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THE LIMIT OF PASTORAL ADAPTATION TO PERMAFROST REGION UNDER GLOBAL WARMING: THE SAKHA PEOPLE IN THE MIDDLE BASIN OF LENA RIVER

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The purpose of this paper is to argue the impacts of global warming to the human livelihood in permafrost region. The focus is on the indigenous pastoralism of Sakha people in eastern Siberia. Unlike the other arctic region, the permafrost has developed here latitude-extensively from Baikal lake to the arctic coast. It was key element for the evolution of Sakha cattle-horse pastoralism in the middle basin of Lena River who had historically moved from the southern steppe of inner Asia. The people use the grassland resources for animal husbandry in the alas or thermokarst landscape in permafrost. Although the way is quite different form of subsistence of other arctic indigenous peoples: hunter - gatherers or reindeer pastoralist, the adaptation of Sakha people has been relatively resilient in the past 500-700 years. The recent global warming could change the situation. According to the knowledge of hydro-ecologists, the increase of the precipitation is now observed in eastern Siberia, which resulted in the deepening of permafrost thawing and forest die off in land. The local meteorologists and admistration report the increase of flooding in local rivers. How these changes affect the local pastoral adaptation? While I describe the recent condition of the local grassland resource users and their perception of climate change from the anthropological field research, I examine the vulnerability of the pastoral adaptation of Sakha people. I try to present the scenario of the local pastoralism related to the global warming. Finally I would like to consider the role of permafrost as human space in anthro-history.

¹ Hiroki Takakura 2015 (in press) *Arctic Pastoralist Sakha: Evolution and Micro-adaptation in Siberia*. Melbourne: Trans Pacific Press.