Livestock Farming Systems, long term and uncertainties : what are the paths to last ?

A comparison between France and Uruguay

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Introduction

Sustainability : thinking farm dynamics

- Uncertainties (market, policies, climate) : forthcoming (North - CAP), a usual reality (South - liberal)

- Necessity of understanding long term perspective of farm management and so develop an evolutionary approach, considering the necessity to design and redesign systems (uncertainties, changes, household lifecycle) (Darnhofer et al. 2008)

Question

What are the paths to last in herbivore LFS ?

. From the farmers points of view and actions

. Considering « the paths » as the major levers and principles of action mobilized by farmers throughout the household – farm adaptive cycle (Holling 2001)

. Hypothesis :

a) a diversity of paths

« optimise continuously » ; « get big or special or diversified » as injunctions to maintain in the long term

b) Uruguay (liberal, several crisis) # France (PAC security net)

Material and Methods

A comparative analysis based on 3 studies

- Flexibility of beef cattle farms (Burgundy, F)

  (Lemery et al. 2005 : 14 farms ; 40 to 145 cows)

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- Uruguayan livestock farming, long term and uncertainties : a diversity of strategies to stay in production (Center Uy)

(Levrouw et al. 2008 : 11 farms (8 beef cattle – 77 to 4300 head ; 3 dairy : 140 – 3500 head)

- To act under uncertainty in dairy farming in Segala (Massif Central France) (14 farms ; 17 – 55 cows)

ANR – ADD TRANS project

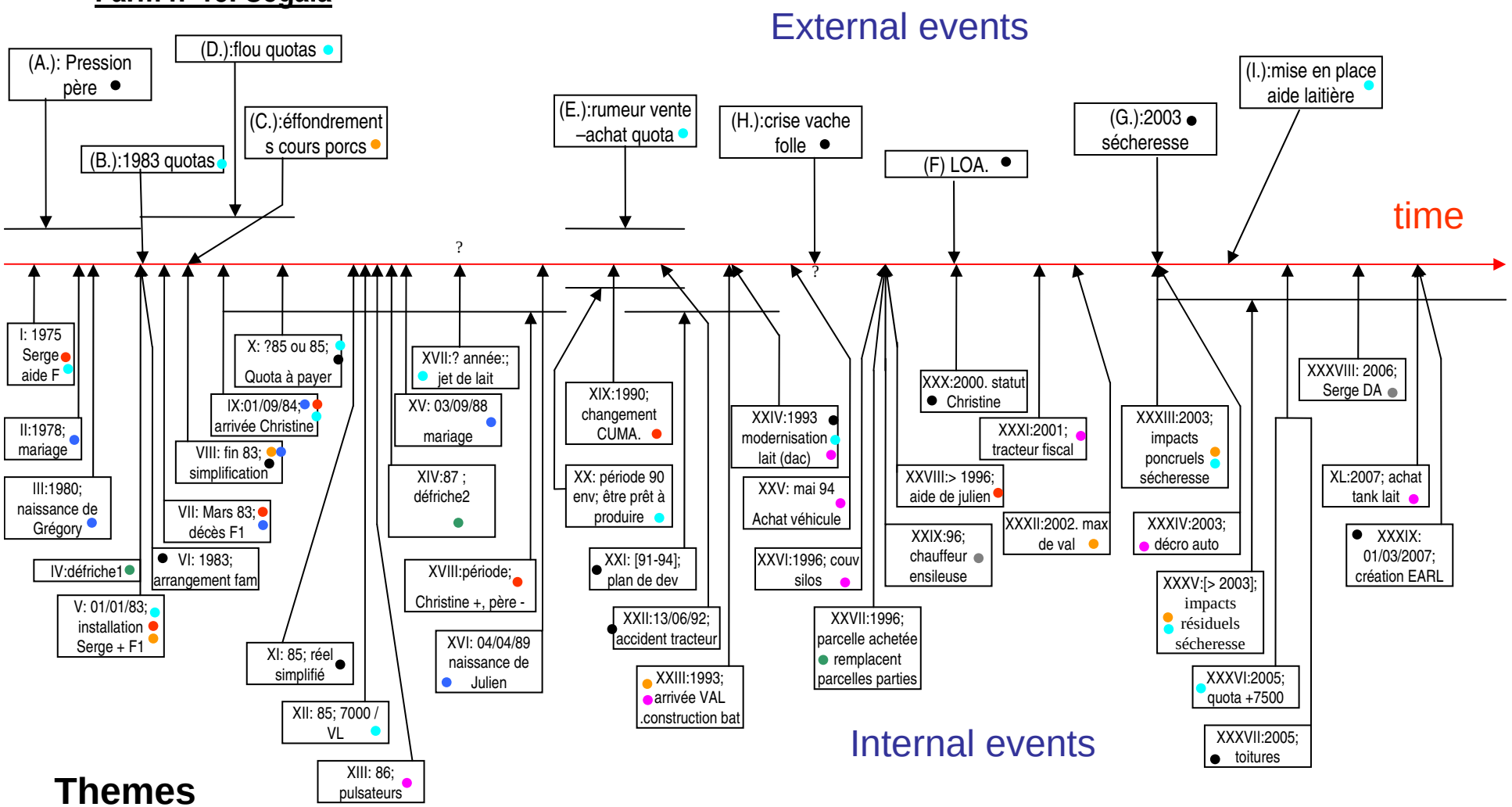
From household – farm trajectories to stylised paths

a) A comprehensive interview (pluridisciplinary)

- Initial and current state of household / farm, combining activities and LFS operation
- Events that mark out changes and / or remarkable moments over time

b) Re-organisation of the chaining of events

Farm n°15. Segala



Themes

- Workforce
- Family
- Dairy activity (dimension, practices, sales etc.)
- Areas

Re organisation of the chaining of events

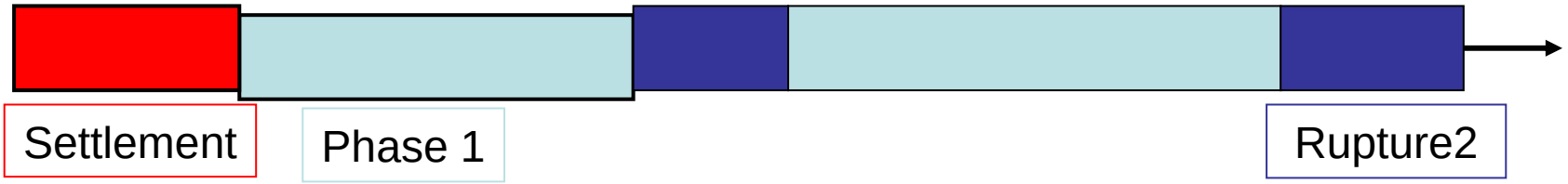
From household – farm trajectories to stylised paths

a) A comprehensive interview

b) Re-organisation of the chaining of events

c) Pluridisciplinary analysis (eco, anim. sci., socio)

Decomposition of the trajectories into phases



and qualification of the principles of action during the phases (technical, financial, work org)

d) Chaining of phases : the paths

Results : the principles of action (1)

A Designing the system

- Size (increasing / stable / revisable)
- Diversification / specialisation
- Combining of activities : equality of development of each activity ; one pivot activity + attempts - opportunities (revisable) ; one activity as a source of flexibility (F)
- Risks (financial, technical (never, controlled OK, a condition)) (Uy)

B Financial

- Indebtedness : yes / never (Uy)
- Savings policy : yes, no (all is reinvested in the farm - Uy), adjusted
- Family needs : can be ajusted, fixed living standard

Results : the principles of action (2)

C System operation

- Technical ambition is the key to last. Technical innovations save.
- Managerial ambition : optimisation of technical + financial + labour + with mastered working conditions for the farmers (F)
- Be entrepreneurial (the volume of sales is important)
- Production process is a flexibility source (low stocking rate…)

D Social and economic networks

- Information exchanges with neighbours
- Investment in collective groups (group of producers F) (to secure, to act upon)
- inter(national) networks to be aware of tendancies and innovations (Uy)

Results : what differentiates the paths ?

The main factors

- Optimisation (continuous adaptation of the « best way » considering the factors and their evolution) vs keeping flexibility sources within the system *(within the production process ; via a buffer activity)*
- Stay vs get bigger
- Specialisation vs diversification (agri – non agri) *(buffer, opportunities, entrepreneurial)*
- Technical vs technique - finance - labour

Results : the paths (1)

	Opportunity taker	Get big	Technical ambitions saves	Managerial control (spec. & div.)	Keep buffer capacities	Volume several productions
Uy	X	X	X	X	(X)	
F Seg.	X	X	X	X	X	X
F Bur.		X	X		X	X

Results : the paths (2)

Opportunity takers: minor capacity of planification, small farms survival (Uy, Fr),

Get big : without risk and with buffer capacities (Uy), with labour constraints (Fr)

Technical ambition : high stocking rate (F, Uy). Shortened production cycles (beef, heifers). Investment into groups of producers to secure (F)

Managerial control : technical, financial and labour (F and Uy) with sustainable work conditions for the farmers (F)

Buffer capacities : low stocking rate, flexible animal production process (cows, young animals) (F, Uy) ; one buffer herbivore activity (F)

Volume, several productions **:** with managerial control and possible adjustment of the size of each activity depending on the overall economic situation

Discussion

- **Methodology**

- « Principles of action » : toward a model of reasoning from data to qualification with knowledge-based approaches ?

- What can be used in a generalization (*non representative sample..)* ? The criteria for « principles of action » and « paths » differentiation

- **Results**

- There is no specific path (F, Uy), thus the « materialisation » in every production / country context of one principle of action is rather different

- But the paths are rather different !

- Each path leads to specific practices and tensions at a given time (savings and debts, working problems, resistance to hazards (climate, market), innovation acceptance – short term opportunities, long term commitment -

Conclusion

- Innovation and system evaluation refer to steady state system assessment or consider the change as passing through one state to another.

Don’t we need to consider the direction (the phase qualification) and the changes of directions (phase – rupture - new phase) to enlarge steady state analysis for sustainability assessment ?