Adapting the technical management of coffee and honey bee productions to cope with market shocks in Guatemala : concepts and methods

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Context

This poster presents the theoretical framework and methods of a doctoral research project. In Jacaltenango and San Antonio Huista, two municipalities in Northwest of Guatemala, smallholders have had to deal with uncertainty. In the early 21st century the coffee market collapsed. This study adopts an approach focused on technical practices changing within an uncertain context in order to develop the closest decisions' tools to producers strategies (Darnhofer *et al.*, 2008; Dedieu and Ingrand, 2010).

Concepts

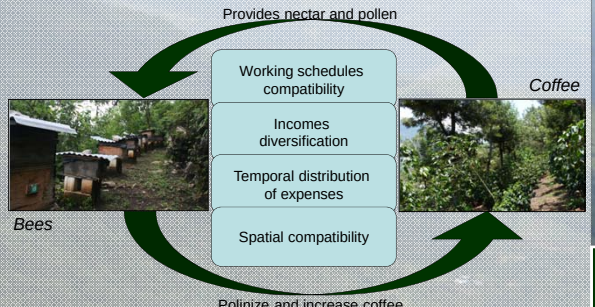
Thus we propose to understand how and why coffee and honey producers adapt their technical management to market shocks within an uncertain context. To answer, we make use of three central concepts: (1) **action logics**, defined as the sum of principles that lead the action for the long term (Dedieu, 2009); (2) **flexibility mechanisms** defined as operational and organizational changes that producers mobilize in response to a perturbation (De Leeuw and Volberda, 1996); (3) **technical management** understood as the whole of technical practices of a production process (Aubry, 2007). We formulate the hypothesis that, in response to market shocks, producers adapt their technical management using flexibility mechanisms and according to their action logics.

Methods

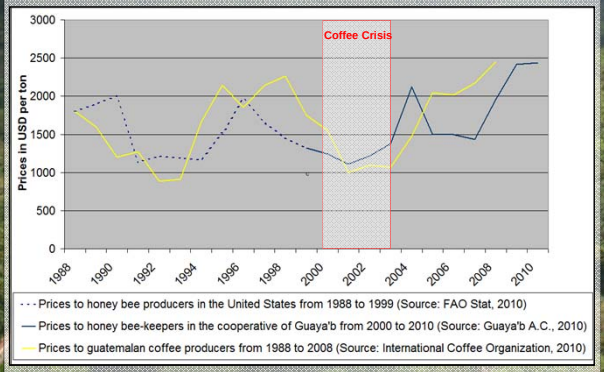
The sample corresponds to 48 coffee and honey bee producers that present similar agroecological and market conditions and who are members of the same cooperative. A three parts methodology is developed. The first part consists of comprehensive surveys. The second one extends interviews to the whole sample through semi-structured surveys. Finally, datas are treated with statistical tools in order to highlight correlations between the different concepts used.

I- Coffee and honey bee producers within an uncertain context

a) Coffee and honey bee productions: a promising combination



b) Market shocks

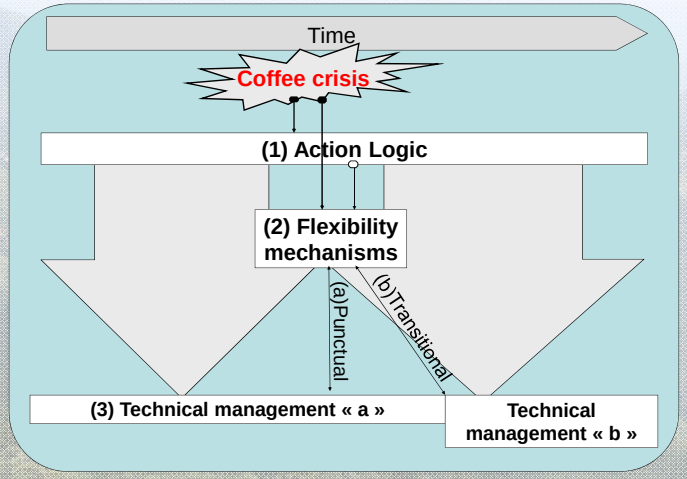


c) Research question

How and why coffee and honey producers adapt their technical management to market shocks within an uncertain context?

II- Building an analysis framework

a) Study design



(1) Action logics: sum of principles that lead the action for the long term (attitude toward risks, toward diversification etc.);

(2) Flexibility mechanisms: operational and organizational changes that producers mobilize in response to a perturbation (inputs reduction, temporary work etc.);
- (a) **Punctual**: reversible changes operated at the moment of disturbance
- (b) **Transitional**: changes, reversible or not, that modify permanently the system.

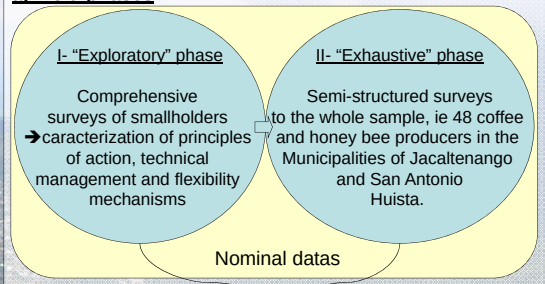
(3) Technical management: the whole of technical practices of a production process (variety selection, fertilization etc.).

b) Central hypothesis

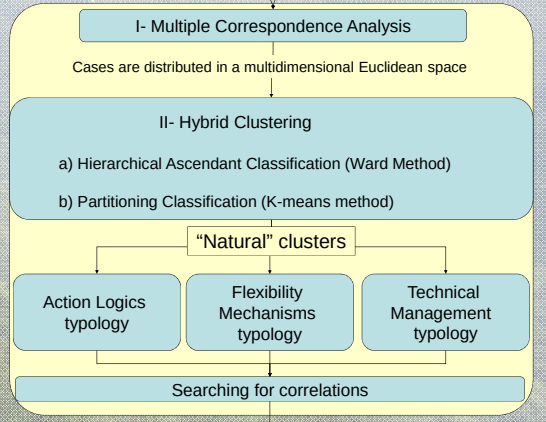
In response to market shocks, producers adapt their technical management using flexibility mechanisms and according to their action logics.

III- Materials and methods

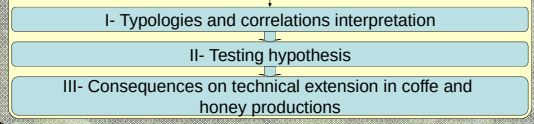
a) Field phases



b) Data processing phases



c) Analysis



Perspectives

Half-way through this doctoral research, this conceptual and methodological framework produces several intermediate results. We observe different types of action logics, flexibility mechanisms and technical managements.

Next steps aim to establish correlations between resulting typologies in order to verify or to invalidate the central hypothesis.

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