EU-PolarNet

EU-PolarNet and the European Polar Research Programme

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www.eu-polarnet.eu

EU-PolarNet´s ambition

- To improve coordination of European Polar
- Research
- To co-develop and prioritise research themes and to discuss them with funding agencies
- To involve stake – and right-holders in all project actions
- To give evidence-based advice to policymaking processes
- To sustain the platform in a European Polar Coordination Office (EPCO) after EU-PolarNet 2 ends

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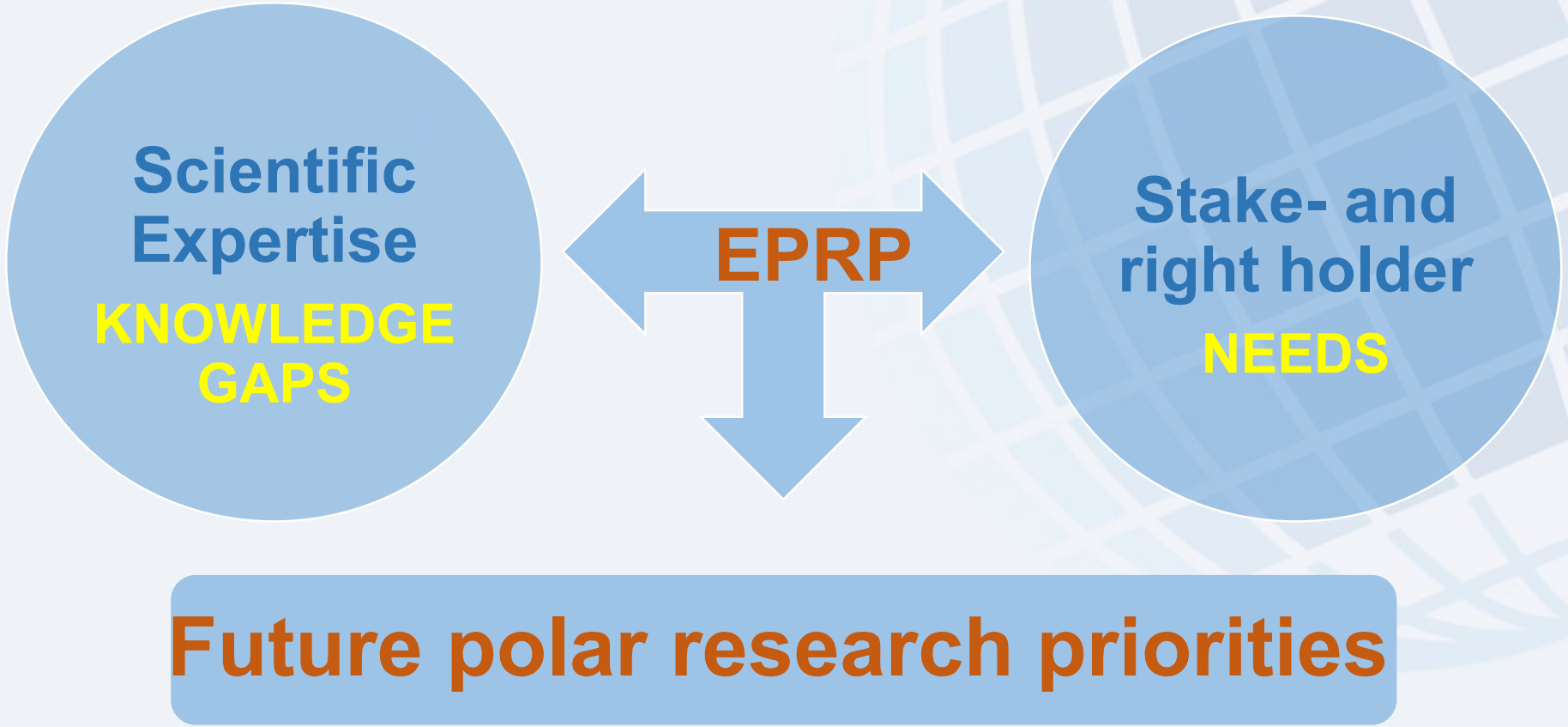
Identifying research priorities in response to societal issues?



From stakeholder engagement to research priorities: A multi-step process

2015 – 2016

Start stakeholder dialogue

- First stakeholder events
- Stakeholder mapping

Spring 2017

Major inputs to EPRP

- Synthesis of polar research documents
- On-line stakeholder consultation

Fall 2017-Summer 2019

Set EPRP structure

- White papers on research priorities
- Synthesis of stakeholder consultations

Spring-Fall 2019

1st Draft

- Nomination of experts
- Sandbjerg Gods workshop with chapter leads
- First draft by chapter leads

Winter-Spring 2020

Draft reviews

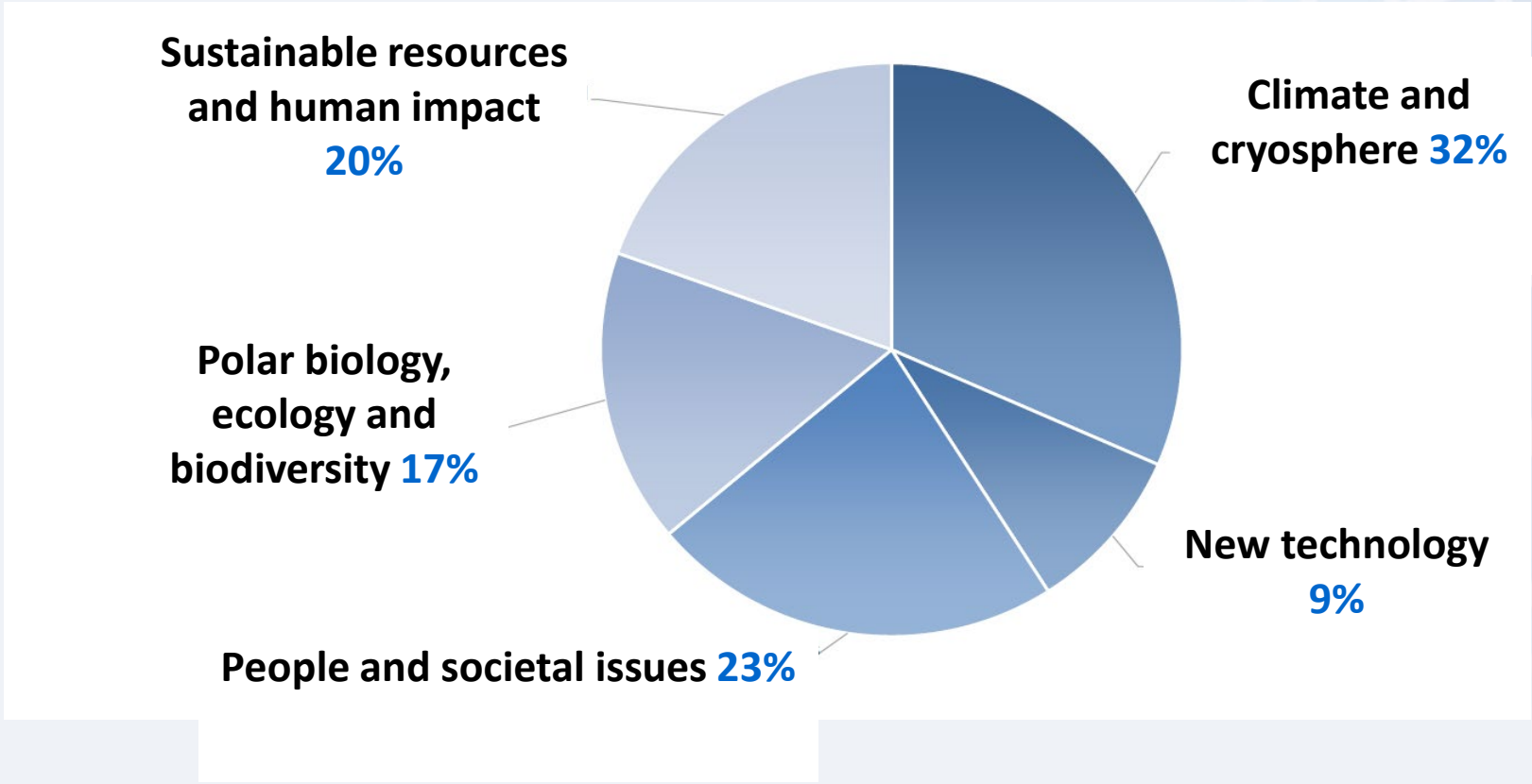
- 1st Draft: consortium
- 2nd Draft : external reviewers
- Document publication

Synthesis of existing polar science plans

10 overarching research themes with several key questions and related societal relevance have been identified

(D2.1 "Report on prioritised objectives in Polar Research")

Engaging with stake- and rights-holders



Selection of up to 3 categories ; Output: 500+ answers from 36 countries

Public consultation (April-May 2017)

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Intermediate result: Five white papers

Glacier front, Alpefjord, Northeast Greenland National Park *(Photo: Peter Prokosch)*

Arctic Fox *(Alopex Lagopus)*, Lena Delta *(Photo: Peter Prokosch)*

Research vessel in the Arctic Ocean *(Photo: Alfred-Wegener-Institut / Mario)*

Reindeer herd (Rangifer Tarandus) in Finnmark, Norway *(Photo: Lawrence Hislop)*

Wind Generator *(Photo: Alfred-Wegener-Institut / Thomas Steuer)*

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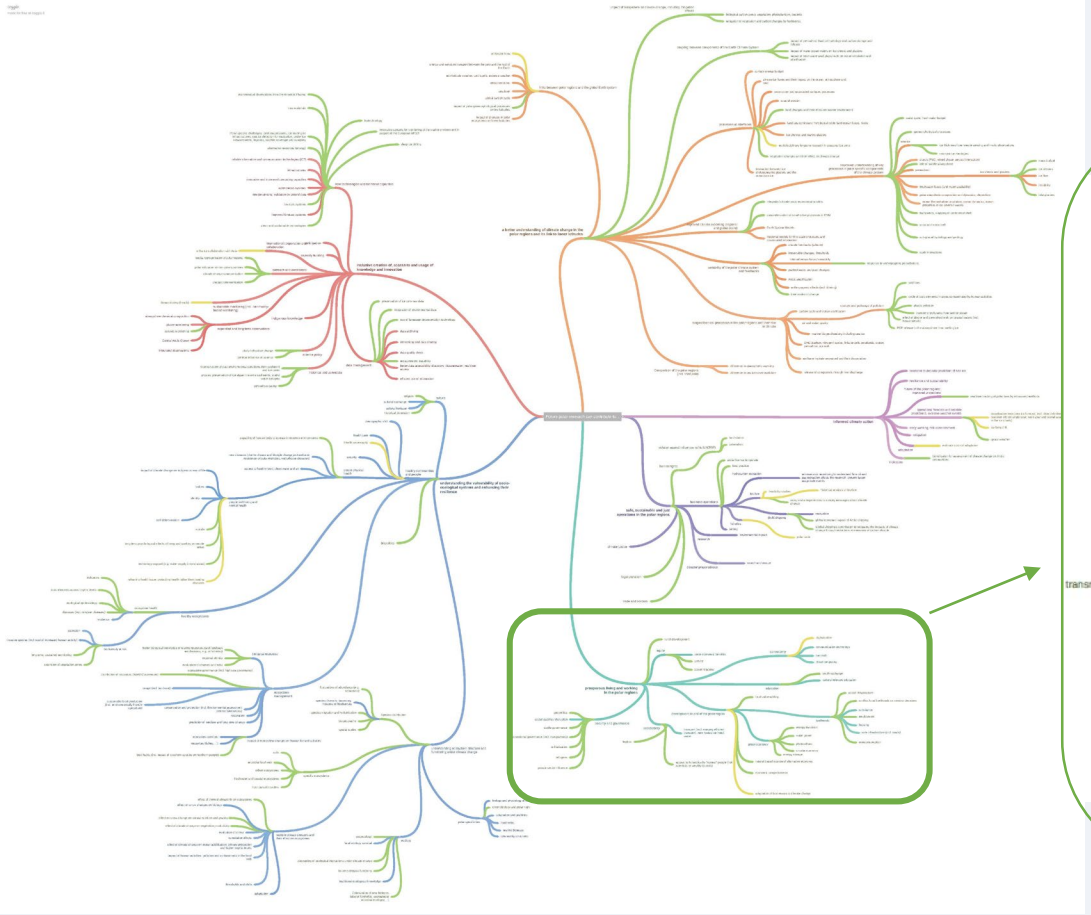
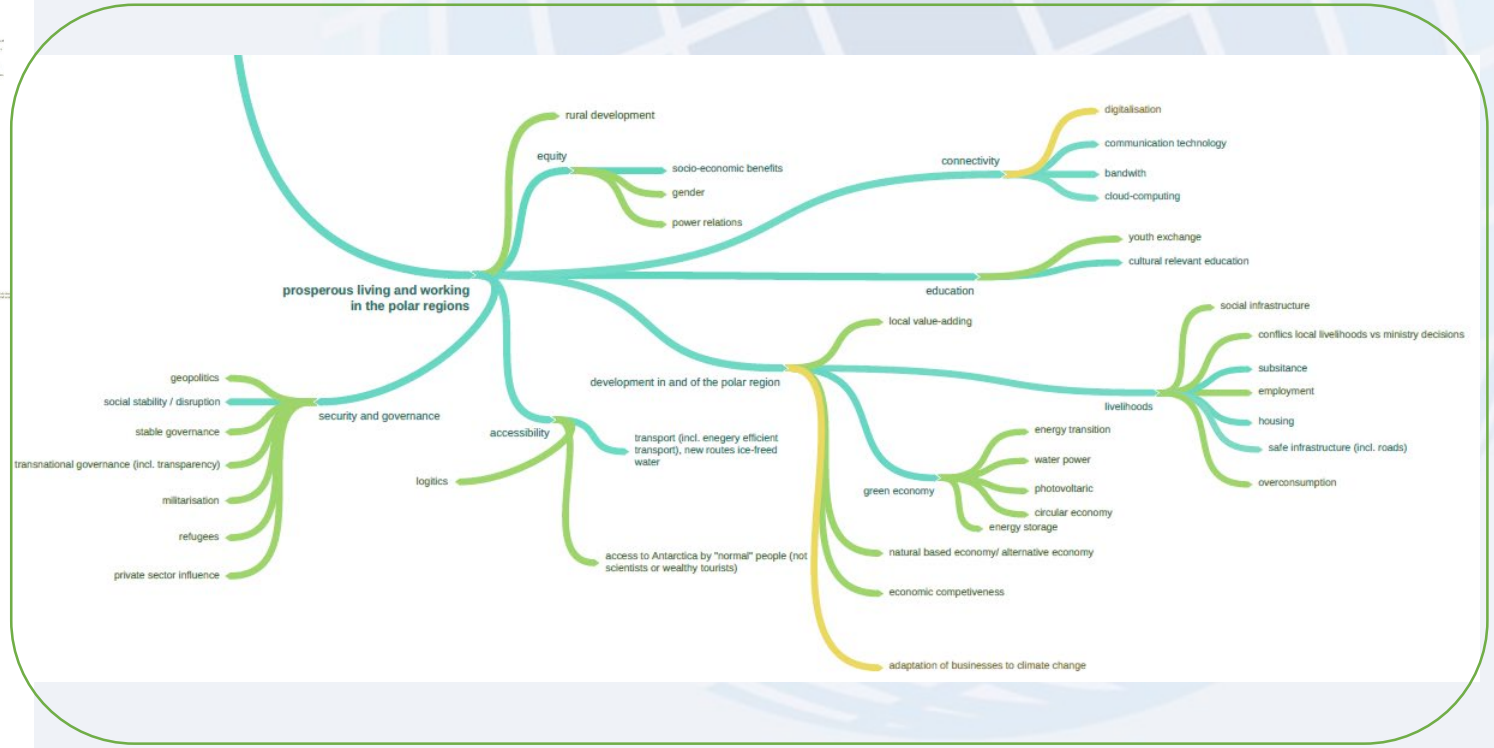
Categorising stakeholder needs against overarching research themes



Prosperous living and working in the Polar regions



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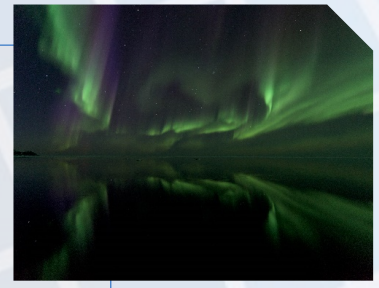
Six Research Needs

Research Need 1: A better understanding of climate change in the polar regions

Research Need 2: Informed weather and climate action



Research Need structure

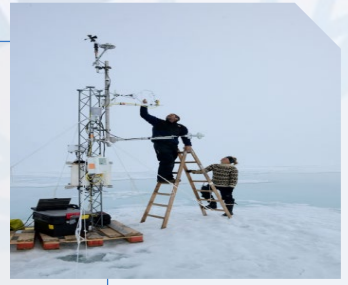
- *Introduction*
- *Societal relevance*
  - ✓ *Key question 1*
  - ✓ *Key question 2*
  - ✓ *…*
- *Resource requirements*

Research Need 3: Resilient socio-ecological systems

Research Need 4: Prospering Communities in the Arctic

Research Need 5: Challenges and opportunities in Polar operations

Research Need 6: Inclusive creation, access and usage of knowledge



Research Need 4:
Prospering Communities in the Arctic

Societal Challenges

- Understand the **relationship between improved well-being and quality of life** and increased self-determination and Indigenous participation in regional and local governance.
- Develop **new indicators for well-being and sustainable development** in the Arctic.
- Create **new regional economic development models** that ensure local sustainable value creation and well-being.
- Enable **just transition** to low-carbon and sustainable energy solutions

Key questions

1. An infrastructure plan in support of sustainable community development
2. National and sub-national governance challenges in the Arctic Regions
3. Economic innovations for sustainable development of Arctic communities
4. Education as a tool to expand the capacity of Arctic residents to respond to changes
5. Learning from the past for a socio-economically balanced and gender-equal development of the Polar Regions
6. The demography of the future Arctic population
7. Cultural vitality for prosperity in the Arctic

Research Need 4:
Prospering Communities in the Arctic

LEAD AUTHORS
Peter Schweitzer
University of Vienna (Austria)
Halvor Dannevig
Western Norway Research Institute (Norway)

Recommendations

A more accurate understanding of how prospering communities can require:

- A co-production of knowledge approach for all the above-mentioned research needs.
- A resolution mechanism for conflicting data management regimes
- Reciprocal access for research and data all over the Arctic

Reindeer herding in Finnmark, Norway. Photo: Halvor Dannevig

Research Need 6:
Inclusive creation, access and usage of knowledge

Societal Challenges

- **better understanding** of stake- and right-holders
- for the Arctic to keep it **a sustained homeland**
- applied and technology-oriented research to support the **technological challenges of data acquisition in extreme conditions** in Polar areas
- new and more **efficient methodologies and practices for data acquisition**, handling and analysis, and consideration of **different knowledge systems**
- adequate and **tailored dissemination** for targeted audiences & **building capacity**
- ensure that **results outlive the project life cycle** and are used for other means and applications.

Key questions

1. Co-production of knowledge as a benefit to societal stakeholders
2. Developing new technologies and improved capacities in observation, modelling and research in the Polar Regions
3. FAIR data management principles for polar data collections
4. Ensuring knowledge access and capacity building in Polar Regions
5. Exploiting available knowledge and data to address challenges in the Polar Regions

Research Need 6:
Inclusive creation, access and usage of knowledge

LEAD AUTHORS
Tina Schoolmeester
GRID-Arendal (Norway)
Giovanni Macelloni
CNR (Italy)

Recommendations

- Allocate resources for **design and implementation of standardised data management**
- Support research that addresses the identification of **interdisciplinary observations**
- Coordinated calls for **seed money to enable co-production of projects, support capacity building, promote excellence** at the level of universities and research institutes.
- Establishing **cross-border higher education exchange programmes** for Polar nations to share polar knowledge and experiences
- **Nurture public education and outreach initiatives** – including policy and decision makers
- Equitable platforms based on **community-driven research** and creation of partnerships between research and the private sector
- Demonstration or pilot projects to test **how the research results can address the societal needs in practice**

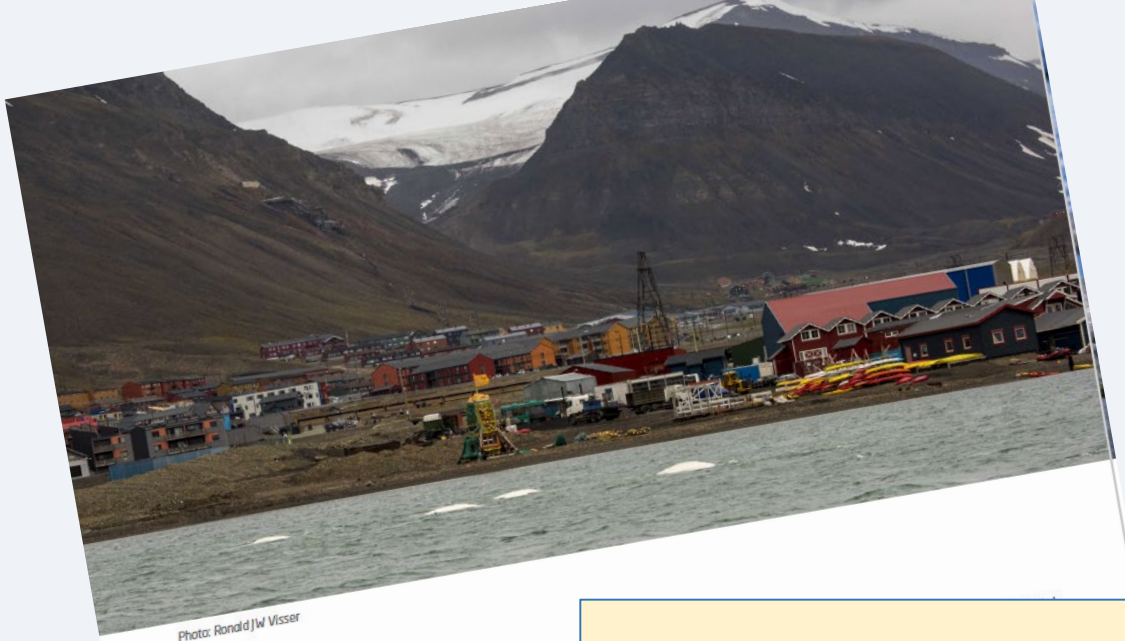


Photo: Ronald JW Visser

y mapping workshop between reindeer herders and re-
derstand the complexities of land use and land use change.

www.eu-polarnet.eu/call/

Key Question 4.3.
Economic innovations for sustainable development of Arctic communities

Arctic local economies have until recently been based on a few industries only, often within natural resource extraction, particularly petroleum, mineral extraction, and fisheries. This exposes them and makes them vulnerable to global changes in demand, particularly anticipating a future circular economy, requesting less of these resources. At the same time new service- and tech-based industries are of increasing importance for local economies. Tourism activities are growing rapidly in several Arctic regions, providing economic development opportunities, but also threatening fragile ecosystems and local cultures (e.g. Arctic Council, 2016). After a temporary drop in mineral prices after the financial crisis in 2008, the demand for minerals has again shot upwards, and there is yet again increasing extractive industry activity in the circumpolar North. Retreating sea ice is allowing for increased maritime traffic in the Arctic Ocean, with hitherto unknown consequences for local communities. The retreating sea ice is hampering traditional hunting practices, which again affect the availability of traditional foods in some communities (Hovelsrud, et al. 2017; RN 3). Subsistence activities constitute an important part of local economies, even though the importance varies greatly between regions. Climate- and ecosystem change does also have impacts on the relationship between subsistence activities and local industrial activity (Statistics Norway, 2015).

There is a lack of adequate indicators for measuring well-being and local economic development in the Arctic, taking their multi-level connectivity with global trends and changes into con-

activities aimed at

tic:

- More knowledge about how economic activity can be sustained in peripheral Arctic communities and how it can contribute to welfare and desired demographic development,
- A better understanding about how the need for increased economic activity can be met while at the same time balancing the benefits of such development against its negative impacts, and for new business models that ensures sustainable local value creation from the increased activity,
- More knowledge about how the increased maritime activity affects local communities and how it can be utilised for sustainable local value creation,
- A better understanding of the interdependency between traditional subsistence activities and industrial activity – particularly with respect to the decline in food security caused by diminishing availability of traditional food, and how climate change affects this interdependency, and
- Develop a set of indicators that are representative of the Arctic, in order to understand and monitor the socio-economic developments.

change in Polar Regions, these different stakeholders can benefit from having access to the best up-to-date knowledge tailored to their needs (KQ 6.4).

The types of knowledge required by different stakeholders will depend on the purpose of the decision to be made and the way it will be incorporated into strategic planning and decision-making. Whereas some stakeholders may be more interested in the dissemination of knowledge to contribute to developing their agendas (e.g. NGOs for preserving biodiversity), policy-makers may require access to relevant and evidence-based knowledge, ready to be integrated into actionable regulations and policies. On the other hand, industry and businesses are often looking for new products that, making use of the latest scientific knowledge and innovations, target problem-solving and support decision-making. Indigenous and local communities could be more concerned about finding sustainable solutions to their day-to-day challenges, due to increased global impacts on their livelihoods (Figure 11). The conversation between Indigenous knowledge and science is crucial in that respect (KQ 6.2).

The urgency implied by research findings related to climate change in Polar Regions seems to be disconnected sometimes from the political reaction. However, actual integration of knowledge into polar decision-making has already been reported to

nd decision-making in various socio-economic
ut not limited to shipping, search and rescue,
tion of the risk of avalanches[25].

A more generalised and sustained exploitation of available knowledge to address challenges in Polar Regions would benefit from the:

- Development of equitable platforms to help local and Indigenous communities to make informed decisions. Such platforms should integrate stories and knowledge assembled through community participatory mapping and knowledge sharing, and combine them with other existing cutting-edge services, such as satellite imagery, weather and climate information or tide reports (KQ 6.3).
- Use of participatory techniques such as scenario analysis (Carson, et al. 2019) to improve understanding and illustrate the added value of using evidence-based knowledge for decision-making,
- Development of prototypes or proofs of concept for user-relevant products or services illustrating the potential of available knowledge. Such tools can incentivise the uptake of knowledge by stakeholders and pave the way towards a possible operational use,
- Development of Decision Support Tools (DSTs). Key challenges for their implementation include, among others, the logistics of operating and maintaining the continuous delivery of information in Polar Regions, and
- Establishment of effective methods to improve policy understanding (e.g. regular policy briefings).

[25] Blog Polar Prediction Matters

A multiple-review process

1. Stakeholder Panel

- Javier ARATA (Antarctic Krill Fisheries, Chile)
- Mininnguaq KLEIST (Greenland's Department of Foreign Affairs)
- Allen POPE (IASC)
- Hannah HOAG (Freelance journalist, Canada)
- Åsa LARSSON-BLIND (Saami Council)
- Marina VILLEGAS (AEI, Spain)
- Chandrika NATH (UK)
- Claire Christian (ASOC)
- Paolo RUTI (WMO)

2. EU-PolarNet consortium

- 20+ partners

3. External Expert Advisory Board

- David Scott (President of Polar Knowledge Canada)
- Kim Crosbie (Executive Director of IAATO)
- Carlota Escutia (ECORD Science Coordinator)
- Susan Barr (IASC President, Norwegian Directorate for Cultural Heritage)
- Fran Ulmer (Chair of U.S. Arctic Research Commission)
- Steven Chown (SCAR President)
- Renuka Badhe (EPB), chair of the EEAB

4. Volunteer external reviewers

- +35 national reviewers

EU-PolarNet Working Group

Thanks a lot for the attention and please visit www.eu-polarnet.eu for further information

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