

I T T O

INTERNATIONAL TROPICAL TIMBER ORGANIZATION

DRAFT PROJECT DOCUMENT

Title	INDUSTRIAL UTILIZATION OF NEW FOREST SPECIES IN PERU - PHASE I
Serial Number	PD 37/88 Rev. 3 (I)
Original	SPANISH

Prepared by GENERAL DIRECTORATE OF FORESTS AND WILDLIFE

Submitted by GOVERNMENT OF PERU

Duration 1 YEAR

Field of Activity FOREST INDUSTRY

Co-operating Governments

Implementing Agencies GENERAL DIRECTORATE OF FORESTS AND WILDLIFE OF
THE MINISTRY OF AGRICULTURE AND INDUSTRIAL
TIMBER CORPORATIONS OF PUCALLPA, IQUITOS AND
LIMA

Estimated Starting Date NOVEMBER 1989

Estimated Project Costs US\$ 829,250

Financing Sources and Amount

- ITTO Contribution US\$ 448,750

- Contribution of the
Government of Peru US\$ 380,500

Signed

On behalf of ITTO

Date

On behalf of the Government of Peru

Date

INTERNATIONAL TECHNICAL COOPERATION PROJECT

1. TITLE

Industrial Utilization of New Forest Species in Peru - Phase I.

2. GENERAL INFORMATION

2.1 Sector:

Agrarian - Ministry of Agriculture

2.1 Implementing Agencies:

General Directorate of Forests and Wildlife of the Ministry of Agriculture and Industrial Timber Corporations of Pucallpa, Iquitos and Lima.

2.3 Duration:

1 year (November 1989 - October 1990)

2.4 Site:

Project headquarters will be the city of Pucallpa and the work area will be the district of Callería, Province of Coronel Portillo, Department of Ucayali. Work will also be conducted in the city of Iquitos, Province of Maynas, Department of Loreto, and in the city of Lima, Department of Lima.

2.5 Cooperating Institution: International Tropical Timber Organization (ITTO)

2.6 Project Cost - Phase I: US\$ 829,250

National Inputs US\$ 380,500

External Inputs US\$ 448,750

National Inputs will be made up of:

- Counterpart personnel: 156 man/months
US\$ 51,000

- Facilities, laboratories, offices and maintenance:
US\$ 60,000

- Contribution of timber industry in machine/hours for processing 3,500 m³ of timber: US\$ 210,000

- Value of 5,250 m³ of standing timber:
US\$ 15,750

- 50% of raw materials (logging and transportation of 1,750 m³): US\$ 43,750

Total National Inputs - Phase I: US\$ 380,500

3. PROJECT

3.1 General Framework

The National Forest Action Plan 1988-2000, approved by the Ministry of Agriculture pursuant to Decree 016-88-AG of February 24, 1988, sets the following goals for the year 2000: to double production, to export US\$ 190 million in forest products and to create 200,000 new permanent jobs.

Basic research has been conducted in Peru on 140 species in order to develop an adequate knowledge of their physical and mechanical properties, as well as appropriate guidelines for their use. Industry is presently using approximately 50 of those species, but only 10 intensively. It is therefore necessary to implement applied research projects in order to introduce new species for the purpose of improving the utilization of forests, reducing unit costs and enhancing the quality of products for the export and domestic markets.

3.2 Project Objectives:

To introduce for utilization by the timber industry 20 potentially usable forest species commonly available in the tropical forests of the country.

To develop applied research in qualified timber industry companies in sawing, drying, preservation, plywood, decorative veneer, parquets, sleepers, posts, fibre-cement, mouldings, and parts and components for furniture and timber houses.

To improve the level of technological knowledge in lumber companies and to enhance quality and productivity in the industrial utilization of forest species.

To transfer technology throughout timber companies in Pucallpa and Iquitos, through industrial training courses.

To introduce new forest products in the market.

SPECIFIC OBJECTIVES OF THE UTILIZATION
OF NEW FORES SPECIES IN PERU - PHASE I

Species	Production lines	Dried and preserved sawnwood	Structural timber	Parquet	Sleepers	Posts
1. Panguana		x				
2. Maquisapa		x				
3. Shimbillo		x		x	x	x
4. Cachimbo		x	x			
5. Shihuahuaco			x	x	x	
6. Castaña				x		
7. Itaube			x	x	x	
8. Manchinga			x	x	x	x
9. Sapote		x				
10. Sapotillo		x				
11. Capirona			x	x	x	x
12. Ojé (Renaco)		x				
13. Caimito		x				
14. Machinango			x	x	x	
15. Chemicua		x				x
16. Moena		x	x			
17. Hualaja		x				

3.3 Outputs

To significantly improve the utilization levels of the tropical moist forest by using new species, thereby introducing more intensive forest management systems and reducing the logging and processing costs of tropical timber through wider use of wood in the domestic and international markets in support of social programs such as housing.

Adding new species to the industry will allow a short-term increase in forest use from the current 5 m³/ha to 10 m³/ha on the average. This is essential to reduce unit costs and to develop an efficient and competitive industry capable of developing long-term forest management programs based on the rational and comprehensive use of the forest resource.

After completion of the applied research, training and market development stages, the timber industry of Pucallpa, Iquitos and Lima will process at least 10% of the production resulting from newly introduced species, roughly equivalent to 60,000 m³ a year. Sustained growth is expected over subsequent years.

This goal is based on the existence of these species in the forest and supported by the results of inventories carried out over the last 25 years. In addition to their abundance, easy access to these species is another factor to be considered, as well as the increasing difficulties in supplying the industry with traditional species.

Training courses involving the national timber industry as a whole will help to improve the technical levels of the timber companies, make a better and more intensive use of forests, improve product quality and increase the value of production as a consequence of market development. It is expected that at least 150 managers and technicians will be trained.

International consulting services (6 months) will make it possible to consider applied research issues concerning the use of timber in the production of sleepers, timber houses and furniture.

National consulting services (18 months) will make it possible to study applied research aspects in dendrology, wood technology, drying, preservation, and marketing of products.

3.4 Activities

The preliminary list of species for study was drawn up on the basis of their potential use in significant volume according to forest inventories (minimum volume $0.7 \text{ m}^3/\text{ha}$, minimum d.b.h. 0.4 m).

Activities for project implementation are as follows:

- To draw up a final list of the 17 species to be studied taking into account, in addition to the above criteria, the current market situation and future prospects and the social impact on increasing housing, furniture and other needs.
- To select industrial companies on the basis of their technological-managerial capabilities, their interest in the project, product diversity, value added, capacity, and marketing systems.
- To conclude agreements for the implementation of applied research with selected timber companies, establishing clear implementation criteria.
- To compile basic information concerning dendrology, physical-mechanical properties and recommendations for use of the 17 species.
- To define the research methodology for each species and product in order to obtain optimum technical, economic and productivity results.
- To determine what companies will conduct the tests by species, products and markets, according to the research programs.
- To conduct applied research in industrial corporations on an estimated supply of 350 m^3 of roundwood for each species. Industrial processing tests will be carried out according to the table entitled "Specific Objectives for the Utilization of New Forest Species in Peru - Phase I", included in this project document.
- To conduct industrial training through courses and workshops addressed to the timber industry as a whole.
- To train at least 150 managers and technicians in industrial processing.
- To promote timber products in the markets on the basis of the technological findings of research, production costs, productivity and value added. To prepare samples and color catalogues by species and products, specifying properties and recommendations for use.

- International promotion of products will be done in coordination with the Foreign Trade Institute. To this end, trade missions will visit the United States, Canada and Europe.
- During the visit of the preliminary mission in November 1989, the final project will be formulated to conduct applied research in cooperation with our research institutes under the supervision of the General Directorate of Forests and Wildlife of the Ministry of Agriculture, with the participation of the International Tropical Timber Organization (ITTO).

3.5 Institutional Framework

3.5.1 Institutional capability for project management

The General Directorate of Forests and Wildlife of the Ministry of Agriculture is responsible for policies on rational and sustained utilization of forests, industrialization of their products and promotion of the use of technologies aimed at increasing forest production and productivity.

The National Forest Action Plan, operating under the General Directorate of Forests and Wildlife, is responsible for promoting forest sector development at the national level. In this respect, it promotes the implementation of investment and technical and economic international cooperation projects to improve forest transformation and logging systems and to achieve forest-based industrial development.

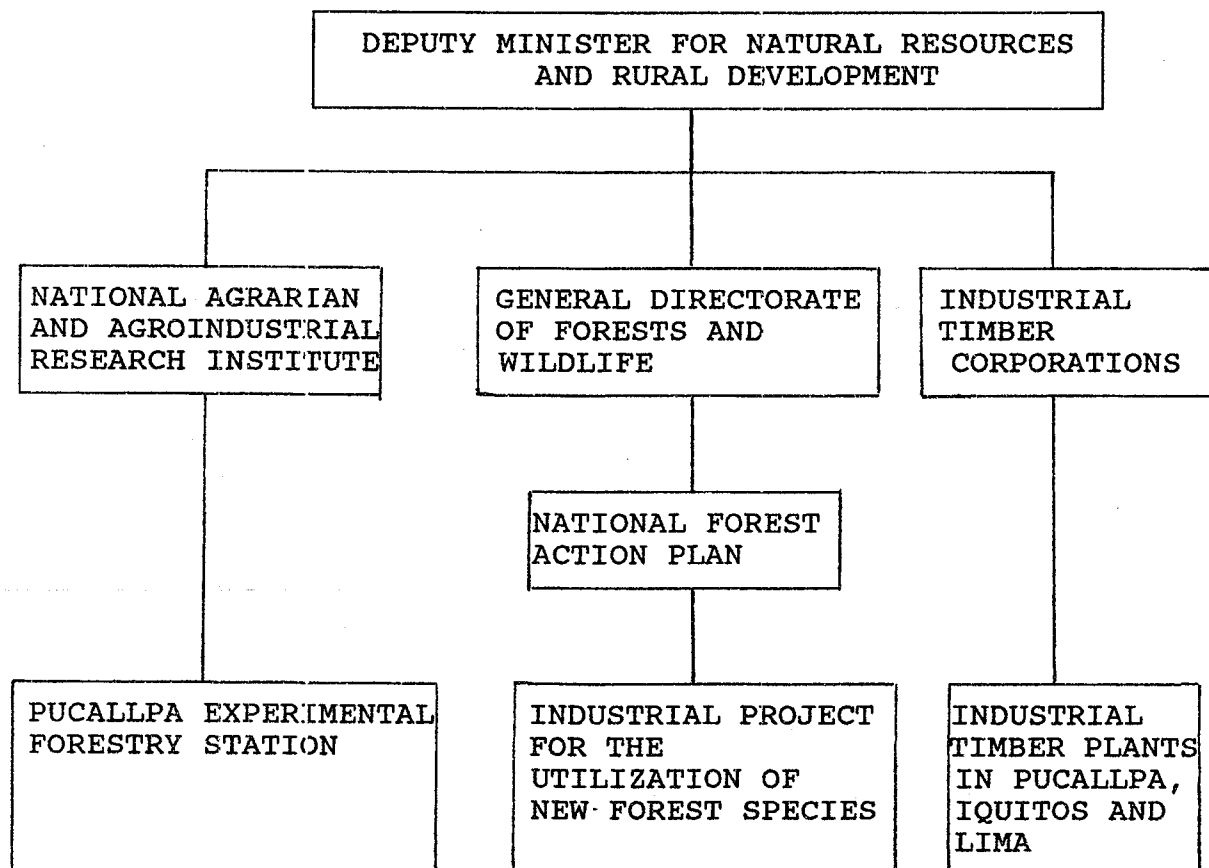
Both the General Directorate of Forests and Wildlife and the National Forest Action Plan are encouraging industrial development through international lines of credit and company based training activities in the various phases of the transformation process. To this end, industrialists and the forest public administration have unanimously agreed that to achieve a more rapid development of the sector, new species will have to be introduced in the market. This in turn will require technology development and adaptation.

3.5.2 Relationship between the implementing agency and other institutions involved in project activities

In the forest sector, relationships between private enterprise and the government are channeled through the General Directorate of Forests and Wildlife. These have reached optimum levels as a result of their concerted efforts to bring industrial development out of the stagnation in which it had fallen.

The General Directorate of Forests and Wildlife works in close cooperation with the Foreign Trade Institute, whose main responsibility is to support efforts in all export promotion sectors, and with the National Agrarian and Agroindustrial Research Institute, which will actively participate in the project through its experimental station in Pucallpa.

3.5.3 Internal Organization Proposal



3.5.4 Brief description of industrial corporations

The corporations considered for implementing this project are those with the best industrial facilities, greater experience, product diversity, high value added, technical capability and interest in the project.

For the development of the timber industry of Peru, it is essential to develop new species and products. To this end, corporations are willing to commit themselves to participate efficiently in research and to cooperate in training programs on the technical findings for the timber industry as a whole.

It should be pointed out that the National Forestry Chamber is being set up for the purpose of bringing together all the country's timber industrialists in one sole representative institution based on existing trade unions: Peruvian Federation of Timber Workers, National Association of Plywood Workers, Exporters' Association Timber Committee, and Timber and Furniture Committee of the National Society of Industries.

Companies under consideration for conducting this project are:

1. Forestal Amazonas S.A.

Sawmill in Iquitos, production capacity of 18,000 m³/year of sawn, oven-dried and treated lumber. Investment US\$3 million, manpower 120 workers. Currently exporting to the United States and Canada and supplying the domestic market.

2. Industrials Forestales La Marginal S.A.

Sawmill in Pucallpa, production capacity 18,000 m³/year in sawnwood, mouldings, sleepers and wood floors. Investment US\$6 million, manpower 150 workers. Exports to the United States and Canada.

3. Maderas Peruanas S.A.

Sawmill in Pucallpa, production capacity 12,000 m³/year of sawnwood, parquet and sleepers. Investment US\$2 million, manpower 120 workers.

4. Estudio 501 S.A.

Furniture and decorative veneer factory in Lima. Investment US\$ 8 million, manpower 300 workers.

5. Madera y diseño S.A.

Moulding factory in Lima. Investment US\$2 million, manpower 50 workers. Exports to the United States.

4. RESOURCES REQUIRED FOR PROJECT IMPLEMENTATION - PHASE I4.1 Domestic Resources

a) Human resources

	Man/months	US\$ Monthly	US\$ Total
9 Forestry Engineers	108	400	43,200
1 Manager	12	350	4,200
1 Secretary	12	100	1,200
1 Clerk	12	100	1,200
1 Driver	12	100	1,200
			<hr/>
	Sub-total		51,000

The General Directorate of Forests and Wildlife will provide one Forestry Engineer, who will be the National Director of the Project, and industrial lumber companies will provide the other eight (8), who will be assigned full time to work as counterparts of the foreign experts.

b) Material resources and facilities

	US\$
- Facilities	15,000
- Laboratories	30,000
- Offices	15,000
- Machine/hours to process 3,500 m ³ of timber	210,000
- Value of standing timber (5,250 m ³)	15,750
- 50% of raw materials (logging and transportation of 1,750 m ³)	43,750
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Sub-total	329,500

Total National Inputs - Phase I: US\$ 380,500

c) Financial resources

Private income is not taken into account because any sales resulting from the project will be used by the lumber companies to compensate for their costs of manpower, inputs, spare parts, electricity and heating, management expenses, packing, transportation, etc.

4.2 External Resources

4.2.1 Advisory services

- Expert in sawmilling, drying, and parquet manufacturing, to act as Senior Technical Advisor. Should be a Forestry Engineer or Industrial Specialist in sawmilling and lumber drying, as well as parquet manufacturing. A minimum of 15 years experience in the management and operation of lumber companies, preferably in tropical countries.

Main duties:

- a) To manage the Timber Industry Applied Research Project with the National Director of the Project.
- b) To carry out applied research in the field of sawmilling, drying, and parquet manufacturing.
- c) To coordinate with the other experts and consultants the implementation of research work.
- d) To work with the National Director to ensure that the approved budget is properly administered.

Expert to begin working in November 1989 and finish in October 1990. Total working period: 12 months.

- Marketing Expert. Should be a tropical forest products marketing specialist. A minimum of 15 years experience in tropical forest products marketing.

Main duties:

- a) To promote domestic and external marketing of forest products of the 20 species under research at the industrial level.
- b) To report to the Senior Technical Advisor and the National Project Director on the progress of the marketing work.
- c) To coordinate with other experts, consultants and counterparts the work to be implemented.
- d) To train industrialists and national technicians in aspects of marketing.

Expert to begin working in May 1990 and finish in October 1990. Total working period: 6 months.

National and international consultants will be hired for short terms of one to six months to solve specific technical and commercial problems. They should specialize in the areas of dendrology, wood technology, drying, preservation, economics, furniture, timber houses, forest products marketing.

4.2.2 Training

The project envisages transferring the applied technology developed in industrial plants to all managers and technicians of other timber companies. Thus, the technical, economic and commercial know-how acquired through applied research will have the appropriate multiplier effect.

Experts, consultants and national counterparts shall participate actively in timber industry training.

A budget of US\$ 35,000 is estimated for training activities in Phase I.

4.2.3 Grants

The equipment required includes tools for sharpening saws, gauges, moisture gauges, thermometers, manometers, reactives, and miscellaneous tools. The corresponding estimated budget for Phase I is US\$ 50,000.

BUDGET - PHASE I**I. INTERNATIONAL INPUTS****A. 30-DAY PRELIMINARY MISSION**

	US\$
- International Expert	7,000
- National Expert	3,000
- Travel expenses and tickets	5,000
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Sub-total	15,000

B. PERSONNEL

Man/months

1. International staff

Expert in sawmilling and parquet (ATP)	12	80,000
Expert in marketing	6	35,000
Consultants	4.5	36,000
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Sub-total International Staff 151,000

2. Local staff

National Consultants	18	54,000
		<hr/>
		54,000

C. TRAVEL AND TRAVEL EXPENSES

25,000

D. GENERAL OPERATING EXPENSES

1.	50% of raw materials (logging, and transportation of 1,750 m ³)	43,750
2.	Marketing of products (internal market and exports promotion)	37,500
3.	Miscellaneous	20,000
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	Sub-total General Operating Expenses	101,250

E. TRAINING

35,000

F. EQUIPMENT AND TOOLS

50,000

G. EVALUATION AND MONITORING

17,500

Total International Inputs

448,750**II. NATIONAL INPUTS**

	<u>M/m</u>	<u>US\$</u>
- Counterpart staff	156	51,000
- Facilities, laboratories, offices and maintenance		60,000
- Industry support for processing 3,500 m ³ of timber		210,000
- Cost of standing wood (stumpage) (5,250 m ³)		15,750
- 50% of raw materials (logging and transportation of 1,750 m ³)		43,750
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Total National Inputs		380,500

TOTAL PROJECT COST IN PHASE I: US\$ 829,250

5. CHRONOGRAM FOR THE UTILIZATION OF EXTERNAL RESOURCES

This project will be carried out over a period of one year:
(November 1989 - October 1990)

ITEM	COST US\$
Advisory services	363,750
Grants	50,000
Training	35,000
TOTAL	448,750

Pucallpa, August 28, 1989

ANNEXAPPLIED RESEARCH PROJECT - PHASE IPRELIMINARY LIST OF FOREST SPECIES

<u>Common Name</u>	<u>Scientific Name</u>
1. Panguana	<u>Brosimum sp</u>
2. Maquisapa	<u>Apeiba membranacea</u>
3. Shimbillo	<u>Inga ruiziana</u>
4. Cachimbo	<u>Couratari sp</u>
5. Shihuahuaco	<u>Dipteryx alata</u>
6. Castañal	<u>Bertholletia excelsa</u>
7. Itauba	<u>Maxilarius sp</u>
8. Manchinga	<u>Brosimum sp</u>
9. Sapote	<u>Quararibea cordata</u>
10. Sapotillo	<u>Quararibea sp</u>
11. Capirona	<u>Callycophyllum spruceanum</u>
12. Oje (Renaco)	<u>Ficus sp</u>
13. Caimito	<u>Pouteria sp</u>
14. Machimango	<u>Eschweilera sp</u>
15. Chemicua	<u>Pseudolmedia leevis</u>
16. Moena	<u>Nectandra sp</u>
17. Hualaja	<u>Zanthoxylum sp</u>

Pucallpa, August 28, 1989