



**Investment Opportunities in Irrigated
Cocoa Production in São Francisco Valley**





Project Team

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- Introduction
- Scope of the Project
- Cocoa Market
- Functions of Agents
- Production Premises
- Processing Premises
- Cash Flow of the production associated with banana
- Sensitivity Analysis
- Attractiveness of the São Francisco and Parnaíba Valleys for the Cocoa Agro Industrial System

- **The Project - PINS**

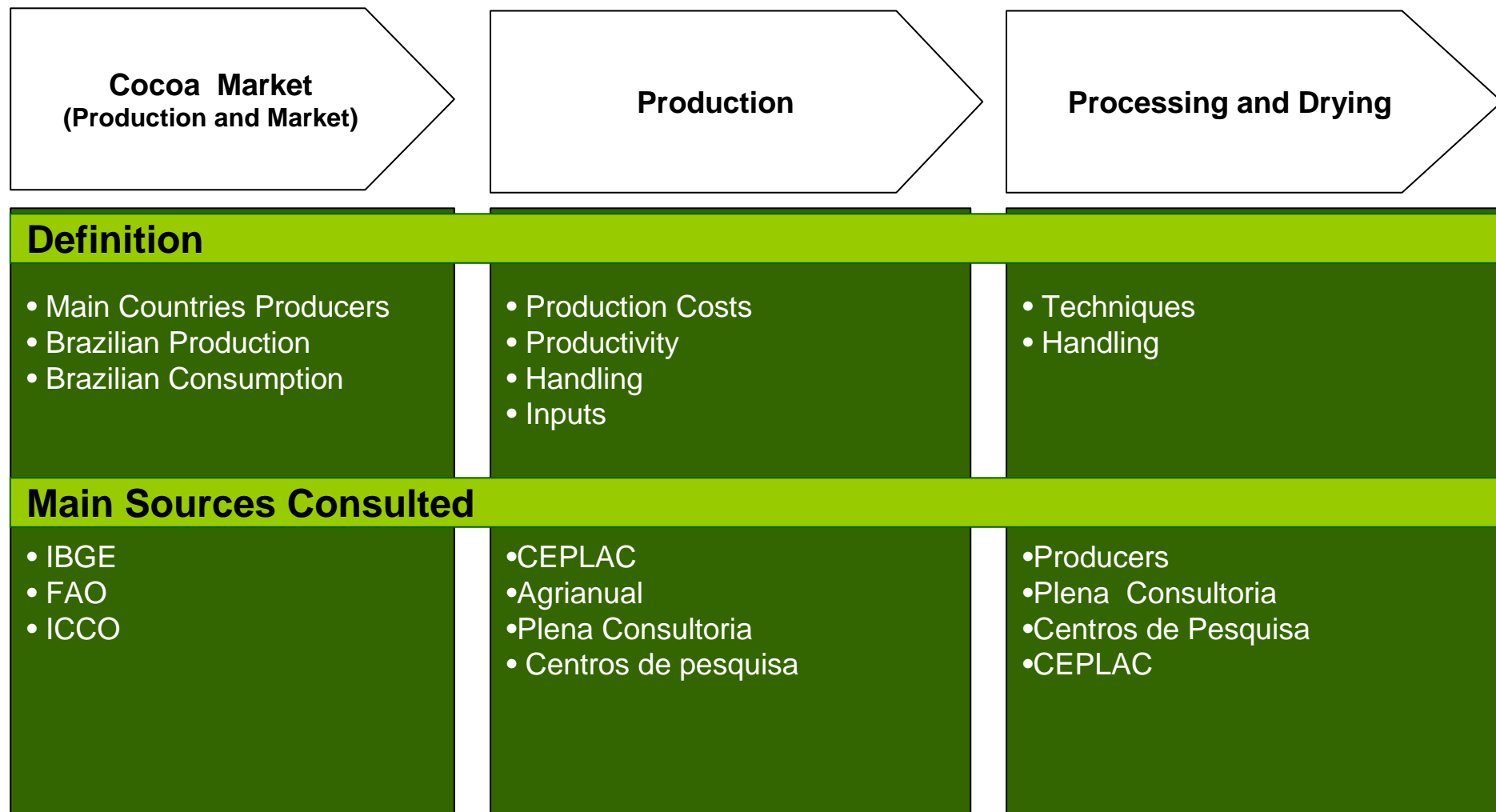
The project is a governmental initiative, aiming to attract investments to the São Francisco Valley (webpage: <http://www.fundace.org.br/pins>).

- **PENSA**

Agribusiness Intelligence Center. PENSA researchers are responsible for the business models proposition, economic and marketing analysis and for interacting with potential investors tailoring the analysis to their particular needs (web page: <http://www.pensa.org.br>).

- **CODEVASF**

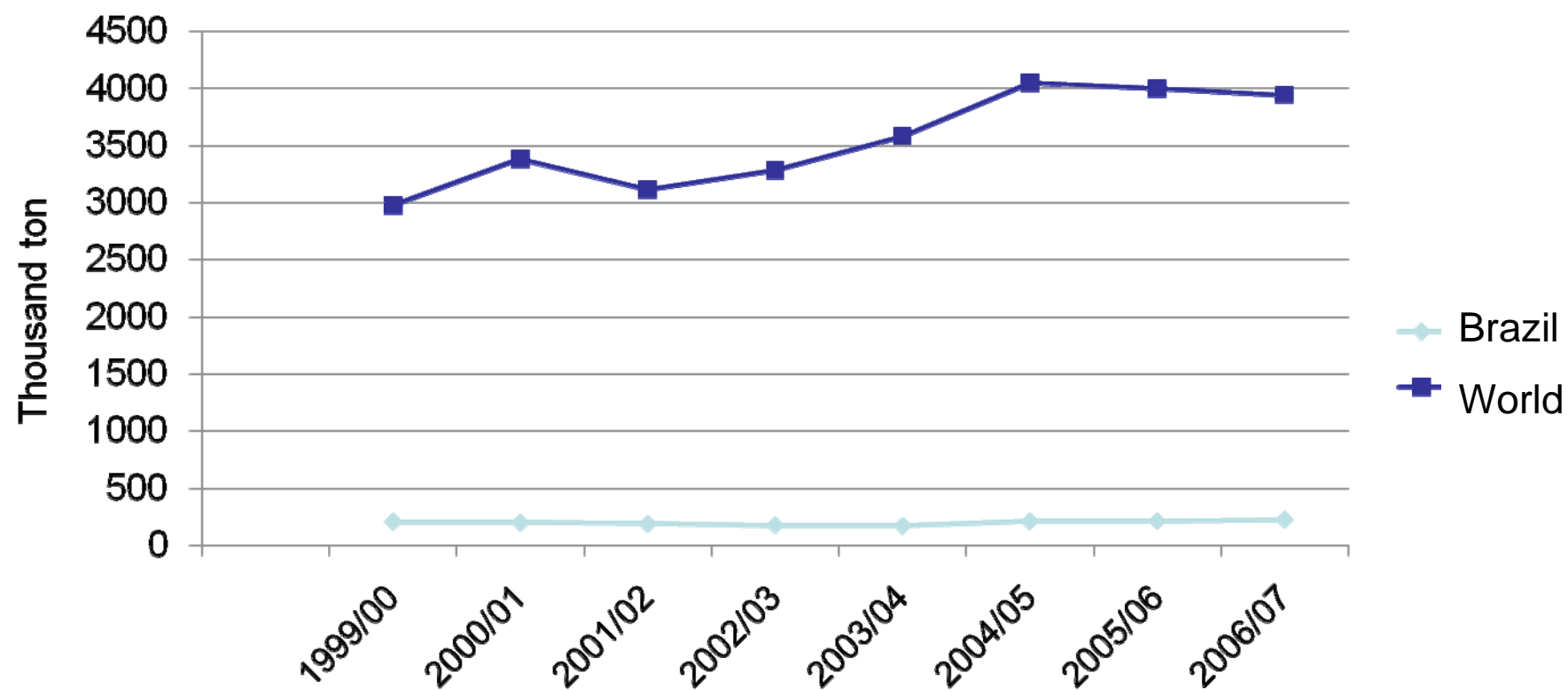
São Francisco and Parnaíba Development Company, which the mission is to develop economically and socially the Valley of the São Francisco and Parnaíba Rivers (web page : <http://www.codevasf.gov.br>).



Source: Elaborated by PENSA

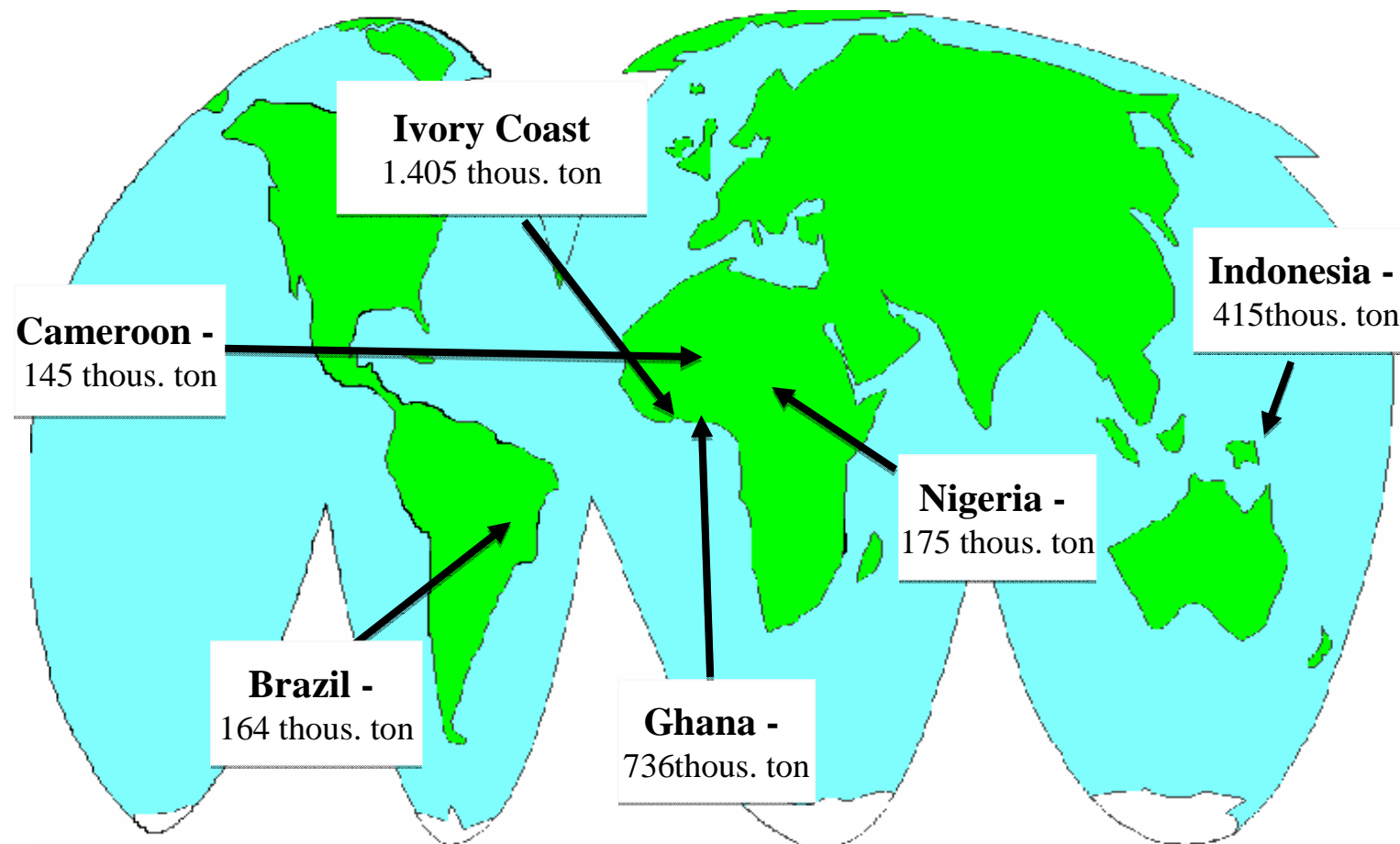
- Growth of the world consumption of chocolate (cocoa is the main raw material used)
- Ivory Coast and Ghana are the main producers
- Traditional production areas in Brazil
- Traditional areas where have problems with the “witches’ broom” - fungal disease that affects the cocoa fruit
- Brazil imports cocoa almonds
- Need to increase domestic production;

Brazilian and World Production of Cocoa Almonds: 1999 to 2007



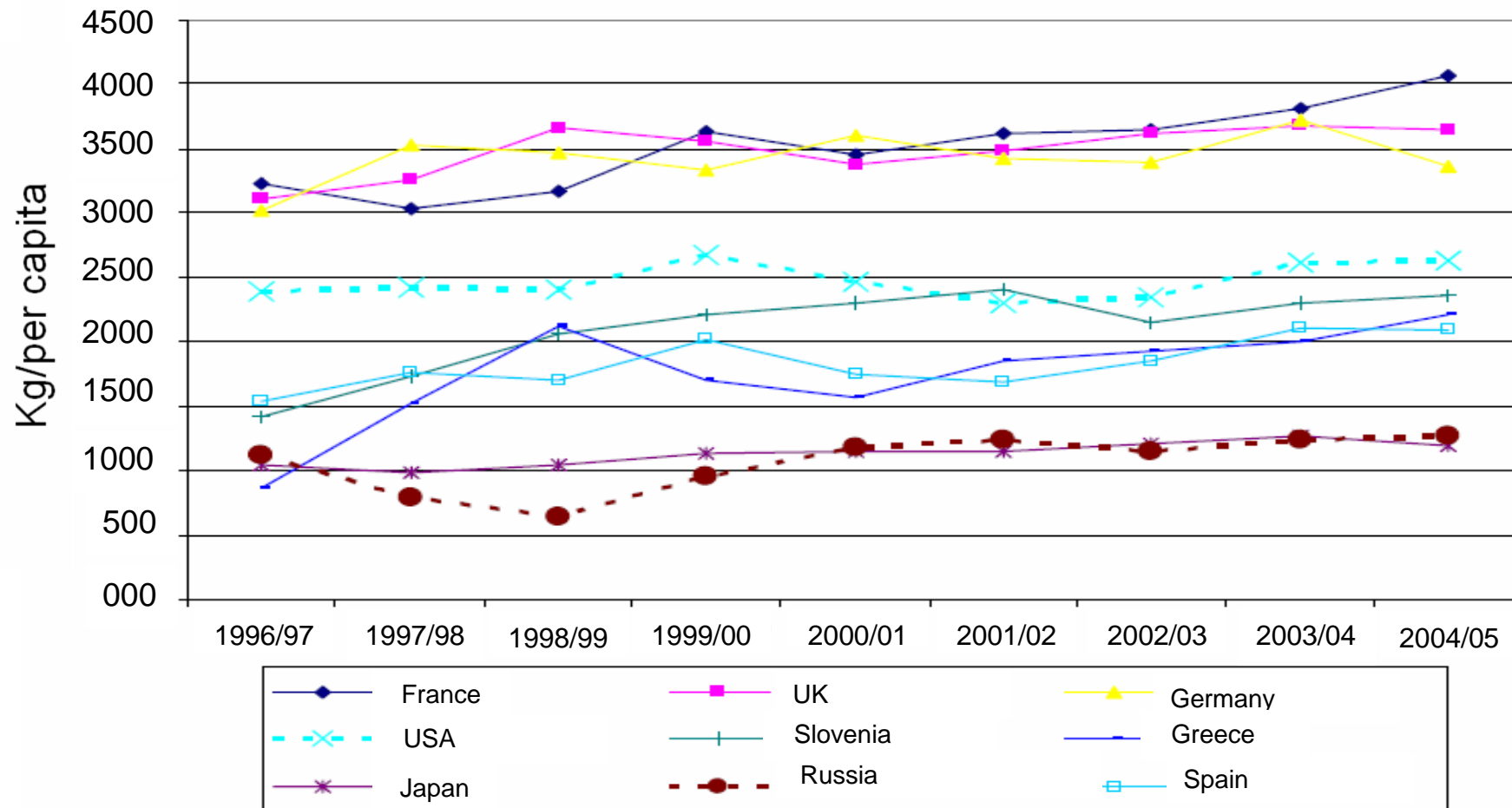
Source: Elaborated by PENSA, based on FAO - 2008

World Production of Cocoa Almonds in 2006



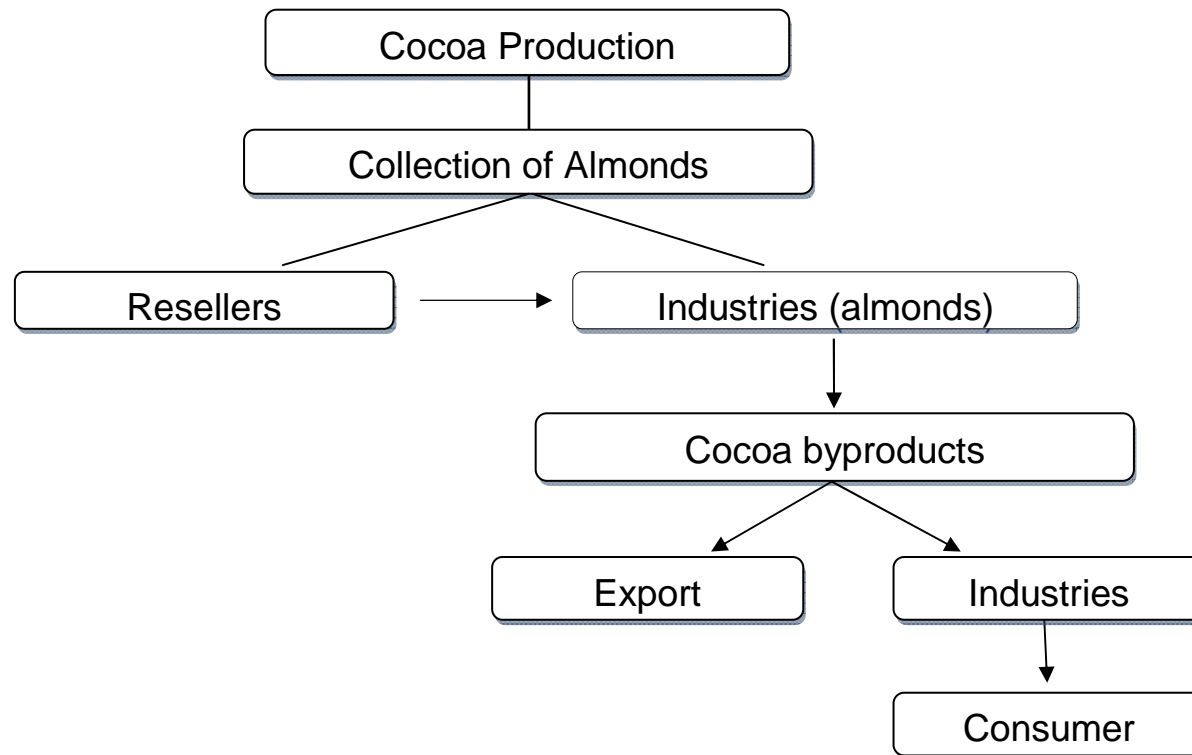
Source: Elaborated by PENSA

Growth of the per capita consumption in the main consuming countries



Source: Elaborated by PENSA based on ICCO, 2007

Cocoa Marketing Channels in the cocoa region in Bahia



Fonte: Elaborated by PENSA based and adapted from GOMES *et al* (2008)

The cocoa market in Bahia consists of large number of medium and large producers, by small and large intermediaries and a reduced number of processing industries of cocoa

Producers	Cooperative	Anchor Agricultural Company
<ul style="list-style-type: none"> • Adoption of an appropriate management and implementation of correct treatment (processing); • To sell the agreed part to the companies or intermediaries; 	<ul style="list-style-type: none"> • To purchase sufficient volume to sell to processing companies; • To help producers in the management of the plant and the development of treatment (processing); 	<ul style="list-style-type: none"> • Purchase and transportation of the agreed production; • Practices of fair prices; • Promotion of training

Fonte: Elaborado pelo PENSA

- Two production scenarios were adopted, one for the small producers, on 4 hectare lots, and another for big producers, on areas over 100 hectares
- 12 years of project
- Production system associated with banana (shading cocoa);
- Productivity: 200 (@=15kgs) /year per hectare;
- Density :1.111 plants/ha
- Banana cultivation should be abandoned after the third year of planting

- To obtain an efficient drying, it is recommended the cocoa to be dried on wood flooring trays / boxes of Fermentation / Warehouse
- Total Building Costs : R\$ 32.866,10
- In 1 year, a tray can load 220 kg of dried cocoa per square meter, that is, a 72m² tray can load 1000 arrobas/year for drying. Such a tray costs around R\$ 33.000,00
- The cocoa processing
- Preparation the product to be commercialized
- Guarantee the preservation of the quality characteristics

Source: CODEVASF "Estudos para Introdução do Cacau Irrigado na Região do São Francisco" - November

Annual Production: (@ per hectare)	250
Annual Production lot (@) (4 hectares):	1.000
Annual Production Area (100 hectares):	20.000

INDICADORES FINANCEIROS

IRR (Internal Return Rate):	3,81%
IRR(Lot = 4 hectares):	16%
IRR (25 lots = 100 hectares):	10%
PAYBACK - years:	9,04
PAYBACK (Lot = 4 hectares) years:	6,69
PAYBACK(Lote= 4 hectares) years:	6,81

Source: Elaborated by PENSA

@ = approximately 15 kgs

IRR		Average Price per arroba (15kgs) (R\$)			Área
		50	60	70	
Production per hectare	100 @ *	-----	(-16%)	(-10%)	1 hectare
		-----	(-8%)	-----	1 lot
		-----	(-12%)	(-5%)	25 lots
	200 @*	(-1%)	4%	8%	1 hectare
		10%	16%	21%	1 lot
		5%	10%	15%	25 lots
	300 @*	10%	14%	18%	1 hectare
		23%	29%	31%	1 lot
		17%	22%	25%	25 lots
	350 @*	13%	17%	21%	1 hectare
		27%	33%	35%	1 lot
		20%	26%	28%	25 lots
400 @*	15%	19%	24%	1 hectare	
	28%	34%	39%	1 lot	
	22%	27%	32%	25 lots	

	Expected Result
	Results that indicate high viability
	Lower Results that makes the activity non-viable

Source: Elaborated by PENSA * @=15kgs

- Technique Viability :
 - High Productivity;
 - Fertile Soils and high brightness;
 - No problems related to disease of plants
 - Health Production;
- High Organizational Viability :
 - Oportunity to coordinate the purchase through cooperatives;
 - Change of paradigms in traditional areas;
- High Economical Viability:
 - High Financial Results;
 - Region of easy handling and close to major centers for cocoa processing.

CODEVASF

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PROJETO INTEGRADO DE NEGÓCIOS SUSTENTÁVEIS



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