



## The Shift from Herding to Hunting among the Siberian Evenki

### Indigenous Knowledge and Subsistence Change in Northwestern Yakutia

This study examines ethnographic findings concerning a group of Siberian Evenki people living in the arctic forest tundra region of northwestern Yakutia. The group is of particular interest because of the changes that took place after the collapse of the Soviet Union, whereby its basic subsistence pattern shifted from reindeer herding to hunting. As the research will demonstrate, indigenous knowledge is crucial for understanding this transition. I argue that the extensive and flexible knowledge of these people regarding subsistence and the natural environment is not tied to any one particular subsistence pattern, whether hunting, gathering, or herding, and they are able to adjust their practices to the changing social and environmental conditions. In place of a limited and stable body of knowledge transmitted from one generation to the next in a particular ethnic group, indigenous knowledge covers a wide range of information and has considerable historical depth that can be tapped into for managing subsistence in different surroundings.

KEYWORDS: Indigenous knowledge—hunter-herder continuum—Evenki—reindeer—Siberia

WITH A FOCUS on indigenous knowledge regarding subsistence and the environment, this article examines the role of the local community in adapting to socioeconomic forces originating outside of the community. “Indigenous knowledge” is used here as a general anthropological term to denote “the unique, traditional, local knowledge existing within and developed around the specific conditions of women and men indigenous to a particular geographic area” (GRENIER 1998, 1; KRUPNIK and VAKHTIN 1997). Most indigenous communities are located in “peripheral”—both in the real and symbolic sense—regions of a country, making some degree of relationship with the state unavoidable. The impact of the economic policies and development projects of a country continually affect indigenous communities at the political, economic, and sociocultural level. Siberian indigenous minorities provide a way of looking more closely at the flexible role of indigenous knowledge, and how a community adapts to state-generated initiatives.

The collapse of the Soviet Union and the accompanying failure of its agricultural policies led to the rapid decline of the reindeer industry in Siberia from the 1990s to the early years of the twenty-first century. The industry comprises livestock management (including herding activities and breeding measures such as castration in the open fields), economic and veterinary management in the villages, and distribution and retail sales. Among Siberian peoples, reindeer herding has been a mainstay of one of their traditional subsistence economies. Under the Soviet economic system, it was reorganized into a form of livestock management that maintained some traditional elements and modified others. During the Soviet era the reindeer industry was one of the principal economic resources for indigenous Siberian communities. Although the socialist form of state sponsorship no longer survives in the reindeer industry, communities themselves did not die or disperse. Instead, they adjusted to the change by adapting a market-oriented system. I wish to describe that process here and to examine the role that indigenous knowledge had to play in it, arguing that knowledge represents a cultural force through which people not only accommodate to new conditions but also enact their own initiatives for change.

In particular, I shall take up the case of an Evenki community living in an Arctic forest tundra located in the district of Olenyok of the Sakha Republic in Russian Siberia. What makes their case of anthropological interest is that after the collapse

of the Soviet Union, the community's subsistence shifted from reindeer herding to reindeer hunting. My research will show how that change cannot be understood without taking into account a body of indigenous knowledge. Against the local historical background, I will examine the role of indigenous knowledge in the transformation of this people's subsistence patterns.

#### INDIGENOUS KNOWLEDGE IN THE SIBERIAN CONTEXT

Anthropologists report that reindeer herding, an inseparable ingredient of the indigenous cultures of Siberia, has been in decline since the breakup of the Soviet Union (KRUPNIK 2000). With the exception of the Nenets people of western Siberia notwithstanding (STAMMLER 2005; YOSHIDA 2001), the total number of livestock reindeer in Russia fell sharply, from 2.3 million in 1990 to 1.66 million in 2006.<sup>1</sup> This trend is widespread throughout the Russian Federation, where the dismantling of the Soviet regime led to the collapse of a system of agricultural and livestock production organized around state-owned farms. In the case of Siberia, the changes that took place are tied to the peculiar circumstances of the indigenous peoples who live there. Inhabiting a rural or so-called "peripheral" region of the Russian state, many indigenous communities of Siberia find themselves cut off from established networks of communication and transportation. In the socialist era these regions were served by an efficient, state-funded helicopter transport system that operated irrespective of economic viability. Such services were suspended with the transition to a market economy, leaving those living in remote Siberian areas no better integrated into the new market system than they had been in the older, planned economy. As a result, they were driven increasingly back to dependence on a subsistence economy.

Here I will focus on the village of Zhilinda in the district (*ulus*) of Olenyok in the northwestern part of the Sakha Republic (Yakutia). Situated within the Arctic Circle in the northeastern part of the Central Siberian Plateau, Zhilinda exhibits many features that require an understanding of the broader context of indigenous Siberian society. A key element of change in subsistence patterns is that the reindeer industry, an important branch of production that had once been the bedrock of employment in the Olenyok district, has fallen into decline, and the number of livestock reindeer in the district is now one-sixth of what it was at the end of the Soviet era. Many of the region's inhabitants have come to depend on other activities such as hunting wild reindeer and fishing. During the course of my field research,<sup>2</sup> I discovered that around the time of the Soviet Union's collapse in 1991, the migration routes of the wild reindeer had also altered, so that wild herds now passed through the area. The coincidence of a shift in migration patterns and the transformation of Russia's socioeconomic system would prove crucial to the Evenki's livelihood. What is more, Olenyok has recently been officially designated as an Evenki ethnic region. Another important factor related to the change in subsistence patterns is the mining of precious minerals, which had been carried out in the area for many years.

Thus the Olenyok region is now being shaped by the interplay of three key phenomena: environmental change, a shift in political regimes, and economic devel-

opment. As a result, the regional milieu cannot be viewed merely as an indigenous society in a post-socialist context. My aim is to detail this milieu and draw attention to certain defining features of indigenous societies in Arctic Siberia today. My analysis revolves around the body of indigenous knowledge related to subsistence and the environment, which in turn will help explain how the local population was able to shift its subsistence from herding to hunting without turmoil and in keeping with changes taking place in the wider milieu.

In what follows, “indigenous knowledge” will refer to the store of information concerning the production and procurement of food and the ecology of the local habitat. This knowledge includes lore regarding the behavior of domestic and wild reindeer (their seasonal migration, birth, growth, reproduction, and so forth); micro-environmental information (rangeland conditions, snow depths, temperatures and freeze conditions of rivers and lakes, and fauna other than reindeer); knowledge regarding the acquisition and use of animal and plant materials for food, clothing, and shelter; and ritual practices surrounding this subsistence pattern. The people of Zhilinda share this information among themselves, taking into account gender, age, and personal history. The sum of indigenous knowledge is not such that it can be examined systematically, nor does it constitute an integrated body of information like scientific knowledge. It has accumulated through experience, is drawn on as need dictates, and is shared in a variety of forms of interaction: through participation, inquiry, and observation.

The unique feature of the indigenous knowledge of the Zhilinda people has to do with the nature of the relationship between humans and reindeer. The categories of wild and domestic livestock (reindeer) are well defined, but in contrast to the handling of other domestic animals in regions other than Siberia, clear lines are not drawn between the human use of each. Some reindeer, like other domestic animals, are bred for milking (*tyby*), riding (*uuchakh*), or drawing sledges,<sup>3</sup> while others are exempted from these services. The untamed livestock or *khangyl* are, of course, the property of individuals or corporate bodies, but in terms of animal behavior they do not differ greatly from wild reindeer (*kyyl taba*). With the exception of those animals specifically trained for riding or milking (which are often given individual names), domestic reindeer, even within the same herd of a particular owner, are divided into two groups: tame (*symnaggas*) and untamed (*khangyl*).<sup>4</sup> Those who own enough livestock for ritual use as well as for daily food depend mainly on their own herds (usually untamed domestic reindeer), but those whose herds are insufficient to meet those needs depend much more on wild reindeer and other game. In other words, management of the same herd involves two distinct forms of relationship with livestock reindeer (STAMMLER and TAKAKURA 2010; TAKAKURA 2004, 2010), whose rule as domestic animals differs accordingly. While multiple uses of multiple types of livestock are quite common in other parts of the world such as Mongolia and Africa, multiple uses of a single type of livestock such as we see in Siberia represents a unique form of herder-livestock relationship not found in pastoralism elsewhere in the world.



MAP: Olenyok Evenki National District in northeastern Siberia. Map by the author.

#### OVERVIEW OF OLENYOK

Situated in the northwestern part of the Sakha Republic, the *ulus*<sup>5</sup> of Olenyok lies almost entirely within the Arctic Circle (see the MAP above). It includes the Olenyok and Anabar rivers, bordering the territory of Krasnoyarsk Krai in the west. Wrapped in a beautiful forest-tundra landscape, the *ulus* takes its name from the Olenyok River. The forest tundra, a terrain with aspects of tundra (treeless land) and taiga (conifer-dominated forest), features woodlands scattered sporadically over an otherwise treeless expanse. Having previously conducted research almost exclusively in taiga and mountainous regions, during a 2006 visit to Olenyok I was intrigued by frequent references in the everyday conversations of the local people to “going out on the tundra” (*tundragga*), “going to the tundra” (*tundragga barabyn*), and so on.

Olenyok has considerable deposits of rare metals, natural gas, and other resources. These include oil shale, limestone, niobium, and kimberlite. Deposits of kimberlite, a type of rock that often contains diamonds, are significant, spanning not only the region of Olenyok but also the *ulus* of Anabarskii to the north and Mirny to the south. Olenyok is also located next to Mirny, the largest diamond-producing area in the Sakha Republic and indeed in the entire Russian Federation.

The area covered by Olenyok is vast. The Sakha Republic, which is roughly the size of the whole of India, makes up no less than 18 percent of Russia’s total territory, and Olenyok is the republic’s largest subdivision, covering approximately 318,000 square kilometers, or about the same land area as Finland. With only

4,400 residents, however, Olenyok has a population density of only 0.01 persons per square kilometer. By ethnic group, the population in the Olenyok *ulus* is 54.3 percent Evenki, 32.3 percent Sakha (a group formerly known as Yakut), and 9.1 percent Russian, with Evens and other minorities making up the rest.<sup>6</sup> Olenyok has only four settlements, three of which—Zhilinda, the northernmost, and Olenyok and neighboring Khariiarakh in the central part—are overwhelmingly Evenki in ethnic makeup. The fourth, Eiiik, is a Sakha community in the southeast.

Olenyok's official designation as an Evenki ethnic region presents an intriguing development. Statistics on ethnic populations were officially gathered in a Russia-wide census conducted in 2002, following which Olenyok applied to the government of the Sakha Republic for designation as a special ethnic administrative region (*natsional'nyi raion*). Upon deliberation in the state assembly, the application was approved in October 2005. Given that over half the population of Olenyok is Evenki, the decision at first glance seems altogether natural, and indeed conforms to the broad trend of post-Soviet government policy on ethnic groups.<sup>7</sup> In the early decades of the Soviet era, many ethnic special administrative regions were established at the lowest level of local administration, but since the 1950s these have been abolished and integrated into larger administrative divisions as part of an overall effort to streamline governance and agricultural production. Around the time the Soviet Union dissolved, ethnic administrative units once again began to be recognized at the municipal level (PIKA 1999).

As is the case with many Siberian communities, the process leading up to Olenyok's petition for recognition as an ethnic region was far from straightforward. As mentioned above, Olenyok is inhabited mainly by Evenkis, Sakhas, and ethnic Russians, but as a linguistic community the residents are mostly bilingual in Sakha (part of the Turkic family of languages) and Russian. Very few people in the *ulus* use Evenki (one of the Tungusic languages) as their vernacular. Russian gained currency in the region during the Soviet era, but Sakha has been a common language among the people of this region since the early nineteenth century. This fact is intimately bound up with the history of the region's ethnic development from the seventeenth to the nineteenth centuries. Next, I turn my attention to the historical background against which Olenyok was officially designated a special ethnic region.

#### REGIONAL ETHNO-HISTORY AND ETHNICITY

According to records kept by Russian Cossacks, during the seventeenth century the Olenyok river basin was inhabited by multiple clans of Evenkis. The records also confirm that groups of Sakhas migrated to the region in the southern part or central Yakutia (now the area around the city of Yakutsk) during the same period. Such migrations did not take place all at once but occurred sporadically from the seventeenth through the eighteenth centuries in groups of a few dozen people at a time. There were also influxes of Evenkis, both from various areas of

what is now the Sakha Republic, and from neighboring territories such as the present-day Evenki Autonomous Okrug and the Taymyr Autonomous Okrug (both now part of Krasnoyarsk Krai). Although it is difficult to identify a principal cause of these migrations, the main reasons are thought to include the weakness of Imperial Russian control in the region and the occasional migrations of wild reindeer to the area. Conflict and confrontation between different clans and ethnic groups converging in the region, as well as epidemics of smallpox and other diseases, were also driving forces behind demographic change. As a result, the Evenki-speaking community diminished, most of it absorbed into the Sakha-speaking community, which emerged as the region's dominant group. The Sakha-speaking community, meanwhile, discontinued the subsistence culture of their Sakha forebears of central Yakutia, which was centered around horse and cattle raising, a way of life that had adapted to a different environment. Eventually the Olenyok Sakha abandoned horse and cattle husbandry in favor of traditional Evenki occupations such as raising reindeer and hunting wild reindeer, while also retaining elements of the Sakha culture of the middle reaches of the Lena River, as witnessed in wedding and funeral ceremonies, folk implements, and designs in embroidery and other crafts (GURVICH 1977).

Russian and Sakha ethnologists who studied this region in the first half of the twentieth century referred to the Sakha-speaking communities of the lower reaches of the Lena River, particularly in the Arctic region from the west of the Lena as far as the Anabar and Khatanga rivers, as the “northern Sakha,” distinguishing their culture from that of the “central Sakha” in the middle reaches of the Lena. For their part, the region's inhabitants had already developed a perception of their difference before it was confirmed by researchers.

A bylined article printed in the 20 August 1932 edition of the newspaper *Sotsialistiskaia Iakutiia* (Socialist Yakutia) stated that “the residents of the Olenyok region have been Yakuts since the fourth decade of the last [that is, the nineteenth] century” (“Yakut” being the ethnic designation by which Sakhas were previously known). The article asserted that Sakhas who migrated there from the middle reaches of the Lena had adopted cultural elements from the peoples of the Tungus language family, rather than the other way around. The article also noted that although only about 80 percent of the Olenyok region's inhabitants were permanently settled—the rest being nomadic reindeer herders—overall they had retained Sakha culture (BOIAKOVA 2005, 87). Whatever the appropriateness of classifying the region's inhabitants as either “Evenki-fied Sakhas” or “Sakha-fied Evenkis,” the article makes clear an awareness that by that time the Sakhas of this region had a different occupational culture from that of the Sakhas of the middle reaches of the Lena.

The accepted view of these culturally distinct communities in northern and central Sakha is that they were eventually integrated under Soviet modernization policies in the twentieth century. Gurvich, a Russian ethnologist who conducted field research on the Olenyok-region northern Sakha people, argued that from 1960 on, the introduction of socialism caused the nomadic reindeer-herding Sakha communities to dwindle away, giving rise to the concept of a Sakha “nation” (GURVICH 1963).

Having become accustomed to this view of Olenyok's sociocultural orientation, I was surprised to learn that the district was designated an Evenki ethnic region in 2005. Unfortunately, my 2006 field research was only preliminary in nature and I was unable to gain a clear understanding of the processes by which the local residents opted for that designation. I was, however, informed that they had spent a great deal of time debating whether they regarded themselves as Evenkis, as Sakhas, or as something in between. In the end, they chose to define their ethnic identity as Evenki. I found it interesting that their ethnic identity had become a matter for deliberation not on the individual level but for the region as a whole. A review of the history reveals a complex process of ethnic migration and the evolution of a situation characterized by a cultural blending of language, occupation, and folk implements. Despite this mixture, or perhaps because of it, the people of Olenyok apparently desired a distinctly definable ethnic identity rather than a hybrid one.

#### HERDING AND HUNTING

Reindeer herding, which is intrinsic to today's Evenki ethnic identity, features in current government policy on ethnic groups. Various policies on agricultural aid have been implemented on the understanding that reindeer herding is essentially an occupation of the Evenkis, Chukuchis, and other ethnic minorities of the north, but not of the Sakhas, who traditionally raised horses and cattle. Despite such policies, from around the time of the Soviet Union's collapse, reindeer herding has been decreasing in Olenyok while the hunting of wild reindeer has taken on increased importance.

In 1991, the final year of the Soviet era, Olenyok had some 22,000 head of livestock reindeer, representing a 5.5 percent share of all livestock reindeer in the Sakha Republic. By 2005 that stock had diminished to 3,826 head, or one-sixth of the previous number, and accounted for only 2.6 percent of the total in the republic, less than half the previous share (SAKHA REPUBLIC STATISTICAL YEARBOOK 2005). The decline in the number of Olenyok livestock reindeer matches a trend seen throughout Russia as a whole, but the downturn in the share of reindeer stock in the Sakha Republic had a different cause. Olenyok's *sovkhos* (state-owned farm) for reindeer breeding had two subdivisions, one located in Olenyok and the other in Zhilinda. At the end of the Soviet era both subdivisions together accounted for about 10,000 head of reindeer. Since the demise of the Soviet system, reindeer herding at Zhilinda has virtually disappeared.

The transition to a new socioeconomic system is not the sole cause of the rapid decline of reindeer husbandry in Zhilinda. From 1985 to 1990 the migration routes of wild reindeer in the region began to shift as wild animals took to traversing the rangeland of the Zhilinda stock farms. The herders I talked to were unanimous in attributing the decline of reindeer herding to the appearance of wild reindeer. According to the manager of the private reindeer herding organization (*rodovaia obshchina*), 100 head, or 50 percent, of her family's private reindeer

had disappeared in 1992, and a few years later 80 percent of the remaining private reindeer were gone. She confirmed that the reason lay in a combination of the appearance of wild reindeer and poor management on the part of the herders.

Absorption into the large wild herds led to the drastic reduction in livestock reindeer. In other examples, the disappearance of domestic reindeer is attributed to a non-human cause. A former *brigadi* (brigade leader; b. 1955) of a reindeer herding team noted that once the wild reindeer had appeared, nearly 1,000 head of domestic animals took off with them from 1996 to 1997. He said that never before in his years as an active herder had he seen anything like it. He gave up his job in 1993 for health reasons, and after a short break worked as a hunter until 1995. When he retired from reindeer herding, he left 50 head of his own private reindeer in the herd he had once cared for. All his private reindeer also vanished during the same years mentioned above, 1996 to 1997. Their disappearance was confirmed in the spring when the herders take count of all the animals in their herds. He was unhappy about the loss but did not complain to the herders, since it was not their fault and they could not be held accountable.

Another ex-herder (b. 1934) in Zhilinda stated that he had owned nearly 100 head of private reindeer when he retired in 1987 after many years of service as a reindeer herder on the state farm. He left all the animals in the herding team for which he had worked, and in the early 1990s all of his reindeer had disappeared. He was indignant but could not lay the blame on anyone, accepting the turn of events as just one of the harsh realities of nature (*ailgg kuechuemggei*).

As the loss of livestock continued, the people of Zhilinda naturally turned to hunting wild reindeer for their livelihood. I will now briefly consider some aspects of indigenous knowledge in Zhilinda regarding these matters.

According to a man who now works in the local administration (b. 1960), just by looking at wild reindeer (*kyyl tabalar*), one can easily distinguish them from domesticated animals because the color of the body is brighter. There are three groups of wild reindeer populations: Yana-Indigirka, Taymir-Kransnoyarsk, and Lena-Olenyok. The last group travels through this region along a route stretching some five hundred kilometers southwest from the lower reaches of the Lena and Olenyok rivers. The opportunity to hunt them comes twice a year, once during their southward journey in October and November, and once again during their return to the north in April and May.

Once the rivers have frozen over, the reindeer pass through very quickly, but as October approaches and the rivers have yet to freeze completely, the animals can be found lingering in riverside areas. This is the best time for hunting. During migration the herd is not organized into harems the way it is at other times of the year, but constitutes a loose aggregation of amorphous and changing groups. The groups vary in size: the smaller ones consist of 10–20 head, the mid-sized ones about 50 head, and the largest ones around 100 head each. When hunters come upon such a large group, they are able to shoot up to 100 head in a single day. Since they need to butcher all the animals quickly, before the carcasses freeze, they discard the internal organs and carry back only the carcasses and hides.

Many of the men appear to have more or less similar knowledge of the seasonal migration of wild reindeer. Another former herder (b. 1949) told me that the wild reindeer keep near the Arctic Ocean during the summer and then move away in the autumn to the Zhilinda area through the mouth of the Olenek river, spending the winter in the upper reaches of the river. The person in charge of the hunting section (b. 1944), which is part of the village agricultural cooperative (the successor organization of the state farm), pinpointed 1992 as the year the wild reindeer populations appeared in the proximity of their village. The wild herds move from the mouth of the Olenek River through the area near the Zhilinda village and head further south to the Mirny and Nyurba region some eight hundred kilometers south of Zhilinda.

One person noted an interesting correlation between the wild reindeer population and the fur trappers. The main targets of the indigenous hunters are ermine (a kind of weasel), sable (a carnivorous mammal similar to a pine marten), and arctic foxes. They usually set their traps in winter and spend their summers in temporary jobs offered by the local administration, such as logging. The above-mentioned local administrator mentioned that there had been a recent increase in fur trapping. The population of arctic foxes, which are attracted by reindeer excrement, tends to increase where reindeer are numerous, while the number of sable, which prefer quieter surroundings, is likely to decrease. According to the wife of a former herder, when her husband was still active the couple would set traps from October to March rather than his taking part in wild reindeer hunting.

The local people consider the migration of wild reindeer through the region a relatively new phenomenon. Apparently no one is confused by it; they simply accept it as a result of the overall decline in domestic reindeer herding. People have adjusted their subsistence patterns to the environment by focusing on the hunting of wild reindeer. During October even fishermen take hunting rifles and binoculars whenever they go out so that they can switch over to reindeer hunting should a herd be spotted. The locals catch a wide variety of fish mainly between September and December. In particular, September is the season for *muksun* (white fish), *chir* (broad whitefish), *sig* (freshwater whitefish), *tugun* (salmon), and *osetr* (sturgeon), while *Sibirskii kharius* (Siberian silver trout) can be caught all year round. A middle-aged nurse at the village medical clinic told me that there are no men in the village on the weekends from the end of September to early October because of wild reindeer hunts. My research revealed a very high degree of ownership of firearms, snowmobiles, motorboats, and other hunting equipment within ordinary Zhilinda households. Indeed the settlement is said to possess one of the highest rates of firearms in the entire Sakha Republic.

The hunting of wild reindeer takes place over more than half a year from October to May. In the early stages, October and November, when the migrating herds move close to the settlement, the community harvests them at a rate of about ten per household. The Zhilinda villagers also take the hunt deeper into the tundra. On average, each household harvests one or two reindeer per month for over half

of the year. The typical household needs roughly twenty head of wild reindeer a year, dressing the meat into cuts for cooking and storing it in natural underground “freezers” dug into the permafrost of their yards.

#### DIAMOND EXPLOITATION AND THE WILD REINDEER

Many local residents credit the development of diamond mines in the region with bringing wild reindeer herds to the area, given that the herds changed their migration routes after the extraction of diamonds began in the 1990s, although the actual reason why and how the reindeer changed their migration routes is unknown. The former herder cited above stated that if diamond mining had begun in areas where domestic reindeer pasture, it would have had an undesirable effect. In the 1990s, during the time he was working as a herder, the mining at Tarakhtaakh had been in operation, and one of the pastures of his brigade (a group of animals and people) had been affected by the environmental impact on the soil from the mining operation, so the herding route had to be altered.

Diamond mining can thus be said to have been the ruin of reindeer herding in the region. Yet far from being a recent phenomenon, the confrontation between livestock reindeer rangeland and the diamond mines go back to the Soviet era. A Zhilinda woman (b. 1939) had something interesting to say in that regard. Although now living off her pension, she and her husband had once herded reindeer on rangeland out on the tundra. From the late 1950s until 1967 she had also worked as a guide for diamond prospecting on behalf of Russian geologists from Moscow and traveled extensively throughout the tundra with livestock reindeer as their means of transport. A glance at the official local history of Olenyok confirms that the Scientific Research Institute of Arctic Geology (NIIGA) in Leningrad (now Saint Petersburg) had commenced research in the Olenyok River basin in 1952 (BOIAKOVA 2005, 252).

Mineral deposits were thus discovered at various sites in Olenyok as well as in the *ulus* of Anabarsky to the north. Throughout the Soviet period, geographical surveys were conducted and diamond prospecting was carried out, but intensive mining only started in the Olenek region after the collapse of the socialist regime. The mines that sprang up now provide occasional employment for people of the region and have created a retail market for wild reindeer meat.

The Zhilinda municipal office informed me that twenty-three people from the settlement (19.1 percent) left to work in diamond mines in 2006. The number is significant, given that only about one hundred and twenty people in the settlement have fixed employment. Wages at the mines are far better than what is available elsewhere. After graduating, a twenty-six year old Zhilinda man worked at the local power plant from 1999 and studied independently to qualify as a diesel engine mechanic. Several years ago, hearing there was seasonal work available in the Ebeliakh mining development zone 100 kilometers or so to the north of Zhilinda, he took a job in Ebeliakh where he has remained ever since. Although he is employed for only four months in the summer, his monthly wage of 25,000 rubles (almost

1,000 US dollars) far exceeds the average monthly income in Zhilinda, which is only about 4,000 rubles (less than 200 US dollars). When he returns to Zhilinda in September, he works in reindeer hunting, fishing, and other local jobs. In addition to an expensive Saiga rifle, he owns a snowmobile and two motorboats—assets he owed to his seasonal work away from home.

The people of Zhilinda seem to be increasingly ambivalent about the diamond exploitation activity going on in their region. On the one hand, it has ruined the local reindeer herding business, but on the other, it has provided a market for wild reindeer meat as well as opportunities for regional migrant employment. Interestingly, some of the villagers seemed almost glad to see an end to the reindeer herding industry. According to local accounts, instead of despairing over the loss of livestock reindeer, many people welcomed the arrival of wild reindeer and quickly adjusted to the change. Far from simply resigning themselves to the inevitable, they embraced the shift from tending livestock reindeer to hunting wild reindeer as a perfectly natural development. Anthropologists have noted that Siberian reindeer herding is an activity whose boundaries with hunting are in any case far less clear than those of the livestock-raising traditions of the steppes or deserts (MATSUI 1989, 49; TANI 1997, 57; BOGORAS 1929, 588; KHAZANOV 1994, 42; KRUPNIK 1998). My observations in Zhilinda also support this view.

#### DISCUSSION

From the observations above, it is clear that the reorientation from reindeer husbandry to reindeer hunting was more than a simple shift to a subsistence economy. The change took place within a specific context shaped by the region's history of resource exploitation and emergence from the former socialist system. Of even greater interest is that the turn to reindeer hunting hinged less on the regime change attending the collapse of socialism than on a single environmental factor: the shift of the migration routes of the region's wild reindeer. Moreover, the shift was closely related to the development of local resources. The villagers' indigenous knowledge of hunting and the environment served them well under the circumstances.

I have tried to demonstrate that the subsistence reorientation of an indigenous community of some eight hundred people is one part of a broader and rather complex social and historical milieu. Of particular interest is the fact that the local population's perception of reindeer herding and hunting, which are traditional occupations that belong to their general cultural heritage, has been maintained through the vicissitudes of local and regional history. Buffeted by three potent factors of the post-socialist era milieu—environmental change, regime change, and economic development—this small indigenous community of the Arctic Central Siberian Plateau continues to maintain a firm grip on its unique lifestyle and identity.

The key to understanding the Zhilinda villagers' ability to adapt to changing circumstances is their indigenous knowledge regarding subsistence and ecology,

or more precisely, the way in which their knowledge of reindeer has aided them in managing their economic and environmental resources. Integrally woven into their knowledge are the two basic categories of tame and untamed reindeer. Their understanding of economic and environmental resources is organized and has accumulated through awareness of the different nature of the relationship between humans and reindeer. The people thus show a flexibility that allows them to choose between hunting or herding, and to select different ratios of hunting to herding to suit the prevailing conditions.

The distinct types of relationship with domesticated and wild reindeer have been discussed in earlier anthropological studies of Arctic and sub-Arctic reindeer pastoralism. One researcher regards the two types as reflecting distinct “modes of subsistence” (INGOLD 1980). Others focus on how the historical transition from hunting to herding occurred simultaneously in the nineteenth century in two remote regions, the Nenets territory and the Chukuchi territory (KRUPNIK 1993). Still others discuss the way in which the agricultural policies of the former Soviet Union transformed subsistence complexes of Siberian peoples that had been based on reindeer herding into the industry of reindeer breeding (BASKIN 2000; VITEBSKY 1990). This research has taken the relationship between humans and reindeer to reflect modes of subsistence and has sought to explain the mechanism of transition from hunting to herding in terms of subsistence modes. No consideration, however, has been given to the reverse movement from herding to hunting.

The more important question to be considered, however, is why so many reindeer hunters in Siberia, regardless of region or ethnic group, were able to shift their subsistence from hunting to herding so quickly. It was formerly believed that the transition was a result of an irreversible social evolution. In fact, it may have come about because of the people’s complex and flexible attitudes to wild and domestic reindeer as an economic resource and also because of the indigenous knowledge they possessed. They see the reindeer as an object of both hunting and herding, and build a relationship with each domestic animal, tame or untamed, accordingly. Furthermore, political, economic, and environmental factors have a role to play in the mode of subsistence practiced by the local population. Under the Soviet regime, they had been forced to participate in reindeer herding; it was their only option. In the post-Socialist period—throughout the 1990s and into the early 2000s—these people and their descendants were free to choose reindeer hunting. There was no confusion in patterns of food acquisition. The relationship between herding and hunting was clearly seen *not* to be irreversible but in fact interchangeable.

The case under examination perfectly exemplifies “foraging or husbandry as alternative strategies” or the “hunter-herder continuum” (LAYTON 1991; VENTSEL 2006; BEACH and STAMMLER 2006; TAKAKURA 2010), both relatively new theories about subsistence change. Contrary to previous assumptions, which had been based on the firm conviction that domestication cannot be reversed, these new perspectives suggest multiple possibilities for human adaptation, perhaps along the lines of Darwinian evolutionary theory. In the Olenyok region, local indigenous knowledge

about reindeer, both domestic and wild, has been developed in the hunter-herder continuum, supporting the people's ability to choose between modes of subsistence in accord with prevailing conditions. In other words, indigenous knowledge can be regarded as a broad array of information, with a certain historical depth, about regional adaptive use and management in a given environment, rather than as a definite and fixed kind of knowledge transmitted from generation to generation within a particular ethnic group. As such, indigenous knowledge plays a crucial role in the way the local communities considered here have been able to survive amid the sociocultural transformations taking place around them.

#### CONCLUSION

How did the failure of the government's economic policies affect indigenous society in the Siberian North? In the first place, it brought about the decline of the state-sponsored reindeer-herding industry, obliging the indigenous population to seek alternative ways to survive under the post-Soviet regime. In addition, the project to explore and develop diamond mining simultaneously accelerated the people's need to find alternatives because of the way mining efforts affected the migration route of the wild reindeer. As a result, villagers of Zhilinda in the Olenyok region who had been reindeer herders under the Soviet regime adjusted to the changing economic situation by shifting from herding to hunting. More is at stake than a simple response to a change of regimes. Such complex factors as local history, local environmental change, and the development of the diamond industry influences their choice of subsistence patterns. The hunter-herder continuum is not limited to a specific historical period but has continued to this day. Most importantly, the shift of subsistence patterns from herding to hunting is not fixed but reversible. There are a number of reasons behind the decision of the local population for a particular subsistence pattern, both local and otherwise (namely, government policies or possible future markets) within a given time-space matrix. The crucial element in these decisions is the indigenous knowledge of the human-reindeer relationship in the region as a hunter-herder continuum. Finally, the formation of the human-animal (reindeer) relationship has two key determinants: the historical and local sociocultural contexts, and the range of behavior and characteristics of the animal in question as the representative of a particular niche in a given environment. That animal may be seen either as an object of hunting or as a specialized husbandry resource in a specific local setting.

## NOTES

1. This data is from Russia's 2006 official agricultural census. See [http://press.aris.ru/index.html?he\\_id=905](http://press.aris.ru/index.html?he_id=905) (accessed 20 February 2008).
2. Ethnographic data for this article is based on fieldwork conducted over two weeks in October 2006.
3. The lead reindeer in a sledging harness is called *n'uoggubut*, while the animals following the *n'uoggubut* are called *kbos* (literally "second").
4. Individual animals in training are called *takkana*.
5. The *ulus*, a term taken from traditional Evenki sociopolitical organizations, is used for local administrative units within the Sakha Republic. *Ulus* is usually translated into Russian as *raion*.
6. This ethnic composition is characterized by the large number of Evenkis, although according to the official Russian census in 2002, the ratio of ethnic Evenki in the entire Sakha Republic is 0.02 percent, while that of ethnic Sakha is 45.5 percent, and Russians 41.2 percent (PEREPISI 2004, 113).
7. In the first decade after the decline of the USSR, the Russian government attached more or less greater importance to the rights of the ethnic minorities in order to stave off separatism.

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