

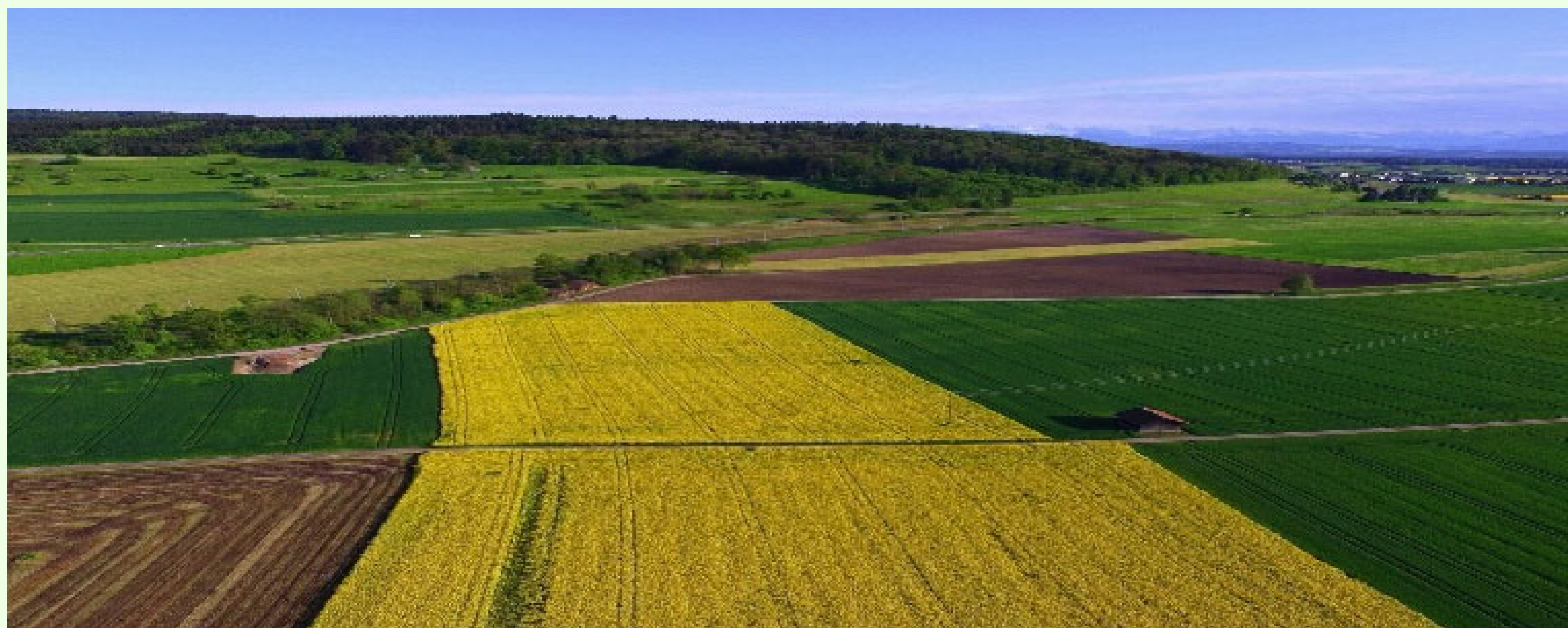
DESIGNING TRANSITIONS: A SYSTEMIC MAPPING OF CURRENT PRACTICES OF AGRICULTURAL SYSTEMS DESIGN

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1. INTRODUCTION & BACKGROUND

- Agricultural systems face unprecedented challenges in the Anthropocene: increasing uncertainty, extreme climate events, and intertwined social-ecological crisis
- These *unknown unknowns* demand innovative approaches to design resilient agricultural systems
- Priority: the biosphere and social purpose
- (re)design of agricultural systems = involves embracing a **systemic design turn**



Source: <https://climataik.org/2022/04/01/land-use-change-and-its-role-in-agriculture/>
[Accessed 29/08/26]

2. DESIGNING FOR TRANSITIONS

- Based on a design imagination that avoids the traps of systematic and dualistic thinking
- Allowing re-engagement with the complexity of the living world
- Recognizing human-biosphere interconnectedness
- Reframing **agricultural systems as human-activity systems** through which human-biosphere relations are enacted and transformed

3. RESEARCH OBJECTIVES

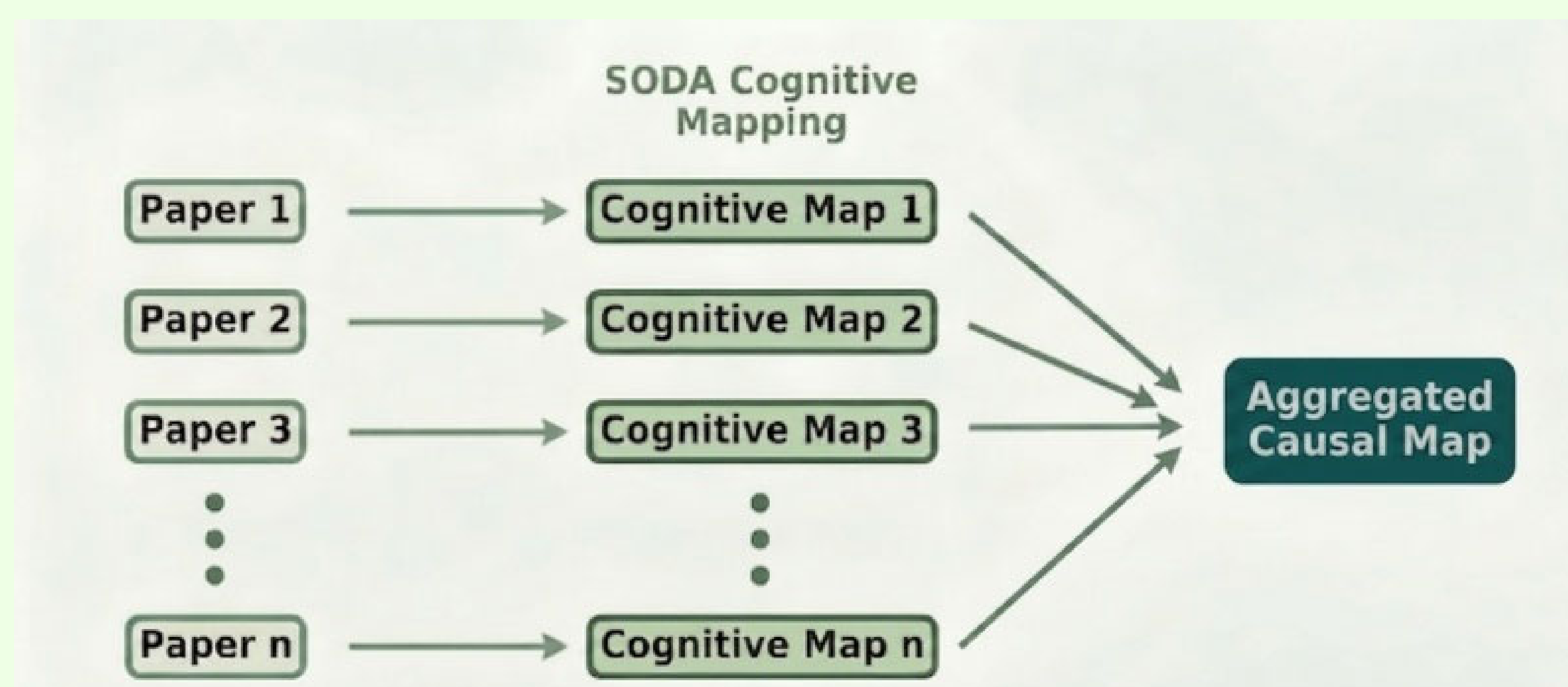
To identify recurrent and structurally prominent concepts and practices of agricultural systems design

Broader objective: to outline a toolkit for systemic design of agricultural systems

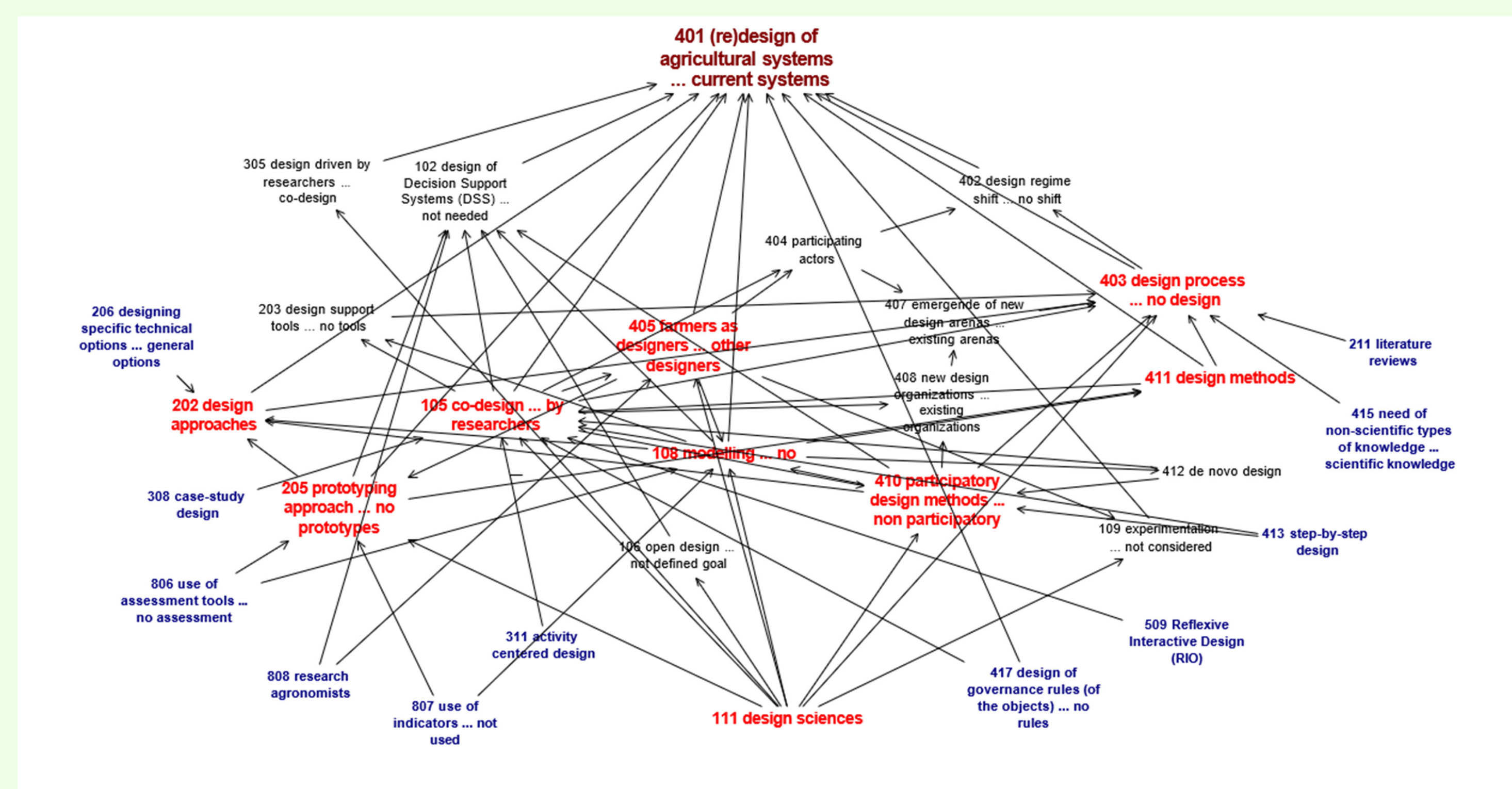
Innovative transitions in agricultural systems design cannot rely on isolated practices; they require systemically integrated approaches

4. METHODOLOGY: SODA MAPPING

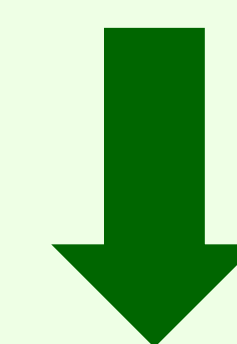
- Adoption of the Strategic Options Development and Analysis (SODA) approach
- Cognitive mapping of key papers (=9) in agricultural systems design
- Causal map analysis with Decision Explorer



5. KEY RESULTS & CAUSAL MAP INSIGHTS



SODA causal map of agricultural systems design developed by the aggregation of nine cognitive maps



From the Causal Map Analysis:

Key features with **high systemic influence on agricultural systems design**:

- Co-design methods
- Modelling
- Farmer participation