

# **Index**

Resume.....	9
Introduction .....	11
Hypothesis and objective .....	13
Hypotheses .....	13
General Objective .....	13
Specific Objectives .....	13
1: Role of Costa Rican coffee in internationals markets.....	14
1.1 International institutions that regulated world coffee production.....	14
1.2 International market coffee .....	14
1.2.1 Supply side.....	15
1.2.2 Demand side.....	17
1.3 The influence of coffee storage in international price. ....	18
1.4 Position of Costa Rica coffee in world production.....	19
1.4.1 Economic importance of coffee in Costa Rica export markets.....	20
1.4.2 Coffee production Social Importance in Costa Rica.....	22
2: Description of coffee agro chains .....	23
2.1 Institutions regulating of coffee in Costa Rica .....	23
2.2 Market of Inputs and factors of production .....	24
2.2.1 Inputs of production.....	24
2.2.2 Factor of production labor and land.....	25
2.2.2.1 Labor .....	25
2.2.2.2 Land Policy .....	26
2.2.2.2.1 Monetary and exchange rate .....	27
2.2.2.3 Factor of production capital .....	27
2.2.3.1 Transaction cost in producer's credits. ....	29
2.2.3.2 Opportunity cost of processors. ....	29
2.2.2.4 International Cash Flow .....	30
3. Economic theoretical explanation of politics applies in coffee in Costa Rica.....	31
3.1 Macroeconomics Policies .....	31
3.1.1Structure of the Fiscal policies.....	31
3.1.1.1 Producers.....	31
3.1.1.2 Processors .....	32
3.1.1.3 Exporters .....	33
3.1.1.4 Toasted .....	34
3.1.2 Application of fiscal and financial .....	35
Methodology .....	36
4. Description of the supply chain of coffee in Costa Rica .....	36
4.1 Area of Study .....	36
4.2 Coffee institution regulation .....	36
4.3 Commodity of Study.....	37

4.3.1 Classification of coffee in Costa Rica.....	38
4.3.2 Farm to processors structure.....	39
4.3.3 Structure of Exporters sector .....	40
4.3.4 Structure of Toasters sector .....	41
4.4 PAM Methodology .....	43
4.4.1 Introduction to the Policy Analysis Matrix.....	43
4.4.2 Practical Issues and Purposes Addressed.....	43
4.4.3 Constructing PAM for Commodity Systems .....	45
4.4.4 Selecting Representative Commodity System .....	46
4.4.4 Constructing Farm Budget.....	46
4.4.5 Constructing Post-Farm Budget.....	47
4.4.6 Example of Private and Social Profitability calculation. ....	47
4.4.7 Ratio Indicators for Comparison of Unlike Outputs.....	49
 5 Data Collection for PAM budgets Construction.....	50
5.1 Identification of area and population. ....	50
5.2 Research instruments based of utilization.....	51
5.3 Date Collection .....	51
Results .....	54
 6. Analysis of factor capital as principal factor to increase coffee production.....	54
6.1 Access to capital .....	54
 7. Analysis of data and results of PAM farmers - exporters.....	55
7.1 Analysis of data from PAM of the agro food chain of 1998-2001. ....	55
7.1.1 Relation Between indicators of competitiveness and the comparative advantage.....	57
7.1.2 Analysis of Divergences indicators Outputs, inputs, factors and net transfers.....	58
7.1.3 Analysis of index of profitability and economical efficiency.....	60
 8. Data analysis and results of PAM farmers – exporters (including land as a factor of production). ....	62
8.1 Analysis of data from PAM of the agro food chain of 1998-2001 including land. ....	63
8.1.2 Analysis of Divergences indicators Outputs, inputs, factors and net transfers including land.....	65
8.1.3 C Analysis of index of profitability and economic efficiency including land. ....	66
 9. Data analysis and results of PAM farmers – roasters. ....	67
9.1 Analysis data from PAM of the agro food chain of 1998-1999. ....	67
9.2 Analysis of Divergence indicators Outputs, inputs, factors and net transfers. ....	68
9.3 Analysis of index of profitability and economical efficiency.....	70
 10. Data analysis and results of PAM farmers - roasters including land. ....	70
10.1. Analysis of data from PAM of the agro food chain of 1998-1999 including land. ....	70
10.2 Analysis of Divergence indicators Outputs, inputs, factors and net transfers including land.....	71
10.3 Analysis of index of profitability and economical efficiency including land. ....	72
 11. Simulation of agro cafe chain with shadow cost of land and value of alternative production system. ....	72
11.1 Valuation of alternative price of land evaluation.....	72

11.2 Valuation of the alternative price of land, including the market price of fair trade coffee.	75
.....	
Discussion .....	77
12. Discussion about the result from PAM model.....	77
12.1 Behaviour of coffee production based on agricultural credits, interest rate and exchange rate.....	77
12.2. Exchange rate related to land value and classification of secondary quality coffee for national consumption. ....	79
12.3 System of coffee production regulated by ICAFE in bad times .....	82
Conclusion .....	83
References.....	86
Annexes.....	94
Annex 1 PAM Model 1998.....	94
Producers Quantities and Prices.....	94
Producers Private and Social budged.....	95
Processors Quantities and Prices .....	96
Processors Private and Social budged.....	97
Exporters Quantities and Prices .....	98
Exporters Private and Social budged .....	99
Toasters Quantities and Prices .....	100
Toasters Private and Social budged .....	101
Table Resume PAM Farmers – Exporters with and without land .....	102
Table Resume PAM Farmers – Exporters with and without land .....	103
Table Resume PAM Farmers – Toasters with and without land .....	104
Annex 2 PAM Model 1999.....	105
Producers Quantities and Prices.....	105
Producers Private and Social budged.....	106
Processors Quantities and Prices .....	107
Processors Private and Social budged.....	108
Exporters Quantities and Prices .....	109
Exporters Private and Social budged .....	110
Toasters Quantities and Prices .....	111
Toaster Private and Social budged.....	112
Table Resume PAM Farmers – Exporters with and without land 1999 .....	113
Table Resume PAM Farmers – Exporters with and without land 1999 .....	114
Table Resume PAM Farmers – Toasters with and without land 1999 .....	115
Annex 3 PAM Model 2000.....	116
Producers Quantities and Prices.....	116
Producers Private and Social budged.....	117
Processors Quantities and Prices .....	118
Processors Private and Social budged.....	119
Exporters Quantities and Prices .....	120
Exporters Private and Social budged .....	121
Table Resume PAM Farmers – Exporters with and without land 2000 .....	122

Table Resume PAM Farmers – Exporters with and without land 2000 .....	123
Annex 4 PAM Model 2001 .....	124
Producers Quantities and Prices.....	124
Producers Private and Social budged.....	125
Processors Quantities and Prices .....	126
Processors Private and Social budged.....	127
Exporters Quantities and Prices .....	128
Exporters Private and Social budged .....	129
Table Resume PAM Farmers – Exporters with and without land 2000 .....	130
Table Resume PAM Farmers – Exporters with and without land 2000 .....	131

## **Figures**

<i>Figure 1 Elasticity of supply and demand .....</i>	16
<i>Figure 2 Arabic's international prices from 1970-2000 .....</i>	22
<i>Figure 3 Structure of organizations regulating coffee in Costa Rica.....</i>	24
<i>Figure 4 Map of coffee production in Costa Rica. ....</i>	37
<i>Figure 5 Structure of a commodity system for PAM analysis.....</i>	45
<i>Figure 6 procedures to collection of data for construct PAM 1998-2001.....</i>	52
<i>Figure 7 Competitiveness and Comparative Advantage farmers – exports .....</i>	57
<i>Figure 8 Divergences indicators farmers – exports .....</i>	59
<i>Figure 9 Competitiveness and Advantage Comparative .....</i>	65
<i>Figure 10 Divergences Indicators .....</i>	66
<i>Figure 11 Competitiveness and Advantage Comparative farmers-roasters.....</i>	69
<i>Figure 12 Markets and Fair Trade Prices 1998-2005 .....</i>	73
<i>Figure 13 Comparison market price and shadow price of land.....</i>	74
<i>Figure 14 Value of land with shadow price, discount rate and national market .....</i>	80

## **Table**

<i>Table 1 Share coffee type by importing countries.....</i>	18
<i>Table 2. Productivity of coffee in Centro America. ....</i>	20
<i>Table 3 Agricultural and exports indicators of Costa Rica 1979-2003.....</i>	21
<i>Table 4: Import Tariff to inputs production for coffee .....</i>	25
<i>Table 5 Prices of land in Costa Rica and changes in prices and currency. ....</i>	27
<i>Table 6 Interest Active Rates from National Bank of Costa Rica and private bank sector from in colons 1998-200.....</i>	28
<i>Table 7 Calculation of tax to FONCAFE. ....</i>	35
<i>Table 8 Types of Arabic's species grown in Costa Rica.....</i>	38
<i>Table 9 Processor plants and quintals (fanegas) processed per year 1888-1995.....</i>	40
<i>Table 10 Difference in the main principal system of exporter involved in Costa Rican Coffee. 41</i>	
<i>Table 11 Costa Rica Participation of different types of coffee in national markets from 1988 to 1996.....</i>	42
<i>Table 12 Comparison of farm budget to post farm budget.....</i>	48
<i>Table 13 Example of PAM output based in the budgets .....</i>	49
<i>Table 14 Detailed information about sources .....</i>	53
<i>Table 15 PAM Coffee Agro Food Chain from Farmers- Exporters 1998-2001.....</i>	56
<i>Table 16 PAM Coffee Agro Food Chain from Farmers- Exporters 1998-2001.....</i>	60
<i>Table 17 PAM Coffee Agro Food Chain including land, Farmers- Exporters 1998-2001 .....</i>	64
<i>Table 18 PAM Coffee chain from Farmers- Exporters 1998-2001 including land.....</i>	67
<i>Table 19PAM Coffee Agro Food Chain from Farmers- Toasters 1998-1999.....</i>	68
<i>Table 20 PAM Coffee Agro Food Chain from Farmers-Roasters 1998-1999.....</i>	70
<i>Table 21 PAM Coffee Agro Chain from Farmers- Toasters 1998-1999, including land. ....</i>	71
<i>Table 22 PAM Coffee Agro Chain from Farmers- exporters 1998-2001, Market Prices of land and conventional coffee prices.....</i>	76
<i>Table 23 PAM Coffee Agro Food Chain from Farmers- Exporters 1998-2001, Shadow cost of land and fair trade coffee price. ....</i>	77