IPA Action Group Application

Title of proposed Action Group:

Permafrost and Culture: Integrating environmental, geo-, and social sciences to assess permafrost dynamics and indigenous land use

Action Group Contact:

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Objectives and scope of the Action Group:

This proposal seeks financial and institutional support for Step Three of the ongoing project and the activities of the IPA AG “Permafrost and Culture (PaC)”.

Led by a team of social anthropologists and geographers, this initiative explores the interaction of permafrost and indigenous land use in different regions across the circumpolar North. Step One – an examination of thermokarst basins in Central Yakutia and Sakha animal husbandry – was taken with financial support of IASC, which funded an ICARP-III Workshop at the ASSW 2014 in Helsinki. As a result, the International Permafrost Association constituted the PaC Action Group (2014-2016) to investigate indigenous land use in permafrost regions more closely. In Central Yakutia, a workshop was conducted in July 2015. With the intention to attain a comparative perspective for the entire permafrost area (North America, Northern and Inner Asia), Step Two (2016-2018) was implemented in the lowland area just west of the Polar Urals, that is, in a region with comparatively “warm” and sensitive permafrost. Owing to different (in fact, competing) systems of reindeer herding, the grazing pressure is relatively high. A workshop organized in Vorkuta in September 2017 made evident that in this region, the linkage between permafrost degradation and pastoralism is mediated by vegetation change. In Step Three, we now envisage to include a third region, studying indigenous land use in permafrost areas of Northern Mongolia, notably in the Selenge District and/or Khentii District.

Upcoming Task

This request for support of IPA is meant to address a specific activity: a workshop in Ulaanbaatar in March 2019 with approx. 20 researchers (10 from within Mongolia, 10 from
outside) and 15 local students, to discuss the state of permafrost and pastoralism in Mongolia and develop relevant research projects (methodology, field research sites, partners to be involved, data analysis, and outreach). Furthermore, the programme on Day 2 includes a session specifically designed for students of geography and other relevant disciplines. A field excursion is planned for Day 2 (afternoon) and Day 3 to the permafrost and weather observatory at Terelj near Ulaanbaatar. This international long-term monitoring site offers an overview of permafrost conditions in northern Mongolia in relation to different environmental conditions and provides on-site possibilities to discuss the interrelations between permafrost dynamics and human activities in the areas north of and around Ulaanbaatar city.

The PaC Action Group has secured financial support from IASC (5,000 euros) to cover most of the travel expenses of participants from outside Mongolia (the other participants will be from the Mongolian State University and Academy of Sciences, in addition to a high percentage of PhD students). Universität Hamburg will contribute another 1,100 euros.

This proposal seeks financial support in particular for covering travel and accommodation expenses during the workshop's field excursion for all participants, including young researchers from the Mongolian State University and the Mongolian Academy of Sciences.

a. **Why is this activity significant and how does it relate to the objectives of the IPA?**

While scientific investigations of permafrost and environmental change (including climate change) have received considerable attention over the last decade, their connection with economic, social, and cultural processes is understudied as of yet. Very few researches have thus far looked at renewable resource use, animal husbandry, and indigenous livelihoods in the light of permafrost. There is very little knowledge on how Arctic, Sub-Arctic, and Inner Asian communities have adapted and responded to the relatively high changeability of natural conditions in permafrost landscapes, and how they assess resource-use prospects in the light of possibly massive permafrost degradation.

The IPA PaC Action Group pursues (1) the assessment of how local communities have made use and are making use of permafrost landscapes for subsistence activities, (2) the understanding of human-environment interactions in permafrost landscapes in relation to climate change, and (3) the exploration of the extent to which humans – in this case, mobile pastoralists – have appropriated and possibly shaped permafrost landscapes, both in the short range of the current period and the mid-term, i.e. over several centuries. Furthermore, the action group aims to make permafrost dynamics understandable and relevant for social-sciences research in the circumpolar North and Inner Asia and to demonstrate the importance of transdisciplinary work in an exemplary manner.

b. **Who will undertake the project and what steps will be taken to ensure that its objectives are met?**

Joachim Otto Habeck and Mathias Ulrich (main applicants) will be responsible for implementation of all steps. Habeck is an expert on animal husbandry in Siberia and the Far North of Russia. Furthermore, owing to 2.5 years of studying Mongolian language, culture, and history, he has a fair command of the local language. Ulrich is a permafrost geo-scientist with focus on permafrost degradation processes, landscape dynamics and ecological consequences. Habeck and Ulrich have launched 2014 this transdisciplinary IPA and IASC initiative
of studying the economic, social and cultural significance of permafrost (thermokarst) landscapes. Responsible for logistics and facilities in Ulaanbaatar is A. Dashtseren.

Other researchers to be involved are: S. Crate (USA); Y. Iijima, M. Ishikawa, H. Takakura (Japan), A. Yakovlev (Russia), Bruce Forbes, Timo Kumpula, Marina Verdonen (Finland), and approx. 10 Mongolian researchers. All participants have looked into diverse aspects of permafrost and land use in Northern Asia. Dashtseren and Ishikawa have studied permafrost and landscape development in the central part of Mongolia. Further, Dashtseren, Ishikawa, and Iijima conducted research on temperature regimes in northern Mongolia. Takakura has conducted research on permafrost and pastoral land use in the Republic of Sakha (Central Yakutia), recently he started social-scientific research in Mongolia. Crate has worked on climate change in rural communities of Sakha (Yakutia) and published on permafrost and land use in Sakha with Takakura, Iijima, Ulrich and Habeck. Crate has also commenced research on climate change and rural communities in Mongolia. Yakovlev is a scientist from Yakutsk who participated in a previous workshop and has led a student excursion into Mongolia. Forbes and Kumpula have studied the linkage of environmental change and indigenous pastoral forms of land use in several regions of Russia. Verdonen is early-career researcher working under the supervision of Kumpula.

c. How will it benefit IPA members, the scientific or engineering communities, policy-makers or the general public?

Though not located in the Arctic, large parts of Mongolia are characterized by permafrost. Similar to neighbouring Siberia, pastoralism is an important source of income and subsistence for many inhabitants. This form of land use is strongly dependent on environmental conditions. In permafrost regions, changes in the landscape and thus in the resource base may proceed rather rapidly and in unprecedented ways. Reversely, animal husbandry may also have an impact on local and regional environmental conditions, as was demonstrated in earlier workshops of this research initiative. The main scientific benefit is a comparison of how local inhabitants deal with environmental change – in different parts of Asia’s vast area of permafrost. While the envisaged event will not have significant outreach to the general public at this stage, it does offer direct benefits for MSU students.

Timeline:

- November 2018: Preparation of the workshop
- 20-24 March 2019: Three-day workshop in Ulaanbaatar (20 participants) including a field excursion and a training course for 15 students of geography
- May 2019: Workshop report to be prepared and submitted to IASC
- June 2019: Report for Frozen Ground
- From June 2019 onwards: Scientific publication summing up the three stages of PaC
- From June 2019 onwards: Research project proposal to be written

Deliverables:

- Workshop report (May 2019)
- Report for Frozen Ground (June 2019)
- Research project proposal (later in 2019)
- Scientific publication summing up the three stages of PaC (later in 2019)
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For Day 2 of the workshop, a half-day training course is planned for students and young scientists from the Mongolian State University and the Mongolian Academy of Sciences introducing research topics and methods of the foreign workshop participants.

**International dimension:**

The Social & Human Sciences Working Group of IASC explicitly promotes research on long-term human-environmental interaction and landscape dynamics. To this end, a crosscutting IASC initiative is underway. The proposed IPA Action Group can productively tie into this IASC initiative, which is also likely to receive support from IASSA (International Arctic Social Sciences Association). Furthermore, the workshop will bring together long-standing research teams from Japan, Mongolia, Russia etc. (working in northeast Russia and Mongolia) with those from Finland and other countries (conducting research mainly in northwest Russia), bridging gaps in regional scientific agendas.

**Budget:**

The budget is intended to cover expenses of activities in spring 2019. We estimate about 2,000 euros to be necessary in particular for covering travel and accommodation expenses during the workshop's field excursion for all participants. Additionally, applicants request 500 euros to cover the travel expenses of Marina Verdonen, early-career researcher from Finland.

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| Transport to Terelj, permafrost and weather observatory:  
bus to be hired, two days @ 100 euros (incl. fuel) per day         | 200  |
| Accommodation (one night) and board for 20 participants in Terelj  
(90 euros per participant)                                         | 1,800|
| Travel for one early-career researcher from Finland to Mongolia and back: Marina Verdonen, University of Eastern Finland | 500  |
| **Total**                                                           | **2,500** |
Secretarial support:

The Action Group has an active steering group and will require limited support from the IPA Secretariat. The steering group will maintain close contact with the Secretariat to discuss efficient dissemination strategies of the Action Group’s activities and products.