

## Contents

|   |                                      |
|---|--------------------------------------|
| Figures.....  | iii                                  |
| Tables .....  | <b>¡Error! Marcador no definido.</b> |
| Abbreviations .....   | v                                    |
| 1      Introduction .....   | 1                                    |
| 2      Theoretical background .....   | 3                                    |
| 2.1      The New Institutional Economic context.....                                      | 3                                    |
| 2.1.1      Transaction costs.....   | 4                                    |
| 2.2      Standards.....   | 4                                    |
| 2.2.1.      Existing standards .....  | 6                                    |
| 2.2.2      Trends in agribusiness standards .....   | 10                                   |
| 2.2.3      Implications of standards for small scale farmers: barrier or opportunity..... | 11                                   |
| 2.2.4      Cost and benefits of standards .....   | 12                                   |
| 2.2.5      Existing literature on small farmers' standard compliance.....                 | 13                                   |
| 2.3      Contracts .....  | 15                                   |
| 2.3.1      Imperfections solved by contract farming .....                                 | 16                                   |
| 2.3.2      Implications of contracts for small scale farmers .....                        | 18                                   |
| 2.4      A sustainable value chain.....   | 20                                   |
| 2.5      The pineapple sector in Costa Rica.....  | 21                                   |
| 2.5.1      General information .....  | 21                                   |
| 2.5.2      Small and medium pineapple farmers.....  | 23                                   |
| 2.6      Pineapple production process .....   | 23                                   |
| 2.6.1      Land preparation .....   | 23                                   |
| 2.6.2      Preparation of planting material and planting.....                             | 24                                   |
| 2.6.3      Fertilizing and weed, disease and pest control.....                            | 24                                   |
| 2.6.4      Artificial flower induction .....  | 24                                   |
| 2.6.5      Ripening and Harvesting.....   | 25                                   |
| 3      Conceptual Framework .....   | 25                                   |
| 4      Data Collection .....  | 28                                   |
| 5      Methods.....   | 31                                   |
| 5.1.      Contract Farming .....  | 31                                   |
| 5.2 Perceptions .....   | 32                                   |
| 5.3 Probit Model .....  | 33                                   |

|            |  |           |
|------------|--|-----------|
| 6          | Results.....   | 33        |
| 6.1        | The Huetar Norte Region: Development of the pineapple production and description of the sector ..... | 33        |
| 6.1.1      | Market Structure .....   | 34        |
| 6.1.2      | Fruit standards.....   | 35        |
| 6.1.3      | Yield, quality and price risks. ....   | 36        |
| 6.2        | Contract Farming .....   | 40        |
| 6.2.1      | Forms of vertical coordination .....   | 40        |
| 6.2.2      | Services offered by the firms .....  | 41        |
| 6.2.3      | Relationships and household characteristics.....   | 44        |
| 6.3        | Perceptions .....  | 49        |
| 6.3.1      | Trust and Loyalty towards the firm.....  | 49        |
| 6.3.2      | Perceptions towards Standard certification.....  | 56        |
| <b>6.4</b> | <b>Standard Certification.....</b>   | <b>60</b> |
| 7          | CONCLUSIONS.....   | 64        |
| 8          | IMPLICATIONS .....   | 69        |
| 9          | REFERENCES .....   | 71        |

## Figures

|  |    |
|--|----|
| Figure 1: Top countries producing pineapple – 2008 .....                 | 22 |
| Figure 2: Top countries exporting pineapple – 2008 .....                 | 22 |
| Figure 3. Conceptual framework .....                                     | 27 |
| Figure 4. Huetar Norte Region in Costa Rica .....                        | 28 |
| Figure 5. Cantons belonging to the Huetar Norte Region, Costa Rica ..... | 29 |

## Tables

|  |    |
|--|----|
| Table 1. Costs of production per hectare of pineapple MD-2 in the Huetar Norte Region, Costa Rica..... | 17 |
| Table 2. Sampling distribution according to settlement .....   | 30 |
| Table 3. Pineapple buyers in the Huetar Norte region and their share in the market. ....               | 35 |

|  |    |
|--|----|
| Table 4. Different process standards used in the pineapple production.....   | 36 |
| Figure 6. Yield, quality and price risks faced by the producer.....  | 38 |
| Table 5. Forms of coordination used by exporters/buyers of pineapple in the Huetar Norte Region, Costa Rica.....   | 41 |
| Table 6. Services and deals offered by exporters/buyers of pineapple in the.....   | 44 |
| Huetar Norte Region, Costa Rica.....   | 44 |
| Table 7. Farmer and farm characteristics according to type of agreement .....  | 46 |
| Table 8. Relationship characteristics according to type of agreement.....  | 49 |
| Table 9. Trust and loyalty perceptions of small pineapple farmers towards the firm they trade with.....  | 51 |
| Table 10. Factor analysis for trust and loyalty.....   | 52 |
| Table 11. ANOVA of the scores for each construct obtained through factor analysis for the different agreements under study. ....   | 54 |
| Table 12. Pearson correlations between the constructs explaining trust and loyalty and the relationship characteristics .....  | 55 |
| Table 13. ANOVA of the scores for trust obtained through factor analysis for the different characteristics of the agreement offered by the firms. ....                                 | 55 |
| Table 15. Factor analysis for standards perceptions .....  | 58 |
| Table 16. Mean comparisons of the scores for each construct obtained through factor analysis for each of the three groups under study (certified, ex-certified and non certified)..... | 59 |
| Table 17. Means of the scores for each construct according to the zone of production (Pital or Guatuso).....   | 60 |
| Table 18. Variables used in the Probit regression.....   | 61 |
| Table 19. Probit regression for standard certification.....  | 62 |

## **Abbreviations**

|         |   |
|---------|---|
| FAO     | Food and Agricultural Organization  |
| FDA     | Food and Drug Administration  |
| GAP     | Good Agricultural Practices   |
| HACCP   | Hazard Analysis and Critical Control Points                                   |
| IFOAM   | International Federation of Organic Agriculture Movements                     |
| ISO     | International Organization for Standardization                                |
| Kg      | Kilograms   |
| MAG     | Ministerio de Agricultura y Ganadería (Ministry of Agriculture and Livestock) |
| MT      | Metric Tones  |
| NGO     | Non Governmental Organization   |
| PINDECO | Pineapple Development Corporation   |
| PMO     | Produce Marketing Organization  |
| RFA     | Rain Forest Alliance  |
| SAN     | Sustainable Agriculture Network   |
| UN      | United Nations  |
| USD     | United States dollars   |