Farming system

Starting with the example of a mixed dairy crop farm

Rim BACCAR[1], Anne-Lise JACQUOT[2]

[1]ESA ; [2]Agrocampus Ouest

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What is a dairy farm??

https://www.produits-laitiers.com

https://www.produits-laitiers.com

griculture.vic.gov.au

http://indiadairyfarming.blogspot.in

Paysan-breton.fr

https://www.fwi.co.uk

What is a dairy farm??

http://www.le-robillard.fr/?q=node/37

http://www.lafermedesgastres.sitew.com

Engelbert Farms' cows

http://www.domaine-pre-laval.fr

What is a dairy farm??

http://www.vialtraite.fr/

http://www.web-agri.fr

http://www.union-agricole.fr/actualites/elevage-de-precision-un-mouvement-en-marche-en-elevages-de-petits-ruminants:BA873FSZ.html

© OT COMBLOUX

http://www.agriculteur-normand.com

(©Terre-net Média)

https://www.liberation.fr/futurs/2017/09/18/agriculture-les-robots-veillent-au-gain_1597264

system

What is a dairy farm??

https://www.satfarming.com/2017/06/15/parcelle-de-mais-sentinel-modele-culture/

european-seed.com

https://www.graincentral.com/

Reussir.fr

INRA, 2019

Francebleu.fr

Farming practices shape the landscapes : ex Lowlands

https://www.syngenta.fr/cultures/terres-de-progres/article-herbicide/4-regles-desherbage-efficace-rentable

Espace numérique de travail des écoles de Perpignan

Brittany (Finistère) 1958

Brittany (Finistère) 2012

Photographies issues de Géoportail, ® IGN 2012

Farming practices shape the landscapes : ex Uplands

https://www.alpage-de-mollens.com/media/photos/pre-bois-9.jpg

https://www.alpage-de-mollens.com/media/photos/pre-bois-3.jpg

French Vosges mountains

http://www.telosinfo.org/site/?menu=13&lid=10

Postcard from 19th century

Picture in 2012

© Atlas des paysages d'Alsace

Farming practices shape the landscapes : ex Uplands

French Vosges mountains

Postcard from 19th century

Picture in 2012

© Atlas des paysages d'Alsace

What is a dairy farm??

http://www.agro-media.fr/analyse/la-france-le-pays-des-fromages-5812.html

https://cdn.radiofrance.fr/s3/cruise
a8dd-44e8-8f83-4034b7e98a6d/87
patron-marque-consommateurs-ve

http://edumedia.free.fr/yaourtsvertical.jpg

https://www.youtube.com/watch?v=VBllLIJ1zYc

https://www.montbeliarde.org/lavachedereformeaudetail-fr.html

https://www.la-viande.fr/

https://www.produits-laitiers.com/article/decouvrez-les-secrets-du-la

https://www.challenge.ma/le-beurre-passera-a-25-de-droit-dimportation-en-2016-57838/

http://www.web-agri.fr/observatoire_marches/article/des-opportunites-de-vente-en-local-1929-90079.html

http://www.farinex.ca/alimentation/produits/produits-laitier/lait/lactoserum-en-poudre-25kg

R Baccar & A-L Jac

To sum-up, the farm not only produces some goods….

Environment

Environment quality

Landscape

Biodiversity

Products

Livestock farming system

Tourism

Society

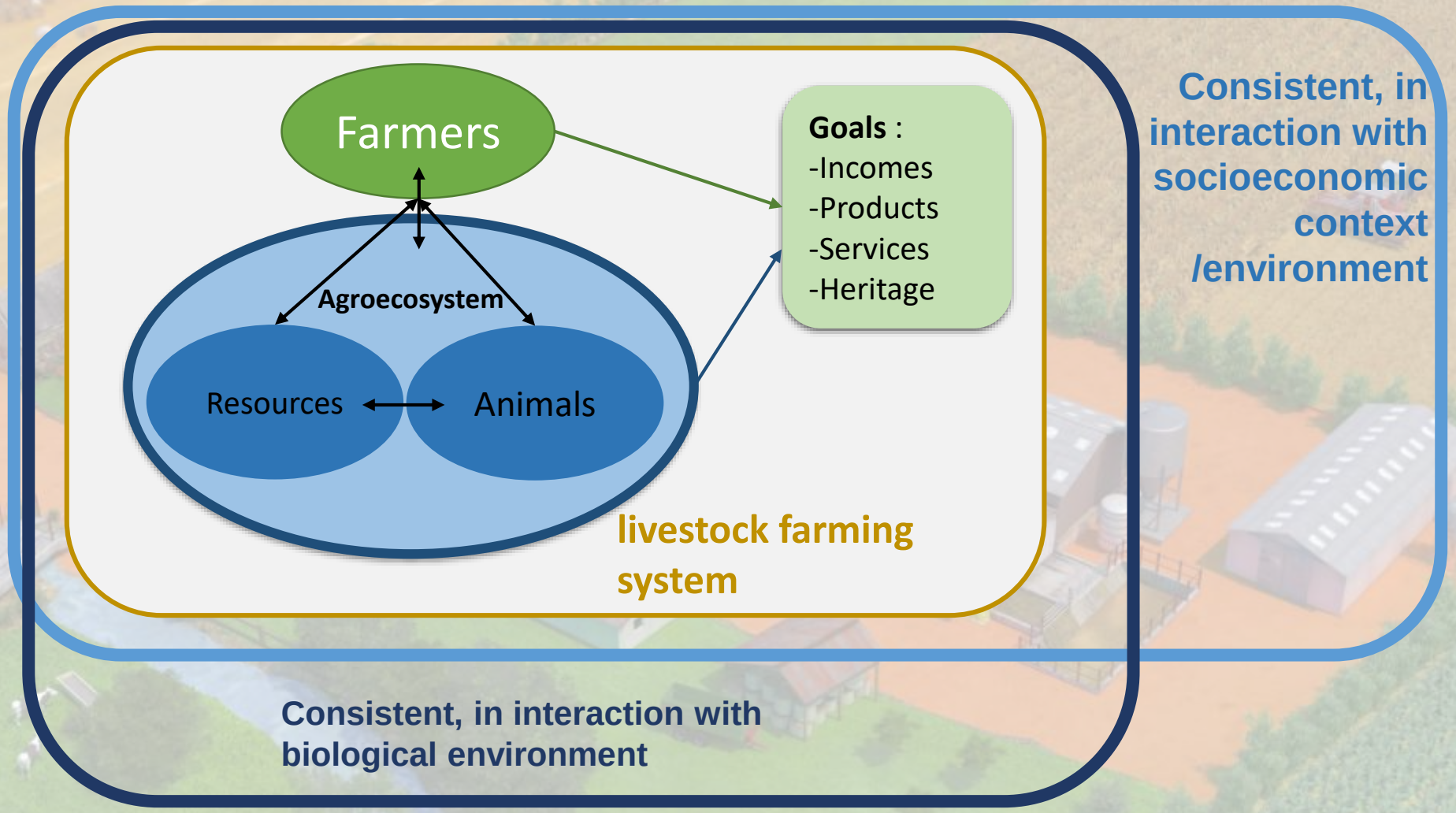
Employment

Social structure / social life

Economical activity

Livestock Farming Systems : agroecosystems that are steered, with goals and located

Landais 1992; Wezel et al. 2009; Stassart et al. 2012



How to analyze the farm functioning?

Highlighting on strategic choices and their determinants

Socio-economic context

→ Type of supply chain (short, long, coop, industrials, milk factories…)
→ Market opportunities
→ Policy and environmental regulations
→ Job market

Farm characteristics

→ Size (surface, nb of dairy cows, milk production…)
→ Type of products (specialized, diversified)
→ Geographic, soil and climate constraints
→ Workforce (number of workers)
→ Farmers and their families (motivation, values)

Under evolutions

Strategic choices

- Medium-term orientations of the main productions of the farm
- Level of intensification
- Labour (organisation, workforce, partnership, employees or automatisation)
- Equipment (owned or shared)
- Financing (self-financing, debts)
- Target income

Farm management (livestock/ crops)

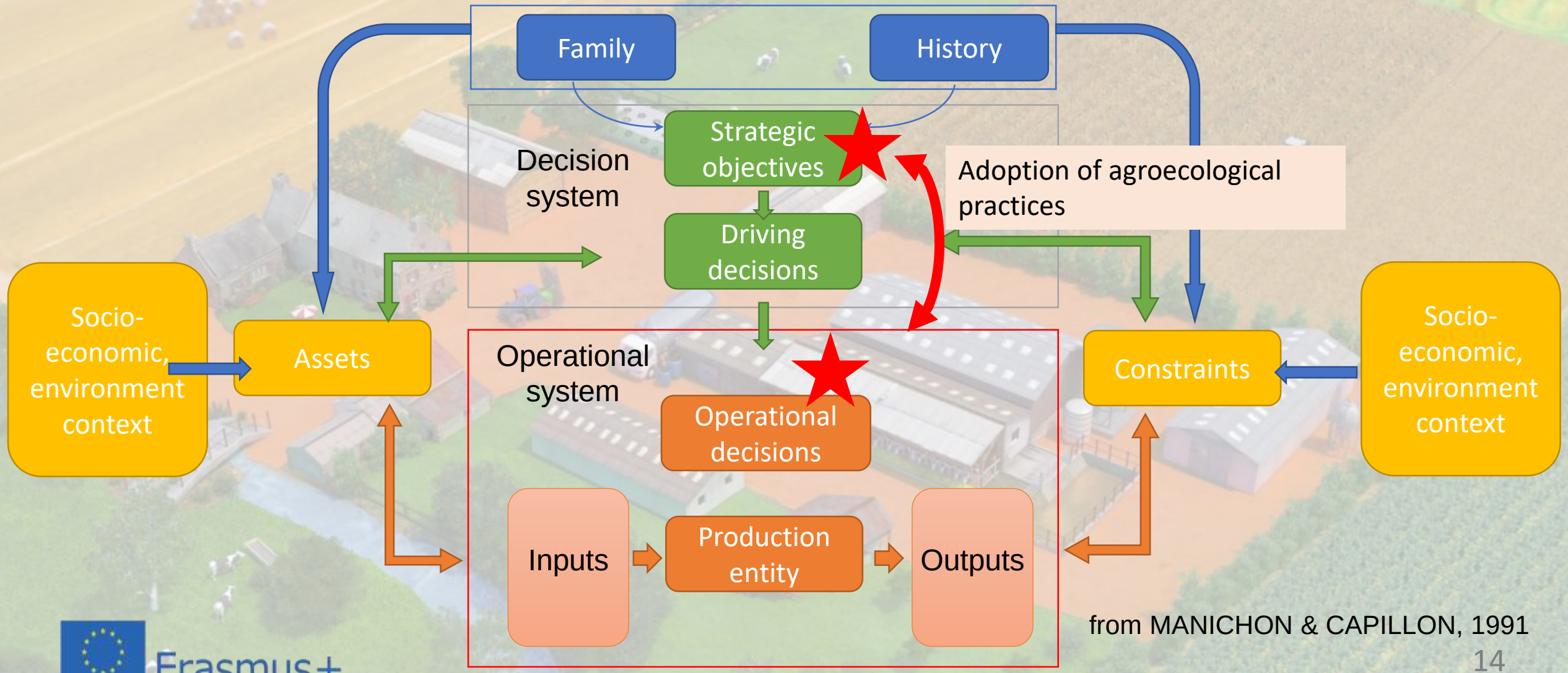
Practice choices

- Input use intensity
- Level of operating costs
- machinary use
- …

Farm outputs

- Yield (quantity, quality)
- Environmental impacts
- (internal) social impacts (farmer's income, quality of life, …)
- (external) social impacts (employment, social relations…)

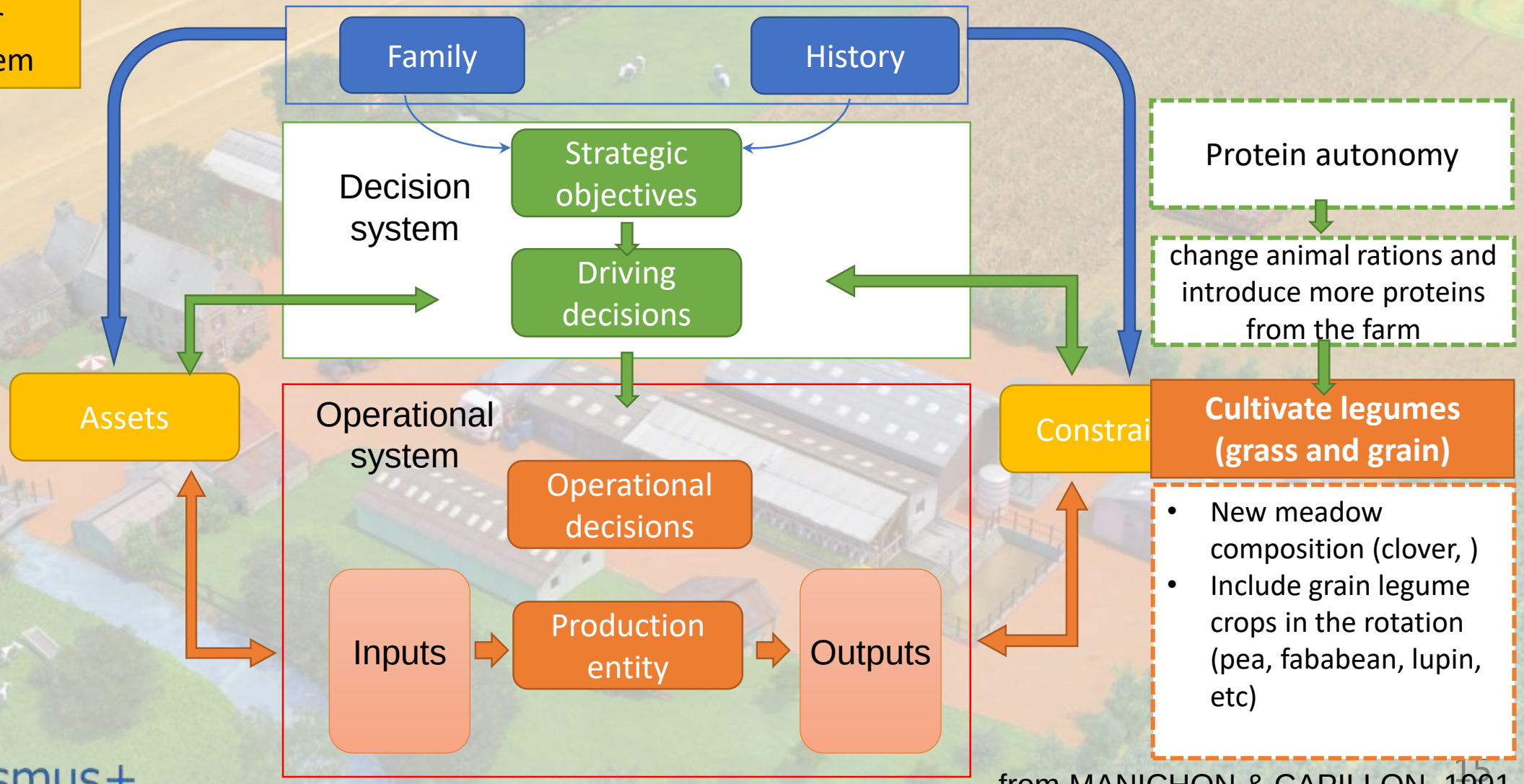
Global representation of farm functioning



from MANICHON & CAPILLON, 1991

Global representation of farm functioning

Example for cropping system



Protein autonomy

change animal rations and introduce more proteins from the farm

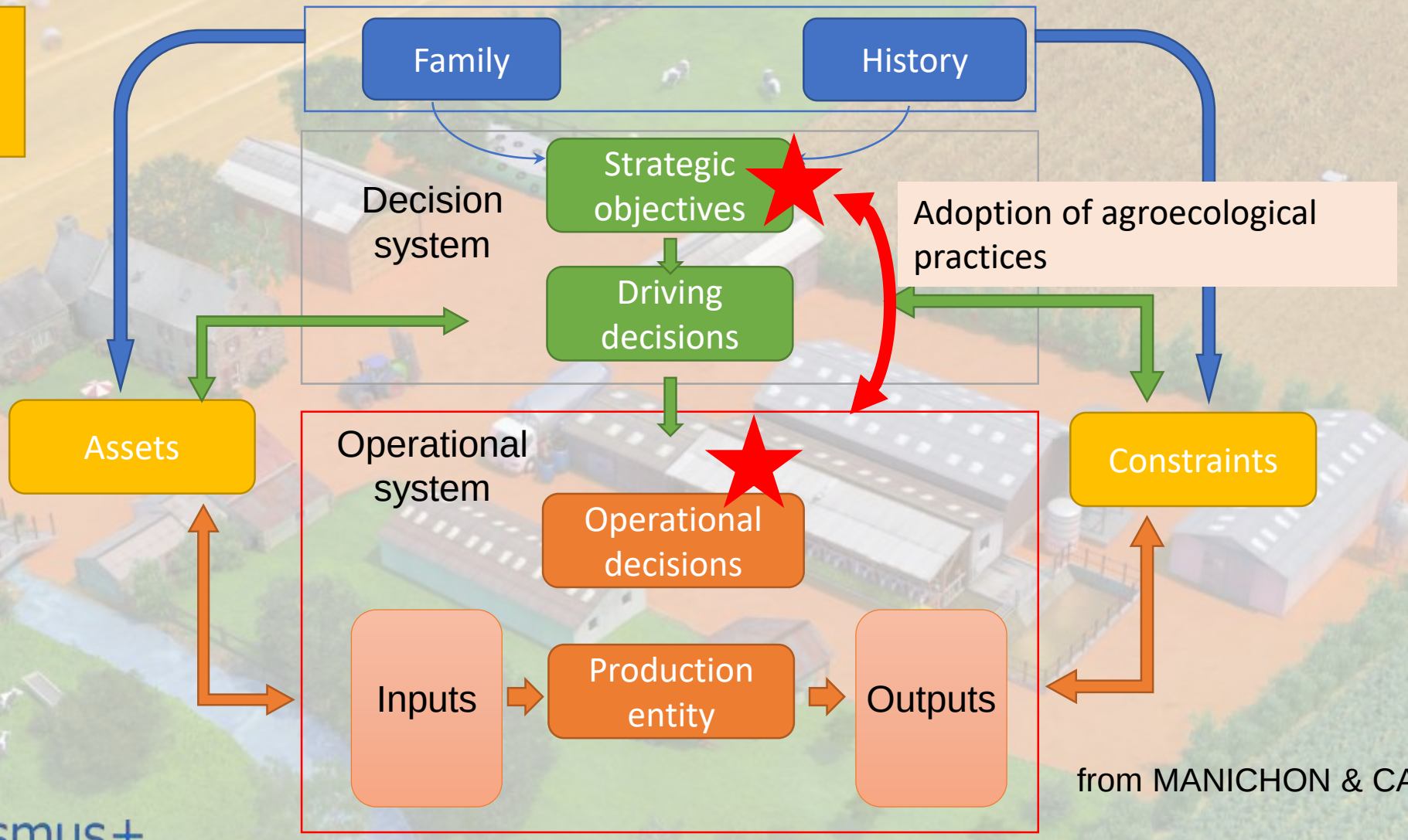
Cultivate legumes (grass and grain)

- New meadow composition (clover,)
- Include grain legume crops in the rotation (pea, fababean, lupin, etc)

from MANICHON & CAPILLON, 1991

Global representation of farm functioning

Example for livestock system



from MANICHON & CAPILLON, 1991

The preparation of the farm visit

- You have to work by small groups on what information to collect on the farm
  - Please try to regroup by 4 students and mix your origins
  - 30 min to do that

- Let’s debrief together

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The preparation of the farm visit

General information on farming system:

- **General characteristics of the farm**
  - Productions (main goods)
  - Surfaces
  - Livestock

- **the workforce of the farm**
  - Number of workers? Family? Associates? Salaries? Full/ part-time
  - Typical day to describe work organization
  - Periods of overload work duration
  - Age, educational background

- **General constraints or assets affecting the farming system:**
  - Linked to workforce (childcare, extra-activities, …)?
  - Relationships with local socio-economical context (neighbourhood)
  - Strategy and main objectives of production for the farmers
  - CAP subsides – second pillar CAP subsidies, and/or other government/regional helps
  - Pedoclimatic context

- **Evolution of the farming system**
  - History of the family/the farm
  - Background evolution of the farming strategies, farming system, practices over the years
  - Future evolutions for the farming systems (mid and long term)?

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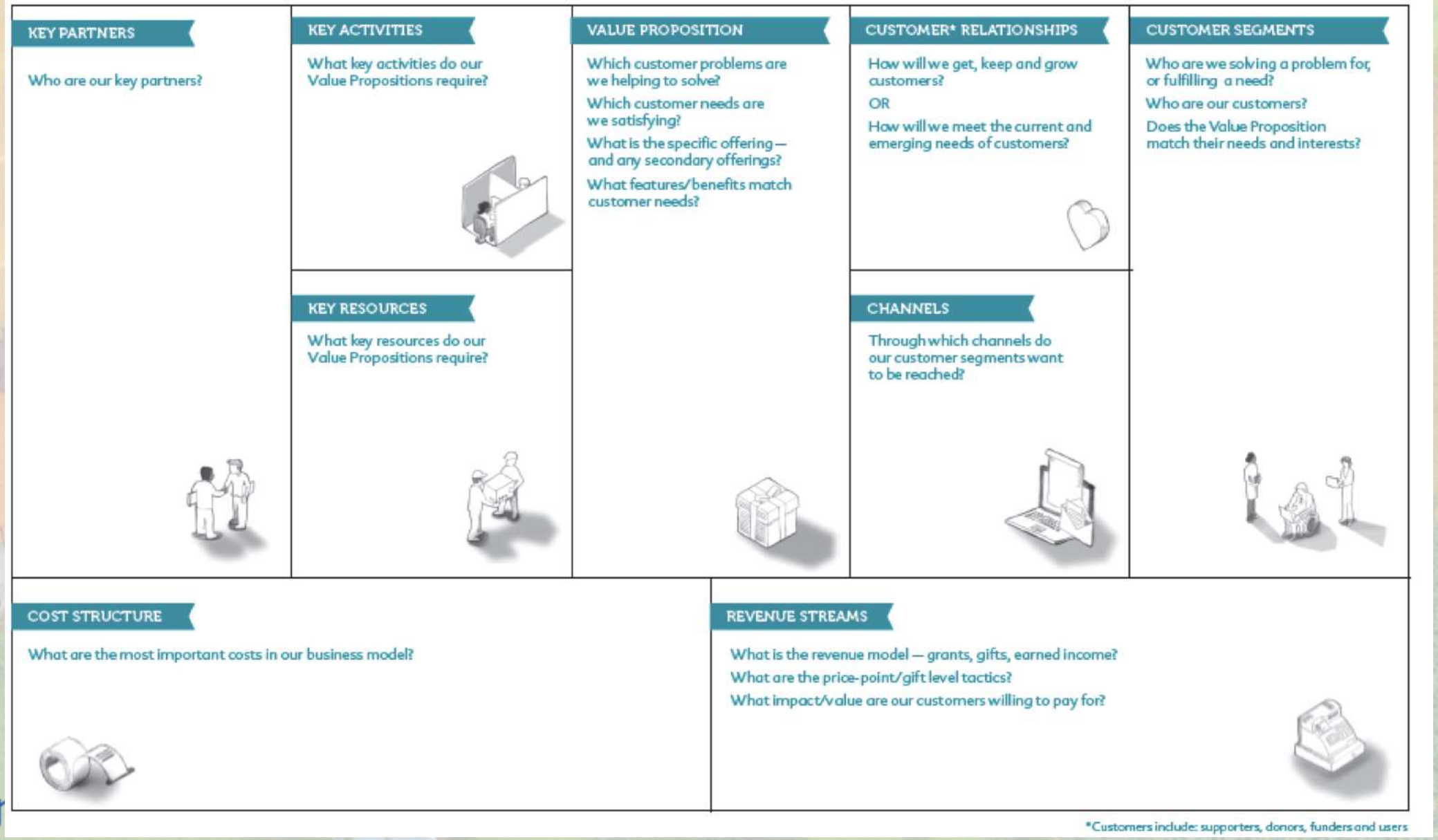
The preparation of the farm visit



The preparation of the farm visit

Description of the implemented practices of the farming system

Just to remind you there is many possible practices, it's just examples:

- Diversity of animals and crops practices, biodiversity practices
- Main crop and animal inputs
- Choice of crop and animal genetic resource (species, cultivar, …)
- Integrated health management practices (pest management, animal health and welfare care)
- Fertilization management
- Energy and water management
- Soil management

+ Pick one implemented agro ecological practice and try to find out why the farmer chose to applied it, what was the consequences on the farming system

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