

ECONOMIC DEVELOPMENT AS IF CULTURE MATTERS

Inuvialuit Wild Game Harvesting, Community- Based Economic Development, and Cultural Maintenance in the Western Arctic

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Recent ecological and economic change has exerted profound pressures upon circumpolar Native peoples. For the Inuvialuit Inuit in the Western Arctic, the impact has been especially severe. Specifically, the Inuvialuit of Banks Island, Northwest Territories have witnessed an inversely-functional ecological relationship between *Umingmuk* (Arctic Muskoxen) and *Tuktu* (Peary Caribou): the intense population growth of the former has been linked to critically declining populations of the latter—the traditional staple of the Inuvialuit. Acutely dwindling caribou herd populations have required a virtual cessation of caribou hunting, with concomitant negative economic and nutritive effect. Moreover, following the European Parliament ban on the importation of wild fur in the 1980s and the declining export market for Inuvialuit *Tiriganniaq* (white fox) fur stocks, family cash incomes continued to decline, further eroding the self-sufficiency of Inuvialuit hunters and fur trappers.

In response to tandem crises, current Inuvialuit subsistence on Banks Island is being

drawn from muskox hunting, and for almost a quarter century a successful community-based project to harvest and market muskox meat, horns, hides, and *quiviut* (textile-grade soft body hair) for international export has afforded community-wide wage employment. Unique among development schemes in the Arctic, however, is the value that local and regional Inuvialuit political and economic agencies place upon not only the creation of much-needed local jobs and community cash-flow, but on specific strategies to successfully embed renewable resource development within traditional Inuvialuit culture. To date, muskox harvesting on Banks Island has supported the continuation of traditional patterns of community resource sharing, maintained the seasonality of renewable resource harvesting, and actively promoted the practice and preservation of traditional Inuit land-based skills and knowledge to a new generation of Inuvialuit.

Introduction

Twice yearly over the last two decades small groups of up to a dozen Inuvialuit men have

ventured by snowmobile from Sachs Harbour, the only community on Banks Island, in the near total darkness of the polar night witnessed 400 miles (650 kilometres) north of the Arctic Circle. They have spent up to ten days on the tundra in temperatures often dipping to below -30° , and returned to the community slowly driving ahead of them herds of several hundred *Umingmuk* (tundra muskox, *Ovibos moschatus*). Directed toward a set of temporary corrals located three kilometres from the community, an equal number of Inuvialuit men (and recently women) wait in a set of heated canvas tents that have been designed and erected as a portable Arctic abattoir. There they slaughter up to 100 muskox per day and butcher, inspect, package, and freeze the wild game meat in preparation for air transport to Inuvik, south of the Arctic coastline. From there the quartered muskox carcasses travel by truck to custom meat jobbers in southern Canada, for further packaging and export to the U.S., Europe, and the Far East. Originally marketed under the product name of *Niqqi* — *good food* or *nourishing food* — and advertised abroad as *haute cuisine* with names such as ‘Estouffade of Arctic Muskox’ and ‘Arctic Muskox Brochette,’ muskox has become the new Banks Island cash crop. In recent years Hills Foods Ltd. of Coquitlam, has promoted the product in southern Canada and beyond with considerable market success and in 1996, Culinary Team Canada brought international notoriety to Arctic wild game by winning a gold medal at the Berlin World Culinary Olympics for their hot entrée using wild muskox meat (Hills Foods, Ltd., 1997).

The most westerly island in the Canadian north located in the Beaufort Sea in the Arctic Ocean, north-east of the Mackenzie River Delta, and with a landmass in excess of 70,000 square kilometres, Banks Island is the third largest landmass in the Canadian Arctic archipelago. It enjoys a particularly diverse arctic environment, including an abundance of marine wildlife and the largest single herd of muskox in the world, encompassing perhaps as much as one-third of the planetary population. It hosts the largest nesting population of *Kanguq* (Lesser Snow Geese, *Chen hyperborea*) in the Western Arctic and the most fertile *Tiriganniaq* (white fox, *Alopex lagopus*) population in the hemisphere. The Inuvialuit whose name means *the real people* in their language, Inuvialuktun, have long made the Beaufort Sea and Mackenzie River Delta

region of the Western Arctic their homeland, nurturing a unique Inuit identity (Alunik, Kolausok, and Morrison, 2003). Yet, for much of the past 3,500 years, Banks Island remained uninhabited, most recently remaining isolated from the mainland for nine of the last ten centuries. It was only in 1917 that the Alaskan-born Inuvialuit hunter Natkusiak, whose anglicised name was Billy Banksland after the island he later colonised, in his motor schooner *North Star*, undertook an exploratory expedition to Banks Island. When he returned to the Canadian mainland four years later with news of bountiful hunting and trapping there, he inspired a handful of coastal Inuvialuit trappers to attempt the return journey across the Beaufort Sea to Banks Island in search of new opportunities. In so doing, Natkusiak’s successes in opening an Arctic sea bridge heralded the dramatic Native (re)settlement of Banks Island. By 1920, a nascent Native community obtained a toehold on the island, with Inuvialuit hunters and their families trapping in winter, and returning by private schooner to the mainland trading houses at Aklavik and Tuktoyaktuk in the summer to market their fox furs and replenish over-wintering supply stores. Since then, Sachs Harbour (*Ikaahuk*, or literally *the place where people cross over to*), has been the only settled community on the island. With a 2004 population of about 120, the most northerly and remote community in the Northwest Territories is the home community to both the descendants of the original Inuvialuit trappers and Inuit newcomers who began arriving from Alaska and Victoria Island until the 1960s.

From the late 1920s and the formation of the permanent community of Sachs Harbour (named after the schooner *Mary Sachs* used by Vilhjalmur Stefansson, leading one of the parties of the 1913–1918 Canadian Arctic Expedition) through the arrival of the RCMP and the striking of a permanent detachment there in 1953, the Banks Island Inuvialuit were among some of the most prosperous Inuit in the Canadian Arctic. As late as the 1960s they lived not unlike their forebears: they harvested plentiful but specific resources for local consumption and for trade and sale. During this time, most Inuvialuit families spent lengthy portions of the year hunting, fishing, and trapping travelling considerable distances between a series of family-operated seasonal camps and supply caches dispersed across the island, following annual harvesting cycles. The annual cycle commonly included

polar bear hunting with the return of sunlight in February and March, fishing at freshwater inland lakes in March and April, harvesting snow geese in April and May, hunting seals and whales as coastal sea retreated in July and August, and fishing and hunting caribou as fall and winter approached. The principle cash crop was derived from trapping white fox, a season that usually began after Christmas and continued until spring. Through the Inuvialuit participation in the white fox industry, Sachs Harbour became "the most outstanding example of a successful trapping community in northern North America, and perhaps the world" (Usher, 1971a: 1). Until 20 years ago, trapping furs provided Inuvialuit families with access to the resources they required to remain economically self-sufficient, yet afforded them the opportunity to do so within a traditional cultural framework of living from the bounty of the land while remaining largely free of dependency on wage labour employment or government social assistance schemes.

However, in the 1980s, following the rise of the animal-rights movement and the activities of anti-fur organisations, the livelihood of the Inuvialuit was directly and externally threatened. A series of outright prohibitions on the importation of wild, trapped fur enacted by the European Parliament from the late 1970s, and the associated dramatic collapse of the European and southern fur markets, left many Inuvialuit families suffering financial hardship from the loss of what was often their only significant source of cash income. For the first time in many people's recollection, the Banks Island Inuvialuit lost much of their independence, with the very real prospect of financial ruin. Families who had commonly realised cash incomes of \$CDN40,000 to \$CDN70,000 from trapping white fox, faced the prospect of cash incomes of near nil. The loss of cash flow further imperilled the Inuvialuit by undercutting access to resources they required for subsistence hunting and fishing. Many Inuvialuit left Sachs Harbour in search of wage-labour employment on the mainland, and the population plummeted almost 40%. Those who remained faced the dim possibility of surviving on meagre monthly government assistance allotments, with seemingly little hope of ever regaining any sustainable level of self-sufficiency and independence. This situation was as rapid and dramatic as it was personally distressing and marginalizing for members of a community deeply rooted in cultural notions of

autonomy and self-sufficiency. Further, as government transfer payments were calculated and disbursed at levels of minimal provision, most Inuvialuit lost control over the resources necessary to maintain existing equipment or to obtain the equipment essential to a hunting and fishing lifestyle. Broken and worn-out equipment could no longer be replaced and many Inuvialuit were in effect removed from seasonal subsistence harvesting, essentially finding themselves marooned in the community, relying on processed food imported at great expense from the South. In short, many Inuvialuit who lost the cash income from trapping that had been used to purchase snowmobiles, fuel, rifles, boats and motors, fishing nets and other such provisions, simply could no longer afford to pursue traditional subsistence activities. To this day, many Inuvialuit recount with sadness and bitterness the difficulties they faced responding to rapid and dramatic changes in their lives, directed by political and philosophical events from afar.

Until the mid-1980s, the staple of the Inuvialuit had been *Tuktu* (Peary Caribou, *Rangifer arcticus pearyi*, *Rangerfer tarandus pearyi*). Once plentiful throughout the Canadian Arctic, caribou was a fountain of material for the Inuvialuit: the species provided meat for human and canine consumption; bones and offal were used for the manufacture of tools and equipment; and hides were sewn into clothing and tents. More recently meat continued to be consumed and hides were sold for cash to fur-trading houses. Since the 1980s, caribou — like other species of Banks Island big game, including polar bear and muskox — have become an indirect source of cash income for the Inuvialuit who have taken to offering their services as professional big-game guides for American and European recreational hunters in pursuit of game trophies. However, from about 1980 caribou populations began to decline dramatically — slowly at first, later more swiftly. One estimate suggested that numbers of caribou outrightly crashed from 12,000 in 1972 to 8,000 in 1980 (Urquhart, 1993: 4). Other studies identify that numbers fell from 9,000 in 1971 to less than 1,000 two decades later (Hrynshyn, 1991: 7; Community of Sachs Harbour, 1992: 59). During the mid-1990s, numbers hovered between 300 and 500, and since 1998 an estimated herd of 436 has rebounded to 1,196 in 2001, probably due to relaxed Inuvialuit hunting (Parks Canada, 2002; Environment Canada, 2004). The ecologi-

cal, economic, and cultural results of such a population crash were alarming in the extreme. In response to this potential ecological disaster, the Banks Island Inuvialuit agency responsible for monitoring and managing game stocks, the Sachs Harbour Hunters' and Trappers' Council (HTC) established restrictions on caribou hunting. By 1990, and the continued downward slide in caribou numbers, the HTC imposed a virtual caribou moratorium. The results were nothing short of staggering: where 306 caribou had been taken annually a generation earlier (Usher, 1971b: 71), only 20 caribou kills were licensed in 1992: less than one caribou was taken for every seven Inuvialuit on the island, a figure *twenty times less* than that for other comparable Inuit communities in the region (Inuvialuit Game Council, 1993). At the household level, the new restriction amounted to a near abatement: two decades earlier, families entirely reliant upon caribou meat would take upwards of 50 animals per year (Usher, 1971b: 73), whereas by 1992 they were effectively rationed to one caribou, per household, per annum. The situation became so critical that the Sachs Harbour HTC was also regularly compelled to import caribou carcasses taken by Inuvialuit hunters from near the coastal community of Tuktoyaktuk, on the Arctic mainland. Flown into the community at considerable expense by HTC-chartered aircraft — and distributed free to all community members, with preference shown to locals Elders — the imported caribou meat has become seen as the only alternative for many Inuvialuit who have a strong taste and cultural preference for caribou meat. Additionally, the collapse in caribou numbers also crushed the Banks Island sport hunt industry for the several Inuvialuit men who drew considerable cash income from organizing and delivering guided trophy hunts for non-Native sport hunters. Yet, where previously trophy hunters had often ventured to Sachs Harbour to undertake big game sport hunts in the autumn and spring seasons, often specifically to hunt caribou, or perhaps undertake a combined caribou-polar bear hunt, the HTC moratorium restricted sport hunting considerably and dissuaded many potential trophy hunters.

A number of explanations have been cited for the caribou population collapse, yet the issue of causality remains moot (see: Urquhart, 1973, 1993; Wilkinson, Shank, and Penner, 1976; Vincent and Gunn, 1981; Gunn, Shank, and

McLean, 1991; Hrynyshyn, 1991; Biddlecomb and Klein, 1992; Gunn, 1992; Staal and Olesen, 1992; Muskox Management Workshop, 2001). One explanation offered by Inuvialuit Elders posits that caribou herds collapsed in response to the eruption of the Bank Island muskox population that had increased from near nil to 34,000 in the two decades prior to 1984. However, this ebullition was not regarded as any sort of windfall by native hunters: for many Inuvialuit the meat of the muskox remains undesirable and tasteless to local palates and many community Elders continue to avoid the personal use of muskox meat, often commenting that they find it to be “tasteless — it just doesn't taste like *good* meat,” “has no good fat on it” and that it is “only good for dog feed.”

By 1990 the outlook for the Inuvialuit seemed grave. First, the community of Sachs Harbour found itself surrounded by bountiful numbers of white fox, for which local hunters and trappers had been led to believe for more than a half-century there was a near insatiable world-wide demand, yet for which fickle fashion and the fleeting philosophy of international animal rights activists had ensured no substantial market remained. Secondly, the only valued local staple, Peary Caribou, had suffered a seemingly irretrievable population crash, and hunting was all but prohibited. Thirdly, muskox populations had exploded, but far from a staple windfall for the Inuvialuit, the increase offered only a marginal utility. Cruelly it seemed, aside from the artificial collapse of fox trapping, the very species for which there was neither marked traditional use, nor a viable cash-market demand, were available in considerable, indeed frightening, abundance, while the one species culturally and nutritionally fundamental to the way of life of the Inuvialuit was in critically short supply.

Meanwhile, the cash costs of living in Sachs Harbour continued to climb: Canadian cost of living differentials, baselined at 100.00 reached 165 locally in 2004, while the fixed price index, baselined in Yellowknife at 100.00, rose from 126 in 1992 to a new high of 188 in 2004 (Whittles, 1995: 114; GNWT Statistical Profiles, 2004). Employment offered only diminishing buffers. Where Sachs Harbour showed a community employment rate of 47.6% in 1986, by 2004, the rate had dropped slightly to 46.6%, and the Aboriginal-only employment rate registered at 42.3% (GNWT Statistical Profiles,

2004). Thus a series of ecological and economic transformations had, in a period of less than a decade, inextricably altered the way of life of the Banks Island Inuvialuit and compromised their independence as a people. Sachs Harbour was becoming a 'have not' northern Native community (Bone, 2003:98).

Three Millennia of Muskox Harvesting on Banks Island

There is evidence that aboriginal peoples have hunted muskox on Banks Island for over 3,400 years. Pre-Dorset sites have been found to contain muskox bones indicating small-scale harvesting by palaeo-Eskimo populations from 1,400 BC (Hickey, 1979; Arnold, 1980; Will, 1984; Gunn et al., 1991). While later Inuit occupation of Banks Island appears to have been episodic, evidence indicates that successive populations also used muskox as a foodstuff and a source of domestic raw material (Will, 1984). While current populations are estimated to be nearly 70,000, scarcely less than 50 years ago muskox were a demographic rarity on the island. Prior to that, early European expeditions to the region curiously noted that there were few, if any, muskox to be found on Banks Island (Whittles, 1992, 1994). Later still, Vilhjalmur Stefansson, leading one of the parties of the 1913–1918 Canadian Arctic Expedition that crisscrossed Banks Island commented: "We soon came to the conclusion that ... polar oxen were now either rare or extinct in our immediate vicinity" (in Barr, 1991: 58). Later expeditions recorded a similar scarcity of muskox. In fact, studies conducted well into the 1950s noted occurrences in only single digits. Yet from the mid-1960s, numbers appeared to increase at such a dramatic rate as to be virtually inexplicable: from 60 in 1963 to 800 in 1967, 1,800 by 1974, 20,000 by 1980, 25,000 by 1985, in excess of 34,000 by 1989, to over 60,000 recorded by census in the spring of 1992 (Barr, 1991: 61–62; Gunn, Shank, and McLean, 1991: 188–89; Rondeau, 1992: 4.). As late as 2001, an island-wide survey revealed a muskox population of 68,788 (Annual Report of Research and Monitoring in National Parks of the Western Arctic, 2002). When combined with the dramatic crash in caribou populations, the net result was twofold: first, at the very least, the Inuvialuit would be required to re-focus their domestic hunting activities away from caribou in favour of muskox as a default staple. Secondly, it led many

Inuvialuit to consider the possibility of commercially harvesting muskox.

The Banks Island muskox harvest formally commenced in the spring of 1981 (Latour, 1987: 265). Initially a semi-commercial effort to provide muskox meat for the Inuvialuit and others living in the Western Arctic, it later expanded to supply rapidly developing international markets. The Beaufort Sea-Mackenzie River Delta communities of Inuvik, Aklavik, Holman Island, and Tuktoyaktuk all received muskox meat distributed under the aegis of the business division the Committee for Original Peoples' Entitlement (COPE)—the vanguard of the later Inuvialuit Final Agreement and precursor for the Inuvialuit Regional Corporation (IRC). Meat was distributed and marketed by Ulu Foods Limited, an aboriginal country food outlet in Inuvik, and shipped from there to the communities of Aklavik and Tuktoyaktuk for retail sale (Urquhart, 1982:19). Quotas of approximately 150 animals were easily met in eight to ten days of hunting. Muskox were harvested during the last week of April and the first week of May, from separate sites—all within 100 kilometres of Sachs Harbour (Latour, 1987: 265). Between 1981 and 1983, muskox was similarly harvested in numbers of 260, 96 and 83 respectively (Tessaro et al, 1984: 177; Rondeau, 1992: 6). From 1987 onwards, harvesting has proceeded sporadically in autumn and late winter (Fraser, McLean, and Nagy, 1991; GNWT, Wildlife and Fisheries, Economics, Muskox, Sachs Harbour, 2002; GNWT, Wildlife and Fisheries, Harvest Levels, Muskox, Sachs Harbour, 2002).

The harvests were successful on a number of levels. Local employment provided cash income of upwards of \$2,500.00 per hunter for the approximately 10 Inuvialuit hunters who each tracked, culled, and butchered the product *in situ* on the tundra, finally transporting the dressed carcasses from the habitat to Sachs Harbour for later air transport to Inuvik (Eli Nasogaluak, personal communication). Additionally, the economic value to Sachs Harbour HTC of the 470 muskox harvested between 1985 and 1987 totalled \$117,600—clearly a significant resource for a community of 130 (Gunn et al., 1991: 191). Responsible for almost every aspect of the harvests, the HTC, an Inuvialuit political body locally elected and represented, held and continues to hold the ongoing mandate to manage and conserve the wildlife habitat of Banks Island. Matters pertaining to the har-

vesting of muskox were for the most part locally controlled: harvesting areas and seasons were defined, quotas determined, techniques and skills shared, and local hunters were invited to participate. In this way, Inuvialuit community-based decision-making directed the development and management of a local renewable resource-base activity, and the traditional knowledge and expertise of the community was combined with local consensus to generate a policy for the harvest in order better to serve the needs of the community and its members, and to ensure the preservation of the habitat for future generations of Inuvialuit (Whittles, 2004). Finally, the benefits of commercial harvesting that were realised at individual and family levels should not be overlooked. Muskox harvesting was not a discrete economic or cultural activity: while actively scouting or herding muskox, many herders used their time on the tundra and their knowledge of the habitat to track the movements and activities of other possible prey species, thus satisfying their own hunting requirements simultaneous with earning cash wages. The connections to traditional subsistence hunting did not end with the harvest itself, as following work on the harvest many Inuvialuit returned to these areas in order to satisfy their own dietary requirements, or serve the country food needs of family and relatives. Thus the early harvests enabled local hunters to augment their subsistence activities with a desperately needed cash income, all the while promoting and directly supporting independent hunting and fishing activities. Additionally, the harvests provided other Inuvialuit communities with a culturally valued meat supply, while also giving residents of Sachs Harbour access to the by-products of harvesting required to make hide sleeping skins, clothing, sled dog food, in addition to other raw materials necessary for handicraft production.

The Banks Island Commercial Muskox Harvest

Since 1990, and in response to a burgeoning international demand, the products of the Banks Island muskox harvest have been made available outside the Western Arctic. Yet, control of the harvest demonstrably remains within Inuvialuit hands. The harvest itself is directed by a number of Inuvialuit governing bodies including the Inuvialuit Regional Corporation, the Inuvialuit Development Corporation, the Inuvialuit Game

Council, and a number of joint Inuvialuit-Government of the Northwest Territories committees. During the early 1990s, meat was marketed by *Umayot, An Inuvialuit Company*, a branch of the Inuvialuit Renewable Resource Development Corporation, however, for over a decade marketing has been a joint venture of the Inuvialuit Regional Corporation and the Sachs Harbour Hunters' and Trappers' Committee.

In the early 1990s, the commercial harvest began to expand in order to meet market requirements (Inuvialuit Regional Corporation, Annual Report, 1992: 12). The autumn harvest of 1991 took approximately 1100 animals, producing almost 180,000 pounds of high-grade meat — much of it for international export. The spring harvest of 1992 processed about 1,792 animals (Wildlife Management Advisory Council, NWT, 1992/93) for a total annual harvest in 1991–1992 of 2031 muskox. Almost 1,800 animals were taken in the autumn harvest of 1993 (GNWT, Wildlife and Fisheries, Harvest Levels, Muskox, Sachs Harbour). Since then, harvests for export have occurred in 1997–1998, 1999–2000, 2001–2001, and 2002–2003. Typically in October and February, a group of about ten men using all-terrain vehicles or snowmobiles herd the muskox from the habitat into corrals and finally to a modern portable abattoir located near Sachs Harbour for processing. Before the harvest begins, Inuvialuit hunters often spend considerable time travelling on the tundra in order to locate herds, track movements, and determine the herd sizes of harvestable muskox, but also using the opportunity to hunt or track other animals for their own subsistence needs. This initial phase requires them to travel widely across the vast expanse of island, a trip that can often last a fortnight or longer; however, many informally explore areas of the island known to contain muskox for a month or more previously. Once the critical number of animals has been located, the drive to Sachs Harbour follows. As the journey to the abattoir can take upwards of two to five days, some hunters travel to predetermined locations where overnight corrals are located and undertake maintenance work there in preparation for the arrival of the driven herd. Later, harvesting parties return to drive herds to the abattoir where they are maintained prior to processing. In an assembly-line system contained within two large Quonset-style tents — each about four metres wide by about 15 metres in length — animals are processed ready for

inspection by a certified Agriculture Canada veterinarian, and ultimately for shipment to southern markets. At the abattoir, crews consisting of 15 to 35 Inuvialuit are employed for almost a month to kill the muskox, skin, clean, and dress the carcasses, trim excess and those portions unfit for export, then proceed to section, package, weigh, and store the frozen meat in preparation for shipment through a series of processes that are both technically sophisticated and labour- and energy-intensive. In the early 1990s additional community-based value-added activities were developed so that following successful harvests, additional wage-labour opportunities exist for three or four Inuvialuit workers processing the raw hides in Sachs Harbour and preparing them for transport to facilities in southern Canada and the United States.

During the harvest, and in keeping with traditional Inuvialuit practices, as much as possible of each animal and associated by-products are used. As the primary cash-crop products of the harvest, meat, guard hair, and hides are exported, and raw horns have been independently marketed by a Sachs Harbour Elder. Excess, trimmed, and lower-grade carcass sections are stored in middens outside of the processing tents. During the harvest, many Inuvialuit arrive at the abattoir with snowmobiles and *komatiks* (ladder-like freighter sleds) to transport the surplus meat to the community, where it is shared throughout. Additionally, what little meat is not approved by a federal meat inspector and any other residuum is also fed to local sled dogs, thus providing another resource to the community: a directly and easily available source of dog food in considerable quantities that seasonally frees Sachs Harbour hunters from the considerable burden of hunting in order to feed their dog teams.

Harvesting and the Maintenance of An Inuvialuit Way of Life

For the Inuvialuit of Sachs Harbour, the economic consequences of muskox harvesting have been considerable and varied. In a remote region which has historically experienced extremely limited economic diversification, and which is currently heavily dependent upon the burgeoning Western Arctic hydro-carbon economy, economic benefits include:

1. At any given harvest, approximately 25 local Inuvialuit secure short-term wage labour: employment is generated for about ten herders and 15 harvesters. For instance, during the autumn 1992 harvest, each of the two herding parties comprised five men, and the abattoir was staffed by twelve men and three women. The impact of 25 seasonal employment positions on the local economy is little short of profound. Statistically, in 1992 a total of 56 of the Inuvialuit adults of working age living in Sachs Harbour were available for work in full- and part-time wage-labour employment, of which 28, or precisely 50%, were so engaged (18 full-time and 10 part-time positions). Thus, in offering seasonal work to 25 of the 28 Inuvialuit adults in Sachs Harbour who were otherwise unemployed, the harvest provided short-term employment for 90% of those in the community who did not otherwise have full- or part-time wage labour employment (Whittles, 1994, 1996).
2. At the October harvest in 1991, individual herders earned approximately \$4,800 and abattoir harvesters over \$5,400 for between three and four weeks work, where wages totalling more than \$120,000 were paid by the Inuvialuit Regional Corporation through the now discontinued business *Umayot, An Inuvialuit Company*. Yet, by the early-winter harvest of 1999 and following a cessation in harvesting of two years, Banks Island operations had expanded to employ 35 workers from Sachs Harbour, and the Inuvialuit communities of Holman, Tuktoyaktuk, Paulatuk, and Inuvik for two months during that harvest. Fully 1450 animals were processed and exported in that enterprise, generating about 126,000 kilograms of meat with a commercial value of CDN\$450,000.
3. A successful harvest based in Sachs Harbour requires the skills of a number of non-Inuvialuit workers—including government wildlife biologists and an Agriculture Canada qualified veterinarian, abattoir maintenance workers, and other specialised personnel. Their economic impact on the local economy cannot be overlooked, as all are boarded in facilities in the community of Sachs Harbour. The services necessary

to accommodate up to a dozen non-Inuvialuit for periods of up to eight weeks, twice a year, were and remain substantial to the economy of Sachs Harbour—a community that due to the sheer remoteness of location does not see considerable economic benefit from tourism or other visitor traffic. Additionally, those Inuvialuit not directly involved with the harvest are often offered paid-service and wage-labour opportunities as innkeepers, cooks, housekeepers, cleaners, and general support staff during the course of the harvest. The direct injection of cash into the local economy by way of provisioning hostel and private residential boarding facilities, service sector wages, and cash realised through the locally owned and operated Ikaahuk Co-op community store (groceries for workers' meals, fuel for abattoir equipment and heating, etc.), and other local concerns, remains considerable. The harvest also provides direct and indirect employment for a number of Inuvialuit in regional communities throughout the Beaufort Sea—MacKenzie River Delta region as much of the infrastructure necessary for the harvest is provided by the Inuvialuit Development Corporation (IDC), based in Inuvik. A division of the Inuvialuit Regional Corporation, IDC is responsible for arranging the transportation of both muskox meat and hides from Sachs Harbour to Inuvik, further product processing, and for world-wide product marketing. The ground services that were provided at Inuvik airport for the approximately 30 round trip air-freight flights from Inuvik to Sachs Harbour during the 1999 harvest are but one example of the regional economic spin-off of the Banks Island harvest project.

4. The harvest indirectly injects considerable revenue into the local economy and provides opportunities for those Inuvialuit not personally affiliated with the harvest, and often too aged or infirm to participate directly. The raw horns of processed muskox have been marketed to southern art and handicraft houses by a Sachs Harbour Elder for between \$200 and \$250 per set. In the 1990s, a number of Banks Islanders, including two male Elders, derived a cash income from carving unsold

horns, which they marketed directly to southern and international Native craft galleries for between \$500 and \$1,200 per carving. From hide remnants Inuvialuit women have made mukluk leggings, slippers, animal dolls, hats and mittens for domestic and local use as well as handicrafts for sale, also marketed through southern galleries. These products remain a valuable source of cash income for a number of families, and generate significant income for several elderly Inuvialuit households: one Elder grossed approximately \$10,000 in 1992 alone from the sale of her handicrafts and clothing.

5. Perhaps one of the most valuable cash products from muskox is *qiviuq* or *quivuit*, the soft, down-quality body hair of the animal. As a textile, *qiviuq* offers warmth many times that of sheep's wool, and is considerably softer than cashmere. As approximately three pounds of *qiviuq* is obtained from each adult muskox, several tonnes of the so-called 'muskox down' and outer guard hair are produced from each of the larger harvests. Processed *qiviuq* has been marketed through an Inuvialuit Development Corporation subsidiary in Whitehorse, Yukon that developed markets in Japan, Europe, and North America (Down North: The Qiviuq Company Product Catalogue). A number of local women have generated income from washing, carding, and spinning the wool in order to knit mittens, hats, scarves, neckties, and sweaters, all of which command a premium price in southern markets. In the autumn of 1992, two local women completed a technical education course in custom-garment knitting for export, and soon began garment production. *Qiviuq*, which sold for \$135 per raw pound in 1989, often fetched prices upwards of \$40 per 100 grams (\$182 per pound) carded, washed, and spun into fibre in the 1990s. Although Banks Island raw *qiviuq* is currently being exported to Peru where it is manufactured into exotic clothing and handicraft items, finished yarn currently sells for \$26 per 25 gram skein (US\$468.00 per pound); retail outlets in Alaska currently offer *quivuit* yarn for US\$28.00 per ounce (US\$448.00 per pound). It bears noting that when I lived

in Sachs Harbour and worked on the abattoir line, a number of Inuvialuit jokingly commented that it seemed quite ironic to them, and an echo of the fur trade of days long gone, that—to non-Inuvialuit consumers, at least—the exterior covering of the muskox had become more valuable than the meat itself.

Muskox Harvesting and Inuvialuit Cultural Maintenance

The muskox harvest not only provides opportunities for a diversified Inuvialuit economy, but it promotes the importance of traditional patterns of community resource sharing, maintains the seasonality of renewable resource harvesting, and actively fosters (and rewards) the practice and preservation of traditional Inuit land-based skills and knowledge for a new generation of Inuvialuit in the following ways:

1. Muskox harvesting provides economic opportunities for Sachs Harbour Inuvialuit who generally have not had access to full-time wage-labour employment and who wish to remain full-time hunters. Cash realised is used to cover day-to-day living expenses and to clear outstanding debts at the Ikaahuk Co-operative shop. In direct support of traditional subsistence activities, it provides much of the cash necessary for Inuvialuit to acquire snowmobiles, sleds, tents, rifles, boats and motors, and to purchase fuel, ammunition, and food. The purchase of equipment and provisions not only contributes to (indeed, ensures) the continued independence of Inuvialuit hunters, but it also prepares many men with the financial liquidity to offer their services as trophy-hunt guides and to operate sport hunt outfitting enterprises from Sachs Harbour, an activity that is becoming increasingly important to the local economy:

In 2002–2003, 93 guided sport hunts were conducted for muskoxen in the Northwest Territories. Of these, 44 were on Banks Island, 7 on northwest Victoria Island, and 42 on the mainland (Inuvik and Sahtu regions). Guided muskox hunt[s] cost approximately \$3000 US. Thus 93 guided sport hunts generate approximately \$279,000 US (\$372,000 CDN) in outfitting fees in the NWT in 2002–2003. This value excludes dollars spent on airline tickets,

hotel accommodations, meals, and local purchases of arts and crafts (GNWT, Wildlife and Fisheries, Economics, Muskox, Sachs Harbour).

2. Harvesting allows Inuvialuit hunters to work when they require employment income most, yet remain available for 'on-call' subsistence-based hunting and fishing. In short, a successful subsistence career requires that the hunter have the opportunity to track animals as the weather, seasons, and herd movements dictate. Conditions in the Arctic vary greatly from season to season, even from day to day. Windows of opportunity are often unpredictable and successful hunters must respond rapidly and competently to local seasonal, climatic, environmental, and faunal conditions. As seasonal employment lasting less four to eight weeks, perhaps twice per year, and unlike full-time wage labour employment, muskox harvesting does not exert profound or continued limitations onto the lives and livelihood of Inuvialuit hunters. Rather than constraining Inuvialuit life ways, the harvest serves as a vehicle to support many Inuvialuit to obtain the equipment and resources necessary to pursue a traditional lifestyle, and to maintain a high level of economic independence. As such, the harvest provides greater economic flexibility and independence for many Inuvialuit than they might otherwise realise from the often uncompromising cultural interference of full-time wage labour employment, all the while ensuring their freedom to remain full-time and successful hunters.

Moreover, muskox herding and meat processing in late autumn and late winter takes place at times when other Inuvialuit activities associated with the economy of the land are at low ebb: average daily temperatures are statistically nearest the yearly low at the beginning and end of the winter dark period (November and February). Traditionally, men would be travelling on the tundra and engaged in fox trapping activities during these periods; currently, however, in the absence of opportunities for profitable fur trapping, some of the coldest temperatures of the year combine with seasonally low photoperiod values to keep many Inuvialuit from their land-based subsistence pursuits.

- As a result, most locals prefer instead to hunt or fish closer to the community during the mid-winter period. Yet it is precisely during this time that both seasonal muskox harvests take place. Preceding or following traditionally intense periods of hunting and fishing, muskox harvesting consequently neither coincides with nor contradicts peak subsistence production periods, so Inuvialuit hunters participating in the harvest do not forgo culturally valuable and economically vital hunting opportunities whilst employed. They do, rather, engage in employment at either or both harvests in order to secure access to the necessary cash income to clear debts from the preceding season of hunting, or to sponsor approaching expeditions, or both.
3. Wild game harvesting — unlike most wage-labour jobs held by Inuit in the Canadian Arctic that exist within the category of oil, gas, mining, construction, and government service — demands a level of specialised traditional skill and indigenous technical knowledge only to be found in within the Inuvialuit population. Moreover, without the Inuvialuit, the harvest would be destined to failure: Inuvialuit employed possess a set of near priceless traditional and non-traditional skills indispensable in locating and herding the muskox, as well as processing them in the abattoir. Inuvialuit locate and herd the animals (in the darkness of the polar night) on the tundra, navigating and surviving on the land at two of the most severe climatic periods of the Arctic year. They successfully drive the animals towards the community abattoir relying upon their traditional knowledge of the habits and behaviour of muskox — knowledge that is also deployed by Inuvialuit cullers and butchers during processing. In this way then, the harvest not only utilises Inuit skills as such, it recognises and validates these skills as valuable and therefore essential to a successful harvest.
 4. The harvest has offered seasonal employment opportunities to upwards 90% of the Inuvialuit who do not enjoy access to full- or part-time wage labour employment. Through the muskox harvest, the people of Sachs Harbour are able to provide a commodity for which there is a considerable market, from a resource which is communally held and eminently renewable. In return they invest in their traditional subsistence-based way of life while injecting cash into the community, enabling it to retain its independence. Thus a highly specialised cash-crop product is harvested in a culturally conducive and socially sustainable fashion and is converted it into a valuable source of income in a region which itself has cash-intensive requirements.
 5. The Banks Island harvest generates a product for which there is no current significant competition anywhere. Additionally, it is product realised from a richly renewable resource. In terms of the sustainability of the harvest, the current Banks Island muskox population is in excess of 68,000; thus a yearly harvest of 2,000 to 5,000 animals represents the removal of between three and seven per cent of the herd — minimal when consideration is made for the fact that the herd has consistently reproduced itself every five years (Whittles, 2004). Renewable resource management on Banks Island requires the rigorous and careful direction of the Sachs Harbour HTC, in an ongoing process that continues to employ and validate the formidable body of Inuvialuit traditional knowledge through a traditional consensus-based decision-making process.
 6. Through wild game harvesting the Inuvialuit of Sachs Harbour have realised what Lyck (1990) describes as the fifth, and final, phase of political and economic evolution in the Arctic. Preceded by phases of international (non-Inuvialuit) exploitation of marine mammals, of military discovery and use of the Arctic, by the ‘public concern’ phase, and finally, the national exploitation of oil, gas, and other minerals, the Inuvialuit have finally achieved for themselves a more integrated and diversified economy — yet one “in which indigenous people are seeking their own rights, influence and autonomy” (ibid.: 310).
 7. On the surface, it might appear that the Inuvialuit have become involved in a wholly new type of economic endeavour: muskox harvesting uses thoroughly modern technology, those who participate receive

hourly wages for their labour and, on a larger scale, harvesting produces a cash commodity for foreign markets. However, rather than an example of a transformed economy, muskox harvesting is better understood as a new aspect of the what I have termed the *economy of the land* (Whittles, 1995) that illustrates the plurality and flexibility of economic activities available to the Inuvialuit, focusing upon the dominance of subsistence pursuits and the Inuvialuit harvest of the rich resources of Banks Island so as to ensure their maximum personal, family, and community independence. More importantly, like traditional hunting, fishing, and trapping, muskox harvesting remains an enterprise that does not depart from the scope of traditional Inuvialuit economic activity; nor is it a new, and therefore synthetic, category of endeavour. Rather, it is a venture that is clearly integrated within Inuvialuit notions of the economy of the land, and one that ensures some degree of the continuity of a traditional Arctic community.

Conclusion and Discussion

Circumpolar peoples comprise a distinct category of economically challenged indigenous populations, often inhabiting a specific niche that often includes restricted settlement on lands of marginal utility, ethnic encapsulation, political impotence, and cultural stigmatisation. Comprising the "Fourth World," (Manuel and Poslums, 1974), they often encompass minute populations of reindeer herders, subsistence hunters and fishers, fur trappers, and wage labourers in the non-renewable economies of gas, oil, and mineral extraction. Circumpolar peoples are often located (or re-located) upon economically marginal land. Primary and secondary industry has generally not been historically viable in these regions. Requisite conventional economic infrastructure rarely exists in many locations and raw materials and energy sources are often scarce or available only at a premium, while the distance to potential markets often makes transportation costs prohibitive. Levels of education and marketable skills are frequently not available in required numbers or standards and most circumpolar communities, while often suffering marked levels of over-crowding given the num-

ber of available residential units, are often small-scale settlements physically remote from larger, urban markets. Additionally, techniques of production and the cultural impact of the establishment and maintenance of new industry is often disruptive to small-scale, subsistence-based rural populations.

Numerous Northern economic development schemes attempted in the past have involved the promotion of non-renewable resource extraction industries, often including ventures which are generally bound to mercurial world market prices. In the case of renewable-resource industries, they too are bound by supply-demand fluctuations in external markets, which themselves are coupled to fickle trends in fashion and dietary élat. In addition, many projects are defined, implemented, and managed by centralised governments and tend to be inefficient, under-capitalised, and rarely prove to be either sustainable or profitable. In this light, the uniqueness of the Banks Island muskox harvest is clear. In the final analysis, perhaps Mark Hills of Hills Foods Ltd. best captures the opportunities arising from the Banks Island harvest, "Their community has new employment, the muskox herd is receiving the culling wildlife experts deem healthy, and gourmets, chefs, restaurateurs, and those who desire natural, organic, flavourful protein are being satisfied" (Hills Foods, 1997).

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