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Workpackage 3: Climate change adaptation strategy

Background:

In Ilulissat, West Greenland, the main occupation is fishing for halibut in the Ilulissat Icefjord. Most of the fishermen use small open boats to get to the icefjord. During winter and spring where sea ice or strong winds can be a problem it is common among the fishermen to get to the icefjord using dog sledges. This traditional way to get to the fishing grounds also enables those who don't have a boat to make a living from fishing during winter and spring.

Identified focus group within the community expiring consequences from climate changes:

Fishermen fishing halibut from the sea ice in the Ilulissat Icefjord who are expiring less sea ice and deterioration of the dog sledge trail to the fishing grounds in the icefjord.

Data on which the problem has been identified:

- Focus group interviews with the fishermen giving information on changes of the sea ice in the icefjord and deterioration of the dog sledge trail to the icefjord
- Data on climate changes and its consequences for snow, ice and wind in the region
- Data on expected development in tourism in the region

Influence of climate changes on the focus group:

Negative:

- Deterioration of the dog sledge trail to the icefjord caused by more frequent and longer periods with thaw and rain. Besides it is expected that there will be more wind during the winter months blowing snow of the track
- Fewer days where the ice in the icefjord is safe

Positive:

- More visitors coming to Ilulissat because of increased international focus on the region caused by climate changes
- More days during winter where the fisher men can get to the fisher grounds by boat

Main points of the focus group's climate change adaption strategy:

1. Improving the fishermen's access to the fishing ground in Ilulissat Icefjord during the winter months by improving the dog sledge trail.
2. Transition towards less dependence on halibut fishing on the sea ice of Ilulissat Icefjord in spring towards more reliance on income gained from doing dog sledge trips with tourists.

Thus, both the opportunities to keep using dog sledge to get to the fishing grounds in the icefjord and to do sledge trips with tourists could be enhanced by improving the sledge trail. Practical implications of the strategy will be:



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- Using the Pistenbully on the trail,
- Laying out plastic "snow nets" on the dog sledge trail to improve the accumulation of snow
- Setting up "snow fences" on the windward side of the most vulnerable parts of the dog sledge trail to increase snow accumulation on the trail

Barriers and benefits of the climate change adaption strategy:

Economic barriers and benefits of the climate change adaption strategy:

- Tourism in Arctic is highly seasonal as most tourists come between February and September. Therefore, sledge trips with tourists will only make an alternative income for a maximum of three to four months (February to mid-May).
- Stability of the fishermen's income between February and May will become more reliant on the number of tourists rather than forces of nature, such as weather, amount of sea ice and number of fish.
- Warmer climate and less sea ice will allow the fishermen to get to the icefjord by boat during a longer part of the winter season, thereby decreasing the need to go by dog sledge
- Less reliance on fishing will make it more expensive having sledge dogs as the owner will have to buy dog food rather than feeding the dogs with fish.

Environmental barriers and benefits of the climate change adaption strategy:

- The strategy could lead to smaller catches of halibut in the particular part of the icefjord. In recent years there have been early signs of overfishing in parts of the icefjord
- There would be a visual impact on the landscape along the sledge trail where the "snow nets" and the "snow fences" will be used
- The Pisten Bully will be used in areas where it will normally not be allowed. This will give some visual- and noise pollution. Besides there is a small risk of limited chemical pollution from oil and fuel in case of accidents.

Social barriers and benefits of the climate change adaption strategy:

- The transition towards higher reliance on doing sledge trips with tourists rather than fishing will mean a change from the primary sector to the tertiary sector – a transition from an ancient livelihood to the modern service sector. This will put new demands on the involved fishermen, as aspects such as communication, punctuality and long term planning becomes more important. The social consequences will depend on the individual's ability to adapt to the new structures.
- Less reliance on fishing will increase the cost of having sledge dogs as the owner will have to buy dog food rather than feeding the dogs with fish. This, combined with a potential development towards fewer people relying on dogs for work could lead to a further decrease in the number of sledge dogs in Ilulissat.