb. 3, 2000	REM Staff Rm/H Monobe, LB Moliñawe	w/ manual c/o REM
B-47	Ultrasonic thickness gauge, takes non-destructive measurements of most metals and non-metals, Cole Parmer 97-98, Cat. No. E-59785-00	1	68,469	68,469	Feb. 3, 2000	Instrumentation Rm/CM Tado, AS Juliano	w/o manual
B-48	Portable digital pressure gauge, measures pressure with +- 0.15% accuracy, Cole Parmer 97-98, Cat. No. E-68970-10	1	20,950	20,950	Feb. 3, 2000	Instrumentation Rm/CM Tado, AS Juliano	w/ manual
B-49	Digital counter, for batch counting and control, coil winding and wire cutting, Cole Parmer 97-98, E-08614-30	1	6,813	6,813	Feb. 3, 2000	Instrumentation Rm/CM Tado, AS Juliano	w/o manual
B-50	Eppendorf Reference Pipettor w/ tip-rack, Adjustable-volume pipettors, E-24505-60 with 100-1000µl volume, fixed and adjustable-volume pipettors with 1000µl volume	2	13,966	27,933	Feb. 3, 2000	Plant Pathology Lab/AE Villanueva	w/ manual
B-51	Eppendorf Reference Pipettor w/ tip-rack, positive displacement pipettor, E-24551-00, 1 to 20µl, tips, E-24551-50, 1 to 20µl	2	16,351	32,702	Feb. 3, 2000	Plant Pathology Lab/AE Villanueva	w/ manual
B-52	Stereomicroscope, Meiji P-48402-00, 7 to 45 x magnification compatible w/ photo systems, replacement bulb, P-48402-50	1	70,683	70,683	Feb. 3, 2000	Biocon Lab/AB Estoy	w/ manual
B-53	Microscope, Olympos BX40F4 with photographic system, Camera PM-C35DX	1	312,540	312,540			
B-54	Rice sample tester for milling, McGill No. 3 Miller, No. 3M/C with 3 HP motor, standard wiring, 220 V, 60Hz, complete with automatic timer and starter	1	367,894	367,894	Feb. 3, 2000	Milling Room/PA Tibayan	w/ manual

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
B-55	Grain shape tester, Model MK-100, Kett Electric	1	6,813	6,813	Feb. 3, 2000	Physico Chem Lab/DV aquino	w/ manual
B-56	Electrophoresis kit with mini electrophoresis cell, power supply and accessories, Vertical electrophoresis cell (P-28551-00); standard power supply (P-28401-05), Cole Parmer 97-98	1	61,316	61,316	Feb. 3, 2000	PhysicoChem Lab/RE Valdez	w/ manual
B-57	CamCorder, SONY, UVM-100BF with video deck, color monitor, tripod & other accessories	1	1,027,379	1,027,379	Feb. 3, 2000	AV Room/JS Villanueva	w/ manual (separate cover)
B-58	Video scan Converter, SCAN DO Ultra; converts computer graphics to video; up to 1600 x 1280 pixel input; analog output/NTSC, PAL, S-video, CAV; flicker filter; autosync	1	241,857	241,857			
B-59	Camera back for Polaroid Dgital Palette CI 5000S, Camera back for 35 mm slides for digital palette color film recorder	1	26,570	26,570	Feb. 3, 2000	OD/LS Sebastian	w/ manual
B-60	Books and Journals	1 lot	703,997	703,997	May 11/30, 2000	Library/EE Joshi	w/o manual
<b>Sub-total</b>				<b>9,487,477</b>			

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
<b>C. Brought by Experts</b>							
C-1	Plasma cutter, FB-50 McMaster	1	132,409	132,409	May 8, 1998	Tool Rm/H Takahashi, PS Ramos	w/o manual
C-2	Vacuum cleaner, JE-520 JET	1	69,357	69,357	May 8, 1998	Shop Hallway/H Takahashi, PS Ramos	w/o manual
C-3	Rice Grain inspect, KETT	1	599	599	May 8, 1998	Instrumentation Rm/CM Tado, AS Juliano	w/o manual
C-4	Strain gage, DPM-601A KYOWA	1	53,279	53,279			
C-5	Note type computer and mouse, PC-LV16CWSDAF1 NEC	1	120,113	120,113	May 8, 1998	ASPPD Staff Rm/S Furuya	w/o manual
C-6	Printer and accessory, BJC-80V CANON	1	18,033	18,033			
C-7	Soil Hardness tester, Fujihara	1	17,339	17,339	June 8, 1998	ASPPD/H Takahashi, S Furuya	w/o manual
C-8	Logging meter, DIK-7400	2	17,654	35,309			
C-9	Gravity meter	1	12,610	12,610			
C-10	Gas rice cooker, PR-100 DF	10	4,224	42,245	June 17, 1998	RCFS Lab/TF Padolina	w/o manual
C-11	Plate and Adhesives for Insects collection	1	29,319	29,319	Nov. 30, 1998	Entom Lab/S Ota, AE Villanueva	w/o manual
C-12	Standard leaf color note, FUJIHARA	1	5,485	5,485	Jan. 13, 1999	ASPPD/H. Takahashi	w/o manual

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
C-13	Chlorophyll meter"SPAD-502", MINOLTA	2	31,661	63,323	Jan. 13, 1999	ASPPD/H Takahashi, S Furuya	w/o manual
C-14	Rubber Boots, Tsukiboshi	1	1,072	1,072	Jan. 13, 1999	ASPPD Staff Rm/S Furuya, C Valdez	w/o manual
C-15	Pipette, NICHIRYO NP-5000, 1000, 200, 100, 20	5	7,881	39,405	Feb. 24, 1999	Physico Chem Lab/T Sato, RE Valdez	w/o manual
C-16	Pipette tip and standard chemical, NICHIRYO/SIGMA	1	14,849	14,849			
C-17	Strain gage, KYOWA	1	4,035	4,035	March 15, 1999	Instrumentation Lab/H Takahashi, AS Juliano	w/o manual
C-18	Bridge box and connection cable, KYOWA	1	8,449	8,449			
C-19	Rubber Boots	12	1,261	15,132	March 15, 1999	PBB/ASPPD/H Takahashi	w/o manual
C-20	Scout meter, YSI 85-10	1	111,917	111,917	March 15, 1999	ASPPD/H Takahashi	w/o manual
C-21	Resistant meter cap gage, DAIKI 7400/9505A	3	42,245	126,735	March 15, 1999	ASPPD Staff Rm/H Takahashi, S Furuya	w/o manual
C-22	GIS Software, Map Info Professional	1	69,357	69,357	March 15, 1999	SED Staff Rm/J Saito, SR Francisco	w/o manual
C-23	Thermometer, standard, Nihon-Keiryoki, 8387, 8388	2	15,038	30,076	March 29, 1999	PBB/ASPPD/H Takahashi, TF Padolina	w/o manual
C-24	Thermometer, standard, Nihon-Keiryoki, 9011, 9012	2	7,661	15,322			
C-25	Stapler, H-NF, HL-19, HL-16, Sekisui	3		35,151			
C-26	Paper cutter, DN31, Kokuyo	1	4,981	4,981			
C-27	Electronic punch, PNE150 with transformer, spare blade PNE150A, plate PNE150B	1	37,415	37,415	March 29, 1999	JICA Office/T Nawashiro	w/o manual

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
C-28	Measuring tape, 100m, GR12-1H	2	3,689	7,378	March 29, 1999	PBBD/ASPPD Staff Rms/ER Corpuz	w/o manual
C-29	Measuring tape, 50m, CL-G50	2	1,797	3,594			
C-30	Counter	2	3,405	6,810	March 29, 1999	Head House/ER Corpuz	w/o manual
C-31	Color printer, BJC-F600 Canon	1	20,177	20,177	March 29, 1999	JICA Office/T Nawashiro	w/o manual
C-32	Ink cartridge, BC-30 (black), BC31 (color)	25		32,913	March 29, 1999	JICA Office/T Nawashiro	w/o manual
C-33	Revolution attachment, RJ05	1	3,247	3,247	April 9, 1999	Instrumentation Lab/K Inooku, AS Juliano, CM Tado	w/o manual
C-34	Ball joint, TU12	2	1,166	2,333			
C-35	Flying rings, TR05C	1	3,878	3,878			
C-36	Hook, TH-05C	1	5,139	5,139			
C-37	Infrared REY moisture meter, FD-600	1	46,595	46,595	April 9, 1999	Instrumentation Lab/K Inooku, AS Juliano, CM Tado	w/ manual
C-38	Digital video tape, Mini DV60	10	293	2,930	April 9, 1999	REM Staff Rm/K Inooku, LB Moliñawe	w/o manual
C-39	Spare lamp, 185W/220V	1	946	946	April 9, 1999	Instrumentation Lab/K Inooku, AS Juliano, CM Tado	w/o manual
				<b>Sub-total</b>	<b>1,249,256</b>		
				<b>TOTAL (FY 1998)</b>	<b>15,631,405</b>		

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
<b>III. FY 1999</b>							
<b>A. Locally purchased</b>							
A-1	Airconditioner, National CS/U-3BV31S, floor mounted, 3 hp	1 unit	91,000	91,000	April 2000	PBBB Staff Rm/TF Padolina	
A-2	Portable glass cutter, HONDA UMK431 with mowing unit (blade & disc)	4	16,700	66,800	April 2000	PBBB/FOU/SC Constantino	w/ manual
		1	17,750	17,750			
A-3	Nursery thresher, large vogel type stationery plot thresher, Seedburo #SLVPT-OS/G	1	1,625,501	1,625,501	Sept. 7, 2000	JICA Head House/TF Padolina	w/o manual
A-4	Water purification system (distilling apparatus), ELGA OSF option 7	1	180,000	180,000	July 21, 2000	Plant Pathology Lab/AS Villanueva	w/ manual
A-5	Microscope, binocular, Model: AS-BH/Asahi, 4x, 10x, 40x, 100x	1	42,500	42,500	March 30, 2000	Entom Lab/FA dela Peña	w/ manual
A-6	Storage cabinet, ZR7-624-Zefil, 1,800x750x800 mm	2	16,000	32,000	July 11, 2000	Head House 2/TF Padolina	w/o manual
A-7	Work bench, ZRWB-1668-Zefil, 1,500x750x740mm	3	32,000	96,000			
A-8	Scintillation vials, Cole parmer P-08918-62, polyethelyne linerless, 20 ml	2	11,500	23,000	June 29, 2000	Solution Extraction Lab/MD Malabayabas, EF Javier	w/o manual
A-9	Separatory funnel, 3-piece, PYREX 6406-125, 125 ml	12	2,200	26,400	March 30, 2000	Solution Extraction Lab/MD Malabayabas, EF Javier	w/o manual
A-10	Beaker, NALGENE, polypropylene, 1000 ml	5	855	4,275	Aug. 18, 2000	Solution Extraction Lab/MD Malabayabas, EF Javier	w/o manual

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
A-11	Volumetric flask, NALGENE, polypropylene, 100 ml	10	674	6,743	Aug. 18, 2000	Solution Extraction Lab/MD Malabayabas	w/o manual
A-12	pH/conductivity meter, ARH1 CE, Myron L Company, waterproof, portable with manual (no case)	1	34,000	34,000	June 29, 2000	ASPPD Staff Rm/MD Malabayabas	w/ manual
A-13	Electronic balance, Sartorius BP3100S, toploading	1	66,500	66,500	April 2000	Solution Extraction Lab/EF Javier	w/ manual (separate cover)
A-14	Balance printer, Sartorius YDP03-OCE	1	43,500	43,500			
A-15	Industrial balance, A&D HP-40K, 41 kg	1	210,000	210,000	July 17, 2000	REM	w/ manual
A-16	Hot plate, Snijder Model 34531E, alluminum alloy hotplate 455x345 mm	1	61,844	61,844	April 17, 2000	ASPPD	w/o manual
A-17	Fume hood, Ductless, LABCAIRE, Model 750L	1	596,920	596,920	May 8, 2000	ASPPD	w/ manual
A-18	Sound measurement meter, Ansi type S2A, Scott Instruments Lab, case, acoustic calibrator type 457, 106dB-1000Hz	1	50,000	50,000	June 29, 2000	REM	w/ manual
A-19	Combustion gas analyzer, Quintox KM9106 UK with display unit, accessory kit K17014, adaptor, and manual	1	302,700	302,700	June 29, 2000	REM	w/ manual (separate cover)
A-20	Digital manometer, Model MA2 Modus, with 2 cases, instruction manual, and kit parts (insertion tubes, static tips, connectors, pitot tube and rubber tubing	1	53,000	53,000	June 29, 2000	REM	w/ manual
A-21	Digital protractor Mitutoyo Pro360 with case and manual	1	18,000	18,000	June 29, 2000	REM	w/ manual
A-22	Digital watt meter, Extech Instruments DW6060 with manual	1	15,000	15,000	June 29, 2000	REM	w/ manual
A-23	Shaker-incubator, lab-line bench-top , 40-400 rpm, Model 3527-1	1	303,000	303,000	July 21, 2000	CPD	w/ manual
A-24	Hot plate stirrer, Corning, PC420, top plate dimension 5"x7"	1	17,000	17,000	March 30, 2000	CPD	w/ manual
A-25	Culture test tubes and cap, Pyrex, Corning	1	30,131	30,131	July 17, 2000	CPD	w/o manual
A-26	Constant temperature oven, MEMMERT universal oven, Model UM 400	1	43,400	43,400	April 3, 2000	CPD	w/ manual
A-27	Digital micropipettor, SOCOREX Calibra	3	10,654	31,962	Aug. 18, 2000	CPD	w/ manual
A-28	Pipettor, 50 ul, 100 ul, 1000 ul with tips and rack	1 lot	31,990	31,990	March 30, 2000	CPD	w/ manual
A-29	Pipettor, 8-multi channel, adjustable transferpette	1	18,480	18,480	March 30, 2000	CPD	w/ manual



ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
A-30	Fraction collector, FOXY Jr. ISCO	1	298,700	298,700	May 23, 2000	RCFS	w/ manual
A-31	Centrifuge, UNICEN 15DR, HEROLAB	1	644,000	644,000	May 23, 2000	RCFS	(separate cover)
A-32	Glossmeter, digital, 3-digit LCD, Horiba IG-330	1	59,000	59,000	June 29, 2000	RCFS	w/ manual
A-33	Global positioning system, GEOEXPLORER II, trimble	2	218,000	436,000	June 26, 2000	SED	w/o manual
A-34	Uninterruptible power supply, APC Smart 3000i	5	58,300	291,500	April 3, 2000	MIS, JICA, SED	w/ manual
A-35	Information switching system, KX-T500, Panasonic digital system, 16 trunks x 150 locals	1	630,000	630,000	April 7, 2000	MIS	w/ manual c/o MIS
A-36	Software, Adobe premiere 5.1 A version (windows)	1	35,000	35,000	April 11, 2000	Comm	w/ manual c/o TRD
A-37	Hardisk, Seagate 9.1 GB with controller card (SCSI)	1	22,000	22,000	April 11, 2000	Comm	w/o manual
A-38	Color printer, HP color laser Jet 4500	1	140,710	140,710	April 11, 2000	PCPO	w/ manual (separate cover)
A-39	Vehicle, KIA Sportage grand wagon 4WD, 2000 model	1	830,000	830,000	April 2000	PPD	w/ manual c/o SPO
A-40	Weather instruments						
	a. temperature meter, max & min, Ota #64	10	2,500	25,000	Sept. 7, 2000	Branch Stations (Additional budget)	w/ manual
	b. rainfall meter, auto-recorder, Ota#34 with bucket, 34T #20	5	90,000	450,000	Sept. 7, 2000		
	c. relative humidity meter, Ota 3-A	5	38,000	190,000	Sept. 7, 2000		
	d. sunshine duration meter, Campbell	5	115,000	575,000	Sept. 8, 2000		
	e. pan evaporation	5	16,000	80,000	Aug. 31, 2000		
A-41	Air conditioning system	1	1,341,500	1,341,500	installed	Additional budget	w/o manual
A-42	Electric line for cold tolerance screening facility	1	467,000	467,000	installed	Special budget	w/o manual
A-43	National Rice Engineering & Mechanization Center	1	11,050,000	11,050,000	completed, July 25, 2000	Additional budget	w/o manual
				<b>Sub-total</b>	<b>21,704,806</b>		

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
<b>B. Shipped from Japan</b>							
B-45	Accessories for milling machine, TAKEDA TK-US3N-LH: two-flute end mill, keyway slotting, slitting saw, side and face milling cutters, machine vice, milling chuck, arbors for drill chuck and for side cutter, drill chuck, MT-holder, face, taper shrank drill, index center and place	1 lot	369,437	369,437	May 30, 2000	REM (Additional budget)	w/ manual (separate cover)
B-46	Dehumidifier, Munters B-300-IEA with spareparts: rotor driving motor, hopper and filter for processing/reactivation	1 lot	737,058	737,058	July 6, 2000	PBBB	w/o manual
B-47	Grain shattering tester, Habit TR2	1	119,772	119,772	May 11, 2000	PBBB	w/ manual
B-48	Portable weed cutter, PC315/2 with spare parts	2	49,035	98,069	Nov. 20, 2000	ASPPD	w/o manual
B-49	Thresher, stationary Kubota MD700 with engine RK60N and spare parts	2	341,776	683,551	June 21, 2000	ASPPD	w/ manual (separate cover)
B-50	Quadrat sampling slot sieving grader, SG 7S	1	253,033	253,033	May 11, 2000	PBBB	w/ manual
B-51	Quadrat sampling winnower PS Type	2	285,429	570,858	May 11, 2000	ASPPD	
B-52	Digital film printer, Propalette 8035 with SCSI card	1	483,175	483,175	May 11, 2000	OD	w/ manual (separate cover)
B-53	Grain counter, Multi-auto, IC IUR with turntable	2	541,630	1,083,261	May 11, 2000	ASPPD	w/ manual
B-54	Nitrogen meter, Agri expert PPW with printer, cable, AC adapter	1	121,961	121,961	Nov. 20, 2000	ASPPD	w/o manual
B-55	Automatic Weather Station Set	1 set	347,064	347,064	Dec. 22, 2000	REM	w/ manual
	WMS 302 Anemometer	1					
	QMH 101 Temperature and Relative Humidity Sensors w/ cable	1					
	DTR502 Radiation Shield	1					
	One Sensor Arm for QMH101	1					
	QML101 AWS Logger with 2MB Flash Memory for Data Logging	1					
	QMB 101 1.3 AH Internal Rechargeable Battery	1					
	3M Tripod Mast	1					
	Cable	1					
	Software	1 set					
	Aluminum Case (2pcs.)	1 set	98,113	98,113			
Main Power Supply for Outdoor Use	1 set	43,555	43,555				
"MIE" Personal Date RAM Handheld Monitor, Model: pDR-1200	1 set	362,193	362,193				
Aluminum Case	1 set	284,253	284,253				
B-56	Digital camera	1		-	-	cancelled	w/o manual

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
B-57	Microcentrifuge, high-speed, MC150 with special accessories	1	213,505	213,505	May 11, 2000	CPD	w/ manual
B-58	Spare parts for distilling apparatus: Heating rod YK-W-4 and Ion exchange resin (10L)	2	67,448	134,897	May 11, 2000	CPD	w/o manual
B-59	Spare parts for Ultracentrifuge: 12 PA seal tubes (50 PS) with space caps, tubes setter, siller, racks and transformer	1	257,980	257,980	May 11, 2000	CPD	w/ manual
B-60	Spare parts for Ultracentrifuge: 40 PA seal tubes (50 PS) with space caps, tubes setter, siller, racks and transformer	1	154,232	154,232	May 11, 2000	CPD	
B-61	Spare parts for Ultracentrifuge: Swinging bucket rotor P28S with 40PET tubes (50 PS)	1	766,049	766,049	May 11, 2000	CPD	w/o manual
B-62	Spare parts for clean bench: High efficiency particulate filter	12	20,439	245,267	May 11, 2000	CPD	w/o manual
B-63	Digital camera EOS D6000 and accessories: battery 2PS, SCSI card, PC card, PC card reader (card disk EX/SC), lens EF28mm F2.8, SCSI cable	1	1,311,701	1,588,060	May 11, 2000	Comm	w/ manual
B-64	Digital video camera, DCR VX1000 with accessory kit, battery pack, mini DV tape	1	136,913	165,759	May 11, 2000	Comm	w/o manual
B-65	Editing kit for video: DPS Spark Firewire	1	79,143	95,817	May 11, 2000	Comm	w/o manual
B-66	Books and journals	1 lot	2,488,157	2,488,157	August 7, 2000	Library	w/o manual
<b>Sub-total</b>				<b>11,849,433</b>			
<b>C. Brought by Experts</b>							
C-67	Personal computer, DynaBook 4050X CDTA with printer, and other accessories	1 lot	149,489	149,489	November 1999	JICA/H. Takahashi	w/o manual
C-68	Grain moisture balance, MGMT-1	2	37,412	74,824	Feb. 22, 2000	ASPPD/ Y. Kawana	w/o manual
C-69	Sprayer, BH565B	4	1,379	5,517			w/o manual
C-70	Sprayer, BH568	2	2,254	4,507			w/o manual
C-71	Dry cell, #3	20	25	505			w/o manual
C-72	Dry cell, #1	20	64	1,282			w/o manual
C-73	Micropipette, PG 20, PG200, PG1000 (1 pc each)	1 set	16,317	16,317			w/o manual
C-74	Disposable tip for micropipette	2 bxs	2,409	4,817			w/o manual
C-75	Label	20 pks	200	6,993			w/o manual
C-76	Envelope	77 sets	78	5,983			w/o manual
C-77	Wrapping paper	2 packs	233	466			w/o manual
C-78	Book	1	13,319	13,319			w/o manual
C-79	Softwares (SPSS), Zip drive & disk, RAM board, 63 MB, scanner Canon FB630P, tweezers, aluminum cup	1 lot	113,583	113,583	March 2000	RCFS/H. Okadome	w/ manual (separate cover)

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
C-80	Isotope maker for urea (N <sup>15</sup> )	110 g	97,100	97,100	March 2000	ASPPD/M. Nishida	w/o manual
C-81	Accessories for AAS	1 lot	22,982	22,982			w/o manual
C-82	Softwares (Oracle 8i workgroup server for windows NT R8.1.5 (5 users) and additional 2 users)	1 lot	84,521	84,521	March 14, 2000	MIS/T. Aibara	w/ manual c/o MIS
C-83	Softwares (Oracle Web DB for windows NT R2.1 (5 users) and additional 2 users)	1 lot	59,048	59,048			
C-84	Personal computer, IBM Aptiva E-series with 17" monitor, software Windows 98	1 lot	73,657	73,657	May 22, 2000	REM/K. Inooku	w/ manual c/o REM
C-85	Digital camera, Olympus Camedia C-2500L with connection kit, Olympus C-7KP, 32 MB memory card, Smart media M-32P1, battery charger set BU-40SNH, camera case and AC adapter	1 lot	71,786	71,786	May 22, 2000	REM/K. Inooku	(Japanese)
C-86	Digital tachometer HT-4100, Ono Sokki with reflection mark, battery, battery charger with transformer Panasonic, 64 MB RAM with manual	1 lot	23,481	23,481	May 22, 2000	REM/K. Inooku	w/o manual
<b>Sub-total</b>				<b>830,176</b>			
<b>TOTAL (FY 1999)</b>				<b>34,384,415</b>			

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
<b>IV. FY 2000</b>							
<b>A. Locally purchased</b>							
A-3	Analytical balance, SHIMADZU, AX-200	1	116,500	116,500	March 20,2001	PBBB	
A-4	Top loading balance, Model KERN 572-49, electric, 8 kg capacity, pan size of 31 W x 31H x 7 D cm	1	32,500	32,500	Feb. 27,2001	ASPPD	
A-6	Panicle thresher, Model SBT-ALMACO, small bundle type, 6" dia x 14" wide cylinder	2	425,000	850,000	June 6,2001	PBBB	
A-7	Columnar blower, 757 South Dakota Seedburo, 1/3 hp, 3450 rpm	2	157,671	315,342	June 6,2001	PBBB	
A-8	Moisture tester, G-Won, Model GMK 303	1	45,000	45,000	April 30,2001	ASPPD	
A-9	Microscope, trinocular - Olympus System Trinocular Microscope CH30; TV monitor CTV-1422 Nippon Japan with antenna & power cord; microscope stand CH30 RF200; Adapter for BH-TR45; filter holder, CH 3-FH; 6V 20W Halogen bulb N-A, 1.25 with S.S. vernierscale; power cord, UYCP; ED Achromat objective 4x/0.1, W.D. 29.0 (anti-fungus) ED4XM; ED Achromat objective 10x/0.25, W.D. 6.8 (anti-fungus) ED 10xM	1	98,890	143,890	Feb. 20, 2001	CPD	w/ manual
	Pro-CCD Video attachment, Smartech TS6020	1	38,500				
	Replacement eyepiece 10x - LB photo eyepiece 10x, NCWHK 10x, LB photo eyepiece 3.3x, NFK3.3XLD	1	6,500				
A-10	Spectrophotometer, AURORA Vis Visible Spectrophotometer	1	129,000	129,000	March 20,2001	ASPPD	
A-12	Desktop computer, HP Kayak XM600, Pentium III, 800 Mhz, 256 MB RAM, 9.1 GB SCSI HD with 21" monitor	1	221,872	221,872	March 29,2001	REM	
A-13	Desktop computer, HP Kayak XU800, Pentium III, dual processor, 256 MB RAM, 27 GB SCSI HD with 15" monitor	1	286,038	286,038	March 29,2001	SED	
A-14	Software, PC ARC Info Ver 3.5.2 for Windows NT	1	250,000	250,000	Dec. 21, 2000	SED	
A-15	Digital camera, SONY MVC, FD95	1	50,000	50,000	Jan. 11, 2001	PBBB	
A-16	LCD projector, portable, InFocus LP755 XGA with accessories	1	218,000	218,000	Jan. 11, 2001	PCPO	
<b>Sub-total</b>				<b>2,658,142</b>			

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
<b>B. Shipped from Japan</b>							
B-19	Temperature monitor, Model: uR1000 Yokogawa recorder with sensor, space heat resist material (Type K), compensated space heat resist material for type K (20m), spareparts; 6 colors ink ribbon (B9901AX), 10 pcs/set record paper (B9585AW)	1	241,641.47	241,641	Jan. 18, 2001	PBBB	w/ manual
B-20	Thermo-Hygrometer, Model No: 3-312B-05, 15 pcs/set Record paper for 31 days (20012-31), 5 pcs/set Cartridge pen, purple (3-7150-01), 4 pcs. Hair moisture sensor	2	67,485.03	67,485	Jan. 18, 2001	PBBB	w/ manual
B-23	Oscillographic recorder, Model: KYOWA RDM-100A12-1-B/C1/N4, 9 rolls record paper, universal type, 4 channels input, Serial no. 12WA06032	1	369,243.57	369,244	Jan. 18, 2001	REM	w/ manual
B-24	Torque transducer, Model: KYOWA TP-50KMAB, Serial no. 040340003	1	116,385.87	116,386	Jan. 18, 2001	REM	w/ manual
B-25	Dynamic strain meter, Model: KYOWA DPM-6K, portable type includes standard accessories (DPM-8K)	1	384,824.26	384,824	Jan. 18, 2001	REM	w/ manual
B-26	Acceleration transducer, Model: KYOWA AS-1000 HA	1	40,346.00	40,346	Jan. 22, 2001	REM	
B-27	Telemeter, Model: KYOWA, Transmitter MRT-300A, Receiver MRT301-A, Power source for transmitter MRT-210B	1	311,613.79	311,614	Jan. 18, 2001	REM	w/ manual
B-28	Slip ring, Model: KYOWA RBE-8A	1	75,566.34	75,566	Jan. 18, 2001	REM	w/ manual
B-29	Involute gear milling cutter for milling machine, TAKEDA TK-US3N-LH, Types M2, M3, M4	1 lot	183,964.77	183,965	Jan. 18, 2001	REM	w/o manual
B-30	Insect net, German type Model: SG-2 Everwell, nylon, 420 mm diameter	10	56,315.74	56,316	Jan. 18, 2001	CPD	w/ manual
B-31	Spore trap/collector, Model: Everwell No. 206, twin unit type; 1 m stand height	5	211,653.34	211,653	Jan. 18, 2001	CPD	w/ manual
B-32	Insect pins, Model: SG-230 Everwell, standard type, size nos: 00, 0, 5	30 pks	4,692.98	4,693	Jan. 18, 2001	CPD	w/o manual
B-33	Micro pins, Model: SG-251 Everwell, type: stainless, headless	10 pks	5,068.42	5,068	Jan. 18, 2001	CPD	w/o manual
B-34	Drying Oven, Model: XO, Tokyo Thermotec Co., Ltd. room temperature:~2000C, 200W x 150H x 200D cm dimension, Thermo-recorder (including record paper and ribbon cassette)	1	1,065,306.17	1,065,306	Jan. 18, 2001	PBBB	w/ manual
B-35	Push gauge, DIK-7400/AIKOH 9505A with adapter, case and manual, Serial no. 34779	2	131,403.40	131,403	Jan. 18, 2001	PBBB	w/ manual
B-36	Chlorophyll meter, SPAD 502 (Including standard accessories), Serial no. 75013011+B363	1	50,684.17	50,684	Jan. 18, 2001	PBBB	w/ manual

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
B-37	Auto Dispenser, FH-100DD, Mfg. No. 1083, with glass tube, glass tube, valve parts, automatic valve, washer, silicon rubber tube	1	232,339.99	232,340	Jan. 18, 2001	PBBD	w/ manual
B-38	Involute and bevelgear cutters for milling machine, TAKEDA TK-US3N-LH	1 lot	324,428.63	324,429	Jan. 2, 2001	REM	
B-39	Near-Infrared Reflectance, Infratec 1241 Grain analyzer	1	4,197,893	4,197,893	May 18, 2001	Special budget/RCFS	
B-40	Journals (8 titles, 21 volumes)	1	464,468	464,468	May 18, 2001	Library	
<b>Sub-total</b>				<b>8,535,325</b>			

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
<b>C. Brought by Experts</b>							
C-37	Personal computer, APTIVA 52M (2197-2MF) with printer PM-2200C, AUTOCAD LT2000 and PowerPoint softwares, drawing instruments, and consumables	1 lot	220,186.75	220,187	Aug. 2000	REM/H. Monobe	
C-38	Book, 16 volumes; file & document	1 lot	33,148.29	33,148			
C-39	Whiteness meter for rice, C-300	1	148,432.15	148,432	July 2000	PBBD/K. Moriya	
C-40	Book	1	4,121.26	4,121			
C-41	Compressor, JN022AN-18 with transformer	1	73,506.37	73,506			
C-42	Sprayer, 82-1203, 120 ml	30 pcs	55,577.98	55,578			
C-43	Rubber hose	5 pcs	1,404.39	1,404			
C-44	Vinyl bag	1 box	16,135.54	16,136			
C-45	Punch	1 pc	42,729.31	42,729			
C-46	Syringe		14,880.56	14,881	Nov. 2000	CPD/S. Koizumi	
C-47	Seedling case	50 pcs	11,354.64	11,355			
C-48	Seedling box, 605 x 305 x 40 mm	30 pcs	6,633.50	6,634			
C-49	Pot	30 pcs	8,605.62	8,606			
C-50	Tray, 278 x 542 x 25 mm	100 pcs	2,330.69	2,331			
C-51	Steel net	1 pc	11,354.64	11,355			
C-52	Books	26 pcs	8,537.25	8,537.25	Dec. 2000	SED/Library/Y. Yasanubo	
C-53	Testing regulation apparatus, <sup>15</sup> N	1 lot	178,076.92	178,076.92	Feb. 2001	ASPPD/M. Nishida	
				<b>Sub-total</b>	<b>837,016</b>		
				<b>TOTAL (FY 2000)</b>	<b>12,030,483</b>		



ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
<b>V. FY 2001</b>							
<b>A. Locally Purchased</b>							
A-1	Heavy duty shaker with variable speed; Speed: 60 to 260 strokes/min; Stroke: 38 mm (1 1/2"); Max. load: 23 kg (50 lbs); Dimension: 62.2W x 34.3 L x 25.4 H cm; Power: 230V, 50 Hz; Eberbach No. 6000-25, Cat. No. 57007-001; VWR Scientific Products 2000/2001, p. 1469 S/N090111; S/N090115 with - utility box carrier; Eberbach No. 6040, Cat. No. 57008-002 - lengthwise bar clamp; Eberbach No. 6044, Cat. No. 57008-046 - crosswise bar clamp; Eberbach No. 6042, Cat. No. 57008-024	2  1 1 1	175,000	350,000	Nov. 28, 2001	ASD Lab/ EF Javier	w/ manual
A-2	pH meter, benchtop "New Denver"; Description: pH/mV/Ion/ conductivity; Range:pH: -2.000 to 20.000, mV: ± 1800, temperature, C: - 5.0 to 105.0, conductivity: 0 to 300 mS, Cat. P-59501-05 complete with electrode arm, 3ft, power supply with 2 prongs S/N K04813, S/N K04816, S/N K04815 Accessories: 3-in-1 pH electrode & replacement, Cat. P-59500-80 buffers: red, and green, JT Baker	3  6 1 pc	152,000	456,000	Nov. 28, 2001	ASD Lab/ F Grospe	w/ manual
A-3	Glass door laboratory refrigerator, Chee Puck; EIKOH Trading Co., Function: with automatic thermal control, thermometer, defrost timer, filter drier, expansion valve and magnet starter, air-cooled hermetic condensing unit; Type: provided with glass swing door, coated body and adjustable sheet shelves, using cooling system air-cooled defrost circulation; Dimension: 1825 x 790 x 2065 mm; No. of doors: 3; Power: 220/60Hz and single phase	1	146,500	146,500	Oct. 11, 2001	ASD Lab/ JL de Dios	w/ manual

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
A-4	Soil auger kit; Function: sample nearly all soil conditions; Type: complete nickle-plated carbon steel kit; Contents: - 3" general-purpose auger - 3" clay auger - 3" sand auger - 3" mud auger - hand grip - two 45" auger extensions - two tools to dissemble extensions - carrying case	1	130,000	130,000	Nov. 28, 2001	ASD Lab/ EF Javier	w/ manual
A-5	Glassware dryer, Lab-Aire Scienceware, VWR Scientific Products, p. 478; Type: wall-mounted, double-side model; Dimension: 32L x 31D x 61H cm; Supplied with hangers, No. 26420-003; Power: 220V/50Hz S/N J0101, S/N J0102	2	59,000	118,000	Nov. 28, 2001	ASD Lab/ EF Javier	
A-6	Heavy duty man-lift, manpowered " scissor" lift" with 500-kg capacity, portable, manually operated	1	169,647	169,647		REM	
A-7	Water still/distillation apparatus, Model: Cyclone Ultrapure Water Still C008 SNB040005, Output capacity: 8 liters/hour single distilled; Pyrogen free, pH: 5.6-6.0; Power rating: 6 kW; Dimension: 750 x 490 x 380 mm; Weight: 29 kg Accessories: Fistream Heating Element WSC708.HEJ.4 Double Boiler and parts LO8593	1  4 pcs 1 pc	367,300	367,300	Dec. 18, 2001	RCFS/ RE Valdez	w/ manual
A-8	Laboratory mill, Perten Instruments SN00112; Function: suitable for NIR sample; Model: Lab. Mill 3100; Capacity: 300 g in 30-50 seconds; Dimension: 560 x 510 x 630 mm; Power requirement: 220/240 V	1	484,500	484,500	Dec. 14, 2001	RCFS/ DV Aquino	w/ manual

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
A-9	Ultra microbalance, SC2, Sartorius, Germany S/N 7101022	1	600,000	600,000	Feb. 5, 2002	RCFS/ EH Bandonill	w/ manual
A-10	Scrubber unit, Brand: Velp Scientifica Model: SMS S/N4011436, Foss Tecator No. 1013-101A; Function: attachment to the Kjeltch 1015 digitizer; Power: 230V/50-60Hz, 75 gr. Carbon, 1.6L, 31/min, 6kg	1	48,195	48,195	Dec. 14, 2001	RCFS/ PA Tibayan	w/ manual
A-11	Reference station system for GIS, Trimble, USA Type: 12-channel Pro XR receiver Function: reference station assembly with accessories; SN 0220263785	1	852,556	852,556	Oct. 3, 2001	SED/ SR Francisco	w/ manual
A-12	Flatbed image color scanner; Max. reading area: 12.2"x17.2"; Optical Resolution: 800x1600 dpi; Model: 1640 XL Scanner EPSON Expression S/N CKC0000372	1	125,000	125,000	Oct. 16, 2001	SED/ SR Francisco	w/ manual
A-13	LAN analyzer software, J1241 AA HP Openview NNM 6.2 250 for Win NT LTU	1	296,800	296,800	Dec. 7, 2001	ICTD/ LAI Tamani	w/ manual
A-14	Laptop computer, IBM Thinkpad T22 2647-4EA Pentium III, 900 Mhz, Intel, 256 MB SDRAM DIMM (exp. To 512 MB), 256 KB L2 cache, 14.1" TFT active matrix color LCD, 4 MB video RAM, 20GB ultra DMA HDD, DVD-ROM drive with built-in V.90 56 kbps fax/modem with LAN card, SN 99-2647-4EA Ryahk	1	154,500	154,500	Oct. 3, 2001	ICTD/ LAI Tamani	w/ manual
A-15	Network Firewall Hardware Software, SonicWall Pro-VX, Webshield E-ppliance 300 Model EPL components with: -Gauntlett Firewall 5.5 with integrated McAfee Anti-Vrus Protection, and Gauntlett VPN 5.5 on Sun Netra T1 Hardware, NetTools PKI Server, at least 251 nodes	1	343,200	343,200	Oct. 1, 2001	ICTD/ LAI Tamani	
	- Sonic Wall SOHO 2 (50 users)	1	111,540	111,540			
	- Sonic Wall SOHO 2 (50 users)	1	74,360	74,360			
A-16	Switch port, 3COM 3C17203 SS3 Switch 4400 24-port, S/N 7PVV5912F00	1	73,600	73,600	Oct. 16, 2001	ICTD/ LAI Tamani	with CD and manual

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
A-17	Drying Oven, WTB Binder Cat. No. ED-115, Ext. Dim.: 834Wx 702Hx 645Dmm; vol.: 142L; Int. vol.: 115L; total load: 50kg; wt. of unit (empty): 60kg; temp. range: 5C above ambient up to 300C; 6.9A, 230V, 50/60Hz S/N991179	1	63,798	63,798	Feb. 5, 2002	PBBB/TF Padolina	w/ manual (Additional budget)
A-18	Weighing Balance, Ohaus Champ II Bench Scales, Capacity: 100kg	1	54,131	54,131	Feb. 8, 2002	PBBB/TF Padolina	w/ manual (Additional budget)
A-19	LCD Projector, Infocus Lite Pro340, Display technology: Digital Light Processing (DLP), Data compatibility: SVGA, VGA, Macintosh & 108i, 720p HDTV, Weight:6.7lbs. (3kg), S/N1S7GT20100408 accessories:  power cord #555-0137-00 remote control S/N P2330258 computer cable M1-DA Analog #210-0185-01 audiocable adapter #210-0177-00 audiocable #210-0118-00 composite video cable #210-0176-00 lens cap soft carrying case manual	1	142,500	142,500	Feb. 8, 2002	AVR/JS Villanueva	Additional budget
A-20	HP Color Laser Jet 4550N Printer: 16ppm in black, 4ppm in color A4, 233 MHz processor; 600dpi, IMAGE Ret 2400, 64MB RAM, HP PCL 5c; PCL6, 250 sheet universal tray & 150 sheet multi tray 10/100 Base-TX Jetdirect interface, 35,000 duty cycle Model # C7086A S/N JPQHK 03464 w/ manual & Accessories:  toner cartridge (C, M, Y, K) CD-ROM Software power cord imaging drum parallel cord	1  1 1 1 1	103,500	103,500	Feb. 11, 2002	DevCom Staff Rm	Additional budget
<b>Sub-total</b>				<b>5,265,627</b>			

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
<b>B. Shipped from Japan</b>							
B-15	Dehumidifier, Model: B-600 IEA;Munters	1	1,365,000	1,365,000		PBBD	
B-16	2-row rotary transplanter, Model X-2 Minoru; row width (cm): 33, hill distance (cm): 16, number of seedling box: 42	1	188,650	188,650		PBBD	
B-17	Rice pearler combined with husker, Satake, Model: SB5B; Type: one pass system for husking, whitening and bran removal; Input capacity: long grain: 300-340 kg/hr, short grain: 380-420 kg/hr; Required power: 5.5 kW, 10 Hp; Rubber roll size: 76.2x153 mm; (3"); Shipping weight: 150 kg	1	235,800	235,800		PBBD	
B-18	Awn remover, Fujiwara, Model G-2; Capacity: 80-160 kg/hr, Input: AC100V-250W	1	100,000	100,000		PBBD	
B-19	Cereal cleaner, Satake Model: PC05D; Input capacity: 700-1200 kg/hr, Required power: 0.4 kw, Rev: 300 rpm, Shipping wt: 180 kg	1	190,000	190,000		PBBD	
B-20	Quadrat sampling thresher, Everwell Corporation Type: Motor-operated, also used for awn remover with winnower; Threshing width: 300 mm, Revolutions: 640 rpm, Motor: 400 W, Power Source: AC 100, Dimensions: 124x66x81 cm, Accessory: 220V transformer	1	325,000	325,000		ASD	
B-21	Dynamometer, Eddy-current, "Tokyo Meter: EWS-60-L" with accessories: connecting cables, piping parts, manual	1	2,980,499	2,980,499	Jan. 8, 2002	REM/EC Gagelonia	
B-22	Digital laser leveler, Spectra-Physics Laserplane, Inc.	1	1,250,000	1,250,000		REM	
<b>Sub-total</b>				<b>6,634,949</b>			
				<i>(estimate)</i>			

ITEM NO.	ITEM/DESCRIPTION	QTY	UNIT COST (in Pesos)	TOTAL COST (in Pesos)	DATE DELIVERED	LOCATION	REMARKS
<b>C. Brought by Experts</b>							
B-23	pH meter, Horiba Model D-25, power PC 9V, S/N 010018, S/N010017, S/N010016 with standard accessories:	3	42,227	126,681	Nov. 21, 2001	PBBD/R Solis	w/ manual
	standard pH electrode Model: 9620-10D	3	7,899	23,697			
	AC adapter Model: AC-10 (220V) Part# H0224478001	3	2,269	6,807			
	Expansion unit, EX-20 Part# 007014; 007015; 007013	3	11,933	35,799			
	pH electrode Part# 9610-10D	1	11,261	11,261			
	ORP electrode Part#9300-10D	1	7,731	7,731			
	DO electrode Part#9520-100	1	31,807	31,807			
<b>Sub-total</b>				<b>243,783</b>			
<b>TOTAL (FY 20001)</b>				<b>12,144,359</b>			

Note: *convesion rates*  
 FY1997: Y3.429 = 1 Peso  
 FY1998: Y3.172 = 1 Peso  
 FY1999: (May 2000 ): Y2.62 = 1 Peso  
 FY2000: (Aug. 2000 ): Y2.44 =1 Peso  
 FY2000: (Oct. 2000 ): Y2.34 =1 Peso  
 FY2001: (May 2001 ): Y2.38 =1 Peso  
 FY2002 (Jan 2002): Y2.5753 = 1 Peso

Location:  
 PBBD - Plant Breeding and Biotechnology Division  
 ASPPD - Agronomy, Soils and Plant Physiology Division  
 CPD - Crop Protection Division  
 REM - Rice Engineering and Mechanization Division  
 RCFS - Rice Chemistry & Food Science Division  
 SED - Socioeconomics Division  
 Comm. - Communication Division  
 PCPO - Planning & Collaborative Programs Office  
 MIS - Management Information Systems Division  
 PPD - Physical Plant Division

**ANNEX 4. List of Supplementary Fund to cover local costs**

<b>Year</b>	<b>Project local budget</b>	<b>Peso (Unit: ,000)</b>	<b>Yen (Unit: ,000)</b>
1997	common local budget	664	2,486
1998	common local budget	1,169	3,827
1999	common local budget	1,250	3,500
1999	LLDC local budget	467	1,254
1999	Basic improvement budget	11,050	28,975
2000	common local budget	1,515	3,643
2001	common local budget	1,462	3,500
<b>Total</b>		<b>17,577</b>	<b>47,185</b>

## ANNEX 5. LIST OF PHILIPPINE COUNTERPARTS PERSONNEL ASSIGNED

FIELD OF EXPERTISE	JAPANESE EXPERT	FILIPINO COUNTERPARTS
<b>A. Long-term</b>		
Management	Dr. Hitoshi Takahashi <i>(retired July 2000)</i>  Dr. Norio Nakaya	Dr. Santiago R. Obien Executive Director <i>(retired July 2000)</i>  Dr. Leocadio S. Sebastian Executive Director  Dr. Edilberto D. Redoña Deputy Executive Director for R&D  Mr. Ronilo A. Beronio Deputy Executive Director for Administration <i>(on study leave – Oct. 2001-Sept. 2002)</i>  Mr. Roger F. Barroga OIC, Deputy Executive Director for Administration
Coordination	Mr. Takanobu Nawashiro	Ms. Teodora L. Briones Development Management Officer IV Planning & Collab. Programs Office
Varietal Improvement	Mr. Takehiko Sasaki <i>(retired July 2000)</i>  Mr. Kunio Moriya	Ms. Thelma F. Padolina Supervising Science Research Specialist (SRS), Plant Breeding and Biotechnology Division (PBBD)  Mr. Hilario C. dela Cruz, Jr. Chief SRS, PBBD  Dr. Rodante E. Tabien Chief SRS, PBBD  Dr. Renando O. Solis Supervising SRS, PBBD  Ms. Emily R. Corpuz Senior SRS, PBBD  Mr. Jonathan M. Niones SRS, PBBD <i>(on study leave, June 2001-May 2003)</i>
Farm Mechanization	Engr. Shuji Ishihara <i>(retired July 2000)</i>  Engr. Hiroyuki Monobe	Dr. Manuel Jose C. Regalado Supervising SRS, Rice Engineering and Mechanization Division (REMD)  Dr. Eulito U. Bautista Chief SRS, REMD  Engr. Ricardo F. Orge Senior SRS, REMD  Dr. Bernardo D. Tadeo Supervising SRS, REMD



FIELD OF EXPERTISE	JAPANESE EXPERT	FILIPINO COUNTERPARTS
		Engr. Caesar Joventino M. Tado Supervising SRS, REMD  Engr. Eden C. Gagelonia Senior SRS, REMD
Agronomy	Mr. Shoji Furuya	Mr. Hermenegildo C. Gines Head, Soils & Plant Physiology Div (ASPPD)  Dr. Madonna C. Casimero Supervising SRS, ASPPD  Mr. Wilfredo B. Collado Senior SRS, ASPPD  Mr. Fernando D. Garcia SRS, ASPPD
<b>B. Short-term</b>		
Farm Mechanization (Rice Reaper)	Engr. Kunihiko Maeoka	Dr. Manuel Jose C. Regalado Supervising SRS REMD  Dr. Eulito U. Bautista Chief SRS, REMD  Engr. Arnold S. Juliano Science Research Analyst, REMD
Farm Mechanization (Rice Reaper)	Mr. Koji Inooku	Engr. Rizaldo E. Aldas Senior SRS, REMD  Engr. Elmer G. Bautista SRS, REMD  Engr. Arnold S. Juliano Science Research Analyst, REMD
Farm Mechanization (Paddy Seeder)	Dr. Ryuji Otani	Engr. Joselito A. Damian SRS, REMD  Engr. Ricardo F. Orge Senior SRS, REMD  Engr. Eden C. Gagelonia Senior SRS, REMD
Agronomy	Mr. Shoji Furuya	Dr. Rolando T. Cruz Chief SRS, ASPPD <i>(resigned in Dec. 1999 until Oct. 2001)</i>  Dr. Teodula M. Corton Chief Science Research Specialist, ASPPD <i>(resigned in Nov. 2000)</i>

<b>FIELD OF EXPERTISE</b>	<b>JAPANESE EXPERT</b>	<b>FILIPINO COUNTERPARTS</b>
		Mr. Fernando D. Garcia SRS, ASPPD  Ms. Evelyn F. Javier Senior SRS, ASPPD
Weed Science	Mr. Yoshiaki Kawana	Ms. Madonna C. Casimero Supervising SRS, ASPPD  Ms. Evelyn F. Javier Senior SRS, ASPPD
Soils Chemistry	Mr. Shigeru Takahashi	Dr. Teodula M. Corton Chief SRS, ASPPD <i>(resigned in Nov. 2000)</i>  Ms. Myrna D. Malabayabas Sr. SRS, ASPPD  Mr. Jovino L. de Dios Sr. SRS, ASPPD
Soils and Fertilizers	Mr. Nizuhiko Nishida	Ds. Madonna C. Casimero Supervising SRS, ASPPD  Dr. Teodula M. Corton Chief SRS, ASPPD <i>(resigned in Nov. 2000)</i>  Ms. Myrna D. Malabayabas Senior SRS, ASPPD  Mr. Jovino L. de Dios Senior SRS, ASPPD
Entomology	Dr. Shingo Oya	Dr. Alejandra B. Estoy Supvg. SRS, Crop Protection Division (CPD)  Ms. Lina B. Flor Senior SRS, CPD <i>(on study leave, Jan. 2001-Dec. 2005)</i>
Plant Pathology	Dr. Shinzo Koizumi	Dr. Emmanuel R. Tiongco Chief SRS, CPD  Dr. Fe A. dela Pena Supervising SRS, CPD  Ms. Jennifer J. Tagubase SRS, CPD <i>(on study-leave, June 2001-May 2003)</i>  Mr. Juliet P. Rillon SRS, CPD
	Dr. Hiroki Koganezawa	Dr. Emmanuel R. Tiongco Chief SRS, CPD

<b>FIELD OF EXPERTISE</b>	<b>JAPANESE EXPERT</b>	<b>FILIPINO COUNTERPARTS</b>
Food Science	Dr. Tetsuo Sato	Mr. James A. Patindol Supv. SRS, Rice Chemistry and Food Science (RCFSD) <i>(on study leave, Jan 2001-Jan 2004)</i> Ms. Juma Novie A. Ayap Sr. SRS, RCFSD Mr. Joy Bartolome A. Duldulao Sr. SRS, RCFSD <i>(on study leave, April 2001-Mar. 2005)</i> Ms. Nanette V. Zulueta Sr. SRS, RCFSD <i>(resigned in May2001)</i>
Food Science	Mr. Hiroshi Okadome	Ms. Marissa V. Romero Senior SRS, RCFSD <i>(on study leave, Jan. 2002-Jan. 2006)</i> Ms. Juma Novie A. Ayap Sr. SRS, RCFSD Ms. Riza G. Abilgos Sr. SRS, RCFSD Ms. Nanette V. Zulueta Sr. SRS, RCFSD <i>(resigned in May 2001)</i>
Farm Management	Mr. Jinzo Saito	Dr. Sergio R. Francisco Chief SRS, Socio-Economics Division (SED) Ms. Cheryll B. Casiwan Senior SRS, SED Ms. Alice Briones-Mataia Senior SRS, SED
Farm Management	Ms. Yumi Yasunobu	Dr. Sergio R. Francisco Chief SRS, SED Ms. Cheryll B. Casiwan Senior SRS, SED Ms. Rowena G. Manalili Senior SRS, SED
Information Systems	Mr. Tarayuki Aihara	Mr. Roger F. Barroga Info. Tech. Officer III, Management Information Systems Division (MISD) Ms. Karen Eloisa T. Barroga Chief SRS, Development Communication Division Mr. Carlo G. Dacumos Computer Operator, Comm. Division

FIELD OF EXPERTISE	JAPANESE EXPERT	FILIPINO COUNTERPARTS
		Engr. Luis Alejandro I. Tamani Information Technology Officer, MISD  Ms. Consolacion D. Domingo Information Systems Analyst, MISD
Milling Machine	Mr. Masayuki Horiguchi	Engr. Rizaldo E. Aldas Senior SRS, REMD  Engr. Ricardo F. Orge Senior SRS, REMD

**ANNEX 6. PhilRice Corporate Operating Budget, 1997-2002**

PARTICULARS	AMOUNT (P'000)					
	1997	1998	1999	2000	2001	2002 <sup>a/</sup>
A. General Administration and Support Services	38,649	43,417	48,825	51,612	37,383	48,009
B. Support to R&D Operations						
Seed Production & Health	13,075	7,445	12,787	10,446	7,754	9,601
Farm Operations	4,380	2,212	3,197	2,564	2,380	2,635
Information Technology	-	-	-	-	420	2,384
<b>Sub-total</b>	<i>17,455</i>	<i>9,657</i>	<i>15,984</i>	<i>16,577</i>	<i>10,554</i>	<i>14,620</i>
C. R&D Operations						
Research	66,480	63,673	65,737	64,924	89,555	40,799
Technology Transfer	20,333	11,463	12,677	12,334	13,602	7,422
<b>Sub-total</b>	<i>86,813</i>	<i>75,136</i>	<i>78,414</i>	<i>82,115</i>	<i>103,157</i>	<i>48,221</i>
Support to the Network	10,000	7,500	6,000	6,000	5,500	15,150
Rice Research Extension for Mindanao	24,000 <sup>b/</sup>	10,000	7,500	17,500	5,853	15,000
Impact Project on High Yield Rice Production for Selected Provinces		7,500	6,000	4,000	3,878	2,778
Rice Seed Production for Municipalities		2,500	2,000	-	-	
<b>TOTAL</b>	<b>176,917</b>	<b>155,710</b>	<b>164,724</b>	<b>169,380</b>	<b>166,325</b>	<b>143,778</b>

<sup>a/</sup> Estimate

<sup>b/</sup> Congressional initiative (net of 20 reserve)

File: JICA2/Terminal/Mission/Annexes

**ANNEX 7. PROJECT DESIGN MATRIX (PDM)**  
**for the Research and Development Project on High Productivity Rice Technology (Version 3)**

Cooperation term: August 1, 1997 – July 31, 2002

Implementing organization: PhilRice, Department of Agriculture

Drafted by the Japanese Advisory Team and Project Team

Target group: Small-scale rice farmers

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p><b>Overall Goal</b>                      High quality rice is supplied in sufficient quantity and farm management is stabilized through high productivity rice technologies which are sustainable for the conditions in rice growing areas.</p>	<p>Rice self-sufficiency stabilized as a result of improved rice-based farm management practices.</p>	<p>National Statistics report on agriculture information from DA.</p>	<ol style="list-style-type: none"> <li>1. Agricultural policy on rice production does not change considerably.</li> <li>2. Abnormal weather patterns do not occur and unexpected diseases and pests do not appear.</li> </ol>
<p><b>Specific Objective</b>                      High productivity rice technologies for small-scale rice farmers are developed through the project implementation by the Philippine Rice Research Institute.</p>	<p>Rice productivity at the experimental level increased by 10% in both irrigated lowlands and cool-elevated areas. Labor requirements in rice cultivation decreased by 25% in transplanted and 40% in direct-seeded rice resulting from developed agricultural machinery and labor-saving cultivation techniques.</p>	<p>Farm management survey by PhilRice</p>	<ol style="list-style-type: none"> <li>1. Abnormal weather patterns do not occur and unexpected diseases and pests do not appear.</li> <li>2. Small-scale farmers adopt the technology developed by PhilRice.</li> <li>3. The Philippine government maintains a high priority for food security through increased rice production</li> <li>4. Economic and social conditions remain stable in the Philippines.</li> </ol>
<p><b>Outputs of the Project</b></p> <ol style="list-style-type: none"> <li>1) High-yielding and better quality rice varieties which are suitable for mechanization are developed.</li> <li>2) Farm machinery for small-scale rice farmers are developed.</li> <li>3) Cultivation techniques for labor-saving and high-yielding rice production are improved.</li> <li>4) Rice quality evaluation techniques are improved.</li> <li>5) Mechanized rice-based farm management systems are developed.</li> </ol>	<ol style="list-style-type: none"> <li>1) Twenty promising lines with: (a) higher yield than and comparable grain quality with IR64 developed for irrigated lowlands; (b) yield of cold-tolerant lines increased 10% higher than that of locally grown varieties.</li> <li>2) Three prototype machines for plowing, harvesting, and gathering with 25% labor saved in transplanted, and 35% in direct-seeded rice as compared with existing practices.</li> <li>3) Labor requirements in wet direct-seeded rice cultivation reduced by 5% and yield increased by 10%.</li> <li>4) Rice grain quality evaluation capacity increased from 100 to 200 samples.</li> <li>5) Evaluation and impact assessment model for new technologies developed; and a database for more reliable transfer of rice technology information produced.</li> </ol>	<ol style="list-style-type: none"> <li>1) Project record on rice varietal improvement</li> <li>2) Project record on machinery</li> <li>3) Project record on rice cultivation</li> <li>4) Project record on rice grain quality evaluation</li> <li>5) Project record on Farm management systems</li> </ol>	<ol style="list-style-type: none"> <li>1. Abnormal weather patterns do not occur and unexpected diseases and pests do not appear.</li> <li>2. Research activities and PhilRice commitment to the Project are maintained.</li> <li>3. The financial conditions of PhilRice remain stable.</li> <li>4. The relevant research and experimental facilities of PhilRice are utilized efficiently.</li> </ol>

