

Climate change adaptation and local private actors: a study case of the forestry sector in Wallonia (Belgium)

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Introduction

- Adaptation to climate change requires multi-level actions at different temporal, spatial and policy scales, implemented by public and private actors
- Local level is crucial for adaptation: vulnerability is context-specific, local benefits
- But are local actors sufficiently aware of and prepared for these accelerating and unprecedented changes? (guiding question of the conference)

Research question

- Regional/local adaptation policies/strategies are developing (planned adaptation) but what about private actors (individuals, organisations, firms,...)?
 - ⇒ Study case: private local actors in Wallonia in the forestry sector (here private forest owners)
 - ⇒ What are their attitudes and actions towards adaptation to climate change? Which factors motivate adaptation?
- = potential useful information for public authorities and ground actors (associations, etc)

Context: the Walloon forest sector

- Forest = 33% of the Walloon Region (554 000 ha)
- 50% of Walloon forest belongs to private owners (120000 owners)
- Forest vulnerable to climate change: impacts on growth, shift in tree species compositions, changes in storm, insect and pathogen disturbance regimes, etc
- Walloon Plan for adaptation to climate change (end 2012): including the forest sector (vulnerability assessment and adaptation propositions)

Theoretical framework

- Motivations to adapt/adaptive capacity depend on different factors: economic resources, technology, politico-institutional factors, knowledge, socio-cognitive factors (perceptions of risk and of adaptive capacity): objective and subjective variables
- Hypothesis: socio-cognitive variables are determining in the decisions of private forest owners to adapt

Methodology

- Qualitative survey : semi-directive interviews with 14 private forest owners in Wallonia – different forest surfaces, natural regions, tree species, owners' ages, ...
- Questions about representations of forest and management objectives, forestry knowledge, forest cost and income, influence of forest policy, climate change beliefs and risk perception, perception of adaptive capacity, implemented and envisaged adaptation measures

Results

- Most of owners believe to climate change and human origin but they often perceive uncertainties and in some cases contradictory information about climate change impacts
 - Differences between 'official' assessments of forest vulnerability and impacts mentioned by forest owners, ex:
 - Focus on storms // past experiences (bias of availability heuristic)
 - Insect and pathogen disturbances not linked to climate change
 - Most of owners have already implemented proactive adaptation measures:
 - Technical measures: diversity of tree species, replacement of vulnerable species by others, adjustment of thinning and harvesting + sometimes 'innovative' practices : personal growth observations
 - // including reactive and proactive measures to face the storm risk
 - Cognitive measures: search for and exchange of information on climate change and adaptation
- ⇒ Most of measures are no-regret and win-win: synergies with other objectives of forest management (resilience, biodiversity, aesthetics, leisure, ...)

Results

- Mentioned perceived barriers to adaptation:
 - uncertainties in impacts projections and lack of practical recommendations
 - 'physical' constraints: type of soil, forest surface, extent of impacts (threshold)
 - legal constraints: Natura 2000 (interdiction of planting exotic species)
 - Risk of failure of adaptation measures // lack of confidence in adaptive capacity
 - Commercial barrier in industry for 'non-traditional' species

Results

- Influencing variables on adaptation:
 - A high level of perception of risk and particularly perception of (personal) adaptive capacity seems to be a critical factor of motivation for adaptation
 - Representations of forest and management objectives influence the choice of adaptation measures // no-regret and win-win measures
 - Forest knowledge and access to a network/advice for forest management facilitate adaptation awareness and action // sharing knowledge and experiences
 - Policies can incite in some cases adaptation measures (here with subsidies) or constraint them because of a lack of integration of the adaptation objective (here Natura 2000)
- ! Limits of the study: qualitative interviews // small sample

Discussion

- **Risk communication**

Owners' perceptions show a lack of 'reliable' (from scientific and ground actors) and 'useful' information, i.e. linked to forest managers' needs

Interviews show an interest to better understand the climate change adaptation issue

⇒ Need to better diffuse available scientific information on climate change impacts and adaptation through 'boundary' organisations and people (owners' associations, advice people such as forest experts and other professionals) // need to evaluate awareness and information of climate change adaptation of these actors (ongoing survey)

To inform on all expected climate change impacts, gradual and extremel ones

⇒ Need to translate this information into practical advice: supports = articles in forest reviews, ground visits, etc

⇒ Link adaptation measures to other management objectives // synergies + insist on opportunities of anticipatory measures

⇒ Explain that uncertainties are not an insurmountable barrier to action: robust solutions are possible, continuous learning from experiments // adaptive management

⇒ Give a sense of responsibility to forest owners: perception of adaptive capacity = key factor for adaptation

Discussion

- **Financial incentives**

Subsidies for planting broad-leaved trees in the former Walloon Forest Code facilitated species mixture in some cases

⇒ Thinking about an incentive subsidy regime: which adaptation measures to promote? Which target public (administrative burden heavier for small owners)?

! Feeling to lose freedom

- **Regulatory and voluntary instruments**

Obligation in the Walloon Forest Code to adapt species to the forest site

⇒ Need to extent legal obligations? Maybe not the best approach: already a lot of legal constraints for private owners, adaptive forest management needs to stay flexible. But need to integrate new knowledge into 'official' forest management tools (revision of the planting guide)

Conflicting interests between Natura 2000 and adaptation measures can occur

Adaptation is not an explicit objective of the sustainable management certification (PEFC)

⇒ Need to better mainstream adaptation to climate change into Natura 2000 and in the whole forest legislation and voluntary instruments

Thank you for your attention

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