

Learning about climate change adaptation among forestry stakeholders

Exploring the implications of group discussions supported by scientific knowledge on individual learning about climate change impacts and adaptive measures

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Aim and research questions

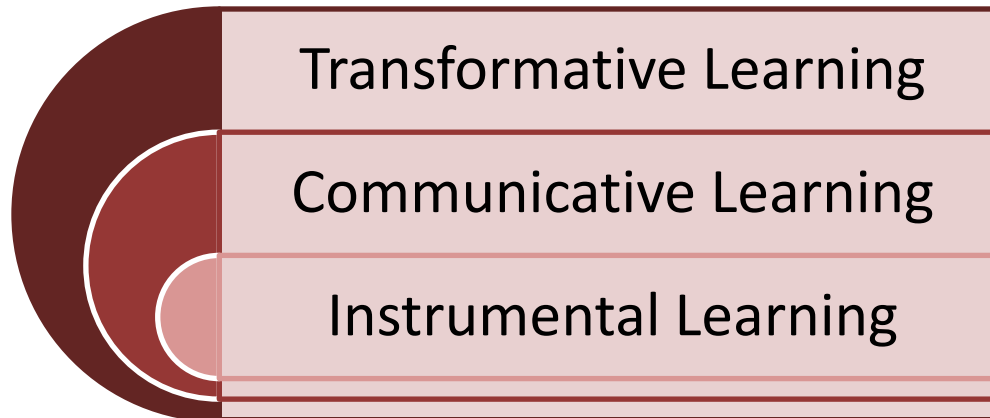
- This study examines how individuals learn about climate change adaptation in the context of group discussion supported by scientific knowledge
- We ask the following questions:
 1. How do participants in stakeholder discussions frame climate change impacts, risks and adaptive measures?
 2. Can, and if so to what extent do stakeholder discussions promote individual, transformative learning about climate change adaptation?

Theoretical framework I

- Connecting Adaptation and Learning
 - Departs from a social science perspective that sees climate change adaptation as a socially mediated process that includes changes in behaviour and policy
 - Learning is a socially embedded process that entails critical reflection about practices, attitudes, principles etc. based on knowledge and experiences
 - Conditional link between cognitive change and behavioral change that may results from learning
 - Learning is hypothesized to build adaptive capacity

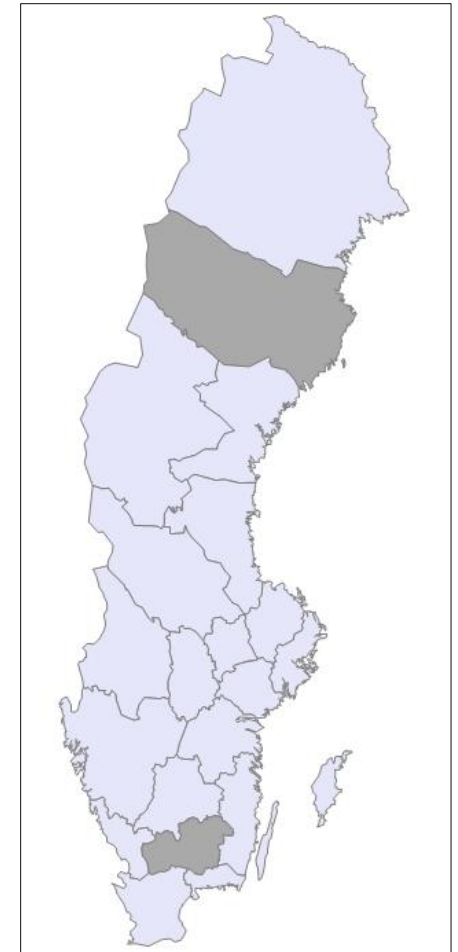
Theoretical framework II

- Transformative learning theory
 - Denotes a socially situated process through which an individuals *frame of reference* i.e. habits of minds and mindsets are changed



Study design

- Qualitative data was collected in a process consisting of three focus group interviews and a semi-structured follow-up interview
- 24 research participants represented forestry agencies, industry, owner associations and small scale forest owners from two Swedish counties
- Discussions were structured in focus group interviews during which the research team informed participants about climate change scenarios and potential impacts
- In follow up interviews, participants were asked to appraise the implications of group discussions for individual knowledge and action concerning climate change adaptation



Results I

- Framing of impacts, risks and adaptive measures
 - Participants listed storms, changing precipitation patterns, flooding, pests and deteriorating ground conditions as well as economic opportunities as foreseeable impacts
 - Among frequently named adaptive measures were tree species and age diversification, review of thinning and pruning frequency, pest combat or improvement of drainage systems.
 - Partial disagreement existed about appropriate adjustment of timing of final felling, choice of tree species, and efficacy of non-conventional forest management strategies

Results II

- Transformative Learning
 - There was limited evidence of instrumental learning among participants, because of a perception that scientific data is uncertain and hard to apply
 - However, there was evidence of communicative learning among those stakeholders that felt group deliberations had helped them to understand synergies between adaptation, mitigation and economic profitability

Results II

- The effect of previous knowledge about climate change was more ambiguous: specialists with high previous knowledge reported lower knowledge gains, while those with a lower level of previous knowledge reported comparatively higher gains
- There is a critical link between persistent skepticism about climate science and an absence of learning about climate change adaptation, in particular among forestry industry representatives

Conclusions and future research

- Most intriguingly, forestry stakeholders who see economic viability and environmental protection as intertwined objectives more easily incorporated climate change adaptation into their view of future forestry development
- Contextual factors were found to be important: for example, previous experience with natural hazards was of great advantage for risk awareness and individual learning
- How can science support both learning and action?

Thank you very much for your
attention and comments!

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