Individual and community engagement in dealing with climate change

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**Purpose**

Dealing with climate change demands for human responses to mitigate climate change and adapt to unavoidable impacts. This often initiates developments in and near homes and communities - in places to which people feel attached. Hence, a better understanding is needed of how attitudes and behaviours towards such measures are formed. Individuals can be engaged on three levels: with their minds, hearts and hands.

**Research questions**

How do individuals perceive climate change in their living environment? How do people engage individually and collectively with climate change? What motivates individual & collective pro-active environmental behaviour?

**Methodology**: Mixed methods approach

**Qualitative interviews**: Face-to-face Interviews with 15 coastal inhabitants have been conducted in February and March 2014 in Reußenköge North Frisia, Germany.

**Standardised survey**: 47 coastal inhabitants have been surveyed based on a written questionnaire (closed and open questions). The survey has been conducted in August 2014 in Reußenköge, North Frisia, Germany.

**Agent-based modelling**: Spatial and cognitive computer model, which simulates household’s adoption behaviour of renewable energy technologies and the societal diffusion over time.

**Case Study**: Municipality Reußenköge

Characteristic coastal region with a long history in land reclamation, coastal protection and development of renewable energy technologies.

**Results**

**Meanings and perceptions of climate change**

Climate change as actor, directly and indirectly

„And for me, it is a driving force to do what I am doing.”

Temporal – Shift of climate change to the future

„I don’t believe that I will see a lot about climate change during my life time.”

Social – Mainly a partial perception of threat

„That I do now feel a threat by climate change due to sea level rise […] I cannot say.”

Geographical – From global to regional perception of climatic changes

„But global warming is coming now, that we have milder winter, more precipitation […]”

Hypothetical – Uncertainty related to climate change, scepticism

„That every time it occurs a flood or frost, we do say climate change is eating us, I don’t think nothing of it.”

Importance of education to deal with climate change

„Because education is a crucial point to stop climate change, in my point of view.”

Importance of consistent governance of climate change, which also considers local needs and benefits

„And I hope, […] on the one hand, that they [politics] will always attribute the right to exist to renewable energies, and on the other hand, to be more aware of the societal benefits.”

**Mitigation & adaptation measures adopted on individual & community level**

<table>
<thead>
<tr>
<th>INDIVIDUAL</th>
<th>COLLECTIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implementing solar and biogas technologies</td>
<td>Building maintenance and construction</td>
</tr>
<tr>
<td>providing land for wind farms</td>
<td>Voluntary work as dike reeve and/or as fire man</td>
</tr>
<tr>
<td>Implementing energy efficiency measures (appliances, lighting, mobility, heating)</td>
<td>Reading and attending of information brochures and events</td>
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<tr>
<td>Investing in community wind mills, community biogas and solar parks</td>
<td>Taking care of coastal protection (second dike line) and drainage (by dike and sluice associations and voluntary fire brigade)</td>
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78% are satisfied with their investment in solar energy
62% think, additional coastal protection for floods and sea level rise is necessary
74% recommended to others, to participate in a community wind farm
64% think, their community should be more involved in coastal protection decisions

Figure 2: Mitigation vs. adaptation, individual vs. collective measures (Results of the interviews, 2014, N=15; and survey, 2014, N=47, *percentage of surveyed people, who answered really strong or rather strong).