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The Integration of Cash and Subsistence in Southwest Alaskan Yup'ik Eskimo Communities

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Recent research on foraging populations has demonstrated that these peoples are not timeless remnants of the Stone Age but rather have their own distinctive histories of contact with people from different economic systems. In some cases those contacts have extended over thousands of years [LEACOCK and LEE 1982; SCHRIRE 1984]. These studies reveal a more subtle and complex picture of fluctuation and innovation in the manner in which foraging populations have sustained themselves and their cultures. Indeed, as attention to the rituals, belief systems and ideologies of these groups seems to show, the foraging peoples of the world who remain may have done so out of a tenacious commitment to their way of life rather than merely being cultural back eddies whose existence is an accident of having remained outside the cultural torrent of the world capitalist economic system.

Nevertheless, the historical circumstances and options which confront indigenous foraging groups vary greatly. The opportunity to adjust to contact does not appear to have been available, for example, to the Beothuk of Newfoundland, the Tasmanians or the Fuegians. These groups were exterminated by Europeans. For other foraging groups, the loss of population due to Old World diseases introduced at contact was so devastating that many were unable to persist. But there are other groups, notably in the northern reaches of North America and Siberia, in the rain forests of the Congo, the Amazon and the Malay Peninsula and in the deserts of South Africa and Australia who had somewhat different opportunities and so were able to develop cultural patterns in which foraging persisted as the primary mechanism even after extensive contact with the world capitalist economic system. In fact, contact with the world economy may even have created opportunities for new groups of foragers to emerge [HOFFMANN 1984]. Often times new institutions and patterns emerged among precontact foragers which allowed them to continue as autonomous peoples.

Alaska Natives did not experience the process of European contact, penetration and colonisation of North America, peoples and cultures which began in 1492 until the later half of the 18th century. From the 1760s to the 1850s, first southern coastal groups (Aleut, Koniag, Chugach and Tlingit) and last northern and interior groups (Inupiat and Kutchin) came into direct contact with Europeans and Euroamericans. Significant population loss due to disease and violence was a

major effect of these early contacts. But the effects of the expanding world economic system had already begun to be felt by Alaska Natives as trade across the Bering Straits between Chukchi and Siberian Eskimo on the Asian side and Inupiat on the Alaskan side resulted in the appearance of leaders and groups specialising in exchange and shifts in community location in order to be nearer trade routes [RAY 1975; VAN STONE 1979]. Thus in Alaska, indigenous peoples as elsewhere in the world have a history of change and adjustment to new circumstances that predates actual contact with Europeans.

Of Alaska Native groups, the southwestern mainland Yup'ik groups have experienced less direct contact with and intrusion by Euroamericans than any other Alaskan Native group [FITZHUGH and KAPLAN 1982]. Their demographic, linguistic and cultural vitality is widely recognised. A crucial core element in Yup'ik persistence is their strong commitment to subsistence, their development of an "ideology of subsistence" and their establishment of institutions and activities to protect the species on which they depend as well as the land, river and ocean systems which the species require as habitat [FIENUP-RIORDAN 1983, 1986; LANGDON 1984].

As a population exhibiting a high degree of subsistence activity and commitment, the southwestern Yup'ik provide an ideal group in which to explore questions about the persistence of subsistence activities in the context of expanding economic ties with the larger society. Recent research by federal and state agencies in Alaska has sought to understand the dynamics of subsistence-based communities

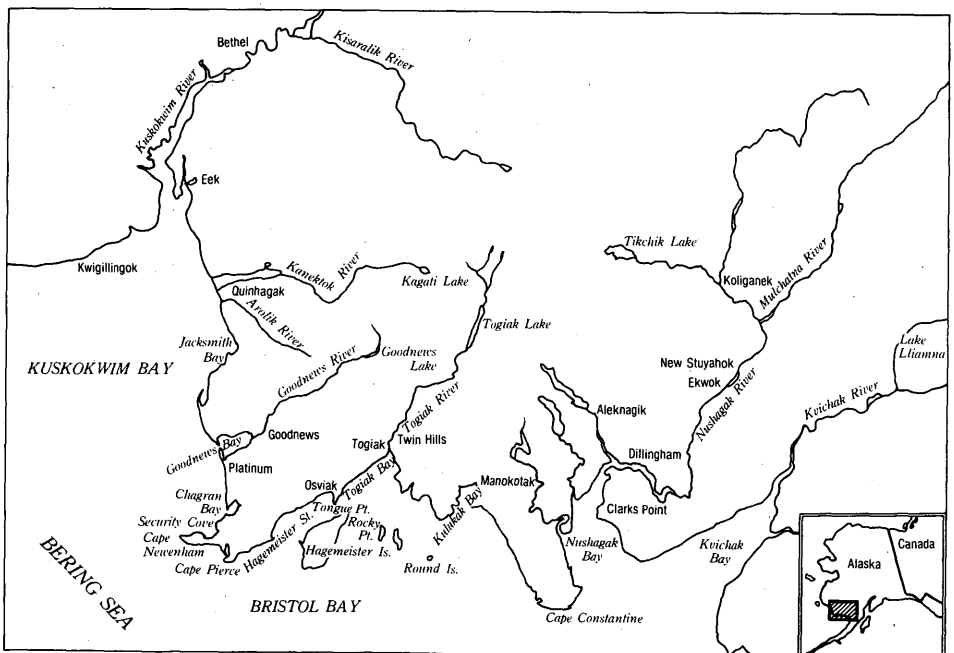


Figure 1. Map of the study area.

of foragers as they come under increasing economic and social pressures from the larger society. A recent research project sought to analyse the influence of cash and cash participation on the patterns of subsistence activity and social interaction found in four Yup'ik communities in southwest Alaska. That research resulted in an extensive report and findings on which this paper will draw but for the sake of presentation, only two of the communities will be compared [WOLFE, LANGDON *et al.* 1984]. Figure 1 shows the study area and in particular the villages of Togiak and Quinhagak which will be the focus of this paper. In addition, topics of research interest not addressed in the research and report but nevertheless critical to an understanding of how foraging societies reproduce themselves will be discussed such as marriage, formal education and television.

RESEARCH QUESTIONS AND STUDY DESIGN

Research in the late 1970s and early 1980s in many parts of western, northern and interior Alaska as well as northern Canada indicated that indigenous foragers (Yup'ik, Inuit, Athabaskan, Cree) continued their hunting, fishing and gathering activities even when settled into sedentary communities with subsidised housing and utilities as well as access to cash [WOLFE 1979; WENZEL 1981; USHER 1981; FIENUP-RIORDAN 1983, 1986; KRUSE 1986]. The concept of a "mixed, subsistence-based socioeconomic system" was developed in Alaska to characterise this adaptation [WOLFE and ELLANNA 1983]. The important elements identified in this system which make it distinctive are:

- a regular, seasonal round of fishing, hunting and gathering activities pursued community-wide involving a wide variety of species
- high productivity from subsistence activities resulting in significant nutritional dependency on harvests
- subsistence activities are conducted by extended kin groups, termed a *domestic mode of production*, through which labour and capital are deployed
- extensive non-commercial sharing, distribution and exchange of various resources, most notably subsistence products but also equipment, provides for complex inter and intracommunity networks of relationship
- traditional systems of land use and occupancy are characteristically based on customary areas of community and familial use which controls access to resources through personal as opposed to legal principles
- utilisation of cash to obtain technology, food, clothing and other items from the larger society.

The economy in these communities is composed of a "subsistence sector" and a "cash or market sector" which are dynamically related. Money is obtained through various ways in mixed, subsistence-based communities in Alaska including commercial sale of fish and furs, cottage handicraft industries (fur gloves, hats, ivory products, grass baskets), wage employment, and state and federal transfer payments. A major use of cash obtained is for investment in technology required

for subsistence fishing, hunting and gathering. The subsistence products make possible high quality diets and maintenance of healthy populations. The relationship between these sectors is diagrammatically presented in Figure 2.

Although this basic type of community can be identified throughout northern North America, there are variations on the degree of mix between the different sectors and on the dynamics which allow them to persist. The research questions of interest concerned the effect of the *sources* of cash and the *quantities* of cash received by Yup'ik communities and families on their subsistence activities.

It is possible that the *source* of cash is a significant determiner of the degree to which subsistence activities can be maintained and a mixed, subsistence-based economy persist. It may be that sustained (as opposed to seasonal or rotational) wage employment constrains subsistence due to such factors as work schedules,

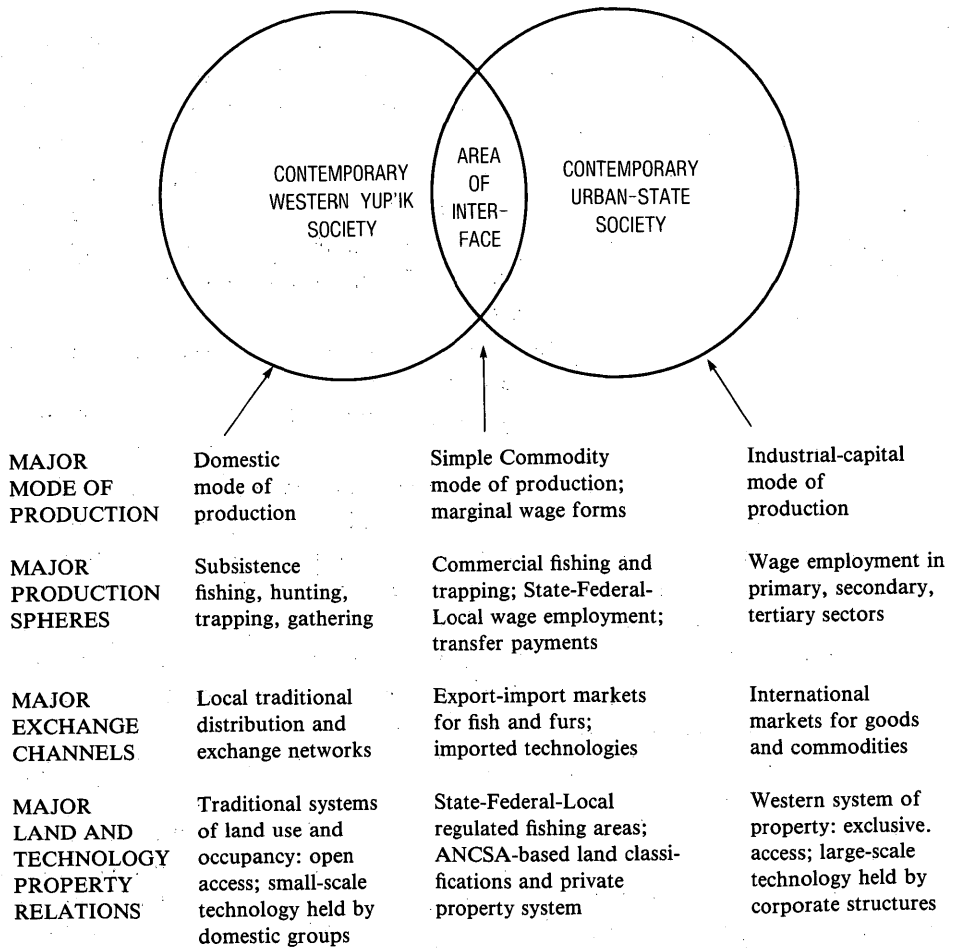


Figure 2. The interface of contemporary Yup'ik society in western and southwestern Alaska with the exterior urban-state society as it relates to the political economy.

location of work, rate of pay and knowledge and skills required for work. Sale of harvests (petty commodity production) of natural species, on the other hand, might provide greater flexibility of scheduling allowing for more subsistence activities and similar technologies may be used for both petty commodity production and subsistence. One of the research aims was to examine the relationship between the *source* of cash and subsistence activities-harvest levels, number of species, and distributional channels.

Many social scientists and policy makers assume that communities with mixed subsistence-based economies are transitory and will not be able to reproduce themselves. Their demise into communities fully integrated into capitalist, wage-based economies in which subsistence activities have become only recreational pursuits is expected to follow a pattern similar to that proposed originally by Murphy and Steward [1956] and recently extended by Burkhalter and Murphy [1989]. The model emerging from these two articles hypothesise that involvement in the sale of commodities in order to obtain technically more productive and efficient tools sets in motion a deviation-amplifying process which leads to the breakdown of bands with extended-family foundations and economic interdependencies. It is anticipated that nuclear families would replace extended families and increasingly compete for harvests for market sale rather than cooperate in subsistence activities. Sharing and distribution would decline. Open or communal access to resources would be replaced by exclusive access akin to private property. Group autonomy would be replaced by individual dependency on trade with outsiders. Debt relations would emerge to maintain the imported technologies needed to increase harvests in order to meet demands for debt service and imported commodities. In the "tragedy of the commons" scenario, conceivably the biological health of species which were taken for exchange might be threatened due to increased demand for cash leading to excessive harvests.

Research among the Miskito of Nicaragua supported this model [NIETSCHMANN 1973]. Among the Miskitio, the cultural outcomes of converting from subsistence use of turtles to cash sale were much as Murphy and Steward had predicted. But what were the key dynamics which drove the Miskito and are those same factors at work in southwestern Alaska among the Yup'ik? A key relationship in the Miskito circumstance was the relationship established by new vessels and outboards being obtained through debt relations prodding increasing harvests from a species neither abundant nor fecund. Greater search and capture costs entailed larger harvests producing a vicious cycle ultimately harming the turtle population and limiting the protein available for the Miskito. Was this also true of Yup'ik fishermen?

Another topic of interest to the research was the amount of cash. Several analyses indicate that subsistence harvesting of local foodstuffs in northern North America is extremely efficient, producing high quality protein and calories at a much lower cost than substitutes readily available in community, thus investment in subsistence is rational. But what if certain households obtain significantly greater

amounts of cash than others? Will they reduce their subsistence activities and live off the store? Will they narrow the range of species they pursue focusing on high return, high prestige resources [USHER 1981]? Are surpluses hoarded and hidden or are they expended on prestige enhancing activities? What is done with large amounts of cash in these communities?

THE STUDY COMMUNITIES

The study area is located in southwest Alaska around Cape Newenham. The two communities which will be compared in this paper are Togiak and Quinhagak. These communities were chosen for a number of reasons. They are in close proximity but fall within two different sociocultural and geographic regions. Togiak is located in the northwestern corner of the Bristol Bay region while Quinhagak lies in the southern sector of the Yukon-Kuskokwim delta region, along the southern coast of Kuskokwim Bay. Togiak residents orient toward the regional centre of Dillingham for state, federal and regional commercial services including transportation while Quinhagak residents are similarly directed to Bethel, the regional centre of the Yukon-Kuskokwim delta region. The communities are similar in size (Quinhagak-427, Togiak-530) with greater than 92% Yup'ik residents. Households in both communities rely on a mixed, subsistence-based economy with cash coming from commercial fishing, limited wage employment and transfer payments. With only minor differences, similar subsistence species were available in the vicinity of both communities. Size of the communities was important in order to identify households with different cash earning patterns in order to compare outcomes of subsistence activities. There is substantial contact between the communities and they are linked by ties of marriage, descent and migration. Both communities are overwhelmingly Moravian in Christian religious belief and have high rates of utilisation of Yup'ik as a first language among adults and children.

The major variable of difference between the two communities is the fisheries resources available to residents. This is also the major factor producing greater cash incomes to Togiak residents than to Quinhagak residents. Table 1 provides an indication of the differences in salmon run sizes available to fishermen from the two communities in the recent past. In addition to the larger runs available to Togiak fishermen, the red salmon they catch are significantly more valuable than the chum and coho salmon which are the mainstays of the Quinhagak fishermen. In 1982, the average earnings of Togiak fishermen was \$US18,000 while that of Quinhagak fishermen was \$US7,900 [WOLFE, LANGDON *et al.* 1984].

Fishermen in both villages customarily fish for salmon, for both subsistence and commercial uses, in close proximity to their homes. The fish caught are largely headed for the rivers to which each community orients for freshwater species and travel inland: the Togiak River for Togiak residents and the Kanektok River for Quinhagak residents. These customary patterns of salmon fishing were given

Table 1. Total salmon catch by district, 1975-1982.

Year	Bristol Bay Area		Kuskokwin Area	
	Nushagak District	Togiak District	Goodnews Bay District	Quinhagak District
1975	827,715	316,827	35,058	58,973
1976	2,873,538	520,062	38,651	109,048
1977	1,659,379	570,995	26,954	77,546
1978	8,300,533	885,895	42,087	111,869
1979	4,056,340	832,264	74,382	103,787
1980	7,594,946	1,167,819	93,442	173,873
1981	8,906,901	917,842	80,865	143,080
1982	8,329,076	949,446	113,538	166,616
5-year average ¹	7,437,559	950,643	80,963	139,849
dominant species	red	red, chum	coho, red	chum, coho

¹ This 5-year average is for the period 1978 to 1982.

crucial significance in 1975 when the State of Alaska created a limited entry system to control the number of salmon fishermen. Fishermen were awarded permits based on their experience in certain areas with certain gears. As a result of their customary locations of harvest, Quinhagak fishermen received permits in the Kuskokwim area while Togiak fishermen received permits in the Bristol Bay area. These permits are saleable and inheritable subject to the constraint that they must be owned by individuals and no individual may own more than one permit for a given area, species and gear type.

CASH

Cash is essential to survival for households in Togiak and Quinhagak. It is needed to purchase heating fuel, some food and most importantly technology for hunting, fishing and gathering. There are several sources of cash available to residents locally and few need to migrate even temporarily in order to earn enough for basic needs.

Commercial fishing for salmon, herring and herring roe-on-kelp are the major commodity production sources of cash. Additional but little cash comes from the sale of fur bearers. The production of local handicrafts from local materials (grass baskets, beaver fur hats and gloves, ivory carvings) provides opportunities for women to earn cash but represents only a small fraction of total community cash income.

Wage employment is the other major source of cash. There are basically two kinds of wage employment. Seasonal employment in construction, transportation or commercial fish processing occurs primarily during the summer months. Much of the construction in the early 1980s was made possible by funds from the State of Alaska intended for upgrading the local infrastructure including a new airstrip, fire

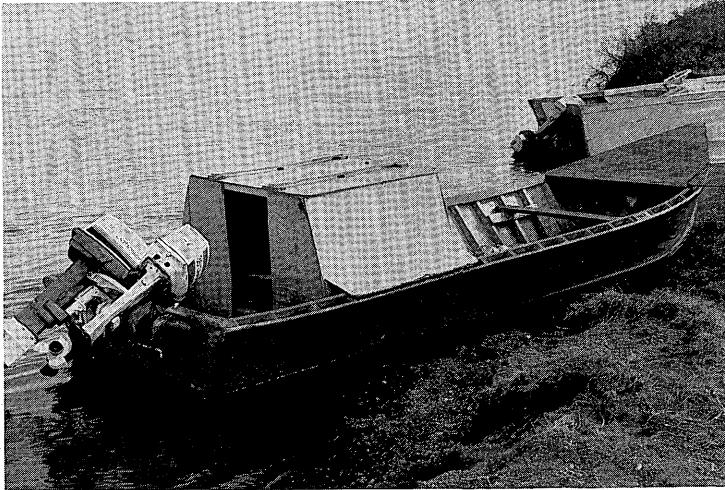


Photo. 1. Wooden skiff with outboard engines used by Yup'ik for commercial fishing and subsistence activities. Photograph: Robert Wolfe.

halls, community centres, city offices, schools and other facilities perceived by the larger society as necessary to the quality of life in rural communities. Local civic governments composed of Yup'iks actively lobbied for these projects in order to provide local employment with seemingly less interest in the facilities themselves (with the exception of the runway) once completed.

The other type of wage employment consists of year round, but generally low paying and relatively unskilled jobs. Examples include jobs in the post office, schools, and government offices provide stable employment which appears to be primarily filled by women. The local stores and village corporation also provide employment of this variety. Most require limited educational skills. Education is valued by community residents but it is instructive to analyse what skills are sought. Yup'ik residents generally seek skills which will provide them with income earning opportunities in the villages. For young men, skills in diesel mechanics and maintenance, flight training, and heavy equipment operation are sought. Young women seek nurse's training, business skills (computers, word processors) and teaching. The jobs which go to people with these skills tend to be higher paying and more permanent than other jobs.

The third major source of cash in the communities is transfer payments from the state and federal government. The federal government provides a variety of funds including general assistance (welfare), food stamps (for the purchase of store food), unemployment compensation, aid to mothers with dependent children (for unwed mothers) as well as old age and disability (if unable to work due to physical problems) funds.

The state of Alaska provides a dividend based on earnings from the sale of North Slope oil to all state residents and provides a subsidy to lower the cost of

Table 2. 1983 Estimated monetary income, Togiak, by source.

Source of Income ¹	Without Transfer and Dividend Payments		With Transfer and Dividend Payments	
	Income	Percentage	Income	Percentage
Commercial fishery	\$US 3,061,000	77.9	\$US 3,061,000	66.6
State and federal employment	\$US 398,000	10.1	\$US 398,000	8.7
City of Togiak	\$US 171,000	4.4	\$US 171,000	3.7
Togiak Natives Ltd	\$US 86,000	2.2	\$US 86,000	1.9
Commercial trapping	\$US 10,000	0.2	\$US 10,000	0.2
Cannery employment	\$US 60,000	1.5	\$US 60,000	1.3
Other employment ²	\$US 141,000	3.6	\$US 141,000	3.1
Transfer payments ³	—	—	\$US 138,000	3.0
Dividend payments	—	—	\$US 530,000	11.5
Total	\$US 3,927,000	99.9	\$US 4,595,000	100.0

¹ Excludes income from non-resident teachers, family-operated stores, and temporary employment.

² Includes employment by AVEC; Cooperative Store, United Utilities, airline agents, airline pilots, and private fuel distributor.

³ Includes public assistance, food stamps, and energy assistance.

electricity to village residents who qualify due to low income.

Tables 2 and 3 present data on total income from nearly all sources in the two communities while Table 4 displays comparative figures on household and per capita income. As is apparent, Togiak is a substantially richer community than Quinhagak due to its more productive salmon fishery. Although this data is for one year only, it was not a particularly bountiful year for the fishery thus the size of the difference between the two communities is typically in this neighbourhood.

Based on earned income, Togiak household and per capita income is twice that

Table 3. 1982 Estimated monetary income, Quinhagak, by source.

Source of Income ¹	Without Transfer and Dividend Payments		With Transfer and Dividend Payments	
	Income	Percentage	Income	Percentage
Commercial fishery	\$US 796,000	51.5	\$US 796,000	35.0
State and federal employment	\$US 466,000	30.1	\$US 466,000	20.5
City of Quinhagak	\$US 153,000	9.8	\$US 153,000	6.7
Qanirtuuq Corporation	\$US 50,000	3.2	\$US 50,000	2.2
Commercial trapping	\$US 17,000	1.1	\$US 17,000	0.7
Other employment ²	\$US 64,000	4.1	\$US 64,000	2.8
Transfer payments ³	—	—	\$US 306,000	13.4
Dividend payments	—	—	\$US 425,000	18.7
Total	\$US 1,546,000	100.0	\$US 2,277,000	100.0

¹ Excludes income from a family-operated stores, charter service, and non-resident teachers.

² Includes employment by AVEC, United Utilities, Sea Airmotive, Wien Air Alaska, and non-local canneries.

³ Includes public assistance, food stamps, and energy assistance.

Table 4. 1982 earned and total average household and per capita monetary income in the study communities.¹

Communities	Estimated Earned Mean Household Income	Estimated Total Mean Household Income ²	Estimated Earned Mean Per Capita Income	Estimated Total Mean Per Capita Income ²
Togiak	\$US 36,361	\$US 42,546	\$US 7,746	\$US 9,063
Quinhagak	\$US 15,938	\$US 23,474	\$US 3,620	\$US 5,333

¹ Estimated gross earned monetary income before deductions from equipment depreciation and operating expenses in the commercial fishery. Based on 1982 U.S. Census population data and monetary incomes presented in Wolfe, Langdon *et al.* [1984].

² These figures include transfer payments and the one-time \$US 1,000 per person dividend.

of Quinhagak households and individuals. These income differentials provide a framework for comparing the impact of different *levels* of cash at community and household levels of analysis on subsistence levels and activities.

The second important analysis in the study was to compare households with different *sources* to determine if these affected subsistence levels and activities. Table 5 indicates the number of households in each community deriving their cash from the different sources identified above. Togiak and Quinhagak are roughly comparable in terms of the proportion of households exhibiting these strategies. Quinhagak is higher in "other" category due to the larger amounts of transfer payments received by the larger number of poor households in this community. Togiak is higher in the category of mixed simple commodity and wage employment because there are more households with limited entry fishing permits in Togiak than in Quinhagak. There is thus little community sentiment for rationing wage employment to households without fishing permits. There are somewhat fewer fishing permits held by residents of Quinhagak. Wage employment thus becomes crucial to households without fishing permits, which as has already been noted, produce substantially less income than Togiak permits. As a consequence, in Quinhagak there appears to be a strong tendency for households without fishing permits to have the permanent, higher paying jobs as a result of conscious decisions by the community council.

The numbers of households falling in each of these categories in each community provides an opportunity to compare subsistence activities based on the *source* of cash.

Table 5. Households by type of income activity.

Community	Simple Commodity Production	Wage Employment	Mixed Wage-Simple Commodity Production	Other	Total
Quinhagak (N=98)	36 (36.7%)	17 (17.3%)	28 (28.6%)	17 (17.3%)	98 (100.0%)
Togiak ¹ (N=108)	30 (30.6%)	12 (12.2%)	45 (45.9%)	11 (11.2%)	98 (100.0%)

¹ From a sample of 98 of 108 households.

SUBSISTENCE

Subsistence activities are engaged in virtually on a year round basis. In the manner of all foragers, the Yup'ik residents of these villages utilise a wide range of species including marine mammals, terrestrial mammals, anadromous and marine fish, intertidal organisms, fowl and migratory waterfowl, and berries. They are also opportunistic and efficient in their pursuit of most resources. A brief synopsis of the species taken in the four seasons will be presented, noting differences between the communities that are significant. This will be followed by a discussion of the organisation of production utilised for subsistence activities. Finally, the distribution of subsistence products will be discussed.

The spring ice breakup signals the beginning of the season of intense economic activity. Freshwater fish such as arctic char, round whitefish, grayling and rainbow trout are taken with nets from the rivers at this time. Shortly thereafter, sea ice moves from the shore and men go out in skiffs hunting seal. In Quinhagak belukha (small white whales) occasionally are harvested while Togiak men may travel to Cape Newenham during this time to try to kill sea lion. In late April, migratory waterfowl arrive and are hunted. In May gull eggs are harvested and squirrels trapped. These are used to make squirrel parkas (coatlike outer garments) which are held in high esteem throughout the region.

Salmon begin arriving in late May marking the beginning of summer. All five species of Pacific salmon found in North America return to the rivers of the area providing opportunities for commercial fishing in the ocean and bays and subsistence fishing in the rivers from May until late September. Red salmon are far more available to Togiak residents than to Quinhagak people. Togiak residents also take halibut, flounder and cod incidentally in their salmon fishing nets far more

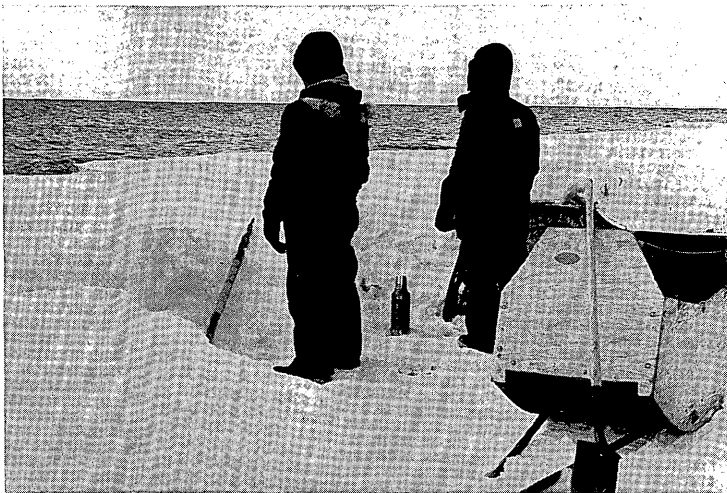


Photo. 2. Yup'ik seal hunters at their spring ice camp. Photograph: Robert Wolfe.

frequently than do Quinhagak residents. Late summer (August and September) is the time when berries ripen and as many as five different species are normally harvested and either stored in seal oil or, as is more frequent nowadays, placed in household freezers.

Fall is generally the season for terrestrial hunting. Unfortunately, neither moose nor caribou, the largest and most important terrestrial subsistence resources, are relatively numerous in the area. Hunters have to travel considerable distance to get to areas where these animals are more numerous. For Quinhagak residents this normally means travel well into the mountains east of the community or over 100 miles up the Kuskokwim River. Togiak hunters typically wait until snows have fallen and then travel north and east to the Nushagak River. In late fall (November and December) after rivers and lakes have frozen solid, fur trapping begins for 10-12 different fur bearers of which the most valuable and numerous are beaver and red fox.

Fur trapping continues into the winter with men checking their traplines by snowmobiles from their homes. In Quinhagak, effort shifts to the offshore area where seals are pursued either from the edge of the ice or from skiffs. Winter sealing is far more frequent in Quinhagak than Togiak. If walrus are found in the area, they will be taken by the older, more experienced men. Ice fishing is important throughout the winter with Quinhagak families specialising in the building of special traps for the oily and highly regarded black fish found in their river. In late winter, just prior to breakup smelt and herring move inshore for spawning and are taken and dried on racks for later consumption.

The organisation of work for subsistence production varies depending on the species being pursued. In both communities, however, the activities are generally undertaken jointly by groups of men and women related by descent and marriage. Males typically have "partners," often brothers or brother-in-law, with whom activities are normally undertaken. Individuals provide equipment or cash to activities depending on what they have. In addition, subsistence requires a number of additional facilities such as drying racks, storage racks, caches and freezers, and sheds to process and store products as well as the equipment necessary to harvest them. Particularly in the use of drying racks, there is a high level of general community sharing in which households that need additional space obtain it with ease from their neighbours.

Of critical importance to understanding subsistence in these communities is that the nuclear household is generally neither the production unit nor the distribution unit. Rather the extended family comprised of a flexible mix of related people across several generations is the norm. The most productive units are those which coordinate a number of households over three generations. With a still active grandparent in the 50s, sons and daughters in their 20s and 30s and teenagers, extended kin units can mobilise substantial labour to harvest, process and store a wide variety of subsistence resources. Noteworthy as well is the participation of children in subsistence activities. Although schooling takes up a substantial

amount of time, they assist in the processing and storing of subsistence products by doing small tasks like getting water and firewood, carrying equipment, and responding to adult requests for assistance.

The most important activity is generally the catching and processing of salmon which provide approximately 40% of the subsistence food in normal years. This involves coordinated efforts between males harvesting and females processing the resource. The harvest of seals requires cooperation between two or more men plus women to butcher and render the oil. Caribou hunting provides the opportunity for a larger group of men to participate in an activity together. In an overwhelming number of cases, the people who cooperate together in subsistence activities are drawn from a set of relatives by descent and marriage. Through these kinship-relationships, capital (equipment), cash and labour are mobilised necessary to a given activity.

Once subsistence products are obtained and processed, principles of distribution enter the picture. Different principles of distribution are used depending primarily on the resource and the composition of the workforce which harvested and processed it. In units in which there is an active male head in his 50s or 60s, a central cache for a number of separate but cooperating households will be maintained in which fish, caribou and other resources are stored. Any member of the kin unit may draw on the accumulated supplies but only the head is authorised to allow nonkinsmen to receive subsistence resources from the cache. Salmon is typically harvested by 2-3 related households which supply the intensive labour necessary to insure that it is dried or smoked correctly. The product is then divided equally if the households are of roughly comparable status based on age. If an elder heads the effort, he or she will typically divide the proceeds among the



Photo. 3. Fish camp with subsistence salmon drying, near Togiak, Alaska. Photograph: Robert Wolfe.

participating people.

Distribution involves first, allocation to the participants in harvesting and processing. Next, other extended family members not involved in the activity typically receive portions of the harvest. This is based on the principle of kinship affiliation—they are kin and have claim to the product on this basis if they desire. Each person, in turn, continues to distribute through their own kindred. Through these channels, local subsistence products can be distributed to relatives in nearby villages as well as to those in regional centres and distant urban centres.

There are certain products for which distribution is quite broad, extending to the entire community. This occurs when large marine mammals such as belukha or walrus are taken. When one or several of these animals are captured and returned to the village, information spreads rapidly and any interested resident may come to the shore to receive a portion until it has all been dispersed. This practice can also be used for very large catches of freshwater fish and for caribou when many are taken.

Finally, a portion of the harvests are saved for distribution during community activities such as feasts on holidays and song feasts when Yup'ik from other villages come visiting.

THE IMPACT OF CASH ON SUBSISTENCE

The most striking finding of the research was that there was little evidence that cash had a significant, unambiguous effect on subsistence activities in these communities. Research on subsistence activities in Alaskan communities indicates that production levels seem to cluster in three tiers. Per capita production in pounds of subsistence products in urban communities operating in the industrial capital mode of production is less than 50 pounds per individual. Regional centres and some communities connected by road to the urban centres generally cluster in the range of 200–400 pounds per capita. In the mixed, subsistence-based communities of western, northern and interior Alaska, however, per capita subsistence production falls in a range from 700–1,100 pounds. These figures are presented in Table 6. As is evident, Quinhagak and New Stuyahok (a village in the study not being discussed in this paper) fall quite comfortably within this range. Although insufficient data was collected from Togiak households to obtain a reliable figure, it is clear that per capita subsistence production here is as high as Quinhagak and New Stuyahok.

An important corollary is that these communities do not display isolated households pursuing different objectives or differentiated sectors based on class or stratification. Virtually all households in the two communities participated in a wide range of subsistence activities. The degree of success in these areas appears to be more attributable to ability and personal inclination than to either the source or level of cash obtained. It is well known that members of every culture display a range of abilities in important activities. It should not be surprising then that there

Table 6. Estimated subsistence productivity in seven western Alaskan communities.

Community	Pounds of Fish and Game per Household Member	Year	Source
Alakanuk	733	1981	Wolfe 1981
Emmonak	612	1981	Wolfe 1981
Kotlik	720	1976	Wolfe 1979
	510	1981	Wolfe 1981
Mountain Village	822	1981	Wolfe 1981
New Stuyahok	896	1983	this study
Nondalton	803	1973	Behnke 1982
	1,038	1980	Behnke 1982
	738	1981	Behnke 1982
Quinhagak	756	1983	this study
Sheldon Point	1,397	1981	Wolfe 1981
Stebbins	1,006	1981	Wolfe 1981

are "successful" individuals and extended families in these communities.

It is also noteworthy, as found elsewhere in rural western Alaska, that "success" in petty commodity production is highly correlated with "success" in subsistence [WOLFE 1979, 1981; BEHNKE 1982]. This is in part a function of the close correspondence between the knowledge, skills and technology required in both activities. But the more subtle and crucial point is that the high commodity producers choose to be high producers in the subsistence sector as well. They have sufficient time and well organised managerial skills to pursue subsistence. Subsistence activities continue to provide them with satisfaction, status and allow them to fulfill obligations to kinsmen and community. Subsistence is deeply embedded in what it means to be a Yup'ik in these communities.

Another important finding was that participation in wage employment did not appear to alter subsistence participation and success. One of factors that made this possible was the redefinition of wage labour to meet local standards and objectives. Non-Yup'ik contractors often complain about their inability to retain Yup'ik labourers and employees for long periods of work. This is in part due to the desire by Yup'ik to continue active participation in the round of subsistence activities. They utilise a variety of "target marketing" to obtain cash necessary for subsistence purchases. However, a more intriguing finding is that even the more permanent jobs in the community have been redefined. Back-ups are designated for positions and other family members often assume duties which allow the nominal permanent employee the free time to participate in subsistence. In the one or two cases where the technical skills needed in a specific job were so great that no flexibility was possible the job holder created a "partner" relationship with a younger, unemployed individual in which the job holder supplied cash and equipment which enabled the "partner" to engage in subsistence. The products were shared equally.

The Yup'ik have managed to insert the flexibility of the domestic mode of production into the industrial capital sector operating in their community. The traditional goals of foraging groups to maintain their autonomous, interconnected identity through the pursuit of "limited and concrete" objectives appear to have been, in large measure, retained.

This brings us to an important, critical question. Sizable differences in income and wealth between communities, households and individual fishermen have been demonstrated. That wealth certainly exceeds the "concrete and limited" essentials of subsistence. To what ends, then is the surplus cash put?

It must be realised that the cash requirements for subsistence activities are elastic. Although most are accomplishable with a relatively easily obtained capital base (skiff, outboard, snowmachine, nets, rifle), linkage to the industrial capital sector allows for substantial expansion. Much cash can be expended in upgrading, improving and expanding the capital used in petty commodity and subsistence production. Table 7 demonstrates the substantial differences in marine equipment related to subsistence and petty commodity activities between Quinhagak and Togiak. Togiak households have more than twice the outboards and boats on average than Quinhagak households.

Table 8 shows that there is a substantial difference in other transportation equipment as well. Togiak residents have substantially greater number of cars, three-wheelers and airplanes(!) than Quinhagak. A comment should be made about the extraordinary finding of private airplanes held by Yup'ik residents of Togiak. These planes are owned primarily to 1) extend subsistence range to areas

Table 7. Boats and motors, Quinhagak, Togiak.¹

Craft/Motors	Quinhagak		Togiak	
	Total	Per Hhld.	Total	Per Hhld.
Aluminium Herring	7	.07	0	.00
Wooden skiff	24	.24	5	.05
Aluminum skiff	72	.73	123	1.14
Togiak skiff (24-30)	6	.06	104	.96
Fibreglass (26-30)	0	.00	9	.08
32-foot wood	0	.00	0	.00
32-foot fibreglass	0	.00	3	.03
Total craft	109	1.11	244	2.27
<35 FP	37	.38	}130	}1.20
35-75	42	.43		
55-85	27	.28	59	.55
90+	1	.01	45	.42
Inboards	0	.00	15	.14
Total motors	107	1.10	249	2.30

¹ Households are: Quinhagak 98; Togiak 108.

Table 8. Vehicles and aircraft, Togiak, Quinhagak.

Community	Trucks and Cars		Snowmachines		Three-Wheelers		Airplanes	
	Total	Per Hhld	Total	Per Hhld	Total	Per Hhld	Total	Per Hhld
Togiak ¹	90	.83	137	1.27	110	1.02	5	.05
Quinhagak ¹	22	.22	—	1.07 ²	90	.92	0 ³	.00

¹ Togiak households, N=108; Quinhagak households, N=98.

² ADFG Commercial Fisheries, 1981, estimate of snowmachines per fishing-household.

³ Excludes airplanes from a privately-owned charter service based in Quinhagak.

where caribou are located and 2) provide on demand transportation for visiting relatives in nearby villages, objectives totally in congruence with the subsistence-based foundation of the community. Legal regulations on chartering inhibits them from being used to generate cash income through commercial use.

Table 9 demonstrates that there is a substantial difference in the equipment holdings of households with different sources as well as levels of cash. The high income fishermen (petty commodity producers) have more than twice the equipment of low income fishermen and three times more than those households engaged in only wage labour. Here then is further evidence of where the surplus cash available to Togiak residents is expended.

Other areas in which Togiak residents appear to expend their cash is in the construction of larger homes, in a more extensive geographic range of subsistence pursuits than their Quinhagak relatives and neighbours and perhaps in more traveling both to regional centres and to other villages to visit relatives.

These avenues appear to fully absorb the surplus cash available to Togiak residents. The expenditures appear to be consonant with the essentially egalitarian orientation of forager culture. They do not appear to create the foundation for stratification and exclusion from access to the means of production for others in the community. Although presently cash is consonant with important traditional Yup'ik goals, it may not always be so.

Table 9. Equipment holdings of case households, four study communities, by occupational category, 1982.

	Average Types of Equipment per Household	Average Pieces of Equipment per Household
High income, simple commodity production	5.5	15.8
Mixed wage employment-simple commodity production	4.0	10.3
Low income, simple commodity production	3.3	6.3
Wage employment	2.3	5.0
Limited earned income	1.0	1.5

WHAT MAKES THESE COMMUNITIES WORK?

The findings presented above on the mutually supportive integration of market production and subsistence in Togiak and Quinhagak may strike many as remarkable and transitory. There do indeed appear to be a constellation of specific factors which allow this condition to obtain and distinguish this case from other foragers, even in Alaska. This section identifies and discusses the specific factors which appear to promote supportive integration in the mixed, subsistence-based economy.

First, human population density relative to natural resources used for subsistence is low. The rapid population growth which has occurred in the past three and a half decades due to improved health care has not yet completed the repopulation caused by epidemic diseases in the 19th and 20th century. The population is certainly more concentrated now than in previous times into fewer, larger and more sedentary communities. However, local resource depletion has been staved off, in part, due to improved modes of transportation (outboards, snowmachines) which allow people to pursue resources at a greater distance from the community in a shorter period of time.

Second, resources on which the local population depends are in adequate supply, and have not been degraded. It appears that the same species available today appear to have been available historically in comparable numbers. The isolation of the area has helped protect fish and animal populations from harvesting efforts of non-local populations. The limited amount of mineral extraction activity which has occurred in the area has apparently resulted in little permanent habitat degradation. One of the positive effects of immersion in the structures of the welfare state has been the protection of salmon and herring fisheries from interception on the high seas which reduced harvests in the 1950s and 1960s. Increased governmental monitoring of ocean catches and spawning returns have contributed to healthy stocks of these species.

Third, the external demand for land and other resources has been limited. This is true for most resources except for salmon and herring. Since there are limited agricultural and mineral opportunities for economic development, there has been no press of non-Yup'iks seeking land for homes and communities. This is another potentially positive area of being immersed in the modern welfare state as the recent assignment of most hunting and gathering lands utilised by residents of the two communities into National Wildlife Refuges will limit settlement and non-local resource harvests. Unfortunately other Yup'ik communities on the Nushagak River outside of the wildlife refuges are likely to receive the brunt of increased pressure from outside populations. The down side of lands being placed in wildlife refuges is that hunting and fishing rules established by government agencies may also limit the activities and harvest levels of the Yup'ik as well.

Fourth, commercial fisheries have been possible given the capital and labour capabilities of the local population. The small scale technologies used in

commercial fishing have melded closely with the domestic mode of production's kinship-based work organisation. Thus, an industrial form of work organisation was unnecessary and the structure of petty commodity production shows little difference from that of subsistence production. It is noteworthy that the distribution of commercial fisheries earnings are typically quite similar underscoring the egalitarian Yup'ik model of "partners" participating in these activities as opposed to the hierarchical "captain-crewman" model used by Caucasians in the Bristol Bay fishery. Substantial indebtedness has not been necessary to participate in the commercial fisheries and the limited capital requirements for boats, outboards and nets have made access to commercial fisheries available to virtually all. Competition from non-local, non-Yup'ik fishermen has been limited in the salmon fisheries and this has inhibited the need for technological upgrading to enhance catching power. In the short term, the limited entry system of the state has provided protection for local fishermen from increasing numbers of nonlocal fishermen. In the longer run, the limited entry system has the potential to induce stratification in the egalitarian society due to loss of permits through sale to outsiders and concentration of permits in certain families [LANGDON 1986].

Fifth, the traditional system of land tenure continues to prevail in its emphasis on usufruct rights for subsistence activities. Other than subsistence camps and fishing locations, there have been no property forms to inhibit access to subsistence resources by members of the local groups. Customary and traditional use areas have been respected and have generally provided opportunities for pursuit of all relevant species within efficiently accessible zones around each community. The imposition and award of fee simple title to homesites for households in the communities and to some of the traditional lands around the communities to ANCSA corporations in which village residents hold shares represent substantial threats to the communal property, usufruct concepts which have operated up to this historic moment.

Sixth, substantial portions of the value of local production have not been appropriated through taxation or other social obligation by the state and federal political structures. Subsistence products have never been taxed and have never been recognised as "income" for government purposes. The unfortunate side of this reality is that subsistence activities are often invisible or of little or no consequence to state agents and multinational corporations when resource extraction activities likely to yield major profits are envisioned. Additionally, because residents have low to moderate cash revenues, the tax burden has been relatively slight on their incomes to date.

The last two factors are perhaps the most critical in allowing the mixed, subsistence-based communities of southwest Alaska to grow and prosper.

Seven, the kin-based domestic mode of production continues to organise subsistence and petty commodity activities in these communities. The industrial capital mode of production has not penetrated and transformed the ways in which

people obtain resources to survive. The industrial capital mode's separation of ownership of the means of production from labour, its bureaucratic, hierarchical and "authoritarian" work organisation, and its wealth and income stratification are rarely seen in this part of the world.

Eight, the utilisation of cash has to date been "penetrated and converted" rather than penetrating and converting [WENZEL 1986]. Cash itself has not been fetishised by the generation which makes the majority of the decisions about its expenditure. The pursuit of cash as end in itself either as a store of value or in order to pursue primarily personal desires is relatively undeveloped. There are few money market funds, real estate investments or mutual funds held by Yup'iks. Rather cash is merely a means to certain specified cultural ends which are overwhelmingly supportive of the kin-based domestic mode of production and cultural system. Of critical importance is the merging of personal patterns of monetary expenditure with communal goals. Cash spent on large homes provides status and comfort but also becomes a node for distribution and decision-making in an extended family. New or "additional" subsistence equipment is put to use by children, brothers, cousins and in-laws. Travelling to other communities to visit and bring subsistence, even in a private airplanes are expenditures to reinforce and integrate extended families, not to isolate and indulge the individual. All these patterns of expenditure of "surplus" cash which gratify individuals at the same time provide opportunities for others to participate, experience and benefit. The gift of subsistence products to help the aged and the poor, to feed people from a neighbour village visiting for song fests provides status to hunters. Being a good hunter and fishermen is still an ideal to which young men aspire and generosity and sharing is a critical part of that definition. The fact that personal desires, motivations and expenditure patterns reinforce kin-based and communal values is an important factor in sustaining the mixed, subsistence-based economy. Ann Fienup-Riordan also found this to be true among the Yup'ik living near the mouth of the Yukon River about whom she comments: "At present, monetary income is perceived as the means to accomplish and facilitate the harvest, and not as an end in itself" [1986: 314]. George Wenzel has noted a similar pattern amongst the Inuit of Baffin Island of whom he has written:

...the principle economic thrust in the Baffin Inuit economy is toward a renewable, non-surplus [accumulating]...adaptation...which produces not only material energy and resources but also social forms. ...cash has become as fully a part of the resource environment as food or other natural raw materials... [WENZEL 1986].

CAN THESE COMMUNITIES REPRODUCE THEMSELVES?

The communities have attained a special balance in the modern world but their ability to sustain and reproduce that balance is open to question on many fronts. External conditions appear to present the greatest threat as the economic expansion

efforts of the industrial capital mode of production for resources in this region are increasingly felt. Further immersion into the natural resource regulatory bureaucracies of the state and federal government also pose dilemmas. Loss of limited entry permits through sale to outsiders could dramatically undercut the economic foundation of the local community. Increasing local population may limit egalitarian access to fisheries and even strain some subsistence resources. The imposition of private property on lands in the village and around the village is perhaps the greatest threat to substantial transformation of these communities.

The foregoing impacts are primarily induced on the local community through the action of outside agencies. They have been adequately managed to date. But the reproduction of a cultural system requires internal coherence as well, and in this area there are some dilemmas. Any human system requires biological reproduction which is typically accomplished through marriage. In these communities there are presently a majority of the males and females between 19 and 35 unmarried and living with their parents. What the precise reason for this is unclear but it may have to do with the lack of new housing stock to absorb new family formation. A related phenomena is the gender imbalance. The male female ratio is approximately 55-45 in these communities with the missing females found in the cohorts between 19 and 35. Those young women have either married outsiders and left or moved to the urban areas in pursuit of employment. In either event, there is evidence that the mixed, subsistence-based economy is not as satisfying to Yup'ik women as it is to Yup'ik men.

In addition to biological replacement, socialisation into the beliefs, norms and appropriate behaviours is required if the cultural system is to be reproduced. Values and objectives have to be inculcated and demonstrated. The imposition of formal schooling in the region in the 1950s has created an extraordinary discontinuity in the population. The grandparental generation (over 60) has less than three years of education and the parental generation (40-60) averages about six years of formal schooling. The generation under 40, however, includes a number of college graduates and most have either graduated from high school (12 years of schooling) or nearly done so. What the impact of formal schooling will be on the values and objectives of the new generations when they reach decision-making ages remains to be seen.

Two other factors which may affect the future cultural fabric of these communities are television and diet. Television is ubiquitous and during the winter is the major source of entertainment among the villagers. This may affect community functions as well as the desires and values of young people. There is to date no overwhelming evidence of this. A more subtle factor is the introduction of hot lunch programmes in the schools since the mid-1970s. Serving youth western foods appears to have been increasing their desires for chicken, hamburgers and decreasing their taste for certain subsistence foods.

Despite these problems, there is reason for optimism. The Yup'ik are becoming effective participants in the political structures which impact on their

communities and resources. If the political system allows the development of structures which preserve significant degrees of local control over traditional lands and cultural objectives, then the Yup'ik hunters and fishermen of southwestern Alaska may continue to evolve a fulfilling adaptation to the modern world.

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