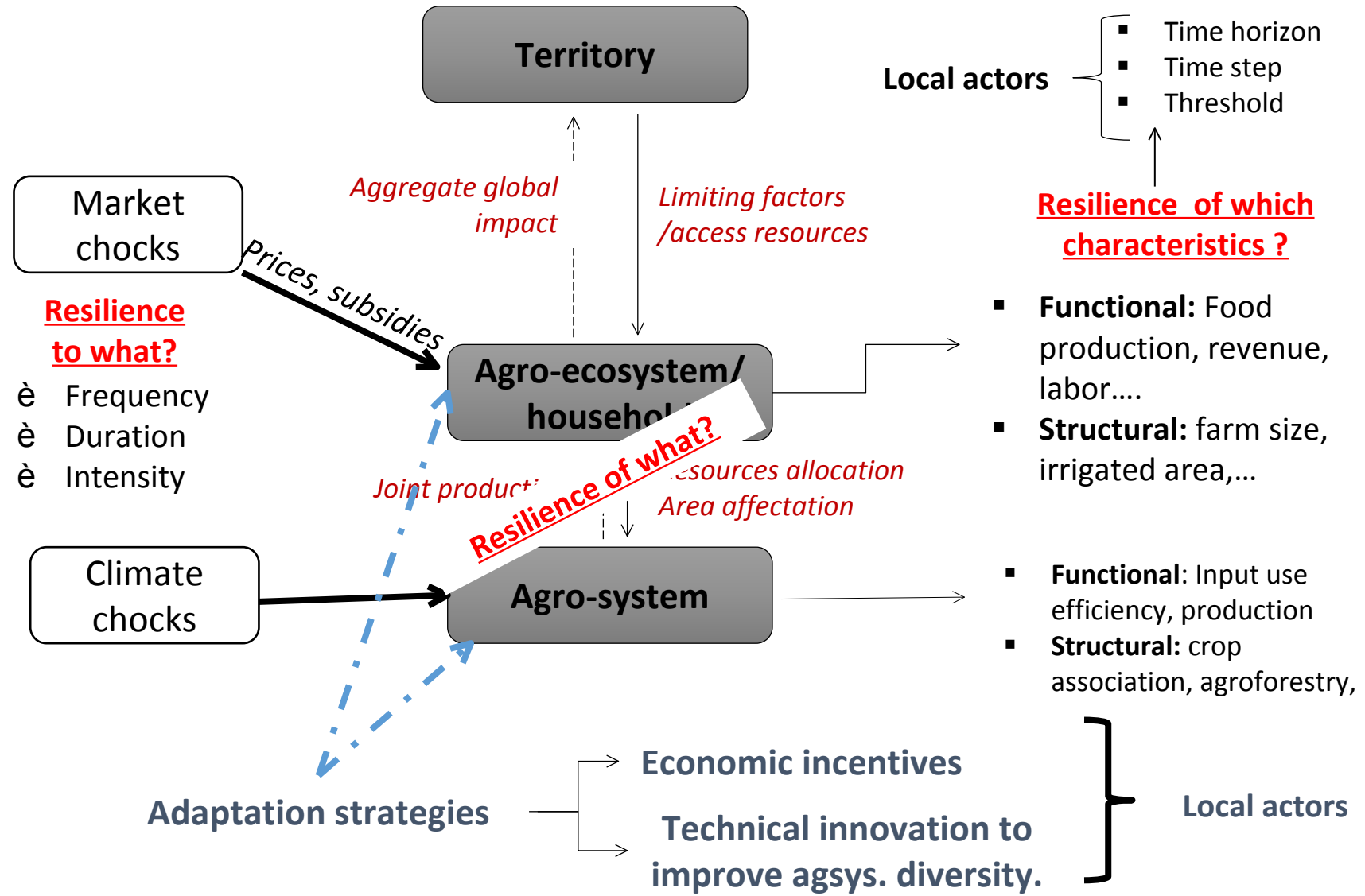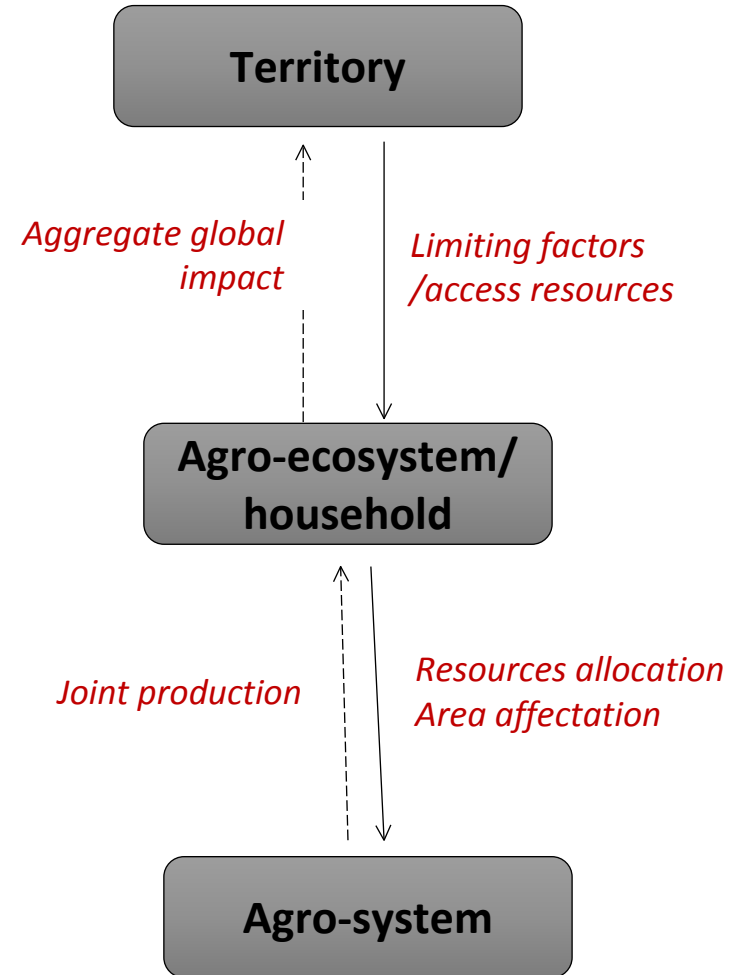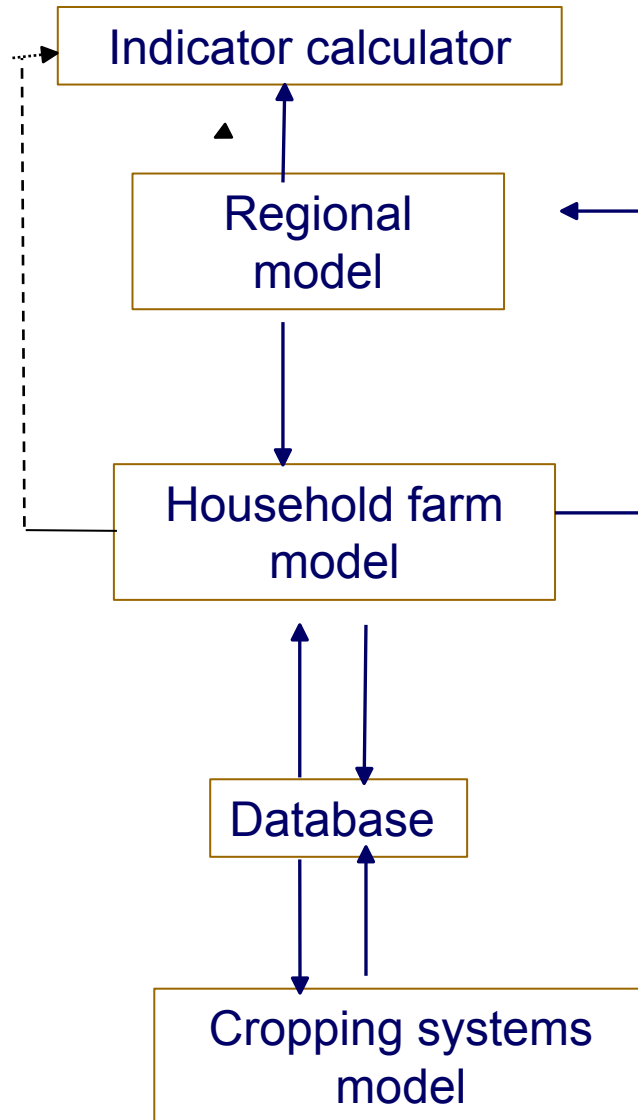# Methodological challenges for designing resilient household farming systems in dryland areas
-forecasted trajectories, risks and provision of ecosystem services-
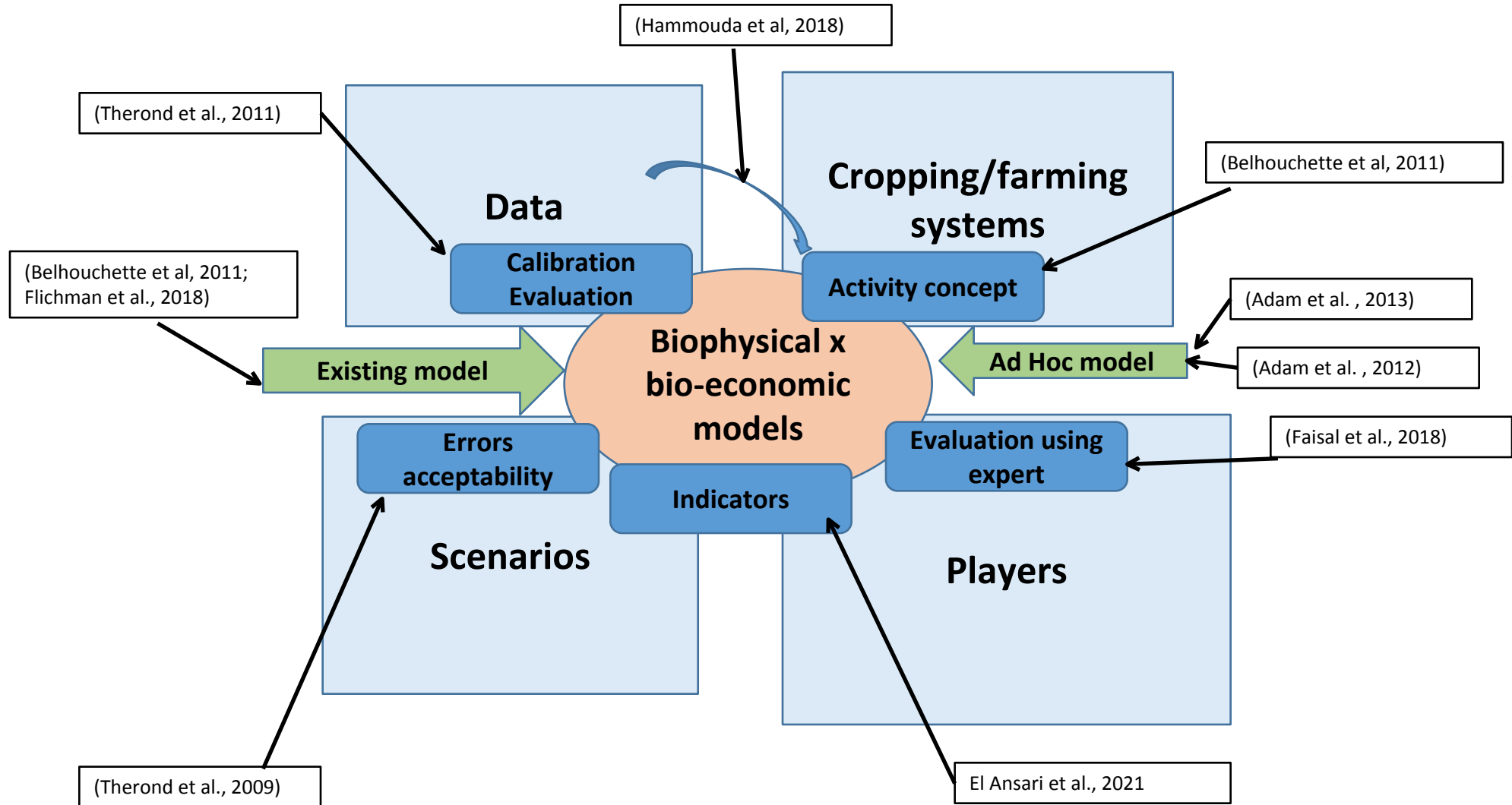
H. Belhouchette, G. Kleftodimos

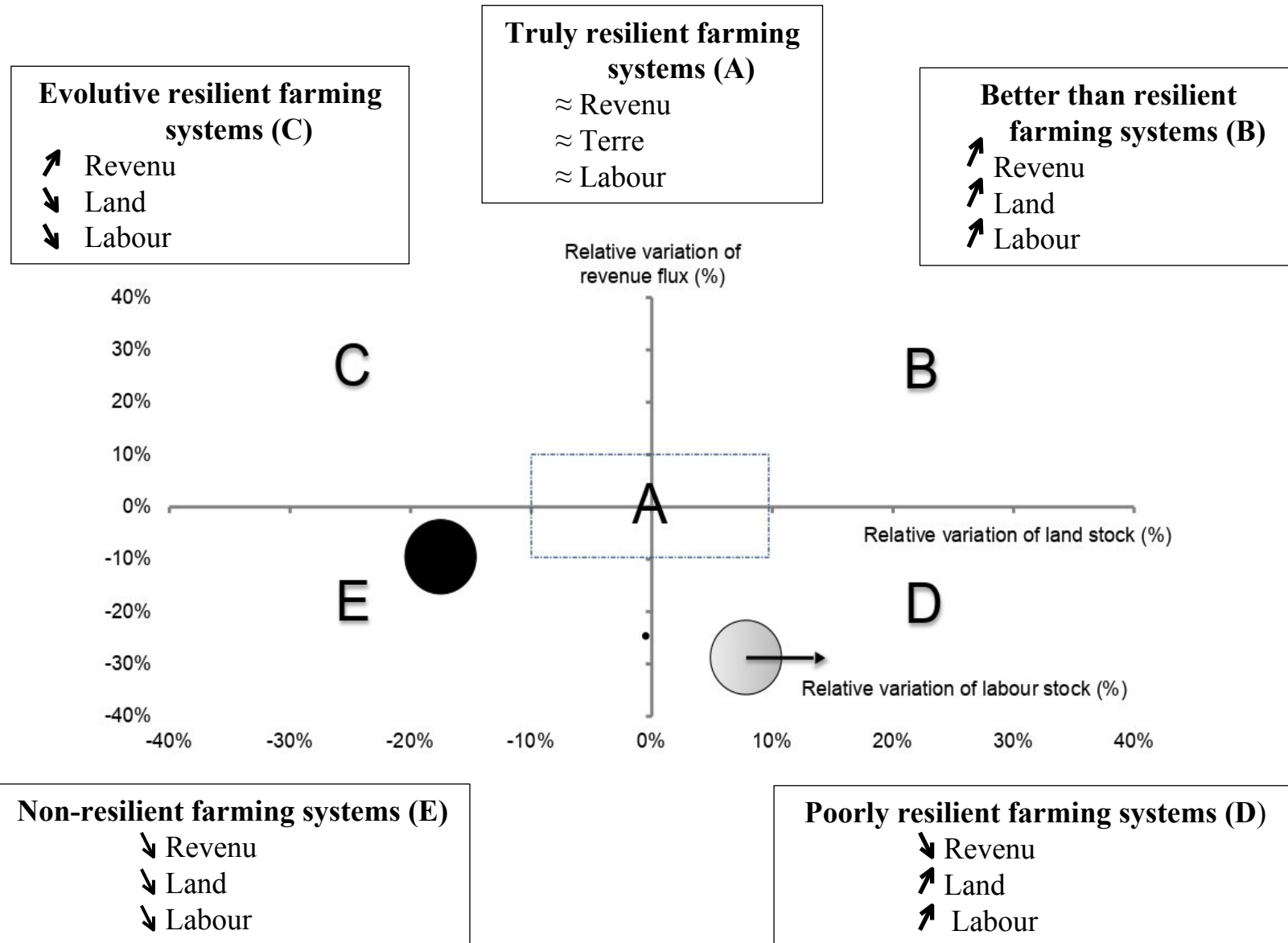# « Resilience framework » to test the diversity-Resilience hypotheses.

Modelling chain for Resilience analyis

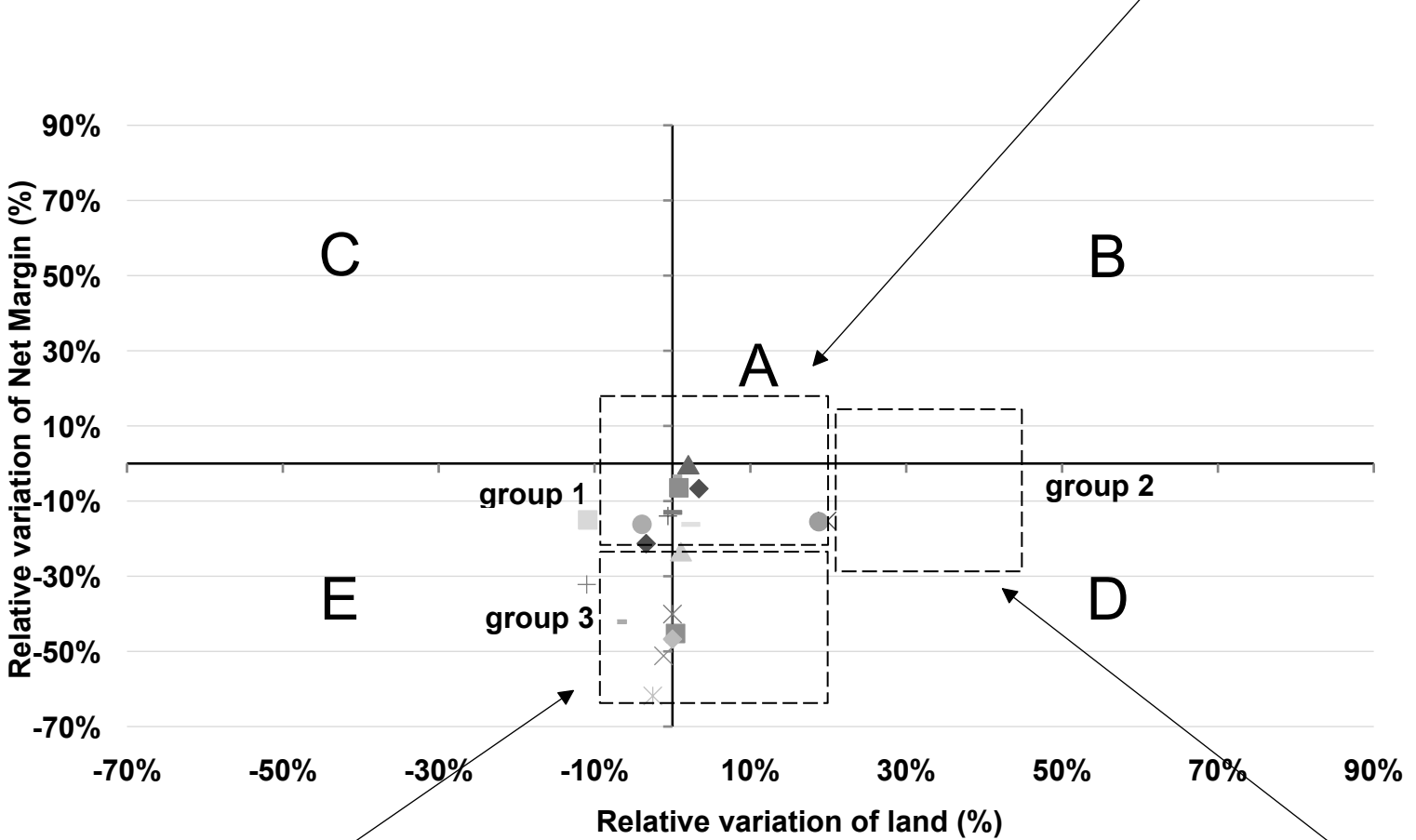# Determinants for model and data selection and evaluation

Resilience anlysis framework

Truly resilient farming systems (A)
≈ Revenu
≈ Terre
≈ Labour

Evolutive resilient farming systems (C)
↗ Revenu
↘ Land
↘ Labour

Better than resilient farming systems (B)
↗ Revenu
↗ Land
↗ Labour

Non-resilient farming systems (E)
↘ Revenu
↘ Land
↘ Labour

Poorly resilient farming systems (D)
↘ Revenu
↗ Land
↗ Labour

Relative variation of revenue flux (%)

Relative variation of land stock (%)

Relative variation of labour stock (%)
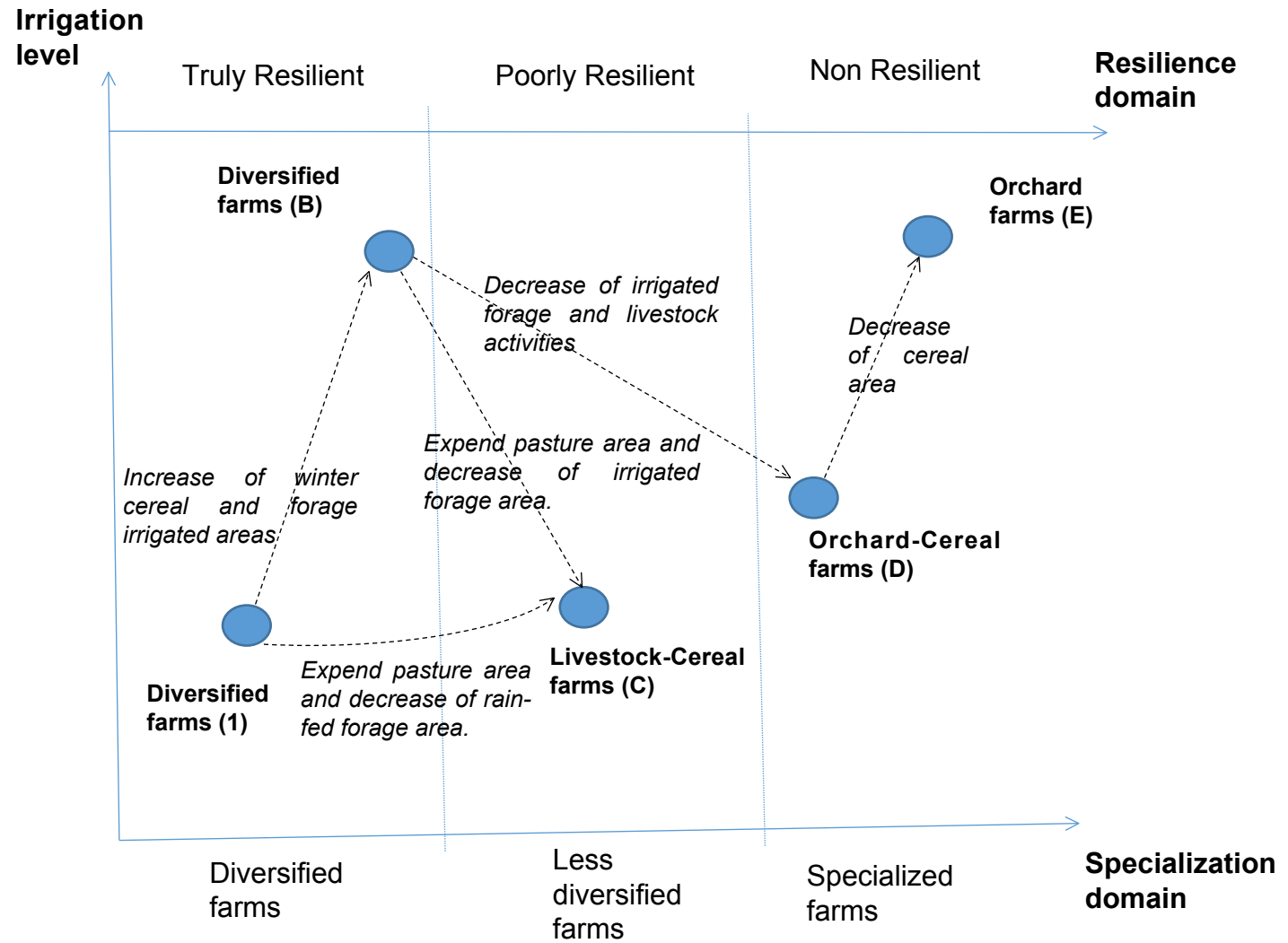
Example of results: Cereal based-production area

Truly resilient farming systems (A)
Diversified annual crops and livestock –
small perennial trees

Non-resilient farming systems (E)
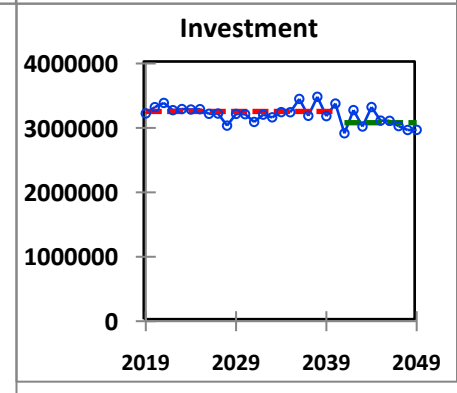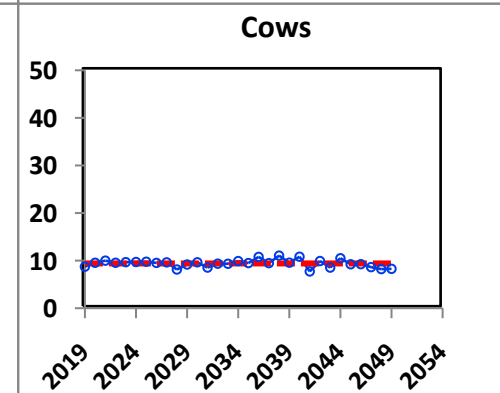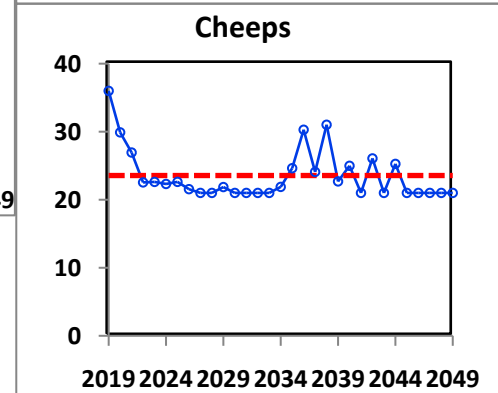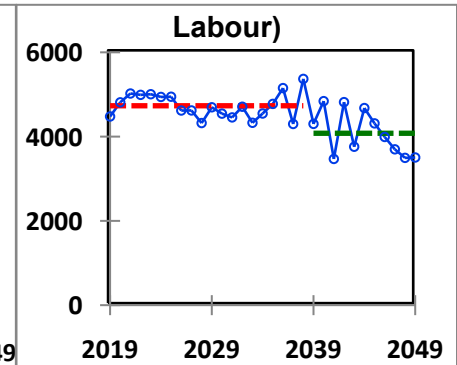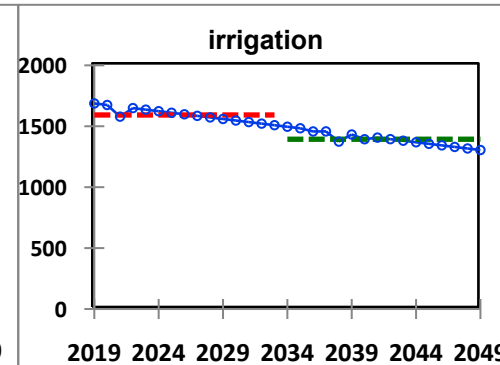Orchards or orchards and
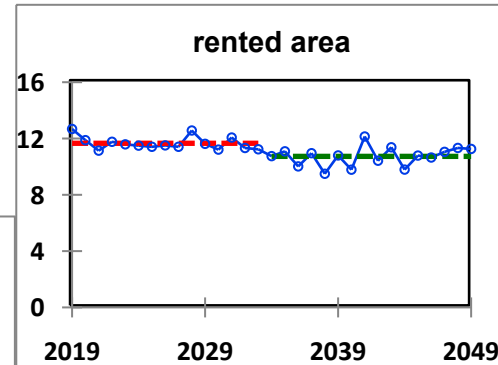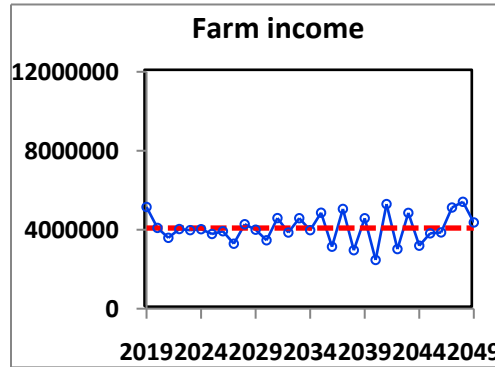rain-fed cereals

Poorly resilient farming systems (D)
Less mixed farming systems

Resilience of the dominant farming systems in the South Mediterranean area, by considering both their structure, their dominant activities irrigation levels, and their potential trajectories under climate change

Souissi et al., 2018

(Chenoune et al. 2022)

Design of Resilient Farming Systems

Irrigated mixed farms (including Bovine and ovine livestock)

Cereal/fallow farms (only ovine livestock)