

Evaluation of Japan's Official Development Assistance to the Uruguayan Forestry Sector

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Preface

The evaluation of Japan's Official Development Assistance (ODA) in Uruguay in the forestry sector (1989-2003) was possible thanks to the cooperation of several bodies. Therefore, we want to thank the participating organizations for their contributions, mainly the Japanese Embassy, Japan International Cooperation Agency (JICA), Uruguayan International Cooperation Agency (AUCI), and the National Evaluation Agency from the Planning and Budget Office (AGEV/OPP). We thank Takashi Shishido, Mori Masahiko, Naomi Hiroi, Felipe Ortiz de Taranco, María Dutto, Janet López, Juan Pablo Móttola and Federico Ott for their contributions.

We also thank the organizations which participated in the implementation of Studies and Technical Cooperation Projects between Japan and Uruguay for their openness and good disposition. We highlight contributions by the Forestry Department at the Ministry of Livestock, Agriculture and Fisheries, the National Institute for Agrarian Research (INIA), the Ministry of Industry and Energy, and the Uruguayan Technological Laboratories (LATU).

Acronyms

AGEV	National Evaluation Agency	MDF	Medium Density Fiberboard
AUCI	Uruguayan Agency for International Cooperation	MGAP	Ministry of Livestock, Agriculture and Fisheries
ASEAN	Association of South East Asian Nations	MIEM	Ministry of Industry, Energy and Mining
BKP	Bleached Kraft Pulp	ODA	Official Development Assistance
BIRF	International Bank for Reconstruction and Development	OPP	Planning and Budget Office
CIDE	Committee for Investment and Economic Development	OPYPA	Agricultural Programming and Policy Office (Oficina de Programación y Políticas Agropecuarias)
DGF	Forestry General Directorate	OSB	Oriented Strand Board
DID	Design, Implementation and Development evaluation	PBDIF	Study for the Industrial Development Basic Plan - Final Report
DINAMA	National Environment Agency (Dirección Nacional de Medio Ambiente)	PNDES	National Plan for Economic and Social Development
DNI	National Directorate of Industry (Dirección Nacional de Industrias)	RYNIA	Japanese Forestry Agency
EU	European Union	UNFCCC	United Nations Framework Convention for Climate Change
FAO	Food and Agriculture Organization		
FSC	Forest Stewardship Council		
GHG	Green House Gases		
INIA	National Institute for Agrarian Research		
IADB	Inter-American Development Bank		
IBRD	International Bank for Reconstruction and Development		
ISO	International Organization for Standardization		
JICA	Japan International Cooperation Agency		
LVL	Laminated Veneer Lumber		
MAFF	Ministry of Agriculture, Forestry and Fisheries		

1. Abstract

Topic: Evaluation of Japan's Official Development Assistance to the Uruguayan forestry sector

Country: Uruguay

Evaluators: Ag. Engineer Carlos Mantero – Mag. Leopoldo Font

Evaluation period: October 2016 – March 2017



Characterization of wood, from forest to roundwood. Photo LATU

1.1 Evaluation Description

a. Evaluation Objective

This study's main aim is to gather useful knowledge and recommendations for the South-South Cooperation strategy. This evaluation will consider Japan's assistance policy to Uruguay implemented through project funding for the forestry sector.

b. Evaluation Object:

This evaluation will consider Japan's assistance policy to Uruguay implemented through project funding in the forestry sector in the period 1989-2003. The cooperation studies and/or projects are:

- (i) "Study for the Development of the Five-Year Forestation Plan" (1989-1991)
- (ii) "Study for the Basic Plan of Industrial Development of Forest Products".
- (iii) "Project for the Development of Basic Technology of Improvement of Forest Species" (1990-1993)
- (iv) "Project for the Genetic Improvement of Forest Species" (1993-1998)
- (v) "Forest Products Testing Technology Project" (1998-2003)

c. Evaluation Methodology

The evaluation criteria will be: "Relevance of Projects"; "Effectiveness of Results", and "Appropriateness of Processes". This evaluation will be based on the "Guidelines for Evaluation Conducted by the Partner Country" from the Ministry of Foreign Affairs in Japan. They will also include lessons learned and best practices related to Design, Implementation and Performance Evaluation (DIDE) developed by AGEV/OPP in Uruguay.

Activities conducted:

1. Documentary analysis of all available documents related to cooperation initiatives;
2. Semi-structured interviews aimed at qualified informants with roles at different levels and related to initiatives and/or participating bodies;
3. Field visits to directly observe projects' and/or studies' achievements (such as equipment, infrastructure, etc).

Collection of available secondary information about the initiatives to perform evaluation.

1.2. Evaluation Results

a. Overall Summary

In general, technical cooperation projects and studies were satisfactorily carried out fully reach-

ing objectives set regarding products and results. Objectives were achieved thanks to the quality of the technical assistance provided, the profile of participants (mainly long-term ones), the technology transferred and training activities. Japan's Official Development Assistance was aligned with locally prioritized needs from the forestry sector and global development objectives. From the effectiveness stand point, the projects and studies funded by ODA achieved the results and products planned, representing a significant contribution to the development of the Uruguayan forestry sector. Results have proven to be sustainable in the short and mid-term.

b. Relevance of Policies

Japan's cooperation with Uruguay's forestry sector was highly consistent with ODA's policies and guidelines in force during the analysis period and with changes made in the last years. It was also aligned with development needs proposed by Uruguay for the promotion of its forestry sector. Besides, development assistance complied and was aligned with Japan's forestry policies. Moreover, they were aligned with main international environmental regulations, agreements and standards as well as with sustainable development topics, as in the case of the Millennium Development Goals (MDGs).

c. Effectiveness of Results

Japan's ODA made, in the period of reference (1989-2003), a significant contribution to the development of the National Forestry Sector. Technical cooperation projects and studies had a satisfactory performance fully achieving the objectives sets regarding expected results and products. Main contributions to the development of the forestry sector were possible thanks to the training of human resources, resource contributions - especially equipment and technology, and in the case of the first projects, thanks to their thoroughness and length of the approach (short, mid and long-term); all these contributed to the proposed change of paradigm.

d. Appropriateness of Processes

Generally speaking, design processes for cooperation actions took into account the development needs of the forestry sector in terms of the priorities defined by the national interlocutors. This was possible due to consultation and participation throughout the process of elaboration of proposals where Japanese and national actors worked together. It was also possible thanks to the positive combination of Japanese expertise and knowledge by local professionals who helped improve and adapt the studies and projects guidelines to local development needs.

The satisfactory implementation process of technical studies and cooperation projects led to the fulfillment of planned objectives. Generally speaking, institutional aspects and the systems of participating bodies did not represent a limitation for its implementation. In fact, working methodologies were highly valued and this enabled the joint work between Japanese and national experts (especially with long-term experts)

1.3. Recommendations

a. Possibility of South-South Cooperation with Japan's Support

The quantity and quality of the lessons learned and forestry best practices identified in the reference period (1989-2003) are satisfactory; they can be taken into consideration for the development of joint South-South Cooperation actions with other regional countries with Japan participating as a strategic partner (triangular cooperation mode).

b. Support to Long-Term Sustainability

Long-term sustainability will probably depend on the sector and political management's capacity to change in order to adapt the forestry production to the requirements and possibilities of each period. Thus, it is advisable to strengthen the strategic planning practices, including the analysis of actors

involved to identify future opportunities, threats, strengths and weaknesses leading to the implementation of appropriate actions.

c. Information Available for the Evaluation

It is advisable to strengthen the record and systematization of progress made in the field of cooperation. Particularly, relevant information about projects conducted, such as their achievements, progress reports and final evaluations.

d. Best Practices to Be Incorporated in Strategic South-South and/or Triangular Cooperation

1. Importance of strong national counterparts to implement cooperation proposals between countries;
2. In-depth analysis of starting points before cooperation initiatives begin (baselines, state of the art, use of existing information and capacities);
3. Strategic planning in the short, mid and long-term;

4. Absence of pre-established recipes for the development of the forestry sector. As a consequence, there is a need to adapt technically successful principles and to revise best practices in the forestry sector;
5. Uruguay as potential provider of forestry technical assistance;
6. Importance of cooperation sustained over time.

2. Evaluation Methodology

Regarding the importance of Japan's Official Development Assistance (ODA) to Uruguay, particularly in the agricultural area and specifically in the forestry sector, projects funded through ODA, aimed at the Uruguayan forestry sector, will be globally evaluated; evaluation will cover the period 1989-2003.

The main aim of the study is to gather useful knowledge and recommendations for the South-South cooperation strategy. This evaluation will focus on Japan assistance policy towards Uruguay implemented through project funding within the forestry sector.

The criteria for evaluation will be based on: "Relevance of Projects"; "Effectiveness of Results", and "Appropriateness of Processes". This evaluation will be based on the "Evaluation Guidelines by Partner Country" from the Ministry of Foreign Affairs in Japan. It will also incorporate lessons learned and best practices related to Design, Implementation and Performance Evaluations (DIDE)¹ conducted by AGEV/OPP in Uruguay.

On the one hand, the evaluation will aim to (i) determine the relevance of cooperation in the forestry sector analyzing its consistency with the agricultural public policy and the Japanese cooperation policy priorities; on the other hand, (ii) to gather in-

formation about the contributions made by those projects to the strengthening of technical capacities in the sector enabling us to appreciate the cooperation offers the country has in the forestry sector ("Effectiveness of Results") and, lastly, (iii) to analyze the appropriateness of the process of the Official Development Assistance (ODA) that leads to the identification of best practices and learned lessons for both countries in order to strengthen their cooperation policies.

The evaluation will have a summative and formative approach, aiming to learn from experiences and results, taking useful lessons for the South-South cooperation strategy through a mixed qualitative and quantitative study, mainly based on existing information. Also, available information will be complemented with a field work which will involve surveys among qualified informants and field visits in case additional information is needed.

The evaluation will include, among other issues, an analysis of the program's objectives, their consistency with Uruguay's development policies, the strategy implemented by cooperation, the processes carried out for the execution and results obtained in terms of achievements in relation to objectives, taking into consideration, at all times, the context which might have affected those results.

The evaluation will be based on the following criteria or focal points "Relevance of Projects"; "Effectiveness of Results" and "Appropriateness of Processes". These evaluation criteria provide analysis axes to be followed during the evaluation and will be consistent with each of the sections of the Evaluation Report. Also, information sources will be adapted to these criteria. Criteria, axes of analysis and information sources for the current study are presented below.

Evaluation criteria		Analysis axes (guideline)	Sources of Information	
			Documents	Organizations
Development Viewpoints				
Relevance	Consistency with Japan's ODA high level policies	1. Consistency with Japan's ODA Charter and the mid-term policy from the Japan's ODA.	Official Development Assistance Charter 1993, revised in 2003 and 2015. Japan's ODA Mid-term policy 1999, 2005. Documents related to Japan's policy in the forestry sector.	MOFA
		2. Consistency with Japan's policies in the forestry sector.		
	Consistency with Uruguay's development needs.	1. Consistency with Uruguay's development plans.	National Budget Laws 1990-1994, 1995-1999, 2000-2004. Forestry Acts: Nº 13.723 (1968), Nº. 15.939 (1987) and amendments, mandatory decrees. Article: "25 years after the passing of Act 15.939 (Forestry Act)" (2012, MGAP). Sectoral Documents from DGF-MGAP, among others.	Uruguay's Parliament, MGAP (DGF, OPYPA)
		2. Consistency with Uruguay's development plans in the forestry sector.		
	Consistency with international policies and affairs.	1. Consistency with Millennium Development Goals.	Document "Assessing aid" (World Bank, 1998), Millennium Declaration (2000), Declaration adopted during the High Forum on Harmonization in Rome (2003) Rio Declaration on Environment and Development (1992), Declaration of Principles for Sustainable Forests Management (1992), United Nations Convention on Climate Change (1994), Montreal Process (1994), Santiago's Declaration (1995), Kyoto's Protocol (1997), document "Forests for the future" (1999)	World Bank, United Nations, Montreal Process
		2. Consistency with international policies and affairs.		
	Relationship with other donors' cooperation	1. Consistency with other donors' assistance	Documents of assistance policies and projects for Uruguay in the forestry sector of other donors (such as FAO, Spain and IADB) and results. Surveys to qualified respondents	Spain, FAO, IADB, JICA
		2. Complementarity with other donors' assistance		
		3. Comparative advantages from Japan (areas, methods, cooperation modalities, etc)		

Source: own production based on AUCI's table

Evaluation criteria		Analysis axes (guideline)	Sources of Information	
			Documents	Organizations
Development Viewpoints				
Effectiveness of Results	Degree of contribution of Japan's assistance to the forestry sector in Uruguay	1. Achievements by Japan's assistance to the forestry sector.	Assessed projects documents and final reports. Interviews to qualified respondents in model institutions.	MOFA, JICA, INIA, LATU, MGAP(DGF), MVOTMA (DINAMA), MIEM (DNI), AUCI
		2. Grade of contribution of Japan's assistance to the forestry sector.		
		3. Signs of improvement in the perception of the partner country image the partner country government and its citizens.		
Appropriateness of Processes	Processes appropriateness of policy design.	1. Clarity in development needs of policy design processes.	Documents of evaluated projects. Interviews to qualified respondents in model institutions.	MOFA, JICA, AUCI, MGAP (DGF), MVOTMA (DINAMA)
		2. Infrastructure, systems and policy design processes.		
		3. Cooperation among relevant actors from Japan's ODA		
		4. Ownership by relevant actors, including Uruguay's.		
	Appropriateness of policy implementation processes.	1. Appropriateness of organizations' infrastructure and systems during policy implementation stage (i.e. Uruguay's government, receiving organizations and those working in ODA.	Documents of evaluated projects. Interviews to qualified respondents in model institutions. Japan's Sectorial implementation guidelines	MOFA, JICA, AUCI, MGAP (DGF), MVOTMA (DINAMA)
		2. Program of implementation stage		
		3. Information exchange and cooperation with other donors.		
		4. Monitoring and regular follow-up in the policy implementation stage		
		5. Japan's ODA visibility		

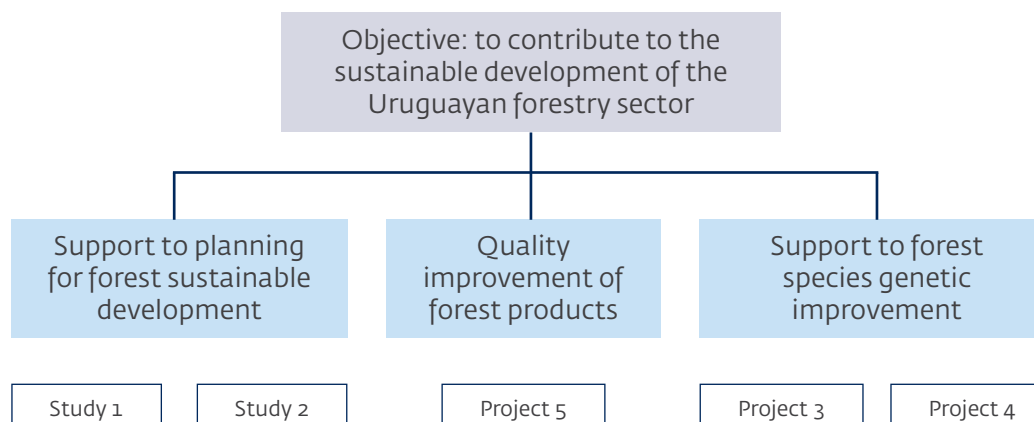
Source: own production based on AUCI's table

3. Description of Cooperation Projects

3.1. Background

Technical cooperation between Japan and Uruguay in the Forestry Sector has a rich history which goes back to the beginning of the 1980s. With the clear aim to promote sustainable development in the forestry sector and the development of the forestry industry; Japan's Government support to the creation of a "Master Plan for Long Term Forestation in Uruguay" was highlighted. This Master Plan was included in the Project Study for the Use of Forested Wood (1986-1987) funded by Japan.

The Master Plan has been considered the origin of the revision and amendment of Uruguay's Forestation Act which was a key factor in the promotion of forestry (JICA 1999: 1.10-1). Among other innovations in the 1972 act, there is a fund for forestation and subsidies, as well as the request to the Ministry of Livestock, Agriculture and Fisheries to develop a Five-year Forestry National Plan defining annual goals to be achieved in the forestry sector (Forestry Act N° 15.939, December 1987). It is worth mentioning that this is the main precedent to understand the projects of technical cooperation and studies funded by the Japanese cooperation for this evaluation's reference period (1989-2003).



Source: document AGEV / AUCI

In the reference period, the Japanese Official Development Assistance (ODA) for the Uruguayan Forestry Sector enabled the carrying out of two Development Studies and three Technical Cooperation Projects. Among the first there is the (i) "Study for the Development of the Forestry Five-year Plan" (1989-1991) and the (ii) "Study for the Basic Plan of Industrial Development of Forest Products" (1999). Among the Technical Cooperation Projects there are: (iii) "Project for the Development of Basic Technology for the Improvement of Forest Species" (1990-1993); (iv) "Project for the Genetic Improve-

ment of Forest Species" (1993-1998) and (v) "Forest Products Testing Technology Project" (1998-2003).

3.2. "Study for the Development of the Five-Year Forestation Plan" (1989-1991)

The Study for the Development of the Five-Year Forestation Plan was entrusted to Japan International Cooperation Agency (JICA) by the Japanese government as an answer to the request by the government of the Oriental Republic of Uruguay. The activities enabled the development of the "Five-Year National Forestry Plan Final Report" (hereafter, "Final Report") and a "Silviculture Manual" (hereafter, Manual). In Uruguay, the main body which participated in the agreement was the Ministry of Livestock, Agriculture and Fisheries (MGAP) through the Forestry General Directorate. It is worth mentioning that this entity was entrusted with the development of Forestry National Plans according to Forestry Act N° 15.939 from December 1987.

The technical team in charge of the study was led by Mr. Jiro Namura, Executive Director of the Foreign Forestry Counsel Association, who visited the country in three different occasions between October 1989 and March 1990, finishing the Study in March 1991 with the delivery of the final report (Plan 1991:2).

The Final Report was developed to function as the implementation project for Uruguay's Forestry Five-Year Plan, and the Manual was developed as a forestry technical guideline for the implementation of the Plan. The Plan's Background and Objectives state that: *"this study can be considered as a project seeking to increase exports and national production of wood pulp, improve self-sufficiency of waste wood and increase fuel wood as an alternative to fuel oil"* (Plan 1991:1)

The Manual was complementary to the Plan since it was meant to enhance the implementation of the guidelines in it defined. Also, its contents were based on the experience gathered by Japan and Uruguay regarding forestry and on study results developed in Uruguay by the JICA's Technical Team and local forestry professionals. Among the different topics it dealt with, it included the presentation of (i) forestry techniques, (ii) essential knowledge and techniques for timber companies (logging, timber extraction, forestry management, timber exploitation, etc.).

The Final Report made a in-depth analysis of the situation of the Forestry Sector in Uruguay and proposed a short and mid-term Plan for the Development of the Sector. The analysis included the (i) description of soils, forests and silviculture, (ii) description of the sector's industry, (iii) actions previous to the implementation of the plan, as well as,

(iv) the complete Plan including the financial - economic analysis and its environmental impact.

Within the environmental evaluation, the effects of highly relevant environmental issues were analyzed. Among aspects related to (Plan 1991: iv), there were: (i) biomass; (ii) the forestry ecosystem; (iii) the wildlife ecosystem; (iv) valuable species; (v) conservation of natural resources, and (vi) soil conservation. As a result of the analysis, it was established that the type of forestry proposed would positively contribute to these topics. "The most impressive fact is that the amount of fixed CO₂ produced by the plantation will be enormous due to the rapid growth of the species planted. As a negative aspect, the increase in artificial biomass could be disruptive for the native ecosystem" (Plan 1991: iv). It also warned about crops and the use of insecticides in order to prevent damages. There was special concern to focus the Plan on the so called forestry priority areas located on prairies and sand dunes along the coast and/or rivers with low levels of biomass.

The Plan proposed forecasted the annual afforestation of 100,000ha for a period of five years starting in 1991 on forestry priority areas. Within the Plan, the private sector plays a relevant role since it develops forestry according to the guidelines set by the MGAP Forestry General Directorate.

Uruguay's important potentiality for Forestry development is highlighted among the main con-

clusions and recommendations. In this sense, it is stated that *"it is expected that this plan has positive effects on the industry, the economy, and the Uruguayan society, positively contributing to its development"* (Plan 1991:71).

At recommendations level, it is established that the following are required for a successful implementation of the Plan (Plan 1991:16): (i) to train Uruguayan engineers and forestry technical staff to evaluate rural producers; (ii) to work on the National Institute for Agrarian Research (INIA) to improve forestry research (increase staff, funding, and improve physical infrastructure); (iii) to improve forestry incentives through the tax system, credits and subsidies to forestry producers; (iv) to improve conditions for forestry companies by classifying, improving and stimulating wood distribution, markets and industries which in the future will absorb the plantations' production.

3.3. Study for the Basic Plan of Industrial Development of Forest Products (1999).

The "Study for the Basic Plan of Industrial Development of Forest Products" was entrusted to Japan International Cooperation Agency (JICA) by the Japanese government as an answer to the request by the government of the República Oriental del Uru-

guay. The activities enabled the development of the "Study for the Industrial Development Basic Plan - Final Report" (hereafter "Study PBDIF"). In Uruguay, the Ministry of Industry, Energy and Mining (MIEM) was the main body participating in the agreement.

The technical team responsible for the Study was led by Mr. Masaaki Shiraishi who developed a two-stage field work (March and June-July 1999) and had professionals with different specializations depending on the type of analysis to be conducted (socio-economic and market studies, environmental aspects, forestry resources, wood processing industry, paper and pulp production, related sectors, investment conditions, etc.). The final report was made available in November 1999.

The objective of the PBDIF Study was to *"analyze and propose adequate guidelines for sustainable reforestation and the sustainable development of the Uruguayan forestry industry, while at the same time defining a long-term plan for the level of development to be achieved in the next 20 years"* (Study PBDIFa 1999:4).

The Final Report performed an in-depth analysis of the country's situation, more specifically, of the Forestry Sector, proposing a Master Plan of Industrial Forestry Development, Development Programs and Action Plans. In this sense, the analysis starts by identifying the current situation of the country and the forestry sector, covering several topics ranging from the environment, forestry re-

sources, infrastructure and promotion of industrial investment (Chapter I). Then, it continues analyzing the potential of the forestry industry in Uruguay including topics related to the global production and forestry industry, trends of forest products supply and demand, or the future of forest products in Uruguay (Chapter II).

From these findings, the Forestry Industry Development Master Plan is proposed where basic concepts to be taken into consideration and the strategy to develop the forestry industry are established (Chapter III). Lastly, specific actions are suggested to implement the promotion of development according to what was established in the Industrial Forestry Development Master Plan (Chapter IV).

Taking into account the forestry levels achieved in the last decades, the Long-Term Forestry Industry Development Master Plan proposes objectives until 2020. Among the objectives proposed, the following ones are highlighted (Study PBDIF -b: 643): (a) Establishment of a New State with a Sustainable Forestry Vocation through Forest Plantations; (b) Promotion of Exporting Industry with 2 billion dollars; (c) Promotion of Regional Development Through Decentralization of Forestry Industry; (d) Contribution to the Improvement of Global Environment; (e) creation of a society with High Use of Woods.

Objective	Description
(a) Establishment of a New Stage with a Sustainable Forestry Vocation Through Forest Plantations	Forests should be managed in such a way that their productive and environmental functions, as well as the social benefits generated are maintained.
(b) Promotion of the Exporting Industry with 2 Billion Dollars	It is proposed to export most of the products from the Uruguayan forestry industry to markets in the Northern Hemisphere and to broaden the forest plantation area up to a million hectares.
(c) Promotion of Regional Development Through Decentralization of the Forestry Industry	Factories would be distributed throughout the country and their location depending on the availability of raw materials. Decentralized distribution of modern plants oriented to exports will significantly contribute to the socio-economic development of its area of influence.

Objective	Description
(d) Contribution to the Improvement of Global Environment	Sustainable conservation of forests contributes to reduce greenhouse emissions. Forests of rapid-growth species show great yields when fixing CO ₂ due to their rapid growth being a great contribution to the global environment conservation.
(e) Creation of a Society with High Degree of Woods Use	The socio-cultural and technical infrastructures related to the use of woods are still insufficient. To turn the sector into one of the country's main industries, using the vast forest resources in the country, it is necessary to have high-technology resources.

Source: Study PBDIF -b-

The long-term Industrial Forestry Development Master Plan proposes a series of basic approaches to understand the scope of forestry development; this can be summarized in six aspects: (a) Balanced Forestry Management; (b) Rational Use of Forest Resources; (c) Promotion of Industri-

al Investments and Reform of Industrial Structure; (d) Materialization of Environmental Conservation Investments and Pollution Minimization; (e) Promotion of the Sector as an Exports Industry, and (f) Designation of Priority Sub-Sectors.

Source: Study PBDIF-b-

Basic approach	Description
(a) Balanced Forestry Management	The basic approach for a balanced forestry management would be to make environmental preservation compatible with long-term commercial production. This creates the need to establish a system to solve the "certification" problem from a technical and socio-economic standpoint that may have an impact on the trading of forest products.
(b) Rational Use of Forest Resources	To find a way to increase financial benefits making efficient use of resources and avoiding wastage. As an example, small-diameter trees extracted from thinning operations, woods waste, and wood dusts, etc., will be used as raw material for the production of pulp, chipboard panels, LVL, OSB, fuel, etc.
(c) Promotion of Industrial Investments and Industrial Structure Reform	After promoting investments in the forestry industry, the aim is to re-activate the Uruguayan industrial sector to increase participation of the secondary sector.

Basic approach	Description
(d) Materialization of Investment in Environmental Conservation and Pollution Minimization	The Uruguayan forestry industry should be open to the global market mainly to the industrialized countries, which requires the use environmentally-friendly, internationally-recognized equipment and plants.
(e) Promotion of the Sector as an Export Industry	It is proposed to turn the Uruguayan forestry industry into an export sector contributing to the improvement of the trading balance in the country. The fact that markets of neighboring countries offer little opportunity since they are forestry states should be taken into consideration.
(f) Priority Sub-sector Designation	A. Sawn Wood Industry B. Plywood Industry C. Panels Industry (particle, fibers- MDF-, OSB) D. Other Wood Materials (chipboard, Finger-Joint, LVL) E. Other Secondary Processing Industries (wood houses, prefabricated furniture), F. Paper/pulp industry (BKP)

Finally, the Long-Term Forestry Industry Development Master Plan for the achievement of outlined objectives and based on basic established approaches presents a wide range of strategies including: (a) Forestry Projects; (b) Infrastructure Improvement Plan; (c) Training Plan and Human Resources Development; (d) Promotion of Investments; (e) Centralization of Environmental Basic Data; (f) Promotion of Rational Use of Resources;

(g) Promotion of Substitution for Wood; (h) Promotion of Wood Houses; (i) Strategies for Market Development; (j) Broadening of Financial Aid System; (k) Recommendations for the Improvement of the Current Forestry Industry; (l) Development Goals of Forestry Industry According to Regions.

Source: Study PBDIF-b-

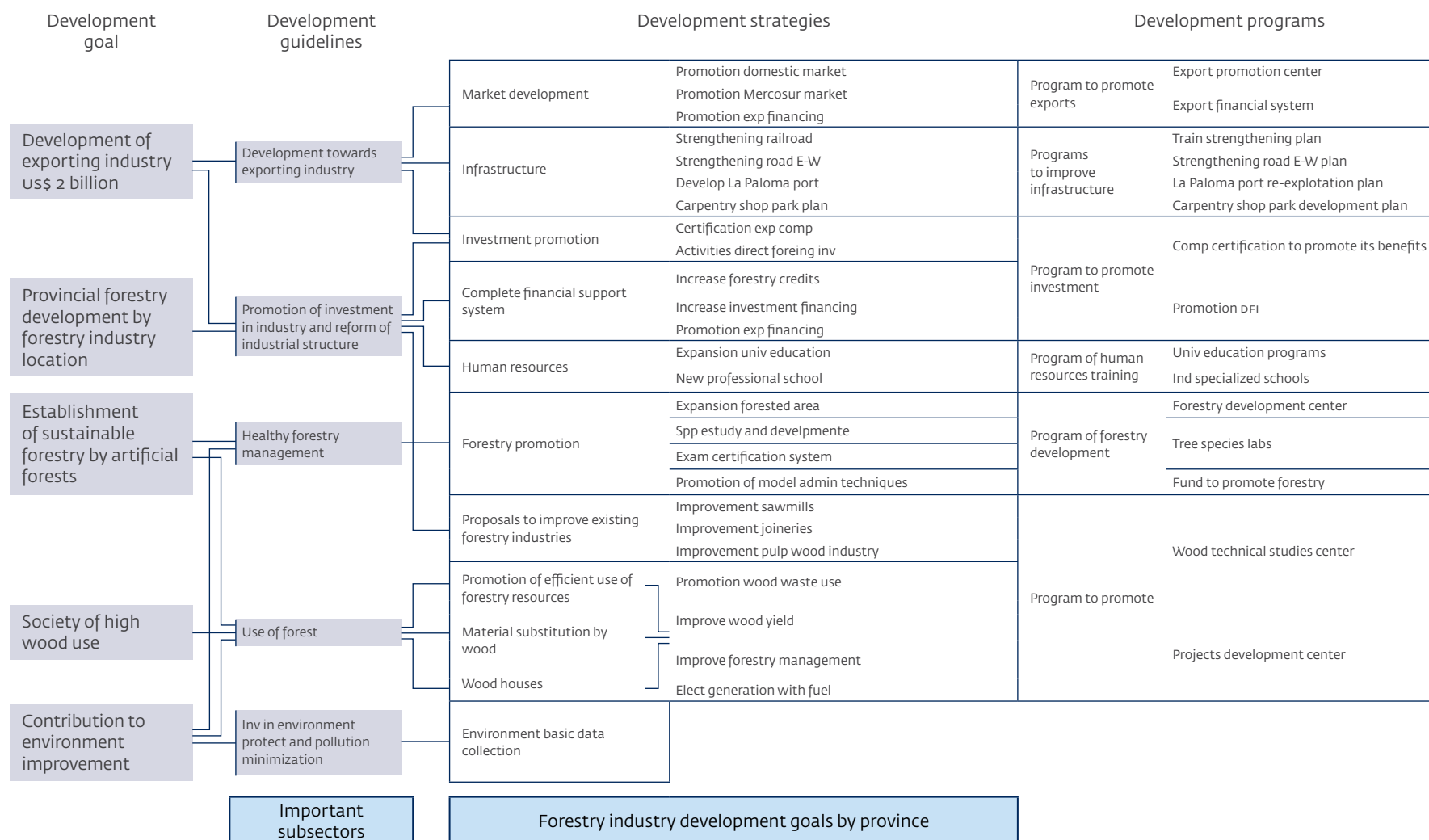
Strategy	Description
(a) Forestry Projects	Forestry Area Expansion Plan
	Promotion of Development and Research on Suitable Species (Creation of National Research Center)
	Analysis of Certification System (FSC; ISO)
	Promotion of Exemplary Forestry Administration Technology
(b) Infrastructure Improvement Plan	Railway Strengthening Plan
	East-West Trunk Route Strengthening Plan
	La Paloma Port Development Plan and role of each port (Montevideo-Fray Bentos-La Paloma)

Strategy	Description
	Carpentry Shop Industrial Park Creation Plan
(c) Training Plan and Human Resources Development	Educational Actions at University Level
	Educational Actions within Specialized Institutions
(d) Investment Promotion	Certification and Privileges for Priority Sectors: a. Tax incentives (tax exemptions), b. other privileges, c. special funding system.
	Promotion of foreign direct investment (public relationships and promotion, use of Mercosur's center, materials' preparation to invite investors)
(e) Centralization of Environmental Data	

Strategy	Description
(f) Promotion of Resources Rational Use	Promotion of woods waste use.
	Increase sawdust yield.
	Improve the forestry management technical level
	Electric generation through wood combustion
(g) Promotion of Wood Substitution	
(h) Promotion of Wood Houses	
(i) Market Development Strategies	Internal Market Exploit
	Intraregional Export Market Exploit
	Global Export Market Exploit

Strategy	Description
(j) Broadening of Financial Support System	Forestry Funding
	Credits for Government Investment and Guarantee
	Exports Funding
(k) Recommendations for the Current Forestry Industry Improvement	Sawmill Sub-sector
	Carpentry Shop
	Paper and Pulp Industry
	Specific Recommendations for Each Company
(l) Forestry Industry Development Goals per Region	Northern Region
	Coastline Region
	Southern Region
	Montevideo

Resumen del PBDIF



Source: Study PBDIF

3.4. Project for the Development of Basic Technology for the Improvement of Forest Species (1990-1993)

The Project for the Development of Basic Technology for the Improvement of Forest Species aimed to develop techniques of propagative vegetation together with the introduction of exotic species, particularly the *Eucalyptus spp* and the *Pinus spp*. The aim was to establish the basic technology for the improvement of forest species fundamental for the development of forestry in Uruguay, through the introduction of improved seeds and the development of vegetative propagation techniques (web JICA 2016)².

The National Institute for Agrarian Research (INIA) was Uruguay's implementing body, especially, Tacuarembó's INIA Experimental Station. Most of the activities promoted by this project were developed in that institution "within the incipient Forestry Research National Program"; its duration was of two years between October 1990 and March 1993 (JICA web, 2016)³.

It is worth mentioning that this scenario enabled the start of management actions that provided access to a greater technical assistance through the Project for the Genetic Improvement of Forest Species.

Regarding scope of technical cooperation, the following were expected (JICA 1990)⁴: (i) development of exotic species vegetative propagation techniques (including "in vitro" rooting techniques); (ii) improvement of tree nursery techniques for the introduction of exotic species which can adapt to Uruguay (including seeds handling); (iii) Creation of forests for provenance testing; (iv) Training of Uruguayan forestry technicians in planning and growing trees for forestry, provenance testing and vegetative propagation.

Available information does not include the type of technology finally developed, the products reached through this cooperation (such as trained people in that period), their grade of effectiveness, or the executed amounts. The Project's final report with the description of these aspects is not available.

3.5. "Project for the Genetic Improvement of Forest Species" (1993-1998)

The Project for the Genetic Improvement of Forest Species aimed to "develop genetic improvement

technologies, mainly in relation to *Eucalyptus*, and contribute to the establishment of an improved seed production plan aiming to improve the productivity and wood quality promoting environmental conservation" (JICA 1995)⁵. Also, it was expected that this *Eucalyptus* genetically-improved seeds production plan, satisfied the future national forestation demand (web JICA 2016)⁶.

From the formulation point of view, it shows a classic logic for projects of genetic improvement based on two lines: (i) evaluation of external forestry resources through introduction to the local media and (ii) the evaluation of local forestry resources through the identification of best trees, or "plus trees", in the main existing species in the country.

The National Institute for Agrarian Research (INIA) was Uruguay's implementing body, especially, INIA's northern Experimental Station in Tacuarembó. It was expected to last for five years between March 1993 and March 1998 (JICA 1997:40)⁷; an aftercare was carried out between April 2000 and March 2002.

The cooperation project had two main outputs. On the one hand, output (1) *basic techniques for the improvement of Eucalyptus trees are developed and transferred to INIA*. Basic techniques are related to *evaluation and establishment of seed sources*. On the other hand, output (2) *sources of seeds/seedlings and material for tree improvement are safely kept at INIA*.

Output summary	
Output	Scope
Output (1) <i>basic techniques for the improvement of Eucalyptus trees</i>	1.1 Evaluation of seed sources (it includes; selection of best trees; plantation and analysis of new seeds introduced)
	1.2 Establishment of seeds sources (it includes; seedbeds management; orchards management for seeds and seedlings, techniques of propagative vegetation)
Output (2) <i>sources of seeds/seedlings and material for trees improvement at INIA:</i>	It includes aspects such as: selection of seedlings from existing forests, testing of introduced seeds and creation of clone bank.

For the achievement of the expected outputs, a series of activities were to be implemented, these included: (a) developing basic and manual techniques and (b) technical dissemination through publications and seminars (JICA 1997: 43)⁸. Among other activities, the following are highlighted: (i) seed stand selection and collection of provisional improved seeds; (ii) selection of plus trees and their progeny test; (iii) establishment of model seedling, seed orchard (iv) provenance/progeny tests; (v) development of vegetative propagation techniques and establishment of a model clone bank.

Among the Project's main achievements regarding the aforementioned activities, there is the creation of a seed stand with a treatment area of 0.96 ha which enabled the analysis of the produced

Source: "Summary report of the joint evaluation on the forest tree improvement cooperation project in Uruguay" (JICA 1997)

seeds characteristics (activity i) (JICA 1997:4)⁹. As well, plus trees from the main *Eucalyptus* species in Uruguay were selected: 176 *E. grandis* trees, 116 *E. globulus* ssp. *maidennii* trees - (activity ii) developing the corresponding progeny tests.

As well, three model seedlings seed orchards were established. A 2.70 ha model seed orchard was established from plus trees seeds *E. grandis* from Uruguay and seeds introduced from Australia, then a 2.30 ha model orchard for *E. globulus* and finally a 2.70 ha for *E. globulus* ssp. *maidennii* were established (activity iii). Moreover, to ensure a broad genetic base, *Eucalyptus* seeds were managed by introducing 117 families of *E. grandis*, 226 families of *E. globulus* and 56 families of *E. globulus* ssp. *maidennii*. Additionally, 99 families of *E. salignay*, 51 families of *E. dunnii* were included (activity iv).

Finally, regarding vegetative propagation, 120 tests were developed to propagate cloned plants of *E. grandis* and 32 plus trees clones were successfully multiplied and planted in the clone bank. The propagation by cutting was developed for the three objective species in the project (activity v) (JICA 1997:47)¹⁰.

Regarding the development and transference of basic techniques for tree improvement (output 1), there were achievements in the evaluation of seed sources and in seed source establishment.

Regarding seeds evaluation (output 1.1), the Uruguayan counterpart, led by INIA, improved its

technical capacity in forestry research thanks to the joint work carried out with JICA technicians. The handling of techniques to select plus trees, carrying out tests in an autonomous fashion, or analysis and creation of family rankings for *Eucalyptus* species are some of the capacities incorporated (JICA 1997:48)¹¹.

Regarding the establishment of seed sources (output 1.2), techniques for the selective thinning of inferior trees were developed and transferred to national technical counterparts. This transfer was done from the seed stands which enable the improvement of the quantity and quality of seeds produced. From the experiences linked to *Eucalyptus* seedling, seed orchards, techniques linked to their establishment and management were developed (JICA 1997:48)¹². In relation to basic vegetative propagation techniques based on tissue culture, it could only be developed for *E. grandis*. However, the technique based on cutting was developed for the three Project's objective species.

Regarding management of seeds/seedlings and the material to improve forest trees, different objectives were achieved (JICA 1997:49)¹³. On the one hand, improved seeds were collected from the experimental seed stand created by INIA with research and commercial aims. Also, the great genetic variability of plus trees and foreign seeds ensure a significant genetic improvement for the *Eucalyp-*

tus continuous genetic improvement. In this sense, there is an important difference among achievements regarding the material for sexual and agamic planting; to date, there are second-generation seed orchards, but commercial clones were never obtained. Although demand for seeds still exists, it is not steady, and this makes work more difficult.

Other achievements to be highlighted within the project (JICA 1997:45)¹⁴ are: (i) assessment of long-term international Japanese experts (eight) was appropriate and suitable for the subjects dealt with contributing to the excellent performance of the Project; (ii) USD 114,000 were transferred to Uruguay in machinery and equipment and (iii) 11 members of the Uruguayan counterpart participated as trainees in Japan where they were able to expand their knowledge and improve their techniques to later disseminate said knowledge in their working place.

The project was successful since it was able to develop the technical and material capacity of INIA to achieve the improvement of forest trees through an efficient execution of the Project and the technical cooperation among Uruguayan and Japanese technicians. However, given the Project's duration (five years), it was not possible to go further in the use of techniques to be applied in the second gen-

eration. It has to be added that the production of commercial clones was not possible; the big companies started their own improvement programs and were never involved as clients; they are currently buying seeds, though sporadically.

3.6. Forest Products Testing Technology Project (1998-2003)

The technical cooperation Forest Products Testing Technology Project had the overall goal of promoting the quality improvement and standardization of wood products resulting from *Eucalyptus* and *Pinus* in Uruguay. Its purpose was that LATU acquired the capacity to implement quality inspections according to international standards for wood products (JICA 2003:36)¹⁵.

In this sense, it was expected to provide support to the Uruguayan wood industry through the creation of a new laboratory specialized in wood at the Uruguayan Technological Laboratory which would enable the development of forest products tests to evaluate their quality and uniformity focused on exports and to satisfy future offer generated by the Five-Year Forestry Plan executed by Uruguay (web JICA 2016)¹⁶.

In Uruguay, the Uruguayan Technological Laboratory (LATU), from the Ministry of Industry, Energy and Mining (MIEM), was the implementing body. It was expected to be a five-year project, to be held between October 1998 and September 2003 (JICA 2003:30).

The cooperation project had two main outputs. On the one hand, output (1) *quality specifications for established wood products, based on relevant*

testing methods. On the other hand, output (2) *system for quality control of wood products defined at LATU*.

Output summary	
Output	Scope
Output (1) <i>quality specifications for established wood products, based on relevant testing methods</i> .	1.a Defined research trials/tests methods
	1.b Built databases
	1.c Developed technical manuals
	1.d Established technical specifications
	1.e Improvement in the testing abilities
	1.f Dissemination of results achieved
Output (2) <i>system for quality control of wood products defined at LATU</i>	2.a Research trials/tests methods for established inspections
	2.b Quantity and contents of control technical advice
	2.c Improvement in the inspection ability
	2.d Dissemination of achieved results

To achieve these results, LATU received equipment, material and technical assistance in different areas which include topics such as: (i) wood drying; (ii) inspection technologies; (iii) wood mechanical properties; (iv) wood main features; (v) serrating; (vi) growth tensions; (vii) performance evaluation for technology inspection; (viii) preservation; (ix)

Source: "The joint evaluation report on the forest products testing technology project in the Oriental Republic of Uruguay" (JICA 2003)

quality control; (x) painting/details; (xi) finalization – use of evaluations.

Regarding output (1) *quality specification for wood products*, results achieved agreed with goals set (JICA 2003:38)¹⁷. In relation to (1.a) *testing methods for research*, 25 methods for 9 analysis and/or testing items (including sampling methods and specimen preparation for testing, etc.) were developed at LATU; these were applicable to three different trees species and in three stages of growth. Regarding (1.b) *databases with testing results*, they were satisfactorily developed with information for 3,000 cases.

In terms of (1.c) *Technical Manuals*, 53 manuals were developed for different kinds of tests. Regarding (1.d) *Technical Specifications*, 12 quality diagrams were developed and the (1.e) *ability to conduct tests* was improved reaching 5,000 repetitions in nine items, using the equipment provided by the Project. Finally, there were many opportunities for dissemination of results (five talks at two international events, six seminars organized with eight presentations, and eleven published research reports).

Regarding output (2) *system for quality control of wood products defined at LATU*, results achieved agreed with goals set (JICA 2003:39)¹⁸. In relation to (2.a) *Testing methods for wood products inspection*, 150 national and international development standards were identified and 25 inspection testing manu-

als were produced together with eight inspection manuals for eight types of wood products and two manuals for quality control.

Regarding (2.b) *Quality control evaluation*, 230 pieces of technical advice were provided to companies. Also, regarding (2.c) *Improvement in the inspection ability*, LATU can conduct tests and inspections by itself, reaching 72 tests for wood products inspections. Finally, there were many opportunities for dissemination of results (participation in 2 international events, five seminars organized with six presentations and 10 published research reports).

Among other achievements within the project, there were (JICA 2003:39)¹⁹: (i) six long-term Japanese international experts and sixteen short-term Japanese international experts collaborated with LATU on several issues; (ii) transfers for 130 million Japanese Yen to Uruguay in machinery and equipment, (iii) USD137,000 were transferred to build a facility to install testing and inspection technology²⁰ and (iv) six members from the Uruguayan counterpart participated as trainees in Japan where they could improve their knowledge and techniques to later return to their working place to disseminate said knowledge.

The project's performance was satisfactory since it was able to develop LATU's technical and material capacity to implement quality inspections

according to wood products standards at a national and international level. This was possible due to technology transfer related to almost 30 methods in nine tests and analyses required to improve the standardization of wood products. (JICA 2003:35)²¹.

4. Analysis and Research

4.1. Projects Relevance Analysis

4.1.1 Consistency with High Level Policies from Japan's ODA

During the reference period (1989-2003), the Official Development Assistance (ODA) Charter was the political foundation for the Japanese cooperation (Charter 1992 and revision of Charter 2003) to face the challenges of promoting the Development of the International Community. Among the aspects highlighted in their basic philosophy there is the recognition of the interdependence among nations in the international community and the development of all countries as a crucial requisite for global peace and prosperity (ODA Charter 1992:01).

The principles in the Official Development Assistance Charter (ODA) pay special attention to (Charter ODA 1992:02): (i) environment conservation and development must be pursued in tandem; (ii) any use of ODA with military aims or to exacerbate international conflicts must be avoided; (iii) military expenses from recipient countries must be taken into consideration to keep and strengthen peace and international stability; and (iv) the promotion of democracy and the introduction of a market-oriented economy, as well as the human rights status and fundamental freedoms in the recipient country.

Regarding priority regions, one is the region including the East Asian countries particularly members of the "Association of South East Asian Nations (ASEAN)"; there is also the need to expand the cooperation towards other regions, such as Africa, Middle East, Latin America, Eastern Europe and Oceania (ODA Charter 1992:03).

The main issues established to guide the cooperation are (ODA Charter 1992:04): (a) address global problems such as the environment and the population; (b) satisfy basic human needs linked to hunger or poverty, etc. (c) develop human resources, research and cooperation for the improvement and dissemination of technology which, in the long term, are the most important elements in self-help efforts towards the socio-economic development, and are the basic factor for the national construction in developing countries²²; (d) Improve infrastructure as a previous step to socio-economic development and (e) support structural adjustments for the full exercise of the entrepreneurial spirit and vitality of the private sector in recipient countries.

In 2003, there was a revision of the ODA Charter which kept its basic philosophy and included some adjustments to its contents. The ODA objective is still aiming at "*contributing to peace and development of the international community and thus*

contributing to the safety and prosperity of Japan" (ODA Charter 2003:01).

To achieve the objectives set, the Charter considers cooperation should agree with five basic policies. These basic policies are (ODA Charter 2003:05): (1) support to efforts in developing countries through training of human resources, creation of institutions, including the development of the legal system and the construction of financial and social infrastructure; (2) the perspective of "human security" where individuals are the main point of attention through protection and development of their capacities; (3) equity guarantee considering the situation of vulnerable people, differences among the rich and the poor as well as between regions in the countries; (4) the use of Japan's experience and knowledge in the technical assistance for developing countries using its advanced technology, knowledge, human resources and institutions; (5) association and collaboration with the international community.

From these objectives and policies the Charter establishes the four main cooperation topics. They are (ODA Charter 2003:08): (1) Reduction of poverty in issues related to education, health care and welfare, water and hygiene, and agriculture; (2) sustainable growth through the development of socio-economic infrastructures which constitute the foundation for financial activity, as well as the

development of policies, the creation of institutions, and training of human resources; (3) efforts to face global issues such as global warming and other environmental problems, infectious diseases, demographic problems, food security, energy, natural disasters, terrorism, drugs and international organized crime; and (4) peace building.

Regarding priority areas, in general terms they are the same as the ones established in 2012. Japanese cooperation will remain in Latin America since there are "island nations with fragile economies. Taking into consideration that there are differences inside the region and within each country, Japan will facilitate the cooperation needed". (ODA Charter, 2003:09).

Technical cooperation projects and studies funded within the forestry sector during the reference period are relevant and widely consistent with the guidelines established by the Japanese government regarding Official Development Assistance. Firstly, they respect the principle that development and environment are objectives which should be sought simultaneously in the projects' design and their implementation and in the studies developed. An example of the aforementioned was the "Study for the Five-Year Forestry Plan Development" (1989-1991) which contributed to the sustainable forestry development planning, where environmental conservation played an important role.

Secondly, technical assistance provided implemented a great number of training actions of national professionals in Japan and in Uruguay. As an example, there was training provided to technical staff from institutions involved, such as INIA and LATU, within the “Project for the Genetic Improvement of Forest Species” (1993-1998) and the “Forest Products Testing Technology Project” (1998-2003). It is worth mentioning that the human resources development is a priority in the ODA Charter as the main contribution to be provided for self-help efforts towards the socio-economic development and in the long-term a basic factor for nation building in developing countries.

Thirdly, studies and projects were consistent with objectives related to the support for structural adjustments through support to private corporate spirit playing a regulating role of the State within the forestry sector.

Fourthly, it is worth highlighting the relevance of the cooperation in relation to institutions development and legal frames for development. Examples of this are the “Study for the Development of the Five-Year Forestation Plan” (1989-1991)²³ or the “Study for the Basic Plan of Industrial Development of Forest products” (1999).

Fifthly, it is worth highlighting the respect shown for the use of Japanese experience and knowledge in the technical assistance, using their

advanced technology, knowledge, human resources and institutions. In all the projects of technical cooperation and studies, it was foreseen that Japanese experts played a central role in the transmission of experience and best practices in relation to the development of forestry in the Japanese case.

In relation to forestry policies in Japan, the Japanese Forestry Agency (<http://www.rinya.maff.go.jp/>), from the Ministry of Agriculture, Forestation and Fisheries (<http://www.maff.go.jp/e/index.html>), develops the forestry planning for a ten-year period together with five-year revisions where Regional Offices participate.

Also, it has a Fundamental Plan for Forests and Silviculture defining the main Japanese forestry policy guidelines. The five guidelines are (Maff 2011:1)²⁴: (i) Promotion of the “Forestry Revitalization Plan” (adequate forestry management, forestry road system acceleration, human resources development, expansion of domestic wood, multiple forest functional roles, revitalization of rural communities); (ii) Mitigation of global warming and biodiversity conservation (carbon capture, achievement of goals set in the Kyoto Protocol, conservation of forests biodiversity); (iii) Response to International Wood Markets (wood structure in public buildings and use of wood biomass, wood products export); (iv) Contribution to the recovery of domestic economy and revitalization of mountain rural communities;

(v) Reconstruction after the Great Earthquake in Eastern of Japan.

Technical cooperation projects and studies for development funded through ODA are consistent with guidelines established by the Japanese Fundamental Plan for Forests and Silviculture. Even when these guidelines were set after the cooperation development (2011), they share aspects such as the appropriate forestry management or the development of human resources capable of conducting forestry processes.

4.1.2. Consistency with Uruguay's development needs.

Development needs regarding forestry were highly linked to early stages of development of the forestry sector during the reference period (1989-2003) and even before it (1980's). Development efforts started in previous decades. The first approach from the Uruguayan State to the idea of increasing forestry activities, date back to the beginning of the 50's, through two consultancy applications (Rogers 1953, Winkelmann 1951).

During the 60's, the MGAP develops the greatest prospective study in the country, aiming to improve national forestry production and adapt it to future expected changes (CIDE-PNDES 1966). This work, dedicated to the forestry production, ends with a Forestry Act draft which was the base for

the one passed in 1968 (Act N° 13.723/68) which represents the beginning of the explicit national forestry policy. This first act had a low impact on the increase of silviculture with rapid-growth species.

The fact that there were seven years between its passing and regulation, that it had no budget allocated and that it promoted the area on tax revenue cancellations over a tax that was later repealed, contributed to its low effect. It achieved an increase in the planted area of around 15,000 ha, taking the total plantation area to nearly 35,000 ha.

In 1987, the Parliament passed the second forestry act N°15939/87 which was regulated in February 1988 with budgetary allocations aimed at the promotion of silviculture with rapid-growth species. Its main objectives were: the diversification of the forestry production, the increase in the area planted up to levels which allow the development of a forestry-based industry, and the protection of the indigenous forest. The existence of the "Study for the Development of the Five-Year Forestation Plan" (1989-1991) was fully justified given the need to provide guidelines and technical support to planning decisions and budgetary allocation related to the promotion of the forestry sector.

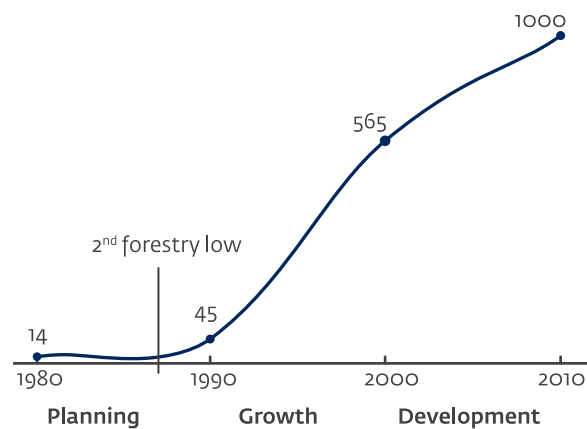
Although it is far from the reference period considered in this evaluation, it is important to highlight the support provided by Japan's Government to the development of the "Master Plan for Long-

Term Forestation in Uruguay” through the Study for Use of Forested Wood Project (1986-1987) which was developed with Japan’s funding. This Master Plan set the main guidelines for the development of the forestry sector in the last 30 years.

As from that moment, there is an increase in the area planted with rapid-growth species which at certain moments shows a growth rate of 70,000 ha/year.

Phases of plantation forestry development.

Area in thousand ha.



Source DGF. 2009. The chart only considers the projects with approved management plan.

The inflection points in the graph, show stages of the sector’s consolidation process, a planning stage, dedicated to create and adapt the act to the

needs, one stage of strong growth of the agrarian phase and the beginning of the sector’s maturation stage where the first industrial responses to the forestry development phase appear, the consolidation of relationships among stakeholders and predominant trends in the mode of production.

Therefore, the technical cooperation initiatives called “Project for the Development of Basic Technology of Improvement of Forest Species” (1990-1993) and the “Project for the Genetic Improvement of Forest Species” (1993-1998) were clearly aligned with the need to genetically improve rapid-growth trees during the development process of forestry stage in Uruguay.

Genetic improvement was the way to develop forestry research capacity at INIA and therefore in Uruguay. During the implementation process, it was decided that genetic improvement would be the research main area applied to all the subjects researched at INIA in livestock and crop production, INIA’s intention was important during the cooperation implementation.

Approximately as from 1992, different visions from the Uruguayan society arose regarding the possible negative impact of silviculture on work sources, the transnationalization of the industry and land property, water dynamics, the impact on the soil, biodiversity, etc. This resulted in an increase in research in those areas which provided in-

formation to discuss production sustainability. The ministry in charge of environmental and territorial issues was created at the same time the legislation on these topics was passed, which in many aspects is opposed to the existing forestry legislation.

During the last stage, the growth of planted surface is maintained up to a million ha, industries are installed; 2 paper mills, two plywood production plants, one MDF plant and several mid-size sawmills with advanced technology. Changes in the international market produced changes in the industry and the cellulose pulp production was consolidated as the sector's main product. The first power plants based on the use of forestry biomass appeared. The preference for eucalyptus increased and the production of products from pine plantations was questioned.

During the last stages, the actions promoted by Japanese cooperation were aligned with the sector needs related to the generation of added value from wood production. In this scenario take place the "Study for the Basic Industrial Forest products Development" (1999) related to the sustainable forestry development planning and the "Project for Forest products testing technology" (1998-2003) aimed at improving the quality of wood products.

The forestry policy aims, with little success, to keep and improve the industry of solid wood prod-

ucts since it is considered important to add value to what has been produced and because of its contribution to the generation of quality jobs.

Labor relations in the sector improved resulting in the formalization of most workers' conditions.

There are some important planted forests sanitary problems, the forestry policy addresses the problem with good results, especially in the creation of research groups responsible for these issues in a permanent and prioritized fashion. At the end of this stage, the creation of a new pulp mill is discussed. The services phase of the agricultural complex is one of the main limiting factors for development. Especially, in the transportation area, where the necessary improvements to the railway system have not been yet made and the cost of keeping the road network is too high.

4.1.3. Consistency with International Policies and Affairs.

The Millennium Development Goals (MDGs) were agreed at the UN Millennium Summit (September, 2000) where Development objectives and goals were set to be achieved by 2015²⁵. The established objectives were: (1) To eradicate extreme poverty and hunger; (2) to achieve universal primary education; (3) To promote gender equality and empower women; (4) To reduce child mortality rates; (5) To

improve maternal health; (6) to combat HIV/AIDS, malaria, and other diseases; (7) to ensure environmental sustainability; (8) to develop a global partnership for development.

The MDGs which are most closely related to the forestry sector and development cooperation are the one on Environmental Sustainability (objective 7) and the Global Partnership for Development (8). In relation to environmental sustainability, there were 4 targets: (7A) to integrate the principles of sustainable development into national policies and programs and to reverse the loss of environmental resources; (7B) to reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss; (7C) to halve, by 2015, the proportion of the population without sustainable access to safe drinking water and basic sanitation; (7D) to achieve, by 2020, a significant improvement in the lives of at least 100 million slum dwellers.

In this sense, the technical cooperation projects and the studies for development have special relevance for the incorporation into the national policies and programs of the sustainable development concept, in this case, specifically, into the Uruguayan forestry policy. Examples of this are the "Study for the Development of the Forestry Five-year Plan" (1989-1991) or the "Study for the Basic Plan of Industrial Development of Forest Products" (1999). Particularly the first one had a detailed anal-

ysis of possible environmental impacts on the forestry process including action recommendations to favor positive aspects and mitigate possible negative aspects.

Besides, cooperation between Japan and Uruguay is a good example of alliance for development (Objective 8 MDGs). This objective included several associated goals; (8A) To further develop an open commercial and financial system; (8B): To address the special needs of least developed countries; (8C): To address the special needs of landlocked developing countries and small island developing states; (8D) to comprehensively address the debt issues of developing countries. Actions carried out are mainly aligned with the objective of addressing the needs of the least developed countries.

Moreover, given the close relationship between forestry production and the environment, there is another international regulation which is important to analyze. Considering the starting date of the analysis period, the international concern about the environment had been expressed for the first time in Stockholm's Declaration. This **Declaration** was issued by the UN Conference on Human Environment in Stockholm in 1972 where 113 countries participated and where the environmental issue was, for the first time, debated, highlighting its importance for human beings. The international environmental concern takes the next step with the

Declaration of Rio on the Environment and Development (1992)²⁶ which established a series of basic principles for the integrity of the environmental system and global development. The cooperation between Uruguay and Japan generally respects the philosophy of the resolution and is closely related to three basic principles.

On the one hand, the right to development must be implemented in such a way that it answers in an equitable way to the developmental and environmental needs of current and future generations (principle 3). The studies and cooperation projects do not present a predator's vision of the environment; on the contrary, they take it into consideration in order to avoid its depletion. In the same way, the Declaration establishes that in order to achieve sustainable development, environmental protection must constitute a part of the development process and cannot be considered separately (principle 4).

Finally, given the planned forestry training components aimed at the development of national technical capacities, strengthening of silviculture research agendas and the inclusion of advanced technologies, the cooperation between Uruguay and Japan in the forestry sector is also an example of the ninth principle of the Declaration. It is stated that the states should cooperate in the strengthening of their own capacity to achieve sustainable development, increasing scientific knowledge

through the exchange of scientific and technological knowledge and enhancing the development, adaptation, dissemination and technology transfer, among these new and innovative technologies (principle 9).

The UN Framework Convention on Climate Change (UNFCCC) was developed in 1992²⁷ where the stabilization of the concentration of global greenhouse gases in the atmosphere at levels that prevent dangerous anthropogenic interference for the climate system was established as the ultimate objective (CMNUCC 1992:4). It is explicitly established that the states will make efforts to promote the sustainable management and the conservation and protection, when relevant, of sinks and deposits of all gases from the greenhouse effect which are not controlled by the Montreal Protocol including biomass, forests and oceans as well as terrestrial, coastal and marine ecosystems (art 4 Paragraph d); to provide support through cooperation to the development, application and dissemination, transfer included, of technologies, practices and processes which control, reduce or prevent not controlled, anthropogenic emissions of greenhouse gases (art. 4 Paragraph d).

In 1997, the Kyoto Protocol²⁸ is established within the UNFCCC frame. Among its last objectives was the reduction of emissions of greenhouse gases which contribute to global warming (such as

CO₂, CH₄ or HFC). As well, among the many points the protocol had, there was the impulse to the protection and improvement of sinks and deposits of greenhouse effect gases which were not controlled by the Montreal Protocol, taking into consideration their commitments according to international agreements in relation to the environment; promotion of sustainable forestry management practices, forestry and reforestation.

Finally, the Paris agreement takes place in 2015 within the UNFCCC framework which establishes measures for the reduction of greenhouse gases (GHG) through the mitigation, adaptation and resilience of ecosystems to global warming effects, their application would be for 2020 when the Kyoto Protocol expires. Uruguay actively participates and ratifies achieved agreements in all this process.

Therefore, regarding the UN Framework on Climate Change (UNFCCC) and its Kyoto Protocol, the cooperation between Uruguay and Japan in the forestry sector is consistent and relevant, respecting its philosophy and principles established.

The Uruguayan forestry policy promoted, during this period, those actions which allowed forests to grow as carbon sinks: through the protection of the indigenous forest, it was possible to maintain and increase the area occupied by the indigenous forest and the increase in the rapid-growth trees plantations improved the possibil-

ities for global warming mitigation. FR-MDL projects were approved with planted forests.

In 2004, with the participation of the most relevant actors from the forestry sector, the National Code of Best Forestry Practices is created, the Best Forestry Practices Codes are a standardized group of recommended or mandatory prescriptions, procedures, concepts, styles and working guides applicable to forestry resources and their associated variables that will ensure minimum sustainable bases for its management. Recommended practices will be appropriate if they comply with the conditions of being socially accepted, financially viable and environmentally adequate.

It is worth mentioning that most existing forest plantations in the country are third-party certified (FSG, ISO, UNIT, etc.) which was one of the initial worries of the Japanese cooperation.

4.1.4. Relationship with Other Donors' Cooperation

The aim of this section is to analyze the relationship between Japanese cooperation and other donors'; particularly, to analyze its relevance with (i) its consistency towards other donors; (ii) complementarity with other donors' assistance and (iii) comparative advantages (areas, methods, modalities, etc).

In this regard, it is important to mention that the availability of qualitative and quantitative information limited the possibilities of developing an

in-depth analysis in the points mentioned. However, from the evidence found in the field interviews to qualified respondent, other cooperation actions in the sector were identified as well as some attributes which differentiate the Japanese development cooperation from other countries or international entities'.

During the evaluation reference period, different development cooperation initiatives were highlighted, such as the ones provided by the EU (Former European Economic Community), loans from international entities, such as the World Bank or the Inter-American Development Bank (IADB), and other projects funded by OISCA International.

It is difficult to know whether the complementarity and synergy generated among projects were driven by those who led the projects, but the general perception is that they were, in fact, complementary and their results were positive for the development of the forestry sector. It is considered that the Master Plan and the Five-year Plan were very complete study and analysis projects in the sector and its future projection. These contributed to develop a working team at the DGF which was able to implement the policy during the first years and started the management upgrade through it.

The BIRF 3131 project was a project of institutional strengthening of the DGF and also provided fundings for necessary studies and research. The

project with the EU provided tools for the execution of the forestry policy and data bases were created to develop the defined policy and processes control. It also added training for the DGF team members who were able to lead the development process.

The most important projects funded by OISCA International in said period were; one for the general dissemination of the forestry activity which mainly worked at school level teaching children about forestry activities. The other project was funded by FOMIN-IADB and provided training to workers and mid-level managers. It was developed by Universidad Católica. Both were in accordance with objectives set in the rest of the projects.

One of the main strengths of Japanese cooperation to be highlighted was its vision in the mid and long-term for the development of cooperation actions. This was reflected on the fact that its initiatives did not focus only on a specific subject and then minimize work and disappear. On the contrary, there were several decades of exchange within the forestry sector which gave continuity and coherence to collaboration. As it will be seen later, another consequence of this positive result was that, at times, the design process of initiatives was considered very demanding by national counterparts.

Furthermore, some of the projects from different donors had a simultaneous execution. From the point of view of their design, the articulation

was not planned and there were some overlaps. However, there is an agreement on the fact that different cooperation projects had results which coincided in the generation of the necessary conditions to promote the forestry development in general and in strengthening the main agents that would promote that development, such as the Forestry General Directorate, INIA or LATU.

In this regard, it was concluded that outputs resulting from projects and/or technical studies funded by Japan were used as input for the development of activities within other projects. That is the case of the Silviculture Manual in the development of a forestry information system funded by the EU cooperation through French and Italian institutes. The systematized information as well as the documents developed contributed to a better application for a loan for the Agricultural Development Plan II (Loan agreement BIRF N°3131-UR) with the World Bank for a total amount of USD 65 million dollars.

4.2. Contribution Analysis in Terms of Results

4.2.1. *Grade of Contribution of Japan's Assistance to the Forestry Sector in Uruguay*

Achievements by the cooperation projects and studies for development in the forestry sector, within Japan's ODA have represented a significant

input for the development of the Forestry Sector in Uruguay. The contributions have been aligned with the needs of each of the country's forestry development stages (especially in Forestry planning and expansion) and main agents which promoted forestry at a national level.

Interviews to qualified informants were carried out to find out about the respondents' perception of Japan's contribution to the Uruguayan Forestry sector. All interviewees are or were relevant actors involved during project implementation or currently hold positions in organizations which were projects' counterparts. Some of them acted at political or administrative level while some others did so at operational level. Knowledge about the projects by those that were not directly involved with the Japanese cooperation reflects the impact they had on their institutions and the forestry sector as a whole.

The results are linked to each of the projects; they include the main areas of agreement and disagreement as a way of explaining which were the greatest achievements and the greatest difficulties in the cooperation during the period.

As it was previously stated, the Uruguayan forestry sector went through different stages through the decades. In an initial stage, the country had good natural conditions; however, it had a low volume of hectares of forests suitable for their industrial sustainable transformation over time. In this stage,

called Planning, main guidelines and directives were outlined to plan the development of the forestry sector by the Forestry General Directorate of the Ministry of Livestock, Agriculture and Fisheries.

In this Plan's definition, the contribution made by the Japanese cooperation was crucial and provided knowledge to professionals, institutions and public authorities responsible for establishing guidelines based on experiences and lessons learned from the Japanese case. The technical support provided by Japanese professionals was considered as highly appropriate by the professionals who participated of this process, allowing them to better deal with the uncertainty typical of the initial phase of the forestry development process.

It is worth highlighting that the national knowledge on forestry was an important source for the work of the international Japanese experts despite its low level of systematization. The systematization of local knowledge together with the technical knowledge needed to adequately establish the main guidelines required were kindly provided by different experts, among them, Engineer Takahito Mikami. As well, technical assistance was complemented with training activities aimed at officials from the Forestry General Directorate which ensured the initiative's sustainability over time (once the Japanese experts left) and its permanence within the Administration.

The final report of the "*Five-Year Forestry Development Plan*" (1989-1991) turned into the First National Forestry Plan for 10 years (complementary to Forestry Act N° 15,939 and the Long-Term National Forestry Plan) which enabled the definition of rules and the implementation of stimulus measures for public and private agents to boost the forestry sector. Conversely, the early incorporation and analysis of relevant environmental issues (such as those linked to CO₂ emissions) were originated by the contributions of Japanese professionals.

Among the main contributions highlighted by participating agents are: (i) it contributed to achieve a sectoral perspective with mid and long-term scope which transcended the simple use of forests for shelter or fire wood; (ii) it facilitated the generation of a road map for the forestry sector mainly based on technical principles and findings from studies developed in Uruguay with Japanese support (and other sources); (iii) they were aligned with the forestry sector needs in general, and with key institutions to promote forestry development (good timing) facilitating the early identification of priority issues. (iii) provided technical input through documentation, studies and manuals that were fundamental for government decision-makers, forestry research and other stakeholders involved in the process (companies, producers, etc.); (iv) it strengthened the technical operational ca-

capacity of the Forestry General Directorate to carry out field visits with local counterparts (such as regional extension agents from DF/MGAP) and support appropriate technical studies; (iv) provision of latest generation equipment for the development of activities linked to the Study (such as latest generation PCs, non-existent at the time at DF/MGAP).

It is worth highlighting that all interviewees were familiar with the Japanese cooperation in general and, in some cases, they even remembered the projects, studies and/or specific professionals perfectly well. The main common factor is that they agreed on the fact that contributions for projects and/or studies had effects on current forestry practices; their contributions were and are being used.

Among elements which might have negatively affected a better use of cooperation there were: (i) communication and cultural issues typical of idiosyncratic differences between people; (ii) the need for more feedback to agents consulted in the field, apart from final reports and/or manuals handed out by the cooperation and (iii) the slow process to establish technical trust between counterparts participating in the missions.

As well, as the study pointed out, in order to promote and provide sustainability to forestry expansion, it was necessary to keep on developing technical and professional capacities, research and genetically improving trees species which would be

planted in future years in order to boost the wood quality for industrial use as well as environmental protection.

In this sense, within the so called forestry expansion (or agricultural phase), INIA played a fundamental role through genetic improvement, especially regarding *Eucalyptus*. This entity's role was boosted by the technical cooperation received through the "*Project for the Development of Basic Technology of Improvement of Forest Species* (1990-1993) and the "*Project for the Genetic Improvement of Forest Species*" (1993-1998) which strengthened a key institution for the sustainable development of forestry.

These projects enabled the development of the technical capacity of a body that in the 80's, had just been created (Act N° 16.065 of October 6, 1989)²⁹. It is worth remembering that at the time, forestry research aims were defined by the Forestry General Directorate. These projects contributed to develop research capacity by strengthening its own research agenda and providing specific knowledge in subjects that were highly innovative in Uruguay. It was necessary to increase the national research capacity through training of researchers and an increase in contributions to knowledge building. A genetic improvement program is a program which never ends, and that must increase the selection and quantity of characteristics to be improved as well as keep on developing tests for the introduc-

tion of species that may grow in the country. At the beginning of the project, there was one *Eucalyptus* seed stand and one Pine seed stand, both first generation, the project improved the existing situation while at the same time provided an opportunity for the research team at the recently created INIA to keep their genetic improvement programs and conduct research on other relevant issues. Results for *Eucalyptus* were better than the ones obtained for *Pine*. Mainly because pine results have longer cycles and the pine sector was less strong than the *Eucalyptus* one, thus, it was prioritized for its importance at production level.

After going through the required technical stages (including germplasm introduction and evaluation, seed selection and production, etc.), INIA local researchers were able to know about the behavior and/or productivity of different *Eucalyptus* species (tests in different locations, etc.) and also to generate improved seeds for forestation

Seed production continued after the JICA-funded project ended for at least ten more years. However, progress on cloning of selected trees was poor since mass production could not be achieved neither by micro nor macro processes.

Among the main contributions made by the cooperation with JICA, there are: (i) specialized training for INIA research staff aligned with the research agenda for forestry genetic improvement; (ii) tech-

nical equipment for the biotechnology laboratory was of the latest generation even by Japan's standards (in fact, it was brand new in the country of origin); (iii) high quality and durability biotechnology equipment, 20 years after installation is still in perfect working conditions at INIA station; (iv) closely related to long-term research priorities on genetic improvement and (v) adaptability of long-term experts to working practices and local idiosyncrasy at INIA. JICA cooperation helped to prioritize forestry research, especially the genetic improvement of species, providing resources and technical support which might have not been obtained through other means.

Among elements which might have negatively affected cooperation there were: (i) communication issues especially with short-term experts (but not with long-term experts who would speak Spanish); (ii) although there were some shared cooperation topics, Japanese researchers would also develop other activities without any cooperation from local researchers. This observation is found in many Uruguayan counterparts, the perception seems to be that Japanese experts spent time in data analysis work that was not shared with the local researchers. This fact did not affect in the achievement of the expected results.

Following the development needs at sectoral level, the Plan for the Development of the Forestry

Industry gained importance. It was based on the "Study for the Basic Industrial Forest Products Development Plan" (1999) which was funded by the Japanese cooperation with the collaboration of the Ministry of Industry, Energy and Mining (MIEM)

Main contributions to be highlighted: (i) it contributed to the generation of the necessary conditions for the installation and development of wood industrialization strongly focused on the cellulose industry; (ii) it raised awareness among high officials about the real possibility of developing the cellulose industry in Uruguay; (iii) the contribution to the non-cellulose wood industry was minor being one of the most important pending issues to be developed in Uruguay (such as the production of wooden houses by small and mid-sized companies); (iv) impact was low in relation to transport infrastructure required for an increase in industrial development (this element is still pending); (v) the high level of expertise shown by professionals is to be highlighted this made the use of material resources and time very efficient; (vi) the suitable technical profile of the team that was specialized in logistics, wood industry and especially in the cellulose industry; (vii) knowledge about Mercosur progress in the cellulose industry and experience in the design of industrial plants in the region (Brazil).

Among the elements which might have negatively affected cooperation, there were: (i) com-

munication issues, given that the translation service which accompanied the expert missions from Japan showed deficiencies which limited the exchange and, (ii) a more numerous national counterpart working as technical interlocutors to make the most of the Japanese experience would have been necessary.

Finally, regarding LATU, the Forest Products Testing Technology Project (1998-2003) was implemented. Among main contributions, there are: (i) development of LATU's technical capacity to develop forest products testing which are still in use; (ii) there was an important contribution regarding the quality of wood products, especially among priority species (eucalyptus and pine); (iii) it incorporated latest generation technology which is still in use in testing; (iv) it provided training to technical staff in Japan at the Tsukuba Institute of Forestry Studies (promoting the generation of exchange networks still in use). It is worth highlighting that the technical capacity and tests developed by LATU produced original knowledge on the quality of the wood produced in the country; this knowledge is used by public and private agents which participate in the forestry sector.

As a whole, the Japanese cooperation has significantly contributed to the development of the forestry sector in Uruguay. This contribution was recognized by the main actors involved in the de-

velopment process. The stages in which the Japanese contribution had the greatest impact was on the forestry planning and expansion, where it helped to establish the technical support and sectoral guidelines which are still in use. Even though they were individual projects/studies, the internal coherence of the cooperation is highlighted since it adapted to development needs prioritized by authorities and national counterparts.

For most interviewees, the cooperation of the Japanese government with the Uruguayan forestry sector started before the analyzed period, and they consider contributions during that period of great importance; some of them are specifically mentioned: a donation from the Japanese Government to the WB to support forestry development (USD 2 million) which was then increased by FAO (USD 300,000) and generated the "Study Report for a Master Plan for the Establishment of Tree Plantations and for the Use of Wood Planted in the Eastern Republic of Uruguay" (1987) and the Technical Cooperation Project for the Quality Improvement of Cellulose Pulp and Paper developed with LATU from September 1981 to March 1986. A complementary cooperation was implemented in 1989 for the consolidations of results. The first one was adopted by Uruguay as a long-term national plan and the second one would lead to the centralization of the production of cellulose pulp plantations.

Act 1939 was initially planned by lawmakers for national agricultural producers to make the most of the high forestry capacity of their priority fields, with a low agricultural and livestock production. These lands would be used for rapid-growth forest species and the development of a highly decentralized industry adapted in scale to the local production. From the point of view of several interviewees, the greatest initial contribution by the Japanese cooperation was the change of vision and scale from the original project that enabled the development of great plantations of transnational corporations and the installation of large scale factories. All interviewees agree on the fact that cooperation was successful in achieving this development, however, some do not share the ideology behind the model generated.

4.43. Appropriateness of Processes Analysis

4.3.1. *Appropriateness of Project Design Processes*

In general, the design processes of cooperation actions considered the needs of the forestry sector taking into account priorities defined by national stakeholders. This was possible thanks to consultation and participation opportunities throughout the process of elaboration of proposals where Japanese and national actors worked together. And

also, thanks to the positive combination of Japanese expertise and local professionals' knowledge, who helped improve and adapt the studies and projects guidelines to local development needs.

Also, it is worth distinguishing between the cooperation requests at governmental level (authorities), and the making of these cooperation proposals. In the first stage the initiative can be considered as shared by the parts, or generated from local initiatives. In the second one, the focus seems to be more on the work done from initial proposals developed by Japanese experts that were then adjusted by joint work between the parties. These situations can be explained through the working methodologies adopted by the countries for the cooperation process. But also because specialized forestry experience at national level was incipient for the ambitious forestry expansion plan required.

In any case, this system of work did not prevent the participating agents from taking ownership of the products and/or results. There are multiple references to the importance of the studies, documents, manuals and/or equipment provided to boost innovation both at a forestry policy level and in terms of concrete practices (for example, silviculture). However, one of the most valuable lessons learned highlighted by actors is related to the broadening of the perspective on forestry which

goes beyond "forests for shelter" to include other mid and long- term purposes, e.g., industrial purposes.

Two important aspects on the technical criteria used in the design of cooperation for development were the deep analysis of the starting point in which the forestry sector was (before starting the cooperation), and the mid and long-term strategic planning. Regarding the first point, this allowed a greater knowledge about specific areas, strengths and opportunities for improvement for the sustainable development of forestry taking advantage of available information and knowledge on the subject. In relation to the second one, it enabled the definition of bases for all future cooperation initiatives to be consistent and articulated with the development needs of the sector.

Regarding the cooperation between Japan's ODA relevant actors, the high visibility achieved by the Japan International Cooperation Agency (JICA) was evident among the forestry agents that participated in the initiatives. JICA is considered a synonym of Japanese cooperation. Explicit references to other actors involved in cooperation are not as frequent (for example, the Embassy). There are no major difficulties in the coordination among those actors since there is a certain degree of specialization and complementarity. The embassy is more

focused on administrative and formal issues, while resident Japanese facilitators are more connected to cooperation management issues.

On the other hand, the working modality adopted for the technical cooperation proposals, such as the ones implemented by the Office, were considered positive. Those involved highlighted the high level of interaction between the Japanese and national teams in the stages defining information needs, information collection (including field visits with ten or more people) as well as in the analysis of results.

Opportunities for improvement were identified regarding the time spent in the creation of proposals and requirements connected to information and aspects related to intercultural communication. In the first case, it was considered to be a very demanding process at times, when it came to collect information about the sector (often information was not systematized or available), it was also considered slow when developing projects and/or studies. In the second case, the main limitation was related to language differences, which were minimized through interpreters (not all missions had professional interpreters, though) or Japanese experts who spoke Spanish and had experience in other countries in the region. However, these limitations did not limit the achievement of goals set.

4.3.2. Appropriateness of Project Implementation Processes.

Implementation processes of cooperation and technical studies projects were appropriately implemented without having major difficulties, which made achievement of objectives possible. Generally speaking, institutional aspects of participating organizations did not represent limitations for the execution. In fact, there is a generalized positive evaluation of shared working methodologies between Japanese and national experts (especially long-term experts). Some activities to be highlighted were, field visits to get to know the characteristics of the forestry sector with local producers, large forestry companies, or companies linked to a specific stage in the wood transformation process (sawmill, etc.).

In the case of national staff training abroad (mainly in Japan), the administrative support provided by the Embassy to facilitate paper work and other logistic aspects was highlighted.

Among identified best practices, at project implementation level, the active role of national technical counterparts was highlighted for the drawing up of cooperation and technical studies projects. Among main positive consequences, there are: (i) to facilitate the incorporation of knowledge and sectorial information collected at local level into co-

operation initiatives; (ii) to enable the broad movement of foreign experts in the territory as well as the access to qualified informants that were relevant for their objectives; (iii) to promote knowledge acquisition and incorporation of best practices on forestry among local professionals; (iv) to promote technical assistance adaptation.

The importance of leaders and/or Japanese experts living permanently in Uruguay is also highlighted. Among the main positive consequences, the following can be mentioned: (i) to collaborate in the reduction of idiosyncratic differences between professionals from both countries; (ii) to speed up communication between the different actors taking part in the cooperation initiative; (iii) to function as a buffer in potential conflicts which could occur during implementation of initiatives.

Regarding Monitoring and Evaluation, the missions by Japanese experts were highlighted since they worked as “auditors” for the multiannual projects as well as for the participative evaluation processes where participating technicians could express themselves (“evaluation meetings”). References to the Monitoring and Evaluation activities were not generalized among technicians who participated in the cooperation process. Staff in high positions, however, remembered said activities.

It is worth mentioning that final evaluation reports from JICA projects had an adequate tech-

nical quality and were an important input for the current evaluation. The opportunity for improvement was based on the fact that evaluation reports were not available for all the cooperation initiatives assessed, something that limited the analysis in some of the points.

At implementation level, the incidence of professional facilitators in the operation as well as in the technical exchange is to be highlighted.

Particularly, these long-terms experts and/or residents in the country generally provided:

- (i) Active and proactive attitude to solve national counterparts design and/or practical problems;
- (ii) openness to national counterpart technicians from cooperation projects (MGAP-INIA) and
- (iii) alternatives to overcome language limitations

5. Conclusions, recommendations and lessons learned

5.1. Main conclusions

The evaluation's methodological proposal was adequate for the objectives set. This provided lessons learned and best practices to enhance South-South Cooperation as well as to value contributions made by the Japanese cooperation in relation to the development of the national forestry sector. Generally speaking, interviewees remembered actions and results from the Japanese cooperation even after all the time spent. Main limitations were related to the little information available to produce estimates about some areas (e.g. the comparison with other donors) or the lacking of relevant documents (such as final evaluation reports in some projects).

In general, technical cooperation projects and studies had a satisfactory development fully reaching the objectives set and results expected. The quality of the technical assistance provided and the suitable profile of participating consultants (mainly long-term ones), the technology transferred and the training activities led to the achievements of objectives set.

Japanese cooperation with Uruguay's forestry sector was highly consistent with ODA policies and

guidelines in force at the time of analysis, and it is consistent with changes made in the last years.

It was also an important contribution to the needs expressed by Uruguay for the development of its forestry sector. It mostly achieved the objectives set by the country and also those of the project's. Up to date, the area covered by rapid growth plantations is 1.5 million ha. The sector exports are around USD 15 billion and wood extraction for industrial purposes of almost 12 million m³. Also, domestic use of wood is estimated in approximately USD 30 million and 18,000 formal jobs were created in the forestry sector. All this was achieved with explicit efforts towards a sustainable forestry and industrial management.

Figures are similar to the ones presented in the projects developed by Japanese cooperation and can be assimilated to main ODA guidelines, other international development goals (MDGs), and Uruguay's objectives during the period. Some of them are: sustainable development, poverty reduction, simultaneous environmental development and conservation, introduction to a market-oriented economy, promotion of global alliance for development, etc.

During the period of reference (1989-2003), Uruguay received cooperation from other donors

as well, achieving mutual complementarity, the resulting synergy contributed to the development of the sector as planned.

The greatest contribution to the forestry sector was reflected in factors such as, training of human resources, material contributions, particularly in terms of equipment and technology and especially in the first projects, depth of studies, gradualness of studies (short, mid and long-term), and the contribution to the proposed development paradigms.

Even though this transcends the evaluation objectives of the development model, it is worth mentioning that the prioritization by local authorities was valid. However, it only partially considered the existing visions in this context which later brought tensions to governance.

Cooperation led to great development, according to interviewees. If it had not existed, progress would have been much slower, as it happens in the Uruguayan society.

Most stakeholders interviewed consider Japanese cooperation was efficient and effective in achieving the goals set. For them this was due to its meticulousness and the capacity to accept changes to its proposals when arguments by national counterparts were valid. Examples of this are, the inclusion in PBDIF of the solid wood industry development, this was proposed by the MIEM, also the

decision of working towards genetic improvement, proposed by INIA as an institutional policy at the time.

The implementation processes of technical studies and cooperation projects were adequately implemented, without experiencing major difficulties, and achieving the objectives set. Generally speaking, institutional aspects and systems of participating organizations did not represent a limitation for their execution. There is general recognition to working methodologies that enabled the joint work between Japanese and national experts (especially long-term experts).

Specific results obtained by projects and/or technical studies funded by the Japanese cooperation have shown to be sustainable over time since after 10 years of their implementation, many of the outputs, experiences and lessons learned provided by the Japanese cooperation are still in use.

There are different opinions when it comes to the long-term sustainability of results achieved. Some people consider them sustainable over time, while there are others that believe sustainability depends on the Uruguayan institutions' ability to maintain the results achieved. Long-term sustainability will probably depend on the sector's capacity to change and on the politicians' ability to adapt the forestry production to the requirements

and possibilities of the times. Thus, it is advisable to strengthen strategic planning practices including the analysis by stakeholders involved to identify possible opportunities, threats, strengths and weaknesses which enable the carrying out of actions to maximize or mitigate its results.

Cooperation also made national counterparts "get used" to external contributions which might have had a negative impact on the creation of their own resources. In the mid-term, the national institutions were not always able to maintain the level and quantity of resources needed to keep working at the pace required. For example, when external resources are over, the Forestry General Directorate changes from being a General Department to a Department at the MGAP, it ceases to be an implementing unit and loses great part of human and material resources, this situation leaves it in less favorable conditions to lead the forestry policy.

5.2. Lessons learned

On the other hand, the volume and amount of forestry best practices and lessons learned identified during the period (1989-2003) are adequate and can be taken into consideration for the development of joint South-South cooperation actions with other countries in the region being Japan a strategic part-

ner (triangular cooperation). Among the main lessons learned and/or best practices, the following ones can be highlighted:

The involved countries' vocation for peace and dialogue represented the foundation for the joint work carried out during the period.

Inter-cultural problems, that sporadically came up during the period analyzed, can be reduced by getting to know the "the idiosyncratic characteristics of the other party". Most interviewees agreed upon the importance of living and being trained together during their stay in Japan to better understand their counterparts' way of living.

The profile of possible cooperating technicians, future colleagues coming from other countries, must be known in advance, not to find out about their skills, but to maximize time working together.

Uruguay is currently able to offer its knowledge on forestry development to several countries in the Southern hemisphere, and it has experience working with Japan. However, these actions will involve, at least, three countries. It will be necessary to know as much about the other two partners' characteristics as possible (cultural, political, technical, geographical, productive, etc.) in order to implement efficient actions.

The recipient population's opinion on the topic should be considered to analyze and forecast pos-

sible discussions and conflicts that may come up, and to achieve suitable levels of governance and empowerment.

As it happened with Japan-Uruguay cooperation, baselines should be meticulously studied and the information and local knowledge should be known and systematized to accept good local ideas during the implementation and execution of joint actions.

Counterparts, both institutions and individuals, should have a wide understanding of topics being dealt with, and be able to make changes that provide support to the proposals by their governments.

Annex I: List of Interviewees

Date	Interviewee	Relationship with Japan cooperation	Main topics
11/21/2016	Atilio Ligrone	Former Forestry Director General DGF-MGAP, current manager SPF	An overview of the projects and the cooperation analyzed, he is the one that had the largest participation from the Uruguayan side during the period of analysis
11/24/2016	Juan Pablo Nebel	Current Director of Planning Division, DGF, MGAP	Overview of the projects and cooperation analyzed, emphasis on the projects in which he participated.
11/26/2016	Luis Sancho	Former Chief western Region. DGF, MGAP	Overview of the projects and cooperation analyzed
11/26/2016	Pedro Soust	Current Director General DGF, MGAP	Overview of the projects and cooperation analyzed
11/28/2016	Zohra Bennadji	Former Director National Forestry Program INIA, current researcher INIA Tacuarembó	Overview of the projects and cooperation analyzed, with emphasis on: Technical Cooperation Project for the Development of Basic Technology for the Improvement of Forest Species. (Small-scale project); Technical Cooperation Project for the Genetic Improvement of Forest Species
11/29/2016	Jorge Carrión	Former Chief northern region, DGF, MGAP	Overview of the projects and cooperation analyzed

Date	Interviewee	Relationship with Japan cooperation	Main topics
12/2/2016	Francisco Porcile	Former Director of Studies Division. DGF, MGAP	Overview of the projects and cooperation analyzed, emphasis on the beginning of cooperation and Technical Cooperation Project for the Development of Basic Technology for the Improvement of Forest Species. (Small-scale project)
12/3/2016	Martha Tamosiunas	Former employee DGF, MGAP	Overview of the projects and cooperation analyzed
12/10/2016	Andrés Berterreche	Former Director General, DGF, MGAP, Former Undersecretary MGAP, Former MGAP Minister.	Overview of his vision for all projects in the period analyzed
12/12/2016	Masahiko Mori	Embassy of Japan	Overview of projects and analyzed cooperation, request for evaluation information.
12/19/2016	Fernando Resquín	Researcher, National Forestry Program, INIA	His vision on the projects in which he participated or knew, Project of Technical Cooperation for the Development of Basic Technology of Improvement of Forest Species. (Small-scale project). Technical Cooperation Project for the Genetic Improvement of Forest Species.
12/20/2016	Naomi Hiroi	JICA Office in Montevideo	Overview of projects and analyzed cooperation, request for evaluation information.

Date	Interviewee	Relationship with Japan cooperation	Main topics
12/27/2016	Gustavo Balmelli	Researcher, National Forestry Program, INIA	His vision on the projects in which he participated or knew, Project of Technical Cooperation for the Development of Basic Technology of Improvement of Forest Species. (Small-scale project). Technical Cooperation Project for the Genetic Improvement of Forest Species.
12/30/2016	Daniel san Román	Former director of Planning Division. DGF, MGAP	His vision of the projects in which he participated or knew about
1/11/2017	Carlos Blasi	Former Deputy Director of Industrial Competitiveness, Industry Directorate, MIEM	Study for the Basic Plan for the Development of Forest Products Industry 1999.2-1999.11 MIEM / National Directorate of Industry
2/7/2017	Gustavo Ferreira	Former Director of INIA Northern Experimental Station, Tacuarembó	Overview of the projects and cooperation analyzed, emphasis on the projects in which he participated
2/7/2017	Roberto Scoz	Current Director National Forestry Program INIA, Tacuarembó	Overview of the projects and cooperation analyzed
2/9/2017	Gustavo Britos	Current Director of INIA Northern Experimental Station, Tacuarembó	Overview of the projects and cooperation analyzed

Date	Interviewee	Relationship with Japan cooperation	Main topics
2/9/2017	Isabel Trujillo	Former INIA researcher	Overview of the projects and cooperation analyzed, emphasis on the projects in which she participated
2/16/2017	Hugo O'Neill	Former Senior Researcher, LATU	Overview of the projects and cooperation analyzed, emphasis on the projects in which he participated
2/16/2017	Silvia Böthig	Senior Researcher, LATU	Overview of the projects and cooperation analyzed, emphasis on the projects in which she participated
2/17/2017	Javier Doldán	Current Chief of Materials and Forest Products Department, LATU	Overview of the projects and cooperation analyzed, emphasis on the projects in which he participated
2/22/2017	Juan Pablo Móttola	Director, Annalysis and Evaluation of Public Policies AGEV/OPP	Overview of evaluation processes
N/A	Raúl de Castro	Former chief of Forest Products Department, LATU	Refused to be interviewed, he is currently retired

Translated acronyms

DGF: Forestry General Directorate

MGAP: Ministry of Livestock, Agriculture and Fisheries

INIA: National Institute for Agrarian Research

SPF: Society of Forest Producers

MIEM: Ministry of Industry, Energy and Mining

AGEV: National Evaluation Agency

OPP: Planning and Budget Office

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Notes

- 1 Taken from AGEV/OPP <http://www.opp.gub.uy/evaluacion-diseno-implementacion-y-desempeno>: The aim of design, implementation and performance assessments (DID) is to provide technical input for the analysis of public interventions oriented to: (i) facilitate organizational learning; (ii) promote actions to improve public services and (iii) support the decision-making process. These are specific studies to collect, systematize and generate information on the development of a public intervention and factors which influence it in terms of: (i) design, (ii) implementation and (iii) context. Their main topics are: design, implementation and performance. DID evaluations show the consistency of a participation design through a Matrix of Objectives which reflects the current strategy and its expected outcomes. The design is analyzed in relation to: (i) the problem or need to be overcome, and (ii) the internal logic of the proposed intervention strategy. DID evaluations also aim to identify improvement opportunities in the implementation or management of interventions. Finally, DID evaluations aim to describe and analyze the performance of a public intervention classifying achievements in three levels: (i) processes; (ii) products and -eventually- (iii) results (intermediate and/or final). Achievements will be analyzed, if availability of information allows, taking into account their: (i) efficacy; (ii) efficiency; (iii) quality and (iv) economy. They use existing information. DID evaluations have the peculiarity of being based on existing information from the organizations themselves (implementation reports, foundational documents, administrative records, etc.) or other sources (national statistics, sectoral reports, previous assessments, etc). [Volver]
- 2 JICA Web consulted in November 2016 (<https://www.jica.go.jp/uruguay/espanol/activities/activity02.html>). [Volver]
- 3 JICA Web consulted in November 2016 (<https://www.jica.go.jp/uruguay/espanol/activities/activity02.html>). [Volver]
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- 6 JICA Web consult in November 2016 (<https://www.jica.go.jp/uruguay/espanol/activities/activity02.html>). [Volver]
- 7 <http://libopac.jica.go.jp/images/report/P0000041890.html> [Volver]
- 8 <http://libopac.jica.go.jp/images/report/P0000041890.html> [Volver]
- 9 <http://libopac.jica.go.jp/images/report/P0000041890.html> [Volver]
- 10 <http://libopac.jica.go.jp/images/report/P0000041890.html> [Volver]
- 11 <http://libopac.jica.go.jp/images/report/P0000041890.html> [Volver]
- 12 <http://libopac.jica.go.jp/images/report/P0000041890.html> [Volver]
- 13 <http://libopac.jica.go.jp/images/report/P0000041890.html> [Volver]
- 14 <http://libopac.jica.go.jp/images/report/P0000041890.html> [Volver]
- 15 JICA Web consulted in November 2016 (<https://www.jica.go.jp/uruguay/espanol/activities/activity02.html>). [Volver]
- 16 JICA Web consulted in November 2016 (<https://www.jica.go.jp/uruguay/espanol/activities/activity02.html>). [Volver]
- 17 JICA Web consulted in November 2016 (<https://www.jica.go.jp/uruguay/espanol/activities/activity02.html>). [Volver]
- 18 JICA Web consulted in November 2016 (<https://www.jica.go.jp/uruguay/espanol/activities/activity02.html>). [Volver]
- 19 JICA Web consulted in November 2016 (<https://www.jica.go.jp/uruguay/espanol/activities/activity02.html>). [Volver]
- 20 The building construction was affected by the crisis, specially from Brazil which impeded the execution and was assumed by the project. [Volver]
- 21 JICA Web consulted in November 2016 (<https://www.jica.go.jp/uruguay/espanol/activities/activity02.html>). [Volver]
- 22 In this sense it is also established that: "Japan will also promote the cooperation for the improvement and dissemination of technologies such as the cooperation in research which will be added to research and development as well as adaptation skills in developing countries" (ODA Charter 1992:03). [Volver]
- 23 It is important to add that this study was the base for the first two Forestation Five-Year Plans to be implemented by MGAP Forestry Directorate. [Volver]
- 24 Taken from: <http://www.maff.go.jp/e/data/publish/attach/pdf/index-27.pdf> [Volver]
- 25 Taken from: <http://www.un.org/spanish/milenio/ares552.pdf> [Volver]
- 26 Taken from: <http://www.un.org/esa/documents/ga/conf151/spanish/aconf15126-1annex1s.htm> [Volver]
- 27 Taken from: <http://unfccc.int/resource/docs/convkp/convsp.pdf> [Volver]
- 28 Taken from: <http://unfccc.int/resource/docs/convkp/kpspan.pdf> [Volver]
- 29 <http://www.inia.uy/marco-institucional/Ley-de-Creaci%C3%B3n> [Volver]