

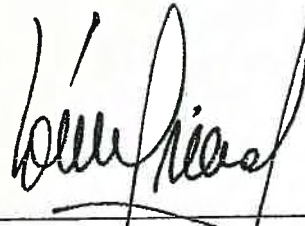
付属資料（プロジェクト別資料）

A. 園芸開発計画

JOINT EVALUATION REPORT
ON
THE HORTICULTURE DEVELOPMENT PROJECT
IN
THE ARGENTINE REPUBLIC

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USED ABBREVIATIONS:

C/P: Counterpart

CETEFFHO: Technological Center on Floriculture, Fruits and Horticulture Project-
(Proyecto del Centro Tecnológico de Flori- Fruti- Horticultura)

I/F: Floriculture Institute

PDF: Horticulture Development Project - (Proyecto de Desarrollo de la Floricultura)

PDM: Project Design Matrix (Proyecto de Marco Logico)

PDMe: Project Design Matrix for Evaluation

R/D: Records of Discussions

The present Evaluation Report is based on the Record of Discussions dated December 7, 1998 between Japan International Cooperation Agency (JICA) and National Institute for Agricultural Technology of Argentina (INTA), clause V "Joint Evaluation", as a part of the "Japanese Technical Cooperation for the Horticulture Development Project"

The Joint Evaluation Committee was organized in order to review the overall performance of the Project, and the results are described below.

1. JOINT EVALUATION OF THE PROJECT

1-1 Objectives of the Evaluation

Objectives of the Evaluation are as follows,

- 1) Evaluating the Project from the viewpoints of (1) Accomplishment of the Project, (2) Implementation Process and (3) Evaluation based on Five Criteria (i.e. Relevance, Effectiveness, Efficiency, Impact and Sustainability).
- 2) Identifying remaining problems and recommending necessary measures to be taken after the termination of the Project to the respective governments, and
- 3) Considering the lessons drawn from the Project activities in order to reflect them on future projects in the interest of making them more effective and efficient.

1-2 Methodology of Evaluation

The Project was evaluated by the Joint Evaluation Committee, which was composed of the Japanese Evaluation Team and the Argentine Evaluation Team in accordance with the R/D and the PDM. These activities included report analysis, field survey, and discussions with concerned officials/staff members based on Five Evaluation Criteria as shown below:

(1) Relevance

Relevance refers to the validity of the Project purpose and the overall goal in connection with the development policy of the Argentine government as well as the needs of beneficiaries.

(2) Effectiveness

Effectiveness refers to the extent to which the expected benefits of the Project have been achieved as planned, and examines if the benefit was brought about as a result of the Project.

(3) Efficiency

Efficiency refers to the productivity of the implementation process, examining if the inputs of the Project was efficiently converted into the outputs.

(4) Impact

Impact refers to direct and indirect, positive and negative impacts caused by implementing the Project, including the extent to which the overall goal has been attained.

(5) Sustainability

Sustainability refers to the extent to which the Project can be further developed by Argentina, and the benefits generated by the Project can be sustained under national policies, technology, systems and financial state.

1-3 Members of the Joint Evaluation Committee

(1) Japanese Evaluation Team

Name	Assignment	Occupation
Mr. Shinki SUZUKI	Leader	Vice President, JICA
Dr. Kuniyoshi KONISHI	Breeding of new cultivars	Professor Emeritus, University of OKAYAMA
Dr. Toshio ANDO	Evaluation and Improvement of Potential Ornamental Species	Professor, University of Chiba
Mr. Hirohito TAKATA	Planning Evaluation	Staff, Livestock and Horticulture Division, Agriculture Development Cooperation Department, JICA
Ms. Yasuyo HIROUCHI	Evaluation Analysis	Permanent Expert, International Development Associates Ltd.

(2) Argentine Evaluation Team

Name	Job Title	Occupation
Ing. Agr. Pablo Gómez RIERA	Leader	National Director for Operations, National Direction, INTA
Ing. Agr. Germán ROITMAN	Member	Director, Gardening Course, Agronomy Faculty of Buenos Aires University
Dra. Edith OBSCHATKO	Member	Expert, IICA (Interamerican Institute for Cooperation on Agriculture)
Lic. Andrea de FORNASARI	Member	Japan Desk, General Direction for International Cooperation, Ministry of Foreign Affairs, International Trade and Worship

1-4 Schedule of the Evaluation

Date	Day	Activities
9/Mar	Tue	Joint Evaluation Committee Meeting (Evaluation Method, Preparation of PDMe)
10/ Mar	Wed	Presentation by Counterparts and Experts
11/ Mar	Thu	Interview with counterparts and experts Field Study (Facilities of PDF) Joint Evaluation Committee Meeting (Discussion on the results of evaluation)
12/ Mar	Fri	Joint Coordinating Committee Meeting
13/ Mar	Sat	Report preparation

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Date	Day	Activities
14/ Mar	Sun	Report preparation
15/ Mar	Mon	Joint Evaluation Committee Meeting (Drafting of the Evaluation Report)
16/ Mar	Tue	Joint Evaluation Committee Meeting (Report signature)
17/ Mar	Wed	Joint Coordinating Committee (Presentation about the Evaluation Report)

2. OUTLINE OF THE PROJECT

2-1 Background of the Project

In Argentina, historically, there was a lack of research institutes of high level related to the floriculture, so that the technology for the floriculture production was in a non-developed condition. In that situation, on June 1997, it was established the "Association of Flower and Ornamental Plant" at national level in order to plan a support program for solving vegetative sanitary problems of imported flowers, legal regulations for the registration of new plants varieties, development of new flower varieties and enhancement of the techniques applied to growing.

Considering the above situation, the Argentine government, putting as target the enhancement of the techniques of plant growing, through the development of the application of germplasm and training of the personnel, made a proposal of this project of cooperation.

Once received this proposal, it was defined the activities for this project considering the "collection of plant materials, accumulation and evaluation" and the research related to the "floriculture breeding", the project have been started on May 1999 for a period of 5 years.

Actually, coming the time of accomplishment of the 5 years from the start of the project, toward the completion of the project activities on next April 30 2004, it will be carried out the evaluation of the activities developed up to now, and at the same time, it is planned to carry out the bilateral evaluation jointing with Argentine side as final stage, by issuing the lessons and learn and the recommendations as well, looking for the future.

2-2 Summary of the Project

The Project is designed as follows.

(1) Overall Goal of the Project:

Floricultural Products in the Argentina will be improved.

(2) Project Purpose:

Research Activities on Floriculture will be enhanced through developing cultivars of Argentine origin.

(3) Outputs of the Project

- 1) Method for developing new breeding materials, using potential ornamental plants of Argentina and commercial varieties, will be developed, taking advantage of the wealth of plant genetic resources.
- 2) Appropriate flower breeding techniques will be developed on the basis of plant breeding theory under Argentine climate.
- 3) Useful and practical techniques for propagation will be established.

3. REVIEW OF THE PDM

Prior to the evaluation, Joint Evaluation Team reviewed the latest PDM and agreed to make some edition corrections. These corrections are described in Annex 1-1 and the corrected PDM (PDM for evaluation: PDMe) is shown in Annex 1-2.

4. SUMMARY OF RESULTS OF EVALUATION

4-1 Accomplishment of the Project

It is expected that the Project Purpose, the Outputs and the Inputs will be fully accomplished by the end of the Project. Detailed analysis is shown in Annex 2 "Evaluation Grid (1) Accomplishment".

4-2 Implementation Process

In general, the Activities have been conducted according to the plan. The monitoring of the Project has been also conducted properly. Detailed analysis is shown in Annex 3 "Evaluation Grid (2) Implementation Process".

4-3 Evaluation based on Five Criteria

(1) Relevance

The Project is considered to be relevant in order to face the low level of competitiveness of Argentine flower production. Enhancement of research activities on floriculture through developing new cultivars using potential ornamental plants is relevant for local flower producers. Detailed analysis is shown in the first section ("Relevance") of Annex 4 "Evaluation Grid (3) Evaluation based on five evaluation criteria".

(2) Effectiveness

The Project is considered to have been highly effective. The research activities on floriculture have been greatly enhanced by the Project. Techniques and methods of developing

breeding materials (i.e. collection, evaluation and preservation of plants), breeding, and propagation have been developed and the C/P have acquired basic knowledge and techniques to conduct the related research by themselves. It is expected that the Project Purpose will be fully achieved by the end of the Project. Contribution of Outputs to the achievement of the Project Purpose is also regarded to be high. Detailed analysis is shown in the second section ("Effectiveness") of Annex 4.

(3) Efficiency

Judging from the achievement level of the Outputs, provision of Inputs has been conducted efficiently. In general, timing of provision, quality and quantity of both Japanese and Argentine Inputs have been adequate. Detailed analysis is shown in the third section ("Efficiency") of Annex 4.

(4) Impact

The Overall Goal of the Project ("Floricultural production will be improved in Argentine Republic") is likely to be achieved several years after the end of the Project. In addition, the Project has already brought about and is expected to bring about various impacts. For example, inquiries and references have been made to INTA by overseas researchers and private companies. There have been also requests of training from other research organizations: about 30 interns have been received, and trained by C/P members. A network of floricultural researchers has been developed and the first Argentine Congress of Floriculture and Ornamental Plants was organized in 2002. Detailed analysis is shown in the fourth section ("Impact") of Annex 4.

(5) Sustainability

The results confirm that the Project is sustainable in view of the future prospects of INTA institutional, financial and technical capabilities. From institutional points of view, it is expected that C/P of the Project will continue to be engaged in floricultural research at INTA; coordination with other relevant organization is being developed. From financial viewpoints, it is expected that INTA will be able to secure enough budget to carry out the related activities. From technical points of view, capacity of C/P has developed sufficiently to conduct basic research by themselves after the end of the Project. Techniques and methods developed by the Project are also expected to be utilized and transferred by INTA. Detailed analysis is shown in the fifth section ("Sustainability") of Annex 4.

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5. CONCLUSION

The Committee evaluated that the Project is carried out in a suitable manner and it is expected to achieve the project purpose. Consequently, the Committee concludes that the Project should be terminated as planned in the R/D.

6. RECOMMENDATIONS AND LESSONS

6-1 Recommendations

(1) Sustainability of the floricultural material collection and breeding activities

The Institute of Floriculture must continue the activities of floriculture material collection and breeding activities, by applying, improving and enhancing the techniques transferred and making the good use of the acquired visual capabilities of appreciation of the aesthetic features by the researchers.

(2) Strengthening of the relationship with INTA:

INTA has the technology for the collection of materials, breeding and propagation of other plant species. The I/F, as part of INTA, must draw up its links with other INTA C/P, to improve and enhance its own research and transference activities.

(3) Fulfilling of financial basis related to the Institute of Floriculture:

For the progress of the Institute of Floriculture activities, it is important the fulfilling of the financial basis on medium and long term basis considering the possibility of potential external sponsors.

(4) Developing of economic studies by INTA:

INTA should develop the economic studies of the flower related research and production as follows:

- Analysis of expected social benefits of research and product development
- Economic studies on national and international flower markets
- Microeconomic studies of adoption of new varieties.
- Agribusiness approach to advise flower and plant producers.

(5) Strengthening of the organization and the Network:

As per Horticulture Development Project (PDF) they were developed the floriculture research group, and the establishment of the network for flower and ornamental material exploring and collection, but on the Institute of Floriculture side it must strengthen the once established network of researchers through the PDF and CETEFFHO projects. On the other hand, it must be promoted the participation of the specialist from the universities as well.

(6) Establishment of an independent commercial product system:

The Institute of Floriculture must develop activities such as described below, in order to create commercial products from developed and developing materials:

- 1) Establish a program such as CEEP (Cooperated Collecting Expedition/Evaluation Program for New Ornamental Plants), RWWT (Confidential Regional/World Wide Testing Program) in order to implement an independent and efficient system.
- 2) Establish a series of activities to cover the monitoring of the needs of domestic consumers, floriculture field, gardening related members, which will allow the developing of the research activities suitable to that needs.
- 3) Promote the role of specialists, not only those related to the breeding but also marketing specialists from seed and seedling companies.
- 4) Put the best efforts on the transference of techniques, based on the opening of events on regular basis such as "open day meetings". These activities will show, floriculture commercial companies, breeding materials at different levels of development.
- 5) Make public the obtained information to the floriculture enterprises and societies (monitored information and results of research)
- 6) Reinforce the close partnership with local flower producers

(7) Efficient use of the breeder's rights:

In order to preserve the good use of any breeder's rights, it is necessary to strengthen the research activities such as those related to triploid breeding and the DNA marker techniques.

(8) Relationship of the researchers

During the last 3 years, the operations of PDF and CETEFFHO project were implemented by an integrated operation system based on a close relationship between both groups of researchers. For the future activities of the new Institute of Floriculture also, it will be recommended to maintain the same criteria of mutual relationship of the researchers (i.e. in the area of breeding and growing for example).

6-2 Lessons

- (1) The fact to expand the field of research from arboreous species only to arboreous and herbaceous species, considering the needs of the markets, allowed the good achievement of the goals.
- (2) Regarding to the marketing sector, if it would be taken into consideration from the beginning of the Project, probably the achievement of the goal would be reached a higher level.

Annex 1 – 1: Modifications made for the PDM for Evaluation

(Deleted words are shown as struck-lined and added ones as underlined)

1. Overall Goal: The sentence was changed into "~~The Project is to set with the overall goal to~~ ~~argument~~ Income of floricultural farmers will be augmented through improvement of floricultural products in the Argentine Republic". Moreover, there was a considerable gap between the Overall Goal and the Project Purpose. Thus, the Overall Goal was subdivided into "Floricultural products in the Argentine Republic will be improved", which was set as new Overall Goal and "Income of floricultural farmers will be augmented", which was set as newly created Super Goal.
2. Project Purpose: The sentence was changed into "~~The purpose of the Project is to enhance~~ ~~the~~ Research activities on floriculture and flower breeding technology will be enhanced through ~~growing~~ developing useful cultivars of Argentine origin". The term "flower breeding technology" was deleted because it was considered as part of "floriculture". The word "growing" was an editorial mistake and was changed into "developing".
3. Output 1: The sentence was changed into "~~Argentine Researchers trained in the fields of~~ Methods for developing new breeding systems and preservation materials¹, using potential ornamental plants of Argentine and commercial varieties, will be developed, taking advantage of the wealth of plant genetic resources." The words "Argentine Researchers trained" were deleted and changed into "methods will be developed" because (1) training (capacity building) is envisaged under the other Outputs as well and (2) the envisaged Activities under Output 1 are concerned with developing methods rather than training. In this connection, the words "new breeding systems and preservation methods" were changed into "Methods for developing new breeding materials" in order to better reflect the Activities. A footnote "Methods for developing new breeding materials include collection, evaluation and preservation of plants" was also created.
4. Output 2: The sentence was changed into "~~The~~ ~~a~~ Appropriate flower breeding technology techniques fixed will be developed on the basis of plant breeding theory ~~and floriculture~~ under Argentine climate". The word "technology" was an editorial mistake and was changed into "techniques".
5. Output 3: The sentence was changed into "~~Establishment of~~ ~~Useful and practical~~ ~~technology techniques~~ for flower breeding propagation will be established". The term "flower breeding" was an editorial mistake and was changed into a proper one: propagation.
6. Activities in general: Originally the activities were expressed in nouns. In order to make the meaning clearer, they were changed into infinitive forms and verbs and/or objectives

¹ Methods for developing new breeding materials include collection, evaluation and preservation of plants.

were added to complete the sentences.

7. Activity 1-1: The original expression was change into "Exploration and collection native potential ornamental plants"
8. Activity 1-2: The original expression was changed into "Clarification of the specific trait of the collected plants".
9. Activity 1-3: The original expression was changed into "Evaluation of the involved traits the collected plants"
10. Activity 1-4: The original expression was changed into "Develop preservation methods for the germplasms of the collected plants."
11. Activity 2-1: The original expression was changed into "Develop techniques to create new cultivars by cross breeding to through shortening the juvenile stage in ornamental flowering trees"
12. Activity 2-2: The original expression was changed into "Develop techniques to create new cultivars by cross breeding to through shortening the juvenile stage in ornamental flowering trees".
13. Activity 2-3: The original expression was changed into "Develop techniques to create new cultivars by cross breeding for through improvement of environmental stress tolerance of ornamental plants"
14. Activity 2-4: The original expression was changed into "Develop techniques to create new cultivars by polyploidy breeding by polyploid production of ornamental plants".
15. Activity 2-5: The original expression was changed into "Develop techniques to create new cultivars by mutation breeding of ornamental plants."
16. Activity 3-1: This Activity has been combined with Activity 2-1. Accordingly, it was deleted from the Activities under Output 3
17. Activity 3-2: This Activity "Introducing new genetic traits of Argentine native plants showing potential ornamental value into commercial cultivars." is to be realized through the Activities under Output 2 and should be integrated into those. Accordingly, it was deleted from the Activities under Output 3.
18. Activity 3-3: In view of the above, Activity 3-3 "Develop propagation techniques by means of tissue culture" was renumbered into new Activity 3-1. Furthermore, new Activity item (new Activity 3-2) "Improve conventional techniques for propagation of seeds and seedlings" was added because not only tissue culture but also conventional propagation techniques are covered by the Project.
19. Objectively Verifiable Indicators: Some of them were modified and new ones were added as shown in the PDME in order to be made more measurable. Means of verification were also modified as appropriate.

Project Name: Horticulture Development Project in Argentine Republic
 Period of Cooperation: 5 years (1999/5/1- 2004/4/30)
 Implementing Agency in Beneficiary Country: National Institute for Agricultural Technology (INTA)-Institute of Biological Resource (IRB)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Super Goal Income of floricultural farmers will be augmented</p>	<p>1. Income of floricultural farmers will augment more than the average incomes of 1999.</p>	<p>1. Statistical data of the Argentine Republic, Horticultural annual bulletin.</p>	<p>A. The Argentine supporting policy to floriculture will be maintained. B. INTA will promote the extension of results of the Project to floricultural farmers C. The distribution system on floriculture products will be arranged.</p>
<p>Overall Goal Floricultural products in the Argentine will be improved.</p>	<p>1. The amount of flower production will increase more than that of 1999 in the Argentine Republic</p>	<p>1. Statistical data of the Argentine Republic, Horticultural annual bulletin.</p>	<p>D The composed Argentine Research Unit will continue the activities.</p>
<p>Project Purpose Research activities on floriculture will be enhanced through developing useful cultivars of Argentine origin.</p>	<p>1. Six (6) scientific reports on development of new ornamental plants will be presented by the counterparts in the congress of Horticultural Society, etc. of Argentine Republic by the end of the Project 2. The Project will create two (2) original practical cultivars by the end of the Project</p>	<p>1. Publications of horticultural Society, etc. 2. The number of application of cultivars registration to National Institute of Seeds (INASE)</p>	<p>E The Research Unit engaged in floriculture will be composed by the Argentine Republic. F. The Facilities environment for the research activities on the flower breeding will be arranged.</p>
<p>Outputs 1. Methods for developing new breeding materials¹, using potential ornamental plants of Argentine and commercial varieties, will be developed, taking advantage of the wealth of plant genetic resources. 2. Appropriate flower breeding techniques will be developed on the basis of plant breeding theory under Argentine climate. 3. Useful and practical techniques for propagation will be established.</p>	<p>1a: C/P will collect 100 (one hundred) species and/or form of potential genetic resources to create original practical cultivars by the end of the Project 1b: Evaluation methods of breeding materials will be developed by the end of the Project 1c: Preservation methods of breeding materials will be developed by the end of the Project 2a: Descriptors (characteristics tables) for registration of new cultivars will be prepared by the end of the Project 2b: The guideline for breeding will be prepared by the end of the Project 2c: According to the degree of advance of the Project, the new cultivars will be created 3a: According to the degree of advance of the Project, propagules (i.e. vegetative propagated plants) of the new cultivars will be produced.</p>	<p>1a: Accumulated information, research reports 1b~3a The reports of the Project, Publications of INTA, The number of application of cultivars registration to INASE</p>	<p>E The Research Unit engaged in floriculture will be composed by the Argentine Republic. F. The Facilities environment for the research activities on the flower breeding will be arranged.</p>

¹ Methods for developing new breeding materials include collection, evaluation and preservation of plants.

<p>Activities</p> <p><1. Development of new breeding materials ></p> <p>1-1 Explore and collect native potential ornamental plants</p> <p>1-2 Clarify the specific trait of the collected plants.</p> <p>1-3 Evaluate the collected plants</p> <p>1-4 Develop preservation methods of the germplasm of the collected plants.</p> <p><2. Breeding ></p> <p>2-1 Develop techniques to create new cultivars by cross breeding through improvement of flower habits in ornamental plants</p> <p>2-2 Develop techniques to create new cultivars by cross breeding through shortening the juvenile stage in ornamental flowering trees</p> <p>2-3 Develop techniques to create new cultivars by cross breeding through improvement of environmental stress tolerance of ornamental plants</p> <p>2-4 Develop techniques to create new cultivars by polyploidy breeding of ornamental plants</p> <p>2-5 Develop techniques to create new cultivars by mutation breeding of ornamental plants.</p> <p><3. Propagation ></p> <p>3-1 Improve conventional techniques for propagation</p> <p>3-2 Develop propagation techniques by means of tissue culture.</p>	<p>Inputs</p> <p>Japanese side:</p> <ol style="list-style-type: none"> 1. Dispatch of Japanese Experts <ol style="list-style-type: none"> (1) Long-term experts: (2) Short-term experts: 2. Training of Argentine personnel in Japan 3. Provision of machinery and equipment <p>Argentine side:</p> <ol style="list-style-type: none"> 1. Service of the Argentine counterparts personnel and administrative personnel 2. Provision of land, buildings and facilities 3. Running expenses. <p>Note: See the details of the Master Plan of R/D</p>	<p>G The climates in the Argentine Republic will not change accordingly</p> <p>H. The procedure regarding the customs clearance and the transportation of the equipment within the Argentine Republic will not delay.</p> <p>Pre-conditions:</p> <ol style="list-style-type: none"> 1. The Activities of Technological Center on Floriculture, Fruits and Horticulture (CETEFFHO) Project will continue.
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Annex 2: Evaluation Grid (1) Accomplishment

(By the end of the Project) Grade*: A=Expected to be fully accomplished, B=Expected to be mostly accomplished, C=Expected to be partly accomplished

Items	Indicators as per PDM	Sources	Methods	Results (as of March 2004)	Grade																					
Super Goal	1. Income of floricultural farmers will argument more than the average income of 1999.	Statistical data, horticultural annual bulletin	Review of the documents																							
Overall Goal	1. The amount of flower production will increase more than that of 1999 in the Argentine Republic.	-do-	-do-																							
Project Purpose	1. Six (6) scientific reports on development of new ornamental plants will be presented made by the counterparts in the congress of Horticultural Society, etc. of Argentine Republic.	Publications of Horticulture Society, etc.	Review of the documents	<p>So far, as many as 38 scientific reports have been presented by the C/P in the domestic congresses. In addition, 7 reports have been presented in the international symposiums.</p> <p>Table 1: Number of reports presented</p> <table border="1"> <thead> <tr> <th>Year</th> <th>At domestic congresses</th> <th>At international symposiums</th> </tr> </thead> <tbody> <tr> <td>1999</td> <td>0</td> <td>0</td> </tr> <tr> <td>2000</td> <td>2</td> <td>0</td> </tr> <tr> <td>2001</td> <td>3</td> <td>0</td> </tr> <tr> <td>2002</td> <td>19</td> <td>0</td> </tr> <tr> <td>2003</td> <td>14</td> <td>7</td> </tr> <tr> <td>Total</td> <td>38</td> <td>7</td> </tr> </tbody> </table> <p>Furthermore, 6 original scientific papers have been accepted by the international, Japanese or Argentine Horticultural Societies.</p> <p>(For details, please see Annex A)</p>	Year	At domestic congresses	At international symposiums	1999	0	0	2000	2	0	2001	3	0	2002	19	0	2003	14	7	Total	38	7	A
Year	At domestic congresses	At international symposiums																								
1999	0	0																								
2000	2	0																								
2001	3	0																								
2002	19	0																								
2003	14	7																								
Total	38	7																								
	2. The Project will create two (2) original practical cultivars			So far, 10 applications for registration of original cultivars have been prepared, of which 6 have been submitted to INASE. Two (2) have been approved already: the Project has created two original practical cultivars. In addition, 2 applications for registration in Japan have been prepared, of which one has been already submitted to JICA for further action.	A																					
Output 1	1a: C/P will collect one hundred (100) species and /or form of potential genetic resources to create original practical cultivars.	Project reports	Review of the documents	So far, approximately 1,000 live plants and 400 seeds have been collected as potential genetic resources in around 40 expeditions. Major genus collected include <i>Calibrachoa</i> , <i>Jacaranda</i> , <i>Nierembergia</i> , <i>Ruellia</i> , <i>Scoparia</i> , <i>Serna</i> , <i>Sesbania</i> , <i>Tabebuia</i> , <i>Tecoma</i> , etc.	A																					

(Readers are advised that Grades are indicated to help readers' understanding of the results, and they are not objective indicators such as points)

Annex 2: Evaluation Grid (1) Accomplishment

(By the end of the Project) Grade*: A=Expected to be fully accomplished, B=Expected to be mostly accomplished, C=Expected to be partly accomplished

Items	Indicators as per PDM	Sources	Methods	Results (as of March 2004)	Grade										
	1b: Evaluation methods of breeding materials developed	-do-	-do-	Database for evaluation of the collected plants and seeds (i.e. genetic resources) have been developed, using BG-base. Approximately 2,000 accessions have been registered. Characterization methods in pot and open field were developed. Furthermore, basic concepts for Co-operative Collection, Expedition and Evaluation Program (CEEP) of wild ornamental plants as well as Confidential Regional/ World-wide Testing Program (RWWT) of created cultivars, developed lines or wild plant materials collected under CEEP, have been developed based on the Convention of Biodiversity as a new strategy in Argentine for the development of breeding materials in collaboration with local growers, foreign enterprises, etc. They will be presented in a national workshop on native plants in April 2004.	A										
	1c: Preservation methods of breeding materials will be developed	-do-	-do-	Preservation methods for pollens and <i>Bignoniaceae</i> seeds have been developed so far. Long-term storage studies on <i>Bignoniaceae</i> seeds have been published in scientific journal.	A										
Output 2	2a: Descriptors (characteristics tables) for registration of new cultivars will be prepared.	Project reports	Review of the documents	So far, 8 descriptors of 5 genus have been prepared for registration in Argentine or Japan.. Table 2 : Descriptors prepared by the Project <table border="1"> <thead> <tr> <th></th> <th>No. of descriptors</th> <th>Name of genus</th> </tr> </thead> <tbody> <tr> <td>For registration in Argentine</td> <td>5</td> <td>1. <i>Jacaranda</i> 2. <i>Nierembergia</i> 3. <i>Scoparia</i> 4. <i>Tabebuia</i> 5. <i>Tecoma</i></td> </tr> <tr> <td>For registration in Japan</td> <td>3</td> <td>1. <i>Jacaranda</i> 2. <i>Tabebuia</i> 3. <i>Tecoma</i></td> </tr> </tbody> </table>		No. of descriptors	Name of genus	For registration in Argentine	5	1. <i>Jacaranda</i> 2. <i>Nierembergia</i> 3. <i>Scoparia</i> 4. <i>Tabebuia</i> 5. <i>Tecoma</i>	For registration in Japan	3	1. <i>Jacaranda</i> 2. <i>Tabebuia</i> 3. <i>Tecoma</i>	A	
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For registration in Japan	3	1. <i>Jacaranda</i> 2. <i>Tabebuia</i> 3. <i>Tecoma</i>													
	2b: The guideline for breeding will be prepared.	Guideline	-do-	The guideline for breeding has been prepared in Japanese and its Spanish version is under preparation. It is expected that preparation of the Spanish version will be completed by the end of the Project.	A										
	2c: According to the degree of advance of the Project, the new cultivars will be created.	Project reports	Review of the documents	So far, 10 new cultivars of 4 genus have been created for registration with INASE. Table 3: Genus and number of cultivars registered with INASE <table border="1"> <thead> <tr> <th>Name of genus</th> <th>No. of cultivars created</th> </tr> </thead> <tbody> <tr> <td>1. <i>Lilium</i></td> <td>3</td> </tr> <tr> <td>2. <i>Nierembergia</i></td> <td>5</td> </tr> <tr> <td>3. <i>Tecoma</i></td> <td>1</td> </tr> <tr> <td>4. <i>Tabebuia</i></td> <td>1</td> </tr> </tbody> </table>	Name of genus	No. of cultivars created	1. <i>Lilium</i>	3	2. <i>Nierembergia</i>	5	3. <i>Tecoma</i>	1	4. <i>Tabebuia</i>	1	A
Name of genus	No. of cultivars created														
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3. <i>Tecoma</i>	1														
4. <i>Tabebuia</i>	1														

(Readers are advised that Grades are indicated to help readers' understanding of the results, and they are not objective indicators such as points)

Annex 2: Evaluation Grid (1) Accomplishment

(By the end of the Project) Grade*: A=Expected to be fully accomplished, B=Expected to be mostly accomplished, C=Expected to be partly accomplished

Items	Indicators as per PDM	Sources	Methods	Results (as of March 2004)	Grade									
Output 3	3a: According to the degree of advance of the Project, propagules (i.e. vegetative propagated plants) of the new cultivars will be produced.	M/E, C/P, project reports	Review of the documents, interviews	<p>Propagules of 5 genus have been produced by conventional methods and by tissue culture respectively. In other words, propagules of six of nine important genus collected under Output 1 have been produced.</p> <p>Table4 : Propagules produced by the Project</p> <table border="1"> <thead> <tr> <th></th> <th>No. of genus</th> <th>Name of genus</th> </tr> </thead> <tbody> <tr> <td>By conventional methods</td> <td>5</td> <td>1. <i>Jacaranda</i> 2. <i>Nierembergia</i> 3. <i>Scoparia</i> 4. <i>Tabebuia</i> 5. <i>Tecoma</i></td> </tr> <tr> <td>By tissue culture</td> <td>5</td> <td>1. <i>Jacaranda</i> 2. <i>Pseudohioxys</i> 3. <i>Scoparia</i> 4. <i>Tabebuia</i> 5. <i>Tecoma</i></td> </tr> </tbody> </table> <p>In addition, practical method of cuttings of <i>Jacaranda</i> has been established and published in the scientific journal.</p>		No. of genus	Name of genus	By conventional methods	5	1. <i>Jacaranda</i> 2. <i>Nierembergia</i> 3. <i>Scoparia</i> 4. <i>Tabebuia</i> 5. <i>Tecoma</i>	By tissue culture	5	1. <i>Jacaranda</i> 2. <i>Pseudohioxys</i> 3. <i>Scoparia</i> 4. <i>Tabebuia</i> 5. <i>Tecoma</i>	A
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Annex 2: Evaluation Grid (1) Accomplishment

(By the end of the Project) Grade*: A=Expected to be fully accomplished, B=Expected to be mostly accomplished, C=Expected to be partly accomplished

Items	Plan as per PDMe	Sources	Methods	Results (as of March 2004)														
Input	Japanese side																	
	1. Experts (1) Long-term experts: (2) Short-term experts:	Project reports	Review of the reports	<p>(1) <u>Long-term experts</u>: In total, 9 experts have been dispatched in the following fields; Chief advisor (2), Coordinator (2), Evaluation and improvement of potential ornamental species (3), and Breeding of new cultivars (2). (For details, please see Annex B-1).</p> <p>2) <u>Short-term experts</u>: In total, 9 experts have been dispatched in the following fields: Breeding for Stress Resistance, salinity resistance (1); Breeding for Stress Resistance, Soil Fertilizer (1); Tissue culture/Technical Training of the use of Flowcytometer (1); Information of Flower Marketing (2); Breeding of Practical Cultivars in Ornamental flowers (1); Micro Propagation (1); Mutation breeding (1); Registration of Ornamental Plants (1). (For details, please see Annex B-2).</p> <p>Table 5: Dispatch of short-term experts by the Japanese fiscal year (April-March)</p> <table border="1"> <thead> <tr> <th>Year</th> <th>99</th> <th>00</th> <th>01</th> <th>02</th> <th>03</th> <th>04*</th> </tr> </thead> <tbody> <tr> <td>Persons</td> <td>1</td> <td>2</td> <td>1</td> <td>5</td> <td>0</td> <td>0</td> </tr> </tbody> </table> <p>*=plan</p>	Year	99	00	01	02	03	04*	Persons	1	2	1	5	0	0
	Year	99	00	01	02	03	04*											
	Persons	1	2	1	5	0	0											
2. Training of counterpart personnel in Japan:	-do-	-do-	In total, 7 C/P have been trained in Japan in the following fields: Ornamental Crop/Breeding and Marketing (1); Breeding of Ornamental Crop (1); Evaluation of Ornamental Plant Germplasm (1); Administration in Floriculture (2); Floricultural Breeding (1); and Floricultural Culture (1). It is planned that one more person will be sent for training in Japan by the end of the Project. (For details, please see Annex B-3). <p>Table 6: C/P training by the Japanese fiscal year (April-March)</p> <table border="1"> <thead> <tr> <th>Year</th> <th>99</th> <th>00</th> <th>01</th> <th>02</th> <th>03</th> <th>04*</th> </tr> </thead> <tbody> <tr> <td>Persons</td> <td>2</td> <td>1</td> <td>2</td> <td>1</td> <td>1</td> <td>1</td> </tr> </tbody> </table> <p>*=plan</p>	Year	99	00	01	02	03	04*	Persons	2	1	2	1	1	1	
Year	99	00	01	02	03	04*												
Persons	2	1	2	1	1	1												
3. Provision of machinery and equipment	-do-	-do-	The machinery and equipment worth approximately 8,82,561 pesos have been provided, including list of provided equipment from Japan side. (For details, please see Annex B-4). <p>Table 7: Provision of equipment and machinery by the Japanese fiscal year (April-March)</p> <table border="1"> <thead> <tr> <th>Year</th> <th>99</th> <th>00</th> <th>01</th> <th>02</th> <th>03</th> </tr> </thead> <tbody> <tr> <td>pesos</td> <td>164,570</td> <td>132,416</td> <td>303,020</td> <td>172,085</td> <td>110,470</td> </tr> </tbody> </table>	Year	99	00	01	02	03	pesos	164,570	132,416	303,020	172,085	110,470			
Year	99	00	01	02	03													
pesos	164,570	132,416	303,020	172,085	110,470													
4. Others	-do-	-do-	Approximately 866,250 pesos have been disbursed as local costs. (For details, please see Annex B-5). <p>Table 8: Provision of local costs by the Japanese fiscal year (April-March)</p> <table border="1"> <thead> <tr> <th>Year</th> <th>99</th> <th>00</th> <th>01</th> <th>02</th> <th>03</th> <th>04*</th> </tr> </thead> <tbody> <tr> <td>Pesos</td> <td>89,800</td> <td>274,350</td> <td>111,500</td> <td>216,800</td> <td>108,500</td> <td>65,300</td> </tr> </tbody> </table> <p>*=plan</p>	Year	99	00	01	02	03	04*	Pesos	89,800	274,350	111,500	216,800	108,500	65,300	
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Annex 2: Evaluation Grid (1) Accomplishment

(By the end of the Project) Grade*: A=Expected to be fully accomplished, B=Expected to be mostly accomplished, C=Expected to be partly accomplished

Input	Argentine side	Project reports	Review of the reports													
	1. Service of the Argentine counterpart personnel and administrative personnel			<p>Following counterpart personnel and administrative personnel have been assigned to the Project.</p> <p>(1)Counterpart personnel: 1) Project Director (1) 2) Project Manager (1) 3) Counterpart Personnel (Researchers) (5)</p> <p>(2)Administrative personnel 1) Administrative staff (2) 2) Driver (1)</p> <p>(For details, please see Annex C-1).</p> <p>In addition, 6 staff members of INTA have cooperated with the Project in the fields of preparation of web page (3), collection expedition (1) and economic analysis (2).</p>												
	2. Provision of land, buildings and facilities	-do-	-do-	Land, building and Facilities for the Project activities have been provided, including office spaces of Chief Advisor, Project Coordinator and Japanese Experts as well as Gene Bank.												
	3. Running expenses.	-do-	-do-	<p>In total 699,892 pesos have been allocated as running expenses for the Project. (For details, please see Annex C-2).</p> <p>Table 9:Provision of running expenses by the Argentine fiscal year (January-December)</p> <table border="1"> <thead> <tr> <th>Year</th> <th>99</th> <th>00</th> <th>01</th> <th>02</th> <th>03</th> </tr> </thead> <tbody> <tr> <td>Pesos</td> <td>108,504</td> <td>140,903</td> <td>136,866</td> <td>142,266</td> <td>171,353</td> </tr> </tbody> </table>	Year	99	00	01	02	03	Pesos	108,504	140,903	136,866	142,266	171,353
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Annex 3: Evaluation Grid (2) Implementation Process

Abbreviation: C/P-counterpart personnel J/E-Japanese expert

Item	Source	Method	Evaluation
1 Progress of Activities			
(1)Activities under Output 1	Project report, C/P, J/E,	Review of report, questionnaire, interviews	<p>Overall: Activities under Output 1 have been implemented as planned. Of the collected plants, nine genus have been selected as breeding materials: <i>Calibrachoa</i>, <i>Jacaranda</i>, <i>Nierembergia</i>, <i>Ruellia</i>, <i>Scoparia</i>, <i>Senna</i>, <i>Sesbania</i>, <i>Tabebuia</i>, and <i>Tecoma</i>.</p> <p>1-1: Exploration methods have been established and expeditions have been conducted. One thousand (1,000) live plants and 400 seeds have been collected as potential genetic resources.</p> <p>1-2: Germination tests have been conducted; methods for improvement of the germination rate have been established; and study of propagation traits has been conducted to develop breeding materials.</p> <p>1-3: Databases have been established to record the collected information; an ornamental germplasm guidebook of flowering plants in Argentine has been developed in the form of website; and cooperative germplasm evaluation program with domestic and foreign cooperators (CEEP/RWWT) have been prepared. Field trial methods have been established and applied.</p> <p>1-4: Preservation methods have been developed and four-hundred (400) accessions of seeds have been preserved in the Gene Bank of IRB.</p>
(2)Activities under Output 2	-do-	-do-	<p>Overall: Activities under Output 2 have been implemented mostly according to the original plan. In order to diversify the breeding materials, herbaceous plants have been also made as primary target materials. The main target plants since fiscal year 2002 have been the following ten genus: <i>Calibrachoa</i>, <i>Jacaranda</i>, <i>Lilium</i>, <i>Nierembergia</i>, <i>Ruellia</i>, <i>Scoparia</i>, <i>Senna</i>, <i>Sesbania</i>, <i>Tabebuia</i>, and <i>Tecoma</i>.</p> <p>2-1: Although almost all crossing in Activity 2-1 was done by common pollination, the techniques such as intrastyle pollination and ovule culture were adapted in <i>Lilium</i>. As a result of this breeding, three (3) original cultivars of <i>Lilium</i> were created. These techniques were effectively transferred to C/P and new cross breeding of <i>Lilium</i> have been already started. Cross breeding of Freesia has not been conducted in the Project because the superior varieties of freesia with suitable characteristics for Argentine climate had been already created by the local farmers.</p> <p>2-2: Cross breeding of the precocious cultivars of <i>Chorisia</i>, <i>Jacaranda</i> and <i>Tabebuia</i> have been conducted. Since the breeding period of these woody ornamental trees require quite long, the method of the promotion of immature seed germination by gibberellin treatment for shortening of breeding period in <i>Jacaranda</i> was established and effectively transferred to C/P. However, breeding program of <i>Jacaranda</i> was delayed, because the mother plants of precocious accessions in <i>Jacaranda</i> did not flower in 2001 and 2002. Thus the necessity of the studies about the elucidation of the mechanism of flower bud differentiation and flowering habits were understood by C/P. In <i>Chorisia</i>, although the breeding materials were selected carefully, the cultivars having precocious character could not be obtained.</p>

Annex 3: Evaluation Grid (2) Implementation Process

Item	Source	Method	Evaluation
			<p>2-3: Selection of breeding materials for cold tolerance of <i>Jacaranda</i> and <i>Tabebuia</i> was done by winter cultivation, which was a joint research program between the Project and INTA-Mendoza.</p> <p>2-4: Techniques to create of tetraploids by <i>in vitro</i> or <i>in vivo</i> colchicine treatment were completely transferred to C/P in <i>Calibrachoa</i>, <i>Jacaranda</i>, <i>Lilium</i>, <i>Nierembergia</i>, <i>Scoparia</i>, <i>Senna</i>, <i>Sesbania</i>, <i>Tabebuia</i> and <i>Tecoma</i>. Created tetraploid of <i>Nierembergia</i> having large flowers was named as "Bruma INTA-JICA" and preparation for registration to Argentine (INASE) was completed. Ornamental values of triploids obtained from crossings between diploid and tetraploid of <i>Tabebuia heptaphylla</i> were understood by C/P.</p> <p>2-5: Techniques of creation of mutants by gamma radiation using leaf segments cultured <i>in vitro</i> was transferred to C/P. It is expected that the evaluation of the gamma radiation treatment will be completed by the end of the Project.</p>
(3)Activities under Output 3	Project report, C/P, J/E,	Review of report, questionnaire, interviews	<p>Overall: Activities under Output 3 have been implemented according to the original plan.</p> <p>3-1: Technique of spring grafting of <i>Jacaranda</i> and <i>Tabebuia</i> is effective and technique of softwood cutting of <i>Jacaranda</i> was established. IBA (Indole Butyric Acid) treatment for scions was effective in cuttings of <i>Tecoma</i>.</p> <p>3-2: Protocols of <i>in vitro</i> propagation of <i>Bougainvillea</i>, <i>Jacaranda</i>, <i>Scoparia</i>, were developed. Technique of <i>in vitro</i> cuttings with IBA treatment was developed in <i>Tabebuia</i>. <i>In vitro</i> multiplication technique by using of adventitious shoot induction from leaf segments was established in <i>Pseudogynoxys cabreracae</i>.</p>
2Monitoring of the Project	C/P, J/E	Interviews	Monitoring reports have been prepared and submitted to JICA in timely manner. Monitoring of the Project has been conducted properly.