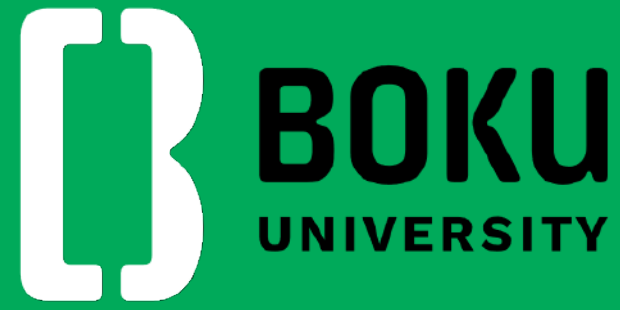




Social Ecology and Stakeholder Engagement in Socioecological Risk Analysis

IRISCC Training
24-26 June 2026, Vienna

Veronika Gaube, Nikolaos Nikolaidis, Thomas Thaler



Programme for the next 2,5 days

Wednesday, June 24th

9.00 - 13.00 Social Ecology and Stakeholder analysis

14.00 - 17.30 Risk assessment

Thursday, June 25th

9.00 - 13.00 Designing a co-creation process

14.00 - 17.30 Empirical examples of WEFE

Friday, June 26th

9.00 - 13.00 Stakeholder engagement plan

Important to consider

Some stakeholders will become more interested as the implementation progresses and they start to see that the changes will affect them.

Others will be more powerful through internal promotion or transfer

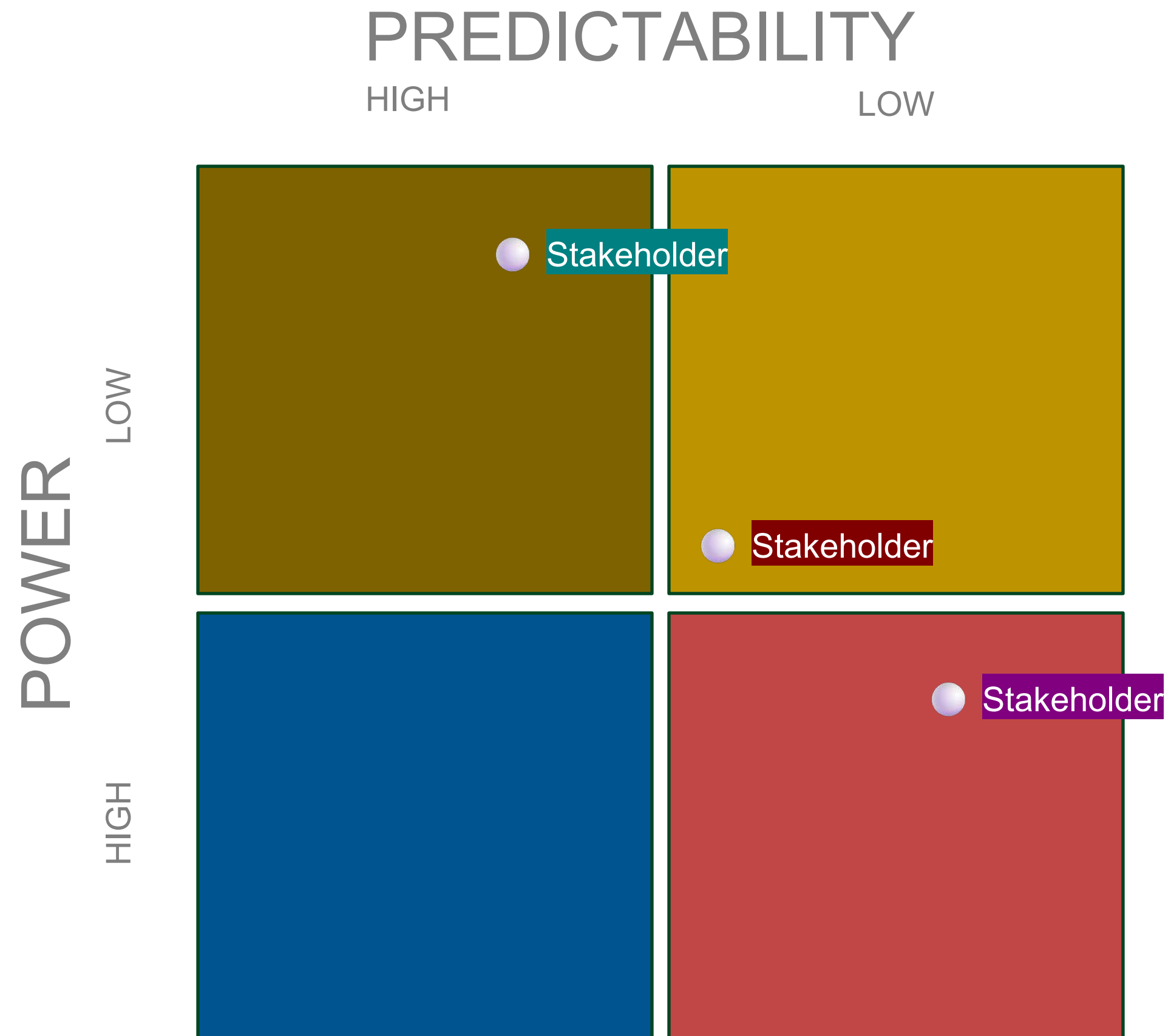
- **The analysis needs to be carried out regularly throughout the project to monitor stakeholders involvement over time**
- **You need to analyze the stakeholders throughout the whole project!!**

Other example of stakeholder categorisation

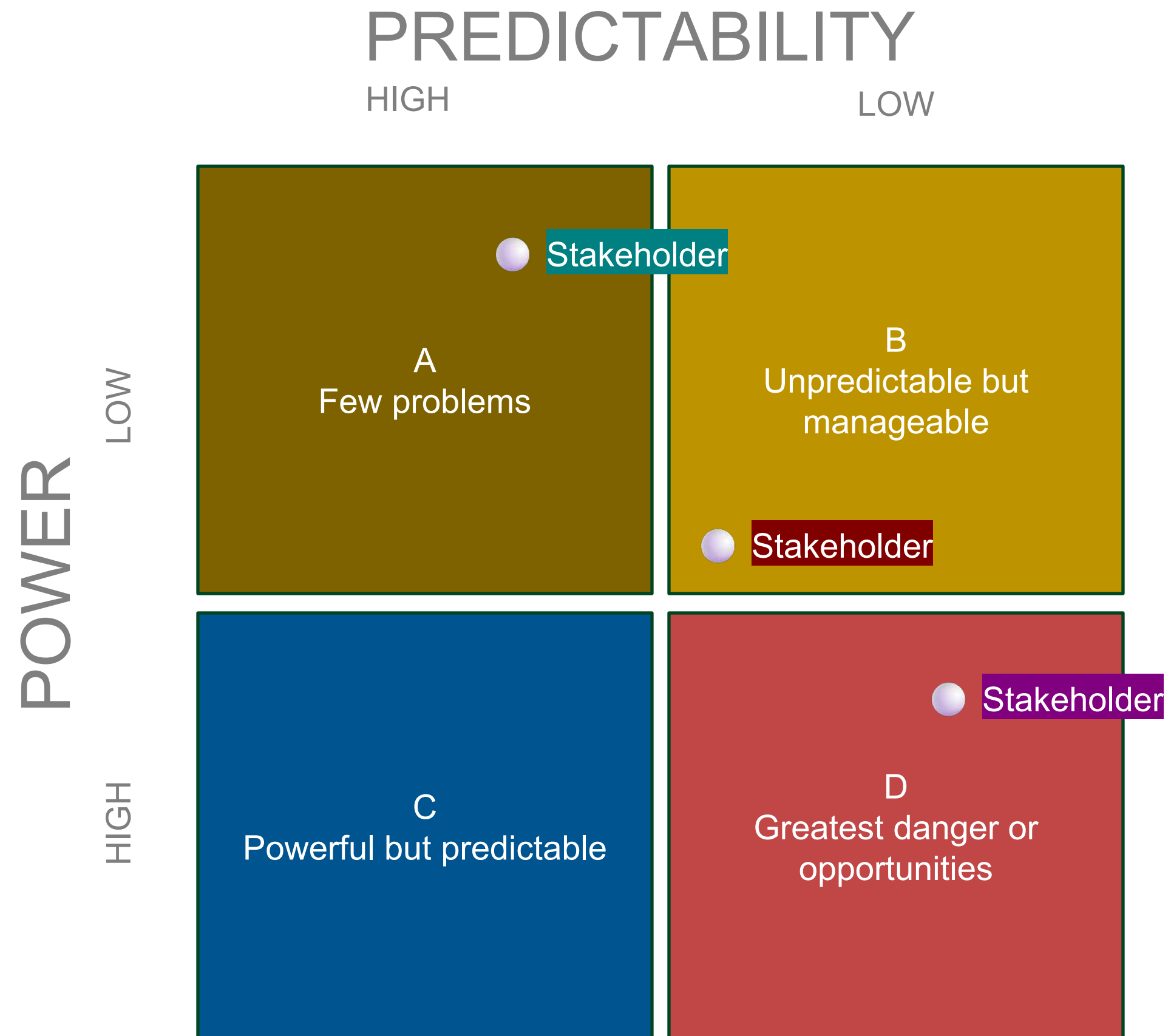
The Power-Predictability Matrix

- Plots stakeholder based on their influence and consistency of their behaviour
- Goal is to identify which groups pose the greatest risks or opportunities

Power-Predictability Matrix



Power-Predictability Matrix

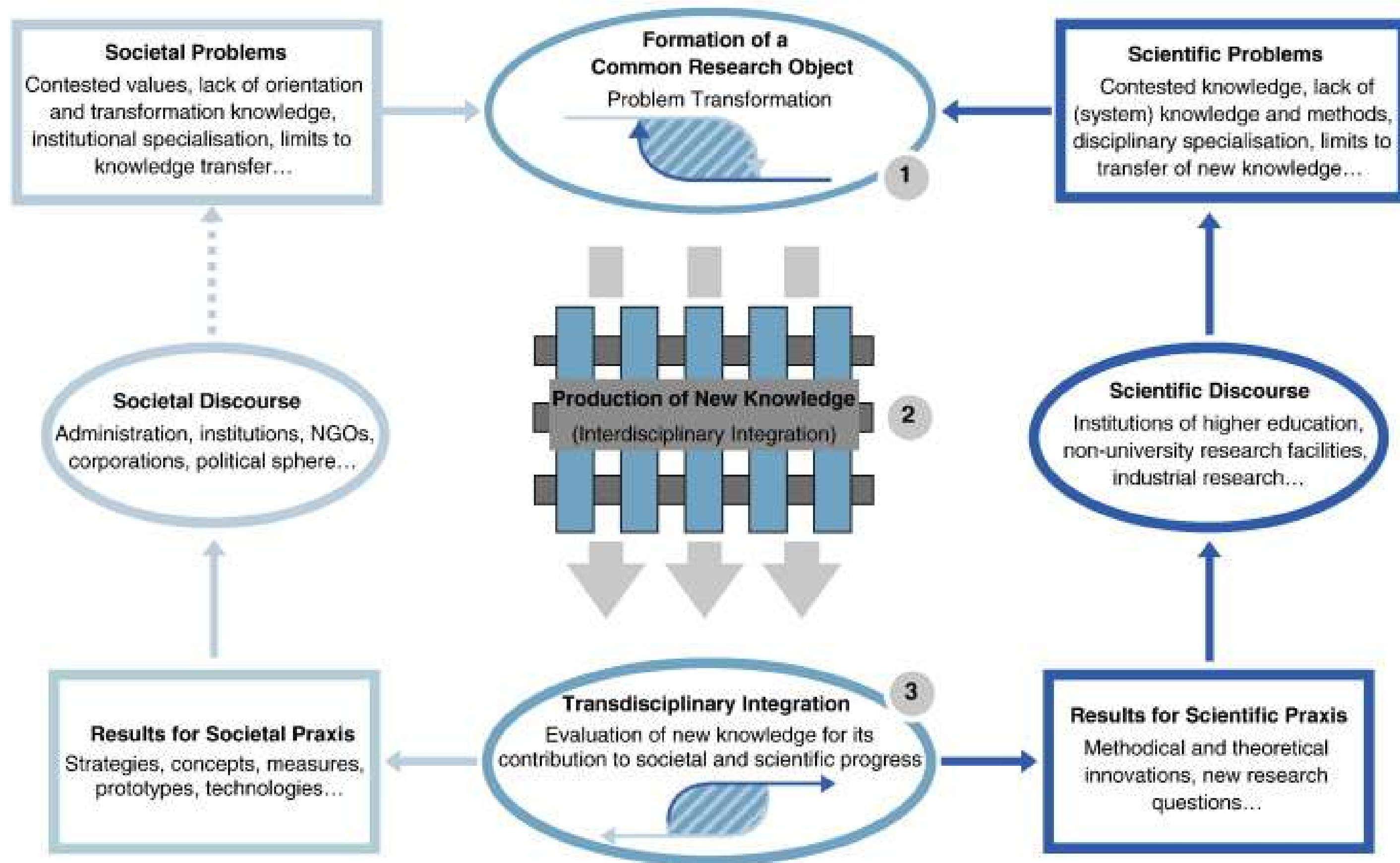


Back to Power Interest Map

For regular monitoring the four characteristics of stakeholders can be summarized in a table like

Stakeholder	Position	Project role	Power	Aware?	Interested?	Supportive?

Stakeholder	Position	Project role	Power	Aware?	Interested?	Supportive?
Adam	Finance manager	Financial adviser	High	Somehow	No	Resistant
Sami	Operation manager	Process owner	Medium	Somehow	Yes	Resistant
Operators	Line operators	Users of improved process	Low	Somehow	Yes	Neutral
Zakaria	COO	Project sponsor	High	Yes	Yes	Supportive
Procurement	Procurement	-	Medium	No	No	Neutral
Sara	Training manager	Training facilitator	Medium	Yes	Yes	Supportive



(Thomas Jahn: Workshop Basel 2005)

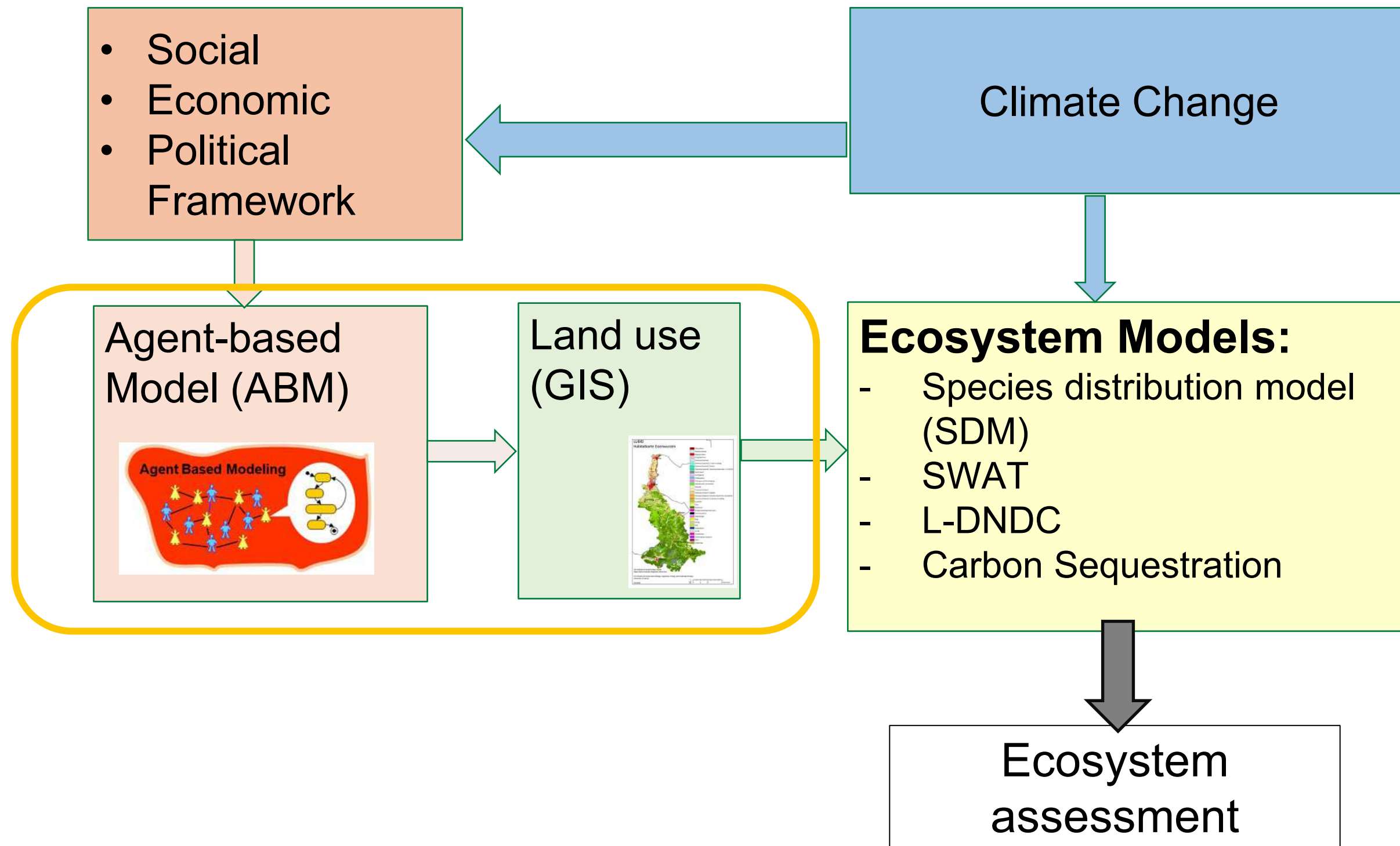
Research Example

Why: participatory modelling

- bringing diverse stakeholders, experts and representatives into the process in order to enhance **quality** of data, results, learning and implementation
 - gathering mental models (crucial factors, causal loops) of stakeholders (data)
 - shared understanding of system dynamics resulting in new insights, scenarios and strategies (results)
 - fostering exchange between stakeholders and creating a room where model results can be discussed and have an impact on mental models (learning)
 - developing / assessing of strategies by stakeholders (implementation)
- helping to **illustrate** system dynamics
- structuring **communication** processes for problem solving

Flashlights of socio-ecological research at LTSER

Eisenwurz: Land-use decision-making models



Why agent-based model (ABM)

ABM features: heterogeneity, interaction and illustration

Agents have

- their own resources

- certain possibilities to act

- individual behaviour

- specific perception of their environment

in order to reproduce themselves, they

- interact with their environment

- interact with other agents

Aims of this formalized representation of a social system are

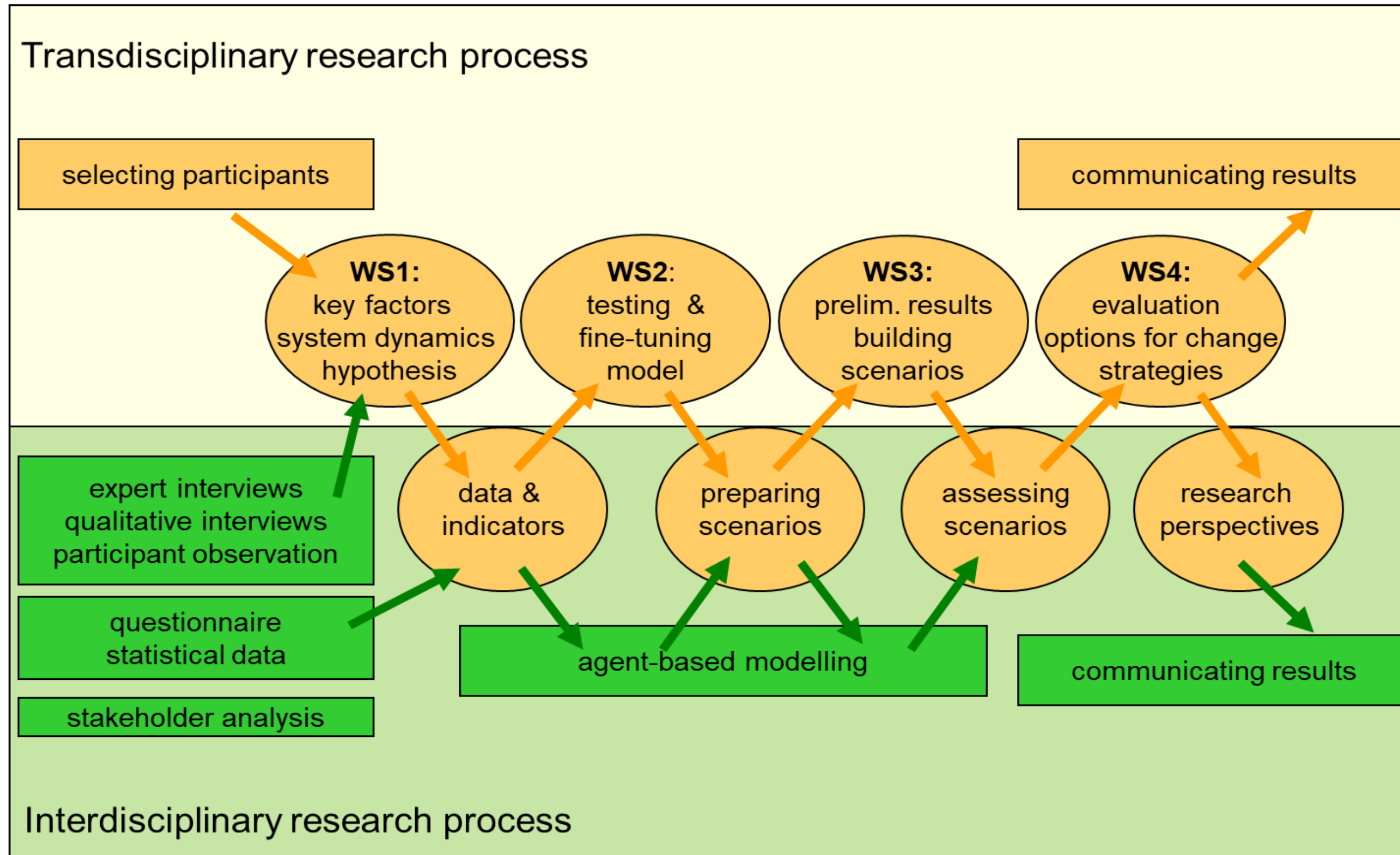
- To observe the effects of

 - changing framework conditions and political measures

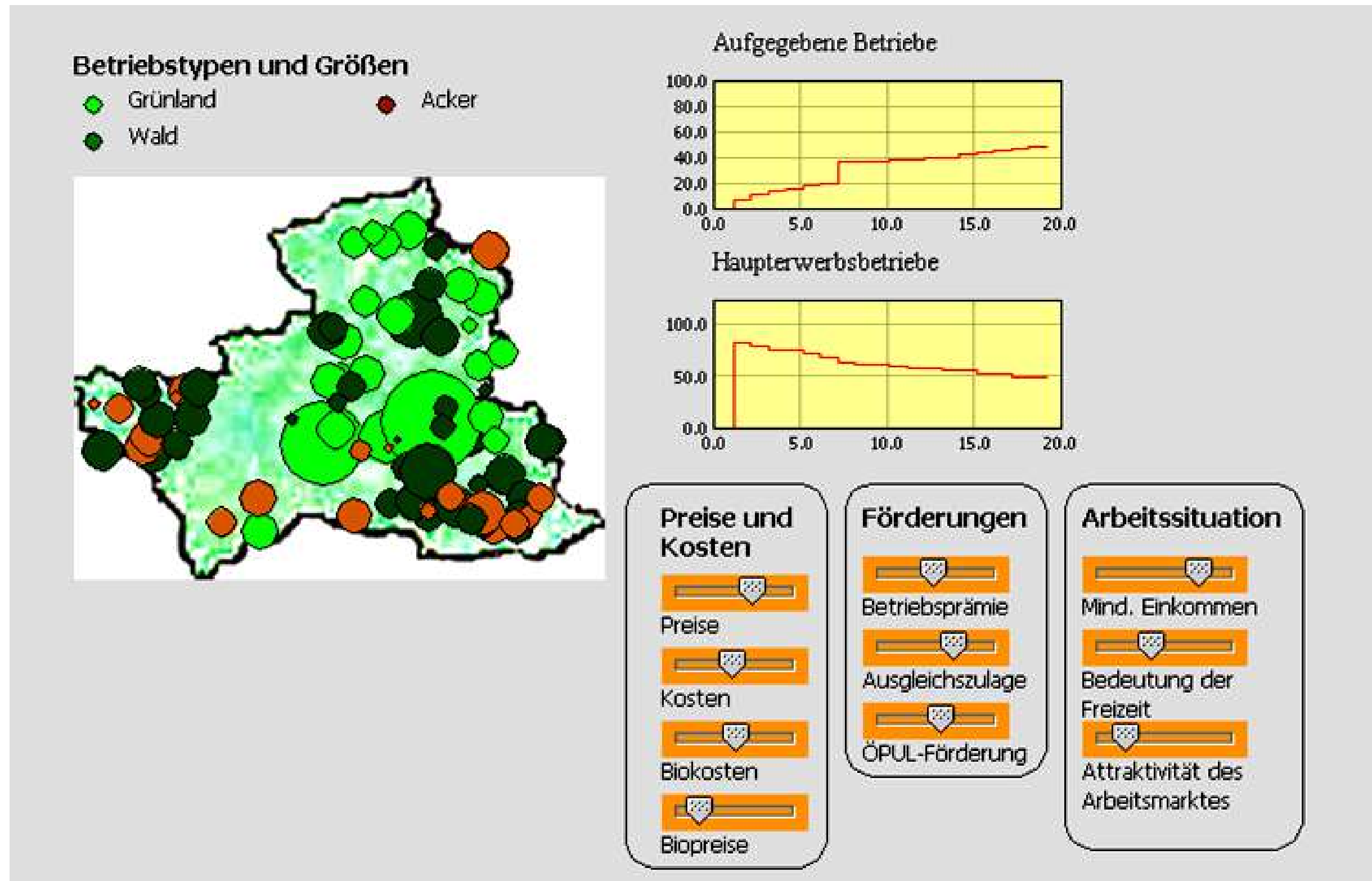
 - changes in behaviour and performance

- To illustrate these effects and enhance knowledge on system dynamics

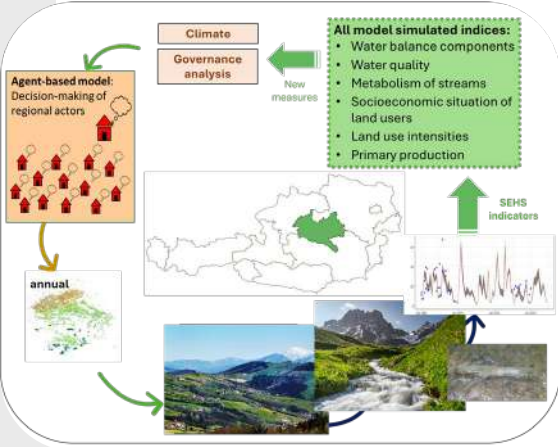
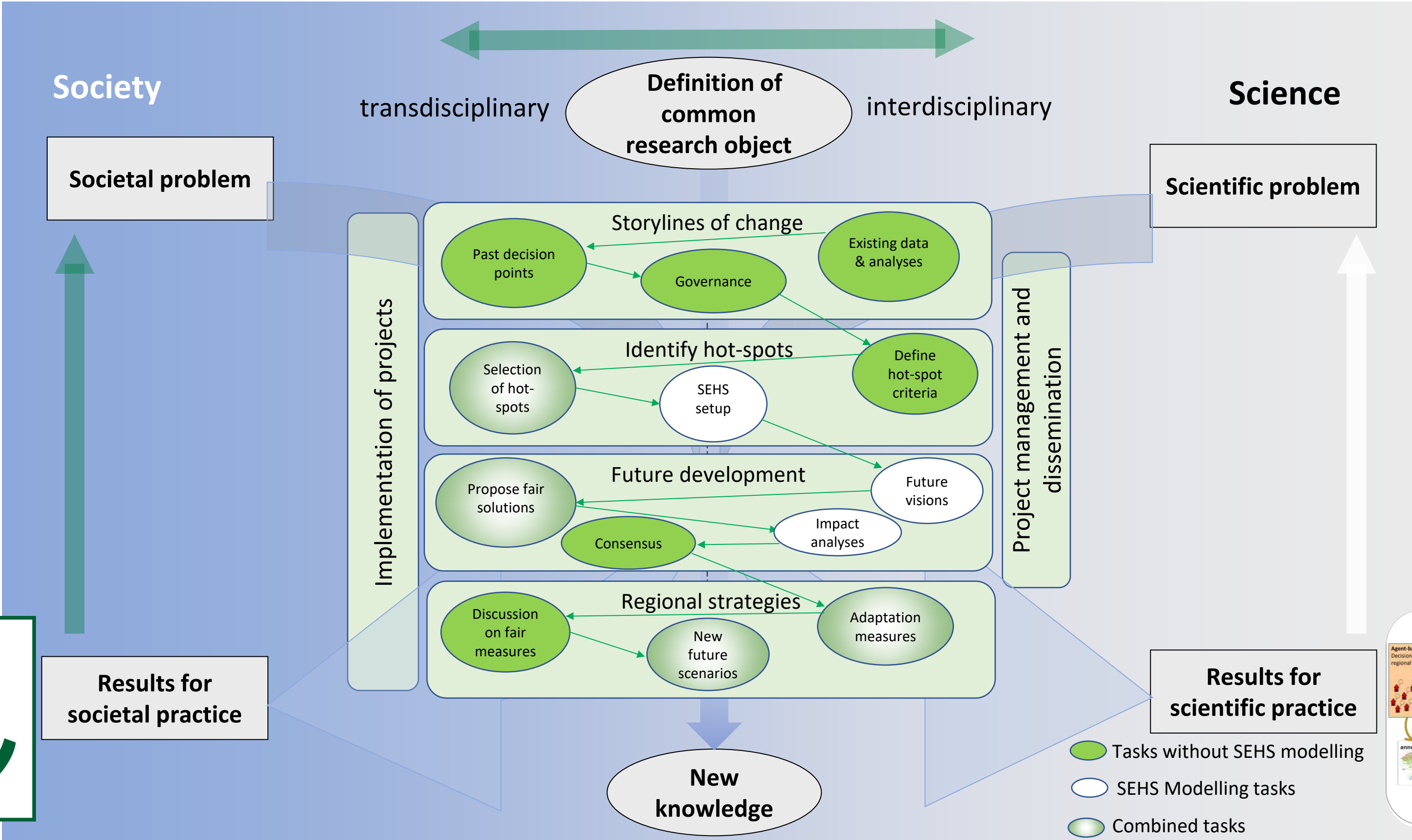
How we designed a participatory modelling process



Model interface: computer game?



The inter- and transdisciplinary process



Task

Stakeholder Engagement Plan

Stakeholder	Area(s) of Interest	Project Phase(s)	Engagement Approach	Engagement Method	Frequency
City Residents	Safety and Accessibility	Planning, Execution, Closure	Inclusive: Request their input and feedback.	Social Media Posts	Weekly
Environmental Groups	Green Space Preservation and Sustainable Design	Initiation, Planning	Consultative: Seek their expertise.	Emails	Monthly
Department of Parks & Recreation	Maintenance, Operation, and Compliance	Initiation, Planning, Execution	Partnership-Oriented: Work to ensure the park's long-term viability.	Phone Calls	Biweekly
Construction Contractors	Budget and Quality Assurance	Planning, Execution, Closure	Collaborative: Work closely to ensure a successful execution.	In-Person Meetings	Weekly

[Merci BOKU]