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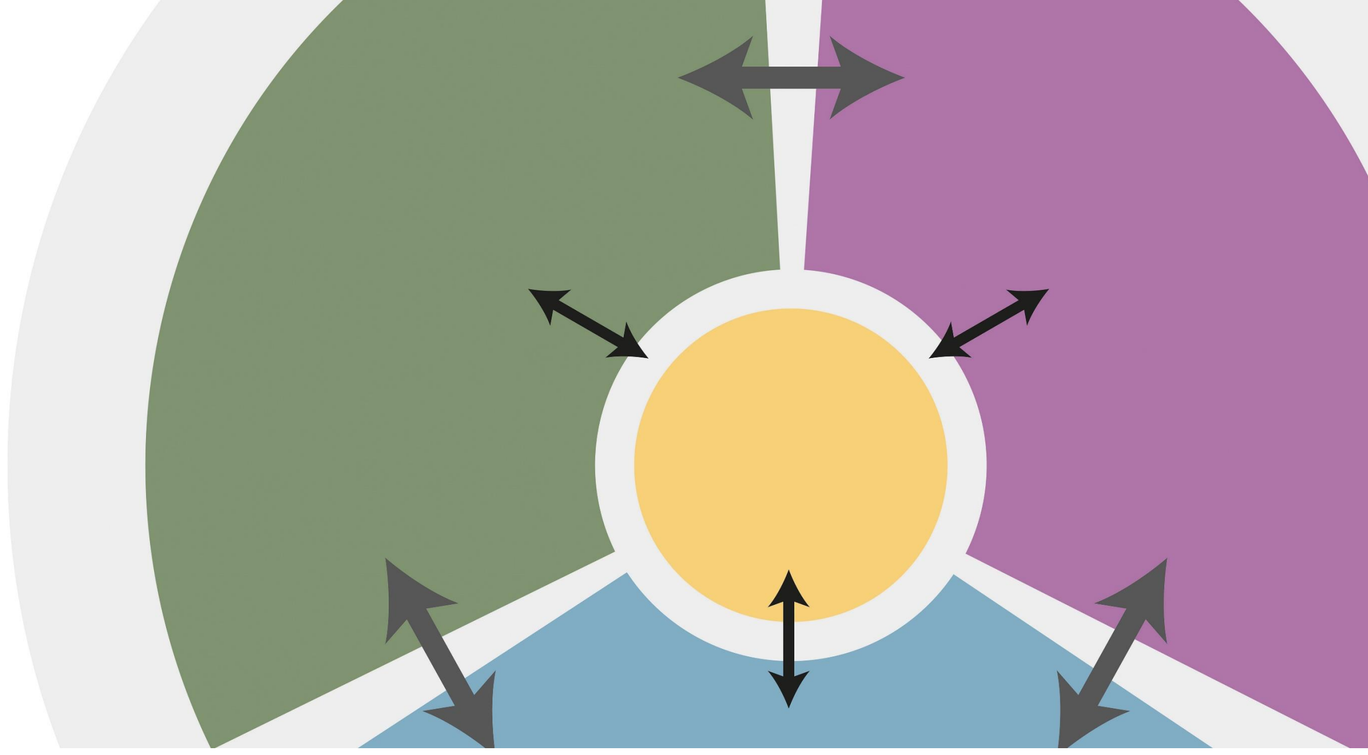


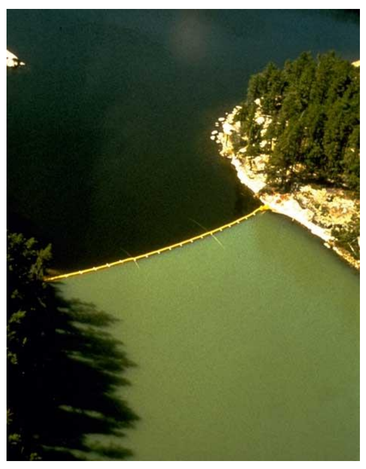
Regime shifts and human behavior in agricultural systems

B1. Human activities

Motivation & Innovation

- Undesirable regime shifts are often at least partly driven by agricultural land-use decisions (fig. 1)
- Understanding farmer behavior in the face of regime shifts is key to initiate adequate governance responses
- It is unknown if and how risk-experienced farmers perceive regime shifts and emanating systemic risks, and how their land-use decisions are affected by these perceptions, their beliefs, preferences and indications of warning signals
- When proposing governance responses, consider diverse policy tools regulating (e.g., European) farmer behavior, each varying in suitability for addressing shifts in farming regimes

(a)

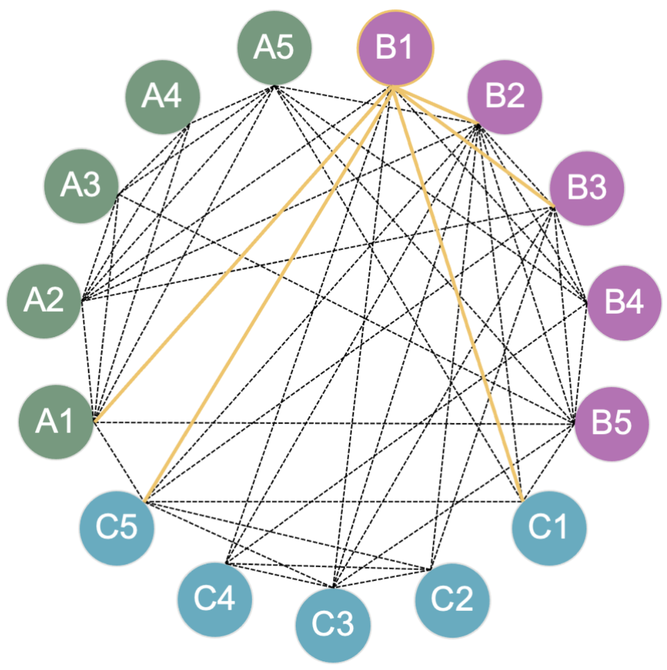


(b)

(c)

Figure 1. Regime shifts in agricultural systems which are at least partly driven by human land-use decisions: (a) Freshwater eutrophication, (b) peatland transitions, (c) soil salinization. Source: Regime Shifts Database, regimeshifts.org.

Linkages



- Exchange on farmer typologies with A1 and C5
- Exchange on perceptions with B2
- Exchange on policy instruments with B3 and C1

Objectives

- PhD 1 will assess farmers' perceptions of regime shifts and their impact on farmer behavior. It will:
  - Identify relevant cases from the literature
  - Empirically elicit farmers' knowledge and perceptions of regime shifts and their implications for farmer behavior
  - Link results to the literatures on farmer identity and farmer typologies
  - Empirically test strategies to change perceptions of regime shifts
- PhD 2 will evaluate policy instruments for their suitability in addressing agricultural sector challenges related to tipping points. PhD 2 will:
  - Theoretically assess the available range of policy instruments in terms of their suitability to regulate farmer behavior in the face of regime shifts
  - Empirically evaluate a subset of these policy instruments, taking into account the role of policy design, farm and farmer characteristics
  - Use results to formulate policy recommendations

Scientific Design

- The project uses a mixed-methods approach combining qualitative and quantitative research methods
- Both PhDs carry out systematic literature reviews
- PhD 1 conducts in-depth semi-structured interviews with farmers and analyses the data with qualitative content analysis
- Both PhDs implement economic lab (PhD 1) or lab-in-the-field (PhD 2) experiments with students (PhD 1) or farmers (PhD 2)

Principal Investigator

Dr. Fabian Thomas

- Behavioral agricultural economics
- Agricultural policy evaluation
- Science for policy

References

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