

How sensitive are decisions and behavior to climate change knowledge and impacts studies?

Qualitative Interview Findings from Regional Governance Networks

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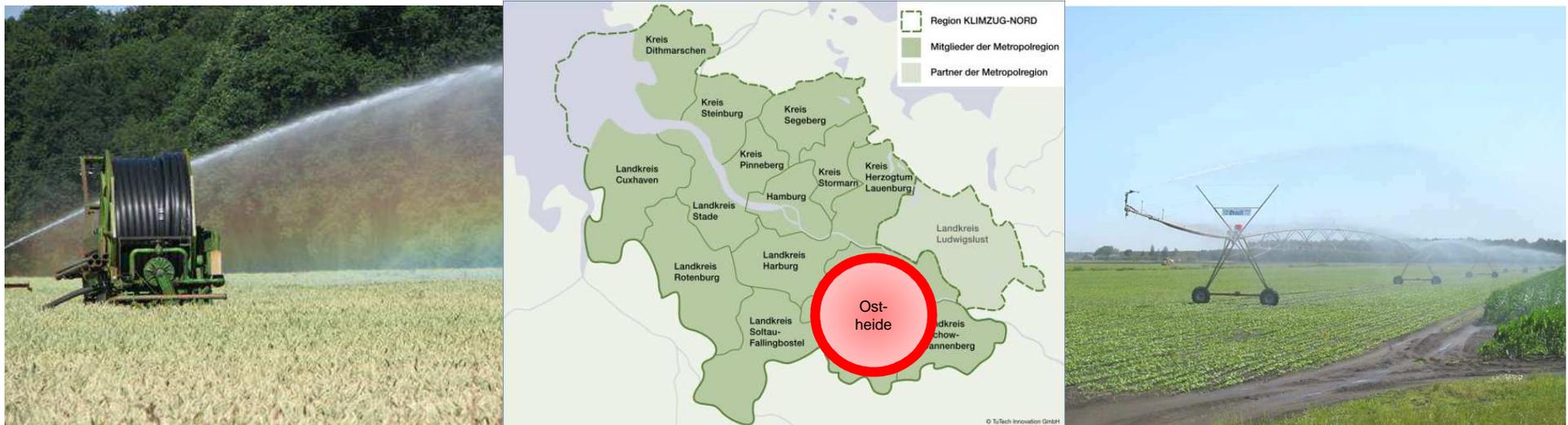
Strategies to adapt to climate change in the metropolitan region of Hamburg

- 4,3 Mio. People
- 14 Districts
- 3 Federal States
(Bundesländer)



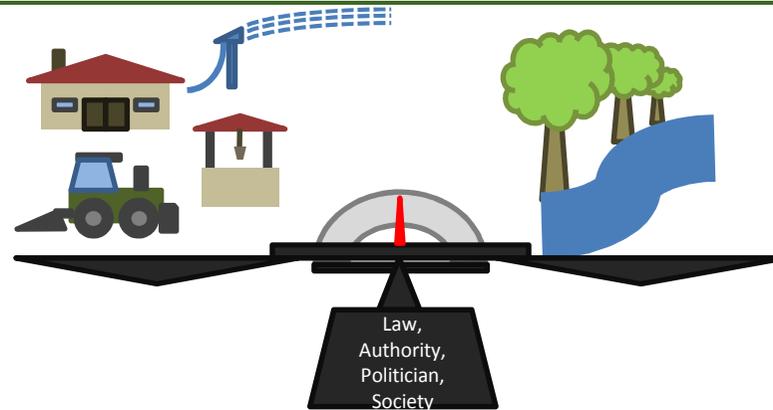
Our work package: Regional Climate Adaptation Governance; stakeholder workshops
 One case study: Ostheide: Cooperation Network Groundwater
 irrigation farmer, water authority, environmentalists, problem solving

- Region is characterised by:
 - low income
 - importance of agriculture
 - light soils, few rainfall, high level of irrigation technology
- Problem:
 - use of groundwater for irrigation might cause biodiversity losses
 - due to climate change fewer rainfall in the summer

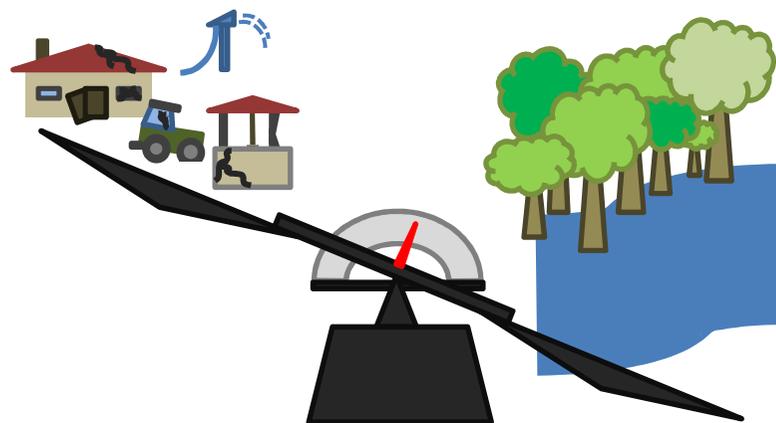


- qualitative or interpretative social science, Discourse Analysis
- Conflict-orientated Cooperative Understanding (social learning)
- Semi-guided qualitative interviews (n=41, text corpus: 120,000 words)
- Social Network Analysis
- Five stakeholder groups:
 - district water authority,
 - regional planning,
 - ‘nature’ (authorities and activists),
 - irrigation farmer
 - special administrative authority (regional and district level)
- Objectives was capacity building
 - knowledge brokering and learning (e.g. how to deal with uncertainties)
 - problem perceptions
 - communication

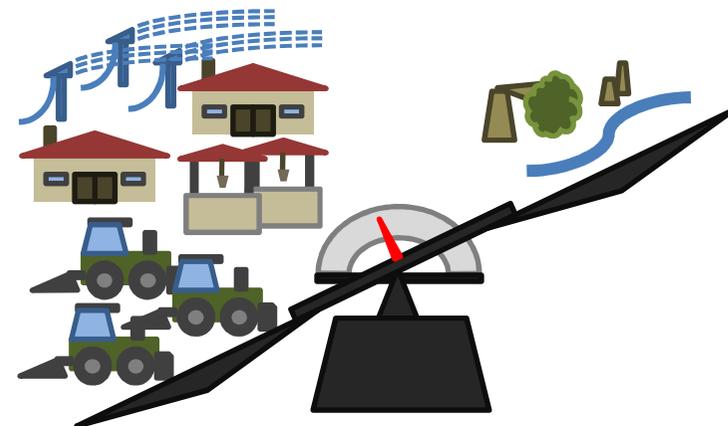
Actor's perception of problems about groundwater uptake



District Water Authority



Regional farmers' association



Environmentalists

- Knowledge about climate change is available: drivers, impacts and related uncertainties.
- Adaptation to climate change is not seen as qualitatively new.

The stakeholders struggle with

- uncertainties of ecological impacts AND
- causalities with changes in politics AND
- local budget.

→ Integrated Assessment Models with participatory elements

Uncertainties are recognised but not seen as problematic.

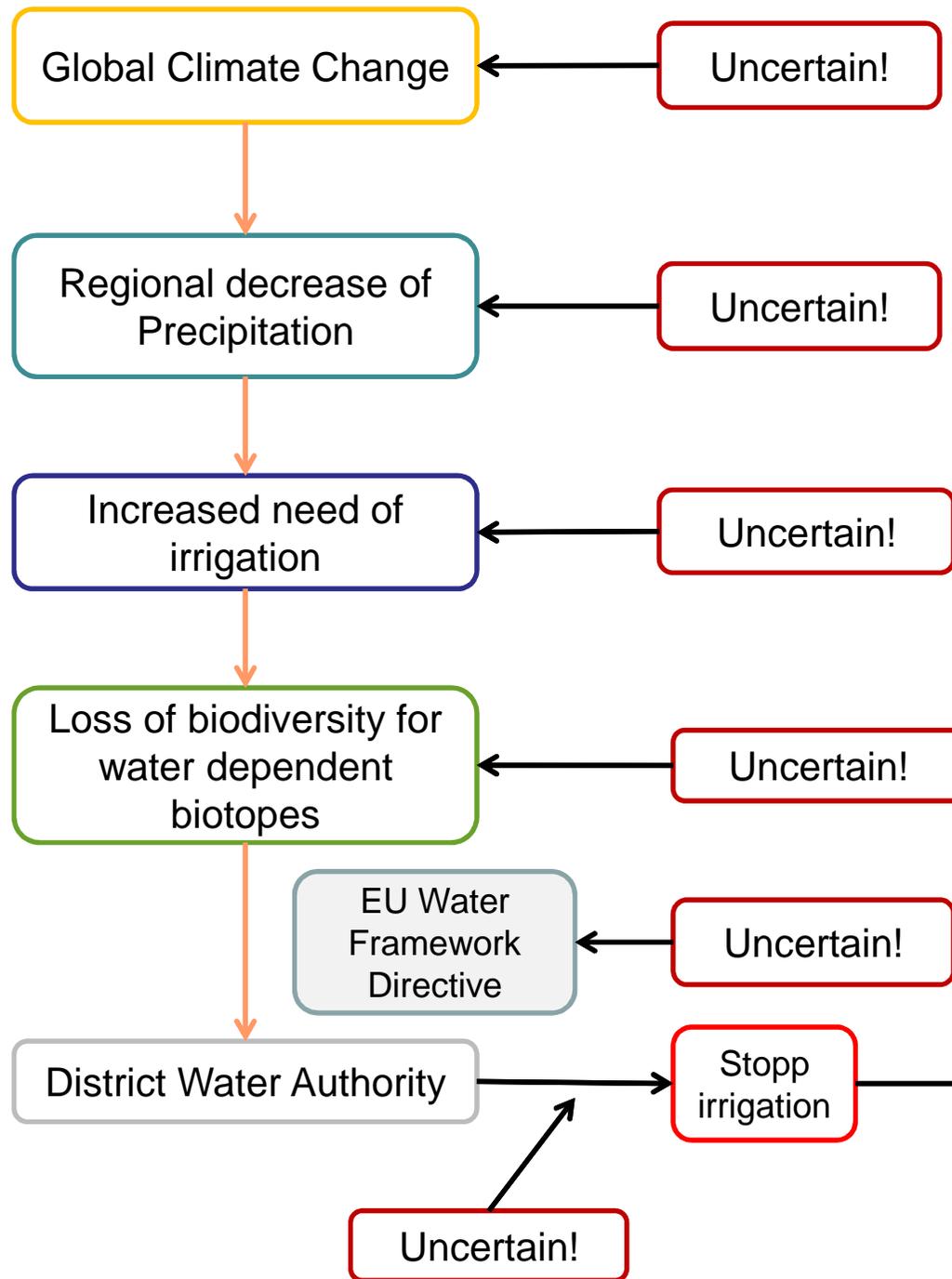
The *'Blissful'* conceptualisation of uncertainties:

Uncomfortable knowledge is refused with regard to 'blissful' uncertainties.

'As said, it is very difficult generally, when it is time [knowledge proves that the environment is harmed by irrigation], to go there and stop the sprinkler irrigation fountains' (I7-149).

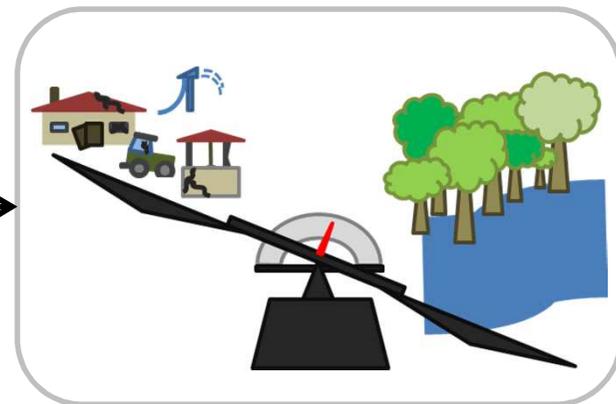
As long as the knowledge is uncertain, the authority is not forced to act in an uncomfortable way.

1. Reduce scientific uncertainty so that the knowledge forces the right action
2. Build capacity for handling conflicts and optimise modes of governance to lower these kinds of obstacles

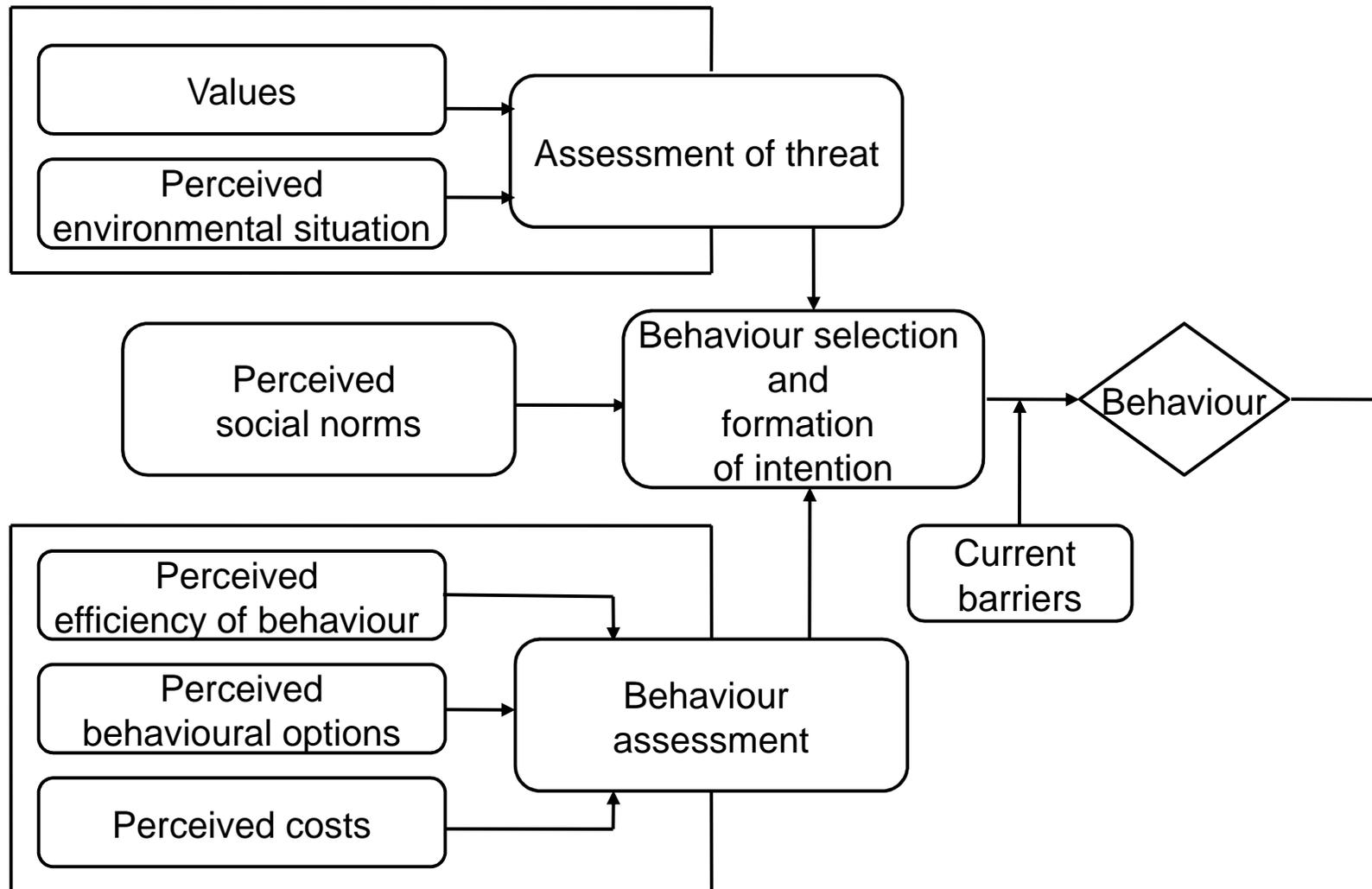


Uncomfortable knowledge is refused with regard to 'blissful' uncertainties.

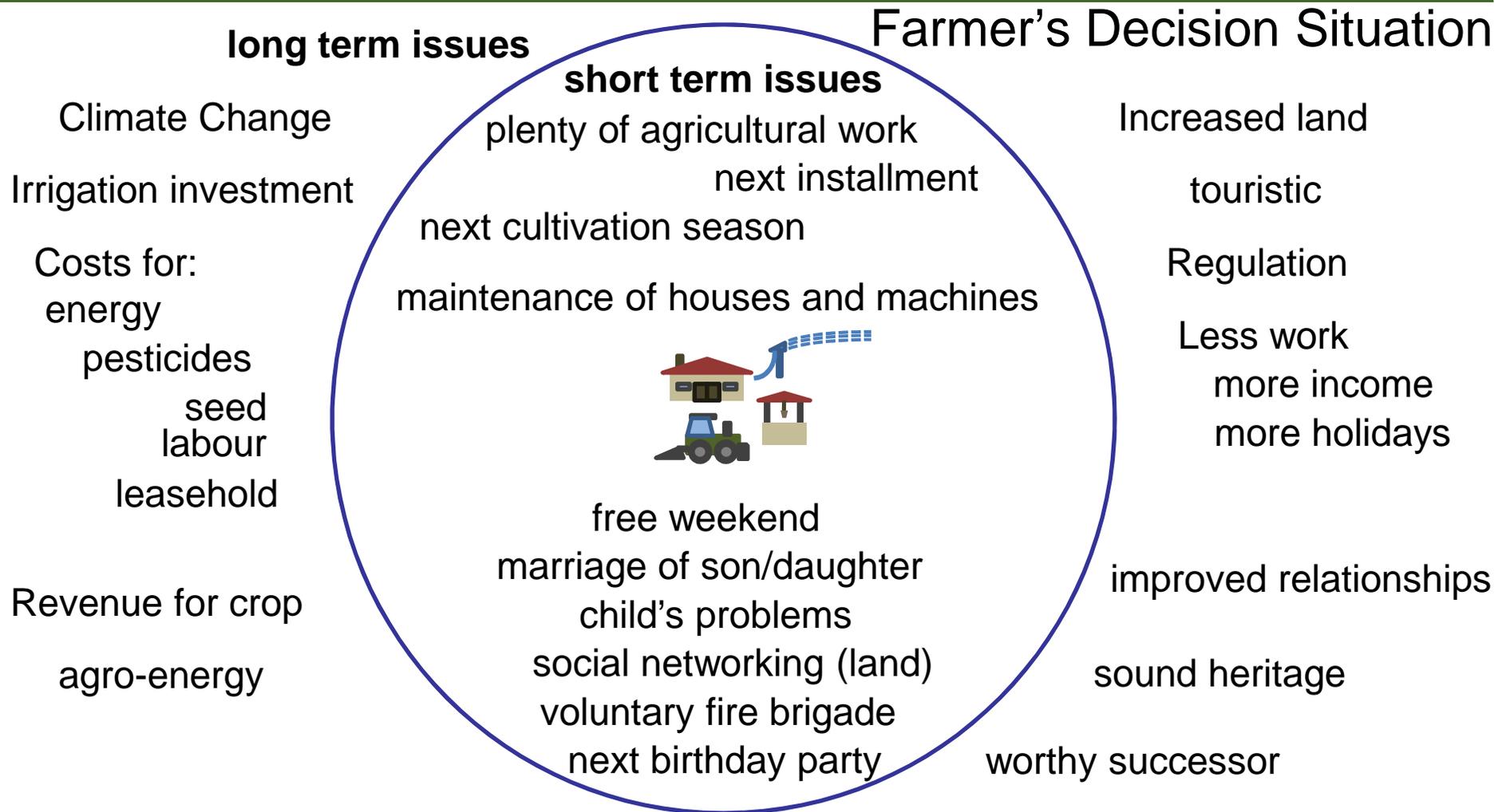
→ Capacity Building
To empower actors to handle conflicts and to deal with uncomfortable knowledge.



Protection-Motivation Theory



Selected Findings Knowledge and Behavior



Needs for decision support and policy advice:

- natural science (mode 1) → e.g. impact models AND
- **social science (mode 1) → e.g. (critical) Social Network Analysis, Discourse Analysis (decision situation) AND**
- **interdisciplinary research (mode 1) → e.g. Integrated Impact Assessment (climate, hydrology, economy, ecology) with participatory elements (mode 2) AND**
- transdisciplinary, transformative research (mode 2) → e.g. Conflict-Orientated Cooperative Understanding; Transition Studies; Reflexive Governance

Balanced in a reasonable way (research questions, practical objectives, problem situation, funding).
