

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)  
TECHNICAL SECRETARIAT OF PLANNING, PARAGUAY

**THE STUDY  
ON  
THE ECONOMIC DEVELOPMENT  
OF  
THE REPUBLIC OF PARAGUAY**

**FINAL REPORT**

**ACTION PLAN &  
PROMOTION ORGANIZATION : MAIN REPORT**

**VOLUME 6**

November 2000

**DAIWA INSTITUTE OF RESEARCH LTD.  
PACIFIC CONSULTANTS INTERNATIONAL**

## PREFACE

In response to a request from the Government of the Republic of Paraguay, the Government of Japan agreed to conduct a Study on the Economic Development of the Republic of Paraguay, and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA organized a study team composed of Daiwa Institute of Research Ltd. and Pacific Consultants International. The team, headed by Mr. Hidesuke KOTAJIMA of Daiwa Institute of Research Ltd., visited the Republic of Paraguay five times between October 1998 and September 2000. In addition, JICA set up an advisory committee headed by Professor Akio HOSONO, of the Research Institute for Economics and Business Administration, Kobe University, which examined the study from technical points of view.

The team held discussions and conducted joint field research with the Paraguayan counterpart team, which was headed by the Technical Secretariat of Planning and composed of officials from relevant ministries. Based on these joint efforts, the team prepared the Draft Final Report and presented it to the Government of the Republic of Paraguay in August 2000. After returning to Japan, the team conducted further studies and compiled the final results found in this report.

I hope this report will contribute to forming an appropriate Development Strategy for the Paraguayan economy. I also hope it enhances the friendly relations between the two countries.

I wish to express my sincere appreciation to the Paraguayan counterpart team and others concerned for their close cooperation throughout the study.

November 2000



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Kunihiko Saito

President

Japan International Cooperation Agency

November 2000

Mr. Kunihiro Saito  
President,  
Japan International Cooperation Agency

Dear Mr. Saito,

### **Letter of Transmittal**

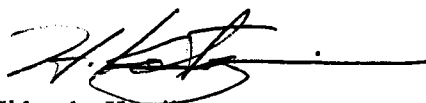
We, hereby, have the pleasure of submitting the "Study on the Economic Development of the Republic of Paraguay." The report describes the results of the Study conducted by Daiwa Institute of Research Ltd. and Pacific Consultants International, in accordance with the contract entered into with the Japan International Cooperation Agency (JICA).

Our Study Team carried out five field surveys between October 1998 and September 2000. While in Paraguay, the Team conducted a joint study with the Paraguayan counterpart team, composed of different ministry officials, to formulate development strategies along with projects for implementation, in order to enhance the economic competitiveness. In the process, skills and technology were also transferred to Paraguay. Based on results of the field surveys in Paraguay and study activities in Japan, the team prepared this report, in cooperation with the Paraguayan side.

In view of the urgency of strengthening the economic competitiveness and the socio-economic development of the Republic of Paraguay as a whole, we recommend that the Paraguayan government implement these suggestions without delay.

We wish to take this opportunity to express our sincere gratitude to the Technical Secretariat of Planning and other authorities concerned in the Republic of Paraguay for the kind cooperation and warm hospitality they extended to our Team. We also wish to express our deep gratitude to your Agency, the Ministry of Foreign Affairs, the Japanese Embassy in Paraguay, and the JICA Paraguay office.

Very truly yours,



Hidesuke Kotajima  
Team Leader,  
The Study on the Economic Development of the  
Republic of Paraguay

## ABBREVIATIONS & ACRONYMS

	<b>English</b>	<b>Spanish</b>
<b>ABASTO</b>	Central Market of Asuncion City	Mercado Central de Abasto de la Municipalidad de Asunción
<b>ABP</b>	Paraguayan Banks Association	Asociación de Bancos del Paraguay
<b>ACEPAR</b>	Paraguayan Steel Company	Aceros del Paraguay S.A.
<b>ANTELCO</b>	National Telecommunications Company	Administración Nacional de Telecomunicaciones
<b>APAL</b>	Alcohol monopoly corporation	
<b>APC</b>	Paraguayan Quality Association	
<b>ARP</b>	Rural Association of Paraguay	Asociación Rural del Paraguay
<b>ASEAN</b>	Association of South East Asian Nations	
<b>BCP</b>	Central Bank of Paraguay	Banco Central del Paraguay
<b>BID(IDB)</b>	Inter-American Development Bank	Banco Interamericano de Desarrollo
<b>BIS</b>	Bank for International Settlements	
<b>BNF</b>	National Development Bank	Banco Nacional de Fomento
<b>BOD</b>	Biochemical Oxygen Demand	
<b>BVPASA</b>	Stock Exchange and Products of Asunción S.A.	Bolsa de Valores y Productos de Asunción S.A.
<b>CADEP</b>		Centro de Analisis y Difusión de Economía Paraguaya
<b>CAH</b>		Crédito Agrícola de Habilitación
<b>CAP</b>		Cámara de Anunciadores del Paraguay
<b>CAPECO</b>	Chamber of Paraguayan Cereals and Oleaginous	Cámara Paraguaya de Exportadores de Cereales y Oleaginosas
<b>CBC</b>		Cámara y Bolsa de Comercio
<b>CCM</b>	Council of Common Market	
<b>CECTEC</b>		Centro de Educación, Capacitación y Tecnología Campesina
<b>CEDIAL</b>		Cooperación Empresarial y Desarrollo Industrial
<b>CEPAE</b>		Centro de Apoyo a la Empresa
<b>CERNECO</b>		Centro de Regulación, Normas y Estudios de la Comunicación
<b>CET</b>	Common External Tariff	Tarifa Externa Común
<b>CETAPAR</b>	Comprehensive Experimental Center Agriculture	Centro Tecnológico Agropecuario en Paraguay
<b>CI</b>	Competitive Index	Índice Competitivo
<b>CNV</b>	National Securities Commission	Comisión Nacional de Valores
<b>CIP</b>		Centro de Importadores del Paraguay
<b>COD</b>	Chemical Oxygen Demand	Demanda Química de Oxígeno
<b>CODEX</b>	The Joint FAO/WHO Foods Standards Program	
<b>CRIA</b>		Centro de Investigación Agrícola
<b>DGEEC</b>	Statistics and Census Bureau, STP	Dirección General de Estadísticas Encuestas y Censos, STP
<b>ECLAC (CEPAL)</b>	Economic Commission for Latin America and the Caribbean	Comisión Económica para América Latina y el Caribe

<b>EDEP</b>	The Study on the Economic Development of the Republic of Paraguay	Estudio sobre el Desarrollo Económico de la República del Paraguay
<b>EU</b>	The European Union	Unión Europea
<b>FAO</b>	Food & Agricultural Organization	
<b>FCPCAL</b>	State run railroad	Ferrocarril Presidente Carlos Antonio Lopez
<b>FDC</b>	Rural Development Fund	Fondo de Desarrollo Campesino
<b>FDI</b>	Industrial Development Fund	Fondo de Desarrollo Industrial
<b>FDI (IED)</b>	Foreign Direct Investment	Inversión Extranjera Directa
<b>FECOPROD</b>		Federación de Cooperativas de Producción Ltda.
<b>FEPRINCO</b>		Federación de la Producción, la Industria y el Comercio
<b>FIDA</b>		Fondo Internacional de Desarrollo Agrícola
<b>FINAEX</b>		Programa de Financiamento à Exportação de Máquinas e Equipamentos
<b>FOB</b>	Free on Board	
<b>GATT</b>	General Agreement on Tariffs and Trade	
<b>GDP (PIB)</b>	Gross Domestic Product	Producto Interno Bruto
<b>GTZ</b>	German Agency for International Cooperation	Agencia Alemán para Cooperación Internacional
<b>Gs</b>	Guaraní (Currency Unit of Paraguay)	Guaraní (moneda paraguaya)
<b>HACCP</b>	Hazard Analysis & Critical Control Point	Control Crítico y Analisis de Peligro
<b>ICOR</b>	Incremental Capital Output Ratio	Proporción del Producto Marginal del Capital / Rendimiento Marginal
<b>IDB (BID)</b>	Inter-American Development Bank	Banco Inter-Americano de Desarrollo
<b>IDP</b>	Productivity Index	Indice de Productividad
<b>IED (FDI)</b>	Foreign Direct Investment	Inversión Extranjera Directa
<b>INAN</b>	National Institute of Food and Nutrition	Instituto Nacional de Alimentación y Nutrición
<b>INCOOP</b>	National Institute of Cooperativism	Instituto Nacional de Cooperativismo
<b>INTAL</b>	Institute for the Integration of Latin America and the Caribbean	
<b>INTN</b>	National Institute of Technology and Standardization	Instituto Nacional de Tecnología y Normalización
<b>IPS</b>		Instituto de Prevision Social
<b>ISO</b>	International Standards Organization	Organización Internacional de Estándar
<b>IVA</b>	Value Added Tax	Impuesto de Valor Agregado
<b>JBIC</b>	Japan Bank for International Cooperation	Banco del Japón para Cooperación Internacional
<b>JCIF</b>	Japan Center for International Finance	Centro del Japón para Finanza Internacional
<b>JETRO</b>	Japan External Trade Organization	Organización de Comercio Externo del Japón
<b>JICA</b>	Japan International Cooperation Agency	Agencia de Cooperación Internacional del Japón
<b>JIS</b>	Japan Industrial Standard	Estándar Industrial del Japón
<b>LF</b>	Ladle Furnace	
<b>MAG</b>	Ministry of Agriculture and Livestock	Ministerio de Agricultura y Ganadería
<b>MERCOSUR</b>	Southern Common Market	Mercado Común del Sur
<b>MH</b>	Ministry of Finance	Ministerio de Hacienda
<b>MIC</b>	Ministry of Industry & Commerce	Ministerio de Industria y Comercio

<b>MOPC</b>	Ministry of Public Works and Communications	Ministerio de Obras Públicas y Comunicaciones
<b>NGO</b>	Non Government Organization	Organización No Gubernamental
<b>ODA</b>	Official Development Assistance	Asistencia de Desarrollo Oficial
<b>OEM</b>	Original Equipment Manufacture	
<b>OJT</b>	On the Job Training	Adiestramiento en el Trabajo
<b>OPIT</b>	Integral Transport Planning Office of MOPC	Oficina de Planificación Integral de Transporte de MOPC
<b>ORMIC</b>	Regional Office of Ministry of Industry & Commerce	
<b>PIB (GDP)</b>	Gross Domestic Product	Producto Interno Bruto
<b>PITEX</b>	Temporary Import Program for Exportation	Programa de Importación Temporal para Exportación
<b>PROMODAF</b>	Modernization Program for Development of Agricultural, Livestock and Forestry Sector	Programa de Modernización para el Desarrollo del Sector Agropecuario y Forestal
<b>PROPARAGUAY</b>	The Paraguayan Government Institution for Export Promotion	
<b>R&amp;D</b>	Research and Development	Estudio y Desarrollo
<b>RCA</b>	Revealed Comparative Advantage	
<b>R\$</b>	Real (Currency Unit of Brazil)	Real (moneda brasileña)
<b>SENACSA</b>		Servicio Nacional de Salud Animal
<b>SENAI</b>		Serviço Nacional de Aprendizagem Industrial
<b>SMAW</b>	Submerged Arc Welding	
<b>SNPP</b>		Servicio Nacional de Promoción Profesional
<b>STP</b>	Technical Secretariat of Planning	Secretaría Técnica de Planificación
<b>TRIPS</b>	Treatment of Regulation of the Intellectual Properties' Standard	
<b>UIP</b>	Paraguayan Industrial Union	Unión Industrial Paraguaya
<b>US\$</b>	US Dollar (Currency Unit of USA)	Dolar (Moneda Estadounidense)
<b>VAT</b>	Value Added Tax	Impuesto de Valor Agregado
<b>WTO</b>	World Trade Organization	Organización de Comercio Mundial
<b>¥</b>	Japanese Yen (Currency Unit of Japan)	Yen (Moneda Japonesa)

## CURRENCY EQUIVALENTS

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**Action Plan & Promotion Organization: Main Report**  
**Volume 6**  
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# **1. ACTION PLAN**

## **1.1 IMPORTANCE AND PRIORITY STANDARDS FOR PROGRAM/PROJECTS**

“Importance and priority standards” have been used to select certain projects for the action plan. Implementation of these projects should begin by 2006.

Importance standards evaluate projects without considering whether the actual financial and human resources are available or not. The availability of resources falls under the domain of priority standards, which determine the ultimate order of project implementation. There are four main elements within the importance standard: effectiveness, efficiency, immediate effect, and repercussions.

Priority is given to projects when a project cannot be launched before other project is launched or implemented, or when there are resource constraints.

### **1.1.1 Project importance standards**

#### **(1) Effectiveness**

Effectiveness reflects the direct contribution to economic development – contributing to GDP growth and job creation. A project that may lead to a significant increase in GDP is considered to have high effectiveness. A project that may lead to extensive absorption or creation of jobs is also considered to be highly effective. A project must meet one of these standards to attain high effectiveness. The contribution to economic development must be direct, GDP and job growth that is indirectly created by the project are not included.

#### **(2) Efficiency**

Efficiency reflects the cost effectiveness of the project - the costs needed to achieve a minimum level of effectiveness. The effect is not limited to the contribution to economic development as mentioned in 1), but is comprehensive and includes the aims of a project. Efficiency is considered high when the cost to achieve a benefit is relatively low. The cost includes not only the public expense, covered by the central and local governments, but also expenses paid by the private sector. If the private sector must pay a lot, the efficiency is lowered even if the government does not pay much relative to the effect. In such a case, feasibility may also become lower.

### **(3) Immediate effect**

Immediate effect shows the time lag before effects are seen. In Paraguay, where resources are extremely limited and credibility of the government is low, it is important to seek rapid effectiveness. This is because a project with a quick effect may give impetus to economic development. In addition, the longer it takes before the effect comes out, the higher the possibility of facing unexpected changes in the implementing environment, which may be an obstacle to achieving the projected results.

### **(4) Repercussion**

Repercussion refers to indirect effects that spread out of the initial implementation of a project. In the case of a project to develop arterial highways, the construction itself creates jobs and increases GDP temporarily, which is estimated by 1), effectiveness. When the development of arterial highways speeds up transportation to the export market and, thus, leads to exports of fresh fruits and vegetables, the effect is considered a repercussion. When a project nurtures development of a supporting industry, or contributes indirectly to the growth of a related industry, the repercussion of the project is big.

#### **1.1.2 Priority standards**

Although evaluation of a project may be low, sometimes implementation is necessary for other projects to proceed. In this case, the project is considered to have high prior necessity. For example, if the launch of Project A is required before launching Project B, a high importance project, the prior necessity of Project A raises its priority. Also, as there are resource constraints that prevent implementation of all projects at one time, projects must be prioritized. Prioritized projects with resource constraints and/or prior necessity fall into one of 3 categories:

- 1: projects to be implemented immediately
- 2: projects to be implemented in one or two years
- 3: projects to be implemented in three years later

#### **1.2 PROJECT EVALUATION BASED ON IMPORTANCE AND PRIORITY STANDARDS**

Program projects are studied for the development strategies already proposed in our economic development survey. Since the elements within the importance standards reflect different standpoints, it is difficult to determine project priority with a simple numerical evaluation. Even if the effectiveness is considerable, a project that requires too much money and time may be low priority in terms of efficiency or immediate effect. On the other hand, even if effectiveness is limited, a project that must be completed ahead of a project with high importance will be given higher importance due

to its prior necessity. Some projects are easier to evaluate by number, however, projects that are not suitable for numerical evaluation are also proposed. Priority of projects cannot be lowered just because they cannot be evaluated easily.

Projects are prioritized according to the following procedure. In each step, the study team makes the evaluation together with the counterpart.

- a) All projects are evaluated in terms of items (1) to (4) in 1.1.1 (1). The evaluation has 3 levels: high, medium and low. The evaluations are relative. Some medium level projects are selected as references in advance. Other projects are then evaluated against them as higher, lower or the same
- b) By referring to the 4 items scored, a judgement is made to determine a comprehensive high, medium or low rating. High means higher importance and low means lower importance.
- c) Priority evaluations are then made.

The evaluation format is as follows:

**Table 1 Evaluation Formula to Prioritize the Projects**

L:Large M:Medium S:Small

Project	Importance Standards				Final evaluation	Priority
	Effectiveness	Efficiency	Immediate effectiveness	Repurcussion		
A	L	M	M	L	L	1
B	L	L	S	M	L	2
C	M	S	M	S	M	2
D	M	L	S	S	L	1
E	S	L	S	S	S	3

**1.3 SCREENING PROCESS OF THE ACTION PLAN**

In this study, provisional classification was made as to the importance and priority of the 90 projects selected in all sectors. After this, further discussion with the counterparts took place to evaluate if the classification was appropriate. At the same time, the future budget of Paraguay was estimated and a trial calculation of the financial resources available for investment was prepared. Based on the calculation, 28 of the 90 projects were chosen for the action plan.

**1.4 PROJECT LIST**

The project lists mentioned in the preceding section are attached:

- 28 priority projects
- the other projects

Project List  
- 28 priority projects (1) -

Program	Project	Importance	Priority	2001	2002	2003	2004	2005	2006	2007/2010	2011~
<b>Agriculture</b>											
A.1 Assisting regional production											
A.2 Assisting the export of agricultural products											
A.1.4 Assist production of new livestock products		L	2	2001							
A.2.2 Hygiene management for livestock products		L	1	2001							
<b>Industry</b>											
I.2 Upgrading quality and productivity											
I.2.1 Industrial standardization		L	1	2001							
I.2.3 Diffusion of quality control		L	1	2001							
I.4 Strengthening marketing											
I.4.1 Market studies of principal products of selected clusters		L	1	2001							
<b>Transport infrastructure</b>											
T.1 Improvement of the export corridor											
T.1.1 Road projects for export corridor development		L-M	1-2	2001							
T.1.1(1) Asunción-Guacra		(L)	(1)	2004							
T.1.1(3) Carmelo Peralta -Mariscal Estigarribia		(L)	(1)	2001							
T.1.1(4) Misiones Estigarribia -Infante Rivarola		(L)	(1)	2001							
T.1.1(5) Neerland -Poza Ordo		(L)	(1)	2001							
T.1.1(6) Second Amistad Bridge		(L)	(1)	2004							
T.1.1(8) Route 9 (La Patria -Sargento Rodrigues)		(L)	(1)	2001							
T.1.1(9) Route 2 and 7 (San Lorenzo -Caaguazú)		(L)	(1)	2002							
T.1.2 Port and river transport projects for export corridor development		L-M	1-2	2001							
T.1.2(3) Acquisition of dredgers to be used in Paraguayan River		(L)	(1)	2001							
T.1.2(5) Improvement on River Navigation System		(L)	(2)	2001							
T.2 Improvement of domestic mobility		L-S	1	2001							
T.2.1 Project for domestic main road improvement		L-S	1	2001							
T.2.2 Project for provincial road improvement		L-S	1	2001							
T.3 Improvement of transport infrastructure supporting distribution											
T.3.2 Local Road (farm road) improvement project		L-S	1	2001							
<b>(Soft)</b>											
T.4 Program for decentralization of infrastructure control											
T.4.2 Project on division of road administration		L	1	2001							
T.4.3 Project for establishment of road planning department in prefectures		L	1	2001							
T.6 Program for strengthen transport infrastructure maintenance and administration											
T.6.1 Project on elaboration of administrative standards		L	2	2001							
<b>Human resource development</b>											
H.2 Assisting agricultural high schools in Paraguay											
H.2.1 Educational improvement of agricultural high schools in Paraguay		L	1	2001							
<b>Institutional finance</b>											
F.1 Stabilizing and rationalizing banking operations											
F.1.1 Simplification of loan procedures		L	1	2001							
F.3 Export financing											
F.3.2 Introduction of a system of export insurance and refund of export bills		L	1	2001							
F.5 Strengthening of self-financing ability											
F.5.1 Assistance for organization of cooperatives		L	1	2001							
<b>Quality and productivity</b>											
Q.1 Establishing a certification system											
Q.1.1 Institution building of the ONA		L	1	2001							
Q.2 Strengthening testing and inspection laboratories											
Q.2.1 Consolidation of INTN		L	1	2001							
<b>P.1 Simplifying export procedures</b>											
P.1.1 Export procedures simplification		L	2	2001							
P.1.3 IVA refund procedures simplification		L	2	2001							

**Project List**  
- 28 priority projects (2) -

Program	Project	2001	2002	2003	2004	2005	2006	2007/2010	2011~
<b>Promotion of exports and investment</b>									
E.1 Cultivating export markets									
	E.1.1 Cultivation of market for differentiated products	2001							
E.2 Improving the trade related information system									
	E.2.1 Establishment of a trade information network through the internet	2001							
D.1 Promoting foreign direct investment									
	D.1.1 Maquiladora	2001							
<b>Cluster</b>									
L.1 Mixed feed cluster									
	L.1.1 Plant investment promotion	2001							
	L.1.2 Eradicate Newcastle disease and Pig pests	2001							
V.1 Vegetable cluster									
	V.1.1 Plant investment promotion	2001							
<b>Promotion or organization</b>									
O.1 Promoting implementation of the development strategy									
	O.1.1 Establishment of the organization to implement the development strategy	2001							