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ASSIGNED  
TERRITORIES,  
FAMILY/CLAN  
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RESOURCES IN THE  
TAIMYR  
AUTONOMOUS  
REGION,  
NORTHERN RUSSIA

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## **Assigned Territories, Family/Clan Holdings, and Common-Pool Resources in the Taimyr Autonomous Region, Northern Russia**

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### **Abstract**

In the Taimyr Autonomous Region, an Arctic sub-unit of Krasnoyarskii Krai, in central Siberia, a variety of property relations have taken form in indigenous communities since the fall of the Soviet Union, in 1991. Two types of property established during the Soviet period, including both formally assigned territories and common-pool zones immediately surrounding each village, have been augmented by a third type. The newest arrangement, termed the ‘family-clan holding’ and more recently ‘territory of traditional nature-use’, is based on a formal claim with the state. While these arrangements and other legal measures have been adopted in recent years to promote the interests of indigenous Siberian communities in the post-Soviet period, collective bargaining with the regional government has been weak for lack of money and expertise, and thus, few people have ventured to make formal land claims. In addition, the collapsing state-sponsored rural economy in the Taimyr Region after 1991 has favored indigenous subsistence hunting and fishing as the preeminent mode of production. Concomitant changes in property relations have occurred. Two primary questions were asked: 1) What conditions favor the transformation of assigned territories into commonly held territories? And 2) Why is it that formal land claims (clan holdings) are not very widespread among an indigenous population pursuing an agenda of self-determination vis-à-vis a national government? A number of factors when taken together appear to favor common-pool land tenure in the study community, including ancestral proscriptions against overhunting; cross-cutting genealogical- and affinal-kinship relationships; cooperative hunting; non-market distribution of meat and fish; and economic leveling; as well as the migratory nature of the prey species, the distance from urban centers, and the high cost of transportation due to the lack of roads. Boundaries of hunting territories and favorite spots in the common pool zone are not defended as private property. Rather, social boundaries, maintained through cooperation of close bilateral kin and other local hunters, are implemented to manage the use of common hunting grounds. Non-local people are the most likely not to be included in user groups.

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## Introduction

This paper discusses the growth of informally managed common-pool hunting grounds, the relative lack of interest in family/clan holdings, and the weakening of the boundaries of assigned Soviet-era hunting territories surrounding one native Siberian community. Two primary questions were asked: 1) What conditions favor the transformation of assigned territories into commonly held territories? A corollary consideration was how management of common-pool hunting grounds is organized. And 2) Why is it that formal land claims (clan holdings or more recently territories of traditional nature-use) are not very widespread among an indigenous population pursuing an agenda of self-determination vis-à-vis a national government? These questions are significant for theoretical and historical reasons. The growth of locally and informally managed common hunting grounds in a contemporary context allows us to observe the mediation of the collective action problem (Ostrom 1990), a significant issue for those interested in sustainable development and common property (e.g., McCay and Jentoft 1998). Also, knowledge about the characteristics and direction of change in property relations in native communities is important for indigenous leaders in their discussions with the regional government about regulations and standards for evaluating indigenous land tenure.

The indigenous hunting-and-gathering community considered in this research is utilizing a form of land tenure — open access commons — despite the tight, decades-long control and apportioning of hunting parcels by the Soviet government and new opportunities to formally claim ancestral land. This historical development raises the question, What is the source of the traditional property relations? Recently, the Russian government has formally defined traditional property relations for indigenous Siberian peoples in its law on territories of traditional nature-use (No. 49-F3 of 7 May, 2001). This law, which came about partially as a result of lobbying efforts by the national indigenous Siberian political association (RAIPON), along with international human rights and environmental organizations, and anthropologists, is to aid native Siberians who want to practice their traditional way of life and have their land protected. The law defines traditional nature-use as a historically formed, non-exhausting method of use of animals, plants and other objects of natural resources. The law, however, does not specify standards for determining whether a method is non-exhausting or not. These standards are left to the regional governments and their

committees of land management. Another significant problem with the law is that formal claims with regional law-making bodies must be made in order to claim a territory, as was the case with the antecedent legislation on family/clan holdings. In many cases, such formal claims are prohibitively costly or practically impossible for indigenous people living in remote locales, who have minimal literacy and little experience with regional bureaucracy.

The Dolgan and the Nganasan are two of Russia's indigenous peoples of Siberia. After enduring 250 years as colonial subjects of czarist Russia, the Soviet government aimed to transform the native Siberians from so-called *inorodtsy*, or primitives, to socialist workers. The transformation, operating through the collectivization of property and settlement into permanent villages, was severe at its inception, and the Dolgan and Nganasan in my study community and other communities nearby eventually lost their domestic reindeer. At the collapse of the USSR, in 1991, the Dolgan and Nganasan worked for state-managed rural enterprises, hunting caribou (*Rangifer tarandus sibiricus*), fishing, trapping, and making crafts for the state. In the years following the Soviet collapse, the Dolgan and Nganasan have found themselves at the margins of an economy spiraling out of control with hyperinflation, privatization of industry, and speculation. While there has been some stabilization in the Russian economy following the 1998 crisis, the situation in indigenous communities distributed across the tundra and taiga has not improved. This depression is likely due to the relatively high costs of maintaining remote communities under the free market economy and budget limits of the regional government.

Dolgan and Nganasan informants have characterized management of property before collectivization during my interviews. These characteristics include informal negotiations between households on the location of procurement or direction of herding and composition of hunting and herding parties, reciprocal access to favorite hunting spots and cabins, and division of the resources procured. As mentioned above, such informal property relations appear to be expanding in the post-Soviet period vis-à-vis the two kinds of formal property. These are not mutually exclusive options, however, and formal land tenure under assigned territories is being maintained, but is weakening in ways that are consistent with traditional property relations. This paper discusses property relations as they are actually being implemented in a remote native Siberian community. A number of factors when taken together appear to favor common-pool land tenure in this community. These factors

include: ancestral proscriptions against overhunting; cross-cutting genealogical- and affinal-kinship relationships; cooperative hunting; non-market distribution of meat and fish; and economic leveling; as well as the migratory nature of the prey species, the distance from urban centers, and the high cost of transportation due to the lack of roads. Formal claims for property holdings, which the county government assigns on a case-by-case basis, are not as widespread as one might expect, for similar reasons.

Hunting territories assigned during the Soviet era were part of a brigade structure of the state enterprise system. The state enterprise system was an economy-of-scale institution for producing food and politically incorporating the native population (Anderson, 2000; Forsyth, 1992; Sergeyev, 1964). Hunting brigades were encouraged through bonuses and prizes to maximize production of wild reindeer meat, fish, and fur-bearers at or above planned harvests on their assigned territories. Brigade leaders, or brigadiers, had ultimate responsibility for the brigade's state-supplied capital (e.g., cabins, snowmobiles, fuel, generators, and rifles), game management, and productivity (cf. Humphrey, 1998). Assigned hunting territories, called *ugod'ia*, and the resources supplied by the state enterprise were to be the exclusive property of the brigade, and all that was produced there was to be turned into the state under that brigade's plan (cf. Anderson's (2000) discussion of exclusive territories). The assigned territories were not private in the Western sense, as the brigadier had no right to sell or transfer the property, and upon the dissolution of a brigade for any reason, the state enterprise would reassign the territory to another brigadier, who would put together a new brigade. Such transfers occurred fairly often in the 1970s and 1980s around Ust Avam. A brigadier was in effect a caretaker of state property, including the land and its resources, and any buildings and equipment. The state could administer punishment, such as deductions in pay and even imprisonment, for irresponsible use or loss of the property. Despite the potentially transitory nature of assigned territories, hunters had strong positive feelings for their *ugod'ia*, and many had ancestral ties to these lands. Hunters that maintained use rights to the assigned hunting-and-fishing *ugod'ia* in the 1990s were employed officially in the state hunting enterprise, although they were no longer receiving salaries. Their use of the territory was generally limited to subsistence hunting. There was a problem with contract payments, however, and hunters that turned in products in early 1997 were not paid.

The second type of property relation discussed here is what is termed a family/clan holding (*semiino-rodovoe khoziastvo*); these began to be allocated in 1992, partially in response to calls for self-determination by indigenous political leaders on the regional and national levels (Abrosimova, 1992; Aipin, 1994; Sangi 1991, 1992). The clan holdings were intended to help protect traditional territory and economic activities of native Siberian minorities while Russia was on the road to the free market and democracy. Approximately 50 clan holdings in the Taimyr Region have been formed following the 1992 presidential decree ordering the regions to develop regulations for distributing aboriginal lands (Yeltsin, 1992). As it turns out, most of the people that made land claims live in the Taimyr Region's urban centers and the holdings are in close proximity to the regional capital. Since 1992, only four family/clan holdings have been formed in the Avam tundra, which has over 40 possible hunting territories (according to the Soviet-era boundaries, which could be renegotiated). The members of these holdings are generally composed of bilaterally related kin; thus, the term "clan" does not have the same implications as the anthropological usage and was probably used by the government to emphasize the indigenous status of the organizers. In other regions, native land claims have been called communal holdings (*obschino-rodovoe khoziastvo*) and, more recently, territories of traditional nature use (*territoriia traditsionnogo prirodopol'zovaniia*) according to the national legislation. Family/clan holdings are taken at the expense of the assigned territories from the holdings of the region's state enterprises. In this manner, two state enterprises, located close to the Taimyr Region's capital and industrial city, have been largely redistributed as family/clan holdings. In villages that are more distant from the regional capital, there is a more negative attitude about land claims. At first, most remote villagers viewed the families or individuals that wanted to claim a holding as leaving the collective to become *fermery* or *arendatory* (farmers or renters), which was looked upon as a bad thing, on the principle that they might become rich at the expense of everyone else. In reality, nothing has been further from the truth. Those that claimed land have had little opportunity to make money, as transportation costs made their meat and fish prohibitively expensive in the Taimyr's urban centers, where low-cost, good-quality meat, shipped year-round from Europe and New Zealand, was available.

The third property type, which could be characterized as a common-pool resource, was present during the Soviet era in the form of "sport-hunting" territories

(*liubitel'skie ugod'ia*), small parcels surrounding remote villages that were to be used by those not employed as hunters in the state enterprise. Historically, hunting licenses were required to use the sport-hunting territory. In remote communities, these common-property hunting territories have expanded in recent years at the expense of assigned territories, and the field research investigated the changing local economic context and the importance of social networks in explaining the expansion of the commons.

Common property poses a well-known management dilemma: It is impossible to exclude numerous potential beneficiaries from use of the resources, and so when a population of beneficiaries enters into competitive use of the communal holding, the resultant increasing marginal utilization leads to the degradation of the commons (Hardin, 1968). Communal property is also seen as an impediment to capitalist development in the Russian case (e.g., Greenspan, 1997). However, an assumption that there is no social control in common-pool resources is misleading in the case of the Dolgan and Nganasan (cf. Gudeman, 2001). While currently there is little or no formal management — hunting licenses are not easy to obtain, with the cost of transportation to the regional capital so high — informal negotiation among the community's hunters generally results in amicable allocation of hunting spots in the common zone. With non-market distribution of the catch through kinship and friendship networks, and traditionally reinforced economic leveling of other wealth, production for personal profit is not common, and thus, competitive marginal utilization is minimized. With common-pool resources expanding in the Taimyr Autonomous Region, we may add to efforts to describe “the conditions under which groups of resource users can create and maintain viable systems of commons management” (McCay and Jentoft, 1998:23; cf. Eerkins, 1998; Feit, 1973, Ostrom, 1990). Specifically, the social means by which the commons are managed are described in this paper. Considering the high cost of transportation to this remote region, the existence of subsistence hunting economies and co-management of renewable resources is likely to be the best solution for local populations over the long run. Ust Avam provides an informative case study as one of several villages in the central Taimyr Region where subsistence economies and informal property relations have become critical to community survival.

## Ust Avam

A total of twelve months of field research took place in and around the settlement of Ust Avam between 1994 and 1997. In 2001, a return visit for four months allowed me to update the situation there. Currently, both Dolgan and Nganasan people inhabit Ust Avam (population 665) and the surrounding tundra, along with a minority of non-natives from other parts of the former Soviet Union. The Dolgan language is similar to Sakha (Yakut), the northernmost branch of the Turkic language family. The Dolgan were traditionally reindeer herders, trappers, and hunters, and their ethnic group coalesced from Yakut, Evenk, and Russian populations that moved into the Taimyr Region from the 17<sup>th</sup> century (Dolgikh, 1963; Popov, 1935, 1937). The current Dolgan population is close to 6,000. Nganasan is one of three languages in the Samoyedic branch of the Uralic language family (Dolgikh, 1952; Popov, 1936). The Nganasan, known historically as hunter-gatherers, also used domestic reindeer for transportation in the 19<sup>th</sup> and early 20<sup>th</sup> centuries (cf. Ingold, 1980). The majority of the approximately 1,000 Nganasan presently live alongside the Dolgan in three permanent settlements in the Taimyr Autonomous Region, one of which is Ust Avam. Five collective farms were combined to form the Ust Avam community; these collectives represented three Dolgan and two Nganasan bands that existed prior to the advent of the Soviet administration, in 1930 (Ziker, 1998b).

In June of 1971, the Russian Federation's Soviet of Ministries created the *gospromkhoz* Taimyrskii, a commercial hunting enterprise in the central Taimyr lowlands. The Avam tundra peoples were included in this organization, which was intended to develop and "rationally exploit" wild-animal resources in the Piasina and Dudypa river drainages. The *gospromkhoz* was a supplier of meat, fish, and furs for the population of Norilsk, which is comprised mostly of *priezhie*, or non-locals (new arrivals, literally), to the region. Norilsk produces approximately one third of the nickel sold on the world market, as well as palladium, cobalt, and other rare metals. At its height, more than 250,000 people lived and worked in Norilsk. The *gospromkhoz* was granted a 10,000,000-hectare parcel extending from the Putorana Mountains in the south to the lower Piasina River in the north. The central office was located near Norilsk on the Norilka River, which drains into Lake Piasina and north to the Piasina River, the main north-south transportation artery. Ust Avam, located 400 kilometers from Norilsk by river, served as the center of the Ust Avam division of the



enterprise, where the native Dolgan and Nganasan population was concentrated. Only a few families remained in the western and northern hunting lands. The *gospromkhoz* encouraged hunting and fishing using mechanized transport, and discouraged reindeer herding. Within the Ust Avam division, the *gospromkhoz* created 20 hunting territories, the *ugod'ia* mentioned above. These territories, some of which encompassed hundreds of square kilometers, were provided to the brigades with cabins, capital equipment, and supplies for mechanized hunting. By 1976, the *gospromkhoz* had 443 workers, including 118 salaried hunters.

Ethnographic study and participant observation were combined with socio-demographic survey in Ust Avam and archival research in the regional capital, Dudinka, to evaluate the costs and benefits of each type of property relation. On some 120 foraging excursions with Dolgan and Nganasan hunters, I documented production techniques and use of renewable resources. Structured interviews among 79 of 164 households in Ust Avam included questions on the topics of economic exchange, family land-use history, sharing patterns, incomes, consumption requirements, and demographics. I used a hierarchical sampling strategy, which included men and women in both ethnic groups and in four types of income sectors (hunters, other *gospromkhoz* workers, civil service workers, and those on state welfare or pension). I have described the worsening economic situation in Ust Avam in a number of articles (e.g., Ziker, 1998a, 1999; Ziker and Shmetterling, 1997).

### **Transformation of Assigned Territories**

Figure 1 shows Ust Avam, the surrounding low-lying tundra, and the Putorana Mountains in the south. I recorded the location of the points represented on the map using an off-the-shelf Garmin GPS instrument. The unnumbered points on the Piasina River are hunting cabins and slaughtering facilities in the Kresty subdivision of the *gospromkhoz* Taimyrskii. In the 1970s, the Piasina River became the main focus for the *gospromkhoz*'s fall "on-water" caribou hunt — conducted using small aluminum boats and shotguns. By the mid-1980s, more than 30,000 caribou per year were being harvested, mostly on the Piasina River by non-indigenous sport hunters from Norilsk. The sport hunters would be paid for the number of caribou turned in, of course, and could make in a few weeks as much as or more than their annual salary at their regular job. Assignment at one of the *gospromkhoz* seasonal brigades on the Piasina

River was often achieved through personal favors (*po blaty*) to the *gospromkhoz* administration, according to indigenous hunters in the area.

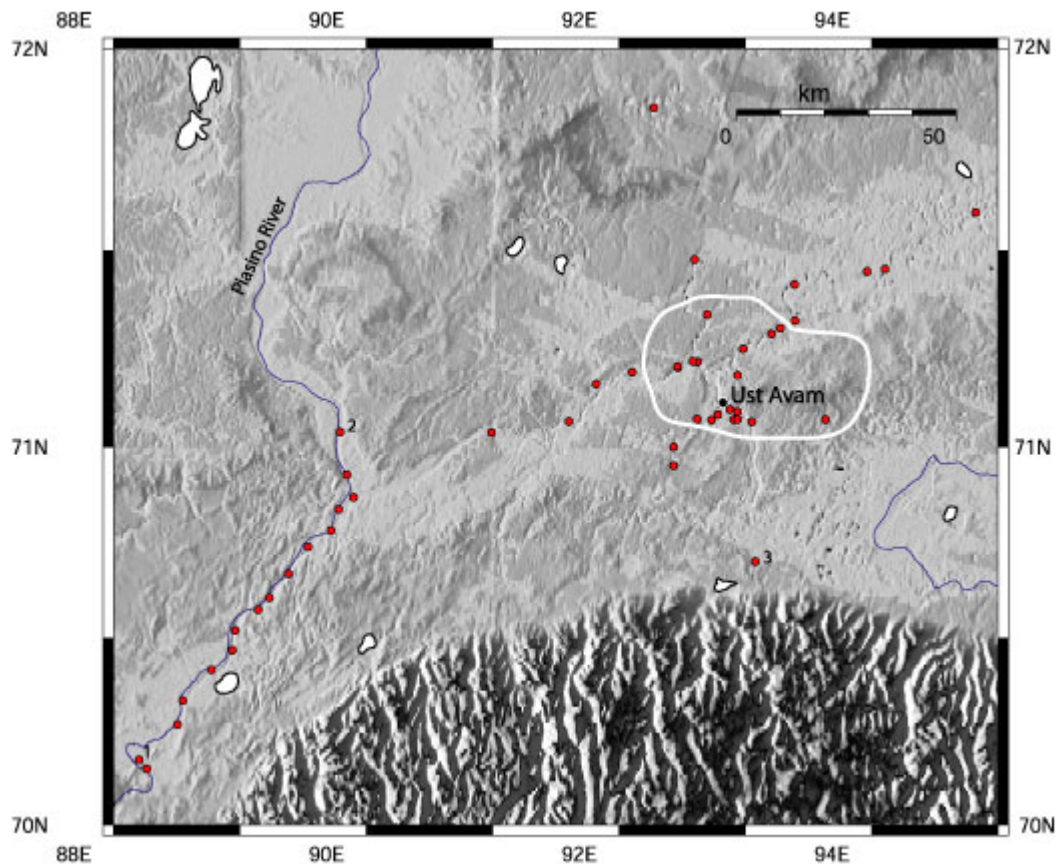


Figure 1. The Central Taimyr Lowlands, with locations of Ust Avam, assigned hunting cabins, and hunting spots in the common-pool hunting grounds (Map J. Ziker and D. Mann).

The unnumbered points surrounding the white ring encircling Ust Avam represent cabins on hunting *ugod'ia* in the Avam subdivision of the *gospromkhoz*. The indigenous population of the Avam tundra area was concentrated in Ust Avam through collectivization and amalgamation of collectives, a process completed in 1971. Sixteen brigades of hunters, usually members of extended families living in Ust Avam, were assigned to these territories. In three cases, however, pairs of unrelated hunters constitute the brigade. Ust Avam's brigades, which mainly included two or three hunters, had plans and supplies to shoot 50 caribou per hunter on land after the rivers froze, in addition to plans for fish and arctic fox. In most cases, the brigades originally assigned to the territory (or their sons) are still using the territory, where they are still responsible for the equipment and buildings, and occasionally turn some products into the *gospromkhoz*, as mentioned above. In 2001, two brigades turned in

80 caribou from the fall 'on-land' hunt. Both brigades, however, kept more caribou for their own use than they turned in to the *gospromkhoz*. Points 1 and 2 are family/clan holdings, whose owners also have apartments in Dudinka and live part of the year in the city. Points 1 and 2, and their considerable surrounding hunting grounds, were originally part of the Kresty subdivision of the *gospromkhoz* Taimyrskii. The hunters at those spots in effect privatized their assigned territory.

Points inside the white ring are informally allocated hunting spots within the common-pool territory surrounding Ust Avam. Only a few of the major points I visited are represented here. Since 1993, this common-pool zone has expanded on account of the fact that two contiguous assigned territories were not reassigned to other staff hunters or family/clan holdings when the brigades disbanded. In one case, the hunter assigned to the territory passed away. In another, the non-native brigadier that worked seasonally at the territory did not return after 1996. The *gospromkhoz* could reassign these open territories, and the capital equipment and buildings on them, to other hunters in Ust Avam. Conversely, a family could organize and claim the territories under the regional regulations for forming family/clan holdings. At present, the effectively unemployed hunters of Ust Avam use the buildings and territories on these abandoned *ugod'ia* for subsistence hunting, thus expanding the community's common-pool resource.

Point 3 is one of two family/clan holdings in Avam territory, and the owners live in Ust Avam. A large hunting parcel lies to the south and west of point 3 — close to 8,000 square kilometers in the lowlands, foothills, and Putorana Mountains. The distance to these areas from Ust Avam, however, along with the degradation of mechanized transport, means that the owners and members of the holding rarely, if ever, visit the territory. A fourth family clan holding was formed in 1998, with its territory beginning approximately 100 km to the west of point 3. Since its formation, the members of this fourth holding have not been able to visit their hunting grounds due to lack of fuel.

The majority of the family/clan holdings in the Taimyr Region have been located near, or with good water access to, the region's urban centers, Dudinka and Norilsk. Few family/clan holdings are located in and around the 17 rural settlements, where most of the native population lives. Of 46 holdings in Dudinka District, 29 were on

land contiguous with the city of Dudinka.<sup>2</sup> Proximity to the Taimyr's urban centers likely facilitated access to services, markets, and government, which are necessary for active use of the holding. Twelve holdings were on lands more distant from the city, but three of these had access to Norilsk by water (points 1 and 2 on Figure 1). The river historically has had significant summer traffic: tugboats and barges, 30- to 150-ton freighters, and small aluminum boats to enable transport of goods to the Norilsk market. Four holdings are located near the community of Volochanka, 90 kilometers east of Ust Avam. Transportation to Volochanka, as to Ust Avam, is expensive because of its location — large-scale transportation by water is possible only during a short period in the summer. Access to markets is difficult for the owners of these holdings, and they have generally come to be used for subsistence foraging.

## **Management of Hunting Grounds**

### *Rules and Obligations*

The social context of property relations in Ust Avam is important for understanding the non-market direction it has taken in the post-Soviet period. Following recent discussions of property relations in anthropology (e.g. Hann, 1998; Wilk, 1996), I believe that a number of traditional cosmological proscriptions and prescriptions serve to subordinate individual maximization of land and resource use in Ust Avam. These proscriptions and prescriptions facilitate the transformation of assigned territories to common-pool territories and promote their effective management. The continuing transmission of these traditions from generation to generation is necessary for sustainable long-term management of the common-pool resource. These land-management traditions are not always agreed upon within the community. There is significant variation from family to family, not to mention between the Dolgan and Nganasan. While there may, for example, be some disagreement between traditions on whether a moose should be hunted or not, if one is killed, then the meat is distributed to a wide circle, thus fulfilling a different land-management tradition. The

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<sup>2</sup> To locate family/clan holdings in the Taimyr region, I spent a few weeks in the spring of 1997 in the Government Archive of the Taimyr Autonomous Region and the Dudinka City Committee of Land Resources. I reviewed 110 district decisions (*postanovlenie*) in which land was taken from, or assigned to, newly formed holdings. A number of these decisions were for non-native ("peasant") hunting or fishing holdings or "rest bases." These holdings are generally one-hectare parcels, located close to Dudinka or Norilsk.

fact that families may disagree about which traditions are important reveals the significance of ancestors and elders in the process of transmission, since many of the specifics are limited to one extended family. Ancestors encourage sharing and cooperation among descendants through living elders, who also encourage the perpetuation of the rules and obligations through time.

The first important tradition in Dolgan and Nganasan property relations is what is known as the law of the tundra (*zakon tundry*). The law of the tundra sets two basic requirements for hunters. First, hunters should help one another with food, labor, and other goods and services. Reciprocity, known locally as “mutual aid” (in Russian), something that the Soviets attempted desperately to stop as a vestige of primitive communism, is viewed as an integral part of the hunter’s contract with the tundra (cf. Anderson, 1998; Bird-David, 1992). This is not a contract in the formal sense of the word. A number of hunters stated to me that if they did not give food to other people, then the tundra would prevent them from successful hunting. Greed will eventually backfire, in other words. Related to this point, living in some proximity with and helping other people is the lesson of a number of traditional Dolgan and Nganasan stories (Ziker, in press). Second, hunters must not overuse the tundra’s resources. Ancestors have told members of the present generation that the “essences” of the tundra or spirits of dead ancestors will punish those that hunt too much. The early death of a hunter who was known for killing more than needed, or the misfortune of their relative, is taken as evidence of supernatural retribution for the hunter’s overhunting. In this way the law of the tundra is a powerful metaphor used by most elder Dolgan and Nganasan to encourage sharing and to discourage self-aggrandizing behavior.

Another type of tradition in the central Taimyr lowlands relevant to the direction of change in property relations has to do with sacred places. A belief in sacred places is widespread among the native people of Siberia (cf. Gurvich, 1986; Humphrey, 1998; King, n.d.). Two types of activities — a ritual sacrifice and a rite of passage — occurred traditionally at sacred spots of the Dolgan and Nganasan. Members of both ethnic groups made sacrifices at sacred places, sometimes at the same place and at the same time. These sacred places required regular visits, usually with a shaman, and sacrifices of reindeer meat or personal items, such as a button, a bullet, matches, or cigarettes. Strips of fur were also tied to trees or to a pole and crosspiece (*törö* in Dolgan). These ritual visits are not made anymore because of the distance — the

sacred places were in the mountains or the foothills, at a location passed on the annual reindeer-herding migration. They are still talked about, however, especially on hunting trips when elders point out their locations and instructions for traveling to them. In practice, when Dolgan and Nganasan hunters travel to a new place in the tundra, it is said that it is important to make a sacrifice to that place, such as a bullet, some coins, or buttons. I have observed such sacrifices. If the sacrifice is not made, it is said that the hunting or fishing will not be productive, and that something bad may happen to the people.

My information on rites of passage pertains only to the Dolgan. Certain rock formations that resembled humans, or man-made items, such as an anvil or a table, were the venues for rites, around which children, for example, would pass three times in order to prevent illness. In the case of both sacrifices and rites of passage, participation in the ritual symbolizes the people's acceptance of the ancestrally defined contract with nature presented through elders. In 1997, heads of households in Ust Avam were asked a series of questions about their use of the tundra and sacred locations as part of my survey of the community. Of the 35 men and 30 women who answered the question "Did or does your family have special or sacred spots in the tundra or mountains?" 19 men and 16 women stated that they did have such locations; 16 men and 14 women said that they did not. This question did not inquire about ownership, only knowledge. When asked, "Do you work in the tundra?" the respondents were just about equally divided between those who answered yes and those who answered no to the first question, so there was no correlation between working in the tundra (i.e., engagement) and having sacred spots. Some informants answered that their parents had such places but that they did not know where they were (this counted as a yes to the first question). Knowledge of family history, rather than presence in the bush, is the likely factor in whether respondents claimed to have sacred places.

The law of the tundra and rights of passage at sacred places are examples of ancestral encouragement of proper relations among co-descendants and community members with regard to use of the land. Another way that ancestors channel the behavior of the living through elders is through the concept of sin (*ani* in Dolgan). The sin concept is the mechanism used to reinforce the power of the spiritual world through elders, having relevance for property relations as the way rules and obligations are enforced. The power of the mechanism comes from everyday

reminders, such as a grandmother telling her granddaughter that it is a sin to walk on ashes, out of respect for the spirit of fire. Behavior is often framed in terms of sin, and it seems that new sins are thought up all the time to emphasize respect for elders and the spirits of the tundra. If sin occurs, there is the potential for supernatural retribution. The possibility of supernatural retribution is believable, since when something bad does happen, the cause is easily related to the committing of a sin, such as breaking of the laws of nature (and cooperation). The effect of the sin concept is that the elders' power is reinforced, sharing is encouraged, and self-interested behavior is discouraged, as ancestors require all their descendants to follow the rules or face potential retribution. Most importantly, those that accept the ancestral definition of sin are signaling their willingness to cooperate. While the Dolgan were officially converted to Russian orthodoxy in the 19<sup>th</sup> century, their definitions of sin, references to sacred places, and the law of the tundra are similar to those of the Nganasan, who never accepted Christianity as a group. Animist elements of cosmology crosscut both groups and serve to mediate social and property relations in the community.

The last of the rules of Dolgan and Nganasan property relations I discuss here is related to food distribution and consumption. Food and other resources from the tundra are distributed within the community as mentioned under the law of the tundra. Many types of people are included in the distribution networks: relatives, friends, pensioners, single mothers, and other people who request help. Because of the distribution of raw food products, accumulation is limited and the maximization of return rates in hunting, which provided large cash benefits in the Soviet period, provides only increasing drudgery in the present (cf. Chayanov, 1966). The lack of a market sector for country food limits the competitive use of natural resources. Many people in Ust Avam told me that half the village was related to them in some way or another and, if need be, they could go around to a different relative for every meal. In that way they would visit a given relative's household to eat less than once in a month or so (assuming half the 160 households in Ust Avam were related and they visited two to three households a day). In reality, ubiquitous sponging off relatives does not occur for households with active hunters. However, visiting relatives and friends is an important part of daily life in Ust Avam, and hosts are usually hospitable, covering the table, as they say, with some food to go along with tea. Visiting is one of the main social activities in the village, and relatives and close friends are apt to knock on the

door and walk in at almost any time of the day. More rarely, unrelated people and more distant friends will stop in to visit. Since tea and food are almost always served to guests, foods that the hosting household has, but the guests might not have, reflecting variation in household production, will be equalized to some extent. Food distribution after a hunt provides another venue for economic leveling in Ust Avam. While participation in food giving and sharing is not an absolute, resistance to sharing can quickly lead to gossip about stinginess, and the community is small enough that reputations could be damaged in short order, thus reducing an individual's pool of future cooperators.

### *Regulation of Resources and Territories*

In semi-structured interviews of 31 hunters in the Taimyr (1997) I included a number of questions about the level of exclusivity hunters perceived for their territory. In most documented hunting-and-gathering societies, some resources, such as water holes among the Dobe Ju/hoansi (Lee, 1993), were often held by a nodal kindred or family, and requests by others to use these resources were expected prior to their use. A similar pattern emerged from my surveys in Ust Avam. Certain resources, such as trap lines and cabins, were considered more "private" than other resources, and requests to use them were expected. Hunting *ugod'ia* themselves were not viewed as exclusive property, however.

The first question I asked was, "Have you ever demanded that someone leave your hunting territory?" Four hunters answered yes, and 27 answered no. I asked a follow-up question for those that answered yes: "If so, what happened?" While I cannot relate the details of their answers because of confidentiality, they boiled down to personal differences and conflicts between brigade members, ending with the brigadier asking someone to leave. The use of the hunting territories in the Avam tundra is generally amicable.

In reply to the question "Do you feel that you can stop someone going through your hunting territory, even if they do not appear to be planning to hunt?" seven hunters answered yes, 22 answered no, and two hunters said they did not know, likely implying that it depends on the situation. From their answers, it appears that trespass is not a widespread problem among Avam hunters. Hunters added that travelers usually stop and visit in any case, and a few stated that it is more interesting when they do. When a traveler stops, the hunter typically finds out what the traveler intends



to do, where he is going, and whether he has seen any animal tracks. A visitor may also stay a few days to hunt or do some other work. They may also bring news and gifts.

The next question was in the form of a table that listed different types of resources, and for each resource there was a column of use for oneself (subsistence) or for sale. The hunter was asked to determine whether a visitor to his territory should ask permission to use the resource for each of the economic goals. I asked, “Should someone coming to your hunting territory ask your permission to obtain the following resources (wood, hare, ptarmigan, reindeer, moose, bear, wolverine, wolf, other fur-bearing animals, fish, and goose) for oneself? Or for sale?” Twenty-two hunters answered yes for at least some resources, especially if being procured for sale. Of particular concern for most hunters answering yes were arctic fox trap lines. Trap lines are usually named (e.g., Ivan’s first trap line, Ivan’s second trap line) and considered the personal property of an individual. Some trap lines have been handed down from ancestors, and thus form an important part of the kinship estate. If a hunter was in pursuit of prey, such as a wolf, and crossed into another territory, he did not need to ask permission to cross. The borders are often fairly remote and virtually impossible to patrol. However, if the hunters were going to “sit on” someone’s territory to hunt or fish, especially for hunting caribou and fishing on lakes, a request of permission would certainly be expected. Eight hunters answered no, they did not expect requests for permission to use any of the listed resources. One hunter commented that he did not “own” the land. One hunter did not know. One resource about which I did not ask was the hunting cabin itself. Some hunters were concerned about people using their cabin without their permission, as they kept it locked when they were not there. In an emergency, however — if someone’s life depended on it — these hunters stated that they would certainly not object if someone broke into their cabin, shed, or *balok* (a hide-covered living room built on a sled to be pulled by reindeer). One hunter mentioned that during the Soviet period, hunters were expected to check the hunting licenses of unfamiliar people that showed up at their territory, especially during goose season, and to report them if they were unlicensed. Hunting arctic fox was most strongly associated with personal property, the trap line. There was some indication that the hunting cabin and valuable resources such as fuel were becoming increasingly private. In the past, houses and cabins were closed with a

board placed at an angle to the door or a bucket placed in front of the door. Now locks are increasingly used.

Finally, I asked, “Do you know of anyone that took resources from your hunting territory without your permission?” Four hunters answered yes. These were hunters with cabins on the Dudypta River, the main transportation route from Kresty to Ust Avam. Gasoline and oil were the resources most often cited as having been taken. Twenty-seven hunters answered no. Thus, if resources are taken from a hunter’s territory without permission, in most cases the hunter is not aware of it.

The answers to these preliminary survey questions about property indicate that exclusion of potential beneficiaries from hunting territories is difficult or impossible, while there are clear potential benefits from including visitors, such as reciprocal access and help with labor-intensive work. Borders are not easily patrolled, and if a hunter is chasing prey he may not have the opportunity to ask permission. Locations with significant capital improvements, such as trap lines and cabins, are the most sensitive, along with fishable lakes and caribou pastures. While these questions were posed specifically to hunters with assigned territories, there is evidence that there are similar relations to the commons.

Hunting and fishing spots are distributed fairly evenly along the major rivers throughout the commons. Positions of goose blinds, for example, are agreed upon among hunters before goose season. Hunters generally do not travel to their assigned *ugod’ia* for the goose season, at present. Most hunters have built small sheds throughout the commons that they use as lookouts and base camps. These are especially useful during the caribou migration. Everyone knows to whom these sheds belong, and if a hunting party is headed in that direction, the hunters will ask the owner about using it. In this way, there is little competition for hunting spots most of the year, even in the commons.

#### *Social Boundaries and Hunting-Partner Preferences*

The next series of questions dealt with whom hunters preferred to have visit and who would disturb them the most if they visited and hunted at their *ugod’ia*. Since the ability to maintain physical exclusion is limited, social preferences for partners may be the place to look for propriety in the Dolgan and Nganasan property-management scheme. Hunters were asked who they prefer to have hunt on their territories. A number of categories of people were presented to the hunter: certain individuals; local

people (*mestnye*)/non-local people (*priezhie*, or new-arrivals); Dolgan/Nganasan; neighboring-brigade member/distant-brigade member; close relative/relative/non-relative; and no one. This was an open-ended question, and hunters tended to have multiple answers. A compilation of the answers is presented in Table 1. Two hunters preferred that no one come to their territory. Twenty-four of 29 responding to this question preferred a more familiar person, including locals (*mestnye*), a same/different ethnic group member, a neighboring-brigade member, or a relative. Close relatives were mentioned in about half of the responses. Three hunters stated that they would accept any “normal” person (i.e., someone who could be trusted with firearms and to share a cabin or tent).

Table 1. Rank order of answers to the question “Whom do you prefer to have visit to hunt on your territory?” Ust Avam, 1997.

Rank Order of Answers	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>
Category				
Local person <sup>a</sup>	8	0	0	0
Normal person/friend	7	0	0	0
Relative	4	5	0	2
Close relative	4	0	3	1
Dolgan <sup>b</sup>	0	4	0	0
Neighboring-brigade member	2	1	2	0
No one	2	0	0	0
Non-local person	1	0	0	0
Distant-brigade member	0	1	0	0
Non-relative	0	0	0	1

<sup>a</sup>This response also includes those respondents (3) who answered both Dolgan and Nganasan, meaning both types of *mestnyi*.

<sup>b</sup> There was no clear trend for preference of visitors of the same ethnicity: two respondents were Dolgan, one Evenk, and one Kalmyk (a Mongol nationality from southern Russia).

As there are two indigenous ethnic groups in Ust Avam that have been living in the same community for 30 years, I expected to find a much greater emphasis on ethnicity in statements about hunting-partner preferences, as hunters of the same ethnic background would be more likely to subscribe to the same particular cosmological traditions that could constrain prey choice, for example. The results surprised me, and go along with a recent demographic analysis in which I reported lack of inter-ethnic group violence in causes of death (despite high mortality rates among adults) and a good deal of inter-ethnic marriage (Ziker, n.d.). Instead, the hunters emphasized

indigenous status in general (local person), personal characteristics (normal person), and kinship in partner preferences.

Hunters were then asked what types of people would disturb them the most if they hunted on their territories. The same categories of people as above were suggested. Again, the question was open-ended, and there were a number of respondents with multiple answers. A compilation of the answers is presented in Table 2. Fifteen hunters said that no one would disturb them if they visited to hunt on their territory. Nine hunters mentioned *priezhi* (especially truck drivers) as potentially disturbing them. A couple of specific individuals were trouble, as well as a couple of people from the neighboring brigade. These cases again were on the Dudypa River, where there is considerable traffic. The specific mention of members of the other ethnic group was relatively low. This result is surprising, but consistent with the results from the previous question.

*Table 2. Rank order of answers to the question “Who would disturb you the most to have visit to hunt on your territory?” Ust Avam, 1997.*

Rank Order of Answers	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>
Category				
No one	15	0	0	0
Non-local person	5	1	0	0
Truck drivers	3	0	0	0
Specific individuals	2	0	0	0
Neighboring-brigade member	2	0	0	0
Nganasan <sup>a</sup>	1	1	0	0
Dolgan <sup>b</sup>	0	1	0	0
Local person	0	1	0	0
Non-relative	0	0	1	0
Drunks	0	0	0	1
Does not know	1	0	0	0

<sup>a</sup> One of these respondents was Dolgan and the other one was Kalmyk.

<sup>b</sup> Again, there is no clear trend as concerns preference by ethnicity; this respondent was Dolgan and suspected a Dolgan hunter from the neighboring brigade in borrowing, and not returning, a radio from his cabin.

Based on the results of these two survey questions, Ust Avam hunters prefer locals, friends, and relatives as hunting partners, and are potentially most disturbed by non-locals. Thus, the social boundary defining the in-group of hunting partners is fairly wide in Ust Avam. Why are non-locals most feared? Non-locals are have been known

to wreck and steal from hunting cabins, and they are likely not to subscribe to similar traditional proscriptions and prescriptions regarding land tenure. They are in the easiest position to maximize short-term gains and then defect on the social network, since their ties to the community are ephemeral at best. The most surprising result is that the majority of hunters stated that there was no one whose presence hunting on their territory would be a worry.

### *Prudent Predation and Diminishing Returns*

To the extent that resources on hunting territories, fishable lakes, rivers, and spots in the commons are controlled by a brigade or an extended family, as in the case of Ust Avam, the next major question is how hunters manage their resources. Here, traditional proscriptions and prescriptions come into play. For example, on one hunting trip in January 1994, when we were checking an arctic-fox trap line, we came across the fresh spore of a small caribou herd. The hunter told me, “We’ll let them graze; they are local deer.” They had enough meat at home, and the hunter believed that if he allowed the caribou to winter on his territory they would be more likely to return in the future. There was no need to hunt for the sport of it. Such hunting is seriously frowned upon within the community, and hunters that find evidence of animals killed for sport, generally by non-native *priezhie*, are outraged. Social pressure on hunters against needless killing, or killing rare animals, is one means to ensure prudent predation — the hunters have an interest in managing the resources for their future hunting and consumption, as well as that of their descendants.

On one of the fish lakes far from the major rivers, Dolgan fishermen described to me how over the years, through selective culling, they have improved the quality of the fish in the lake. When they started fishing in the lake in 1986, all the fish were large, with big heads and skinny bodies. Now, there are more medium-sized fish, and the fish have large bodies with a thick layer of fat. By using nets with large mesh (60 mm), they have limited their own catch, but improved the lake’s long-term viability as a source of fish.

Another example of limitation of hunting returns is the taboo against hunting bear, considered sacred by many, but a potentially large source of protein and fat. A bear is referred to in Dolgan by the euphemism *emiaksin*, meaning grandmother. If a bear has to be killed because it is bothering the camp, the people will mourn its death. It is said that when a bear's hide is removed, it looks like a person. If a troublesome bear is

killed, there is some variation as to whether any of it will be used or not. Those Dolgan hunters that do hunt bear are termed *kohun*, or brave person. Even though bear hides and gallbladder are valuable and could be sold on the black market, most Dolgan and many Nganasan will not hunt bear or eat bear meat, because it would be murder or cannibalism of sorts. If they have to kill a troublesome bear, hunters for whom bear is taboo will give the bear a proper human burial.

There are other taboos that are relevant, such as the proscription against beating the head of a burbot caught from a lake. The burbot are sometimes stunned with a sharp blow to the head because this makes it is easier to retrieve the hook. On rivers this is an acceptable practice, because the fish are migratory and the spirit of the river would not be offended. On lakes, however, if a burbot is beaten, it is believed that the spirit of the lake will be offended and the burbot will stop giving themselves to the hunter. A case where this had happened was pointed out to me on Burbot Lake. A visiting hunter was said to have caught the fish and beaten them on the head when he pulled them from the water, and the lake was no good for catching burbot for 10 years after that. When I visited this lake in 1996, it was again a good source of burbot.

These taboos and proscriptions are evidence of limitation, if only symbolic, of individual maximization of hunting returns. The limitation of individual return rates, selective culling, and protection of wild-animal stocks would be expected with prudent predation, and this occurs most prominently with local or non-migratory prey, such as lake fish. Prudent predation is necessary for the long-term utilization of the resource, but the main significance is that they communicate acceptance of these taboos to each other, thereby reinforcing social relations in the community. Many Ust Avam hunters stated to me that they live in this area and so will their descendants, so they need to protect the animals and to use as much of the animal as they can. However, local populations and migratory populations of prey are treated differently in some respects.

Migratory species, such as geese, or populations of a species that are migratory, such as most caribou, travel quickly through the Avam area and this means that hunters need to be in the right place at the right time for a successful hunt. A good catch on one day does not ensure any catch at all the next. For example, a hunter was fishing on the Dudypta River right after the first snow in the fall and caught 66 chir whitefish (*Coregonus nasus*), weighing two to four kilograms each. Other hunters, learning of his large catch, went fishing on the Dudypta and Avam rivers that day and

the next, but were much less successful, each catching one to five chir, along with a few smaller fish. They were too late; the fish had already migrated past the area. Thus, in addition to the fact that there are fewer proscriptions against hunting migratory prey populations, as with migrating caribou and river burbot, the nature of the migrations limits hunters' success. If anything close to return-rate maximization occurs among the Dolgan and Nganasan, it is with the migratory populations, when they and the hunter are present.

Diminishing returns are sensed fairly quickly with seine fishing on rivers, for example, which occurs when small fish (*tugunki*) are migrating. Diminishing returns also limits production, as the level of effort required to catch the fish is high. The U-shaped seine, or *nevod*, is placed on the nose of a boat. One person rows the boat, another person feeds the seine into the water, and at least two more are waiting on shore to pull the seine. When the boat returns to shore, the seine is quickly pulled in, in effect filtering the small fish from the river. This labor-intensive operation is conducted again just upriver or downriver. After a few runs, the fishable area begins to produce less, and the fishermen call it quits, row back to camp or home, and divide the catch. The next day they may try again, or they may go to a different spot to try their luck. For example, on one seine-fishing trip during the summer of 2001 in which I participated, the first two runs produced less than one half of a kilogram. We moved to a different spot across the river and caught approximately 5 kilograms each run for the next 6 runs. The last two runs produced little, and we decided to quit for the night and row back to the village.

Environmental factors may limit the geographic area in which hunting or fishing can occur for short periods, and this can lead to short-term stress on the commons, but as soon as conditions allow, hunters move out to their usual spots. An example is the fishing that occurs on the Avam River directly adjacent to the village during the days just before the river freezes in the fall. At that time, it is difficult to travel anywhere, so fishing is concentrated on that stretch of the Avam River. For most of the summer and fall, the elderly and young people fish on this stretch of the river, since they do not need to travel far. But on the days just before freeze-up, everyone that needs food is fishing there. I documented 26 separate fishnets within this two-kilometer stretch on September 29, 1996. Despite so many nets, there is little jockeying for position; people come down to the river by the path they normally use to get to the river from their house and put the net in right there. Within a few days, as return rates diminish

and the river becomes safe for travel, installation spots rapidly spread out from the village. Thus, in addition to ancestrally encouraged limitations, a combination of factors restrict resource utilization in the Avam tundra common-pool zone: environmental conditions, drudgery, and rapidly diminishing returns on the capture of migratory prey.

### **Formal Land Claims**

The rate of family/clan-holding formation has decreased significantly since 1994 according to archived land-use decisions for Dudinka district, Taimyr Region. Between 1992 and 1994, 30 holdings were created in Dudinka district. Between 1995 and 1997, 16 were registered. Only one was registered in 1997. Because of this dynamic, I felt it was important to investigate hunters' motivations for claiming or not claiming family/clan holdings.

In a structured survey of Ust Avam hunters in 1997, I asked, "Why did you claim a family/clan holding?" or, for those without family/clan holdings, "Why did you not claim a family/clan holding?" I asked these questions to 25 individuals who are hunters in the Avam tundra and along the Piasina River and who have either a family/clan holding or work on an assigned territory. I interviewed at least one hunter from each of the 16 active hunting territories in the *gospromkhoz* Taimyrskii, as well as the heads of three family/clan holdings and two individuals who work at surrounding state enterprises. In all but three cases, these individuals are the leaders of the hunting brigades or holdings. These hunters represent approximately half of those in Ust Avam and, according to my observations, they are generally the most active native hunters in the area. Twenty-two of the 25 respondents were not associated with family/clan holdings. First, I review the responses of those that have family/clan holdings.

The three individuals with family/clan holdings were asked the question "Why did you claim a family/clan holding?" One individual stated that he hoped to live better. This individual alone acknowledged entrepreneurial motivations in claiming a family/clan holding. The reality is that taxes consume all his profits, however, and his holding is barely active.

Another individual with a family/clan holding stated that the main reason for starting a family/clan holding was to feel more liberty. Being one's own boss is a



reason why many individuals in the U.S. start businesses, too. This family/clan holding was the only active one in the Avam tundra, and the two members were constantly shuttling back and forth between their hunting territory on the Piasina River; Norilsk, where they sold their fish and meat; and Dudinka, where they had to deal with the tax police and regional hunting authorities.

The third individual with a family/clan holding stated that he did not know why he started a family/clan holding. Upon conducting cross-checks with other informants in his community (150 kilometers from Ust Avam), I discovered that he received capital equipment — two new snowmobiles — from the government hunting enterprise when he made his land claim. The equipment he received was already lost or broken by the time this interview took place, in 1997. Currently, the head of this holding has returned to “work” for the government hunting enterprise by contract during certain seasons, and his family/clan holding is inactive.

Five of the 22 responses to the question “Why did you not claim a family/clan holding?” dealt with the notion of the family/clan holding. Three of these individuals said that they did not understand what a family/clan holding was, or how it could actually work. These responses point to the lack of information and the disintegrating infrastructure in the region. The other two said they doubted that it was possible for them to take a family/clan holding. This response underscored the difficulties associated with getting the necessary approvals, completing the paperwork, and dealing with government officials.

Money was the main factor in not starting a family/clan holding for 10 respondents. There were three kinds of problems these informants associated with money. The first had to do with the absence of adequate money to establish the organization and make the land claim. Four informants mentioned the lack of starting capital as the main reason for not claiming land. The second aspect of money as a factor in not claiming a family/clan holding was generally phrased, “It’s not profitable.” Five informants stated that clan holdings are not monetarily advantageous and that that was the main reason for their not claiming one. Their concerns were probably justified, since two of four holdings in the area were inactive, a situation that is repeated in other parts of the region. The third problem informants associated with money had to do with obtaining supplies, such as gas, coal, and consumables, along with conducting the distribution and marketing. Five informants mentioned these infrastructural problems as the first or second reason for not starting a clan holding.

Most hunters were busy hunting, and they did not have the time or the political capital necessary to push their land claims through the system or to market their products. In addition, there was little competition for hunting grounds, still officially held by the *gospromkhoz* Taimyrskii. Those individuals with family/clan holdings made little, if any, material gains. The economic situation in a remote village such as Ust Avam was characterized by decreasing access to urban centers and markets. In sum, there was insufficient time and money, and little apparent benefit, for residents in the Ust Avam community to pursue official land grants under the current regulations and economic conditions in the Taimyr region.

Since most of the hunters in Ust Avam had not pursued formal land claims, they continued to use hunting territories assigned to them or to their families during the Soviet period, and/or they began to forage more often in the common-use land around the village. There were 20 named hunting territories surrounding Ust Avam, and 16 of these were still assigned to brigades of hunters in 1997. The practice of turning in products had become rather haphazard at that point. There were no longer any production plans, and the *gospromkhoz* had not accepted fish since 1994. In 1997, Norilsk Nickel (and the *gospromkhoz*, as one of its subdivisions) came under new management. Salaries for the whole company were frozen, and no one in Ust Avam was paid for furs delivered in February and March. Several hunters lost a whole season's work and gasoline. Later in 1997, the 1950s- and 1960s-vintage SKS 7.62 mm semi-automatic rifles, previously given out every fall for caribou hunting, were confiscated from hunters. Thus, the prospects for making cash from hunting diminished further for the majority of hunters.

## **Discussion**

Exclusive use is difficult where territories are large, resources are dispersed, and perimeter defense is costly and has little benefit (Cashdan, 1983). As a result, in hunting-and-gathering societies living in these ecological conditions, control of land is usually conducted through social means. Similarly, while the majority of Ust Avam hunters state that they cannot stop people going through their territory, and thus territories are not exclusive to the point of enforcing notions of trespass, the majority also state that they expect permission to use at least some specific resources. There were fairly distinct opinions on who would be preferred as a visitor and there was a

significant bias against non-local people coming to hunt. Restricting access on the basis of social agreement both maintains primary access rights and helps to gain reciprocal privileges to other territories in the future. Relatives are more likely to work and get paid in kind than other people, and they are most often mentioned as preferred hunting partners. The land-tenure practices among the Dolgan and Nganasan provide an example of how property can be embedded in a social network, where kinship links are dense and link individuals in the community, facilitating economic leveling and, thus, limiting resource exploitation.

Capital-intensive production strategies in the heart of the Taimyr tundra, where thousands of tons of food were provided to urban centers during the Soviet era, are now too costly. Under current economic conditions, family/clan holdings in remote communities cannot replace the function of the state enterprise as producers, distributors, and marketers. Rather, hunters and their families have instituted an economy based on subsistence foraging with opportunistic and supplemental exchange with the regional organizations and non-local traders. As part of the subsistence economy, some land has reverted to communal use, with informal negotiations determining hunt locations and party composition. This resource use is vital to community survival, and needs to be maintained as part of co-management in the region (cf. McCay and Jentoft, 1998; Riseth and Vatn, 2000).

The Taimyr Peninsula is an important nesting and calving ground for a number of threatened and endangered species, such as snow sheep (*Ovis canadensis*), lesser white-fronted goose (*Anser erythropus*), and the red-breasted goose (*Branta ruficollis*). The region is home to some of Russia's largest natural reserves (*zapovedniki*) and is a focus for a United Nations Development Programme project to conserve wild reindeer as a principal component of the Taimyr's globally significant biodiversity. At the same time, the region is home to a major world producer of nickel and palladium, and sources of pollution in and around the city of Norilsk are highly toxic. In order for long-term co-management and environmental planning to incorporate the indigenous peoples, most of whom live in remote villages distributed across hundreds of kilometers of tundra, knowledge of, and consideration for preserving, preexisting property relations is necessary.

A number of factors when taken together appear to provide social management of common-pool property in Ust Avam. These factors include: ancestral cosmologies encouraging cooperation among co-descendants and proscriptions against

overhunting; cross-cutting genealogical- and affinal-kinship relationships offering many sharing partners and sources of information about the status of prey; cooperative hunting; non-market distribution of meat and fish; and economic leveling; as well as the migratory nature of the prey species, diminishing returns and drudgery in hunting, the distance from urban centers, and the high cost of transportation due to the lack of roads. The presence of these factors provides some criteria by which traditional methods of hunting, fishing, and trapping can be characterized. The fact that common-pool property is expanding in remote Taimyr communities along with local traditional social management techniques is significant both theoretically and practically as an example to those interested in developing sustainable co-management of ecologically fragile and important areas of the world.

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## References

- Abrosimova, V. (1992). *Vozmushcheny!* ["We are Fed-Up!"] *Sovietskii Taimyr* (Dudinka), 84: 1.
- Aipin, I. (1994). *Obrashchenie Vtorogo Vserossiiskogo S'ezda Korennykh Malochislennykh Narodov Severa, Sibiri, i Dal'nogo Vostoka k Prezidentu, Pravitel'stvu i Federal'nomy Sobraniu Rossiiskoi Federatsii.* [Appeal of the Second All-Russia Congress of Native Small-Numbering Nations of the North, Siberia, and the Far East to the President, Administration and Federal Assembly of the Russian Federation.] *Severnie Prostory* 2: 9.
- Anderson, D.G. (2000) *Identity and Ecology in Arctic Siberia: The Number One Reindeer Brigade.* Oxford University Press.
- (1998). Property as a Way of Knowing on Evenki Lands. Pp. 64-84 in C.M. Hann (ed.) *Property Relations.* Cambridge: Cambridge University Press.
- Bird-David, N. (1992). Beyond 'The Original Affluent Society': A Culturalist Reformulation. *Current Anthropology* 33: 25-47.
- Cashdan, E. (1983). Territoriality Among Human Foragers: Ecological Models and an Application to Four Bushman Groups. *Current Anthropology* 24: 47-66.
- Chayanov, A. V. (1966). *A.V. Chayanov on the Theory of Peasant Economy.* D. Thorner, B. Kerblay and R.E.F. Smith (eds.). Homewood, Ill.: Richard D. Irwin, Inc.
- Dolgikh, B.O. (1952). *Priokhozhdenie Nganasanov.* [Origin of the Nganasan.] *Sibirskii Etnograficheskii Sbornik, Trudy Instituta Etnografii im. N.N. Mikhlukho-Maklaia, Vol. 18.* Moscow: USSR Academy of Sciences Publishers.
- (1963). *Proiskhozhdenie Dolgan.* [Origin of the Dolgan.]. Pp. 92-141 in *Sibirskii Etnograficheskii Sbornik V, Trudy Instituta Etnografii im. N.N. Mikhlukho-Maklaia, Novaia Seriiia* 84. Moscow: USSR Academy of Sciences Publishers.
- Eerkens, J.W. (1999). Common Pool Resources, Buffer Zones, and Jointly Owned Territories: Hunter-Gatherer Land and Resource Tenure in Fort Irwin, Southeastern California. *Human Ecology* 27(2): 297-318.
- Feit, H.A. (1973). The Ethno-Ecology of the Waswanipi Cree: Or How Hunters Can Handle Their Resources. Pp. 115-125 in Bruce Cox (ed.) *Cultural Ecology.* Toronto: McClelland and Stewart, Ltd.
- Greenspan, A. (1997). Greenspan is Skeptical on Russia's Transition. *The Wall Street Journal*, June 11.
- Gudeman, S. (2001) *The Anthropology of Economy: Community, Market, and Culture.* Malden, MA: Blackwell Publishers.

Gurvich, I. S. (1986). Kul't Sviyshchennykh Kamnei v Tundrovoi Zone Evrazii. [The Cult of Sacred Stones in Eurasia's Tundra Zone.] Pp 230-238 in *Problemy Antropologii i Istoricheskoi Etnografii Azii*. Moscow: Izdatel'stvo Nauk.

Hann, C.M. (1998). Introduction: The Embeddedness of Property. Pp. 1-47 in C.M. Hann (ed.) *Property Relations*. Cambridge: Cambridge University Press.

Hardin, G. (1968). The Tragedy of the Commons. *Science* 162:1243-1248.

Ingold, T. (1980). *Hunters, Pastoralists and Ranchers: Reindeer Economics and their Transformation*. New York: Cambridge University Press.

King, A. (n.d.). Reindeer Herders' Landscapes and Culturescapes in the Koryak Autonomous Okrug. Paper presented to the Postsocialisms in the Russian North workshop, Max Planck Institute for Social Anthropology, Halle (Saale), Germany, November 8, 2000.

Lee, R.B. (1993). *The Dobe Ju/'hoansi, Second Edition*. Forth Worth: Harcourt Brace College Publishers.

McCay, B.J., and S. Jentoft (1998). Market or Community Failure? Critical Perspectives on Common Property Research. *Human Organization* 57(1): 21-29.

Ostrom, E. (1990) *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge: Cambridge University Press.

Popov, A.A. (1935). Olenevodstvo u Dolgan. [Reindeer Herding of the Dolgan.] *Sovietskaia Etnografiia* 4-5.

----- (1936) Tavgiitsy: Material po Etnografii Avaiskikh i Vadsevskikh Tavgiitsev. [Tavgiitsy: Materials for Ethnography of the Avai and Vadsev Tavgi.] *Trudy Instituta Antropologii i Etnografii im. N.N. Mikhlyukho-Maklaia*. Vol. 1, No. 5.

----- (1937) Okhota i Rybolovstvo u Dolgan. [Hunting and Fishing of the Dolgan.] *Sbornik Statei v Pamiate V.G. Bogoraz*. [Collection of Articles in Memory of V.G.Bogoraz. Moscow.

Riseth, J.Å. and A. Vatn (2000). A Perspective at the Sámi-Norwegian Case of Co-Management in the Reindeer Industry-Regional Failure and Success at the End of the Old Millenium. Paper presented to The Eighth Biennial Conference of The International Association for the Study of Common Property (IASCP), Bloomington, Indiana, May 31-June 4.

Sangi, V. M. (1991) Konventsiia-26 Assotsiatsii Malochislennykh Narodov Severa Rossii. [Convention-26 of the Association of Small-Numbering Peoples of the North of Russia.] *Polyarnaia Pochta* 3(5): 1-4.

----- (1992) Deklaratsiia Svobodnogo Razvitiia Narodov Severa. [Declaration of Free Development of the Peoples of the North.] *Polyarnaia Pochta* 3(2): 1-4.

Sergeyev, M.A. (1964). The Building of Socialism Among the Peoples of Northern Siberia and the Soviet Far East. Pp. 487-510 in M.G. Levin and L.P. Potapov (eds.) *The Peoples of Siberia*. Chicago: The University of Chicago Press.

Wilk, R. R. (1996) *Economies and Cultures: Foundations of Economic Anthropology*. Boulder, CO: Westview Press.

Yeltsin, B.N. (1992) Ykaz Prezidenta Rossiiskoi Federatsii o Neotlozhnykh Merakh po Zashchite Mest Prozhivaniia i Khoziaistvennoi Deiatel'nosti Malochislennykh Narodov Severa, No. 397. [Decree of the President of the Russian Federation About Immediate Measures for Protection of Places of Residence and Economic Activities of the Small-Numbering Peoples of the North, No. 397.] *Rossiiskie Vesti* 4 (50): 4.

Ziker, J. P. (in press). *Peoples of the Tundra: Native Siberians in the Post-Communist Transition*. Prospect Heights, Ill.: Waveland Press Inc.

----- (1999). "Survival Economy and Core-Periphery Dynamics in the Taimyr Autonomous Region, Russia." *Anthropology of Eastern Europe Review* 17(2): 59-65.

----- (1998a) Kinship and Exchange Among the Dolgan and Nganasan of Northern Siberia. Pp. 191-238 in Barry Isaac (ed.) *Research in Economic Anthropology, Volume 19*. Greenwich, Conn.: JAI Press.

----- (1998b) Kinship, Exchange, and Ethnicity Among the Dolgan and Nganasan of Northern Siberia. Ph.D. Dissertation, University of California, Santa Barbara.

----- (n.d.). "The Socio-Demography of a Native Siberian Community: Alcohol and Violent Death in Post-Soviet Russia," unpublished manuscript.

Ziker, J. and I. Shmetterling (1997) Robinzony i Pyatnisty, Odnako. [Robinsons and Fridays, You Don't Say.] *Ekspert* 48: 82-85.