

Session IX - Nature, natural resources and climate change in the Arctic

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In this session, we have four speakers giving informative and inspiring speeches on nature and natural resources. They are from diverse disciplines and approach the issue with interesting perspectives.

The first speaker, Bergur, talks about glaciers and glacial runoff in Iceland. Hydrology in Iceland is dominated by snow based studies. The value of conducting this research lies in different sectors including hydroelectric power plants, transportation, tourism and other utilization of water. Bergur introduces a hydrological model that demonstrates glacial melting process over time and the effect of climate change in this process. According to statistics, 1° C rise of temperature has been observed from the year 1961 to 1990 and the Arctic has been already affected by man-made climate change. He believes that even though the effect of climate change has increased glacial runoff substantially, the effect will be only temporary and the runoff will decrease when the volume of the glaciers change. However, changes in water divides and water courses could have serious consequences and affect on energy, transportation, tourism and other sectors.

Our second speaker, Sigmar, presents us with his case study on socio-economical adaptability of a small Icelandic fishing town Vopnafjörður under the impacts of climate change. He introduces the recent economic development of the town relying on its mackerel processing company HB Grandi and how it benefits from positive aspects of climate change which in this case brought mackerel stocks to Icelandic shore. Vopnafjörður, which has suffered a 20% decrease and significant aging in population, is now enjoying increased harbour activities and creation of new jobs from HB Grandi. However, the town has to rely heavily on seasonal workers from outside, and consequently the income tax will not benefit Vopnafjörður. Aside from economic impact, negative social impacts include decreased innovation and separation of the town into two parts (HB Grandi workers and non-workers). Nevertheless, the positive economic and socio change is dominating, including increase of jobs and venue and decrease of out-migration. Sigmar presents the case of Vopnafjörður as a successful example of reactive adaptability and resilience of northern small town under the impact of climate change.

The third speaker, Steingrímur, examines the impacts of climate change to fisheries in the Arctic. He quotes from the finding of Arctic Climate Impact Assessment that “The total effect of a moderate warming of climate on fish stocks is likely to be of less importance than the effects of fisheries policies and their enforcement”, and attempts to analyze this conclusion. He points out that fish stocks are usually only

found in single water mass and are not likely to cross water fronts even with change of temperature, salinity and productivity. He concludes with three major points: 1) Fisheries will only expand within their original water masses and fish stocks distribution will change with the shift of water boundaries; 2) Monitoring is essential under rapid changes; 3) The Central Arctic is still difficult to access for fisheries attempts.

The last speaker, Páll, introduces his initiative called The Ice Circle. He emphasizes the fact that ice and snow exist on all continents and climate change's impact on snow and ice is a global issue to address. He also points out that it is an opportunity to connect different societies to act on ice related issues. He further introduces the mandate and activities by The Ice Circle and calls for engagement by all relevant professions.