

## ***CHAPTER 6***

### ***CONDITIONS OF PROCESSING AND MARKETING OF AGROSILVIPASTORAL PRODUCTS***

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#### 6.1 General Characteristics

Among the Amazon States, the Pará State stands out as the major exporter with more than 52% of the total regional exports. However, the exporting products mainly destined to Japan, USA and EU countries, are composed of primary products (ore), with low levels of aggregated value.

**Table 6.1-1 Exports of Pará – 1999**

Product	US\$ Thousand FOB	% Var. in relation to 1998
Ores	1,616,389	- 5.84
Wood	277,630	8.86
Chemical Paste of Wood	98,224	17.51
Black Pepper	76,912	4.30
Frozen Shrimp	24,223	2.10
Dendê	8,518	- 46.33
Brazil Nuts (Castanha-do-Brasil)	7,621	- 50.72
Palm Heart	7,487	- 32.58
Fruits Juice	5,017	1,324.48
Furniture and Goods	3,626	7.11
Fishes	3,507	94.57
Leathers / Skins	784	- 26.66
Others	6,009	-
TOTAL	2,135,947	-

Source: SECEX/DECEX/AIMEX

The main economic activity of the State is mining, where there is the Carajás mine that is considered the richest one in the world. Other outstanding sectors in Pará are the wood extraction sector, agriculture, fishery and animal husbandry. Although the region's vocation is oriented mainly to animal husbandry, it is evident from the processing point of view the predominance of the wood industry in the form of saw-mills, furniture factories and charcoal factories, followed by dairy products factories. The presence of exploited and cultivated products processing agroindustries is still small.

Due to the expressive exploitation of ore near the Marabá micro region, the Pará State Industrial Development Company (CDI) has promoted the installation of the Marabá Industrial District (DI)<sup>1</sup> in an area of 3,300 hectares. The objective was creating a metallurgic pole in Pará State for the industrialization of iron ore from Carajás, exploited by the Vale do Rio Doce Company – CVRD. In this sense, projects for the processing of pig iron were implemented and today there are 2 companies in operation in Marabá: Pará Metallurgical Company (COSIPAR) and Marabá Metallurgical Company (SIMARA).

<sup>1</sup> The Marabá Industrial District is under the jurisdiction of the Executive Secretariat of Industry and Commerce (SEICOM) of the State.

## 6.2 Wood Exploitation Sector

### 6.2.1 General Characteristics

The wood exploitation sector, the second higher revenue provider in the list of exporting products of Pará, is an activity of vital importance for the socioeconomic development of the State. Despite the precariousness of most of the saw-mills operational processes, the incipient level of formation of human resources, and the high operational costs, this sector is very important for the composition of the State revenue. Furthermore, this sector is also vital in the frontier areas where there are several saw-mills, considering their condition as supporters of a great population number who depends on them to make their living.

**Table 6.2-1 Exports of Wood in Pará**

Product	1973		1996	
	Volume (m <sup>3</sup> )	%	Volume (m <sup>3</sup> )	%
Logs	429,516	60.46	-	-
Sawed Logs	223,331	32.70	544,195	66.28
Laminated Logs	42,084	5.92	32,356	3.94
Processed Logs	3,881	0.56	19,597	2.39
Plywood	2,589	0.36	224,839	27.39
Total Volume	710,403	100.00	820,987	100.00
Total in US\$	31,266,000		300,860,137	
Average Value	US\$ 44		US\$ 366	

Source: SECEX/DECEX/AIMEX

The wood exploitation sector has a small participation in the National GDP (less than 2%), but at the regional level, its participation is more and more expressive in the economy. For instance, in Pará State, the wood exploitation activity already represents 13% of the State GDP, and the projections show that this sector shall grow at rates over 10% per year in the following decades. In confirming these projections, the wood exploitation activity shall become the main economic activity of land use in the whole Amazon region. The map elaborated by the IMAZON Institute with the current wood exploitation area is presented as follows.



**Fig. 6.2-1 Area of Occurrence of Wood Exploitation Activity**

As for the micro region of Marabá, according to a list obtained from IBAMA – Brazilian Institute of Environment<sup>2</sup>, there are 32 saw-mills registered, out of which 30 are located in Marabá, 1 in São Domingos do Araguaia and 1 in Brejo Grande do Araguaia. The information is that the micro region saw-mills are currently operating with less than 50% of their total capacity.

## 6.2.2 Processed Products

### (1) Wood Logs

The high value of tax for this variety of product avoids the logs to be taken to outside the State. That is, all the wood logs are sawed within the State.

### (2) Laminated/ Sawed/ Sawed and Processed Wood for Exportation

From the list of syndicated saw-mills, the Madeireira Madecil was selected for a visit. Its production capacity average/month is of 300 m<sup>3</sup> sawed wood, 300 m<sup>3</sup> of sawed and processed wood, and 400 m<sup>3</sup> of laminated wood. Out of the total production of sawed and sawed and processed wood, 50% is consumed in the domestic market (Minas Gerais, São Paulo, Rio de Janeiro and Brasília), and 50% in the foreign market (Argentina and France). As for the production of laminated wood, this is 100% consumed in the domestic market.

**Table 6.2-2 Value of Wooden Products**

Product	Average Value in Reais (2000)
Laminated wood	R\$ 160.00/m <sup>3</sup>
Sawed wood	R\$ 200.00/m <sup>3</sup>
Sawed and processed wood	R\$ 400.00/m <sup>3</sup>
Wood for Exportation <sup>3</sup>	R\$ 760.00/m <sup>3</sup>

Source: Sindimar, June 2000

### (3) Furniture

There are 40 industries installed in the Study Area (Sebrae/1995) employing 142 persons, i.e. an average of 3.5 persons per industry. It shows that most of the industries are small-scale industries of a handcraft level manufacturing beds, wardrobes, tables, chairs, doors, shelves, cabinets and other massive wood.

The furniture industry is considered one of the highest expansion potential also for exportation, and has increased 9.5% per year in the last 5 years. The federal government, through the Forum of Competitiveness of Wood And Furniture, aims at expanding the furniture sector production at an average rate of 12% per year, with a revenue of R\$ 15.62 billions in 2004. The problems to be faced are the obsolete conditions of the production in all the links of the furniture making chain, the scarcity and the waste of raw material, the little modern machinery, and the lack of standardization in the sector.

<sup>2</sup> There are 119 companies registered by IBAMA concerning to the 7 municipalities covered by SINDIMAR, although only 32 of them are syndicate members. As for SECTAM – Secretariat of Science, Technology and Environment, there are only 62 saw-mills registered in Marabá, 7 in São Domingos do Araguaia, 2 in Brejo Grande do Araguaia and none in the municipalities of Palestina do Pará and São João do Araguaia.

<sup>3</sup> Called S4S, this wood is sawed and processed on the four sides and top.

**Table 6.2-3 Furniture Making Companies Visited**

Company	Average/monthly Consumption	No. of Employees	Market	Used Wood	Remarks:
Pólo Sul Móveis Ltda.	3m <sup>3</sup>	3	Local market	Angelin Pedra Marupá Branco Estoupeira	Revenue: R\$ 1,000/month
Pólo Sul Móveis Ltda. (before the Real Plan)	30 m <sup>3</sup>	50	Minas Gerais and São Paulo	Angelin Pedra Marupá Branco Estoupeira	Investment: R\$ 60,000
Movenort Industrial Ltda.	100 to 150 m <sup>3</sup>	80	50% for the Caribe and for the French Guiana 50% to the Northeast region	Tauari Goiabão	Exported Products upon Order

Source: Field Survey – JICA / 2000

#### (4) Vegetal Charcoal

The vegetal charcoal that before the 70's were destined almost exclusively for the domestic consumption, with the implementation of the pig iron pole on the Carajás-Itaqui axis, became an important raw material for the transformation industries of hematite into iron. The main source of vegetal charcoal of these industries is the residues of the saw-mills production at the Pará Northeastern micro region. However, charcoal production only using the saw-mills residues seems to be insufficient to meet the foundries needs, thus it is highly possible to produce this product with the residues of the primary or secondary forests removal.

According to IBGE, in its Report on Vegetal Extraction Production and Silviculture of 1995, the State of Pará produced 119,339 t of vegetal charcoal and the micro region of Marabá was responsible for 176 t.

**Table 6.2-4 Metallurgical Industries in the Region**

Company	Product	Quantity (t/year)	Current Situation
SIMARA	Pig iron	60,000	In operation
COSIPAR	Pig iron	300,000	In operation
PROMETAL	Manganese alloy iron	200,000	Out of operation

### 6.3 Agroindustrial Activity

#### 6.3.1 Agricultural Production

Mainly developed by small- and medium-scale rural producers, the agroforestry activity in Pará State is oriented to annual food crops, with the predominance of cassava cultivation. This cultivation characteristic is the low adoption of technology and the declining productivity due to the depletion of land caused by the intensification of use and the consequent reduction of fallow period. Besides the annual crops, other perennial and semi-perennial crops also stand out due their importance for the economy such as black pepper, dendê, cacao and orange.

The production of the agroforestry sector in the micro region of Marabá is still strongly centered in the activities of familiar units or Familiar Agriculture. Although there is a

movement to transform the region in a grains production pole<sup>4</sup>, the agricultural activities with mechanization scale for crops such as maize and soybean are carried out by large-scale cattle raisers aiming, at first, the production of roughage for own consumption.

The products produced in the Study Area are basically self-consumption products such as rice, feijão beans and cassava. The cultivation of fruit trees has started as the production of perennial products aiming at the generation of income. There is still a considerable activity of rice processing, both produced in the region and coming from outside. There is also a tendency among settlers and small-scale farmers in raising milking cattle. Despite the small quantity, this activity generates subsistence products for the families and the surplus generates some income for the producer. This practice is consolidating the formation of the so called “bacia leiteira” (milking basin) in the Marabá micro region<sup>5</sup>.

The characterization of producers who receive assistance from the Program Poverty and Environment in Amazon (POEMA) in the community of Camurituba is similar to the reality of the Study Area and is described as follows.

**Table 6.3-1 Characterization of Producers**

Type	Activity	Manpower	Commercialization	%
Traditional	Familiar consumption	Familiar manpower	-	64.2
Self-sufficient	Small scale production	Sometimes employ	Part of the production	28.3
Dynamic	Small scale production / Diversified Production	Regularly employ	Large amount of the production	7.5

Source: POEMA, 1998

### 6.3.2 Processed Products

#### (1) Cupuaçu

Cupuaçu is a region’s native fruit, with great perspectives of expansion in the internal and external markets due to the regional consumption habit in the form of sweets, ice creams, juice and others, and to the recent dissemination of its consumption in other Country regions.

**Table 6.3-2 Selling Price of the Cupuaçu Pulp**

Period	Selling Price in R\$
December/January	3.00
February/March	2.50
April/May	3.50
August	4.00

Source: IDESP 1995

#### (2) Açaí

The açaí palm tree presents a high utilization rate, from the leaves to the roots. The processing process is carried out both manually and mechanically. The juice already is part of the Pará people eating habits, and the main market is Belém, also complementing the food diet of the low and medium income populations. The “wine” is utilized in the manufacture of ice creams, jellies and creams. Today, açaí is largely known in other Brazilian States, mainly at the

<sup>4</sup> The creation of the 3<sup>rd</sup> grains pole, an initiative of the State government in partnership with the State Secretariat of Agriculture and Campo – Agricultural Production Company, aims at the production of soybean and maize.

<sup>5</sup> Animal husbandry is analyzed in detail in pages 7-15 and 7-16.

center-south region, where it is consumed as an energetic and complementary food to the diet of those who perform physical activities.

(3) Palm Heart

The palm heart extracted from the açai (*Euterpe oleracea*, Mart.) is competitive only when the prices at the international market are high. Since the facilities for the production of processed palm heart demand low investment, and the açai reserves are still abundant, the immobilized capital is small, as well as the operational costs, allowing the enterprise to stay in a lethargic condition during adverse periods and to come back to normal production when prices improve.

As for palm heart production, 1% is for the local market, 64% for the domestic market and 35% for exportation, and Pará participates with around 97% of the Brazilian exports.

**Table 6.3-3 Pará Exports of Conserved Palm Heart (87-90)**

1987		1988		1989		1990	
Quantity (t)	Value in US\$ 1,000	Quantity (t)	Value in US\$ 1,000	Quantity (t)	Value in US\$ 1,000	Quantity (t)	Value in US\$ 1,000
6,978.69	25,443.12	5,888.19	22,542.71	4,523.56	15,948.31	5,598.55	20,054.36

Source: IBGE (Anuário Estatístico do Brasil) and CACEX

Currently, some palm heart industries are starting to operate more to the interior, in direction to the medium courses of the large tributaries of the Amazonas river, searching for new species such as babaçu (*Orbignya oleifera*, Mart.) as raw material source. This is an auspicious sign since the babaçu, besides presenting a high yield, is abundant and re-sprouts with great vigor at the deforested areas.

(4) Castanha-do-Brasil

The castanha-do-brasil production is essentially extraction based and represents a renewable natural resource. However, the number of castanha-do-brasil trees in the State, specially in the micro region of Marabá, was considerably reduced between 1988/1989, being stable at present. Due to the acknowledgment of its economic value for the region, programs for the reposition of this arboreous species are being elaborated. “The castanha-do-brasil can be utilized in several ways by the industry. The husk can be utilized as tow, very much used for the caulking of ships. Its wood is of good quality and can be employed in civil construction and in the manufacture of furniture. The fruit, constituted by a ligneous and very resistant substance, can be utilized as fuel, also useful for the manufacture of decoration objects. However, the nut is the most important part with great economic value, since this part has a large utilization in food, sweets confectionary and oil industries.” (IDESP 1996)

(5) Other Products

In the Study Area, other products also stand out such as: rice, feijão bean and cassava which are subsistence products for the farmers and also serve to the local demand. According to a survey recently carried out by AMAT (Association of the Araguaia and Tocantins Municipalities) with the micro region municipalities, there is an increase of grains production carried out by small-scale producers mainly through the communal mechanized cultivation. This increase is generating the need of implementing small rice (grains) and cassava (flour)

processing agroindustries which are going to add value to the products, thus improving their commercialization conditions, and consequently the producers life conditions.

## 6.4 Animal Husbandry Activity

### 6.4.1 Animal Husbandry Production

The meat cattle raising can be considered under two aspects: the extensive traditional cattle raising carried out on the natural fields of the Marajó Archipelago and on lowland of the Baixo Amazonas, and the upland cattle raising, developed in cultivated pastures areas which predominates in the Northeast, Southwest and Southeast micro regions of Pará. The meat cattle herd evolved in the period 80-90 from 2,411 to 6,182,000 heads, and in the period 90-96, jumped to 8,058,000 heads. Currently, the cattle herd of Pará State surpasses 12 millions heads, composed of bovine and bubaline herds. The Bubaline herd with approximately 1.5 million heads is the biggest in Brazil, while the bovine herd is the fourth of the Country.

Despite the enormous herd of meat cattle in Pará, there are only 5 slaughterhouses with frigorific facilities operating in the State, which represents a great loss of benefits, jobs and revenue due to the sale of alive cattle to other States, mainly to the Brazilian Northeast region.

**Table 6.4-1 Bovine Heard in Pará State (1980-1996)**

Micro region	Year of 1980		Year of 1985		Year of 1990		Year of 1996	
	Number	%	Number	%	Number	%	Number	%
Pará State	2,411,115	100	3,378,894	100	6,182,090		8,058,029	100
Baixo Amazonas	451,086	18.71	502,510	14.87	502,496	8.13	661,198	8.58
Marajó	378,991	15.72	411,363	12.17	604,042	9.77	600,911	7.46
Northeast of Pará	458,656	18.02	437,948	12.96	727,104	11.76	893,112	10.09
Southwest of Pará	63,395	2.63	132,416	3.92	545,541	8.82	940,008	11.67
Southeast of Pará	1,058,987	43.92	1,894,657	56.07	3,802,907	61.51	4,932,800	61.22

Source: Anuário Estatístico do Brasil (1997)

Another major difficulty is the lack of zoonosis control, such FMD and brucellosis, that restrains both market and productivity, respectively. At present, the State Government (SAGRI) is promoting a campaign for the registration of cattle herd and vaccination for FMD control. The municipality of Marabá presented in 1992 a herd of 133,050 heads, with the bovine herd being the most representative with 74,500 heads. It is worthy to mention that in 1992 the municipality of Marabá alone produced 3,222 liters of milk.

**Table 6.4-2 Bovine Herd in the Region**

Region	1980	1985	1990	1995
Pará	2,411,115	3,378,894	6,182,090	8,058,029
Marabá	124,997	151,497	68,400	88,500
São João do Araguaia	150,497	132,384	52,200	16,300
*Brejo Grande do Araguaia	-	-	55,490	32,040
**São Domingos do Araguaia	-	-	-	38,800
**Palestina do Pará	-	-	-	23,900

\* Municipality created in 1990 \*\*Municipality created in 1995

Source: IBGE



## 6.4.2 Processed Products

In the agricultural frontier regions, the milk production always represents an important role in the complementation of proteins of low income populations. This activity is carried out together with other activities within the familiar agriculture system, which also contribute to the families' subsistence. What is different as for milk production is that since the demand is met, all the surplus can be commercialized, thus assuring a daily complementary income to the small producer for his needs with medicines, hygiene and cleaning products, etc. In the micro region of Marabá, the tendency in the PAs (Settlement Projects) and among old settlers is that at best each family has 5 to 6 milking cows.

Therefore, this activity is becoming so frequent that naturally a milking basin is being formed. What is fostering the consolidation of this basin, mainly in the municipalities of Brejo Grande do Araguaia and São Domingos do Araguaia, is the credit supplied by the Bank of Amazon (BASA) for the purchase of matrix cows. There is also a strong incentive on the part of the dairy products industries which sell oxen of the Holstein (Holandesa) race for the improvement of the milking cattle herd. The payment of these oxen is carried out in product – “milk”. These factors are stimulating the producers to opt by the milk cattle raising rather than the meat cattle, since this last one demands larger areas to become profitable.

**Table 6.4-3 Products Deriving from the Milking of Cattle Raising**

Industry	Capacity	Value	Production	Market
PA Tamboril	-	R\$ 0.15/l (producer)	7,500 kg/month of cheese	São Paulo Northeast
Lactício Carajás	60,000l/day (operates with half of the capacity)	-	90% cheese (prato, parmesão and mussarela); 10% pasteurized milk	Northeast Local
Coelho & Hamden Ltda.	-	-	Yogurt with fruits; 600 l/day of pasteurized milk.	Local Local
Lactício Arco Verde	20,000 l/day  (effective operation: 7 to 15 thousand l/day)	R\$ 0.19/l (farm gate)  R\$ 0.24/l (at the processing plant)	600kg/day of mussarela type cheese; 600 kg/day of parmesão cheese; 1,000 kg/day of cream cheese.	Augustinópolis (TO) Northeast
Lactício Comila	20,000 l/day  (effective operation 16 thousand/day)	R\$ 0.19/l (farm gate)  R\$ 0.24/l (at the plant)	700kg/day of mussarela type cheese  30,000 l/day of refrigerated milk	Augustinópolis (TO) Northeast

Source: Field Survey – JICA / 2000

## 6.5 Transport / Storage Conditions

### 6.5.1 Transport

The Pará State is characterized by a large hydrographic basin. As a consequence, until before the 60's, the transportation system connecting most of the cities were the waterways. However, with the introduction of other transportation modalities in the region, the fluvial

transportation system slowly lost its importance, and today the roads transportation system is predominant.

The current development policy of the Federal Government for the North Region, expressed in the PPA, basically encompasses the integration land transportation axes North-South that includes the modal integration of the Araguaia-Tocantins waterway with the North-South and Carajás-Itaqui railways. Besides these axes, the maintenance of the highway BR-174 (Manaus-Boa Vista), of the Madeira waterway and the connection to the Pacific Ocean through the highway BR-317 (Rio Branco-Assis Brasil) are also encompassed by the PPA.

It is through the highways BR-010 (Belém-Brasília), that crosses the whole State in the North-South direction, BR-153 and BR-226 that most of the inter-state flows are carried out. Their connection in several points with the PA-150 serves for the intermunicipal flow. Also in the southeast region of Pará, through the BR-158, that goes from the border with Mato Grosso until the municipality of Redenção, and from there through the PA-150, until Marabá and Belém, and through the connection between Marabá and the highway Belém-Brasília (BR-222) that the main modal integration axis is determined. This will allow the flow of the agricultural and mineral production of the whole south-southeast region of Pará, west of Tocantins, and northwest of Mato Grosso.

The Marabá micro region is served by the aforementioned federal and state roads, besides the roads opened by the municipalities (few) and the so called “neighboring roads”, constructed through the Settlement Projects of INCRA. In their conception, these roads are supposed to allow the integration of rural communities implemented by INCRA to the urban centers, however their paving is not foreseen, not even a maintenance plan. In general, these roads conditions are precarious, still in natural bedding or gravel, becoming impossible to use these roads during the intense rain period when there are landslides and destruction of bridges. INCRA necessarily has to implement an integrated construction and maintenance plan of the Settlement Projects roads.

The railway system of the State started to gain importance with the construction of the Carajás railway that connects Carajás to the Itaqui Harbor, in the municipality of Ponta da Madeira, Maranhão State. This railway is a great advantage of the Marabá region since it allows the direct access to an exporting harbor zone. Currently, the continuation works of the North-South Railway is planed, longitudinally crossing the Tocantins State, allowing the integration with the Center-South railway system.

The fluvial transportation from the Marabá region, which is served by the Tocantins, Araguaia and Itacaiunas rivers, with other locations was always difficult due to the geographical accidents in the water ways. It is worthy to mention that the rivers are not being utilized in their full potential, though represent an indispensable way for the riverside populations who utilize simple ships for the transportation of passengers and goods. With the construction of canal locks (Tucuruí), the re-activation of the fluvial transportation until Belém shall become possible.

### **6.5.2 Drying and Storage**

As for storage, according to the publication “Socioeconomic Data of the municipality of Marabá”, published in 1998 by the Municipal Secretariat of Industry, Commerce and Mining (SICOM), there are 2 storehouses with capacity to store 2,400 t (natural environment). It is

worthy to mention that in the Marabá micro region and in the south of Pará State, there has been an increase of grains production, and in order to better store and thus commercialize this production, the structuring of a pre-cleaning and drying process is necessary to serve the region. The necessity of producers for places to store their production and thus being able to negotiate with better prices during harvests off-season.

## **6.6 Conditions of Credit System**

### **6.6.1 FNO**

The main financing source for the North Region is the Constitutional Financing Fund for the North – FNO. This fund created in 1988 (art. 159 of the Federal Constitution, regulated by the Law 7.827/89, altered by the Law no. 9.126, November 10 of 1995) has as main objective to contribute for the economic and social development of the North Region. This fund is implemented through the execution of financing programs oriented for the development of regional productive activities, in a compatible manner with the Development Plans of the Federative Units of the North Region, with the Regional Development Plan, and with the Pluriannual Plan – PPA for the period 2000 to 2003.

The FNO resources, coming from 0.6% of 3% of IR (income tax) and from IPI (tax on industrialized products), are administered by the Bank of Amazônia (BASA), a Federal Public Financial Institution linked to the Ministry of Treasury, and are destined to serve all the North Region, encompassing the seven Federative Units: Acre, Amapá, Amazonas, Pará, Roraima, Rondônia and Tocantins.

### **6.6.2 Main Financing Programs**

#### **(1) Program of Support to the Agroindustrial Development (PROAGRIN)**

The objectives are as follows: support entrepreneurial initiatives aiming at the implementation, expansion, modernization and reallocation of agroindustrial units in the Region; create conditions for the processing *in loco* of agriculture, animal husbandry and forest origin raw materials; strengthen the productive activities, raising the competitiveness of agriculture, animal husbandry and forest products, increasing aggregate value in the region; meet the regional market demand, mainly of food products, and open space in external markets for regional products; stimulate the high technology agroindustrial development, strengthen the Regional System of Science and Technology, and support entrepreneurial actions of human resources qualification oriented towards the adoption of new production and entrepreneurial management techniques.

#### **(2) National Program of Familiar Agriculture Strengthening (PRONAF)**

The objective of PRONAF is to financially support, through FNO resources, the development of productive activities, allowing the economic sustainability of families of new and old settlers in the official settlement, colonization and agrarian reform programs, approved by the National Institute of Colonization and Agrarian Reform (INCRA), giving sequence to the old Program of Special Credit for the Agrarian Reform (PROCERA). Currently, the PRONAF is divided into 04 (four) groups: Group A, Group B, Group C and Group D. PRONAF goal is to provide fixed, semi-fixed and mixed (fixed and/or semi-fixed plus production costs)

investments, production costs associated to investment, and rotation capital (only for Groups C and D).

(3) Program of Support to the Natural Resources Exploitation (PRODEX)

The objectives of PRODEX are as follows: promote changes in the characteristics of the economy in areas dependent of the vegetal exploitation activity; induce the use of agroforestry systems in traditional areas of vegetal exploitation activity; propitiate work opportunities to the families as a manner to mitigate the rural exodus; stimulate the verticality of the exploitation production; and induce the exploitation farmers to rationalize the use of natural resources. The PRODEX objective is to provide fixed, semi-fixed and mixed (fixed and/or semi-fixed plus operation cost) investments as well as production cost, production processing and post-harvest investments.

(4) Program of Support to the Small and Organized Rural Familiar Production (PRORURAL)

The objectives of PRORURAL are as follows: allow the access of familiar producers to the rural credit; strengthen the associations as a way of organizing the small-scale production; generate work opportunities to the rural workers; provide to the small-scale production the means to efficiently access the markets; support the verticalization of the small-scale production as a mean to provide sustainability to the familiar properties; and to propitiate new technological knowledge to the familiar producers. The PRORURAL goal is to provide fixed, semi-fixed and mixed (fixed and/or semi-fixed plus production cost) investments as well as production cost, production processing and post-harvest investments.

(5) Program of Rural Development (PRODERUR)

The objectives of PRODERUR are as follows: stimulate the utilization of altered/degraded areas with sustainable systems of soil alternative use; prioritize production systems that incorporate mitigating technologies of environmental impacts; support the production verticalization; stimulate the rural producers to utilize more competitive production processes; contribute to the formation of infrastructure for the production support and access to the markets; support the qualification of human resources aiming at the management of agroforestry business; and induce the producers/enterprises to consider the environment as a business. The PRODERUR goal is to provide fixed, semi-fixed and mixed (fixed and/or semi-fixed plus production cost) investments as well as production cost, production processing and post-harvest investments. Only for Agrarian Sciences professionals, the Program finances the acquisition or rental of land to be exploited, exclusive in agricultural expansion regions.

(6) Program of Support to the Forestry Development (PROFLORESTA)

The objectives of PROFLORESTA are as follows: stimulate the use of forestry resources through appropriate technological processes able to minimize the impacts on the ecosystems and to support the sustainability of the financed enterprises; re-orient the forestry activities in such a way that their impact levels are minimized; induce the producers/companies to consider the environment as an economic variable in their business decision making; rationalize the use of forestry resources in order to maintain the sustainability of ecosystems through the forest management practice; stimulate and support the initiatives that aim at recuperating the degraded areas, specially those that incorporate agroforestry or reforestation

systems; support the entrepreneurial actions of human resources qualification oriented to the adoption of new production and entrepreneurial management techniques; induce and support the generation and transference of technological innovations to the regional productive sector; strengthen the predominant activities in the transformation industries of wood coming from forest sustainable management areas and from altered areas reforestation projects; create conditions for the local processing of raw material of forest origin, as a mean for the generation of jobs and income at the Region; stimulate the enterprises in the search for the forestry certification, as an effective tool for the identification of socio-environmentally appropriate forestry practices. The PROFLORESTA goal is to provide fixed, semi-fixed and mixed (fixed and/or semi-fixed plus production cost) investments as well as production cost associated to investment; and rotation capital (for the items of industrialization and marketing promotion).

**6.6.2 Financing Operational Conditions**

(1) Classification Criteria of the Rural Producer / Company

For PRONAF, PRORURAL e PRODEX: There is not a classification criteria as for the scale due to the special characteristics of these programs. Thus, the conditions established for the beneficiaries are used as parameter for financing.

For PRODERUR e PROFLORESTA: The scale classification of the Rural Producer/ Company is defined by the Foreseen Annual Gross Agricultural Revenue as established as follows:

SCALE	FORESEEN ANNUAL GROSS AGRICULTURAL REVENUE
Mini/Micro	Up to R\$ 40,000
Small	Over R\$ 40,000 and up to R\$ 80,000
Medium	Over R\$ 80,000 and up to R\$ 500,000
Large	Over R\$ 500,000

*Remarks:* For the classification of the producer scale in the activities of poultry and swine husbandry, greenery, and fish farming, the estimate value of the foreseen annual gross agricultural revenue shall be reduced in 50% for the effect of classification.

The associations/cooperatives are classified into two groups:

Group I – associations/cooperatives with at least 70% (seventy percent) of active members composed of mini- and/or small-scale producers; Group II – other associations/cooperatives.

(2) Finance Values and Limits

For the PRONAF:

PRONAF	Destination	Finance Limit	Credit Limit by Client – Up to (R\$)
Group A	Investment	100%	9,500
	Production Cost	100%	3,325
	Total Project	100%	9,500
Group B	Individual Investment	100%	500
Group C	Individual Investment	100%	Minimum of 1,500 Maximum of 4,000
	Group or Collective Investment	100%	40,000

PRONAF	Destination	Finance Limit	Credit Limit by Client – Up to (R\$)
	Production Cost / Rotation Capital	100%	1,500
Group D	Individual Investment	100%	15,000
	Group or Collective Investment	100%	75,000
	Collective Integrated Investment	100%	200,000
	Production Cost / Rotation Capital	100%	1,500
	Investment for integrated development projects for agroindustrial units	100%	600,000

Remarks: The credit for production cost and rotation capital is limited to 30% of the total project value in Groups C and D, and to 35% in the Group A.

#### For the other Programs - PRODEX, PRORURAL, PRODERUR and PROFLORESTA

Programs	Scale	Destination	Finance Limit	Credit Limit by Client – Up to (R\$)
PRODEX	Extraction Producer	Investment	100%	7,500
		Production Cost	100%	1,000
PRODEX	Cooperative / Association	Acquisition of common use goods	100%	375,000
PRORURAL	Familiar Farmer	Investment	100%	20,000
		Production Cost	100%	5,000
PRORURAL	Association / Cooperative I	Investment	100%	800,000
		Production Cost	100%	240,000
PRODERUR/ PROFLORESTA	Mini/ Micro	Investment	100%	80,000
		Production Cost <sup>(3)</sup>	100%	24,000
PRODERUR/ PROFLORESTA	Small (a)	Investment	100%	160,000
		Production Cost <sup>(3)</sup>	100%	48,000
PRODERUR/ PROFLORESTA	Medium (a)	Investment	90%	1,000,000
		Production Cost <sup>(3)</sup>	90%	300,000
PRODERUR/ PROFLORESTA	Large	Investment	80%	3,200,000
		Production Cost <sup>(3)</sup>	80%	960,000
PRODERUR/ PROFLORESTA	Association I/ Cooperative I	Investment	100%	1,500,000
		Production Cost <sup>(3)</sup>	100%	450,000
PRODERUR/ PROFLORESTA	Association II/ Cooperative II	Investment	90%	4,300,000
		Production Cost <sup>(3)</sup>	100%	1,290,000

REMARK: (1) For fishery including fishing tools, the limit shall be up to R\$ 25,000; in case the financing is only for fishing tools, the limit shall be up to R\$ 20,000.

(2) In case the activities are industrial sector related, the financing limits shall be those in force for the PRODESIN and PROAGRIN, if appropriate.

(3) The credit for production cost is limited to 30% of the values established for fixed or mixed investment, obeying the limits of financing by scale.

#### (3) Financial Charges

For PRONAF Group A: Investment: interest rates of 1.15% per year, with a discount of 40% over the main value when making each repayment or at the beforehand payment of the debt.  
Prod. Cost: effective interest rates of 4.0% per year.

#### PRONAF Groups B, C and D, PRORURAL, PRODEX, PRODERUR and PROFLORESTA

SCALE	INTEREST RATES
Familiar Farmers	4.0% per year
Mini-scale producers, their cooperatives and associations	9.0% per year
Small-scale producers, their cooperatives and associations	10.5% per year
Medium-scale producers, their cooperatives and associations	14.0% per year
Large-scale producers, their cooperatives and associations	16.0% per year

As for the aforementioned charges, a bonus of 15% shall be given for those borrowers who pay the repayment parcel until the due time. This bonus shall be raised in 5% for those borrowers who *always* make the payment until the due time.

(4) Repayment Periods

PROGRAMS	CREDIT DESTINATION	REPAYMENT PERIOD
PRONAF - A	INVESTMENT	Total up to 10 years, included the grace period of up to 3 years.
	PRODUCTION COST	Total up to 2 years.
PRONAF - B	INVESTMENT	Total up to 2 years, included the grace period of up to 1 year.
PRONAF -C	INDIVIDUAL INVESTMENT AND GROUP OR COLLECTIVE INVESTMENT PRODUCTION COST / ROTATION CAPITAL	Total up to 8 years, included the grace period of up to 3 years. Total up to 2 years
PRONAF – D	INDIVIDUAL INVESTMENT GROUP OR COLLECTIVE INVESTMENT COLLECTIVE INTEGRATED INVESTMENT INVESTMENT FOR INTEGRATED DEVELOPMENT PROJECTS FOR AGROINDUSTRIAL UNITS PRODUCTION COST / ROTATION CAPITAL	Total up to 8 years, included the grace period of up to 3 years.
		Total up to 2 years.
PRODEX	FIXED INVESTMENT	Total up to 12 years, included the grace period of up to 6 years.
	SEMI-FIXED INVESTMENT	Total up to 4 years, included the grace period of up to 1 year.
	PRODUCTION COST	Total up to 2 years.
PRORURAL	FIXED INVESTMENT	Total up to 12 years, included the grace period of up to 6 years.
	SEMI-FIXED INVESTMENT	Total up to 10 years, included the grace period of up to 3 years
	PRODUCTION COST	Total up to 2 years.
PRODERUR	FIXED AND MIXED INVESTMENT	Total up to 12 years, included the grace period of up to 6 years.
	SEMI-FIXED INVESTMENT	Total up to 10 years, included the grace period of up to 3 year.
	PRODUCTION COST: AGRICULTURE	Total up to 2 years.
	ANIMAL HUSBANDRY	Total up to 1 year.
	ANIMAL HUSBANDRY (breeding) ANIMAL HUSBANDRY (fattening)	Total up to 18 months Total up to 2 years.
PROFLORESTA	FIXED AND MIXED INVESTMENT	Total up to 16 years, included the grace period of up to 9 years.
	SEMI-FIXED INVESTMENT	Total up to 10 years.
	PRODUCTION COST / ROTATION CAPITAL	Total up to 2 years.

(5) Guarantees

PRONAF:

- Production cost: mortgage of production, guarantee and adhere to PROAGRO;
- Investment: bond mortgage or fiduciary transference of ownership of the financed good.

PRODEX and PRORURAL:

- In case of the Cooperatives: mortgage of the bonds issued by the final beneficiaries, duly endorsed by the Bank, besides the approval of directors;

- In case of Cooperatives/Associations: mortgage of the production and/or goods acquired with the financing;
- In case of producers: 2 (two) competent guarantees (avals) shall be requested, always one from the Cooperative/Association and other from a cooperative member;
- In financing common use goods: mortgage of the financed good, besides the approval of directors.

For the PRODERUR and PROFLORESTA:

- Production Cost: When guaranteed by a real estate mortgage, it shall correspond to 130% of the financing value; When the guarantee is constituted by bond mortgage, it shall correspond to 130% of the financing value; Additionally, the approval of the borrower as well as the respective spouse, of the guarantors and of the intervenient third parties.
- Rotation Capital (for the PROFLORESTA beneficiaries): They shall be ballasted by previous actual, own or third party guarantees, obeying the minimum final limit of 130% of the financing value.
- Fixed, semi-fixed and mixed investments: They shall be ballasted by pre-existing actual guarantees, possible to be bonded, as well as own or third party guarantees, obeying the minimum limit of 130% (if rural) and of 130% (if industrial, in case of the PROFLORESTA) of the financing value; Additionally, the borrower and the respective spouse, besides the guarantors and intervenient third parties approval shall be requested.
- Isolated financing for machinery and/or equipment: the good to be financed itself can be the guarantee, since the regulated limit of at least 130% in the relation final guarantee/financing is respected; Additionally, the borrower and the respective spouse, besides the guarantors and intervenient third parties approval shall be requested.
- In case of public or private contract, instead of aval, the caution guarantee shall be requested.
- In the financing for mini/micro and small-scale producers/companies and Cooperatives/Associations of the Group I, the progressive guarantees system shall be admitted, since the pre-existing guarantees fulfill the minimum limit of 65% of the financing value, and the relation guarantee/final credit of 130% of the financing is respected.

(6) Technical Assistance

A specialized technical assistance is compulsory to the borrowers, encompassing the elaboration of proposals / projects and the technical and managerial guidance at the enterprise / property level.