PhD Dissertation
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Title: Climate Change in Oymyakon: Perceptions, Responses and How Local Knowledge May Inform Policy

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ABSTRACT

Climate change is a serious threat to people's well-being, with adverse impacts on their health, livelihoods, water supplies, and food security (Paris Agreement, 2015; WWF, 2019; IPCC, 2018; 2019). The impacts of contemporary environmental changes multiply the existing problems of local Indigenous communities, especially those who still maintain a traditional lifestyle and depend on agricultural and livestock production, (Lybbert et al., 2010; Rayogorodetsky, 2011; IPCC, 2014; ILO, 2017). These problems force Indigenous communities to adapt to more challenging conditions and disproportionately increases their vulnerability. Therefore, effective adaptation measures to climate change for the Arctic [and other Indigenous communities around the world] can be developed only by considering the many factors that Indigenous peoples face in historical and contemporary contexts, including rapid social and cultural changes as well as globalization (ACIA, Nuttall 2005; Norton-Smith et al., 2016; Crate 2014; 2017; Huntington et al., 2019).

This dissertation aims to advance this knowledge through partnering with Indigenous communities, specifically the Sakha and Éven, in the Oymyakon county of Sakha Republic, Russia. The main research question is: How do Sakha and Éven of Oymyakon perceive, understand and respond to effects of climate change, and how can their traditional knowledge inform and influence climate change policy?

The results of this research add to the existing knowledge of how Indigenous people of the Russian North adapt to the pressures created by climate change and what aspects of their traditional knowledge and culture they perceive as key to their adaptation and sustainable life. This research will generate multiple levels of outcomes: 1) On the community level, "best practices" are identified, which serves to bolster local adaptive responses and reify vernacular knowledge ways; 2) On the regional level, the findings can inform policymakers about the increased efficacy of a "bottom-up" approach, as

compared to a "top-down”, and thereby quicken the inclusion of Indigenous communities in climate change adaptation policy; and, 3) On the academic level, this research has implications for scientific relevance that can potentially shape policy implications for people worldwide.

Upon publication in a monograph, peer-reviewed publication or policy briefing, the outcomes of this research could inform Indigenous peoples around the world about Russia's northern Indigenous peoples' adaptation strategies, which could help draw parallels and assist in choosing better strategies in adaptation to their own changing conditions. Evidence-based results and recommendations of the study can be used as the basis in a call for transformative action, where Indigenous peoples, who are the holders of cultural values and Indigenous knowledge, should be able to participate in the decision- making processes in their regions. The results of the dissertation research address objectives of the Arctic Resilience Action Framework (2017), and follow the Paris Agreement under the UN Framework Convention on Climate Change (2015) that recognizes the important role of Indigenous knowledge in adaptation strategies along with science.

The research for this dissertation was conducted by myself, an Indigenous Sakha scholar originally of the Sakha Republic and grounded in Indigenous knowledge via a Community Based Participatory Research (CBPR) approach (Allen et al., 2013). This study was initially supported via Dr. Susan Crate’s 2009-2012 PHENARC project, National Science Foundation award #0902146 with 2015-2016 dissertation research support from the U.S. National Science Foundation, award number is #1439468.