

Organizational Problem-Solving Performances of German State Forest Administrations Concerning Climate Change Adaptation Measures

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- **Focus:** Interface between ambiguous organizational decision-making and complex and uncertain knowledge concerning climate change adaptation
- **Case study:** Organizational problem-solving performances of German state forest administrations concerning climate change adaptation measures
 - *External perspective:* social embeddedness of SFAs
 - *Internal perspective:* long-term decision-making

- **National online survey** among forest district managers was implemented *in all German federal states* (response rate of 68%)
- The **semi-structured qualitative expert interviews** were conducted *with 32 senior administrators and scientists in six federal states* (Baden-Württemberg, Bavaria, Lower Saxony, North-Rhine-Westphalia, Saxony and Thuringia)

Neoinstitutionalist approach to organizational theory (based on DiMaggio & Powell)



Paul DiMaggio

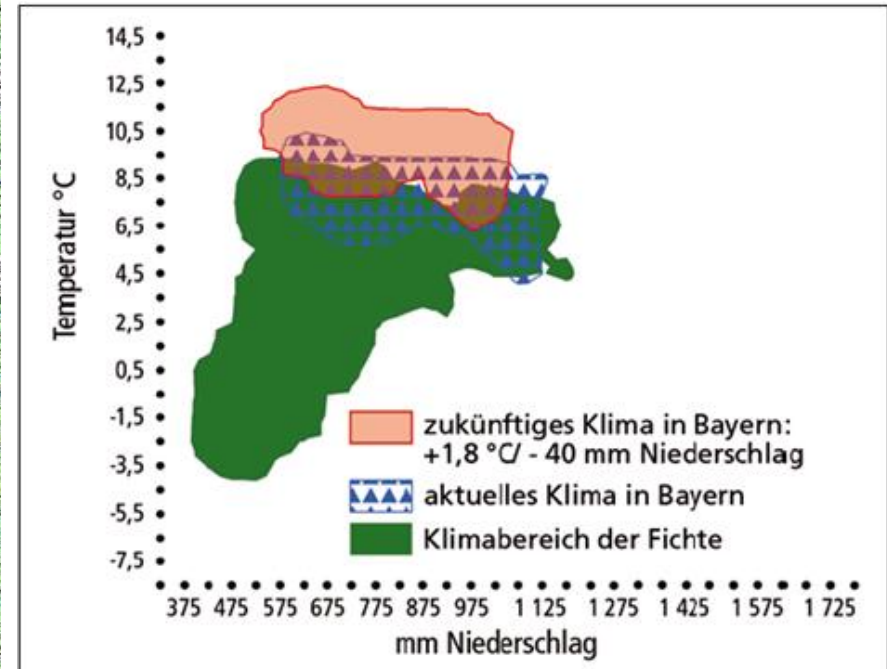
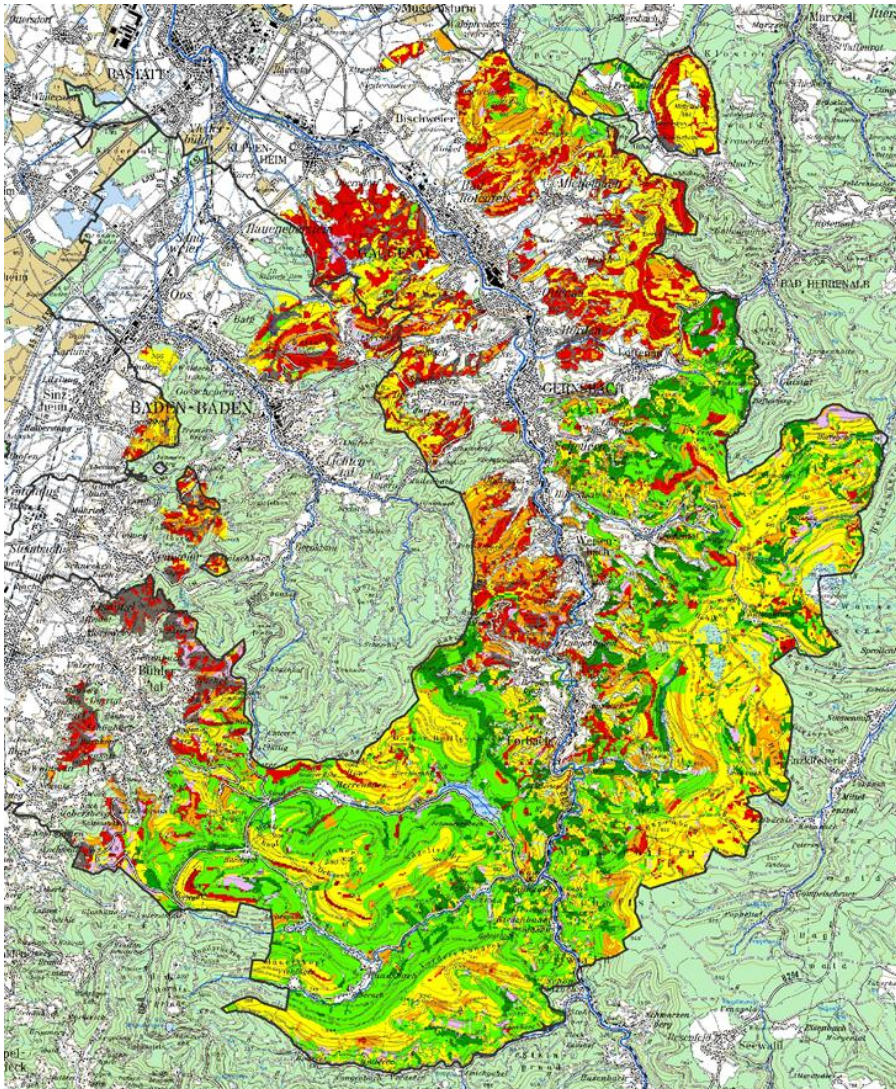


Walter Powell

Theoretical key assumptions:

- Social embeddedness: heterogeneous expectations & interests in the organizational environment
- Organizational field: “forestry community”
- Legitimacy through “social fitness”: *mimetic isomorphism*

Results: Climate risk maps

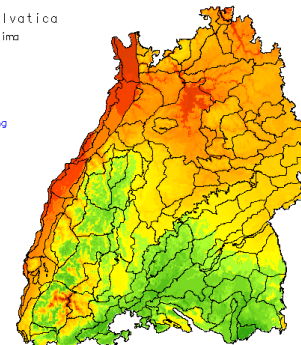


Fagus sylvatica
rezentes Klima

Klimaeignung



G: 59 27 2

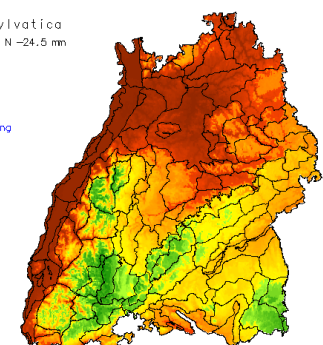


Fagus sylvatica
T +1.95 °C, N -24.5 mm

Klimaeignung



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Results: Climate risk maps

“Baden-Württemberg...took a very critical attitude. And then, when the first maps were published, they immediately created some of their own. So, it’s marvelous... [...] Hesse sometime did something...and fell a bit asleep afterwards. [...] **...that these maps have been put into practice...that’s a miracle...that’s really...an absolute miracle, that this did go through.** And now one can **build on this foundation.** Once there is a map, one can generate another one that is a bit different...a bit more precise” (*Scientist, Bavaria*)

“Yeah, they have **gained acceptance now, but they do say different things.** So, that is definitely a core problem...I hope that you are aware that the Forest Research Institute Baden-Württemberg entered the race with another global model than the Bavarians or the Lower Saxonians. [...] **We are talking about divergences...they partly exceed the differences between the scenarios** [...] I must send you our map of the Black Forest, that we...our [laughter]...down there...did you see the one from the FVA [Forest Research Institute Baden-Württemberg]?...where the entire Black Forest area is colored black...isn’t that bad? I can tell you, spruce as well as beech will grow better in the Black Forest” (*Scientist, Lower Saxony*)

Interim Conclusions I:

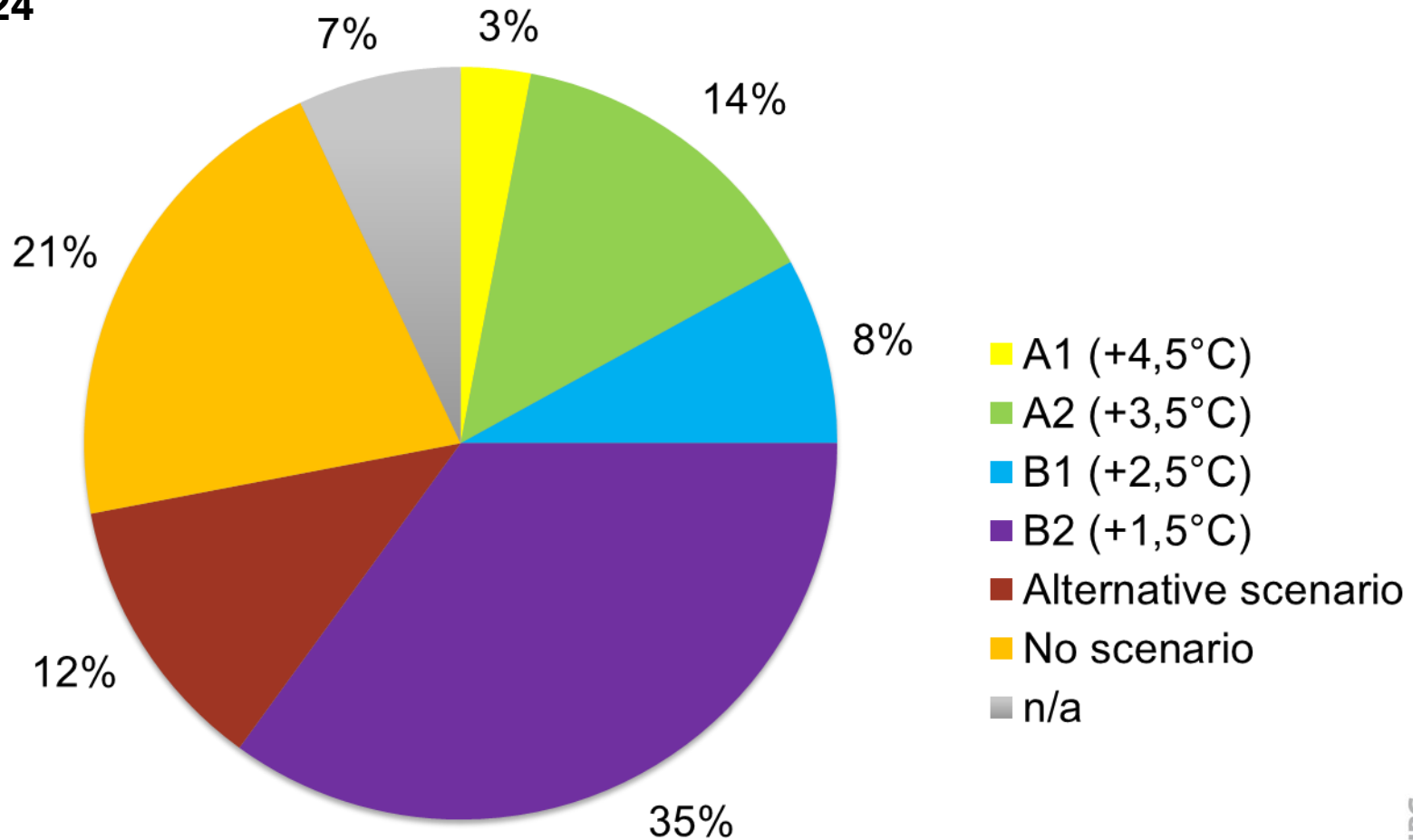
Social embeddedness of SFAs

1. SFAs render risks, uncertainty and non-knowledge intelligible through **scripts and schemas available in their environments**.
2. SFAs **absorb uncertainty by adopting solutions borrowed from others** whose response is considered legitimate in the same organizational field.
3. Hybrid constellations of **existing and newly adopted practices** within the same organizational space

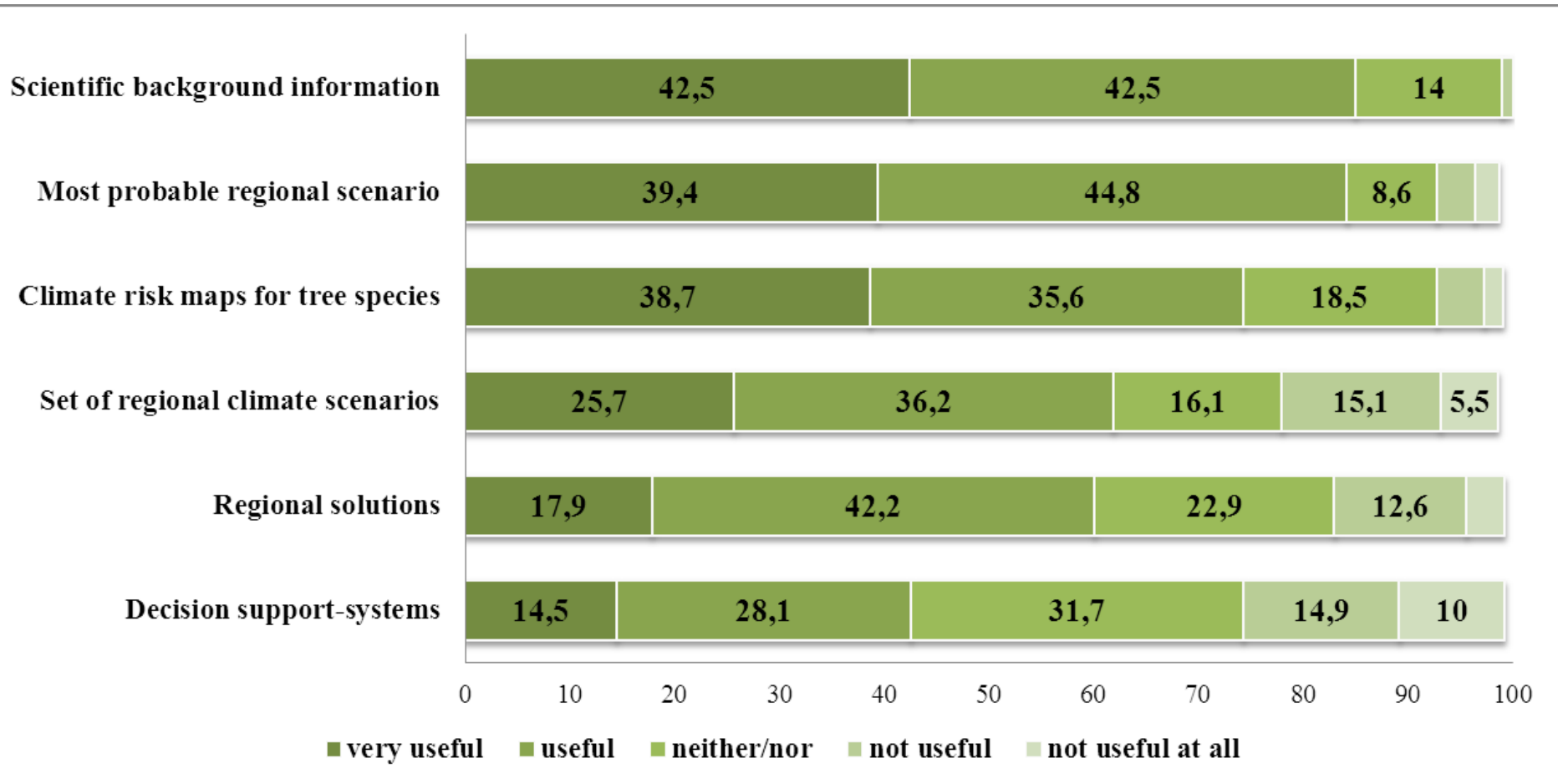
- organizations as most important units for handling of complexity, uncertainty, & risk
- organizations solve problem of uncertainty through decisions
- focus on system rationality: goals of capability to act autonomously & legitimization of decision-making
- concept of „sensemaking“ (Weick): „structuring the unknown“ & construction of a reference framework
- main questions: WHAT is constructed, HOW is it constructed, WHY, & to what EFFECT
- central focus on action and interpretation as the core phenomenon rather than evaluation on choice

Results: Reference climate change scenario (forest district managers)

n=224



Results: Decision support tools (forest district managers)



Decision support tools in percent
(n=225, only values > 5%)

Interim conclusions II : Climate change – business as usual or turning point?

1. Climate determinism & reduction on silvicultural/ ecological impacts
2. Legitimizing & Maintenance of Independency as main goals for decision makers
3. Guiding principles with important legitimizing function (“sustainability”)
4. Paradoxes & Contradictions: ambivalent framing...
 - ... of the problem: „CC... an exceptional challenge“ – but foresters „able to master“
 - ... of the type of challenge: focus on ecological impacts – but clearly visible underlying political conflicts relevant
 - ... of science: “skepticism” & relativization of available knowledge & “optimism” towards scientific advice
 - ... of decision-making: „reactive position“ – but trust to experiential knowledge & know-how
 - ... of time-horizons: assumed „far-reaching impacts“ – but no willingness to re-shape planning cycles
 - ... of guiding principles: deep changes assumed– but validity of traditional guiding principles („close-to-nature forestry“)
5. Contradictions are „masked“ & CC-challenge is „normalized“ within organizational practices and stories

- Organizations as important bottlenecks for effective adaptation: organizational framing of CC-adaptation influenced by external expectations & internal sensemaking processes
- Different framing of CC-challenge at different organizational levels: pragmatism of practitioners (diversification) vs. Strategic Management („Adaptation programs“)
- Necessity of “sensitive handling” of emerging instruments and strategies (e.g. transparency towards uncertainty)
- Increased importance of boundary organizations @ the science/practice-interface; new expert roles (e.g. risk officers) and new experts (e.g. networks of practice)



**Thank you
very much
for your
attention!**

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