

VIII ECONOMIC STABILITY

As discussed in Chapter 7, traditional Tahltan subsistence and settlement patterns were largely determined by seasonal variation in resource abundance and availability. Periodic stress due to fluctuations in climate and cycles of abundance and decline of animal populations also influence the strategies which hunter-gatherers use in adapting to their environment.

Strategies for coping with fluctuations in resource abundance affect the range and

intensity of resources exploited, technological complexity, degree of mobility, settlement patterns, and importance of food sharing and storage behaviour. Strategies for dealing with variation in resource abundance and availability also influence site characteristics such as size and location of sites, length and intensity of occupation, and presence of facilities for processing and storing resources.

Fluctuations in Resource Abundance

When compared with other world biomes (Hassan 1981:11) the Stikine Plateau has a moderate animal biomass. The upland plateau areas provide excellent habitat for large ungulates. The animal resources of the Stikine area are predominated by K-selected species. These are large bodied, slow maturing species which regulate their numbers close to carrying capacity (Pianka 1970, Hayden 1981b). Since they have slow rates of population increase, Hayden suggests that K-selected species are more vulnerable to overexploitation (Hayden 1981b:525).

Pianka (1970) suggests that environments characterized by K-selected species tend to be more stable than those which are characterized by r-selected or small bodied, fast maturing, rapidly reproducing species. However, periodic fluctuations in animal populations are well documented for subarctic and boreal forest environments.

Like the well known hare, various species of the grouse family are also subject to cyclic fluctuations in population with gradual build up in population over a seven to ten year period, followed by a sudden decline (Guiget 1955:4). Evaluation of population indices (Keith 1963) for several species of northern birds and small mammals indicate persistent intervals of eight to eleven years in fluctuations of abundance and decline of resources such as

hare, species of grouse, and many fur bearing animals which depend on these as prey. Hare and lynx fluctuations appear more violent than grouse and other furbearers. Peaks in abundance of various species do not all occur at the same time following an approximate order of grouse, hare, lynx, fox, coyote, fisher, mink, and marten. Cyclic species tend to persist in scattered nuclei of favorable habitats and to disperse from these as populations increase (Keith 1963:177-120). What Keith has termed the ten year cycle is apparently restricted to the northern coniferous forest and ecotones in North America.

Other resource studies (Burch 1972, Waisberg 1975) indicate that large ungulates such as caribou and moose also experience periodic fluctuations in abundance, with cycles ranging in the order of fifty to over a hundred years. Fluctuations of this order are less dramatic and not so easily detected within a single human lifetime as those of small mammals. Although moose are reputed by biologists to be relative newcomers to northwestern British Columbia, Tahltan elders have indicated that moose were present in the Stikine area in earlier times, but became scarce in the early 1800's and began to increase in numbers again in the 1870's (Emmons 1911:71).

Strategies For Maintaining Economic Stability

Since the subsistence economy forms the primary interface between people and their environment, successful adaptation or survival of a group depends on the stability of its economic system. All groups experience periodic stress due to fluctuations in climatic patterns and cycles of abundance and decline in resources (Colson 1979:18, Hayden 1981a:413). The severity of stress and the actual occurrence of starvation suffered by different groups may depend on their ability to adopt means of coping with periodic fluctuations.

There are many historic accounts of starvation in the Hudson's Bay Company records. Although located on major transportation routes, trading posts were not always located in areas of abundant resources. Traders were generally unfamiliar with the local environment, resources, and successful methods for exploiting them, and relied on enlisting native trappers to provision the posts. In some cases, such as Robert Campbell's attempt to establish a post on Dease Lake, local native groups were unwilling to cooperate in provisioning the fur trade posts (Campbell 1958). In addition, during the fur trade period many aboriginal groups were forced out of relatively rich and stable territories into more marginal environments (Yerbury 1980:335) or held territories which were being encroached upon by other groups (Yerbury 1981). It is suggested that many of the incidents of starvation by arctic drainage Athapaskan groups were due to increased attachment to and dependence on fur trading posts and a lifestyle which diverted people away from traditional means of coping with seasonal or periodic stress.

Although the Stikine area experiences periodic fluctuations in resource abundance, there are few accounts of starvation among the Tahltan. Periods of severe starvation are largely a result of factors such as epidemics of introduced diseases creating dramatic disruptions in regular patterns of food gathering and storing activities. In some stories which describe people going hungry or the decline of a particular resource in a certain place, these are

usually attributed to the breaking of taboos or other social regulations. These stories are usually told with the aim of teaching a moral lesson, and maintaining adaptive social behaviour.

From the ethnographic literature, Colson has identified several devices or strategies commonly adopted by hunter-gatherer groups to cope with periodic stress (Colson 1979:21). The incorporation of these strategies into traditional Tahltan subsistence practices can be identified as important factors for maintaining economic security.

Probably the most effective strategy for coping with periodic stress and fluctuating cycles of abundance in animal populations was the maintenance of techniques for exploiting diverse species. The Tahltan people exploited a wide range of different kinds of resources available within a variety of different ecological zones in the environment. The Stikine Plateau is one of the few areas in North America with such a diversity of large game animals. Although the Tahltan relied on caribou and moose as staple resources, all large game animals were extensively used for food and raw materials.

Several smaller mammals such as marmots, ground squirrels, and beaver were also used as staple foods as they became seasonally available. Hare, porcupine, and lynx were taken whenever available to supplement the diet. Migratory waterfowl were exploited seasonally while several species of ground birds could be snared on a year round basis to supplement the diet. A variety of fresh water fish were taken on a year round basis in the many small lakes and streams, while larger quantities were procured during spawning periods. Several species of salmon, abundant during the period of the runs, provided a reliable and predictable staple resource which could be stored for later use.

Although meat and fish constituted approximately 90 to 95% of the diet by volume, a wide variety of edible plants were also used for food as well as medicinal purposes.

Based on a survey of a large number of

hunter-gatherer groups, Hayden indicates that the range of items avoided grows as naturally occurring resource diversity increases (Hayden 1981a:399). Among the Tahltan there were very strong taboos against the use of most carnivores, amphibians, and a variety of small bodied mammals such as mice and voles, and smaller birds. Carnivores, being less abundant and dispersed throughout the environment as well as wary of hunters, are difficult to capture in numbers. They have little flesh on them after being skinned out. While smaller mammals and birds are more numerous, they are also difficult to capture in numbers. These were generally inefficient food resources to use on a regular basis.

Many of these animals were associated with qualities which could be handled by shamans only or by hunters who had acquired them as spirit helpers. Some carnivores were used for their fur only as products of prestige and wealth. Nevertheless, knowledge of the characteristics and habitats of these animals was continuously passed in so that in cases of extreme resource stress they could be used for food.

Storage of seasonally abundant food resources was another important means by which the Tahltan coped with seasonal and periodic fluctuations in resource availability. In their seasonal round of subsistence activities, all resources found in any abundance were harvested in large quantities and processed for storage and later use. This type of strategy required both cooperative work effort and the use of a complex technology. The use of a procurement technology based on snaring and trapping, adaptable for a wide range of fish and animal species, allowed for efficient harvesting of large numbers. The initial outlay of energy for construction of facilities such as smokehouses, fences, weirs, traps, or storage pits was spread out over a long period of time and large amounts of energy procured and processed by means of them.

Reliable and abundant salmon runs allowed the aggregation of 100 to 150 people in large summer villages. Members

of several extended families cooperated in the construction of weirs, basket traps, and smokehouses. Several thousand salmon could be captured and processed in a period of six weeks. The large, well built smokehouses, essential for processing and drying of such large quantities of salmon, would remain standing and functional for over 50 years, with minimal maintenance. Storage pits located in the vicinity of the fishing villages were used to store large quantities of salmon for use later in the winter or in times of emergency. In contrast to storage facilities used in the large winter houses on the Northwest Coast, the underground storage pits, called 'duweged', meaning 'hidden in a safe place', were true caches. In the dry interior climate of the Stikine Plateau, fish and meat could be preserved in a palatable state in these for about three years.

Major fall and winter camps were located in the upper reaches of major river valleys where several extended families also cooperated in the construction and maintenance of long caribou fences. As many as 20 to 30 caribou might be captured at a time in these, during seasonal movements from alpine areas to forested river valleys. Large quantities of meat and raw materials were processed and stored at these camps for later use. Snares, traps, and nets, used in the vicinity of other seasonal camps for procuring a variety of different resources could be used for two or three seasons.

With a complex technology for procuring large numbers of seasonally abundant resources, the limiting factor on the amount which could be stored for later use was the amount of time required to process them. The butchering and processing of foods was the responsibility of women and required cooperation among them.

Many of the regulations and dietary taboos pertaining to women served to reinforce the need for cooperation in food production and ensured constant food reserves in dried form. At menarche, and throughout child bearing years, Tahltan women were isolated in smaller huts (a short distance from others) during menstruation and when giving birth. The

isolation of women excluded them from food production for a few days every month or for an entire year in the case of pubescents (Emmons 1911:104, Teit 1956:129). Although such an institution required considerable investment in terms of time and energy on the part of the entire group it ensured cooperation among several related women. Isolation of a woman for a few days every month required that other women, usually an aunt, mother, or sisters, cared for her children and carried out regular activities of hunting, snaring, processing food, and cooking. Menstruants and pubescents were not allowed to handle or eat fresh meat or fish. This meant that there must always be a supply of dried fish or meat on hand. These dietary taboos on women, who were responsible for the preparation and drying of foods as well as their exchange and distribution, ensured that the entire group always had sufficient stores of dried food on hand during periods of bad weather or scarcity of resources.

Food sharing was another means of coping with variation in resource availability. Tahltan people emphasized the importance of food sharing among all members of the extended family which cooperated in subsistence activities. While individuals contributed to food production according to their age and ability, all were entitled to an equal share of the food produced by the whole group. At times when larger groups of people gathered together, such as at caribou hunting camps where the long fences were used, the meat procured from cooperation of the group was shared among all those present. Several of the tales recorded by Teit (1919, 1921) were used to teach the importance of food sharing. Puberty training was an important period of learning to share with others. As boys learned to hunt, trap, and snare, they also learned to share with others. They were never allowed to consume their first kill of any animal but were required to give it to their elders. Young women learned to go without until they had acquired the knowledge of how to process different resources and how they should be shared amongst members of the whole group.

A fourth method of dealing with variation in resource abundance was provided by the extension of food sharing and exchange over a wide network of social relations between groups in different areas established through marriage. The exchange of gifts and food between families in different groups at the marriage of a young couple was continued throughout life. Thus abundant resources from one area were exchanged for resources from another area whenever groups came together at large sites such as fishing villages and major fall and winter camps.

The establishment of trade networks between tribes on a broader regional scale was another important mechanism for dealing with fluctuations in resource abundance. Through marriage alliances with other tribes along their territorial boundaries, the Tahltan maintained peaceful trade relations with the coastal Tlingit as well as Kaska and Sekani peoples further to the interior. In times of resource stress, local manufactured products such as tanned hides, clothing, bags, babiche, obsidian, or carved implements of sheep and goat horn could be exchanged for foodstuffs from other areas. Several trading camps are recorded along the Stikine River, below its confluence with the Tahltan River, to which the Tlingit ascended from the coast. The Tahltan traded with the Kaska at camps located on Dease River and at the confluence of the upper Rancheria with the Liard (Teit 1956), and with Sekani people at a site at Metsantan Lake at the divide between the Findlay and Stikine drainages (Black 1955).

Conservation practices were also an effective means of coping with variation in resource abundance. The procurement and processing of large quantities of a resource during periods of abundance not only provided a commodity of exchange but also served as a selective cropping mechanism to help control fluctuations in animal populations. In situations where resource abundance was low in particular areas, the Tahltan did not hunt in these areas for a period of years so that the animal populations could build up again (Teit n.d.). This kind of resource conservation

was facilitated by flexibility in group size, composition, and mobility as well as the concepts of land ownership maintained by the Tahltan people. Hunting territories were not owned by individual families but held in common by matrilineal clans. Through marriage, males from other clans were recruited into the workforce of a particular group, bringing with them knowledge of topography and animal populations of other areas. During conditions of declining resource populations in one area, strong social alliances allowed families to hunt with groups in other areas for a while.

Other conservation practices also operated to maintain economic stability. The Tahltan held a great respect for the animals which they hunted. Animals were not bothered needlessly nor killed if they could not be used. A variety of rituals were involved with hunting, processing of animals, and the disposition of their remains. The religious beliefs which defined the close relationship between the people, their environment, and the animals within it ensured conservation of the resource base which the Tahltan people depended on.

Perhaps the most important factor contributing to economic survival and stability was the overall flexibility of the system. Since the environment was constantly changing with the seasons and the resource base was never the same from one year to the next, Tahltan people were continuously acquiring and exchanging information in order to make decisions about who should go to which camp, how long to stay, and how much of any one resource should be preserved for later use. As Brody (1981) points out in his study on the Beaver people of the Peace River area of British Columbia, flexibility is the major factor in the survival of traditional subsistence activities up to the present, even in the face of encroachments on traditional territory.

In summary, the traditional Tahltan subsistence economy incorporated several strategies for coping with seasonal and longer term fluctuations in resource abundance in order to ensure constant and

reliable levels of food and raw materials to meet subsistence needs. These strategies influenced settlement location and site characteristics. The Tahltan exploited a wide range of larger and smaller mammals, birds, fish and plant species available within their environment. Procurement and habitation sites are therefore located in a variety of different ecological zones from low lying terraces along major rivers to alpine meadows and ridges. Sites were occupied on a seasonal basis and vary in size depending on the kind and quantity of resources procured and processed. Large sites are located in areas where larger groups of people aggregated to procure and process quantities of reliable and predictable resources such as salmon and caribou.

The storage of large quantities of seasonally abundant resources was one of the most important strategies for maintaining economic stability. Storage behaviour is manifest at major camps and villages by presence of smokehouse structures or drying rack features in conjunction with hearths, concentrations of processing tools, and storage pits. Underground pits used for storing dried foods are highly visible in the archaeological record.

Cooperation in food production and food sharing behaviour are also manifest in site characteristics. At larger village sites multi-family smokehouse and/or habitation structures reflect the existence of corporate groups, consisting of several nuclear families cooperating in food production activities. At other seasonal camps where smaller temporary shelters are occupied for shorter periods of time by a corporate group, these are clustered together around a common hearth and processing area.

Exchange of food and goods between families at larger aggregation sites results in the deposition of a wide range of lithic and faunal remains from resources procured from a variety of different localities. Trade goods are expected to be more concentrated at large aggregation sites located along major travel routes where trading activities are taking place than in any other sites to which they may be dispersed. Evidence of trade becomes more highly visible with the

introduction of nonperishable items at sites with protohistoric and historic components.

Conservation practices employed to cope with declining resources would be difficult to document in terms of settlement patterns. However, they may have resulted in a visible break in occupation of sites in

a particular area while families hunted with other groups in different areas. Such flexibility in group composition is expected to produce homogeneity in tool kits associated with specific activities at the range of sites where those activities are taking place.