

Strategic planning for sustainable organic hillside agriculture with a farming system and value chain model in Nicoya, Guanacaste

Jeroen Houdijk ^{1,2}

Bruno Barbier ²

Rigoberto Rodriguez Quirós ³

Roberto García Piñeres ¹

Grégoire Leclerc ²



1: Centro Agronómico Tropical de Investigación y Enseñanza (CATIE)

2: Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD)

3: Universidad Nacional Costa Rica - Sede Regional Chorotege (UNA)

Introduction

“Orgánicos el Cerro” are using water basins to harvest rainwater for irrigation in dry periods. They were recognized with the first prize in the first Regional Contest on Drought Adaptation Strategies in Guanacaste. The twenty-two associates produce organic crops at four family farms in the rural community Cerro Negro.



General Objective:

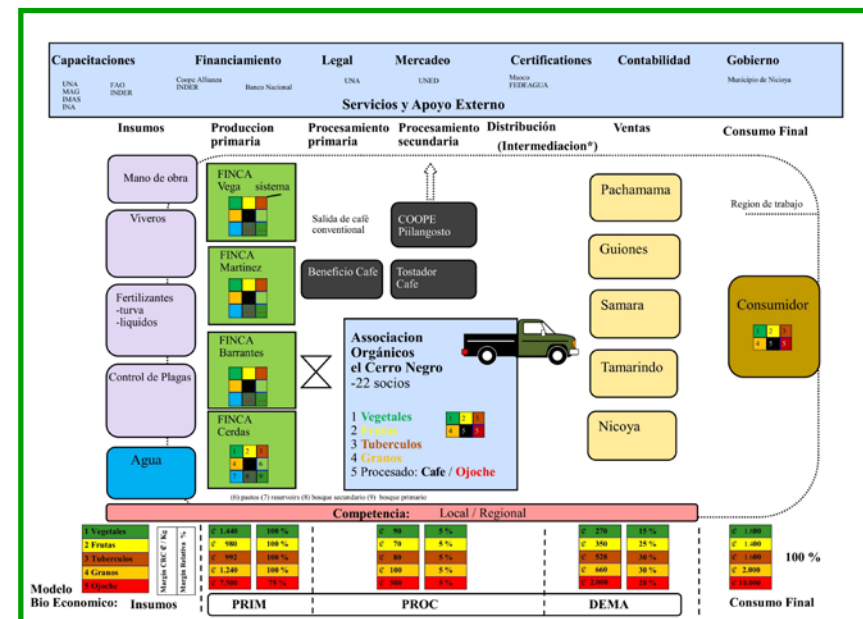
Development of a model business strategy to enable sustainable production by reducing vulnerability to climate variability and financial risks.

Methods

Development of a strategic business plan with a value chain approach (Gottret 2011)

Multi Value Chain:

Integration of dynamic supply chains where the configuration of land uses in a farming system (or product matrix in general terms) is optimized over time, resulting in a set of products in balance with its regional context in terms of resources and demand.



Farming system and Multi Value Chain optimization model

1	2	3
4	5	6
7	8	9

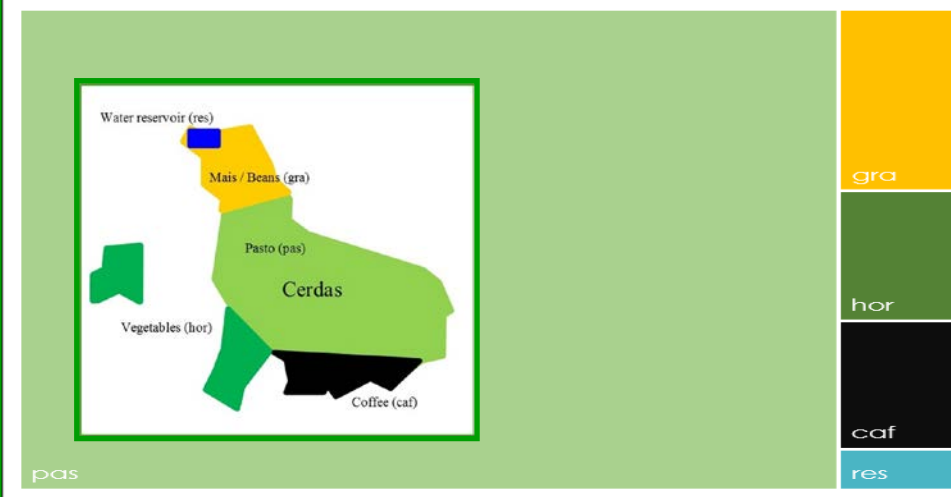
Land use types

- 1-5 Product Groups
- 6 Pasture land
- 7 Water Bassins
- 8 Secondary Forrest
- 9 Primary Forrest



Cerdas farm system 'current' (t=5)

gra caf hor pas res



Conclusions

- The agro-hydrologic farming system of Association “Orgánicos el Cerro” is strong because it is diversified
- The visualization of the value chain is an effective tool to help identify opportunities
- Because of the farms diversification, various strategies can be a viable alternative
- Investments in additional water basins are not expected to give the highest returns, because the systems are already functional
- Investments in value chain development such as transport and warehousing are expected to be more favorable
- A user-friendly input / output interface should be developed for the value chain model

Thank you!

email:

jeroen.houdijk@catie.ac.cr



FuturAgua: “Enhancing Adaptation and Resilience to Drought in Dry Tropical Social-Ecological Systems” - www.futuragua.ca

