

Memorandum 2/11/2018

AS6: Understanding cumulative effects on Arctic biodiversity and landscapes

This memo provides a summary of reports submitted on the session AS6 organized at the Arctic Biodiversity Session in Rovaniemi, Finland, October 9-12 organized by UNEP GRID Arendal and the Saami Council.

Attendance: 50

Arctic Biodiversity Assessment recommendation themes most prominently addressed in the session:

- Addressing stressors
- Identifying and safeguarding important areas
- Improving knowledge and public awareness

Key points raised in the session that were important to note:

- Maps can be used as a tool in communication between science and traditional knowledge (and other knowledge types).
- Using simple free software (or on a piece of paper) in conversation settings, new information can be added to maps through interaction with different knowledge holders, which can make conflicts more visible. Examples provided from:
 - Russia (Sakha republic): reindeer herding and how it is affected by pipelines, gold mines, climate change.
 - Iceland: nunataks (mountaintops above glaciers) of different ages and at different distances (getting above ice because of climate change).
 - Norway (Finnmark): reindeer herding and conflicting interests.
 - AMAP perspectives (climate change) on the same areas.
- Maps are able to better visualize the various features that affect reindeer herding.
 - Local knowledge also needed to verify the map and interpret what is happening.
 - What is on the map is for real for instance in lawsuits. Problematic that migration routes are incorrect on maps.
 - Example from audience: on how Swedish reindeer herding maps show the most important areas with other land use.
 - Maps have been used for centuries, also by Indigenous Peoples. Indigenous Peoples have mostly used maps just for their own sake or for communicating with their neighbour (e.g. other reindeer herders).
 - The new technology of the maps introduced in the panel is increasing the possibilities how to use maps as a tool in demonstrating e.g. cumulative impacts.
 - .Reindeer herding is especially vulnerable to cumulative impacts => fragmentation in land use. Reindeer herding can clearly benefit from this new map technology.
 - When mapping Indigenous Knowledge, who owns the data?
 - Who is responsible of updating the data? If the data is owned by a community, who benefits from it, the information is more likely to be updated frequently.

- Maps, like any other tool, can be used for good or bad – for you or against you.
- It's not just the surface of the area, that matters, but the importance of the area taken away from reindeer herding. If you have a house of 200 m² in two floors and you take away only 10 m², but you happen to take that 10 m² from the stairs, you lose half of your house.

Recommendations/actions identified for how to deal with the issues raised in the session:

Discuss with users how maps are perceived (including how colours are interpreted).

- Use maps to build narratives around to understand what is happening.
- No matter how good maps are technically, knowledge of local people is needed to correctly read maps.
- When you describe 'unconventional' information on the maps, be aware that the information may not be steady. E.g. migratory routes of reindeers might be under constant change depending on the circumstances.
- Colours matter consult with locals about colours.

Take home message from the session:

- Maps can be very useful to understand the complex interactions between different interests in the landscape and conflicts cannot be seen unless holders of local knowledge are involved.
- Maps are an important tool but dialogue is even more important.
- Maps are important. They can be of great help in demonstrating complex issues. However, their interpretation has to be combined with indigenous / local knowledge of people who live there. That's how you can get the most accurate information. The new technology on mapping can increase the value of maps and e.g. help outsiders to understand reindeer herding better.