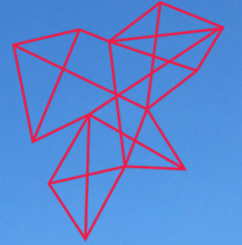


# Climate change in Longyearbyen, Svalbard: Observed societal impacts and adaptations

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A photograph of a snowy mountain landscape. In the foreground, a tall, dark wooden tower structure stands on the left. In the middle ground, a row of colorful houses (red, yellow, green) is visible. The background features snow-covered mountains under a cloudy sky.

Context

Perceived societal impacts of climate change

How experienced impacts are dealt with locally

Concerns related to impacts on the built environment  
→ focus



## Research Questions

- What are the perceived societal impacts of CC (by my participants)?
- How is the “community of experts” in Longyearbyen dealing with and adapting the town to these changes?
- What concept of adaptation is underlying these actions ?
- Where are there challenges to adaptation?

# Field of research and theoretical concepts

Anthropology of climate change

Environmental anthropology, spatial turn, material turn...

Material and discursive dimension of climate change

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Adaptation

Vulnerability, adaptive capacity...



# Methodology

- Ethnographic fieldwork, interviews, participant observation
- Sample for this article



## Observed impacts 1/3

**Vulnerabilities** (related to history as a coal mining company town), due to

*location*

“Longyearbyen is the worst place on the island to have a town, and it is just because of one reason, the coal in the mountain”

and *temporariness*

“What was built before was not supposed to last for long, it was never intended to last for 30-40 years, it was supposed to be temporary. All of Longyearbyen is like that.”

## Observed impacts 2/3

Longyearbyen as a **showcase** of climate change

“And that’s a bit of the problem with climate change, that it is hard to grasp, if you haven’t experienced it. And that is maybe what Longyearbyen can teach the world, to be a showcase for climate change.”

Range of observed physical processes impacting the town: avalanches, permafrost thaw, coastal erosion...

## Observed impacts 3/3

### Uncertainty and unpredictability

“There is great uncertainty in knowledge that we used to rely on. [...] So what we can say quite surely is that climate change challenges us quite a lot, because it changes the conditions and what is a bit creepy about that is that when you can't build on the knowledge you had, then what are you supposed to build your knowledge on, that is what is difficult and that is what we don't know yet in many cases.”



## Adaptation: Dealing with uncertainty and planning for change

The avalanches that **“changed everything”**

→ Put climate change adaptation high up on the agenda

“In 2015, the avalanche, that changed things. After that, they built all these new houses. It had an impact on where things have been built since then and where they will be built in the future”

“Before, the town moved after the mines. Now we move it away from natural dangers.”

Adaptation in urban development and construction

Securing the town against hazards



## Adaptation discourses

Climate change adaptation is considered *necessary*

“If we want to maintain a society, we need to be willing to invest, and transition. Because if not, climate change catches up with you. That’s the way it is.”

and *feasible*

“From an engineering standpoint, most problems can be solved. [...] So, the infrastructure itself, it will survive. It is man-made, so we can adapt it.”

“[...] I don’t believe that they [climatic changes] impede life here, then the changes would have to be larger. [...] One can still live here [in the future] but maybe not build in the slopes.”

# The dominant discourse of safety

Perceived responsibility to “create safety”

“It is like that that safety comes first and everything else needs to adapt.”

“This is another consequence of ignoring environmental change, **then you have fear in society**. You have a local **population that is afraid**. And when you have that, you have a huge challenge. [...] And if the government does not acknowledge this we will have big consequences. [...] And all of a sudden there is something that makes the city unattractive. **And people seek safety and if you don't have safety, you don't have people**. And that is a huge consequence of climate change. [...] So what I'm saying is that the **government needs to take climate change seriously and they need to be able to adapt.**”

# The role of scientific knowledge and experts

- “experts” and “expertise” are considered crucial in climate change adaptation
- High number of local experts
- Broad knowledge base for climate change adaptation
- Climate projections considered crucial for dealing with a changing climate



# Challenges to adaptation

## Costs and resources

“Most can be solved technically, but it is the economy it depends on, and the priorities regarding what is important for society.”

## Turnover

“Of course a lot slips away when there is that much turnover”

# Adaptation in terms of societal transformation?



## Discussion and conclusions 1/2

- Impacts & vulnerabilities
- High issue salience of climate change
- Adaptation
  - Physical
  - Reactive (becoming more proactive?)
  - Mostly planned
- Narrow concept of adaptation
  - Understood as technical solutions to a physical problem
  - Great trust in experts and scientific knowledge
  - Techno-fix optimism (Thornton 2019)



## Discussion and conclusions 2/2

- Dominant discourse of safety and rhetoric of fear
  - locally often viewed as exaggerated
  - limited evidence that power of action enhances (subjective) feelings of safety
- Climate change adaptation legitimates actions that are often viewed critical locally
  - buzzword to achieve funding and control?
  - security measures often viewed as too expensive and invasive
  - goes at the expense of others societal challenges
  - serves state control over space and housing in Longyearbyen

THANK YOU!

