

Flexibility of livestock farming systems is a condition of their sustainability

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INTRODUCTION

- Sustainable systems = less possibilities to "drive" the environment?
 - exposure to unpredictable events
- Flexibility = a property which allows to balance the loss of quantitative performance faced with uncertainty (Dreyer and Gronhaug, 2004)
- Sustainability includes flexibility, but flexibility does not imply sustainability
- Flexibility = multiform, not easy to define simply
... but some main ideas

1/3 : flexibility represents an organisational capacity

Aptitude / capacity

Aaker, Mascarenhas 1984
Probst, Klimecki, Gmur, 1983

Organisation for adaptability

Weick, 1979, 1982 ; Evans, 1991

Organisational repertoire

Sanchez 1995 ; Volberda, 1992

Breathing space

Weick, 1979 ; 1982 ; Sanchez 1995
Volberda, 1992

Extent of decisional field

Apter, 1985 ; Cohendet et Lerena 1989
Reix, 1979 ; Sire, 1987

A way to control

De Leeuw, Volberda, 1996 ; Sanchez, 1993

Or even an over capacity (Tarondeau) → "slacks"

2/3 : flexibility combines change with stability

Stability of the objectives Reix, 1979 ; Sire, 1987 ; Lémery, 2004

Stability of the identity Volberda, 1992 ; Weick, 1982

Stability of the working situations March, 1994 ; Everaere, 1997

3/3 : Flexibility is a dynamic concept

**Flexibility has a meaning only for a long term period
(multi-periodic time scale)**

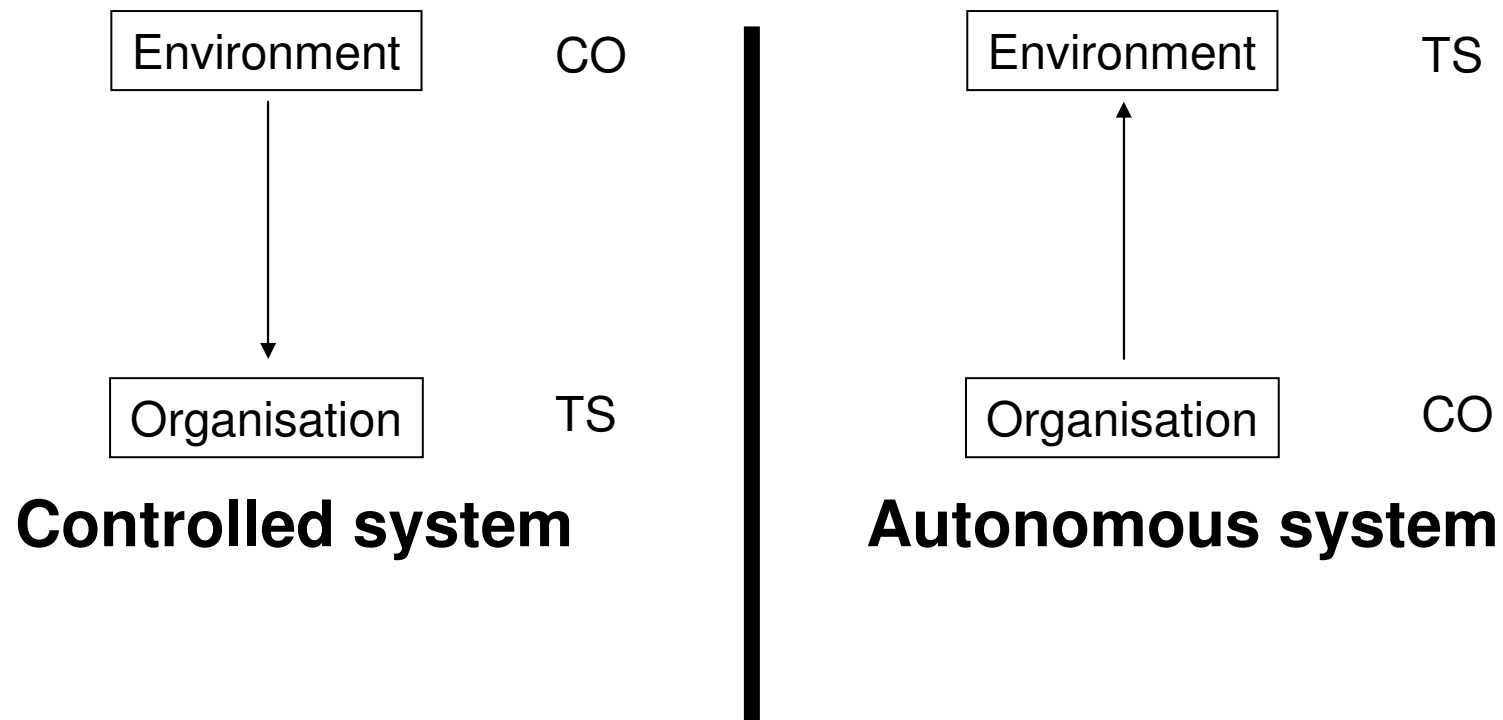
**⇒ to combine short term objectives while keeping a wide
range of opportunities on a long term period
(Lev and Campbell 1987)**

→ sustainability

Different kinds of flexibility

- **Static flexibility: over-capacities (slacks)**
- **Dynamic flexibility: either reactive or pro-active (to anticipate)**
- **Strategic flexibility: concerns the structure, the objectives, the long term time scale**
- **Operational flexibility: concerns processes, practices, the short term time scale**
- **Organisational flexibility: concerns the management**
- **internal / external flexibility**

To control or to be controlled: that is the question



The organisation as a controlled system

- ⇒ The system tries to fit the conditions imposed by the environment (Alcares and Lacroux, 1999).
- ⇒ Process of **accommodation** (Piaget, 1977)
- ⇒ The accommodation is a **defensive-like behaviour**:
"implementation, by internal programming, of potential behaviours, given the actual organisation" (Le Moigne, 1990)

**Idea of adaptation, stability
robustness vs vulnerability**

The organisation as an autonomous system

- The system aims to **subordinate all changes to maintaining its identity**. Consequently, the system cannot interact with the environment out of the predefined situations planned by the organisation.
- **A frame of relationships with the environment is predetermined** (then, the environment could be considered as integrated to the organisation)

The organisation as an autonomous system

Process of **assimilation** = offensive-like behaviour: emergence of new behaviours which enhance the range of potential adaptative processes (Le Moigne, 1990)

**Idea of learning process,
Self learning organisation**

Generalization and link to the different kinds of flexibility

(Volberda 1996 ; De Leeuw and Volberda 1996) :

*Flexibility includes both the **variety of procedures** and the **speed** with which these procedures can be activated, in order to:*

- ***increase the control capacity** of the organisation on the environment,*
- ***decrease the sensibility** of the organisation to the environment*

Different types of resulting flexibility

Table 1 **Types of Flexibility**

<i>Variety</i>	<i>High</i>	Structural	Strategic
	<i>Low</i>	Steady-State	Operational
		<i>Low</i>	<i>High</i>
<i>Speed</i>			

(Volberda, 1996)

Some ways to develop flexibility

(Aaker and Mascarenhas, 1984)

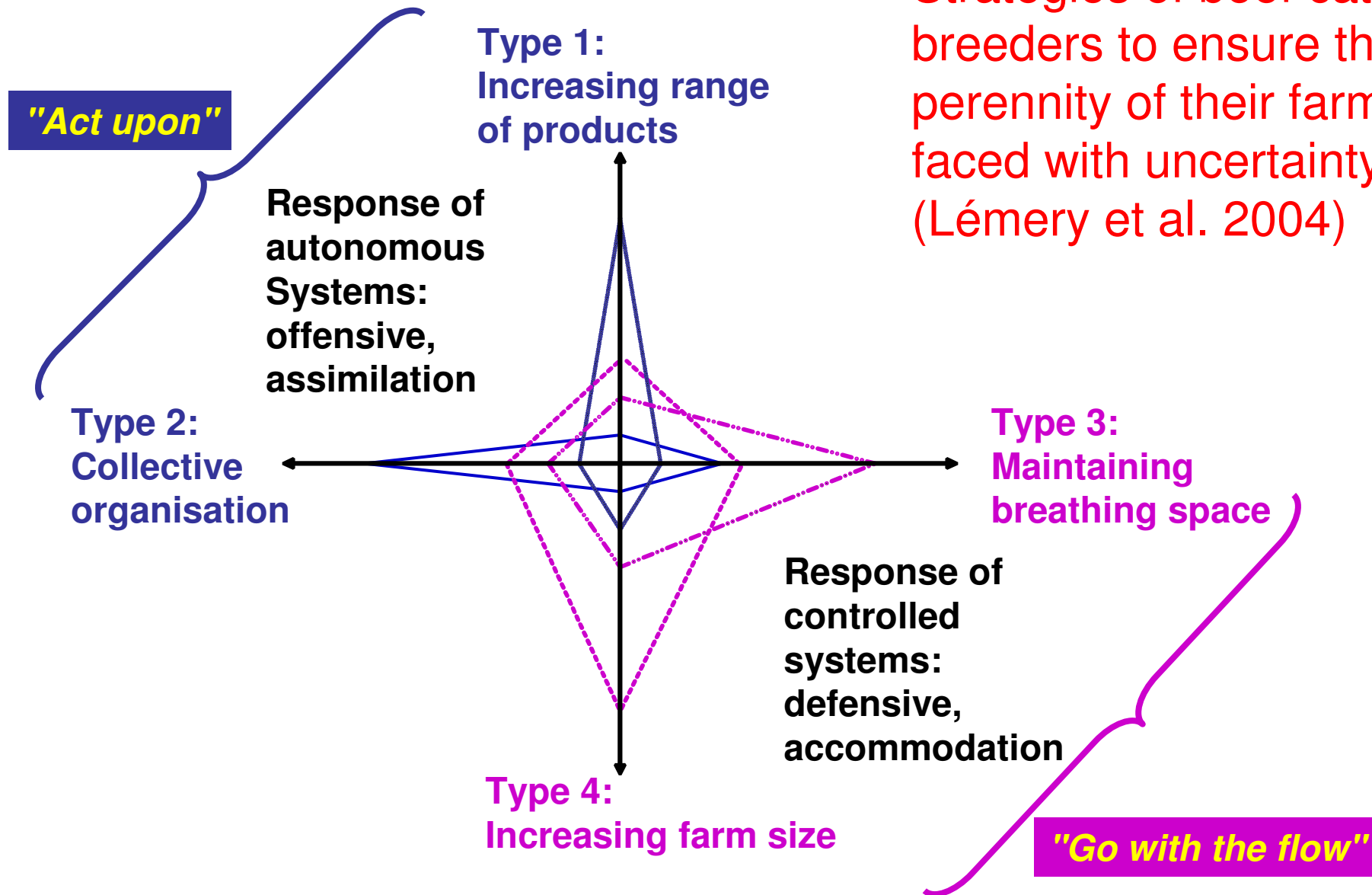
a) **Diversification**, by using different technologies, increasing the autonomy of each production unit, selling in several circuits, enlarging the range of products;

b) **development of potentially useful resources**, by maintaining and developing some functional redundancies, or some non used skills ("slacks");

→ **Several examples in agriculture**

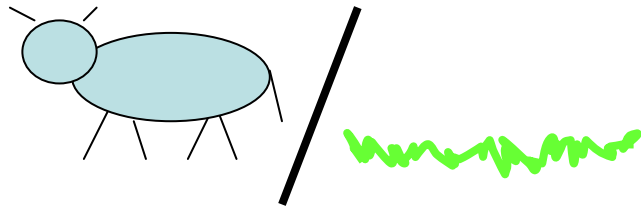
c) **“reduction of specialisation”**, by avoiding each task to be done by specialised workers with specific skills.

Strategies of beef cattle breeders to ensure the perennity of their farms faced with uncertainty (Lémery et al. 2004)

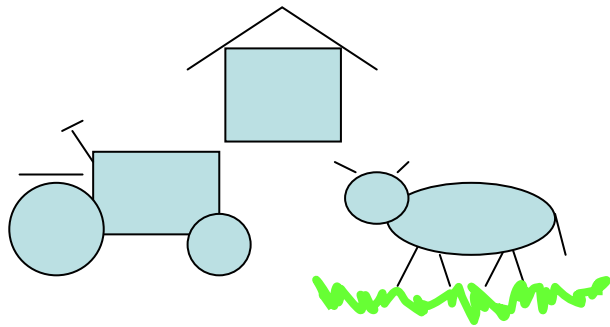


Conclusion

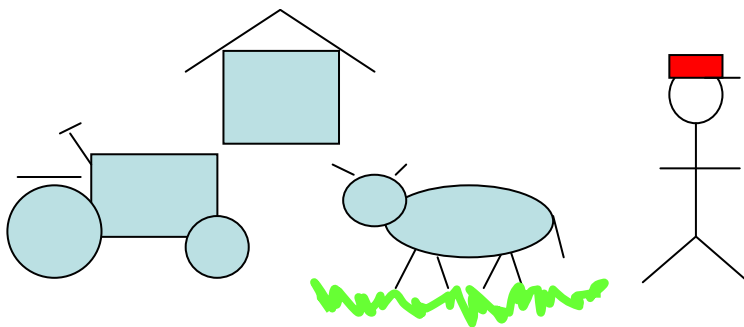
- ✓ Flexibility = linked to the farmer (human component): situations to manage, aims, behaviour face to risk, idea of what is his job.
- ✓ Different words to describe the properties of LFS, according to the level within the system



Adaptive capacity,
Plasticity



Resilience



Flexibility

Focus
on
transition
periods and
processes

Thank you for attention

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