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**MINUTES OF DISCUSSIONS BETWEEN
THE JAPANESE MID-TERM EVALUATION TEAM
AND
AUTHORITIES CONCERNED OF
THE GOVERNMENT OF THE REPUBLIC OF BOLIVIA ON
JAPANESE TECHNICAL COOPERATION
FOR
THE PROJECT FOR THE DISSEMINATION OF HIGH-QUALITY RICE SEEDS FOR
SMALL -SCALE FARMERS IN BOLIVIA**

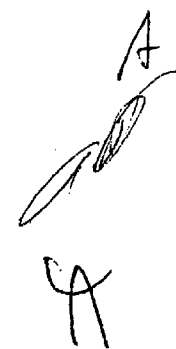
The Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Mid-term Evaluation Team (hereinafter referred to as "the Team"), headed by Mr. Toru KAWAKAMI, to the Republic of Bolivia from January 26 to February 9, 2003, for the purpose of conducting the joint mid-term evaluation for the Project for the Dissemination of High-Quality Rice Seeds for Small-Scale Farmers in Bolivia (hereinafter referred to as "the Project").

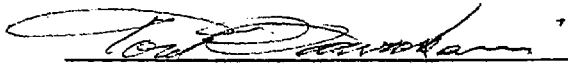
The Joint Evaluation Committee (hereinafter referred to as "the Committee"), which consists of members from JICA and members from the Government of the Bolivia, was jointly organized for the purpose of conducting mid-term evaluation and preparation of necessary recommendations to the respective governments.

After intensive study and analysis of the activities and achievements of the Project, the Committee prepared the Mid-term Evaluation Report (hereinafter referred to as "the Report") and presented it to the Joint Coordinating Committee.

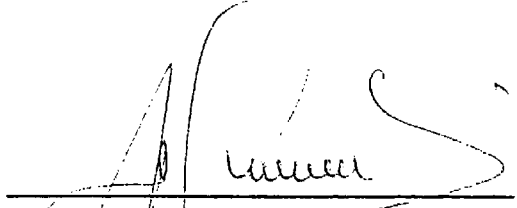
The Joint Coordinating Committee discussed the major issues pointed out in the Report, and agreed to recommend to their respective governments the matters referred to in the document attached hereto as necessary measure taken accordingly towards the smooth and successful implementation of the Project.

The minute is done in duplicate in English and Spanish, each text is considered to be equally authentic, in case of any divergence of interpretation, the English text shall prevail.

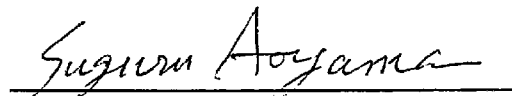




Mr. Toru KAWAKAMI
Leader,
Mid- term Evaluation Team,
Japan International Cooperation Agency
Japan



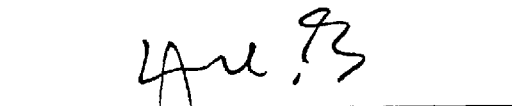
Mr. Mario JUSTINIANO APONTE
Governor
Prefecture of Santa Cruz,
Republic of Bolivia



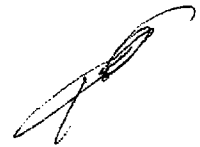
Mr. Suguru AOYAMA
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Japanese Expert Team of the Project
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Mr. Gustavo PEREYRA CARBALLO
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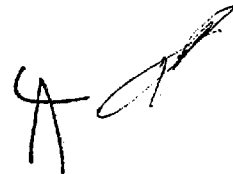


Mr. Arturo LIEBERS BALDIVIESO
Minister
Ministry of Agriculture, Livestock and
Rural Development,
Republic of Bolivia



ATTACHEMENT

1. The Joint Evaluation Committee, which was jointly organized by JICA and the Republic of Bolivia, has presented the Report to the Joint Coordinating Committee.
2. The Joint Coordinating Committee has accepted the Report and taken note of its recommendations for successfully implementing the Project and achieving the Project's purpose in remaining term of cooperation.



**JOINT MID-TERM EVALUATION REPORT ON
THE PROJECT FOR THE DISSEMINATION OF HIGH-QUALITY RICE SEEDS FOR
SMALL -SCALE FARMERS IN BOLIVIA**

Santa Cruz, February 5, 2003



Mr. Toru KAWAKAMI

Leader

The Japanese Evaluation Team



Mr. César SAMUR

Leader

The Bolivian Evaluation Team

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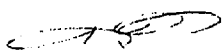
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1. BACKGROUND AND OUTLINE OF THE PROJECT

1-1 Background of the Project

Rice is one of the most important crops in the Republic of Bolivia. The area of rice cultivation reached around 140,000 hectares and the total production of rice was approximately 300,000 tons. In particular, more than 80% of rice is produced in Santa Cruz, which is located in the eastern plains area. According to the Tropical Agriculture Research Center (CIAT), about 22,000 farmers are rice producers in Santa Cruz. However, about 90% of the farmers are small-scale rice producers, having low productivity and inadequate cultivation techniques due to use of low-quality rice seed, lack of land use methods and disease control, inappropriate soil management, etc. Consequently, the productivity of rice per unit hectare of small-scale farmers is almost half as much as that of large-scale farmers.

Therefore, development of rice cultivation technologies and distribution of improved high-quality rice seeds are expected to increase rice production, thereby helping to improve the living conditions of rice producers, especially for small-scale farmers. This would contribute to the reduction of rural poverty, which is a major concern of the agricultural sector in Bolivia.

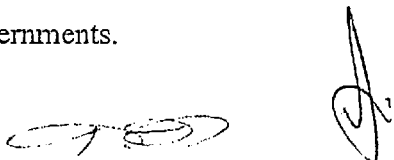
In 1997, the Government of Bolivia made an official request to the government of Japan for implementation of a project to increase rice production and improve living conditions for small-scale farmers in the eastern plains area by developing high-quality rice varieties, improving rice seed production systems, and producing and distributing high-quality rice seed.

In response to this request, the Japanese government through JICA dispatched the Preliminary Study Team in July 1999 in order to clarify the background of the request and identify the actual status of the Project and the Supplementary study in November 1999 for the purpose of confirming the basic framework and preconditions for the proposed technical cooperation, and formulating a clear picture of the Project.

After a series of discussions for preparation, JICA dispatched the Implementation Study Team. The Record of Discussions (hereinafter referred to as "R/D") was signed on May 15, 2000, and the Project was commenced from August 1, 2000 for a period of five years.

In the course of the Project, the Consultation Study Team was dispatched in March 2001 for the purpose of formulating the Project Design Matrix (hereinafter referred to as "PDM") and the Plan of Operations (hereinafter referred to as "PO") of the Project.

At this time, a Joint Evaluation Committee has been formed for the purpose of conducting a mid-term evaluation of the Project during the first half of the period. The duties of the Committee are to evaluate the progress of the Project activities, to identify remaining problems, and to make any necessary recommendations for the smooth implementation of the Project to the respective governments.



1-2 Outline of the Project

The Project design is stipulated as follows:

(1) Overall Goal

The rice productivity of small-scale farmers is increased in the selected pilot area.

(2) Project Purpose

The dissemination systems of high-quality and high-yield rice seeds for small-scale rice farmers are established in the selected pilot area.

(3) Outputs of the Activities

- 1) High-yield and high-quality rice varieties and lines for small-scale rice farmers are selected.
- 2) The rice seed multiplication technologies for small-scale rice farmers are developed and improved.
- 3) The high-yield and high-quality rice seeds are disseminated with the improved rice cultivation technologies in the pilot area.

2. OBJECTIVES AND METHODS OF THE EVALUATION

2-1 Objectives of the Evaluation

Evaluation activities were performed with the purpose of:

- 1) Evaluating the level of achievement, overall effects and strategies based on the Record of Discussions (R/D), the Plan of Operation (PO), and Project Design Matrix (PDM),
- 2) Evaluating the Project in terms of the five criteria that are shown below, and
- 3) Reviewing the Project design and strategy through the joint study and meetings with experts and their counterpart personnel for the improvement of the Project implementation and to determine necessary modifications of the Project design.

2-2 Methods of the Evaluation

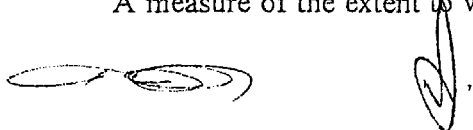
Evaluation activities were conducted by the Committee, which was composed of the Japanese Evaluation Team and the Bolivian Evaluation Team in accordance with the R/D, PO, and PDM. These activities included report analysis, field survey, and discussions with concerned officials/staff members based on the five Evaluation Components listed below;

(1) Relevance :

The extent to which the Project is consistent with the priorities and policies of the target group, recipient, and donor.

(2) Effectiveness :

A measure of the extent to which the Project attains its objectives. Effectiveness measures



the extent to which the activity achieves its purpose, or whether this can be expected to happen on the basis of the outputs.

(3) Efficiency :

An economic term which means that aid uses the least costly resources to achieve the result. Efficiency measures the output-qualitative and quantitative-in relation to the inputs. This generally requires comparing alternative approaches to achieving the same outputs in order to see whether the most efficient process has been used.

(4) Impact :

A term indicating whether the Project has had an effect on its surroundings in terms of technical, economic and socio-cultural, institutional, and environmental factors.

(5) Sustainability :

The extent to which the objectives of the Project will continue after the Project is completed; also, the extent to which the groups affected by the Project want to and can take charge themselves to continue accomplishing its objectives. Sustainability is concerned with measuring whether an activity or an impact is likely to continue after donor funding has been withdrawn. The Project needs to be environmentally, financially, and socially sustainable.

2-3 Revised contents on current PDM to PDMe

The Committee formulated and authorized PDMe, as a fundamental material for the evaluation as shown in ANNEX 1.

Concrete revised contents are explained as follows.

(1) Output 3

Two major elements mentioned below are intermixed in the current output 3, so they should be separated to output 3 and output 4 on the PDMe.

- High-yield and high-quality rice seeds for the dissemination are cultivated by rice seed growers in the pilot area.
- High-yield and high-quality rice seeds are disseminated with the improved rice cultivation technologies in the pilot area.

(2) Verifiable indicators

They are rearranged in order of modified outputs. Furthermore, their contents are modified to be concrete so that they would be more effective for the evaluation.



2-4 Members and Schedule of the Joint Evaluation Committee

2-4-1 Japanese Evaluation Team

- (1) Mr. Toru KAWAKAMI (Team Leader of Japanese Evaluation Team)
Staff, Agricultural Development Cooperation Department, JICA
- (2) Dr. Tetsuo SHIOYA
Professor, Department of International Environmental & Agricultural Science, Graduate School of Agriculture, Tokyo University of Agriculture & Technology
- (3) Mr. Masafumi IKENO
Rural & Social Development Planner, Department of Projects, KRI International Corp.
- (4) Mr. Koji SUNAZAKI
Staff, Livestock and Horticulture Division, Agricultural Development Cooperation Department, JICA

2-4-2 Bolivian Evaluation Team

- (1) Mr. César SAMUR (Leader of Bolivian Evaluation Team)
Consultant, Ex-Executive Director of CIAT
- (2) Ms. Zulema BERNAL
Advisor, CIAT
- (3) Mr. Osvaldo SORUCO
Applied Technology Generation and Dissemination,
Foundation for the Technological Development of Agricultural Forestry-Tropical Humid (FDTA-TH)
- (4) Mr. Tomás VERAMENDI
Department of Service for Agriculture and Livestock, Prefecture of Santa Cruz

2-4-3 The Schedule of the Evaluation

The Joint Evaluation Committee spent ten (10) days from January 27 to February 5, 2003 in Santa Cruz, Yapacaní, and Saavedra

27/Jan	Mon	Formulation of the Committee Confirmation of the evaluation methods
28/Jan	Tue	Observation of CIAT Yapacaní Research Center Observation of Demonstration farmer Evaluation of the Project achievement (Discussion with counterpart personnel and experts in each sections)
29/Jan	Wed	Discussion with governmental and non-governmental organizations, farmers' cooperatives (hereinafter referred to as "the NGOs")

30/Jan	Thu	Observation of Rice seed growers and Small-scale rice farmers
31/Jan	Fri	Observation of CIAT Saavedra Research Center Evaluation of the Project achievement (Discussion with counterpart personnel and experts in each sections)
1/Feb	Sat	Preparation of the draft evaluation report
2/Feb	San	Preparation of the draft evaluation report
3/Feb	Mon	Discussion on the results of the evaluation in Joint Evaluation Team
4/Feb	Tue	Discussion on the results of the evaluation in Joint Evaluation Team
5/Feb	Wed	Joint Coordination Committee Presentation of the Report Signing of the M/M

3. RESULTS OF THE EVALUATION

3-1 Relevance

3-1-1 Relevance of Overall Goal

<Overall Goal> The rice productivity of small-scale farmers is increased in the selected pilot area.

The pilot area of the Project is Yapacaní area, which is one of the internal colonies in Bolivia. Target people are small-scale rice farmers who immigrated in the area and are still with low productivity. In this sense, the overall goal is set to improve their productivity with perspective of poverty alleviation among rural area, increase of agriculture production, which is relevant to the national agriculture policy of Bolivia

As described below, the relevance of the overall goal is extremely evident of the agricultural development policy and social needs in the mid-term evaluation.

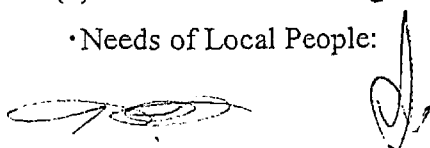
(1) Relevance of overall goal to the agricultural development policy

•Poverty Alleviation:

About 45% of total population in Bolivia resides in the rural area. It is considered that 94% of them are poor and 34% are in extreme poverty. The agricultural development is important not only to reduce poverty, but also to fulfill the supply with agriculture products. Consequently, the Project is relevance to the agricultural development policy of poverty alleviation.

(2) Relevance of overall goal to social needs in the target area

•Needs of Local People:



Rice is one of the main crops in Bolivia. Most of rice farmers are small-scale depending on slash and burn cultivation system and use traditional varieties of rice seeds produced by themselves repeatedly, which have a quite low productivity. The improvement of rice productivity is quite high need for small-scale farmers. Consequently, the Project is relevance to local people needs.

3-1-2 Relevance of the Project purpose

<Project Purpose>The dissemination systems of high-quality and high-yield rice seeds for small-scale rice farmers are established in the selected pilot area.

As described below, the relevance of the Project purpose from the start of the Project to the present is evident.

(1) Relevance of the Project purpose to overall goal

It is necessary to establish the smooth dissemination system of high-quality and high-yield rice seeds for small-scale rice farmers in the selected pilot area for the attainment of the overall goal of the Project. Consequently, the relevance between overall goal and the Project purpose is insured.

(2) Relevance of the Project purpose to target group

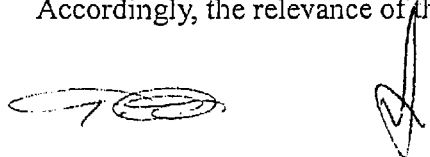
Target groups are small-scale rice farmers in the Yapacaní pilot area, which is one of the internal colonies and appropriate farmland for rice production. Most of small-scale farmers produce rice with slash and burn cultivation system only in one to two hectares, the small-scale farmers receive traditional seeds from neighborhood and obtain from their own products. As a result, their rice production remains low productivity. The Project purpose is to establish the dissemination systems of high-quality and high-yield rice seeds for small-scale farmers. Therefore, the relevance of the Project purpose to target group is quite high.

(3) Relevance of the Project purpose to target scale

The number of target for the dissemination is set up 40% of small-scale farmers in Yapacaní area. The number was decided based on the rural survey and social needs. Therefore, the relevance between the target scale and the Project purpose is high.

3-1-3 Relevance of Project Design

Inputs, activities and outputs is resulted in the attainment of the Project purpose as follows. Accordingly, the relevance of the Project insures sufficiently so far.



(1) Effective Relationship between Research and Dissemination

The Project activities are conducted in two places. The first one is in the Experimental Station of CIAT in Saavedra, where the selection of rice varieties and multiplication of rice seed are carried out. Then, second one is in Yapacaní area, where the activities such as the dissemination of high quality rice seeds to farmers and the formation of rice seed producers are carried out. Usually, it is difficult to complete all these activities in only 5 years (time of the Project). However, the cooperation of the breeding and multiplication of rice seeds has been implemented by the Japanese experts more than 10 years in the CIAT Saavedra. With that base and continuing with the cooperation, the good results are utilized and developed in the Project.

(2) Relevance of Scheme

Effective coordination of inputs, such as experts, counterpart trainings, facilities and equipment, is important to attain the overall goal and the Project purpose. Since these inputs work effectively, the selection of the scheme by the Project is appropriate.

3-2 Effectiveness

The Project purpose is “to establish the dissemination systems of high-quality and high-yield rice seeds for small-scale farmers in the pilot area”. The outputs of the Project are selection of the rice varieties and lines, improvement of the rice seed multiplication technologies, production of the rice seeds in the pilot area, and dissemination of the rice seeds in the pilot area. The situation in the mid-term evaluation is as follows:

3-2-1 Major Achievements of Outputs

<Output 1> Selection of high-yield and high-quality rice varieties and lines

- The varieties of 291 collected all over the world, 1499 lines introduced and 63 lines developed by CIAT were evaluated, hereby 373 lines with useful character are registered. The activities are still continued. (Verifiable Indicator 1-1)
- The objective was set up to increase the yield of selected rice varieties by 20% in comparison with traditional one such as "Dorado". And two varieties, “Cheruje” and “Jacuú”, have already been selected in the second year. The yield of Cheruje with drought resistant is 117 compared with Dorado (100), while that of Jacuú with the resistant for disease and pest is 134. (Verifiable Indicator 1-2)



<Output 2> Improvement of the rice seed multiplication technologies


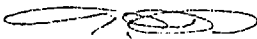
- The objective is to develop the rice seed multiplication technologies and to produce 30 tons of seed. Technologies of the rice seed production in dry season are being established. Then, 35.6 tons of the seed were produced in total and the amount of the seed production was already over the target of the PDM in the mid-term evaluation. (Verifiable Indicator 2-1)
- Technologies of rice cultivation in upland are examined in the CIAT Saavedra and Yapacaní fields. On the basis of the examination, the Research Department and the Seed Production Department of the CIAT have already prepared a technical manual for small-scale rice seed growers. The manual is utilized in the training and lecture for them. (Verifiable Indicator 2-2)
- The post-harvest system of rice seed in the CIAT Saavedra is established to realize high-quality seed with the germination over 80% and the moisture under 13%, in order to accomplish with the regulations provided by Regional Seed Office (ORS). The technical manual for post-harvest system will be prepared for attainment of output2. (Verifiable Indicator 2-3)

<Output 3> Production of high-yield and high-quality rice seeds in the pilot area

- Extension workers of CIAT and local organizations appropriately acquire technology for rice seed production. They instruct the rice seed growers in the pilot area. (Verifiable Indicator 3-1)
- In 2001/2002, 38 farmers tried to produce rice seed using the revolving fund. Though some farmers could not produce proper seeds due to bad weather and low-technology of post-harvest, 21 farmers produced certified seeds. By the end of the Project, 30 rice seed producers of small-scale farmers will be grown by technical training. (Verifiable Indicator 3-2)

<Output 4> Dissemination of appropriate technology for rice production of high-yield and high-quality rice seeds

- The number of the demonstrative farms was 9 in the first year and 15 in the second year. And 15 farms are prepared on schedule in the third year. Therefore, more than 50 farms are possible to be established in the Project period. The farms are used for the comparative demonstration of varieties and technologies, and trainings for local farmers. (Verifiable Indicator 4-1)
- Counterparts of the Extension Department of the Project and extension workers of the NGOs conduct training and field study for farmers at Yapacaní training center and the experimental farm in CIAT Yapacaní (CRI in Yapacaní). Consequently, more than 40% of small-scale



- farmers will participate in training. (Verifiable Indicator 4-2)
- The manual for rice production are not yet prepared due to shortage of basic data in the field. (Verifiable Indicator 4-3)
 - For the purpose of introduction of the Project activities and recommended rice seed, brochures and videos are prepared and utilized. These materials are used to inform the farmers widely and help for smooth dissemination activities. (Verifiable Indicator 4-4)
 - The NGOs promote dissemination of rice seed using the revolving fund. They collaborate to the whole dissemination activities in the pilot area. Consequently, about 67 tons of high-quality rice seed were distributed among 580 small-scale farmers so far. (Verifiable Indicator 4-5)

3-3 Efficiency

3-3-1 Input of Both Governments

The inputs from the Bolivian and Japanese side are summarized in ANNEX 2 to 7.

(1) Input of Bolivian side

1) Allocation of Counterparts

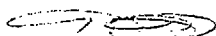
CIAT counterparts (19 staff: project manager (1), rice selection (4), rice seed production (4), agricultural technology extension (4), design (1), radio and television (1), planning and monitoring (1), accounting (1), environment (1), secretary (1)) are adequately allocated. Four counterparts were changed. However, their works were transferred to newcomers without any obstacle to the Project.

2) Provision of Facilities and Equipment

Three project offices are in the CIAT headquarters, the CIAT Saavedra and the CIAT Yapacaní, a training center was established in the CIAT Yapacaní that started its activities in 2001. With "Food Security Aid Program (PASA)" budget, 11 hectares of paddy fields and 6 hectares of experimental fields in the CIAT Saavedra and 2 hectares of experimental fields in the CIAT Yapacaní (CRI) were arranged for activities of the Project implementation.

3) Local Cost of Bolivian side

Total budget of the Bolivian side was 508,262 US dollar in the 2000 to 2002 fiscal years: 427,231 US dollar for labor costs, 64,238 US dollar for operation expenses and 16,793 US dollar for equipment and facilities costs. The budget of the 2000 and 2002 fiscal years were allocated by the government of Santa Cruz and the budget of the 2001 fiscal year was allocated by both the Santa Cruz government and the central government.



(2) Input of Japanese Side

1) Dispatch of Experts

In total six (6) long-term experts (chief advisor, coordinator, rice selection, rice seed production, extension) and four (4) short-term experts (post-harvest, evaluation of drought-resistant, data analysis of baseline survey, farmer's organization) were dispatched. Every expert was dispatched appropriately in considerations of specialty, timing and period. In addition, experts of "Technological Center on Agriculture and Livestock in Bolivia (CETABOL)" support to the Project activities.

2) Counterpart Training

Ten (10) CIAT counterparts participated in the training courses, such as seed production, agricultural extension, post-harvest, etc. in Japan. These trainings complemented the Project activities.

3) Provision of equipment

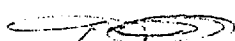
Total amount of equipment granted was 89,027 thousand Japanese-yen in the 2000 to 2002 fiscal years: 16,389 thousand Japanese-yen for equipment attained in Japan, 64,837 thousand Japanese-yen for equipment attained in Bolivia and 7,801 thousand Japanese-yen for equipment used for the experts.

4) Local Cost of Japanese side

Total amount of local cost prepared by Japanese side was 245,706 thousand Japanese-yen in the 2000 to 2002 fiscal years: 20,538 thousand Japanese-yen for local operation cost, 20,627 thousand Japanese-yen for local application cost, 36,185 thousand Japanese-yen for infrastructure construction cost and 89,027 thousand Japanese-yen for equipment granted cost. The expense was utilized according to the plan.

3-3-2 Efficiency of cooperation with the NGOs

From the beginning of the Project, six local organizations including local the NGOs (seven organizations in the third year) have a close cooperation with the Project to assist extension activities in the pilot area. The NGOs extension workers contribute to the various activities related to the dissemination. Consequently, the efficiency of input is quite high in cooperation with the NGOs.



3-4 Impact

3-4-1 Direct Impacts to Overall Goal and Project Purpose)

(1) <Overall Goal> The rice productivity of small-scale farmers is increased in the selected pilot area.

- The yield of varieties recommended is 20% higher than that of traditional ones in the CIAT experimental farm. However, the distinct impact is not yet appeared in the pilot area.

(2) <Project Purpose> The dissemination systems of high-quality and high-yield rice seeds for small-scale rice farmers are established in the selected pilot area.

- The NGOs distributed the rice seeds to 413 farmers equivalent to 16% in the 2002/03. (Indicator of the Project purpose: 40% in the termination of the Project)

3-4-2 Indirect Impacts (Macro-level)

(1) Technical Impacts

- CIAT counterparts begin to exchange technologies in other areas such as La Paz, Cochabamba and Beni through meetings and seminars on rice production held by the Project.
- Having a good reputation, the recommended rice seeds are well known to local farmers in other area as well as in the pilot area and the events of technology transference organized on national level.

(2) Environmental Impacts

- There is no negative impact on the environment in the pilot area in the mid-term evaluation.

(3) Cultural and Social Impacts

- Local farmers who kept traditional customs and techniques for a long time begin to recognize the availability of modern technologies on the basis of experiences of the Project.

(4) Institutional Impacts

- The CIAT recognizes the importance of extension activities on the basis of the Project experience.
- Close cooperation between the CIAT and the NGOs is being built to establish the dissemination system of the rice seeds in the pilot area.



3-5 Sustainability

3-5-1 Institutional aspect

(1) Political Support

Target groups are small-scale rice farmers. They are challenging to improve rice production using high quality seeds. The government of Santa Cruz has identified the importance of increase rice production as well as necessity of poverty alleviation for small-scale farmers. Therefore, the policy environment is to be favorable for the Project.

(2) Cooperation with the NGOs

The NGOs play an important role for transferring technologies to small-scale farmers, through coordination links of the Project. However, one of the major issues is to establish appropriate institutional buildings.

3-5-2 Financial aspect

(1) Financial Source for Necessary Expenses

With financial difficulties, the Bolivian side's project budget is tight. The expenditures cannot be guaranteed timely, even if the Project budget is secured, and planned activities cannot take place. It is required to improve the administrative procedures in order to have a smooth disbursement.

(2) Own Financial Resources

CIAT has earned self-income from their technical services though the sale of basic and registered seeds, royalties of registered varieties of the CIAT and external contract of post harvest for seed production, etc. The amount of self-income is not enough as a financial source, but would meet a part of expenses for sustainable management of the Project.

(3) Utilization of Bolivian Agriculture and Livestock Technological System (SIBTA) Fund

The Project will require to strength its links with FDTA-TH and it will have to improve its mechanisms to participate in the funds contest for technical assistance and to disseminate new technology obtained in the Project. Furthermore, it will have to be involved in other important areas of the rice chain like marketing.

3-5-3 Technical aspects

Technologies related to selection of varieties and seed production have been transferred to



the counterparts before the commencement of the Project since the counterparts worked together with Japanese experts over ten years in the CIAT Saavedra.

On the other hand, the extension activity is newly implemented at CIAT in the Project under its direct responsibility. The extension system is going to be established until the Project is terminated. However, comprehensive package with selection of rice varieties, rice seed production and extension is required for the sustainability of the activities.

4. CONCLUSIONS AND RECOMMENDATIONS


4-1 Conclusions

The Committee has observed that the Project is being implemented on schedule as a whole and is expected to achieve outputs in each activity. The Project purpose has relevance to Bolivia government's policy for small-scale farmers. Therefore, as there are still two years and half of the Project period, Bolivian counterparts and JICA experts should continue their best efforts to complete the Project in order to achieve the Project purpose within the term of cooperation in consideration of the following recommendations.

4-2 Recommendations

The following issues and necessary measures are recommended by the Committee to both Governments in order to further develop and sustain the Project.

- (1) The activities of rice seed production technologies in the Experimental Station of Saavedra, which developed through past cooperation between CIAT and JICA, has been transferred to the Bolivian counterparts to a satisfactory extent. Despite the fact that some problems remain, particularly in the area of the post harvest treatment system and drawing up manual for rice seed grower, the Committee recognized the achievement of these activities and the solution of remaining problems are within the competence of the trained counterparts. It is necessary to shift the activities, so as to put emphasis on the development of seed multiplication techniques at the rice seed grower's level in pilot area.
- (2) Based on the above (1), the Project Design Matrix and Plan of Operations should be revised according to the current situation through the discussions in the Project.
- (3) It is recommended to the Bolivian Government to analyze the feasibility of the rice chain as a national priority.



(4) The Bolivian side through Departmental Government and CIAT should ensure the following measures.

- Sufficient budget allocation
- Continuous assignment of adequate and trained personnel.
- Facilities and equipment provided through the Project should remain and be used effectively and maintained in good condition.

(5) In order to perform smooth management of the Project, the CIAT needs to strengthen activity of seed sales and technical services such as post harvest treatment, disease diagnosis, rice seed sale and so on, and make efforts to further secure independent sources of revenue.

(6) In respect of continuous activities for selection of rice varieties, CIAT should formulate and settle the strategies of production for appropriate rice varieties based on social needs.

(7) The rice seed dissemination system should be extended by the efforts of the CIAT after the termination of the Project period. Therefore, the Committee recommends the Bolivian side to make a feasible plan for widely disseminating high-quality rice seed to small-scale farmers in Santa Cruz.

(8) CIAT should have a responsibility to coordinate and operate for appropriate management in cooperation with necessary organizations concerned, such as governmental and non-governmental organizations, farmers' cooperatives, etc., in order to ensure extension and application of an integrated rice seed dissemination system among small-scale farmers even after termination of the Project.



ANNEX 1 Project Design Matrix for Evaluation (PDMe ver.1)

Project Name: the Project for the Dissemination of High-Quality Rice Seeds for Small-Scale Farmers in Bolivia

Term of Cooperation: 2000.8.1 - 2005.7.31

Pilot Area: Yapacani municipality, Target Group: Small-Scale Rice Farmers

Preparation of PDMe: Japanese-Bolivian Joint Evaluation Committee

2003.1.27

Narrative Summary	Verifiable Indicator	Means of Verification	Important Assumptions
<p>(Overall Goal) The rice productivity of small-scale farmers is increased in the selected pilot area.</p>	<p>The rice yield in the pilot area is increased between 2.2-2.5 t/ha at slash and burn field and between 3.0-3.3 t/ha at machinery field within five years after the end of the project.</p>	<p>Survey</p>	<p>1. Both the central and prefectural governments continue to attach high priority to the food security through increase of rice production.</p>
<p>(Project Purpose) The dissemination systems of high-quality and high-yield rice seeds for small-scale rice farmers are established in the selected pilot area.</p>	<p>40% of small-scale rice farmers in the pilot area plant recommended rice varieties with high quality.</p>	<p>Survey</p>	<p>1. CIAT continues its technical service in the pilot area. 2. Abnormal weather patterns do not occur and unexpected diseases and pests do not occur.</p>
<p>(Outputs) 1. High-yield and high-quality rice varieties and lines for small-scale rice farmers are selected 2. The rice seed multiplication technologies for small-scale rice farmers are developed and improved. 3. High-yield and high-quality rice seeds for the dissemination are cultivated by rice seed growers in the pilot area. 4. High-yield and high-quality rice seeds are disseminated with the improved rice cultivation technologies in the pilot area.</p>	<p>1-1. Passport data of 700 varieties/lines are prepared through the evaluation of rice gene-resources from the viewpoints of drought-resistant, disease and pest resistant and quality especially. 1-2. The yield of selected rice varieties with drought-resistant, disease and pest-resistant and high-quality increases by 20% in comparison with traditional rice varieties such as "Dorado". 2-1. The rice seed multiplication technologies in dry season are developed, then the foundation stock seeds and certified seeds at CIAT will be possible to produce twice a year and 30 tons in total. 2-2. Technical manuals for rice seed growers are prepared by the production and services department of the CIAT. 2-3. CIAT staffs learn post-harvest technologies for rice seeds. 3-1. Extension workers of the technology transfer department of the CIAT and NGOs learn technologies required of rice production as an instructor. 3-2. 30 farmers will be brought up as rice seed growers through the training of DISAPA. 4-1. Demonstration farm in the farmer's field is set up in 50 rice producing communities in the pilot area. 4-2. 40% of small-scale rice farmers in the pilot area receive technical guidance through the extension workers of the technology transfer department of the CIAT and NGOs. 4-3. Technical manuals for small-scale rice farmers are prepared by the technology transfer department of the CIAT. 4-4. More small-scale rice farmers in the pilot area acknowledge the recommended varieties through the activity of public information. 4-5. NGOs apply the revolving fund to disseminate the high-yield and high-quality rice seeds.</p>	<p>Records of CIAT Report of farmers' cooperatives and/or NGOs Products of DISAPA</p>	<p>1. Small-scale rice farmers in the pilot area understand the objectives of the Project and cooperate with CIAT.</p>

<p>(Project Activities)</p> <p>1-1. Collecting and evaluating rice gene-resources</p> <p>1-2. Introducing and selecting high-yield and high-quality rice varieties and lines with drought-tolerance and disease- and pest-resistance</p> <p>2-1. Developing and improving the technology of breeder's stock seeds and foundation stock seeds on paddy fields</p> <p>2-2. Improving rice seed production technologies on upland rice fields (CIAT Saavedra)</p> <p>2-3. Improving pre- and post-harvest technologies for high-quality rice seed production (CIAT Saavedra)</p> <p>3-1. Conducting technical training for the potential rice seed growers</p> <p>4-1. Demonstrating and disseminating recommended rice varieties with the improved cultivation technologies</p> <p>4-2. Conducting technical training for extension workers of farmers' cooperatives and NGOs</p>	<p>(Input)</p> <p><BOLIVIAN SIDE></p> <p>1. Bolivian counterpart personnel; 1-1. Project Director, 1-2. Project Manager, 1-3. Counterpart personnel for Japanese Experts, 1-4. Administrative and other staff to support the Project activities</p> <p>2. Physical facilities; 2-1. Buildings, facilities, experimentation fields, and other space for the Project, 2-2. Space for machinery and equipment, 2-3. Electricity, water and communication facilities, 2-4. Other land, buildings and facilities necessary for the Project</p> <p>3. Operating expenses; 1) Travel costs of counterpart personnel for Field Study and Supervision, 2) Budget for research and extension activities</p> <p><JAPANESE SIDE></p> <p>1. Japanese experts; 1-1. Chief Advisor, 1-2. Coordinator, 1-3. Rice Selection, 1-4. Rice Seed Production, 1-5. Agricultural Technology Extension, Experts of CETABOL, Short-term experts (if necessary)</p> <p>2. Technical Training of Bolivian counterpart personnel</p> <p>3. Equipment and Machinery</p> <p>4. Operating expenses</p>	<p>1. Economic and social conditions remain stable in the pilot area.</p> <p>2. Farmers' cooperatives and non-governmental organizations cooperate with the Project.</p> <p>3. Customs formalities do not hinder the delivery of equipment.</p> <p>4. Security for project activities in the pilot area is ensured.</p> <p>(Preconditions)</p> <p>1. The relevant research facilities including experimental fields in the main site and sub-site are improved in a timely manner and properly administered by the Bolivian side.</p> <p>2. Sufficient budget is allocated to the project activities.</p> <p>3. A sufficient number of CIAT's counterpart personnel including those who receive training in Japan will be steadily assigned to the project.</p>
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ANNEX 2 Dispatch of Japanese Expert

Name of Expert	Specialty	Period of Dispatch	Post before Dispatch
Suguru AOYAMA	Chief Advisor	2000.8.1~2003.7.31	JICA
Shinji SEKIGUCHI	Coordinator/Baseline survey	2000.8.1~2003.7.31	Primera Co.,ltd
Tadao KON	Rice Varity Selection	2000.8.1~2002.7.31	Agricultural Ministry
Toyozo TANAKA	Seed production	2000.8.1~2003.7.31	JICA Expert
Sadayoshi TAKEUCHI	Extension	2000.8.1~2003.7.31	Oochi agriculture Cooperative
Masatoshi ISHIHARA	Rice Varity Selection	2002.9.8~2004.9.7	Agricultural Research Center of Ibaraki Prefecture
Mitsuru KAWAGUCHI	Post Harvest	2001.4.10~2001.6.9	Miyazaki Prefecture
Masatoshi ISHIHARA	Evaluation for drought tolerance of Upland rice in reproductive stage	2001.5.31~2001.7.30	Agricultural Research Center of Ibaraki Prefecture
Masaaki YAMADA	Data Analysis of Baseline Survey	2001.8.15~2001.9.24	Tokyo Agriculture industry Univ.
Masafumi IKENO	Farmer's organization	2002.10.18 ~2002.12.1	KRI corporation.

ANNEX 3 Acceptance Counterpart Personnel in Japan

Name of counterpart	Period of training	Training course	Contents	Place of training	Post before training	Present Post
Cesar SAMUR	2000.9.10~9.26	Seed Production	Rice production	Ibaraki agricultural Center	Director of CIAT	Consultant
Roger TABOADA	2001.2.25~3.10	Seed Production	Upland Rice Breeding	Ibaraki biotechnology Institute	Chief of Research sec.	Chief of Research sec.
Pablo ANDRADE	2001.5.7~7.21	Agricultural Extension Planning and Management	Agricultural extension Method	IFIC	Chief of Extension sec.	Chief of Extension sec.
Juana VIRUEZ	2001.7.9~9.15	Rice Variety Selection	Rice Variety Selection	Ibaraki Biotechnology Institute	Engineer of breeding	Engineer of breeding
Lorgio DOMINGUEZ	2001.9.19~10.20	Rice Post Harvest	Post harvest practice	Tsukuba international center	Engineer seed production	Engineer
Antonio CUELLAR	2002.5.8~7.23	Agricultural Extension Planning and Management	Agricultural extension Method	IFIC	Engineer of Extension	Engineer of Extension
Jose Luiz LLANOS	2002.6.11~7.30	Planning and evaluation Method for Agricultural Development Project	Plan and evaluation for agricultural development	Tokyo agricultural industrial Univ.	Chief of Plan div.	Chief of Plan div.
Emilio CHILENO	2002.6.18~9.6	Rice cultivate practice	Rice cultivate practice	Miyazaki agricultural research center	Director of Yapacani CRI	Director of Yapacani CRI
Victor HUGO	2002.7.9~9.13	Upland rice breeding	Administration of Breeding field	Ibaraki Biotechnology Institute	Technical assistant Breeding	Technical assistant Breeding
Mario ZANKIZ	2002.9.3~10.19	Storage going and out control management for rice	Seed Storage control	Miyazaki agricultural research center	Engineer of seed production	Engineer of seed production

ANNEX 4 Provision of Machinery and Equipment by Japanese side

No.		Name	Spec	Maker	Price	Cant.	Section	Actual condition	
1	2000.9.1	CHAIN SAW	MOD. 036WQ.	STIHL	US\$940	1	PRODUCCION/TRANSFERENCIA	A	
2	2000.11.1 0	AIR CONDITIONER	SOLO FRIO, TIPO SPLIT DE 24.000 BTU	TOSHIBA	US\$1,685	1	INVESTIGACION	A	
3	2000.11.1 0	AIR CONDITIONER	SOLO FRIO, TIPO VENTANA DE 24.000 BTU.	TOSHIBA	US\$2,180	2	INVESTIGACION	A	
4	2000.11.1 0	AIR CONDITIONER	SOLO FRIO, TIPO VENTANA DE 24.000 BTU.	TOSHIBA	US\$4,356	4	PRODUCCION	A	
5	2001.2.1	PERSONNEL COMPUTER	PRESARIO 5BW143	COMPAQ	US\$3,786	1	CIAT-SANTA CRUZ	A	
6	2001.2.1	PERSONNEL COMPUTER	PRESARIO 7476	COMPAQ	US\$2,600	1	INVESTIGACION	A	
7	2001.2.1	PERSONNEL COMPUTER	PRESARIO 7476	COMPAQ	US\$2,600	1	PRODUCCION	A	
8	2001.2.1	PERSONNEL COMPUTER	PRESARIO 7476	COMPAQ	US\$2,600	1	TRANSFERENCIA	A	
9	2001.2.1	LASER PRINTER	Laser Jet 4050N	Hewlett Packard	US\$3,606	1	CIAT-SANTA CRUZ	A	
10	2001.2.1	DESBROZADORA	RDA-110, 1.10m ANCHO DE CORTE.	LAVRALE	US\$1,397	1	PRODUCCION	A	
11	2001.1.2	COPY MACHINE	NP7210	CANON	US\$6,831	2	INVESTIGACION/PRODUCCION	A	
12	2001.1.2	FAX	L-300	CANON	US\$883	1	INVESTIGACION/PRODUCCION	A	
13	2001.1.2	COPY MACHINE	Digital GP-335	CANON	US\$7,740	1	CIAT-SANTA CRUZ	A	
14	2001.2.1	DESBROZADORA		STHIL	US\$1,278	1	PRODUCCION	A	
15	2000.12. 15	GRAIN SELECTOR	CON ZARANDAS PARA ARROZ, MOTOR A GASOLINA DE 3.5 HP	HONDA	US\$990	1	TRANSFERENCIA	A	
16	2000.12. 15	GRAIN SELECTOR	CON ZARANDAS PARA ARROZ, MOTOR A GASOLINA DE 3.5 HP	HONDA	US\$990	1	PDA	A	
17	2000.12. 15	GRAIN SELECTOR	CON ZARANDAS PARA ARROZ, MOTOR A GASOLINA DE 3.5 HP	HONDA	US\$990	1	CEPY	A	
18	2000.12. 15	GRAIN SELECTOR	CON ZARANDAS PARA ARROZ, MOTOR A GASOLINA DE 3.5 HP	HONDA	US\$990	1	CEPAC	A	
19	2000.12. 15	GRAIN SELECTOR	CON ZARANDAS PARA ARROZ, MOTOR A GASOLINA DE 3.5 HP	HONDA	US\$990	1	FENCA	A	
20	2000.12. 15	GRAIN SELECTOR	CON ZARANDAS PARA ARROZ, MOTOR A GASOLINA DE 3.5 HP	HONDA	US\$990	1	HAMY	A	
21	2001.1.13	RICE MATING DEVICE	702 Remodeling type, main		US\$118,320	1	INVESTIGACION		

22	2001.1.13	TRACTOR	DIESEL MODEL:GT21BM ENGINE No. 6569 SERIAL No. 20669 ROTARY FOR TRACTOR MODEL: RL140T(RF1) SERIAL No. 16268	KUBOTA	US\$2,200,000	1	INVESTIGACION	A	
23	2001.1.13	SPARE PARTS FOR TRACTOR	MODEL: GT21BM & RL140T(RF1)		US\$220,000	1	INVESTIGACION	A	
24	2001.1.13	SAMPLING HULLER	No.08401301 MODEL: H-		US\$12,334	2	INVESTIGACION	A	
25	2001.1.13	RICE POLISHER	No.08401301 MODEL: SR-405E		US\$923	1	INVESTIGACION	A	
26	2001.1.13	DESICATOR	12L/DIA CAPACIDAD: 4.5 L	OMAS	US\$1,107	1	PRODUCCION	A	
27	2001.5.31	WAGON CAR 4x4	COLOR: Burdeo/Beige MOTOR No. TB45-041588 CHASIS No. JN1TBSY61Z0520060 MODELO: TGN1EEV61ERAWERKB	NISSAN	\$29,900.00	1	CIAT-SANTA CRUZ	A	
28	2001.5.31	DOBBIE CABIN TRACK	Doble cabina 4x4 nuevo COLOR: Verde oscuro MOTOR No. KA24-949807M CHASIS No. 3N6CD13Y2ZK003381 MODELO:	NISSAN	\$15,500.00	1	PRODUCCION	A	
29	2001.5.31	DOBBIE CABIN TRACK	Doble cabina 4x4 nuevo COLOR: Blanco MOTOR No. KA24-951393M CHASIS No. 3N6CD13Y8ZK003403	NISSAN	\$15,500.00	1	TRANSFERENCIA	A	
31	2001.5.31	DOBBIE CABIN TRACK	Doble cabina 4x4 nuevo COLOR: Rojo MOTOR No. KA24-949797M CHASIS No. 3N6CD13Y7ZK003375 MODELO:	NISSAN	\$15,500.00	1	INVESTIGACION	A	
32	2001.9.4	MOTOR BIKE	color: blanco modelo:2001 codigo: CIAT-16-01-0129 chasis: 9C2JD17301R630512 accesorios: estuche de herramientas	HONDA XLR-125	US\$3,543	1	TRANSFERENCIA/ONG	A	
33	2001.9.4	MOTOR BIKE	color: blanco modelo: 2001 codigo: CIAT-16-01-0145 chasis: 9C2JD17301R630522 accesorios: estuche de herramientas	HONDA XLR-125	US\$3,543	1	TRANSFERENCIA/ONG	A	

34	2001.9.4	MOTOR BIKE	color: negro modelo:2001 codigo: CIAT-16-01-0146 chasis: 9C2JD17301R630493 accesorios: estuche de herramientas	HONDA XLR- 125	US\$3,543	1	TRANSFERENCIA/ONG	A	
35	2001.9.4	MOTOR BIKE	color: negro modelo:2001 codigo: CIAT-16-01-0142 chasis: 9C2JD17301R630494 accesorios: estuche de herramientas	HONDA XLR- 125	US\$3,543	1	TRANSFERENCIA/ONG	A	
36	2001.9.4	MOTOR BIKE	color: rojo modelo:2001 codigo: CIAT-16-01-0144 chasis: 9C2JD17301R630529 accesorios: estuche de herramientas	HONDA XLR- 125	US\$3,543	1	TRANSFERENCIA/ONG	A	
37	2001.9.4	MOTOR BIKE	color: rojo modelo:2001 codigo: CIAT-16-01-0143 chasis: 9C2JD17301R630546 accesorios: estuche de herramientas	HONDA XLR- 125	US\$3,543	1	TRANSFERENCIA/ONG	A	
38	2001.9.4	MOTOR BIKE	color: rojo modelo:2001 codigo: CIAT-16-01-0116 chasis: 9C2JD17301R630544 accesorios: estuche de herramientas	HONDA XLR- 125	US\$3,543	1	TRANSFERENCIA/ONG	A	
39	2001.9.4	MOTOR BIKE	color: rojo modelo:2001 codigo: CIAT-16-01-0114 chasis: 9C2JD17301R630545 accesorios: estuche de herramientas	HONDA XLR- 125	US\$3,543	1	TRANSFERENCIA/ONG	A	
40	2001.9.4	MOTOR BIKE	color: blanco modelo:2001 codigo: CIAT-16-01-0147 chasis: 9C2JD17301R630511 accesorios: estuche de herramientas	HONDA XLR- 125	US\$3,543	1	TRANSFERENCIA/ONG	A	
41	2001.9.4	MOTOR BIKE	color: blanco modelo:2001 codigo: CIAT-16-01-0115 chasis: 9C2JD17301R630511 accesorios: estuche de herramientas	HONDA XLR- 125	US\$3,543	1	TRANSFERENCIA/ONG	A	
42	2001.9.19	DIGITAL CAMERA	photo PC 3000Z, smartmedia, card	EPSON	US\$1,177	1	CIAT-SANTA CRUZ	A	
43	2001.9.1 6	MUSIC SET	Poder, microfono, TV, consola, compac disc.	PANASONIC	US\$3,316	2	TRANSFERENCIA/CENTRO DE CAPACITACION DE YAPACANI	A	
44	2002.3.25	COLOR LASER PRINTER	HP COLOR 4550N	LASER JET	US\$3,764	1	CIAT-SANTA CRUZ	A	
45	2001.9.1 6	PC	Satellite 1750	TOSHIBA	US\$2,413	1	TRANSFERENCIA/COMUNICACIO	A	
46	2002.3.25	MULTIMEDIA	LV-7325(220V/50HZ)	CANON	US\$3,977	1	TRANSFERENCIA	A	

47	2002.3.25	MICROSCOPE	MLW JUNIOR LAB T		US\$1,700	1	INVESTIGACION	A	
48	2002.3.25	UNIVERSAL OVEN	UM 500 56X48X40 108 LTS		US\$1,582	1	INVESTIGACION	A	
49	2002.3.25	COPY MACHINE	NP7210	CANON	US\$3,395	1	CIAT-SANTA CRUZ/INVESTIGACION	A	
50	2002.5.1 4	JEEP	tipo : Jeep modelo: Jimmy ano: 2001 color: verde motor No.52618 chasis 100971 placa ET	SUZUKI	\$us. 11,920.00	1	TRANSFERENCIA	A	
51	2002.3.25	PC FOR DESIGN	PowerMac G4	APPLE	US\$8,938	1	CIAT-SANTA CRUZ /COMUNICACION	A	
53	2002.7.1	GRAIN DRY SYSTEM	ventiladores, quemadores, puertas, etc.	DELEX INTERNATIONAL	US\$12,119	1	PRODUCCION	A	
54	2002.10.15	TRANSPLANTER	riding type PR4-PWU-pq	YNMAR	\$us. 17,000.00	1	PRODUCCION	A	
55	2002.10.2	SEED PROCESSING PLANT	Elevador metalico,cinta transplantadora, silos metalicos,maquina de pre-limpieza de cereales, maquina de limpieza de cereales, mesa de gravidade,maquina para tratamiento de semilla,		\$us. 98,472.00	1	PRODUCCION	A	
56	2002.12.	TRACK	Hilux cabina sencilla LN166L-TRMDS. Diesel	TOYOTA	\$us. 18,000.00	1	PRODUCCION	A	
57	2002.5.2 2	MICRO BUS	Coaster BB42L-BRMRS Diesel 3661cc. 4 cilindro.26	TOYOTA	\$us. 29,000.00	1	TRANSFERENCIA/ONG	A	
58	2002.3.3 0	DIGITAL DUPLICATOR	Modelo: JP-1250	RICOH	US\$5,656	1	CIAT SANTA CRUZ /COMUNICACION	A	
59	2002.5.5 0	MULTIMEDIA	LV-7325(220V/50HZ)	CANON	US\$4,000	1	CIAT SANTA CRUZ	A	
60	2002.8.3 0	TRACTOR	MF290	MASEYFAGASON	US\$20,800	1	SAAVEDRA STATION	A	
61	2002.8.3 0	TRACTOR	MF290	MASEYFAGASON	US\$24,850	1	YAPACANI CRI	A	
62	2002.8.5 0	TRACK	MBK210FHHC	NISSAN	US\$30,800	1	SAAVEDRA STATION	A	

ANNEX 5 Provision of Local Cost by Japanese side

US\$ (1 \$ =120JPY)

Fiscal year	2000	2001	2002
Operation cost	48,525	73,350	54,908 US\$
Application cost	26,800	77,700	71,358
Infrastructure construction cost	263,400	37,992	—
Equipment attained in Japan	69,617	36,262	29,167
Equipment attained in Bolivia	160,100	380,208	—
Equipment use for Expert	44,317	10,858	9,833

ANNEX6 Budget Allocated for the Project by Bolivian side

(\$us)

Type of cost	2000 (From august)	2001 (January-December)	2002 (January-August)	Total
Personnel	105.442	174.997	146.792	427.231
Operative costs	9.501	44.063	10.674	64.238
fixed actives	0	16.793	0	16.793
Total	114.943	235.853	157.466	508.262

- Costs in 2000 were with prefecture source
- Personnel and operatives costs in 2001 were with funds from prefecture and public investment, while actives were purchased with public investment source.
- Costs in 2002 were with prefecture source

List of land, buildings and facilities provided by Bolivian Side

Facilities	Santa Cruz	Saavedra	Yapacani	San Pedro	Other
Infrastructure	-1 Office	-1 office -1 deposit -1 laboratory -2 green houses	-1 Office -1 Deposit	Office	
Land		-11 hectares with irrigation system -6 hectares for upland production	-2 hectares in the CRI -3 hectares in farmer fields	-5 hectares well of water	-3 hectares in farmer fields (Canandoa, Hardeman, Colonia San Juan de Yapacani, Yapacani faja norte, San Julian)
Machinery		-2 tractors -2 threshers			

ANNEX7 Allocation of Counterpart Personnel

C/P Name of the counterpart	Specialty	Name of Japanese Expert in Charge of Technical Transfer	Position	Remarks
Gustavo Pereyra.	Agricultural economy		Project Director	Since
Roger Taboada	Agronomy – vegetal production	Masatoshi Ishihara	Research coordinator	Since August, 2000
René Guzman	Agronomy		Principal researcher	Since August, 2000
Victor Callau	Agronomy		Auxiliary	Since August, 2000
Juana Viruez	Agronomy		Junior researcher	Since August, 2000
Karin Chamón	Agronomy	Toyozo Tanaka	Seed production coordinator	Since November, 2002
Mario Zankiz	Agronomy		Senior researcher	Since August, 2000
Edgar Iturricha	Agronomy		Senior researcher	Since August, 2000
Edwin Vaca	Agronomy		Senior researcher	Since August, 2000
Luis Antonio Cuellar	Agronomy- production system	Sadayoshi Takeuchi	Technology transfer coordinator	Since August, 2000
Willian Holters	Agronomy		Senior extension worker	Since August, 2000
Walter Maíz	Agronomy		Junior extension worker	Since November, 2002
Wildo Aban	radio and television		Technician	Since August, 2000
Emilio Chileno	Agronomy		Senior extension worker	Since August, 2000
Hernan Rosado	Manager	Shinji Sekiguchi	Financial manager	Since August, 2000
José Luis Llanos	Agronomy- project planning		Project coordinator	Since August, 2000
Bruno Solíz	Agronomy- agriculture economy		Economist	Since August, 2000
Yenny Castrillo	Secretary		Secretary	Since June, 2002

ANNEX8 Attainment of Activities in Plan of Operation

Items and Activities		object of achievement	Progress and Results	Achievement	Reason of delay	Future Plan
Items	Activities					
1. High-yield and high-quality rice varieties and lines for small-scale rice farmers are selected.	1.1. Collecting and evaluating rice gene-resources.	To make and keep passport data of 700 varieties/ lines.	291 varieties and 1449 lines collected from other countries, also 63 CIAT's original lines have been evaluated their character.	3	There are lines still under examination continued, will be completed by the end of project	The incorporation, evaluation and renovation the stock seed will be continued.
	1.1.1. Collecting , keeping and multiplying rice gene-resources.	100- 200 varieties/ lines per year.	Evaluation and registration of 373 lines.	3	The same as the above.	The same as the above.
	1.1.2.Evaluating rice gene-resources.					
	1.1.2.1.Drought tolerance.	Emergence, growing and reproduction stages.	We have identification 10 lines drought tolerance.	3	The basis technique of each stage were settled on	The drought identification will be continued. The test method will be improve.
	1.1.2.2. Disease and pest resistance.	Blast disease, brown spot and leaf scald Stem borer.	We have identify 20 lines resistance a diseases.	3	They are going on by the schedule.	All material will be evaluated in different stage.
	1.1.2.3. Quality.	Translucency and cooking quality.	We have identify 100 lines with best grain quality.	3	The same as the above.	To be continued and will be eating quality.
	1.2. Introducing and selecting high-yield and high-quality rice varieties and lines with drought tolerance and disease and pest resistance.	To select 4 recommended varieties.	We have 2 varieties (Cheruje and Jacuú) for upland rice.	3	We have 4 lines for the mechanical cultivation and 4 lines for the manual cultivation as a promising materials.	The lines will be evaluated in different phase to select new variety.
	1.2.1. Introducing, evaluating and selecting recommended rice varieties.	500-600 lines/year .	We have 5 promissory lines.	3	They are going on by the schedule.	600 new lines will be introduced, and 20% to 30% of them will be selected the.
1.2.2. Keeping and multiplication of breeder's stock seed.	400 Kg/ cultivation season.	Breeder's stock seed production already reach (450 kg).	4		Production the genetic seed according notifying (400 kg). The 7 varieties and promissory lines.	

Items and Activities		Object of achievement	Progress and results	Achievement	Reason of delay	Future plan
Items	Activities					
2. The rice seed multiplication technologies for small-scale rice farmers are developed and improved.		Improvement of the seed production technologies for the center institute saavedora and seed producer in Yapacani region	The basic cultivation and double cropping technologies and the investigation methods to grasp the usage of the post-harvest machines have been transferred. The first edition of the manual for small scale seed producers has been published.	3	The advance has been going on belong to the schedule, so that the plan will be completed by the end of the project	Establishment of the technical system for the double cropping, mechanical transplant cultivation and the newly introduced post-harvest machines. Diffusion of the seed cultivation technologies for the small scale farmers.
	2-1 Developing and improving the technologies of breeder's stock seeds and foundation stock seeds on paddy fields	The foundation stock seeds and certified seeds at CIAT will be possible to produce twice a year and 30 tons in total	Introduction and improvement of the basic seed cultivation management technologies in paddy and double cropping.	3	The advance has been going on belong to the schedule, so that the plan will be completed by the end of the project	Establishment of the technical system for the double cropping and mechanical transplant cultivation management
	2-1-1 Planning of seed production	Seed production plan	We have promoted the production planning meeting, and made up a system of the meeting under participation of Rice section, Transfer section and Seed production section's members	4		
	2-1-2 Receiving breeder's stock seed	400Kg/cultivation season	The quantity of the received seed was 380kg	3	The advance has been going on belong to the schedule, so that the plan will be completed by the end of the project	The reception plan of the genetic seed for the next year is 405kg
	2-1-3 Preparation and planting	9.5ha	The last year's results, the winter season 3.2ha, the summer season 5.4ha, and as the summer season of the winter season 3.2ha, in total 11.8ha were prepared and	4		
	2-1-4 Cultivation management	Report	Real verification of the winter season cultivation was introduced, also weed control, fertilization and irrigation control methods have been improved	3	The advance has been going on belong to the schedule, so that the plan will be completed by the end of the project	Improvement of the management and systematization of the winter production, also systematize control management for the mechanized transplanting

2-1-5 Harvest	4t/ha	After the project started,the first year's resort was 4.11t,and the second year's yield was 3.97t.	3	The advance has been going on belong to the schedule,so that the plan will be completed by the end of the project	Stabilization of the winter and summer cultivation, and the yield improvement of the January seeding cultivation as a summer cropping of the winter production
2-2 Improving rice seed production technologies on upland-rice field	Technical manuals for rice seed growers are made	We have published the first edition of the manual(text), and the investigations for the optimum harvest time, also methods of conservation have started	3	The advance has been going on belong to the schedule,so that the plan will be completed by the end of the project	Hereafter we will play a role for technical diffusion to the producers more actively,using the text.
2-2-1 Experiment of rice seed cultivation methods	Seeding density,fertilization and optimum harvest time	The trial of the optimum time for the harvest and storage methods have been going on.Fertilization's and seeding density trial also will be done as the need arises	3	The advance has been going on belong to the schedule,so that the plan will be completed by the end of the project	We will put the results of the harvest optimum time and preservation method's experiments in order,also collect the results of the related experiments done in Santa Cruz
2-2-2 Texts preparation for training course	Texts for seed selection,sowing,weed,fertilizer,pest and disease control,harvest and post harvest method	The first edition book serves both the text and technical manual has been published	3	The advance has been going on belong to the schedule,so that the plan will be completed by the end of the project	We will make it better continuously using the results of the experiments going on or hereafter might be done
2-3 Improving pre- and post-harvest technologies for high quality rice seed production	To process 60t/year of rice grains for seeds with more than 80% germination	The methods for the investigations to grasp the usage of the post-harvest machines have been transferred, and the advices about the effective use of the facilities also have been going on	3	The advance has been going on belong to the schedule,so that the plan will be completed by the end of the project	Regulation of the newly introduced processing machines and facilities for the optimum use
2-3-1 Receiving grain for rice seed production	60t/year	We have already received more than 100t grains for the processing	3	The advance has been going on belong to the schedule,so that the plan will be completed by the end of the project	Hereafter we will keep the present state and promote the service offer more actively
2-3-2 Drying grain for seed production	Moisture content 13%	We have established a technical system to complete 13% of grain moisture	4		
2-3-3 Processing	More than 80% germination.No other crops,red rice and weed seed.Less than 0.05grain/Kg of other varieties	Our produced seeds already have more than 90% of germination,also other qualities are more than regulation	4		

	2-3-4 Packing and preservation	1150 packs of 40Kg for storage a year	This year we have packed more than 2500 bags, and 2000 of them are preserved in CIAT's facility	3	The advance has been going on belong to the schedule, so that the plan will be completed by the end of the project	Hereafter we will keep the present state and promote the service offer more actively
	2-3-5 Report on certified seed	Report	We have made the reports for those two years from the beginning of the project	3	The advance has been going on belong to the schedule, so that the plan will be completed by the end of the project	

Items and Activities		Object of achievement	Progress and results	Achievement	Reason of delay	Future plan
Items	Activities					
3,The high-yield and high-quality rice seeds are disseminated with the improved rice cultivation technologies in the pilot area.	3-1,Demonstrating and disseminating recommended rice varieties with the improved cultivation technologies	Demonstration farm in the farmaer's field will be set up in 50 rice producing communities in the pilot area.		3		Until now we set up 30 demonstration farms ,we will set up more then 20 farms in the pilot area for the rest two years.
	3-1-1),Setting up demonstration farms for disseminating recommended varieties and cultivating techniques	CIAT Yapacani Experimental Station and 50 communities	We already set up 39 demonstration farms in 30 communities in the pilot area	3		In this season, we are setting up 15 farms in communities and one demonstration farm at CIAT Yapacani Station-farm
	3-1-2),Conducting technical guidance for small-scale farmers	40% of small scale rice farmers in the pilot area	Over a thousand persons participated in our technical guidance at the farmer's demonstration farms, CIAT Yapacani farm and at CIAT Yapacani Station for a year	3		Every year we will guide a more than one thousand farmers in the total number through various guidance
	3-1-3),Establishing rice seed circulation system by NGOs and supporting it	20 t per year of the certified rice seed	Already about 33 t certified rice seeds were produced in the season of 2001 to 2002	4		60 t per year of the certified rice seed will be circulated in the pilot area by our system
	3-1-4)Broadcasting recommended varieties and techniques by mass media and printed matters	TV and radio spot, texts, pamphlets and posters,	We broadcasted the recommended rice varieties by radio and pamphlets etc, and drew up two manuals on rice	3	Text-book for small scale rice cultivation farmer is not drawn still by reason of the lack of	We have plan to draw up a text book for small scale rice cultivation farmers and some pamphlets on

Items and Activities		Object of achievement	Progress and results	Achievement	Reason of delay	Future plan
Items	Activities		cultivation for seed growers and extension workers.		data about shifting rice cultivation	new rice varieties
	3-2. Conducting technical training for the potential rice seed growers and extension workers of farmer's cooperatives and NGOs	20 farmers will be brought up as rice seed growers through training	21 farmers could produce a certified rice seed	3		Over 30 farmers will be brought up as rice seed growers
	3-2-1) Conducting technical training for extension workers of farmer's cooperatives and NGOs	10 times per year	Over 10 times per year	3		Every year technical training for them will be done more than 10 times
	3-2-2)Conducting practical training courses for rice seed growers	50 potential rice seed growers	38 farmers had a try to produce a certified rice seed during the season in the year from 2001to 2002	3		Over 50 farmers will be received the training courses for the rice seed growers

ANNEX 9 Organization chart

