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Social and Economic Studies



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**FINAL TECHNICAL REP(3RT
KOTZEBUE SOCIOCULTURAL MONITORING STUDY**

Submitted to
Minerals Management Service
U.S. Department of the Interior

by

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Report Production by Scott's Office Services

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ABSTRACT

The central purpose of this study is to provide a single source of data on demography and employment, formal and informal social institutions and infrastructure for analysis of **sociocultural** and socioeconomic conditions in Kotzebue, the administrative and commercial center for a northwest **Alaska** region of eleven **Inupiaq** villages with a 1985 population of about 5,790 persons and headquarters for the NANA Regional Corporation and for the recently (1986) formed Northwest Arctic Borough.

The Kotzebue area was a social and trading cross-roads for hundreds of years before contact. By the beginning of the twentieth century, the region's indigenous sociopolitical order had been virtually extinguished, numerous Western political, social and economic institutions had become established, and a period of institutional consolidation **and**, later, Native political enfranchisement was beginning. This period saw the development of communications, transportation, commercial and administrative infrastructure and, after 1971, the development of new and revived Native political institutions.

The major population shifts that culminated in the emergence of **Kotzebue** as a modern regional center began after 1920 and accelerated during and after World War II. In three decades, Kotzebue's share of the region's total population rose from about 19 percent in 1939 to 27 percent in 1950 to 40 percent in 1960 to 43 percent in 1970 and Kotzebue's population grew five-fold from 372 in 1939 to 1,696 by 1970. Post-1970 population data suggest that, for the time being, the population shift from the hinterland villages to **Kotzebue** has stabilized. Recent data suggest a January 1987 population of about 2680 persons in Kotzebue.

Before World War II, Kotzebue's growth was limited by its modest subsistence and commercial resource endowment. Kotzebue's ascent to regional economic and political preeminence was fortified by the growth of governmental programs and institutions in the region and the accelerating process of regionalization. During the 1960s and early 1970s, the federal government brought many new programs for housing, sanitation facilities, electrification, health care, **pre-school** education, manpower development, legal services and other basic services to the Kotzebue region. After 1970, rising state government expenditures stimulated public employment which in turn, fostered support sector growth. More recently, the drop in State petroleum income has reduced State funds for community development projects and revived the region's concern about its economic dependence upon State and federal grants and programs.

The Native land claims movement brought a parallel transfer of political power and economic resources to local entities. **ANCSA** implementation propelled Kotzebue-area Alaska Natives into new administrative, economic and political arenas, with significant opportunities to influence local economic development and employment patterns. In Kotzebue, NANA Regional Corporation and Kikiktagruk **Inupiat** Corporation (the Kotzebue village corporation or KIC) capitalized on these opportunities in their economic ventures and staff development.

Government dominates wage work in Kotzebue and the region, but this is due to (1) a deficient private sector economy that provided jobs to only 14 percent of the potential labor force and (2) a job-short economy which imposed a high rate of unemployment and non-participation upon the **poten-**

tial labor market. A 1988 employment inventory found only a minor amount of private employment in commercial fishing and fish processing, mining and the visitor industry. KIC and NANA Regional Corporation have become the two most influential private enterprises in Kotzebue. Lately, NANA has dedicated its entrepreneurial efforts to develop its Red Dog mine property in affiliation with Cominco Alaska. Once the mine begins operation, it will become the region's first substantial basic industry, contributing to the region's employment base and, indirectly, to Kotzebue's economy.

Kotzebue is incorporated as a second class city with a city manager form of government and a seven-member council. The City currently exercises these governmental powers: water, sewer and solid waste; police protection and jail facilities; fire protection; streets and sidewalks; recreation; community center; animal control; licensing of taxis; public transportation; planning, platting and land use regulation; building code and inspection; libraries; and flood plain management. Approximately \$2,945,200 or 53 percent of the City's anticipated FY 1988 revenues were locally generated, with the balance coming from State and federal sources.

The Northwest Arctic Borough was incorporated as a first class borough in 1986, with its headquarters in Kotzebue. The Borough immediately assumed the powers of planning, platting and land-use regulation. The School District, which serves all eleven villages in the region, became part of the borough and the existing coastal management and regional strategy planning functions were transferred from their former sponsor, Maniilaq Association, to the Borough.

Health services for Kotzebue and the region are provided through the Indian Health Services Kotzebue Service Unit and Maniilaq Association. In general, Maniilaq Association has provided the community of Kotzebue with a comprehensive and well-organized health and social services system.

Today, the institutional and sociopolitical climate is characterized by homogeneity and unity, perhaps more so than any other ANCSA region. The region itself is compact and geographically well-defined and the boundaries of most of its administrative and political units are identical. Too, regional unity and cohesion are promoted by institutional ideologies that advocate consensus, regional planning, and cultural integrity. The NANA region's leadership is widely respected for its political acumen. This reputation is supported by the consistent presence of the region's leadership in State government (e.g., the Governor's Office, line agencies and commissions) and the legislature. The success of the borough incorporation effort was due in large part due to the ability of the region's leadership to work effectively within the state governmental system.

Subsistence remains an important cultural and economic activity though with several significant changes from historic patterns due to such factors as habitat destruction, centralization and sedentarization of the population, shifting resource availability and commercial and employment concerns associated with the cash economy. Still, the ideological or symbolic aspects of subsistence activity are principal components of cultural institutions in this region. Subsistence practices help sustain kinship patterns, socialization practices, and mutual support conventions. This is undoubtedly why subsistence has assumed critical political or ideological overtones in the NANA region. Kotzebue institutions have been virtually unanimous in their support for protection of subsistence rights and key habitats in the NANA region since the mid-1960s.

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LIST OF ACRONYMS

AANHHS	Alaska Area Native Health Service
ABE	Adult Basic Education
ADF&G	Alaska Department of Fish and Game
ADOL	Alaska Department of Labor
AFDC	Aid to Families with Dependendent Children
AFDC	Aid to Families with Dependent Children
AFN	Alaska Federation of Natives
ANCSA	Alaska Native Claims Settlement Act
API	Alaska Psychiatric Institute
APUC	Alaska Public Utilities Commission
ASHA	Alaska State Housing Authority
BIA	Bureau of Indian Affairs
CAA	Civil Aeronautics Administration
CCC	Chukchi Community College
CFR	crash-fire-rescue
CHP	Community Health Practitioner
CPR	Cardiopulmonary Resuscitation
DCRA	Department of Community & Regional Affairs
DEC	Department of Environmental Conservation
DEW	Distant Early Warning [System]
DFYS	Division of Family and Youth Services (Alaska)
EMS	Emergency Medical Services
ETT	Emergency Trauma Technician
EWS	Early Warning System
FAA	Federal Aviation Adminstration
FYF	Fairbanks Youth Facility
GED	Graduation. ,Equivalency Diploma
gpm	gallons per minute
HUD	Housing and Urban Development (U.S. Dept. of)
HUM	Housing Unit Method
ICWA	Indian Child Welfare Act
IHS	Indian Health Service
IRA	Indian Reorganization Act
KDC	Kotzebue Development Corporation '
KEA	Kodiak Electric Assocaition .
KEA	Kotzebue Electric Association
KEC	Kotzebue Electrical Cooperative
KIC	Kikiktagruk Inupiat Corporation
KTC	Kotzebue Technical Center
KWH	Kilowatt hours
MMS	Minerals Management Service
MW	Megawatt
MYC	McLaughlin Youth Center
NANA	Northwest Alaska Native Association
NUNA	Northwest Arctic NUNA (a newspaper)

LIST OF ACRONYMS (cent.)

NWAB	Northwest Arctic Borough
NWASD	Northwest Arctic School District
NWTC	Northwest Tribal Council
OCS	O uter C ontinental S helf
PCE	Power Cost Equalization
PHN	P ublic H ealth Nurse
PHS	P ublic H ealth Service
REAA	Rural Education Attendance Area
RurAL CAP	Rural Alaska Community Action Program
Sos	State-Operated S chool
SRA	Science Research Associates
STD	Sexually Transmitted Diseases
VISTA	Volunteers in Service to America
WIC	Women, Infant, and Children Program

FOREWORD

This report was prepared under contract number 14-12-0001-30379 for the Minerals Management Service. The study that is reported in this document is part of the third phase of the Minerals Management Service's **sociocultural** monitoring series designed to detect and analyze **sociocultural** changes in Alaskan communities. A companion study of Nome, Alaska represents the second portion of phase three. These studies focus on institutional change in two regional centers (Nome and Kotzebue) and are grounded in the premises that (1) regional centers are administrative and commercial hubs that are more likely to experience the effects of Outer Continental Shelf (OCS) mineral development activity than are outlying villages, and (2) regional centers are generally the **locus** of key political and economic interactions of both local and non-local origin. Hence, the interplay between institutions in regional centers may reveal" patterns of change unique to the region, patterns tied to changes underway there as well as in adjacent regions, and patterns of a more global nature that affect Alaska as a whole. The Minerals Management Service hopes that careful monitoring of regional centers may yield an "early warning system" for detecting **sociocultural** changes due to OCS development.

Study design was stipulated in advance by the Minerals Management Service, in part to ensure **replicability** among these and other studies. Secondary data (published literature, archives, existing proprietary data, and unpublished agency files) comprise the main sources of information for the study. Where these sources were judged to be inadequate or incomplete, primary data collected through key informant discussions with local agency staff and institutional representatives were analyzed in order to

complement existing sources of information. A standardized reporting framework provided by the Minerals Management Service specified the topics to be discussed. This framework was essentially a detailed table of contents specifying chapters devoted to introductory historical information, population, economy, formal institutions, and cultural issues and informal institutions.

Kevin Waring Associates carried out this study as a prime contractor. The consultants who assisted Kevin Waring were Steven McNabb, Ed Busch, Paul Wasserman, and Ernest Burch Jr. Steven McNabb and Kevin Waring shared oversight responsibilities for the Kotzebue portion of the project. The main and supporting authors for each chapter and section of the Kotzebue report are listed below in order:

Chapter 1 - INTRODUCTION	McNabb
1. Setting	Waring, Busch
2. History	McNabb
3. The Community Today	McNabb
Chapter 2 - POPULATION	McNabb
1. Population Size and Composition	McNabb, Wasserman
2. Recent Population Trends	McNabb, Wasserman
3. Household Size and Composition	McNabb, Wasserman
4. Recent Trends in Household Size and Composition	McNabb, Wasserman
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Chapter 5 - CULTURAL ISSUES AND INFORMAL INSTITUTIONS	McNabb
1. Subsistence	McNabb
2. Sharing	McNabb
3. Attitudes Toward Development	McNabb, Busch

Dr. Ernest Burch, Jr. served as a senior reviewer who evaluated the document and an earlier field research plan, identified deficiencies, and suggested substantive and editorial improvements. The prime contractor and key and supporting authors are, however, responsible for errors of fact or interpretation in this document.

The information reported in this document is current at the time of publication and is as accurate as advance verification of data permitted within the timeframe of the study. The authors are well aware that ongoing research, more thorough adjustment or verification of data, and more

comprehensive reviews of the document on the part of a wider audience will invariably uncover inaccuracies that are only detectable with hindsight. . The authors accept responsibility for their own errors of data collection and interpretation, but note, too, that some data sources are error-prone and subject to correction as inaccuracies are discovered. For example, even official census data are progressively adjusted for several years subsequent to their collection, hence the most recent references cited in the document may be subject to the most revision. Fortunately, other phases of the Minerals Management Service monitoring program slated for the coming years are designed to update and correct these reports, so flaws of this sort are not permanent.

In closing, the authors wish to acknowledge the generous assistance of staffs at numerous institutions in Kotzebue, including the Northwest Arctic Borough, the Northwest Arctic Borough School District, NANA Regional Corporation, Maniilaq Association, Maniilaq Manpower, Kotzebue Technical Center, Chukchi Community College, Kotzebue IRA Council, the City of Kotzebue, Kikiktagruk Inupiat Corporation, Alaska Department of Fish and Game (Division of Subsistence), most of the employers in Kotzebue and many residents all of whom gave freely of their time in providing information and essential corrections to errors of fact and interpretation in the data.

KOTZEBUE SOCIOCULTURAL MONITORING STUDY

I. "INTRODUCTION

1. Setting.

The Northwest Arctic Borough in northwest Alaska encompasses about 36,000 square miles or 23,040,000 acres. It is Alaska's second largest borough, exceeded only by the North Slope Borough. The Northwest Arctic Borough is **coterminous** with the boundaries of the NANA Regional Corporation, Incas established pursuant to the Alaska Native Claims Settlement" Act (**ANCSA**) of 1971.

The Northwest Arctic Borough extends inland approximately 210 air miles from Kotzebue, along the **Kobuk** River drainage. The Borough's northern coastal boundary begins at the North Slope Borough boundary north of **Singoalik** Lagoon some 100 air miles north of Kotzebue, and extends south along the **Chukchi** Sea coast, around Kotzebue Sound south to a point 20 miles west of Cape Espenberg on the Seward Peninsula. The northeastern portion of the Seward Peninsula falls within the Borough boundaries.

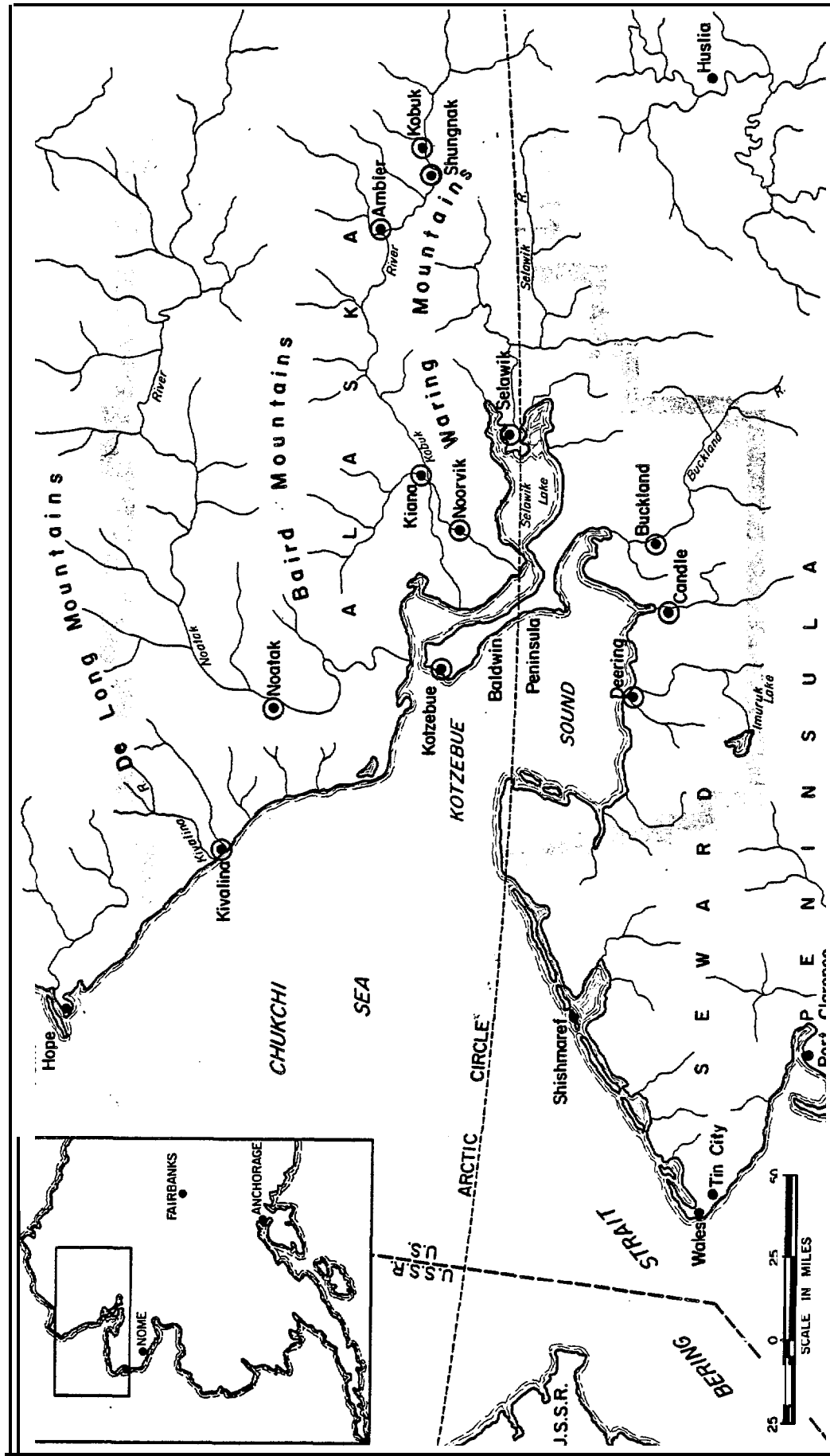
The Northwest Arctic Borough contains four major physiographic provinces: the Arctic Foothills Province, the Arctic Mountains Province, the Western Alaska Province and the Seward Peninsula Province (**Warhaftig 1965**) . The Baldwin Peninsula, where Kotzebue is located, lies within the Western Alaska Province, the coastal portion of which is characterized by **low** energy sand and gravel beaches fronting moderately steep scarps. The Noatak and **Kobuk** Rivers drain into the northern and eastern portions respectively of Hotham Inlet.

Kotzebue is located on a long, narrow spit. at the northwestern tip of the Baldwin Peninsula (see Figure 1). This spit, about three miles long and from 1,100 to 3,600 feet in width, is composed of widely-varying soils types due to the deposition processes that formed it. The Kotzebue area is underlain with continuous permafrost. Due to its coastal location, the Kotzebue beach experiences severe erosion from storm-generated waves and ice action. The Kotzebue townsite is low-lying, with a high point of 12 feet above sea level, and is subject to periodic flooding.

Kotzebue's climate is maritime and is characterized by long cold winters and cool summers. Temperature extremes of minus 52 to plus 85 degrees F have been recorded. Annual precipitation averages less than nine inches; this includes average snowfall of 47 inches. Prevailing winds are easterly in winter and westerly in summer.

Vegetation on the northern portion of Baldwin Peninsula consists of moist or wet tundra. Caribou, moose and bear range throughout the mainland areas around the Baldwin Peninsula-and, in fact, throughout the entire NANA region. Furbearers such as muskrat, beaver, river otter and mink occur in wetlands and along the region's rivers, lakes and streams. Waterfowl are abundant in season throughout the region. All five species of salmon, along with arctic char, sheefish, whitefish and northern pike, can be found in the estuarine waters of Hotham Inlet and the major river systems. Kotzebue Sound supports small populations of tanner crab and herring. Marine mammals occur in the estuarine areas along Kotzebue Sound, as well as in the Sound itself. Spotted seals, ringed seals and belukha whales are the most common species observed.

FIGURE 1
THE NANA REGION



Historically, the NANA region has been **culturally** homogeneous and geographically well-defined. This is reflected **in the** congruent. boundaries **of** regional institutions and organizations. The region is relatively compact, which facilitates service delivery and commercial interchange. The convergence of the four major river systems (**Noatak, Kobuk, Selawik, and Buckland** rivers) on the coast near **Kotzebue** is a significant factor in promoting social communication. Ten of the **11** communities **in** the NANA region, including Kotzebue, have incorporated as second class cities, **all** for at least eight years.

Northwest **Alaska** region has been inhabited almost since **the** start of Alaska's settlement. Onion Portage, on the **Kobuk** River **125** miles east of **Kotzebue**, has been occupied by a succession of peoples for the past 12,500 years. Settlement remains dating back 5,000 years have been uncovered 'in the beach ridges at Cape **Krusenstern**, **35** miles northwest of **Kotzebue** (see Anderson **1988**; **Giddings** and Anderson 1986).

Kotzebue is the regional center for the **11** permanent communities that survive today in the NANA region. Virtually **all** goods and services distributed throughout the region either originate **in** or pass through **Kotzebue**. Most of the communities' economic linkages are internal to the region, with Kotzebue serving as the **focal** point.

The NANA region has been characterized as unique among Alaska's 12 Native regions due to four significant conditions not typically found in combination elsewhere (**Gaffney 1981**; Langdon and **Anders** 1986). First, the NANA region is culturally homogeneous, based upon a historical network of social alliances and trading relationships among the region's communities.

This network, further strengthened by a common linguistic tradition, has produced a regional cultural identity and common political interests.

Second, the relatively compact configuration 'of the **NANA** region simplifies the logistics of communication and transportation.

Third, the Native population remains firmly rooted in the traditional village-based subsistence lifestyle. Most of NANA Regional Corporation's shareholders **live** in the region. This stability and continuity of lifestyle has muted the **intraregional** conflicts (urban versus **rural**, village **versus regional** corporation) common in other regions of the state. Further evidence of this harmony is the successful merger of 10 of the 11 ANCSA village corporations with the regional corporation (the Kotzebue **village** corporation remains independent).

Fourth, the boundaries of the key regional institutions (NANA, **Maniilaq** and the Borough) are virtually identical. This geographic commonality minimizes overlapping or conflicting jurisdictions and reinforces the notion that the constituency of **all** three institutions is the same. Further, the leadership of these regions' institutions view their respective missions as complementary and **mutually** supportive, not competitive.

The passage of the Alaska Native **C**laims Settlement Act, and the subsequent creation of 12. regional corporations each "composed as far as practicable of Natives having a common heritage and sharing common interests"! (**ANCSA** Section 7(a) 1971) solidified the region's geographic boundaries. The NANA region now had a delineated boundary, that of NANA Regional Corporation, Inc.

The population of the region, according to the 1980 U.S. Census, was 4,831 persons, 84 percent of whom were Inupiat Eskimo. The population was young--42 percent were under the age of 18 years. The median age for Natives in 1980 was 20.1 years. Employment in the region was heavily dependent upon governmental payrolls. Of the 1,206 persons over 16 who were employed, fully 67 percent worked for government in 1980. According to the 1980 Census, one-half of the labor force was female, 71 percent of whom were employed in the public sector. Median family income was \$17,756. Median Native family income was \$13,889; median white family income was \$34,882. Of all households, 44 percent earned less than \$15,000. Per capita income was \$5,171, less than half that for the neighboring North Slope Borough. By comparison, 24.5 percent of all NANA region families were below the 1979 poverty level, a rate twice that of the North Slope Borough. Of the total Native civilian labor force, 28.6 percent were unemployed in 1980; of the white civilian labor force, 3.6 percent were unemployed.

The economic base of the NANA region is predominantly government. Federal, State and local government spending accounted for nearly 90 percent of the region's basic employment in 1980 (Maniilaq Association; 1982a). Primary private sector development opportunities are in mining, owing to substantial mineralization of the NANA region (Maniilaq Association; 1986b.). Future mineral development has potential to provide many wage-paying jobs for mine workers and support personnel, with secondary employment and income spinoffs. Tourism and related transportation, retail and services activities also are potential growth businesses in the region.

Traditional subsistence activities maintain a significant role in the day-to-day livelihood of NANA residents. More than 70 percent of the region's residents rely on hunting, fishing, and gathering for over half of their diet (see **Mauneluk Association 1974**; see also section V.1. Subsistence). Preservation of subsistence resources, and hence traditional lifestyles, has been a long-standing goal of key institutions in the region. Nonetheless, residents also recognize the benefits of well-managed economic development.

2. History.

The history of the Kotzebue Sound area is well documented in primary sources and is particularly well analyzed and interpreted in secondary sources that rely on those earlier records. Pertinent citations include Beechey (1831), Brewer (ins.), **Bockstoe** (1977), Chamisso (1986), Curtis (1930), **Gough (1973)**, **Grinnell** (1901), **Healy** (1887, 1889), **Hooper** (1881, 1884), **Hrdl icka** (1930), **Jacobsen** (1884), **Kelsey** (1917), **Kotzebue** (1821), **Mendenhall** (1902), **Moore** (1851), **Nelson** (1899), **Ostermann** (1952), **Petrov** (1884), **Rasmussen** (1934), **Seemann** (1853), **Simpson** (1852, 1875), **Stoney** (1900), **VanStone** (1960, **1962**, 1977), **Wells and Kelly** (1890), **Woolfe** (1893, 1894), and **United States Department of the Treasury** (1899). **Anderson (1986, 1988)** are the most recent and comprehensive citation for **Kotzebue - area prehistory**.

Several secondary sources warrant attention since they integrate large bodies of information from primary and secondary sources with the aim of reconstructing indigenous social organization. These are **Berger and Associates** (1983), **Burch** (1980, **1984**), **McNabb (1987c)**, **Ray** (1984), and **VanStone** (1984). **Burch (1980, 1984)** are the superior sources and are used

as the main references in this section. McNabb (1987c) is based largely on those references, and provides a compact synthesis that summarizes the main themes of historical change in the Kotzebue Sound area. The text below is derived from the latter source:

Burch (1984:313-315) identifies four historical periods in the Kotzebue Sound area. These periods represent overlapping intervals that are significant in terms of their impacts on indigenous societies. In this sense they are generally distinct because of their outcomes, since the events that compose them are somewhat similar. They are:

Early Exploration and Contact (ea. 1816-1850)

Period of Destruction (ea. 1850-1897)

Period of Consolidation (1897-ca. 1960)

Land Claims Period (ca. 1960-present)

Following the logic of the NANA region review in McNabb (1987c), the format used here will organize the material into three periods: Early Contacts and Displacement, and then, following Burch, Period of Consolidation and Land Claims Period.

1a. Early Contacts and Displacement

Burch recognizes twenty-five autonomous traditional societies among the Inupiat of North and Northwest Alaska (including the Seward Peninsula) during the pre-contact period (about 1800).. Burch places eleven of these societies in or near the Kotzebue Sound area, or what could be conveniently (but anachronistically) termed the NANA region (Burch ins.).

Archaeological remains in the NANA region span over 10,000 years. Continuous occupation in relatively restricted areas within Northwestern Alaska may not have begun until after A.D. 1000. It was not until the tenth millennium of occupation that gill nets and seines were widely used, allowing sizable aggregations of Inupiat despite periodic scarcity of essential game, such as caribou. Dog traction was unknown prior to the 17th or 18th century (Giddings 1952:112), but once introduced, it provided mobility to secure scattered resources distant from settlements. These technological changes set the stage for sustained, regular habitation in Northwest Alaska by the eleven societies recognized by Burch.

According to Burch (1980:260; 1984:304; ins.), the traditional society in the NANA region pertinent to the report is Kotzebue (Qikiqtagrunmiut)

society. The discussion below is based on McNabb (1987c), with minor editing, with an introductory description from Burch (ins.).

Qikiqtagrunmiut Settlement and Subsistence.

The major winter settlements of the Qikiqtagrunmiut were on the spit just south of where the modern city of Kotzebue is now located; others were located around the northern half of Baldwin Peninsula, the lower Noatak River, and the northern shore of Kotzebue Sound. The Qikiqtagrunmiut lived on fish, caribou, ptarmigan and small game. In spring, the entire population moved to sealing camps near Cape Krusenstern, where they hunted seals until the ice left the coast in late June or early July.

In July, the Qikiqtagrunmiut moved to Sheshalik (Sisualik) to participate in the trade fair, in which some 2,000 to 3,000 people from all parts of northern Alaska and even Siberia were involved. Following the fair, they returned to the general vicinity of their winter villages to fish and to pick berries. In fall, these activities were augmented by seal hunting along the coast, and by caribou hunting in the Igichuk Hills and Baird Mountains (Burch ins.).

Early Contacts. von Kotzebue first sighted and explored Kotzebue Sound in 1816 (Kotzebue 1821:207). Knowledge of the Kotzebue Sound area predated von Kotzebue's voyage, so European-Native contacts likely began much earlier. The Russians had probably been aware of Kotzebue Sound for about a century prior to that voyage (Bockstoe 1977:6), possibly through information passed to them by Siberian Chukchis who were frequent middlemen for transactions at the Sisualik trade fair near modern Kotzebue. It is likely that as early as the mid 17th century Russian traders on the Anadyr River in Siberia had intervened in this Native trade network that predated European contact and that connected Siberian and Alaskan Natives (VanStone 1984: 154-5; Fisher 1943, 1977).

During the first half of the 19th century the principal actors in scientific and exploratory expeditions in the Bering Straits area were Russians and British. Scientific aims were often coupled with pursuit of commerce during these voyages. By

1833 the Russian-American Company had established a trading post at St. **Michaels** and a trading hut at **Unalakleet** on Norton Sound so as to intervene in the fur trade between Natives from the interior Yukon and Eskimos on the coast (**Ray 1975:121 ff.**). Prior to the 1830s the Eskimos from **Unalakleet** traded pelts from the interior at the trade fairs near **Kotzebue**. Many of those goods, in turn, made their way to Siberia and probably to **Moscow** and **Paris**.

The Hudson's Bay Company threatened the Russians' commercial monopoly from the east. By 1847 the Company was operating within Alaska itself, at Fort Yukon. British expeditions to locate a Northwest Passage placed Russian privileges in Alaska at peril. Apparently many expeditions during this period carried out trade with the **Inupiat**, for instance exchanging firearms and ammunition for furs and ivory (see **Bockstoe 1977:7; Ray 1975:140**).

Thus, even before **1850**, European contacts in **Kotzebue Sound** had accelerated dramatically. The **Inupiat** were aware of the trading opportunities that accompanied the exploration parties For example, in 1826 at Cape Thompson near **Kotzebue**, the **British** crew of the **Blossom** noted that "During our stay we purchased almost everything there was in the village disposable, more for the sake of their [**Inupiat**] gratification than our own" (**Wolfe n.d. cited in Bockstoe 1977:16**). An ironic counterpoint to this event is that an altercation involving the crew of the **Blossom** led to the killing of a **Kotzebue Sound Inupiaq**, the first violent death of an Eskimo at the hand of a European in north-western **Alaska (op.cit.:14)**.

Displacement. Trends that were set in motion in the 1820s continued over the next six decades, accelerating after 1880. The displacement of **Inupiat** and their 'institutions culminated in decimation of **Inupiat** and massive influxes of **non-Inupiat** by **1898**.

Contacts with trading vessels, mainly at or near the **Sisualik trade** fair, were sporadic before **1848**, but increasingly common afterward. In the 1800s, coastal exploration diminished and gave way to a period of interior explorations up **Kotzebue** area rivers, notably those of **Cantwell** and **Stoney**. Virtually all of the exploration parties stopped at what is now **Kotzebue**. Patrols by the U.S. Treasury Department designed to halt the trade in alcohol and firearms began in **1880**, however the federal presence was never intense in this area until after the turn of the century when schools and reindeer herds were established (see **Burch 1984:314; Ray 1975:190**).

Disease and famine were the main agents of displacement during the latter half of the **19th** century. Although well-documented evidence of epidemics does not exist, reports suggest that measles, influenza, diphtheria and other diseases decimated

many local populations. The caribou populations began to crash in the 1870s in several areas, leading to a famine between 1881 and 1883 that was exacerbated by declines in seal and fish populations. Burch (1984:314) provides about a dozen good citations relevant to this period, and Burch (1972) documents the period of famine in detail.

The death toll from the 1881-1883 famine may have exceeded 50 percent among the Qikiqtagrungmiut. Many survivors in these groups moved north, further reducing the ranks of local Inupiat. The underpopulated areas were gradually repopulated by emigrants from nearby coastal areas, inland river populations, and more distant locations.

In 1897 the Friends Church established a mission and school at **Kotzebue**. The original intent was to establish the mission near the confluence of the Kobuk and Pah Rivers where larger Inupiaq populations resided. The missionaries' late fall arrival in **Kotzebue** Sound encouraged them to settle on the coast instead of inland so as to avoid arduous travel conditions at freeze-up. About fifteen years earlier the annual trade fair moved from **Sisualik**, across Hotham Inlet, to **Kotzebue** proper. The institutional and trade infrastructure of **Kotzebue** was established with the advent of the Quaker mission. Note that despite regular and sustained habitation in the general area, **Kotzebue** per se had not been a major population center until this time (however, the major Qikiqtagrungmiut settlements were traditionally to the immediate south of modern **Kotzebue**). Two events (the landing of trade vessels at **Kotzebue** rather than **Sisualik** thereby shifting the customary trade location, and the establishment of the mission at **Kotzebue**) were decisive elements in the history of the **Kotzebue** area.

1.b. Period of Consolidation

The consolidation of regional populations proceeded unevenly around the turn of the century for two reasons. First, the centralized economic opportunities were intermittent and localized. Second, the fur trade and reindeer herding counterbalanced the trend toward consolidation. Permanent, sedentary residence was poorly suited to trapping and herding (see Burch 1975:31).

After the decline in caribou populations and the famines of the 1870-1885 period, the Department of Education initiated plans to import reindeer and establish self-sufficient reindeer herding operations which would provide both food and marketable products for Eskimos in many parts of Alaska. Until the reindeer market crashed in the 1930s (accompanied by a decline in herd populations for uncertain reasons), herding tended to inhibit village consolidation while maintaining semi-nomadic practices.

After the decline of the Arctic Ocean whaling industry during the first decade of the 20th century, the fur trade assumed substantial importance as a source of income for many Northwest and North Alaskan Inupiat. Although the whaling industry had little more than indirect impacts on NANA region Inupiat, the fur trade was a crucial source of money for several decades, declining in importance after the mid-1930s when prices for pelts plunged. Trapping was a second countervailing force that slowed village aggregation, since dense settlements were not compatible with harvests of diffuse resources until the advent of snowmachine travel.

Village aggregation, then, proceeded fitfully: in 1910 most residents lived outside permanent villages. As late as the 1930s about 20 percent of the population lived in mobile camps, dozens of which dot planning maps of this period (cf. Alaska Planning Council 1940; McNabb 1981). After 1898, mission-schools, stores, a few post offices and two clinics were established throughout the region. Mining in interior Seward Peninsula areas provided some job opportunities. After a fast start the volume of gold and tin production reached a low but fairly stable level in the 1920s and 1930s. During the 1930s and 1940s the caribou populations recovered, partly offsetting the decline in reindeer herding and trapping. As Burch notes, "At this point, the map of the Kotzebue region acquired essentially its present form" (1984:314).

Most of the lethal infectious disease epidemics were over by the 1920s. Aggressive public health campaigns to eliminate tuberculosis during the 1940s met with substantial success by the 1960s, although the evacuation of infected residents acted as a damper on village growth. It was only after World War II that intensive centralization of institutions and populations occurred on a large scale. Although Kotzebue served as the de facto regional hub for decades, that community came to dominate regional opportunities and services in the 1950s. Between 1950 and 1960, the Kotzebue population increased by 211 percent, drawing emigrants mainly from the Noatak, Noorvik and Deering areas and, to a limited degree, Point Hope (see ASHA 1971; Smith 1966).

By 1960, ten communities in what is now NANA region existed in their current locations (the eleventh, Ambler, fissioned off from Shungnak in the 1960s). Each had a school, a National Guard Armory, at least one store and church, an airstrip, and local governance by elected village council. No municipal government existed in any village except Kotzebue, which incorporated in 1958 (Alaska Municipal League 1986).

Table 1 and Figure 2 illustrate the populations and distribution of indigenous societies in the **Kotzebue** area before the land claims period.

1.c. The Land Claims Period

The main event that began to crystallize regional political organization in the NANA region was a proposal by the U.S. Atomic Energy Commission to create a harbor near Cape Thompson with an atomic device (Burch 1984:315). The proposal met with substantial opposition and coincided with a pan-Eskimo movement which began to gain momentum in the 1960s (see Lantis 1972), formally represented in the Northwest by the **Inupiat** Paitot (People's Heritage) and advocated by Howard Rock's newspaper The Tundra Times (see Burch 1979).

The Northwest Alaska Native Association formed in 1966 and devoted itself to advocacy, land protection, and Native rights. The Kikiktagruk Development Corporation of **Kotzebue** formed in 1967 to administer economic development grants secured from the U.S. Office of Economic Opportunity; later KDC would serve as a model for the Kikiktagruk **Inupiat** Corporation, the Kotzebue village corporation. The first decade of this period culminated in the passage of **ANCSA**.

NANA regional leaders were significant personalities in the land claims movement, but records of this period do not establish a basis for understanding how this prominence came about. In fact, that prominence seems utterly unexpected in light of descriptions in the secondary record. For instance, the one ethnography produced immediately before the passage of **ANCSA** characterized Native-Native and Native-White relations in almost disparaging terms (Smith 1966:89-93) and described Kotzebue as a "Whiteman's town in which Eskimo also live", adding:

In the opinion of State of Alaska officials and representatives from other government agencies, Kotzebue is the 'worst town' in the Arctic, the criticisms predicated on 'lack of leadership', the 'drinking problem', and the delinquency of the youths (Smith 1966:6).

ANCSA created eleven village corporations and a regional corporation in the region. In 1972 the original Northwest Alaska Native Association separated from NANA Corporation, assumed the name **Mauneluk** Association (later **Maniilaq** Association), and began conducting health, employment, and social service programs as the regional non-profit corporation. The Kotzebue Area Health Corporation incorporated in 1973 but then merged with **Mauneluk** in 1975. All village **ANCSA** corporations except KIC (**Kotzebue**) merged with NANA, also in 1975.

TABLE 1
NANA REGION POPULATION ESTIMATES, 1880-1960¹
(TWENTY YEAR INTERVALS)

Subregion ²	1880	1900	1920	1940	1960
Kivalina (Kivalins)	370	112	80	100	140
Lower Noatak (Noatak)	220	75	164	336	275
Upper Noatak	475	45	0	0	0
Upper Kobuk (Ambler, Kobuk, Shungnak)	575	325	95	224	259
Middle Kobuk (Kiarla, Noorvik)	350	158	379	378	637
Kobuk Delta	250	50	0	0	0
Kotzebue (Kotzebue)	275	116	225	375	1290
Lower Selawik (Selawik)	500	200	274	239	348
Upper Selawik	400	59	0	0	0
Buckland (Buckland)	120	116	150	275	190
Goodhope	50	72	75	230	95
TOTAL POPULATION	<u>3585</u>	<u>1328</u>	<u>1442</u>	<u>2157</u>	<u>3234</u>

1. Sources: 1880 estimates (Burch ins.); 1900 estimates: Twelfth Census of the United States, 1900. Alaska. 2nd. Northern District. National Archives, Census microfilm 1828; 1920-1980 estimates: published Bureau of the Census Reports.
2. The subregions are those owned by the 11 traditional tribes in the NANA region. The modern villages in those subregions, indicated in parentheses, were founded after 1900.

15



In 1974 the NANA Housing Authority [now Northwest Inupiat Housing Authority] was formed to administer state- and federal-funded housing programs in the region. This organization is unaffiliated with NANA Corporation. In 1976, a Rural Education Attendance Area (REAA) was established in the region superseding the State-Operated School (SOS) system and providing a greater measure of local involvement in education. In 1980 Maniilaq Manpower Corporation (the employment and training arm of Maniilaq Association) was established as an independent entity, however it shares a common Board of Directors with Maniilaq Association. Finally, the Northwest Arctic Borough was created in 1986 after about five years of preparatory planning and development.

3. The Community Today.

It will be useful to summarize some features of the physical setting in order to establish the context for contemporary life in Kotzebue. Kotzebue is located on a spit situated at the northwest corner of the Baldwin Peninsula, facing Kotzebue Sound and eventually the Chukchi Sea to the west. Hotham Inlet lies behind the Baldwin Peninsula to the east of Kotzebue. Kotzebue rests at the juncture of the marine environment and major river watersheds of the NANA region: the Noatak and Kobuk Rivers to the north and east respectively. This setting creates the conditions that dominate the climate in the vicinity of Kotzebue. The climate is maritime," and prevailing wind and current patterns at sea may abruptly change local weather conditions. The semidiurnal tidal range is small and wave action is generally low, giving the Kotzebue seashore a tranquil appearance that belies the violence of Chukchi Sea storms: the Chukchi Sea-Kotzebue area has a far greater storm probability than the Arctic Ocean to the north (see Woodward-Clyde 1985:B3). Although the extremes of climate may be more notable north of the Brooks Range, the Kotzebue area is stormier.

Ice conditions in Kotzebue Sound are unlike those found in the Chukchi Sea proper and along its coastal perimeter. Shorefast ice in the Chukchi

Sea extends about ten miles **into** shallow water, and active lead systems and prevailing winds ensure **large**, open **flaw** areas and **polynyas** that form important seasonal sea mammal habitats, permitting sea mammal **hunting** adaptations that characterize the indigenous **Inupiaq** societies **outside Kotzebue** Sound. Ice cover in Kotzebue Sound is stable, but the ice edge is weak and highly unstable and **polynyas** are rare. The runoff from the main watersheds in the Sound often results in overflow conditions prior to break-up in the Sound **per se**. These conditions are not optimal for sea mammal populations nor for open-lead hunting, hence **Kotzebue** is not as well situated for intense sea mammal hunting adaptations as are neighboring communities **to** the northwest.

The visible terrain in the vicinity of Kotzebue is low but not flat. The **Igichuk** Hills and Baird Mountains to the north form the most evident contours to the naked eye, and the Baldwin Peninsula itself extends in rolling, rounded hills to the east and south of the town before falling to low meadows and flat beaches, punctuated occasionally by abrupt banks along the **shore**. A **low** air approach to Kotzebue from the southeast reveals a **middle** portion of the Baldwin Peninsula that is so narrow it is virtually a short hike from one side to the other.

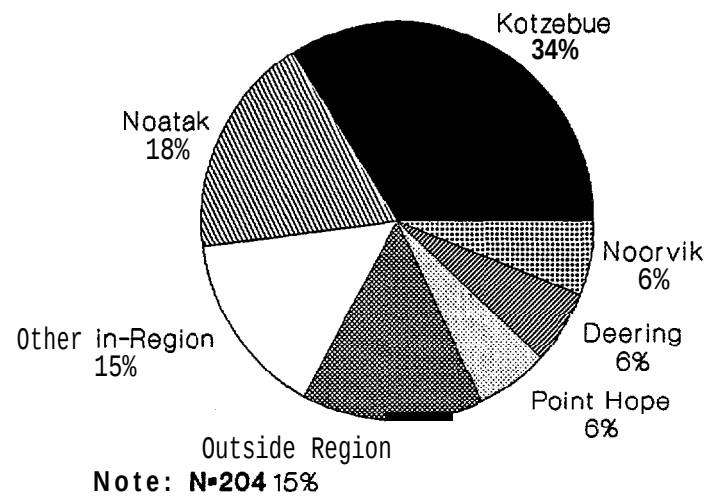
These physical features dominate day-to-day **life** in **Kotzebue** in several ways. In most arctic settings, climate is a powerful influence on mobility, either permitting or prohibiting even the most casual travel, and **Kotzebue** is no different than other arctic communities in this regard. Routine **intracommunity** and **intraregional** transportation is not at all routine during harsh weather, particularly during violent fall and **mid-winter** storms. Shoppers and employees may be housebound for one or more

days, cargo is delayed, medical treatment is postponed, and local services may be cut back or temporarily discontinued.

Visitors are a constant fixture in the social milieu of the town. The area near Kotzebue has been a crossroads for centuries, first as a trading site for indigenous Inupiaq and, on occasion, Yup'ik societies who mingled here and at Sisualik across the Sound in summer, and later as an institutional and commercial center serving communities throughout much of northwest Alaska. The main evolution of Kotzebue as a regional center occurred after World War II, and by 1970 Kotzebue was the home town of a minority of the adults who resided there. Figure 3 depicts the natal homes of Native heads of households in 1969, based on a survey of households. Household heads born in Kotzebue comprise about one-third of the sample, and Native household heads from outside the region represent 15 percent of the total.¹ Figures 4 and 5 show the percentages and absolute numbers of Kotzebue residents compared to the balance of the region at several points in time. Here we see that Kotzebue assumed its demographic prominence only gradually, after the complex administrative, infrastructural, educational and medical, and commercial facilities and institutions that characterize the community today were installed. The

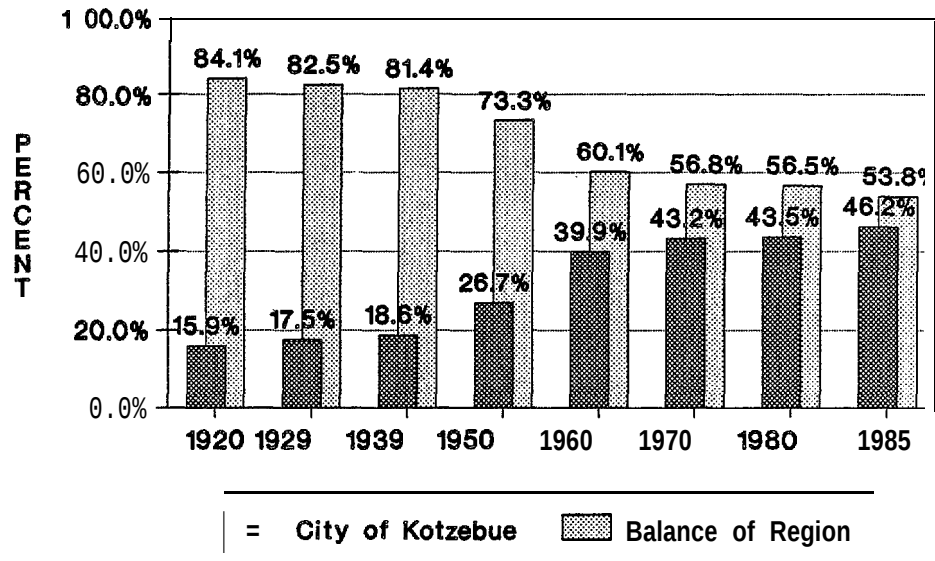
¹Note that Point Hope is distinguished as a separate category. At the time of the survey, Point Hope was classified as a Northwest Alaska/Kobuk area community for administrative purposes by several State and federal agencies. A proper comparison adhering to current administrative categories would place Point Hope in the "Outside Region" classification, yielding a percentage of 21 percent "Outside Region" heads of households.

Figure 3
**BIRTHPLACE OF NATIVE HOUSEHOLD HEADS
 KOTZEBUE, 1969**



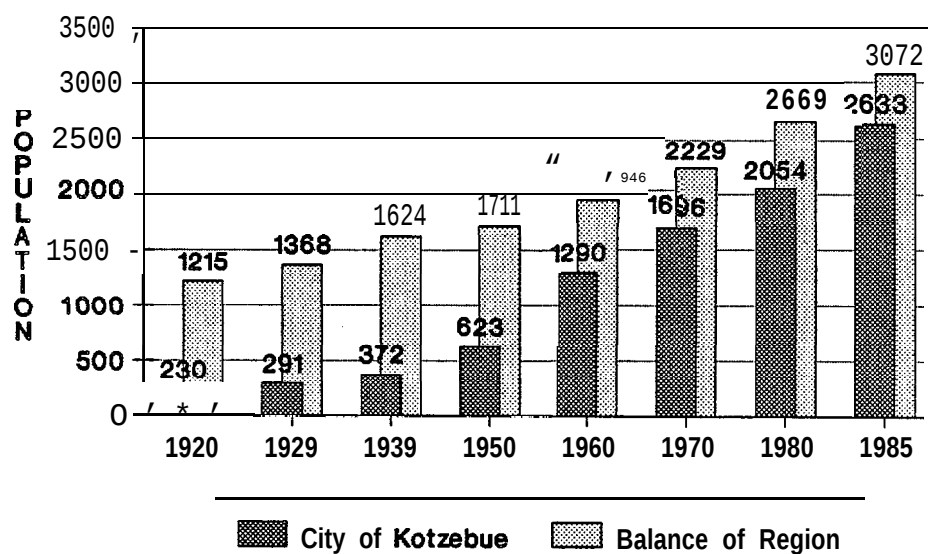
Source Alaska State Housing Authority, 1971.

Figure 4'
**POPULATION PERCENT DISTRIBUTION
 KOTZEBUE CITY AND REGION, 1920-1985**



Source: U.S. Census Bureau; Alaska Department of Labor.

Figure 5
POPULATION DISTRIBUTION
KOTZEBUE CITY AND REGION, 1920-1985

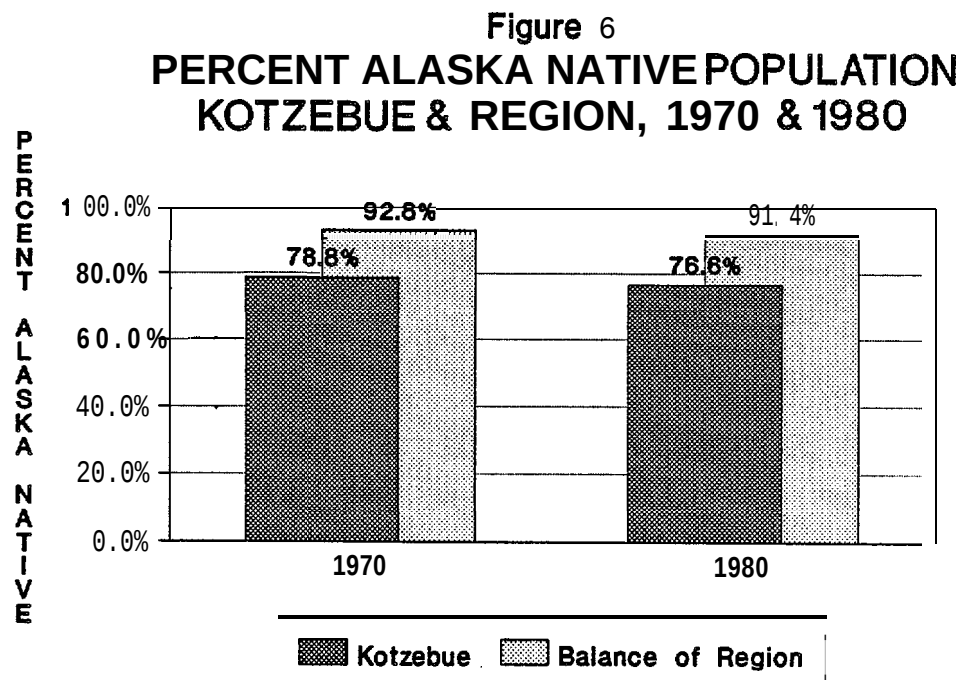


Source: U.S. Census Bureau; Alaska Department of Labor.

institutional hegemony of Kotzebue is now, for **all** intents and purposes, irreversible. Yet that hegemony which seems to grow by increments each decade is not accompanied **by** unbalanced growth in the **non-Native** population that **is** employed in many **of** these institutions and **which** resides **mainly** in **Kotzebue**. **On** the contrary, the proportions of Native and non-Native residents are relatively **stable** over the last two decades. Figure 6 illustrates the proportions of Native and non-Native residents in **Kotzebue** and the balance of the region in **1970 and 1980**; clearly there has been little real change. .

But residents' origins **reveal only** one dimension of this "crossroads" phenomenon. Temporary visitors are also fixtures of Kotzebue **social life**, **mainly** during the summer months. **The** number of tourists in a **single** year has been estimated at 10,000 for **1984** (Cohn 1984). During **1983** there were **close** to 5,000 visitor contacts (including repeat visits) at the National Park Service Kotzebue office **alone**, and **1,740** recreational visitors journeyed to the **Kobuk Valley** National Park in a relatively remote area near Ambler (see **Woodward-Clyde 1985:D45**). Kotzebue is the headquarters for **three** important national park areas: Gates of the Arctic National Park and Preserve, **Cape** Krusenstern National Monument, and **Kobuk Valley** National Park.² In contrast, Nome serves as the headquarters for only one, the Bering Land Bridge National Preserve. Day and overnight tour packages bring the majority of tourists to **Kotzebue** in the summer, but," although these visitors are more easily stereotyped as "tourists," it is clear that recreational and casual visitors may arrive at any time.

² Kotzebue **also** serves as the headquarters for the **Selawik** National Wildlife Refuge.



Source: U.S. Bureau of the Census.

Professional visitors, including consultants, agency representatives, business travelers and entrepreneurs, and government officials, are sufficiently ubiquitous to have spawned a rich **local folklore** and body of **absurd jokes**. **Local** residents often comment facetiously that they can distinguish among bureaucrats by the types of briefcases they carry, determine whether they are from Fairbanks or Juneau by whether they wear beards or three piece suits, and further distinguish among state and federal authorities by overhearing them mention their per diem **rates**.³

But another important **class** of professional **visitor** exists: temporary, seasonal laborers and commercial fishing crews who **lodge** (**usually** in camps) in **Kotzebue** during the summer. Originating in NANA region villages but hailing, on occasion, from as far away as Shishmaref, Point Hope or **Diomede** (among other locations), temporary workers **live** in camps with **fairly well** defined village origins on the north and south sides of **town**: **Kobuk** and Selawi drainage residents on the north and more distant "salt-water" people from coastal sites on the south end of the FAA facility. These loose summer settlements operated without **formal** oversight for decades, but, due to overcrowding and the need for minimal refuse collection, the City of Kotzebue levied fees for camping permits for the first time in 1988.⁴

These brief vignettes of crossroads life in **Kotzebue** cannot do full justice to the sense of variety and diversity embodied in the population.

³ Very **little** has been written about tourism and professional travel in the NANA region. See Davis (1983) and McNabb (1985a).

⁴ The City possessed the **power** to levy these fees prior to 1988, but has not exercised that power in the past.

Like most Alaskan hub communities, Kotzebue defies the unwarranted stereotype of insularity and homogeneity that **is** commonly affixed to **small**, isolated towns. Because of the functions that **are** performed in hubs **like Kotzebue**, we can say with only minimal exaggeration that such communities are more similar to airline terminals than to mere collections of individuals that are bigger than most. Although Kotzebue dominates the region by virtue **of** size, it is what **happens** in **Kotzebue** that truly sets it apart. An important element of the daily experience of living in Kotzebue is constant encounters with persons from throughout the region and from elsewhere in the state who are currently **en route** within or between regions, or who will be shortly. **Kotzebue** is an institutional nexus, and these final comments summarize what that means in terms of personal experience.

The physical **layout** of the town and its institutions underscores this **role** (see Figure 7). Beginning on the north, the **Kotzebue Skill** Center, NANA Corporation-fish processing plant, and the FAA navigation towers are practically symbols of key economic functions centered in Kotzebue: public sector services, private sector resource extraction under **ANCSA** corporation guidance, and centralized transportation, utilities and communications infrastructure. Moving south, the mosaic of residential and institutional structures emphasizes the prominent role of **public** transfers in **Kotzebue** and the steady urbanization that has accompanied the growth of those transfers. **To** the east, new housing subdivisions dominate the area near Swan Lake, and handsome owner-financed homes built after 1975 are mingled with **low** income housing and **older** homes built decades ago. To the west, public facilities that serve both Kotzebue and the region are encountered

in quick succession: the **Kotzebue** Senior Center, day care center, Kotzebue Public Works Department and water treatment plant, **Chukchi** Community College, **Kotzebue** School, Northwest Arctic Borough **School** District offices, PHS Hospital, **Maniilaq** Manpower, Northwest **Arctic** Borough offices, **Ferguson** Human Services Complex, and State **of Alaska** offices and Court **House**.

Advancing yet further to the south, a bird's eye view of the town shows that the density of public structures decreases and changes in composition. The array of service-oriented and administrative functions with a statewide or regional focus that are prominent on the north end **now blends** with private sector and **local** government facilities in the mid-town and south sections of **Kotzebue**. The main commercial sector, **City offices**, post office, **Maniilaq** Association, headquarters of state and federal agencies, NANA Regional Corporation, **Kikiktagruk Inupiat Corporation** offices, **large** apartment buildings, radio and TV facilities, and the **air** taxi and airline terminals at the far south are the prominent landmarks in this portion of town. FAA facilities, the town dump and the White Alice **EWS** base are situated far to the south, within the townsite **but** outside what most residents consider "**Kotzebue**" per se.

These institutional landmarks are a countersign of the prevailing public and private economic balance in the region. **In** rough terms, **public** (government) funds contribute about \$20 million to the regional economy in the form of institutional revenues, about \$4.5 million arrives in the region in the form of Permanent Fund dividends, about \$5 million is generated in the private sector, and **\$1.5** million is derived from **ANCSA** corporation dividends to individuals (NANA Regional Strategy 1988). Government cutbacks, most notable subsequent to 1986, reverberate through

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the region by reducing service levels and eliminating wages which in turn inhibit private sector trade and services. Two restaurants have closed due to poor demand between 1986 and 1988, and in combination with the closure of the bars and liquor stores after the local option vote in January 1988 the town is subdued in the evenings. Residents note on occasion that Kotzebue is now "quiet" in contrast to earlier years when government transfers supported a heady atmosphere of economic development within the town. The quiet atmosphere is considered far more conducive to positive family life and safe city living, but this is seen as the **only** redeeming quality of depressed economic circumstances. Local governments (the City of Kotzebue and the Northwest Arctic Borough) are now struggling to increase the local hire **rate**⁵ at the Red Dog mine site north of Kotzebue, but against considerable resistance by some contractors. In July 1988 the main contractors registered local hire rates of 19 percent (Enserch) and 38 percent (Green Construction). In June 1988, according to the Alaska Department of Labor, the Northwest Arctic Borough posted the highest unemployment rate in the state, 16.5 percent of the registered work force.

In the absence of public sector recoveries in the region, then, private sector opportunities offer only limited access to incomes for a minority of residents. The main body of evidence from key informants, agency staff, and residents alike indicates that, despite the limited success of private sector development to date, local people view such development with considerable confidence. Public sector revenues are seen

⁵ Discussions in later sections of the report detail numerous plans that have been initiated by institutions in the region to enhance the business and financing climate, provide training and career counseling for residents, and secure job placements for them.

as uncertain and transitory and the region's great success in capturing those funds over the last decade is a model that decision makers and elected officials seek to emulate in the future. But virtually nobody views that approach as sufficient in itself; private sector expansion, **mainly in** connection with **the Red Dog** project, is foremost on the NANA Corporation's and the Northwest Arctic Borough's agendas through 1990.

Kotzebue residents optimize their economic opportunities in other private sector ventures that hold little long term stability as well, since commitments to one or another form of employment to the exclusion of others invite dependencies with little promise in the long run. Fortunately, **chum salmon** prices have been relatively high during 1988, permitting some residents with marginal incomes to recoup business expenses and save money (Arctic Sounder 1988c). Residents frequently take leave from other positions in order to fish, in part for the sheer exhilaration and enjoyment of the lifestyle but **also** to hedge their overall economic "bets" by assuming some risks to diversify their potential sources of cash. Yet commercial fishing contributes less than two percent to the aggregate regional income (see **Woodward-Clyde 1985:A29**).

Subsistence hunting and fishing **also** contributes a substantial amount of food to the diets of many Kotzebue residents, In addition, subsistence practices themselves, including **harvests**, preparation and distribution reinforce bonds among community residents by establishing patterns of cooperative interaction based on the **Inupiaq** model, thereby providing a sense of historic continuity and roots, validating long-standing kinship and partnership relationships, and creating ties of mutual support among donors and recipients. The ideological dimensions of the practices are

every bit as important as the collection of food itself. One substantial source of controversy in the region that has persisted for two decades is resource and land regulation. Local institutions and advisory boards and committees have achieved virtual consensus on a platform asserting local control of local resources. Federal and state authorities charged with oversight responsibilities for public lands frequently encounter profound and concerted opposition to efforts perceived as a means to disenfranchise or regulate local hunters and fishers in their customary hunting and fishing areas. The NANA region has gradually acquired a reputation for institutional unity and staunch, aggressive resistance to efforts by outside institutions to compromise the ability of regional organizations to manage regional resources. This unity and political adroitness is evident in the Regional Strategy and **Inupiat Ilitqusi**at (Spirit) movement.⁶

The **Inupiat Ilitqusi**at evolved a formal position on indigenous values in 1982. These values are listed here:

- knowledge of language
- sharing
- respect for others
- cooperation
- respect for elders
- love for children
- hard work
- knowledge of family tree

⁶ The Regional Strategy and **Inupiat Ilitqusi**at are too complex to discuss in the context of this overview. Both are discussed in detail at several junctures in the main body of the report.

- avoid conflict
- respect **for** nature
- spirituality
- humor
- **family** roles
- hunter success
- domestic **skills**
- humility
- responsibility to tribe

Both the Regional Strategy and Inupiat Ilitqusiut assert a vision of ideal, consensual community life that treads a middle ground between traditional and Western lifestyles and, like any ideal compromise, the vision presents a great challenge to the institutions of Kotzebue and the region.

The rhetoric of these plans is benign and appealing, but the substance of the plans is far more than rhetoric. NANA region institutions and “ residents alike often startle outside observers by internalizing and acting on programmatic concepts that might otherwise have been nothing more than “good ideas.” The unification and political savvy for which the region is known are cases in point (see Gaffney 1981; Langdon and Anders 1986). Consensual group decision-making and Inupiat Ilitqusiut (and other ideas that have evolved from them, such as Elder’s Committees and the Quad Board; see Chapter IV) are regional ideologies that have penetrated most institutions and, as such, are encountered by residents on a daily basis. Although no unanimous decree signals full acceptance of the ideologies by all residents, all residents are nonetheless influenced by them.

4. Summary.

Kotzebue is located on a spit on the northwest flank of the Baldwin Peninsula, facing Kotzebue Sound and eventually the **Chukchi** Sea to the west. To the east of **Kotzebue** behind the Baldwin Peninsula lies Hotham Inlet. **Kotzebue** is situated at the juncture of the marine environment and major river drainages of the NANA region: the **Noatak** and **Kobuk** Rivers to the north and east respectively. This setting creates the conditions that dominate the natural environment in **Kotzebue's** vicinity. The climate is maritime, and prevailing wind and current patterns at sea may abruptly change local weather conditions. The **semidiurnal** tidal range is small and wave action is generally low, giving the Kotzebue seashore a tranquil appearance that belies the violence of Chukchi Sea storms.

Wintertime ice conditions in **Kotzebue** Sound are unlike those found in the **Chukchi** Sea proper and along its coastal perimeter. Shorefast ice in the **Chukchi** Sea extends about ten miles into shallow water, and active lead systems and prevailing winds ensure large, open flaw areas and **polynyas** that form important seasonal sea mammal habitats, permitting sea mammal hunting adaptations that characterize the indigenous **Inupiaq** societies outside Kotzebue Sound. Ice cover in Kotzebue Sound is stable, but the ice edge is weak and highly unstable and **polynyas** are rare. The runoff from the main watersheds in the Sound often results in overflow conditions prior to break-up in the Sound per se. These conditions are not favorable for sea mammal populations nor for open-lead hunting. As a result, Kotzebue is not as well situated for intensive sea mammal hunting adaptations as are neighboring communities to the northwest.

The terrain in sight of Kotzebue is low but not flat. The Igichuk Hills and Baird Mountains to the north form the most evident contours to the naked eye, and the Baldwin Peninsula **itself** extends in rolling, rounded hills to the east and south of the town before **falling** to low meadows and **flat** beaches, punctuated occasionally by abrupt banks along the shore. The air approach to Kotzebue from the southeast reveals a narrow middle portion of the Baldwin Peninsula that is **less** than a **mile** wide. Hence, the north segment of the Peninsula appears much like an island, which possibly gave rise to the Inupiaq term for Kotzebue: gikiqtagruk, or "peninsula" (literally, "like an island").

Archaeological evidence recovered in the NANA region documents settlement of key areas, notably Cape Krusenstern and Onion Portage, dating back over 5,000 and 10,000 years " respectively. Periods of long-term sustained occupation probably began after A.C. 1000. The Kotzebue area has been a social and economic cross-roads for hundreds of years. Yearly trading fairs were routinely staged in the Kotzebue vicinity, drawing Native traders and visitors from this region and beyond. Prior to the massive social disruptions in the region stemming from disease, social and economic dislocation, and destruction of wildlife populations and habitat in the nineteenth century, eleven Inupiaq societies ~~dwelt~~ ^{lived} in the region. The gikiqtagrunmiut inhabited the Baldwin Peninsula, Sisualik and Cape Krusenstern region. The explorer Von Kotzebue explored Kotzebue Sound in 1816, and his records are the first Western documents on the people and environment of this area.

By the beginning of the twentieth century, the indigenous sociopolitical order had been virtually extinguished, numerous Western political,

social and economic institutions had become established, and a period of institutional consolidation and, later, Native political enfranchisement was beginning. This period is exemplified by the development of communications, transportation, commercial and administrative infrastructure; rapid proliferation (especially after World War II, the War on Poverty, and the establishment of new Indian legislation in the 1970s) of community development, health and education programs; and the development of new and revived Native political institutions after 1971. These trends are evident today in the dominant economic patterns of Kotzebue and throughout the region: a prominent public sector; a modest private sector whose future stability and growth may depend on the success of the NANA-Cominco Red Dog mine; and centralized administrative and commercial infrastructure (and related jobs) in Kotzebue.

As of 1988, ten of the region's eleven communities had incorporated as second class cities and the Northwest Arctic Borough had been organized as a regional municipal government. Despite the existence of independent Inupiaq societies in the region in historic times, the institutional and sociopolitical climate today is characterized by homogeneity and unity, perhaps more so than any other ANCSA region. The boundaries of the Kobuk Census Area, the Northwest Arctic Borough, the NANA Corporation, and the Kotzebue Alaska Area Native Health Service Unit are identical, which tends to facilitate consistent planning and program integration. The region itself is compact and geographically well-defined, thus minimizing physical obstacles that have impeded service delivery and communications in other areas.

The regional unity and cohesion noted here are promoted by institutional ideologies that advocate consensus, regional planning, and cultural integrity. The "Quad Board," NANA Regional Strategy, and **Inupiat Ilitqusi**at (Spirit Movement) are good examples.

In 1982, the **Inupiat Ilitqusi**at formulated a statement of' indigenous values, emphasizing such traditional **values** as sharing and respect for others, respect for elders and love for family and children, cooperation and hard work, and knowledge of **Inupiat** language and cultural and spiritual traditions.

II. POPULATION

1. Population Size and Composition.

Despite the role of the **Hotham** Inlet area as a center of indigenous trade, Kotzebue itself did not become a modern regional hub until after World War II. It is important to recognize the seasonal nature of economic activity in this area in historic and modern times. The great population aggregations that accompanied historic trade fairs occurred only during a short period of open water, and the main residential population concentrations were at inland locations. The historical description in the previous chapter addressed the early demography of the region (see Table 1).

The major population shifts that culminated in the prominence of Kotzebue as a regional center occurred over the 1900-1960 interval. The Kotzebue population increased from 15.9 percent of the regional total in 1920 to 39.9 percent of the total in 1960, at which time the rate of increase leveled off (by 1980, the proportion reached 43.5 percent). (See Chapter 1, History.)

We will expand on these details in the following passages. Kotzebue finally began to emerge as the region's dominant community during World War II. Just before the war in 1938, the hospital, originally built at Noorvik, was relocated to Kotzebue. During and shortly after the war, a military station, along with weather, communications, and other aviation support facilities was established. The post-war growth of waterborne commerce accentuated Kotzebue's geographic advantage as a regional distribution center for inbound cargo destined for shallow-draft barge shipment to upriver villages. Superior air and marine transportation also made Kotzebue the preferred seat for governmental service and

administrative functions at a time when governmental intervention in rural Alaska was expanding.

Other factors reinforced Kotzebue's geographic advantage as a transportation center. Kotzebue was in the forefront of development for such community improvements as power, telephone, sanitation facilities, housing, superior health care and education. In addition to better living conditions, provision of these facilities and services created an employment base lacking in other villages.

Together, these events and trends stimulated an accelerated burst of post-war migration from the hinterland villages into Kotzebue. In four decades, Kotzebue's share of the region's total population rose from about 19 percent in 1939 to 27 percent in 1950, to 40 percent in 1960, to 43 percent in 1970 and 46 percent in 1985 {see Figure 49. Through this period, Kotzebue's population grew seven-fold from 372 (1939 Census) to 2,633 (1985 Alaska Department of Labor).

Immigration obviously was the major factor in accelerated population growth through 1970. Smith (1966) estimates that 70 Eskimo families migrated into Kotzebue from outlying villages between 1960-65, mostly from Noatak, Point Hope and Noorvik. Her estimate is generally supported by a 1969 community survey (Alaska State Housing Authority 1969) which found that only 34 percent of Native household heads were born in Kotzebue, followed by 18 percent born in Noatak and 6 percent each born in Point Hope, Deering and Noorvik. Other observers (Burch 1984; McNabb 1982) concur in this assessment. Post-1970 population data suggest that, for the time being, the population shift from the hinterland villages to Kotzebue has stabilized, with Kotzebue maintaining about 45 percent of the total

regional population (see section 7. Migration). The availability of educational, utility and administrative services and new housing in outlying villages is responsible for much of this stability.

Over the more recent 1970-1980 period the magnitude of population changes in the region's villages have slightly diminished, as has variation among the villages in terms of growth as opposed to decline. The proportions of non-Natives in the populations have generally increased, however that increase does not coincide with overall population growth (see Table 2). Hence, growth is not uniquely a feature of migration, nor is the non-Native population drawn only to rapidly expanding villages. Age and sex characteristics of regional village populations for 1970 and 1980 are listed in Table 3. These data illustrate that despite some irregularities across villages, Kotzebue exhibits a pattern of modest "aging" and male imbalance that is typical of the region as a whole.

The Alaska Department of Fish and Game, Division of Subsistence completed a canvass of the Kotzebue population in early January 1987. This canvass enumerated occupied households, and this preliminary enumeration was cross-checked with utility customer records. The Social Indicators field team used initial canvass results to map and sample Kotzebue households.⁷ The field team also verified occupational status independently. These methods yielded good household counts that were confirmed by several methods. Based on the final results of the Subsistence Division survey, the Kotzebue population in January 1987 was 2,681

⁷ The Social Indicators study, sponsored by Minerals Management Service, is a five-year program designed to measure social change in 32 communities in rural, coastal Alaska.

TABLE 2
KOTZEBUE AREA VILLAGES: POPULATIONS, ETHNICITY,
AND POPULATION CHANGE, 1970-1980

Village	<u>1970</u>		<u>1980</u>		Population Change 1970 - 1980
	Total	Native	Total	Native	
Ambler	169	94%	192	81%	+13.6%
Buckland	104	99%	177	91%	+70.2%
Deering	85	98%	150	92%	+76.5%
Ki ana	278	96%	345	94%	+24.1%
Kivalina	188	97%	241	98%	+28.2%
Kobuk	56	96%	62	95%	+10.7%
Kotzebue	1696	78%	2054	77%	+21.1%
Noatak	293	98%	273	95%	- 7.0%
Noorvi k	462	96%	492	95%	+ 6.5%
Sel awi k	429	97%	361	98%	-16.0%
Shungnak	165	97%	202	89%	+22.4%

Source: Davis 1983; McNabb 1985.

TABLE 3
AGE AND SEX FIGURES, NANA REGION COMMUNITIES
1970-1980

Village	1970		1980 ^a	
	Male %	Female %	Male %	Female %
Ambler (median age)	87 51% 14.9	82 49% 16.5	78 50% 17.9	77 50%
Buckland (median age)	56 54% 15.8	48 46% 15.6	92 57% 19.1	69 43%
Deering (median age)	41 48% 14.9	44 52% 15.5	n/a	n/a
Ki ana (median age)	132 47% 15.6	146 53% 14.9	170 52% 18.8	155 48%
Kivalina (median age)	97 52% 16.8	91 48% 16.1	125 53% 20.1	112 47%
Kobuk (median age)	26 46% 17.5	30 54% 18.5	n/a	n/a
Kotzebue ^b (median age)	845 50% 17.1	851 50% 16.9	802 51% 21.0	772 49%
Noatak (median age)	157 54% 15.7	136 46% 14.2	n/a	n/a
Noorvi k (median age)	244 53% 16.0	218 47% 14.4	261 56% 19.7	206 44%
Sel awi k (median age)	224 52% 16.6	205 48% 17.1	197 56% 20.1	155 44%
Shungnak (median age)	83 50% 15.4	82 50% 16.9	94 53% 20.9	85 47%

^a1980 figures are for Natives only; some village were incomplete for these characteristics.

^bKotzebue percentages are rounded, so obvious differences in actual frequencies are not fully represented in the proportions.

Source: Alaska Department of Community and Regional Affairs 1974;
U.S. Department of Commerce, Bureau of the Census 1982.

persons in 765 households. Average household size was 3.5 persons. Households in which one or more adults were Native comprised 61.7 percent of the total households. (Unless otherwise noted, "household" refers to residential units.)

Based on a sample of 65 households in Buckland, Deering, Kivalina and Kotzebue, MMS Social Indicators data record an average household size of 4.55 persons. The Kotzebue sample (40 households) yields an average household size of 4.1 persons. The difference between the regional and Kotzebue figures is consistent with census data (population parameters for the Social Indicators study are discussed in Jorgensen 1988 and Jorgensen and McCleary 1987).

As of September 1986 the City of Kotzebue lists a total population of 3,594 based on Housing Unit Method (HUM) calculations. These persons reside in 902 housing units; 146 of the total population reside in group quarters. The housing unit total is higher than unit estimates calculated by Alaska Department of Fish and Game for 1986 (765) and Rural CAP for 1987 (721), hence the city population estimate may overstate the population.

2. Recent Population Trends.

Table 4 introduces this section by establishing a short time series of population estimates for each of the NANA region villages. This table serves as a backdrop for the analysis and description of additional data which follows.

Alaska Department of Labor data on the components of population change indicate that, for the Kobuk census division as a whole, natural increase accounts for most of the population growth since 1970. Between 1970-1980, natural increase added an estimated 931 residents to the region while

TABLE 4
ANNUAL NANA REGION VILLAGE POPULATION ESTIMATES, 1980-1985

Village	1980	1981	1982	1983	1984	1985
Ambler	192	198	202	275	262	275
Buckland	177	211	217	218	249	248
Deering	150	155	158	165	150	148
Kiana	345	356	364	364	402	404
Kivalina	241	249	253	269	294	272
Kobuk	62	64	64	85	97	86
Kotzebue	2054	2250	2470	2237	2345	2981 ^a
Noatak	273	n/a	n/a	365	355	n/a
Selawik	361	372	602	599	635	637
Shungnak	202	208	214	241	238	238

^a The Alaska Department of Labor registers a total population for Kotzebue of 2633 in 1985. Initial DCRA figures show a total Kotzebue population of 3075 for 1984 through 1987, but see below.

Source: Alaska Department of Community and Regional Affairs 1985;
Alaska Department of Labor 1981, 1982, 1983, 1984, 1985;
McNabb 1985.

migration resulted in an estimated net loss of 148 residents. Between 1980-1985, natural increase contributed 708 new residents, while net migration added another 52. Thus, it appears that both natural increase and net migration have been on the upswing.

Other vital statistics for the City of Kotzebue tend to confirm that birth rates and natural increase have recently begun to rise there (see Tables 5 and 6). For example, the average annual number of resident births during 1977-1979 was 66 compared to 95 during 1983-1985. Both Native and non-Native births increased. While the population counts for the City of Kotzebue are too speculative to make calculation of annual birth rates trustworthy, the increase in absolute number of births is a strong indicator that birth rates are on the rise in Kotzebue as well as for the region.

According to Table 6, births to Native mothers consistently outnumber births to non-Native mothers. Over the nine years reported, births to Native mothers account for 82 percent of the total and births to non-Native mothers account for 18 percent of the total. Births in both categories show an increase between 1982 and 1985, with those for Native mothers increasing 47 percent, those for non-Native mothers 33 percent and total births increasing by 44 percent. Figure 8 graphically compares births by race of mother.

Since 1980, the population growth estimates provided by the Alaska Department of Labor and City of Kotzebue/Department of Community and Regional Affairs have diverged significantly. The Department of Labor estimates Kotzebue's 1985 population at 2,633 persons, a 28 percent increase over the 1980 Census count. The Department of Community and

TABLE 5
BIRTHS, BY RACE OF MOTHER
KOTZEBUE, 1977-1985

Year	Native	Non-Native	Total
1977	57	9	66
1978	61	9	70
1979	46	16	62
1980	52	10	62
1981	57	11	68
1982	51	12	63
1983	84	19	103
1984	73	17	90
1985	75	16	91
TOTAL	556	119	675

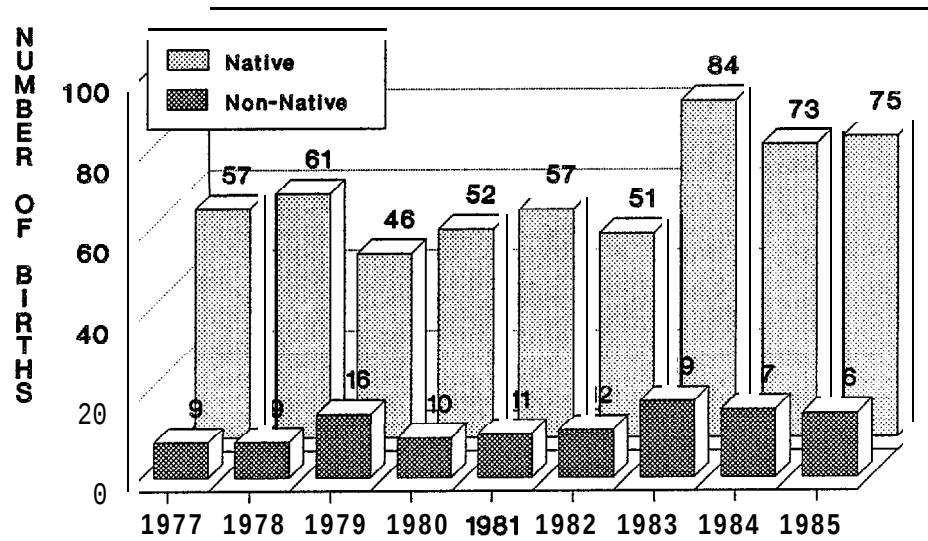
Source: Bureau of Vital Statistics, Alaska Department of Health and Social Services.

TABLE 6
NATURAL INCREASE
KOTZEBUE, 1977-1985

Year	Births	Deaths	Natural Increase
1977	66	19	47
1978	70	17	53
1979	62	19	43
1980	62	21	41
1981	68	14	54
1982	63	21	42
1983	103	14	89
1984	90	n/a	n/a
1985	91	n/a	n/a
TOTAL 1977-83	494	125	369

Source: Bureau of Vital Statistics, Alaska Department of Health and Social Services.

Figure 8
BIRTHS BY RACE OF MOTHER
CITY OF KOTZEBUE, 1977-1985



Source: Alaska Bureau of Vital Statistics.

Regional Affairs' estimate for 1985 was 2,981 persons, a 45 percent increase over 1980. For 1986, its estimate was 3,594 persons, a 20 percent+ increase in one year and a cumulative increase of 75 percent in the six years since the 1980 Census. Other contemporary data series tend to corroborate the Department of Labor estimates through 1985. The count of permanent fund dividend recipients registered only a modest rise (+9.1 percent from 1982 to 1985). Average daily school enrollments barely increased between 1980-81 and 1986-87, while final enrollment figures over the same period actually declined. The Alaska Department of Labor estimates a 25 percent rise in total covered employment between 1980 and 1986. The results of the Alaska Department of Fish and Game, Division of Subsistence survey in Kotzebue indicate an estimated 1986 population of 2,681, based on a partial census of households in November and December of that year. (Note, however, that the winter population may be 10 percent lower than the summer population.) For these reasons, the Department of Labor's population estimates seem more credible, at least through 1985.

Specific details on population, births and mortality are tabulated below. Table 7 provides a single enumeration of population estimates for Kotzebue over the most recent period.

To summarize, recent records suggest that the mobility and transience of the Kotzebue population are increasing. In 1978, about 38 percent of the population had been born in Kotzebue (Woodward-Clyde 1985:45). Although no firm quantitative data on the topic are available, our observations suggest that the proportion of Kotzebue-born residents has declined since 1978. It is possible that this change is due to an influx of villagers from the region who seek jobs in Kotzebue. However, our

TABLE 7
POPULATION ESTIMATES
CITY OF KOTZEBUE, 1975 -1987

Year	DCRA	ADOL	U.S. Census	Permanent Fund	ADF&G
1975		2431	1813		
1976		2431	2060		
1977	2431				
1978	2526				
1979	2526				
1980	2526		2054		
1981		2250			
1982	2464	2470	2463	2455	
1983	2981	2237		2511	
1984	2981	2345		2566	
1985	2981	2633		2678	
1986	3594				2681
1987	3594				2681

Source: Alaska Departments of Community and Regional Affairs,
Fish and Game, Labor, and Revenue; U.S. Census.

observations indicate that numerous non-resident non-Natives have departed Kotzebue in recent years, which would counterbalance the former trend. Although many **Kotzebue-born** persons may have departed over the last decade, we are not aware of any evidence to support that speculation. Thus we are unable to explain this shift (see section 7., Migration).

The general trend over the 1970-1980 decade is an increasing birth rate matched by very high mortality rates. Table 8 and Figure 9 compare **NANA** Region and statewide birth rates over this interval. More recent rates appear in Figure 10.

Regional mortality rates have generally risen over the 1970-1980 period. Increasing mortality rates are occasionally due to larger proportions of senior citizens or infants in the population who in turn are higher risk populations under typical conditions. However, available data do not support this explanation despite slightly higher birth rates over the latter half of the interval. Total mortality (deaths per 100,000 population, three year average crude rate) rose from 568.6 during the 1970-1972 period to 753.3 during the 1979-1981 period. Mortality rates among the 25-44 and 45-64 age groups generally declined; rates among the 65 and over and under age one groups exhibited a modest rise. The age 1-4 and 5-24 group rates increased substantially, for example, from 75.9 and 248.8 over the 1973-75 period to 439.9 and 364.6 respectively during the 1979-81 period (see **Maniilaq** Association 1984:205). Although the mortality rates among infants and the elderly did not rise substantially, they are nonetheless high: 2,777.8 and 4,489.8 respectively in the 1979-81 interval. During the most recent recording period (1982-84) the regional

TABLE 8

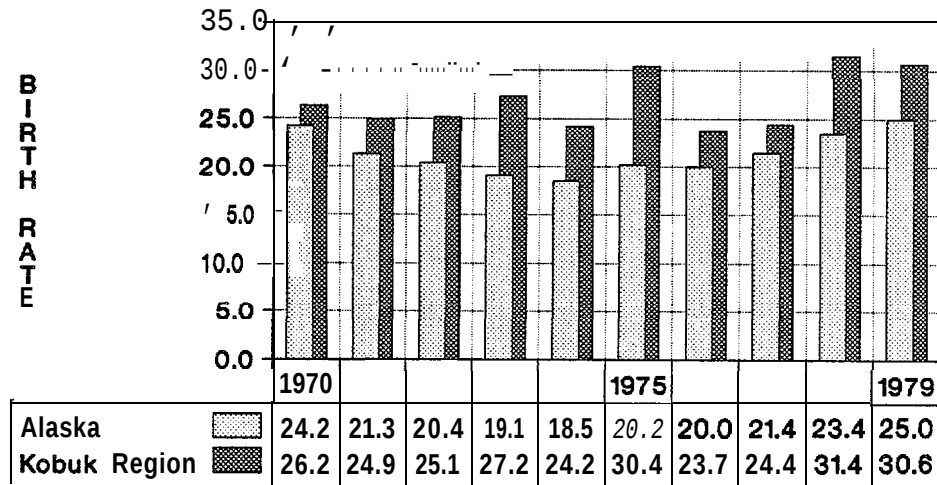
NANA AND ALASKA BIRTH RATES, 1970-1980'

Year	NANA	Alaska
1970	26.2	24.2
1971	24.9	21.3
1972	25.1	20.4
1973	27.2	19.1
1974	24.2	18.5
1975	30.4	20.2
1976	23.7	20.0
1977	24.4	21.4
1978	31.4	23.4
1979	30.6	25.0
1980	30.0	n/a

* live births per 1,000 population

Source: **Maniilaq Association 1984.**

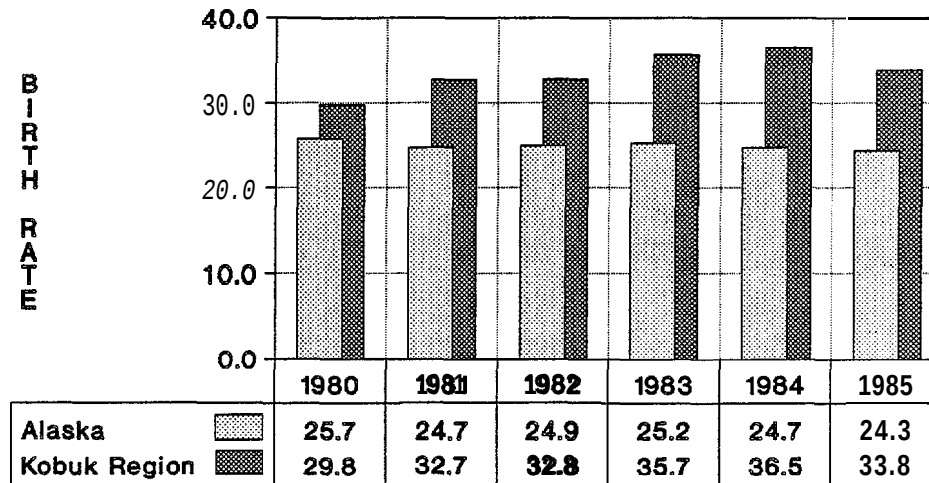
Figure 9
BIRTH RATE TRENDS, 1970-1979
KOBUK REGION AND ALASKA



Note: Birth rate per thousand persons.

Source: Maniilaq Association, 1984.

Figure 10
BIRTH RATE TRENDS, 1980-1985
KOBUK REGION AND ALASKA



Note: Birth rate per thousand persons.

Source: Alaska Department of Labor.

three year average crude mortality rate rested at 723.4 per 100,000 (AANHS 1987) . These data suggest that the population of children, pre-adolescents, and adolescents is increasingly at risk, and that populations which are frequently at high risk (infants and elderly) retain a high but stable mortality rate. (The mortality data have been confirmed with Alaska Area Native Health Service staff. The fluctuations in rates are due in part to inaccurate rate denominators which are corrected with decennial census data. The rates tend to "wobble" across decades for this reason.)

Table 9 lists Kotzebue resident deaths, by race and sex, for the period of 1977 through 1985. Figure 11 provides a graphic comparison of these data.

TABLE 9
VITAL STATISTICS, KOTZEBUE
RESIDENT DEATHS BY RACE & SEX, 1977-1985

	1977	1978	1979	1980	1981	1982	1983	1984	1985	TOTAL
Race/Sex										
Native										
Female	7	4	4	2	4	8	6	7	8	50
Male	9	11	15	16	7	11	8	9	13	99
Total	16	15	19	18	11	19	14	16	21	149
Non-Native										
Female	0	0	0	0	0	0	0	0	0	0
Male	3	2	0	3	2	2	0	2	2	16
Total	3	2	0	3	2	2	0	2	2	16
TOTAL	19	17	19	21	13	21	14	18	23	165

Source: Bureau of Vital Statistics.

As reflected in Table 9, males (both Native and non-Native) account for a disproportionate number of deaths. This may be accounted for by the greater incidence of **suicide**, alcohol-related accidental death and

risk-taking hunting and fishing activities of **males** as compared to females in the under 25 year old population. This inference is supported by **pre-1980** data (see **McNabb 1980**), however more recent data are not organized to permit analysis of this possibility. **Table 10** lists violent deaths for **Kotzebue**, by race and age group, for 1978 through 1984.

TABLE 10

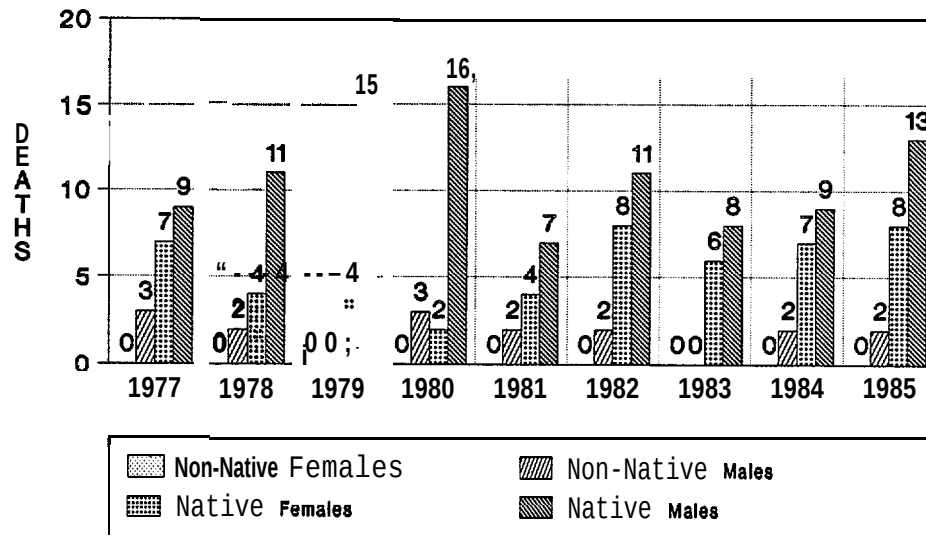
VITAL STATISTICS, KOTZEBUE
VIOLENT DEATHS, 1978-1984

	1978	1979	1980	1981	1982	1983	1984
Race/Age							
Native							
<25	5	6	6	2	3	1	7
over25	1	3	4	1	4	4	3
Total	6	9	10	3	7	5	10
Non-Native							
<25	0	0	0	0	0	0	0
over25	1	0	0	0	4	0	0
Total	1	0	0	0	4	0	0
TOTAL	7	9	10	3	11	5	10

Source: Bureau of Vital Statistics.

Recent trends in population composition reveal relative stability, aside from the general increase in the proportion of non-Natives that has already been discussed. The sex composition of **Kotzebue's** Native population balanced in the two most recent Censuses. The slight surplus of males over females reported in the 1980 Census is confined to the lower age groups and is likely a matter of chance. Comparison of **pre-adult** and young adult age cohorts for Natives between the 1970 and 1980 Censuses reveals negligible numerical change, which again suggests that net migration within the Native population was not a positive force for population growth in that decade.

Figure 11
DEATHS BY SEX AND RACE
CITY OF KOTZEBUE, 1977-1985



Source: Alaska Bureau of Vital Statistics.

On the other hand, Kotzebue's non-Native population grew unevenly. The sex distribution of the non-Native population was about even in 1970 but heavily skewed toward male predominance by 1980. The surplus males are concentrated in the 25-44 year age bracket which implies a substantial immigration of unattached young non-Native males to Kotzebue over the decade (see Table 11 and Table 12).

Kotzebue also exhibits the typical rural imbalance in its ratio of single males to single females 15 years of age and older. According to the 1980 Census, single males outnumber single females by a ratio of 1.41:1.00 (see Table 13). However, the above-noted data on the sex composition of the Native and non-Native populations suggest that this imbalance may primarily be attributed to the surplus of non-Native males (see Table 12). Figures 12, 13, and 14 show detailed population pyramids for Kotzebue based on 1970 and 1980 census data.

The median age of Kotzebue's Native population has been rising steadily since 1970 when it was registered at 16.3 years. By 1980, the comparable figure had climbed to 21.1 years and permanent fund recipient data for the entire Kotzebue population indicates a continued rise through 1985, when the median age for the population as a whole was 24.9 years. Two circumstances suggest that Kotzebue's median age may again be reversing direction. The recent rise in birth rates was previously noted. This rise may, in turn, be related to age and sex composition data from the 1980 Census which prefigured a sharp increase in the number of young adults entering the childbearing years by the mid-1980s.

TABLE 11
POPULATION COMPOSITION
KOTZEBUE, 1970

<u>Age Range</u>	<u>Alaska Native</u>			<u>Non-Native</u>		
	Male	Female	Total	Male	Female	Total
Under 5	96	90	186	20	36	56
5 - 14	230	230	460	39	37	76
15 - 24	113	119	232	11	20	31
25 - 34	63	72	135	47	47	94
35 - 44	53	64	117	24	11	35
45 - 54	49	43	92	19	13	32
55 - 64	46	39	85	8	5	13
65 and over	21	24	45	6	1	7
TOTAL	671	681	1,352	174	170	344
Median Age	15.9	16.8	16.3	28.7	21.3	26.0

<u>Age Range</u>	<u>Total</u>		
	Male	Female	Total
Under 5 years	116	126	242
5 - 9	145	127	272
10 - 14	124	140	264
15 - 19	91	86	177
20 - 24	33	53	86
25 - 29	51	70	121
30 - 34	59	49	108
35 - 39	40	42	82
40 - 44	37	33	70
45 - 49	38	31	69
50 - 54	30	25	55
55 - 59	34	29	63
60 - 64	20	15	35
65 and over	27	25	52
TOTAL	845	851	1,696
Median Age	17.1	16.9	17.0

Note: Native is defined as Aleut, Eskimo, Indian and others, excluding White and Negro.

Source: U.S. Census.

TABLE 12
POPULATION COMPOSITION
KOTZEBUE , 1980

<u>Age Range</u>	<u>Alaska Native</u>			<u>Non-Native</u>			<u>Total</u>		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5 years	91	97	188	26	21	47	117	118	235
5 - 9	93	86	179	23	17	40	116	103	219
10 - 14	108	84	192	18	17	35	126	101	227
15 - 19	110	83	193	17	9	26	127	92	219
20 - 24	69	97	166	13	18	31	82	115	197
25 - 29	69	74	143	47	33	80	116	107	223
30 - 34	60	49	109	41	25	66	101	74	175
35 - 39	28	34	62	33	17	50	61	51	112
40 - 44	37	26	63	20	14	34	57	40	97
45 - 49	26	36	61	12	12	24	38	47	85
50 - 54	24	28	52	16	8	24	40	36	76
55 - 59	20	18	38	6	0	6	26	18	44
60 - 64	13	13	26	4	3	7	17	16	33
65 - 69	21	18	39	5	2	7	26	20	46
70 - 74	16	14	30	0	0	0	16	14	30
75 and over	17	16	33	2	1	3	19	17	36
<u>TOTAL</u>	<u>802</u>	<u>772</u>	<u>1,574</u>	<u>283</u>	<u>197</u>	<u>480</u>	<u>1,085</u>	<u>969</u>	<u>2,054</u>
<u>Median Age</u>	20.0	<u>21.9</u>	<u>21.1</u>	<u>29.8</u>	<u>27.6</u>	<u>28.8</u>	<u>23.4</u>	<u>22.9</u>	<u>23.1</u>

Source: 1980 Census of Population.

TABLE 13

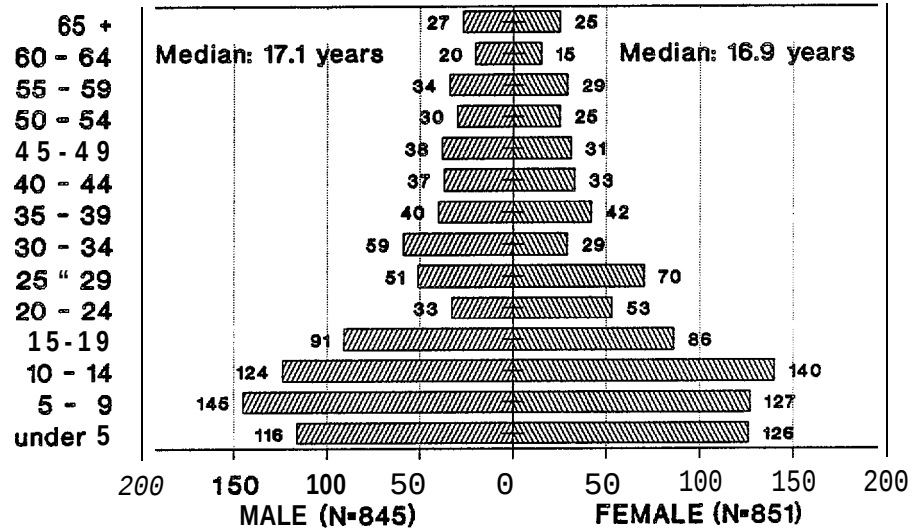
MARITAL STATUS, BY SEX
PERSONS 15 YEARS AND OLDER
KOTZEBUE, 1980

Marital Status	Male	Female
Single	317	225
Married	337	326
Separated	9	10
Widowed	17	43
Divorced	46	43
TOTAL	726	647

Source: 1980 Census.

Figure 12
POPULATION COMPOSITION
CITY OF KOTZEBUE, 1970

AGE GROUP

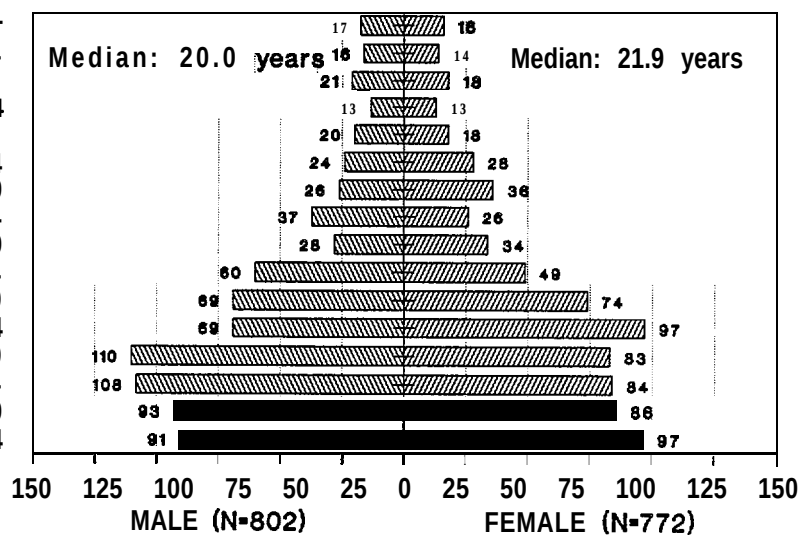


Source: U.S. Bureau of the Census.

Figure 13
**COMPOSITION OF ALASKA NATIVE' POPULATION
 CITY OF KOTZEBUE, 1980**

AGE GROUP

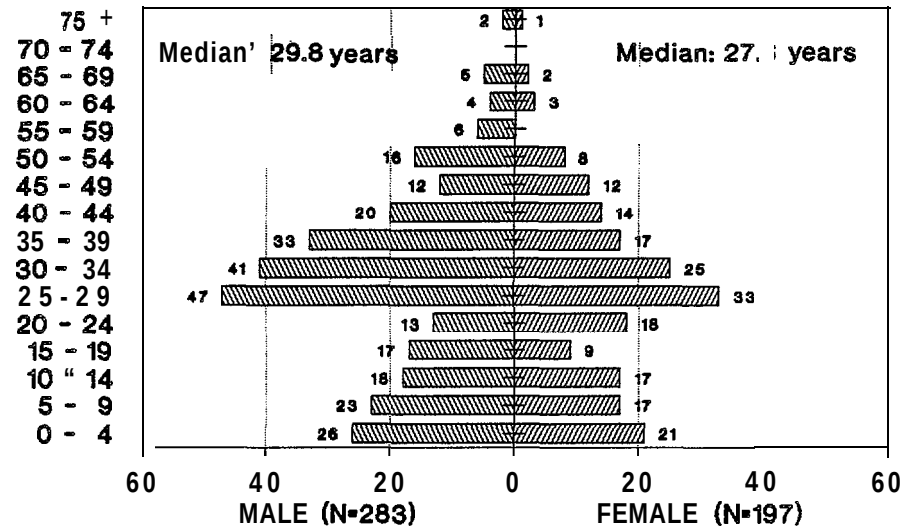
75 +
 70 - 74
 65 - 69
 60 - 64
 55 - 59
 50 - 54
 45 - 49
 40 - 44
 35 - 39
 30 - 34
 25 - 29
 20 - 24
 15 - 19
 10 - 14
 5 - 9
 0 - 4



Source: U.S. Bureau of the Census.

Figure 14
**COMPOSITION OF NON-NATIVE POPULATION
 CITY OF KOTZEBUE, 1980**

AGE GROUP



Source: U.S. Bureau of the Census.

3. Household Size and Composition.

In 1980, less than 10 percent of the Kotzebue population resided in nonfamily households (i.e., as single individuals, unrelated boarders or in group quarters). Table 14 depicts 1980 household census data for Kotzebue.

If the "householder" and "spouse" figures in the Family Household category are compared, it appears that spouses are absent in about 25 percent of the cases. The structural composition of these households is unknown, but analysis of household structures based on later data suggests that this figure may be fairly stable over the short term (see section 4 below).

Housing improvement and new construction programs have tended to permit fissioning of extended, stem, and other varieties of households combining multiple conjugal pairs (or their remnants) and offspring in many rural areas of the state (see McNabb 1987c for the NANA region). It is possible that the relatively large numbers of single-person households (7.4 percent of all households) in 1980 are due to the earliest phases of these improvements, although firm quantitative data to support that inference are unavailable.

However, the data reported in the following section devoted to more recent trends in household size and composition show an increasing percentage of single-person households and a declining average household size (based on samples for Kotzebue rather than complete enumerations), which lend support to the inference. Despite the gradual elimination of abandoned, substandard structures or their renovation for use as storage

TABLE 14
HOUSEHOLD TYPE AND RELATIONSHIP
KOTZEBUE, 1980

Household Type and Relationship	Number of Persons	Percent
In Family Household		
Householder	413	20.1%
Spouse	307	15.0
Other Relatives	1,077	52.4
Nonrelative	54	2.6
Subtotal	1,851	90.1
In Nonfamily Household		
Male Householder	93	4.5
Female Householder	59	2.9
Nonrelative	43	2.1
Subtotal	195	9.5
In Group Quarters		
Inmate of Institution	0	0.0
Other	8	.4
Subtotal	8	.4
TOTAL	2,054	100.0%

Source: 1980 Census.

facilities (which "decreases" the apparent housing stock), new construction, notably of multi-family apartments, has expanded the housing stock since 1980. Table 15 lists reported numbers of housing units for three points in time.

TABLE 15
NUMBER OF HOUSING UNITS, KOTZEBUE, 1970, 1980, 1987

	Number of Housing Units
1970	420
1980	690
1987^a	721
1987^b	765

^a This figure is based on data provided by the Northwest Arctic Borough derived from a survey conducted in January 1987.

^b This figure is based on a pre-survey canvas of the population dated late December 1986 designed to estimate occupied households for 1987.

Source: 1980 U.S. Census; 1987a, RURAL CAP 1988; 1987^b, Alaska Department of Fish and Game, Division of Subsistence (personal communication, 1988).

The Northwest Inupiat Housing Authority has 53 applications for low-income housing pending as of January 1988, for which there were no vacancies in the 43 Kotzebue units. During 1988, 25 HUD homes are scheduled to be built in Kotzebue, and the Kotzebue IRA has filed 64 applications for these homes. Thus another modest wave of new construction will provide new units, but demand outstrips supply at this time. But the situation in late 1988 had changed very little. As of October 1988, the Northwest Inupiat Housing Authority had 52 applications for low-income housing pending, suggesting slow turnover and chronic undersupply of low-income homes. By October 1988, the 25 HUD homes had not been built, and

plans current as of that month aimed **to begin** construction the following summer. **So**, over the short term, the expansion of local housing stock may proceed fitfully. In combination, these trends portend decreasing household size and continuing fissioning of large extended or combined households, unless population growth or the rate of abandonment of substandard housing shifts so **as** to alter the prevailing pattern.

Table 16 tabulates average household sizes for NANA region communities in **1970** and **1980**. The decreases in household size that are apparent in **all** villages are consistent with the explanations offered above. The regional figures are provided in order to illustrate that the trends **noted** here are not unique to Kotzebue, but rather are general features of demographic change across the region. Although **Kotzebue** registers the lowest average household size in the region, it is not likely that it has achieved this status **by** securing a disproportionate share of new homes; although the decreases in household size throughout the region are not perfectly uniform, the proportional decrease for Kotzebue is generally in line with decreases elsewhere.

4. Recent Trends in Household Size and Composition.

According to the preliminary results of the Subsistence Division survey in Kotzebue, average household size in 1987 was 3.5 persons. This figure is consistent with the main trend of declining household size in most regional villages. The 1980 census average household size for Kotzebue was 3.6, which, despite the gap of seven years, lends general support to the Subsistence Division estimate based on a sample of Kotzebue households.

TABLE 16
AVERAGE HOUSEHOLD SIZES
NANA REGION COMMUNITIES
1970 AND 1980

Community		1970	1980
Ambler		5.5	4.0
Buckland		5.2	4.5
Deering		4.5	4.3
Kiana		5.3	4.6
Kivalina		9.0	6.5
Kobuk		4.0	3.9
Kotzebue		4.8	3.6
Noatak		5.5	n/a
Noorvik		6.5	5.4
Selawik		5.4	5.2
Shungnak		5.5	4.3

Source: Alaska Department of Community and Regional Affairs 1974 (citing 1970 U.S. Census); 1980 U.S. Census.

MMS Social Indicators study data indicate that **Kotzebue** household sizes are somewhat smaller than the regional average as well. The 1987 Social Indicators sample average for the region was 4.55 persons per household, whereas the **Kotzebue** figure was 4.1 persons per household. Although this figure exceeds the Subsistence Division estimate, it is matched perfectly by the estimate calculated by the Northwest Arctic Borough, based on the January 1987 survey of Borough residents (the cited figures for the Social Indicators and NAB surveys, 4.1 persons per household on average, are for **Kotzebue** only, as noted above).

Another recent enumeration yielded an average household size estimate of 3.9 persons for Kotzebue in 1985 (Woodward-Clyde 1985), however the 1985 survey reports household data that are suspect, due perhaps to over-estimates of the population, enumeration of vacant or abandoned dwellings, or both. It is clear, however, that average household size has declined in **Kotzebue** from the 1970 figure of 4.8 persons. We tend to accept the high-end estimates for 1987. Hence, 1987 average household sizes are probably close to 4.1 persons.⁸

Table 17 below lists these household size estimates side by side for convenient review and comparison with the 1980 data cited above.

⁸ Note that, despite new housing programs, Kotzebue draws transient visitors from around the region who may reside for substantial periods, especially on a seasonal basis. Both the NWAB and Social Indicators surveys attempted to capture the "reality" of household composition, to the extent possible, by recognizing long-term lodgers or guests as "permanent" residents of the household. Since they were not residents of their former or natal homes at the time, and might not return for an extended period, they were best included as residents in the households in which they were identified.

TABLE 17
ESTIMATED HOUSEHOLD SIZE 1980-1987, KOTZEBUE

	Household Size
1980	3.6
1985	3.9
1987 ^a	3.5
1987^b	4.1
1987^c	4.1

Source: ^a Alaska Department of Fish and Game, Division of Subsistence, preliminary proprietary figures.
^b Social Indicators data files.
^c Northwest Arctic Borough.

Composition data are available for **1987** and 1988 in Kotzebue for a sample and a portion of that sample at the second point in time, permitting an examination of changes in household composition across a one year interval for the same households. The 1987 sample is comprised of 40 households, and the 1988 sample represents about one-third of those original households (i.e., 14 households). The remaining households will be sampled in 1989 and 1990. Table 18 compares the frequency distributions of household types. Figure 15 defines the structural typology used to classify households.

The percentages are cumbersome to compare since the proportions represented by cases are so dissimilar, yet overall the distributions are remarkably alike across the one year interval (the more "exotic" remnant households will be more completely sampled in 1989 and 1990, but the balance of the most common types is fairly clear). Since the 1988 sample

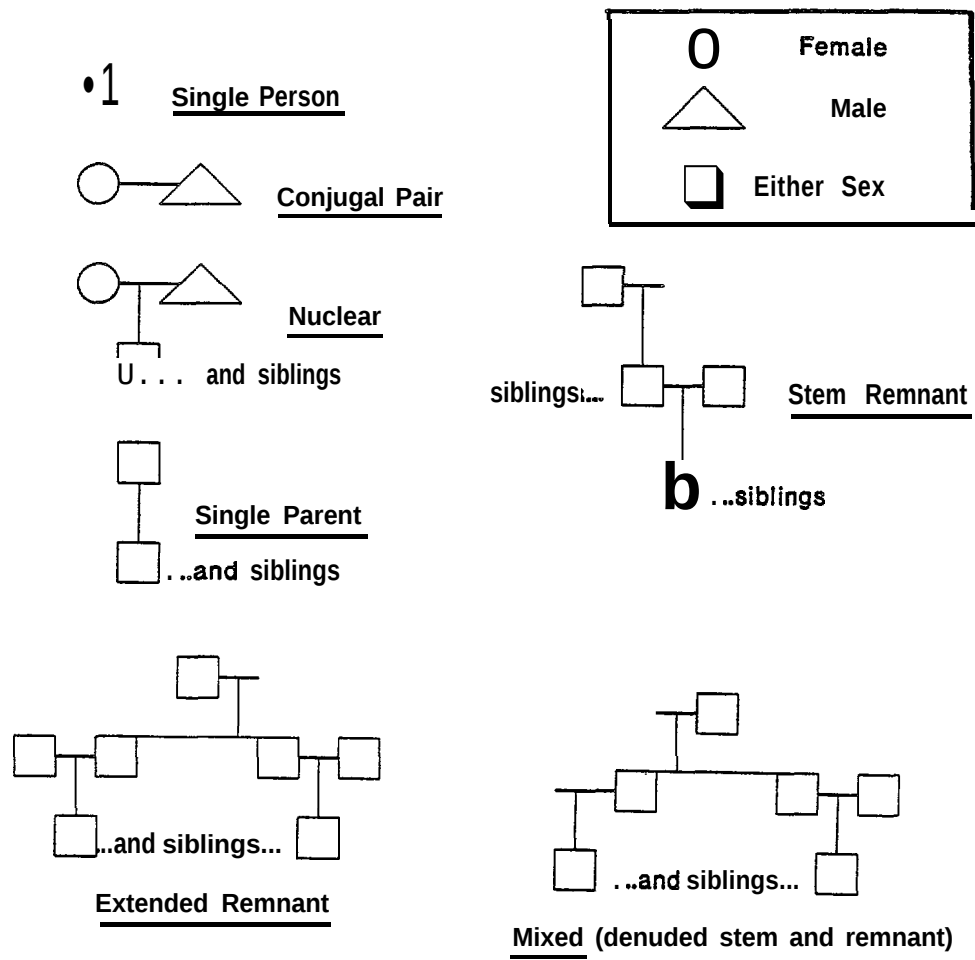
TABLE 18
HOUSEHOLD TYPE FREQUENCIES, KOTZEBUE, 1987-1988

Household Type	1987		1988	
	%	#	%	\$
Single person	20.0	8	21.4	3
Conjugal pair	5.0	2	7.1	1
Nuclear	32.5	13	35.7	5
Nuclear w/guest(s)	15*0	6	14.3	2
Single parent w/children	5.0	2	7.1	1
Single parent w/children and guest(s)	2.5	1	7.1	1
Remnant - grandparent and grandchildren)	2.5	1	0	0
Stem remnant - grandparent, child & grandchildren)	2.5	1	0	0
Extended remnant - grandparent, children & grandchildren)	2.5	1	0	0
Mixed - grandparent, children & grandchildren) (and absent spouses)	7.5	3	0	0
Mixed w/guest(s)	2.5	1	7.1	1
Sibling set	2.5	1	0	0
TOTALS	100.0	40	100.0	14

Source: Social Indicators data files.

FIGURE 15

HOUSEHOLD COMPOSITION TYPOLOGY, KOTZEBUE 1988



is matched to the main 1987 sample, it is possible to determine specifically how household structures change. The appearance of relative stability is corroborated by such an examination.

Only two of the 14 households sampled in 1988 changed in structure after 1987, and then only marginally. One household classified as nuclear in 1987 gained a long-term guest by 1988, and hence was classified as "nuclear w/guest." One 1987 single parent household also gained a guest, yielding a 1988 classification of "single parent w/guest." These are not major, fundamental structural changes, and in fact they are virtually trivial in a structural sense.

However, the fact that both changes entail the addition of guests suggests that (1) transient intraregional migrations and loose, flexible lodging customs continue to discourage rigid residence habits based on one or few models or standards (such as the preeminent nuclear household), and (2) demand for living space in Kotzebue exceeds the supply, permitting future decreases in household size (and perhaps less variance in household types) if the housing stock increases. Note that households with guests did not lose guests over the interval, but rather households without guests gained them. Although it is hazardous to offer these speculations based on a very small sample, the issues at hand warrant attention over the next two years in order to determine if such tendencies do in fact exist. Since the data described here are the only recent topological data pertinent to household structure, we are compelled to disclose the meager but suggestive

⁹ Our data show that the guests in question were born and raised in the NANA region.

information that is available on the topic, but with the forewarning that the results reported here are provisional and based on few cases.

Finally, a remark is in order concerning the balance of **single-parent** and nuclear households. The data reported from the 1980 census in the previous section suggested that spouses were absent in about 25 percent of the Family Household cases. Bearing in mind that census categories are unlike the structural **typology** used here, it is nonetheless instructive to review the proportions of nuclear/conjugal types (i.e., those that would probably be classed as Family Household instances with spouses present according to census definitions) with others in which spouses are absent (which may or may not have been treated as Family Household cases in the census data).

Nuclear and conjugal categories comprise 52.5 percent of the **total**, and types that clearly fit the census definition of Family Household with absent spouses (i.e., the single parent categories) comprise 7.5 percent. **It is likely** that the remaining types (other than single person households) would have been distributed among several census categories, but some of the denuded types would likely fall into the "absent spouse" category whereas other types containing at least one spouse would be placed in the alternative category. **It is impossible** to determine a precise ratio of Family Household "spouse present" versus "spouse absent" cases by forcing structural data into census categories, but it is reasonable to expect that "spouse absent" households would comprise between 20 and 30 percent of the total Family Households. If this reasoning is correct, the proportions at issue here may be fairly stable over the last decade.

5. Education Levels.

In 1987 and 1988, the Northwest Arctic Borough conducted economic surveys in each of the regional villages. Four hundred sixty-three Kotzebue residents were surveyed in 1987 and 341 residents were surveyed in 1988. Survey respondents were "work force" candidates, which means they were adults over 18 and younger than 65. In 1987, 67 percent of the survey respondents had completed 12 years or more of education. In 1988, 69.8 percent of the respondents had completed at least 12 years of education.

Preliminary Social Indicators survey results in the NANA region indicate modest gains in educational status. The NANA Regional Strategy survey about 10 years ago determined that about 40 percent of the adult population had completed 12 years of education. Social Indicators records indicate that, in 1987, 12 years of education was the median completion level. Within the sample, 16.9 percent had completed some college. However, about one-third of the sample (32.3 percent) had achieved only eight years or less. These results suggest that despite some gains, a significant proportion of the population is economically vulnerable due to modest educational levels.

In April 1987, 1,438 students in the Northwest Arctic School District were administered the SRA (Science Research Associates) Survey of Basic Skills. Comparisons with the first application of the SRA survey in 1984 indicate that student achievement is increasing in the District. Test scores are higher at all grade levels except kindergarten, and the District composite score has increased from the 22nd percentile (nationwide) to the 31st percentile. However, the 1987 composite score declined from the 36th percentile in 1986. Subscores in the reading skill area were lowest

overall, but scores in mathematics showed the greatest longitudinal decline. With minor exceptions, the scores of Kotzebue students were higher than those of other regional pupils. The highest composite scores by grade occurred among Kotzebue 3rd graders (65th percentile), but the highest subtest scores are found in the mathematics inventory among Kiana 10th graders (68th percentile) (Interwest 1987). District-wide composite scores by grade are displayed in Table 19.

TABLE 19

NORTHWEST ARCTIC SCHOOL DISTRICT
SRA SURVEY OF BASIC SKILLS

Year-by-Year Comparisons as of Spring 1987
Districtwide Composite Scores

Year	K	1	2	3	4	5	6	7	8	9	10	11	12
1984	36	33	21	18	20	28	19	31	21	19	17	12	16
1985	52	46	32	45	19	30	32	24	28	25	23	17	16
1986	45	41	42	44	40	29	33	37	20	29	34	26	29
1987	34	35	26	43	28	30	25	33	30	24	38	33	29

Note: All scores are given as average percentile.

Source: Interwest (1987:12).

Table 20 lists school enrollments for Kotzebue for the period 1975 through 1987.

Table 21 lists numbers of degrees awarded by Chukchi Community College (CCC) during the period FY 1983 through FY 1987.

Table 22 lists the numbers of degrees awarded by CCC during the same period (FY 1983 - FY 1988), arranged by age.

Table 23 lists the numbers of degrees awarded by CCC during the period FY 1983 to FY 1988, arranged by race and sex.

TABLE 20

**SCHOOL ENROLLMENTS
KOTZEBUE, 1975-1987**

Year	Elementary	Secondary	Total
1975/76	466	157	623
1976/77	341	288	629
1977/78	322	298	620
1978/79	3 4 3	304	647
1979/80	316	320	636
1980/81	313	276	589
1981/82	340	249	589
1982/83	325	239	564
1983/84	372	237	609
1984/85	286	233	519
1985/86	322	227	549
1986/87	364	242	606

Source: Alaska Department of Education.

TABLE 21

**CHUKCHI COMMUNITY COLLEGE DEGREES AWARDED, FY 1983 -
FY 1988**

General Education	Degrees
FY 1983	7
FY 1984	5
FY 1985	5
FY 1986	8
FY 1987	3
FY 1988	4

Source: University of Alaska.

TABLE 22

CHUKCHI COMMUNITY COLLEGE DEGREES, BY AGE, FY 1983 - FY 1988

Age		FY83	FY84	FY85	FY86	FY87	FY88
Under 22	0	0	0	0	0	0	0
23-25	0	0	1	1	0	1	
26-29	1	0	1	1	1	0	
30-39	5	4	3	2	2	2	
40-49	0	1	0	4	0	1	
50+	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
TOTAL	7	5	5	8	3	4	

Source: University of Alaska.

TABLE 23

CHUKCHI COMMUNITY COLLEGE DEGREES,
BY RACE & SEX, FY 1983 - FY 1988

Year	Native		White		Tot al	
	M	F	M	F	M	F
FY83	0	5	1	1	1	6
FY84	0	5	0	0	0	5
FY85	0	5	0	0	0	5
FY86	1	6	1	0	2	6
FY87	1	0	1	1	2	1
FY88	0	3*	0	1	0	4

*Includes one Native American Indian (Apache)

Source: University of Alaska.

Table 24 lists the number of FY 1986 and FY 1987 graduates of the Kotzebue Technical Center (KTC) by type of program. There was a 46 percent increase in total graduates from FY86 to FY87. The greatest increases occurred in the number of carpentry graduates (140 percent) and business occupations graduates (100 percent).

Information concerning job openings listed with the Alaska Department of Labor (ADOL) during FY86 and FY87 is presented below. This will be followed by an examination of the apparent trends and parallels between the KTC and the ADOL data.

Table 25 reports job openings which were listed by the Alaska Department of Labor, Kotzebue Job Service Office for FY 1986 and FY 1987.

During FY 1986, there were 293 jobs listed (out of 294 job openings) in 17 different job classifications. The classification with the greatest number of openings (and the third lowest average hourly wage) was "Meat/Poultry/Fish Cutters/Trimmers: Hand" which accounted for 36.5 percent of the total. Average hourly wages varied from a low of \$7.75 for "All Other Sales Workers" to a high of \$20.37 for "Carpenters", and averaged \$10.71 for all openings listed.

During FY 1987, there were 112 jobs listed (out of 133 openings) in 13 different job classifications. This represents a decrease from FY 1986 of 61.8 percent in openings listed and a decrease of 23.5 percent in the number of classifications represented. Fifty-five percent of this decrease (from 293 to 112 openings) is accounted for by the 93 percent decrease (from 107 to 7 openings) in the "cutters/trimmers category. "

TABLE 24

KOTZEBUE TECHNICAL CENTER
FY 1986 - FY 1987

Program	No. of Graduates	
	FY 86	FY 87
Building Maintenance	5	7
Business Occupations	7	14
Accounting Clerk	1	
Clerk-Typist	4	
Secretary	2	
Carpentry	5	12
Food Services	13	18
Commercial Baker	1	
Commercial Cook	3	
Food Service Entry Level	9	
Industrial Mechanics	11	13
Natural Resources	9	9
Land Management Technician	6	
Natural Resources Technician I	1	
Surveying Technician	1	
Water Quality Technician	1	
Total Graduates	<u>50</u>	<u>73</u>

Source: Kotzebue Technical Center.

TABLE 25
AVERAGE WAGE RATES OF JOB ORDERS
ALASKA JOB SERVICE
KOTZEBUE, JULY 1985 - JUNE 1987

Job Openings Listed	FY 86		FY 87	
	No. of Openings	Average Hourly Wage (\$)	No. of Openings	Average Hourly Wage (\$)
Administrative Services Managers	8	14.11		
Carpenters	5	20.37	13	18.81
General Office Clerks	8	12.04		
Janitors/Cleaners, Ex Maids/House Cleaners	11	9.38		
Meat/Poultry/Fish Cutters/Trimmers: Hand	107	8.91	7	8.00
Plumbers, Pipefitters & Steamfitters			5	19.90
Secretaries	9	9.15		
Stock Clerks: Sales Floor			5	7.20
Vocational & Educational Counselors	8	11.48		
All Other Agricultural/Forestry/Fishing	3	12.65		
All Other Clerical/Admin Support Workers	17	9.36	16	11.26
All Other Construction Trades Workers	13	14.70	9	13.44
All Other Crafts, Operators & Laborers	15	14.27	14	12.55
All Other Freight/Stock/Mtl Movers: Hand	7	9.85	5	9.02
All Other Helpers/Laborers/Mtl Movers: Hand	24	9.84	8	13.83
All Other Managers & Administrators	8	14.96	6	18.26
All Other Prof/Technical/Paraprof Workers	29	13.62	9	12.69
All Other Sales Workers	2	7.75	4	7.75
All Other Service Workers	19	8.40	11	8.72
TOTAL JOB OPENINGS LISTED	293	10.71	112	12.67
TOTAL JOB OPENINGS	294	10.68	133	12.36

Source: Alaska Department of Labor.

The classification with the greatest number of openings (and the eighth highest average hourly wage) in FY 1987 was "All Other Clerical/Administrative Support Workers" which accounted for 14.2 percent of the total. Average hourly wages varied from a low of \$7.20 for "Stock Clerks: Sales Floor" to a high of \$19.90 for "Plumbers, Pipefitters & Steamfitters", and averaged \$12.67 for all openings listed. This overall average hourly wage represents an increase over FY 1986 of 18.3 percent.

There are some interesting parallels between the KTC and the ADOL data despite the fact that the number of KTC graduates increased and the number of ADOL job listings decreased substantially between FY 1986 and FY 1987.

In both cases there was a dramatic and a comparable increase in the carpenter category. The number of graduates in the KTC carpentry program increased by 140 percent (from five to twelve) and the number of job listings for carpenters rose 160 percent (from five to thirteen). The increase in ADOL listings is the more dramatic in view of the overall decrease in listings.

The KTC business occupations category showed the second greatest increase between FY86 and FY87. The category which accounted for the highest percentage of job openings in FY87 (and which decreased the least between FY86 and FY87) was the comparable category of clerical and administrative support workers.

The data suggests that there is a fairly good match between the programs (and number of program graduates) offered by KTC and the availability of jobs as reflected in the ADOL job listings for Kotzebue.

6. Marriage Patterns.

The marital status of the **Kotzebue** population in 1980 is depicted in Table 26 below. It is likely that transient males, many of whom are temporary employees in technical and administrative jobs, comprise much of the excess of males over females as a total **(79)** and among single adults (92), but that assumption is naturally problematic since no direct evidence is available. In any case, it is apparent that an imbalance exists 'in absolute terms. However, note that the numbers of married males and females are approximately the same, suggesting that spouses reside together in **Kotzebue**. (This suggestion is pertinent since relocated temporary employees may leave spouses and families behind for the duration of a job; these data do not support that possibility.)

'TABLE 26

MARITAL STATUS, BY SEX
PERSONS 15 YEARS AND OLDER
KOTZEBUE , 1980

Marital Status	Male	Female
Single	317	225
Married	337	326
Separated	9	10
Widowed	17	43
Divorced	46	43
TOTAL	726	647

Source: 1980 Census.

Differences by sex in other status categories are unremarkable except in the case of widows and widowers. The excess of females over males in this category may be a function of higher mortality among males (see section 1., Population Size and Composition, and section 2., Recent

Population Trends; differential mortality is discussed at some length in earlier sections). Since male mortality increases at a pronounced rate after age 15, this suggestion gains some support from **epidemiological** data.

The 1980 data yield this summary profile: unions represented in the Kotzebue census population are approximately matched and balanced, but single males exceed **single** females and widows exceed widowers. A general excess of males over females, due in part to higher male in-migration or return migration and higher female out-migration or delayed return migration (see section 7., Migration below), coupled with higher male mortality may account for a substantial part of this pattern.

The data which is presented in the following tables on marriage, divorce and adoption are based on figures for the **Kobuk** Census Area. No data was available for Kotzebue **alone**.

According to Table 27 and Table 28, the number of marriages averages 41.5 per year for the period 1977 through 1986. Over this decade, for 89 percent of all marriages, both bride and groom were from the Kobuk census area. Grooms married a resident from outside their own census area (**Kobuk**) 4.8 percent of the time and brides married a groom from outside their own census area (**Kobuk**) 6.0 percent of the time.

The greatest number of marriages occurred in 1984 and the number of **annual** marriages increased by 23.3 percent between 1977 and 1986.

According to Table 29, 90.9 percent of all brides over the ten year period were married in their home census area (**Kobuk**).

Table 30 and Table 31 present data on race and place of birth for marriages where the bride or groom or both were Kobuk census area residents.

TABLE 27

MARRIAGES BY RESIDENCE OF GROOM AND BRIDE
KOBUK CENSUS AREA, 1977-1986

Grooms' Residence		Bride's Residence			Groom's Residence		Brides' Residence				
		Kobuk	C.A.	Other	Total			Kobuk	C.A.	Other	Total
1977						1982					
Kobuk	C.A.	25		4	29	Kobuk	C.A.	29		1	30
Other		1		0	1	Other		5		0	5
Total		26		4	30	Total		34		1	35
1978						1983					
Kobuk	C.A.	38		0	38	Kobuk	C.A.	46		2	48
Other		4		0	4	Other		3		0	3
Total		42		0	42	Total		49		2	51
1979						1984					
Kobuk	C.A.	34		3	37	Kobuk	C.A.	53		1	54
Other		2		0	2	Other		1		0	1
Total		36		3	39	Total		54		1	55
1980						1985					
Kobuk	C.A.	29		3	32	Kobuk	C.A.	38		3	41
Other		3		0	3	Other		4		0	4
Total		32		3	35	Total		42		3	45
1981						1986					
Kobuk	C.A.	43		3	46	Kobuk	C.A.	35		0	35
Other		0		0	0	Other		2		0	2
Total		43		3	46	Total		37		0	37

Source: Vital Statistics Research, Division of Public Health, Alaska Department of Health and Social Services.

TABLE 28

SUMMARY OF MARRIAGES BY RESIDENCE OF GROOM AND BRIDE
KOBUK CENSUS AREA, 1977-1986

Groom's Residence	Bride's Residence		
	Kobuk C.A.	Other	Total
Kobuk C.A.	370	20 ¹	390
Other	25 ²	0	25
TOTAL	395	20	415

¹ Other residences include census divisions of Anchorage (9), Fairbanks (3), Bristol Bay, Kenai, Matanuska-Susitna, Nome, Prince of Wales and Valdez (1 each) and 2 non-residents of Alaska.

² Other residences include census divisions of North Slope Borough (6), Nome (5), Anchorage (2), Fairbanks (2), Bristol Bay (1), Prince of Wales (1), Wade Hampton (1) and 7 non-residents of Alaska.

Source: Vital Statistics Research, Division of Public Health, Alaska Department of Health and Social Services.

TABLE 29

**MARR AGE BY CENSUS AREA OF BRIDE'S RESIDENCE
AND CENSUS AREA OF OCCURRENCE
KOBUK CENSUS AREA, 1977-1986**

Census Area of Occurrence	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	Average
North Slope Borough						1	1	1		1	1.00
Kobuk	23	37	34	27	38	26	41	47	35	33	34.10
Nome		2	1		1	1		1	1		1.17
Yukon					1						1.00
Fairbanks					1		1				1.00
Wade Hampton									1		0.67
Bethel							1				1.00
Mat-Susitna Borough									2		2.00
Anchorage	2			1	2	1	2	3	1		1.71
Ketchikan				1		1					1.00
Total	25	39	35	29	43	30	46	53	40	35	37.50
Note: blank cells are zero											

Vital Statistics Research
Division of Public Health
Department of Health & Social Services

TABLE 30

PLACE OF BIRTH, BY RACE OF GROOM AND BRIDE
KOBUK CENSUS AREA, 1977-1986

	Bride				Bride		
	Groom	Native	Non-Native	Total	Groom	Native	Non-Native Total
1977					1982		
Alaska Native		14	1	15	Alaska Native	18	2 20
Non-Native		6	9	15	Non-Native	4	7 11
Total		20	10	30	Total	22	9 31
1978					1983		
Alaska Native		25	4	29	Alaska Native	26	1 27
Non-Native		7	5	12	Non-Native	15	8 23
Total		32	9	41	Total	41	9 50
1979					1984		
Alaska Native		23	2	25	Alaska Native	30	3 33
Non-Native		8	4	12	Non-Native	13	6 19
Total		31	6	37	Total	43	9 52
1980					1985		
Alaska Native		20	1	21	Alaska Native	19	6 25
Non-Native		5	4	9	Non-Native	14	5 19
Total		25	5	30	Total	33	11 44
1981					1986		
Alaska Native		29	3	32	Alaska Native	23	1 24
Non-Native		6	8	14	Non-Native	7	5 12
Total		35	11	46	Total	30	6 36

Source: Vital Statistics Research, Division of Public Health,
Department of Health and Social Services.

TABLE 31

SUMMARY OF MARRIAGES BY PLACE OF BIRTH AND BY RACE OF GROOM AND BRIDE
KOBUK CENSUS AREA, 1977-1986

Groom	Bride		
	Alaska Native	Non-Native	Total
Alaska Native	227	24	251
Non-Native	85	61	146
Total	312	85	397

Source: Vital Statistics Research, Division of Public Health Department of Health and Social Services.

Table 32 and Table 33 present age-related data for marriages where either the bride or the groom (or both) are residents of the Kobuk census area .

Over the ten year period between 1977 and 1986, there was a decline in the number of marriages between bride and groom where both were in the 15-24 year old age group, and a corresponding increase in the number of marriages where both bride and groom were in the 25-34 year old age group.

Overall, marriages between brides and grooms where both are in the 15-24 year old group, account for 29.5 percent of all marriages where ages are known. Marriages between brides and grooms where both are in the 25-34 year old group account for 23.2 percent of all marriages and marriages between individuals who are both in the 35-44 year old group account for 4.1 percent of the total.

In addition, according to Table 33, 53.7 percent of total marriages involved a bride in the 15-24 year old group, 34.1 percent involved a groom in this age group; 35.6 percent involved a bride in the 25-34 year old group, 46.7 percent involved a groom in this age group; and 8.5 percent involved a bride in the 35-44 year old group (and a balance of 2.2 percent in remaining age groups), and 15.0 percent involved a groom in this age group (and a balance of 4.2 percent in remaining age groups).

The data indicate that, in general, women marry at a younger age than men, that well over half of all marriages occur between individuals in the same general (i.e., ten year) age group, and that the age at which residents are marrying (or remarrying) has been rising over the past decade.

TABLE 32
MARRIAGES BY AGE OF GROOM AND BRIDE
KOBUK CENSUS AREA, 1977-1986

AGE OF BRIDE				
Year	15-24	25-34	35+	Total
1977	19	7	4	30
1978	28	12	2	42
1979	29	7	2	38
1980	21	12	2	35
1981	20	19	7	46
1982	16	15	3	34
1983	28	19	4	46
1984	26	20	9	51
1985	18	20	7	55
1986	17	16	4	37
TOTAL	222	147	44	413
AGE OF GROOM				
Year	15-24	25-34	35+	Total
1977	12	9	9	30
1978	16	21	5	42
1979	17	19	2	38
1980	13	18	4	35
1981	13	25	8	46
1982	13	14	7	34
1983	19	22	10	51
1984	15	25	15	55
1985	14	21	10	45
1986	9	19	9	37
TOTAL	141	193	79	413

Source: Vital Statistics Research, Division of Public. Health,
Department of Health and Social Services.

TABLE 33

SUMMARY OF MARRIAGES BY AGE OF GROOM AND BRIDE
KOBUK CENSUS AREA, 1977-1986

Age of Groom	<u>Age of Bride</u>			Total
	15-24	25-34	35+	
15-24 years	122	19	0	141
25-34	82	96	15	193
35+	<u>18</u>	<u>32</u>	<u>29</u>	<u>79</u>
TOTAL	222	147	44	413

Source: Vital Statistics Research, Division of Public Health,
Department of Health and Social Services.

Table 34 and **Table 35** present divorce data only for Kobuk census area residents and **only** for those couples who were married in Alaska.

The number of **divorces** each year varies irregularly over the period of **1977** through **1986**, and **peaks** in **1983**. The divorce rate **also** varies in irregular **fashion**, with peaks occurring in **1978**, 1980 and **1986**. The divorce rate varies from a **low** of **13.8** (per hundred marriages) to a high of a 120 (see Table 349).

Overall, the average annual divorce rate is 35.8 (per 100 marriages) based on an average of 38.8 **marriages** per year and **13.9** divorces per year. The average divorce rate is highest for marriages between a Native wife and a non-Native husband (45.3 per 100 marriages) based on an average of 7.5 marriages and 3.4 divorces per year. This is followed by the divorce rate of non-Native women married to Native men (43.5 based on 2.3 marriages and 1.0 divorces per year), Native/Native couples (34.5 based on 22.0 marriages and **7.6** divorces), and non-Native/non-Native couples (29.8 based on an average of 5.7 marriages and 1.7 divorces per year).

Overall, the greatest number of divorces (and marriages) occur between Native wives and Native husbands (54.7 percent of **all** divorces and 56.2 percent of all marriages), followed by divorces between Native wives and non-Native husbands (24.5 percent of the divorces and **19.9** percent of the marriages), divorces between non-Native wives and non-Native husbands (12.2 percent of divorces and **14.9** percent of marriages) and between non-Native wives and Native husbands (7.2 percent of divorces and 6.2 percent of marriages).

TABLE 34

MARRIAGES, DIVORCES & DIVORCE RATES
BY RACE OF WIFE & HUSBAND
KOBUK CENSUS AREA, 1977-1986 "

RACE OF WIFE

Year	Non-Native			Native		
	Marriage	Divorce	Rate	Marriage	Divorce	Rate
1977	9	0	0	19	11	57.9
1978	8	0	0	29	19	65.5
1979	5	1	20.0	29	7	24.1
1980	5	6	120.0	24	11	45.8
1981	11	2	18.2	35	7	20.0
1982	8	2	25.0	21	12	57.1
1983	9	4	44.4	38	14	36.8
1984	9	3	33.3	42	10	23.8
1985	11	4	36.4	29	6	20.7
1986	5	5	100.0	29	13	44.8

RACE OF HUSBAND

Year	Non-Native			Native		
	Marriage	Divorce	Rate	Marriage	Divorce	Rate
1977	14	2	25.0	14	9	64.3
1978	9	4	44.4	28	15	53.6
1979	11	2	18.2	23	6	26.1
1980	8	7	87.5	21	10	47.6
1981	14	5	35.7	32	4	13.8
1982	8	3	37.5	21	11	52.4
1983	21	7	33.3	26	11	42.3
1984	19	4	21.0	32	9	28.1
1985	18	6	33.3	22	4	18.8
1986	10	11	110.0	24	7	29.2

Kobuk census area residents only
Divorces only if marriage occurred in Alaska
Rate of Divorce = $\frac{\text{\#Divorces}}{\text{\#Marriages}} \times 100$

Source: Vital Statistics Research, Division of Public Health,
Department of Health & Social Services.

TABLE 35

SUMMARY OF MARRIAGES, DIVORCES & DIVORCE RATES
KOBUK CENSUS AREA, 1977-1986

TOTALS, 1977-1986

WIFE	HUSBAND		Total
	Non-Native	Native	
MARRIAGE			
Non-Native	57	23	80
Native	75	220	295
Total	132	243	375
DIVORCE			
Non-Native	17	10	27
Native	34	76	110
Total	51	86	137
RATE			
Non-Native	29.8	43.5	33.8
Native	45.3	34.5	37.3
Total	38.6	35.4	36.5

ANNUAL AVERAGES

		Marriage	Divorce	Rate
WIFE	HUSBAND			
Non-Native	Non-Native	5.7	1.7	29.8
Native	Native	2.3	1.0	43.5
Total	Total	8.0	2.7	33.8
Native	Non-Native	7.5	3.4	45.3
	Native	22.0	7.6	34.5
	Total	29.5	11.0	37.3
		37.5	13.7	36.5

Kobuk Census Area residents only
Divorces only if marriage occurred in Alaska
Rate of Divorce = $\frac{\text{\#Divorces}}{\text{\#Marriages}} \times 100$

Source: Vital Statistics Research, Division of Public Health,
Department of Health & Social Services.

Table 36 and Table 37 report divorce data (there were no annulments) by year and number of children under 18 involved, where the wife or husband is a **Kobuk** census area resident.

The pattern of the data over the ten year period is **quite irregular**. The average number of minors involved per year is 27.1, and the average number of minors per divorce is 1.42 overall.

The average number of minors per divorce is highest for Native/Native **couples--1.92**, followed by Native wife and non-Native husband--1.26, non-Native/non-Native **couples--1.04**, and non-Native wife and Native husband--0.63 per year.

Table 38 reports adoption data by age and race of **adoptee**. The annual totals range from zero (1977-1979) to 38 (1983) and display an irregular pattern.

According to Table 38, 30.4 percent of all adoptees were less than one year old, 40.2 percent were one to four years old, 14.7 percent were five to ten years old, 14.7 were over ten years old, and, 2.9 percent were White and **97.1** percent were Native. Thus, the clear majority of adoptees are less than five years old (a total of 70.6 percent) and are Native.

Table 39 and Table 40 report adoption data for cases where neither parent is the natural parent. No cases met this criteria from **1977** through **1980**.

Adoptions where neither parent is the natural parent (total of 98) account for 96.1 percent of all adoptions (total of 102) during the total ten year period. Alaska Native children accounted for 98.7 percent of all known adoptees and couples where both adoptive mother and father were

TABLE 36

DIVORCES BY RACE OF HUSBAND AND WIFE
AND NUMBER OF CHILDREN UNDER 18 INVOLVED
KOBUK CENSUS AREA, 1977-1986

RACE OF WIFE

Year	Non-Native			Native		
	Number Divorces	Number Minors	Minors/ Divorces	Number Divorces	Number Minors	Minors/ Divorces
1977	4	5	1.25	12	28	2.33
1978	2	5	2.5	21	31	1.48
1979	2	4	2.0	8	20	2.5
1980	11	14	1.27	11	29	2.64
1981	4	7	1.75	6	5	0.83
1982	7	5	0.71	12	20	1.67
1983	11	9	0.82	17	27	1.59
1984	9	3	0.33	12	18	1.5
1985	8	4	0.50	6	8	1.33
1986	9	2	0.22	14	21	1.5

RACE OF HUSBAND

Year	Non-Native			Native		
	Number Divorces	Number Minors	Minors/ Divorce	Number Divorces	Number Minors	Minors/ Divorce
1977	6	10	1.67	10	23	2.3
1978	6	9	1.5	17	27	1.59
1979	3	2	0.67	7	22	3.14
1980	12	22	1.83	11	21	1.91
1981	6	7	1.17	4	5	0.80
1982	8	6	0.75	11	19	1.73
1983	14	14	1.0	14	22	1.57
1984	11	5	0.45	10	16	1.6
1985	10	8	0.80	4	4	1.0
1986	16	14	0.87	7	9	1.29

Kobuk Census Area residents only

Source: Vital Statistics Research, Division of Public Health,
Department of Health & Social Services.

TABLE 37

SUMMARY OF DIVORCES BY RACE OF HUSBAND AND WIFE
AND NUMBER OF CHILDREN UNDER 18 INVOLVED
KOBUK CENSUS AREA, 1977-1986

TOTALS

WIFE	HUSBAND		Total
	Non-Native	Native	
NUMBER DIVORCES			
Non-Native	55	12	67
Native	37	82	119
Total	92	94	186
NUMBER MINORS			
Non-Native	48	10	58
Native	46	158	204
Total	94	168	262
MINORS/DIVORCE			
Non-Native	0.87	0.83	0.86
Native	1.24	1.93	1.71
Total	1.02	1.79	1.41

AVERAGES

		Number Divorces	Number Minors	Minors/ Divorces
WIFE	HUSBAND			
Non-Native	Non-Native	5.5	4.8	0.87
Native	Native	1.2	1.0	0.83
Total	Total	6.7	5.8	0.87
Native	Non-Native	3.7	4.9	1.32
	Native	8.2	15.8	1.93
	Total	11.9	20.7	1.74
TOTAL		18.6	26.5	1.42

Kobuk Census Area residents only

Source: Vital Statistics Research, Division of Public Health,
Department of Health & Social Services.

TABLE 38
ADOPTIONS
AND BY AGE & RACE OF ADOPTEE, KOBUK CENSUS AREA
1977-1986

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	Average
< 1 yr											
White											
Native					3	1	9	5	9	4	5.17
Other											
1-4 yrs											
White											
Native					3	4	22	5	4	3	6.83
Other											
5-10 yrs											
White											
Native						3	4	3	5		3.75
Other											
10+ yrs											
White				1		2					1.50
Native					2	3	3	1	2	1	2.00
Other											
TOTAL	0	0	0	1	8	13	38	14	20	8	10.20

Note: blank cells are zero
only "TOTAL" includes "unknown"

Source: Vital Statistics Research
Division of Public Health
Department of Health & Social Services

TABLE 39

ADOPTIONS BY CHILD'S PLACE OF BIRTH AND RACE
KOBUK CENSUS AREA, 1977-1986

Child's Place of Birth and Race

Year	Alaska		Foreign		Total
	Non-Native	Native	Non-Native	Native	
1981	0	8	0	0	8
1982	0	8	0	0	8
1983	0	28	1	0	29
1984	0	14	0	0	14
1985	0	14	0	0	14
1986	0	6	0	0	6

For cases where neither parent is the natural parent

Source: Vital Statistics Research, Division of Public Health,
Department of Health & Social Services.

TABLE 40

SUMMARY OF ADOPTIONS BY RACES OF ADOPTIVE PARENTS
AND BY CHILD'S PLACE OF BIRTH AND RACE
KOBUK CENSUS AREA, 1981-1986

Child's Place of Birth and Race

Race of Parents		Alaska Native	Foreign Non-Native	Total	Average Total
Mother	Father				
Non-Native	Non-Native	1	1	2	0.33
	Native	0	0	0	0.00
	Total	1	1	2	0.33
Native	Non-Native	4	0	4	0.67
	Native	74	0	74	12.33
	Total	78	0	78	13.00
TOTAL		79	1	80	13.33

For cases where neither parent is the natural parent..

Source: Vital Statistics Research, Division of Public Health,
Department of Health & Social Services.

Alaska Natives accounted for 93.4 percent of all adoptions. The average number of Alaska Native adoptees per year equals 15.67.

Native/Native couple adoptions of Native children accounted for 92.5 percent of all cases where races were known and 75.5 percent of total cases. Adoptions of Native children by a Native mother and a non-Native father accounted for 5.0 percent of known and 4.1 percent of all cases, and adoptions of Native children by non-Native/non-Native couples and of foreign children by non-Native/non-Native couples each accounted for 1.2 percent of known and 1.0 percent of total cases.

Marriage, divorce and adoptions information concerning the city of Kotzebue, was obtained from key informants who represent local churches. This information, which covers the period of May 1987 through May 1988, is presented as a supplement to the preceding census area data.

The more recent Kotzebue information is based on a conservative assessment of formal and nonformal (i.e., customary but unregistered) marriages, formal and nonformal (i.e., without benefit of institutional procedures) divorces, and formal and nonformal adoptions. The figures cited below should be considered likely underestimates of the actual numbers, since key informants considered them low estimates and since the frequencies are lower than comparable secondary data reported earlier. The proportions, however, are considered accurate.

A total of twelve marriages was reported, of which six were legal and six were informal. There was some general agreement that most informal marriages ultimately resulted in a formal or legal union. It should be noted here that this relationship between formal and informal marriages may represent the prevailing pattern of new unions, but should not be

considered representative of the status of unions in the community as a whole.

A total of seven separations and divorces was reported, of which four were legal divorces, and a total of five adoptions are reported, of which two or three were completed legal adoptions.

Overall, this key informant data appears to represent an underestimate of the most likely actual numbers, but the relative numbers of marriages, divorces and adoptions are fairly consistent with the relative numbers of each which are reported in the census area data.

7. Migration.

Intraregional migration among Inupiat has deep historical roots, especially after the 1880s when societal boundaries had disintegrated. Seasonal migration among locations known for ephemeral but rich resources established a cycle of residential relocation. The Kotzebue Sound area was a focal point among some of the local seasonal migration routes due to its maritime resources, but particularly for its opportunities for trade during summer. As the historical discussion and preliminary population analyses show, Kotzebue drew residents from numerous regional villages as it became a regional commercial and administrative center at about the time of World War II. Table 41 provides a record of earlier migration by indicating place of birth for a sample of household heads in Kotzebue in 1969.

These data are best interpreted in historical perspective. The Deering, Noorvik, Candle and Buckland families of origin comprise small percentages individually, but together they exceed the Noatak proportion (which is the largest aside from Kotzebue per se). In 1915 most of the Deering population relocated and established the village of Noorvik at the

TABLE 41
NATIVE HEADS OF HOUSEHOLDS
BY PLACE OF BIRTH, KOTZEBUE, 1969

Place of Birth	Number	Percent
Kotzebue	69	34%
Noatak	37	18
Point Hope	13	6
Deering	13	6
Noorvik	12	6
Candle	8	4
Buckland	7	3
Kivalina	7	3
Kobuk	4	2
Selawik	3	1
Kiana	2	1
Subtotal	175	86
Other	29	14
TOTAL	204	100%

Note: Based on ASHA community survey (65% sample), December 1969.

Source: Alaska State Housing Authority, 1971.

instigation of Friends' Church missionaries, but between 1920 and 1930 the Deering population grew due to return migration from the new village site at Noorvik. Northern Seward Peninsula populations (Deering, Candle, Buckland) grew briefly after 1930, when the crash in the reindeer industry terminated the incentives for a more "nomadic" life and concentrated populations at villages. Brief and erratic advances in mineral prices sustained the Candle mining area through World War II; Candle residents were primarily Deering and Buckland families who relocated on a temporary basis. Families from all of these areas were steadily relocating to Kotzebue between 1920 and 1940, but after World War II this trend accelerated.

Until the 1950s and early 1960s a mosaic of regional "neighborhoods" was evident in Kotzebue residence patterns, with families from different regional communities or community areas inhabiting their own zones (see Smith 1966). By the late 1960s and early 1970s this pattern was dissipating due to urban expansion and midtown congestion. To our knowledge the only current evidence of urban divisions based on place of birth (or residence) is seen in the pattern of seasonal migration to Kotzebue by commercial fishing families. Families from the Selawik and Kobuk drainages commonly camp on the north side of town near the fish plant. Noatak families frequently camp at Sisualik, across the Inlet from Kotzebue. Shishmaref and, on occasion, Kivalina families camp on the south side of town in the vicinity of the FAA site (McNabb, personal observation).

NANA Corporation shareholder records show some evidence of differential migration among shareholder males and females. Between 1977 and 1982 over half of the shareholders who were not currently in the NANA

region were female. Approximately one-quarter of all shareholders did not reside in the region over this interval. Table 42 summarizes the pertinent data.

TABLE 42
NANA SHAREHOLDER LOCATIONS BY SEX, 1977-1982

	1977	1978	1979	1980	1981	1982
All shareholders	4676	4665	4637	4663	4656	4661
Non-resident:						
males	490	495	505	499	532	498
females	626	612	652	643	694	698
total	1116	1107	1157	1142	1226	1196
Non-resident %	24%	24%	25%	25%	26%	26%
Females as % of Non-Residents	56%	55%	56%	56%	57%	58%

Source: NANA Corporation shareholder records;
cited in **McNabb 1983**.

Although the absolute frequencies are unstable, the proportion of non-resident shareholders to resident shareholders is generally consistent. In addition, the proportion of female non-resident shareholders to all non-resident shareholders is relatively stable. These data are consistent with a one-time "wave" of migration ending by 1977. Alternatively, they are also consistent with a pattern of cyclic migration (in contrast to a single burst of **out-** and return-migration). Key informant reports from NANA administrative staff responsible for shareholder relations support the latter interpretation (**Scanlon 1981**).

The shifts in the proportion of non-resident females are modest but may bear some scrutiny. Key informant reports as well as anecdotal observations (**McNabb**, personal observation) suggest that females may delay

return migrations, leading to slightly higher proportions in latter years after more of their male cohorts have already returned to the region. The reasons for such a discrepancy are obscure but may **relate** to greater economic opportunity **for** Native females outside the region and greater opportunity for Native **males** in the region over this interval. **On** the other hand, low or diminishing opportunity for Native males outside the region **could** alone account for this pattern (see **McNabb** 1983). Other interpretations are possible. **Since** there are few data on this subject, the issue cannot be settled. It is, however, an important topic that deserves further analysis in order to **fully** understand migration to and from the Kotzebue area.

Some data on mobility patterns suggest a relatively high rate of turnover within Kotzebue's non-Native population. According to the 1980 Census, about 16 percent of Kotzebue's population had resided in another state five years previously and 6 percent had lived in another census division in Alaska. Presumably, most of these newcomers to Alaska were non-Natives and part of the governmental bureaucracy. Findings of a 1978 sample survey conducted by Northrim Associates (1979) suggested even greater turnover. That survey found that about 30 percent of Kotzebue's residents had lived in the community for five years or less (see Table 43 below).

TABLE 43

LENGTH OF RESIDENCE IN KOTZEBUE, 1979

Years	Percent
Less than 1	8.7
1 - 3	15.5
4 - 5	5.6
6 - 10	3.7
11 - 20	21.1
21 or more	<u>45.4</u>
	100.0
n = 161	

Source: Northrim Associates, Inc. 1979
(per Policy Analysts, Inc., 1980).

8. Summary.

The major population shifts that culminated in the emergence of Kotzebue as a modern regional center occurred after 1920. Kotzebue clearly emerged as the region's dominant community during World War II. In 1938, the regional hospital, originally built at Noorvik, was relocated to Kotzebue. During and shortly after the war, a military station, along with weather, communications, and other aviation support facilities was established. The post-war growth of waterborne commerce accentuated Kotzebue's geographic advantage as a distribution center for inbound cargo destined for shallow-draft barge shipment to upriver villages. Superior air and marine transportation also made Kotzebue the preferred seat for governmental service and administrative functions at a time when governmental intervention in rural Alaska was expanding.

Other factors reinforced Kotzebue's prominence as a transportation center. Kotzebue was in the forefront of development for such community improvements as power, telephone, sanitation facilities, housing, superior health care and education. In addition to better living conditions, provision of these facilities and services created an employment base lacking in other villages.

Together, these events and trends stimulated an accelerated burst of post-war migration from the hinterland villages into Kotzebue. In three decades, Kotzebue's share of the region's total population rose from about 19 percent in 1939 to 27 percent in 1950 to 40 percent in 1960 to 43 percent in 1970. Through this period, Kotzebue's population grew five-fold from 372 (1939 Census) to 1,696 (1970 Census).

Immigration was the major factor in this accelerated population growth. Smith (1966) estimates that seventy Eskimo families migrated into Kotzebue from outlying villages between 1960-65, mostly from Noatak, Point Hope and **Noorvik**. Her estimate is generally supported by a 1969 community survey (ASHA 1969) which found that only 34 percent of native household heads were born in Kotzebue, followed by 18 percent born in Noatak and 6 percent each born in Point Hope, Deering and **Noorvik**. Post-1970 population data suggest that, for the time being, the population shift from the hinterland villages to **Kotzebue** has stabilized, with Kotzebue maintaining about 45 percent of the total regional population.

On balance, most recent data suggest a January **1987** population of about 2680 persons in **Kotzebue**. Estimates of average household size range from 3.5 to 4.1 persons, with the most likely average falling at the upper end of the range. Average household size has declined somewhat in Kotzebue since 1970 but has increased since 1980, due most probably to the combined effects of greater natural increase and immigration, and housing improvements that reduced household sizes during the 1970s. Demand for new housing outstrips available housing stock as of 1988. The absolute numbers of live births and birth rates have increased since the early 1970s for all ethnic groups. The NANA birth rate generally exceeds the Alaskan rate and the rate for other northwest rural regions. Mortality rates for key population segments, notably for persons under 25, increased dramatically during the **mid-1970s** but then began to stabilize or drop about 1980. However, age-specific mortality data are difficult to interpret since they are subject to errors in the estimation of cohort populations and net migration.

Recent trends in population composition **reveal** relative stability, aside from a general increase in the proportion of non-Natives. The sex composition of Kotzebue's Native population balanced **in** the two most recent Censuses. The **sl**ight surplus of males over females reported **in** the 1980 Census is confined to the lower age groups and is **likely** a matter of chance. Comparison of **pre-adult** and young adult age cohorts for Natives between the 1970 and 1980 Censuses reveals negligible numerical change, which again suggests that net migration within the Native population was not a positive force for population growth in that decade.

On the other hand, **Kotzebue's** non-Native population grew unevenly. The sex distribution of the non-Native population was about even in 1970 but heavily skewed toward male predominance by 1980. The surplus males are concentrated in the 25-44 year age bracket which implies a substantial immigration of unattached young non-Native males into Kotzebue over the decade. Kotzebue exhibits a common rural imbalance in its ratio of single males to single females 15 years of age and older. Single males outnumber single females by 41 percent. This imbalance may primarily be attributed to the surplus of non-Native **males**.

The median age of **Kotzebue's** Native population has been rising steadily since 1970 when it was registered at **16.3** years. By 1980, the comparable figure had climbed to 21.1 years and permanent fund recipient data for the entire Kotzebue population indicates a continued rise through 1985, when the median age for the population as a whole was 24.9 years. Two circumstances suggest that **Kotzebue's** median age may again be reversing direction. The recent rise in birth rates was previously noted. This rise may be related to age and sex composition data from the 1980 Census which

prefigured a sharp increase in the number of young adults entering the childbearing years by the **mid-1980s**.

Historical data demonstrate that Kotzebue has been a nexus of seasonal **intra-regional** migrations for hundreds of years, and this pattern probably intensified after the breakdown of inter-societal enmity in the 1800s. Recent and current migration patterns underline the hub status of Kotzebue and the persistence of transience and migration in the region.

Until the 1950s and early **1960s** a mosaic of regional "neighborhoods" was evident in Kotzebue residence patterns, with families from different regional communities or community areas inhabiting their own zones (see Smith 1966). By the late 1960s and early 1970s this pattern had dissipated **due** to urban expansion which made "neighborhoods" per se impractical. Today, the only visible evidence of urban divisions based on **place** of birth (or residence) is seen in the pattern of seasonal migration to Kotzebue on the part of commercial fishing families.

Available data show some evidence of differential migration among Native males and females. Between 1977 and 1982 over half of the NANA shareholders who were not currently in the NANA region were female. Approximately one quarter of all shareholders did not reside in the region over this interval. **It** is possible that these and other data imply a pattern of out- and return-migration, mainly by females. This cycle may be associated with the surplus of males in the 25-44 year age bracket; that surplus may be the product of male immigration and female emigration, which is counterbalanced in older brackets by return-migration.

II 1. ECONOMY

The opening part of this chapter presents a broad historic overview of the post-World War II evolution of Kotzebue's basic economic structure. This thematic account is followed by a supporting **analysis** of more detailed economic and employment data, with specific analysis of governmental and private sector employment. Finally, several collateral economic topics such as public assistance transfer payments and the local cost of living are discussed.

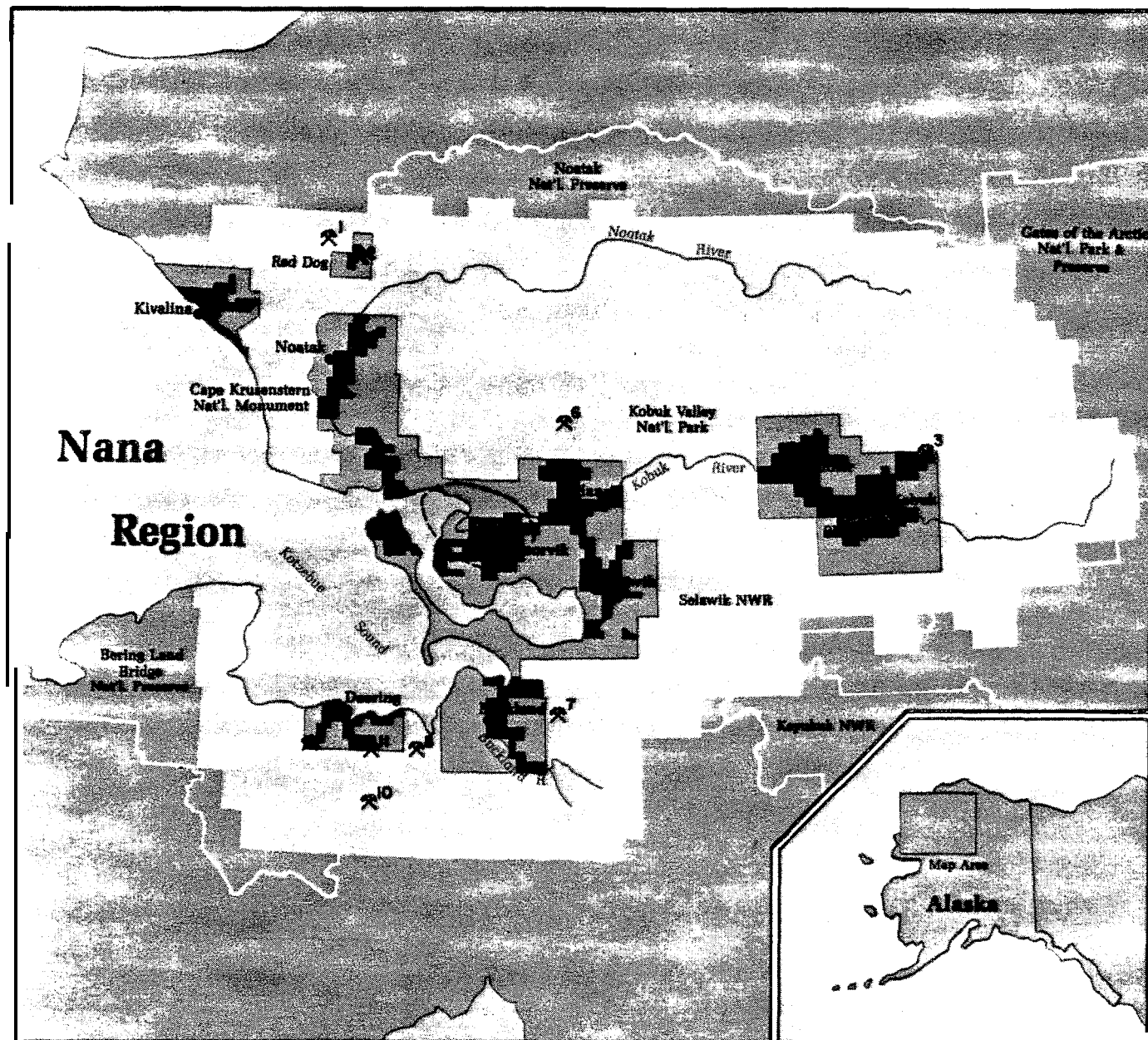
1. Historic Overview.

Before World War II, the Kotzebue area's modest natural resource endowment limited town growth. Local subsistence resources could support only a limited concentration of permanent residents in the traditional style. In the private sector, the region's gold and salmon resources were of marginal economic value and supported sporadic, often luckless commercial enterprises. Similarly, such minor industries as Native crafts, guiding and tourism made small contributions to the community's private economic base. While the region was **long** known or suspected to possess rich coal, petroleum and hard-rock mineral prospects, the Red Dog mine just now under construction is the first instance of large-scale commercial development of these resources (see Figure 16). In the **pre-war** era, the lack of basic industry and employment depressed local purchasing power, which impeded the growth of support industries in the trade, services and distribution sectors.

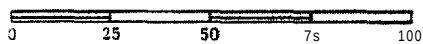
At the outbreak of World War II, mining was still the Kotzebue region's chief commercial activity. Kotzebue was already the region's largest community but, with 372 residents and **19** percent of the region's

FIGURE 16

NANA REGION LAND STATUS AND MINERALIZATION



Carto Graphics, Inc. © 1986



NANA REGION

Land Status Map

- National Parks & Refuges Boundary
- Nana Selected Lands
- Nana Conveyed Lands

----- Areas of Oil and Gas Development

Areas of Potential Mineral Development
MINERAL PRIORITIES

- | | |
|----------------------|---------------------|
| 1. LIK | Zn Pb Ag |
| 2. RED DOG | Zn Pb Ag |
| 3. ARCTIC - SUNSHINE | Cu Zn Pb Ag |
| 4. COSMOS HILLS | Au Cu Zn |
| 5. JADE MOUNTAIN | Jade Asbestos Cu Pb |
| 6. KLERY CREEK | Au |
| 7. SELAWIK HILLS | u |
| 8. CANDLE CREEK | Au |
| 9. INMACHUK RIVER | Au |
| 10. INDEPENDENCE | Ag Au Pb |
| 11. CHICAGO CREEK | Coal |

population, was only modestly larger than several other nearby communities, for example, Noatak (336 persons), Selawik (239) and Deering (230) . Over the next three decades, Kotzebue's ascent to regional economic and political preeminence was fortified by two related, mutually reinforcing factors: the growth of governmental programs and institutions in the region and the accelerating process of regionalization.

A 1956 economic study prepared by the Alaska Rural Development Board stressed the boost given to Kotzebue's economy by the establishment of the PHS Native Hospital in 1938, by war-time and post war construction and operation of military support facilities (DEW line installation, Civil Aeronautics Administration (CAA) and Weather Bureau stations), by expansion of the local Alaska Native Service School and by the quickening growth of governmental bureaucracy. Meanwhile, as the volume of marine commerce and air traffic picked up, Kotzebue's latent advantages as a regional center for marine and air transportation, the latter abetted by aviation improvements installed for military purposes, took on material importance.

This early study summarized its analysis of Kotzebue's economy then in terms that remain pertinent today:

. . . the single major source of cash income for Kotzebue and, indeed, the entire Noatak-Kobuk Region is government spending. Should government spending cease for one reason or another, a severe depression would strike the entire area. That all government spending should cease is, of course, an extremely remote possibility. The need for the school, the hospital, the C.A.A. and other agencies presently located in Kotzebue will continue or increase in the foreseeable future. Alaska Rural Development Board, 1956.

This key structural feature of Kotzebue's economy--the relatively dominant role of public sector wage employment--persists today. But much

else **has** changed, largely as a result of the politico-economic transformation that the community and region have undergone since 1970.

During Kotzebue's immediate post-war economic expansion, **local** economic and political resources largely **remained** in the control of non-Native governmental personnel and businesses. The 1971 Kotzebue Comprehensive Development Plan summed matters up then in these words:

In the economic sphere, most well-paying jobs are **held** by the white minority and almost all white breadwinners have well-paying jobs or businesses. As a **rule**, those Eskimos **who** can find work hold lesser positions or temporary jobs.

In the political sphere, Eskimos control **local** government and **local** government controls practically nothing. Most **decision-making** power in **local** matters is in the hands of white State and federal employees. **Alaska** State Housing Authority, 1971.

Events since have nullified these once-valid estimations. Local **Alaska** Natives now firmly control the principal economic and political institutions of **Kotzebue** and the region. This new order is the climax of a process of' transition rooted partly in social programs initiated in the Kennedy-Johnson administrations, partly in the Native land claims movement.

During the 1960s and early 1970s, the federal government brought many new programs for housing, sanitation facilities, electrification, **health** care, **pre-school** education, manpower development, **legal** services and other basic services to the Kotzebue region. These programs improved **local** living conditions and created new employment opportunities. Equally **important**, many of these federal programs or their sponsoring agencies (**e.g.**, federal Office of Economic Opportunity, State **Equal** Opportunity Office, Alaska **Legal** Services, VISTA, Rural CAP and its subsidiary agencies, Kikiktagruk Area Community Development Corporation, the AFN Indian Housing program, and Mauneluk Association, **later** Maniilaq Association) were imbued

with an ideology of local control, self-determination and public participation. This **ideologic** outlook materialized in the gradual transfer or contract of federal- and state-administered programs for health and social services, housing development, education and manpower development, among **others**, to administration by local or regional governing bodies. This transfer of administrative control to local agencies coincidentally led to changes in recruitment and staffing practices that greatly improved employment opportunities for local Alaska Native residents.

Then, when federal funds for community development programs for rural Alaska Native communities waned, the State of Alaska took up the slack. In the late **1970s** and early 1980s, the State dedicated a large share of its windfall petroleum revenue income to fund public works, expand state services and **funnel** capital grants and shared revenues to **local** governing bodies. The Kotzebue region was very effectively represented in the state legislature and **Kotzebue-based** public agencies got their ration of state expenditures. Their programs and their payrolls expanded. More recently, the drop in state petroleum income has sharply pared down the state budget for community development projects and programs and revived the region's abiding concern about the vulnerability of an economy heavily dependent upon state and federal grants and programs.

The evolution of the Native land claims movement broadly paralleled the transfer of political power and public sector resources to local entities. The battle for congressional fulfillment of Native land claims expired with passage in 1971 of the Alaska Native Claims Settlement Act, only to be reincarnated as a struggle to create permanent institutions to secure, manage and conserve Native corporate lands and financial assets.

ANCSA implementation propelled Alaska Natives into new administrative, economic and political arenas, with significant opportunities to influence local economic development and employment patterns. In Kotzebue, NANA Regional Corporation and Kikiktagruk Inupiat Corporation have both capitalized on these opportunities in their economic ventures and staff development.

Six Kotzebue-based institutions particularly exemplify the new politico-economic order. In the private economic sphere, the two ANCSA corporations, the NANA Regional Corporation and Kotzebue's Kikiktagruk Inupiat Corporation have become the two most important and influential local business enterprises. In the political sphere, the city government of Kotzebue, the Northwest Arctic Borough, Maniilaq Association and the Northwest Inupiat Housing Authority have together assumed administrative control over virtually all the community services formerly provided at Kotzebue by federal and state agencies. The public sector still dominates the local economy and still relies heavily on intergovernmental transfer revenues, but the "nativization" of governance has dramatically improved the access of Native residents to public service employment and to opportunities for earned income. Conversely, since resident Natives have increasingly been trained and recruited to fill open positions, the post-1970 public sector expansion has not brought to Kotzebue the large influx of job-seeking non-Native newcomers that other regional centers such as Barrow and Bethel have experienced.

Public sector expansion has, in turn, fostered support sector growth and further enlarged the range of local business and cash employment opportunities. In summary, the past decade-and-a-half of economic growth has

swelled Kotzebue's public and private sector employment. Over the same time, command of major local political and economic institutions has largely passed to Alaska Natives who comprise a majority of local residents.

Table 44 shows the aggregate wage employment growth by industry for the Kobuk region between 1970 and 1986, as recorded by the Alaska Department of Labor. Figure 17 highlights the strong growth in wage employment (+184 percent) compared to relatively slight population growth (+3.1%). During this period, wage employment nearly tripled from 641 jobs in 1970 to 1,823 jobs in 1986. Meanwhile, regional population grew from 4,434 persons to 5,790 persons. The dependency ratio, as measured by the numbers of residents per employee, fell by more than half from 6.9 persons per employee in 1970 to 3.2 persons in 1986.

The changing distribution of wage employment by sector reflects some structural economic changes and some fundamental continuities in the region's economy. The public sector accounted for the bulk of wage employment both in 1970 (63.2 percent) and in 1986 (60.6 percent). (Actually, the official figures somewhat understate the 1986 level of public sector employment since many public services formerly provided directly by government are now delivered through Maniilaq Association and other semi-public agencies whose employees may be classified as service workers.) Reflecting the shift of governmental functions from federal and state to local auspices, federal government employment has shrunk by half while once negligible local government employment has skyrocketed.

Outside the public sector, the 1970-1986 employment trend in the transportation/communications/public utilities sector was relatively static

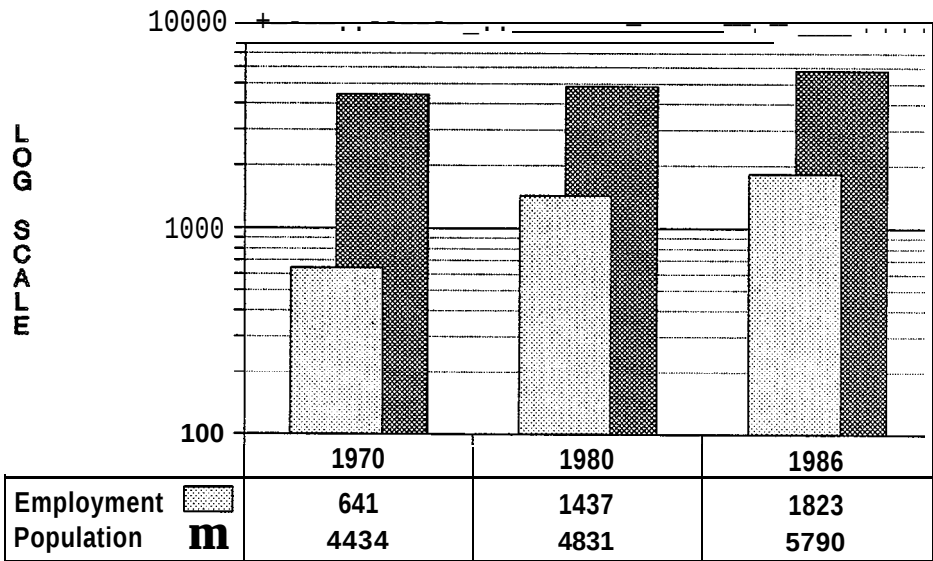
TABLE 44
COMPOSITION OF EMPLOYMENT, BY INDUSTRY%
KOBUK LABOR AREA, 1970 & 1986

<u>Industry Classification</u>	<u>1970</u>		<u>1986</u>		<u>Percent Change</u> 1970-1986
	Number	Percent	Number	Percent	
Mining	*	*	*	*	*
Construction	*	*	*	*	*
Transportation, Communication and Public Utilities	106	16.5	99	5.4	-7%
Trade	100	15.6	232	12.7	+132%
Finance, Insurance and Real Estate	*	*	69	3.8	*
Services	17	2.7	277	15.2	+1529%
Government	405	63.2	1,104	60.6	+173%
Federal	(301)	(47.0)	(150)	(8.2)	-50%
State			(92)	(5.0)	
Local	>(104)	(16.2)	(862)	(47.3)	>+8 17%
Miscellaneous	--	--	*	*	*
<u>TOTAL</u>	<u>641</u>	<u>100.0</u>	<u>1,823</u>	<u>100.0</u>	<u>+184%</u>
Population	4,434		5,790		+31%
Persons per Wage Employee	6.9		3.2		

* Figures withheld to comply with disclosure regulations.

Source: Alaska Department of Labor; U.S. Bureau of the Census.

Figure 17
**WAGE EMPLOYMENT AND POPULATION
 KOBUK LABOR AREA, 1970, 1980 & 1986**



NOTE: Graph is to log scale.
 Source Alaska Department of Labor; U.S. Census Bureau.

(-7 percent). Trade grew (+132 percent), but less rapidly than overall employment (+184 percent). Service sector employment appears to have grown at a tremendous rate (+1529 percent), but comparisons over time are invalidated by the above-noted transfer of several public services from governmental to quasi-public agency administration. Unfortunately, comparative data is unavailable for the mining, construction and finance/insurance/real estate sectors, but the new importance of the ANCSA corporations is nevertheless visible in the number of jobs in the finance/insurance/real estate sector.

While there are no 1970 benchmark employment data for Kotzebue alone, it is likely that these regional employment trends for the 1970-1986 period are also broadly representative of local trends in Kotzebue, which accounted for more than half of the region's total wage employment.

Employment and economic data chronicling the growth and change of Kotzebue's economy are sketchy for the early 1970s, but become increasingly available by the end of the decade, after which Kotzebue's economic and employment trends can be traced through several data sources.

Tables 45 through 48 compare employment and income statistics from the 1980 Census for the Kobuk Census Division and other areas of Alaska. While the data cover the entire Kobuk Census Division, we believe they are nevertheless a good surrogate gauge of Kotzebue's relative economic standing. In general, the data show that despite the economic gains of the 1970s, the region's Native residents' family incomes and labor force participation rates still lagged well behind local white residents' and behind statewide levels.

TABLE 45

PERCENT DISTRIBUTION OF FAMILIES BY INCOME AND RACE
STATE OF ALASKA AND KOBUK CENSUS DIVISION, 1979

Income	State of Alaska		Kobuk Census Division	
	White	Native	White	Native
Under \$10,000	11.4%	33.9%	5.6%	36.2%
Between \$10,000-\$20,000	18.1	25.2	8.4	31.6
Between \$20,000-\$30,000	28.1	22.8	36.3	20.6
Over \$30,000	42.4	18.1	49.7	11.6
<u>TOTAL</u>	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>

Source: U.S. Bureau of the Census, cited in C.K. Thomas & Associates (1983).

TABLE 46

LABOR FORCE PARTICIPATION RATES, BY RACE
STATE OF ALASKA AND SELECTED CENSUS DIVISIONS, 1980

	Labor Force Participation Rate*		
	Total	White	Native
Anchorage Census Division	80	90	40
Kobuk Census Division	52	87	45
Nome Census Division	53	81	43
North Slope Borough	70	94	60
Wade Hampton Census Division	46	93	42
State of Alaska	72	75	49
United States	62	62	..

* Rate calculated as a percentage of persons 15-64 years of age in labor force.

Source: Alaska Department of Labor, cited in C.K. Thomas & Associates (1983).

TABLE 47

DISTRIBUTION OF EMPLOYMENT BY CLASS OF WORKER
STATE OF ALASKA AND SELECTED CENSUS DIVISIONS, 1980

Class of Worker	State of Alaska	Kobuk	Nome	North Slope	Wade Hampton
Private Sector					
Private Wage & Salary	52.6%	30.8%	42.0%	44.1%	31.2%
Self-Employed	6.5	1.4	3.5	1.3	.9
Unpaid Family Workers	.3	.2	.4	.4	.3
Subtotal	59.4	32.4	45.9	45.8	32.4
Public Sector					
Federal Government.					
Civilian	10.7	11.4	16.4	3.8	20.1
Military	10.6	3.2	2.3	6.6	1.9
State Government	10.4	35.5	19.0	8.0	27.7
Local Government	8.8	17.6	16.4	35.9	17.8
Subtotal	40.5	67.7	54.1	54.3	67.5
<u>TOTAL</u>	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>

Source: U.S. Bureau of the Census.

TABLE 48

EMPLOYMENT BY CLASS OF WORKER AS A PERCENT OF LABOR FORCE*
STATE OF ALASKA AND SELECTED CENSUS DIVISIONS, 1980

Class of Worker	State of Alaska	Kobuk	Nome	North Slope	Wade Hampton
Private Sector					
Private Wage & Salary	35.3%	13.7%	19.8%	29.5%	11.8%
Self-Employed	4.4	.6	1.6	.9	.3
Unpaid Family Workers	.2	.1	.2	.3	.1
Subtotal	39.9	14.4	21.6	30.7	12.2
Public Sector					
Federal Government					
Civilian	7.2	5.1	7.7	2.5	7.6
Military	7.1	1.4	1.1	4.4	.7
State Government	7.0	15.8	9.0	5.3	10.5
Local Government	5.9	7.8	7.7	24.0	6.7
Subtotal	27.2	30.1	25.5	36.2	25.5
TOTAL EMPLOYED	67.2	44.4	47.1	66.9	37.8
Unemployed/Not in Active Labor Force	32.8	55.6	52.9	33.1	62.2
<u>GRAND TOTAL</u>	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>

* Labor force measured as the total number of persons 16-64 years in geographic area.

Source: U.S. Bureau of the Census.

Table 45 compares the distribution of white and Native family incomes for the **Kobuk** Census Division and the State of Alaska as a whole. Both statewide and in the **Kobuk** region, white families' incomes tend toward the **upper** end of the income spectrum and Native families' income toward **the** lower end. The data also show that white **family** incomes in the **Kobuk** area are skewed upward and Native family incomes skewed downward compared to their respective statewide counterparts. Thus, despite the **Alaska** Native economic gains of the previous decade, the spread between white and Native family incomes was greater in the **Kobuk** region than statewide.

Part of the **Kobuk** region's family income differential by race can be traced to **labor** force participation rates. As Table 46 shows, the 1980 Census's **labor** force participation rate for Natives in the **Kobuk** region was **45** percent but for whites **87** percent. The comparable statewide rates were **49** percent **for** Natives and **75** percent for whites. The high labor force participation for white residents of the **Kobuk** region suggests that success in the cash economy is especially important in their decisions to move to and stay in the region--they come to work and do not stay overlong without work. **On** the other hand, the low labor force participation rate for the region's Native residents may stem from numerous factors, including discouraged workers withdrawing from the **labor** force, **workforce** immobility, inappropriate job skills and competing demands of subsistence and other household support activities.

Table 47 compares the distribution of employment by class of worker for several northwest Alaska census divisions and the state according to 1980 Census data. In general, the data in this **table** confirm that the **Kobuk** region depended upon the public sector for about two-thirds of its

total employment. This level of public sector employment was far higher than for the state as a whole, substantially higher than for the Nome and North Slope Borough regions and about on par with the Wade Hampton Census Division.

At first glance, Table 47 may be taken to mean that the **Kobuk** region, with 68 percent of its employment in the public sector, had an inflated **public** sector, but that was not necessarily so. Table 48 relates the 1980 employment figures to the total labor force of the same geographic areas covered by Table 47, which just concerns the employed workforce. Table 48 shows that the ratio of public sector employment to **labor** force for **all** four rural census divisions and for the entire state fell within a narrow range from 25.5 percent (**Nome** and Wade Hampton) to 36.2 percent (North Slope). In the **Kobuk** Census Division, the public sector employed 30 percent of the potential labor force (compared to 27 percent statewide). Thus, the ratio of public employees to persons of working age in the **Kobuk** region is about normal for Alaska. By this reading of the employment data, the prevalent view that this region (and most other **rural** Alaska regions) has a lopsided dependence on public sector employment stops short of the ultimate conclusion.

The noteworthy point is not that the region has a large number of public service jobs but it has so **few** jobs of any other sort. The explanation for the apparent dominant role of **public** sector employment is less that the region's public sector is unduly large, more that (1) its deficient private sector economy provided jobs to only 14 percent of the potential labor force (compared to 40 **percent statewide**) and (2) its **job-**

short economy imposed a high rate of unemployment and non-participation (56 percent) upon the potential labor market (33 percent statewide].

2. Employment.

This section presents and interprets workforce and other economic data for key elements of Kotzebue's local economy. Topics addressed include overall trends in wage and salary employment as well as in public and private sectors, the role of public transfer payments and the local cost of living. Here, it is worth mentioning that the comparative review of various sources of workforce data for Kotzebue suggests that individual data sources have idiosyncratic flaws. Even so, the different data sources can usefully be tested against each other and, together, be used to compose a generally consistent overall picture of recent employment conditions and trends.

In 1978, Northrim Associates conducted a sample survey of the occupations of 247 employed persons at Kotzebue. The distribution of occupations then was consistent with the preeminent role of white collar governmental employment. Employment was concentrated in administrative and social service occupations (for example, professional - 12.6 percent; public management - 8.1 percent; technical - 9.7 percent; clerical - 10.1 percent; health services - 6.5 percent) typical of public sector employment. On the other hand, the frequency of trade, personal service and industrial occupations was comparatively low (see Table 49).

According to the April 1980 Census, total employment at Kotzebue, including self-employed, was 718 (see Table 51 below), This was almost double the employment figure of 364 persons recorded by the 1970 Census. The Alaska Department of Labor's tally of covered wage employment for April

TABLE 49

OCCUPATIONS OF EMPLOYED PERSONS, KOTZEBUE, 1978

Occupation	Percent
Professional	12.6%
Management/Public	8.1
Management/Private	3.6
Technical Worker	9.7
Clerical	10.1
Sales	4.0
Crafts Person	0.8
Carpenter/Mechanic	4.0
Operator/Driver	4.9
Laborer/Construction	9.3
Cleaning Services	9.3
Food Services	4.5
Health Services	6.5
Protective Services	1.6
Personal Services	5.3
Fishing	1.2
Cannery	1.2
Military	1.2
Religious	2.0
TOTAL	100.0%
N = 247	

Source: Northrim Associates, Inc. 1979 (per
Policy Analysts, Inc., 1980).

TABLE 50

SELECTED LABOR FORCE DATA
KOTZEBUE , 1980

LABOR FORCE STATUS, PERSONS OVER 16 YEARS, 1980

Labor Force Status	Total	Male	Female	Alaska Male	Native Female
Armed Forces	3	0	0	3	0
Civilian Employed	718	390	328	204	217
Civilian Unemployed	104	82	22	74	19
Not in Labor Force	500	221	279	206	249
Labor Force Participation Rate	62. 0%	68.0%	55.0%	57.0%	48.0%
Unemployment Rate: 1980	12.7%	17.4%	6.3%	26. 6%	8.1%
1970	8.5%	8.8%	8.2%		

* These data suppressed or missing.

Source: 1980 Census.

TABLE 51

EMPLOYMENT, BY INDUSTRY, 1970 AND 1980

	1970	1980
Construction	5	29
Manufacturing	0	4
Transportation	45	66
Communications	22	41
Trade	52	98
F. I.R. E.	8	19
Services	132	290
Public Administration	39	167
Other	61	4
TOTAL	364	718

Source: 1980 Census.

1980 was 1,165 (see Table 55), or 62 percent higher than the Census figure. Sector-by-sector comparisons indicate that the difference was concentrated in the categories of service and public sector employment. At Kotzebue, as in many other rural communities, the Census appears to have classified some public service employment as service and underreported public sector employment. On the other hand, the Alaska Department of Labor local government employment figures for Kotzebue were likely inflated by the inclusion of all Northwest Arctic School District and all Maniilaq Association employees, regardless of their actual place of work. Thus, the Department of Labor's local government employment figures and its total employment figures for Kotzebue appear overstated.

Table 52 summarizes Alaska Department of Labor average annual wage employment by industry in Kotzebue over the period 1980 to 1986 and Figure 18 shows total average annual employment. Tables 53 to 61 tabulate monthly wage employment by industry for individual years 1977 and 1978 and from 1980 to 1986. These Alaska Department of Labor employment data were reviewed to evaluate employment trends since 1980. Any inferences regarding trends must be qualified because of some obvious flaws and quirks in the data. For example, the 1981 and 1982 local governmental and total average annual employment figures are unexplainably high compared to preceding and following years.

According to the Department of Labor data, total employment increased by 25 percent between 1980 and 1986. Major gains in local government, trade, and state government employment levels were partly offset by losses in federal employment and transportation/communications/public utilities. The data series for the service sector is spotty but suggests some gains

TABLE 52
COVERED INDUSTRY EMPLOYMENT
CITY OF KOTZEBUE
1980-1986

Industry Classification	1980	1981	1982	1983	1984	1985	1986
Mining	0	0	0	0	*	8	*
Construction	36	*	*	*	16 ^a	*	*
Manufacturing	*	0	0	0	0	0	0
Transportation, Communication and Public Utilities	125	151	196	194	182	119	99
Trade	113	155	205	189	161	169	211
Finance, Insurance and Real Estate	*	40	37 ^a	42	71	78	66
Services	138	165 ^a	170 ^b	*	*	231 ^b	*
Government							
Federal	210	202	139	110	122	136	151
State	58	50	58	80	86	91	90
Local	449	600	727	506	538	575	560
Miscellaneous	*	*	*	*	*	*	*
TOTAL	1,160	1,443	1,568	1,366	1,399	1,417	1,449

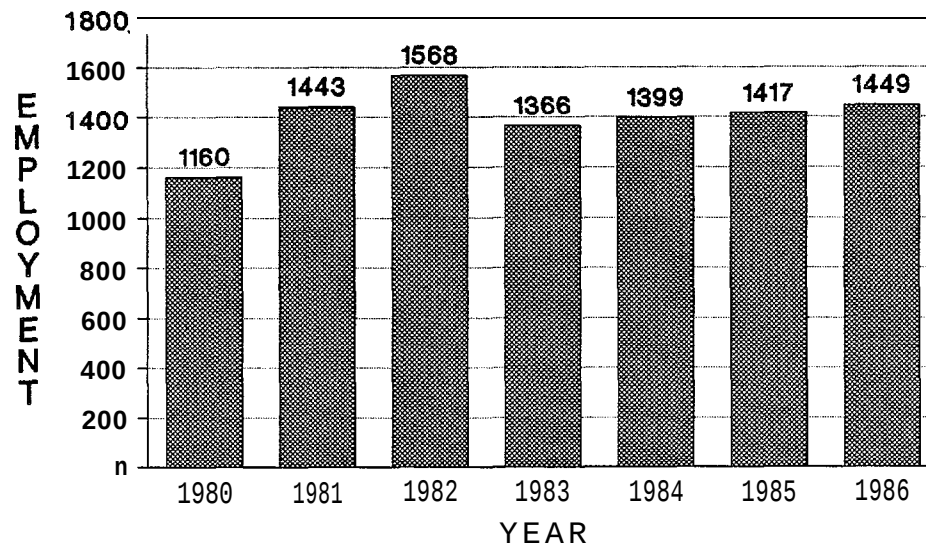
* Figures withheld to comply with disclosure regulations.

^a Prorated from nine months of data.

^b Prorated from six months of data.

Source: Alaska Department of Labor.

Figure 18
**AYERAGE ANNUAL WAGE EMPLOYMENT
CITY OF KOTZEBUE, 1980-1986**



Source Alaska Department of Labor.

TABLE 53

COVERED INDUSTRY% EMPLOYMENT
CITY OF KOTZEBUE, 1977

Industry Classification	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mining	*	*	*	*	*	*	*	*	*	*	*	*
Construction	*	*	*	*	*	*	*	*	*	*	*	*
Manufacturing	*	*	*	*	*	*	*	*	*	*	*	*
Transportation, Communication and Public Utilities	99	97	98	105	136	141	300	304	298	108	111	104
Wholesale Trade	0	0	0	0	0	0	0	0		0	0	0
Retail Trade	85	84	90	94	98	111	194	186	178	99	100	105
Finance, Insurance and Real Estate	*	*	*	*	*	*	*	*	*	*	*	*
Services	183	189	178	110	121	118	*	*	*	163	161	159
Miscellaneous	0	0	0	0	0	0	0	0		0	0	0
Government	336	334	332	332	333	320	314	317	329	348	356	328
Federal	268	268	269	267	257	235	232	234	253	270	275	270
State**	12	15	16	14	13	12	9	8	8	12	13	14
Local **	56	51	47	51	63	73	73	75	68	66	68	44
<u>TOTAL</u>	<u>767</u>	<u>771</u>	<u>768</u>	<u>709</u>	<u>758</u>	<u>762</u>	<u>1,012</u>	<u>1,008</u>	<u>964</u>	<u>822</u>	<u>828</u>	<u>792</u>

* Figures withheld to comply with disclosure regulations.

** Full coverage of state and local government employment began in 1978.

Source: Alaska Department of Labor.

TABLE 54

COVERED INDUSTRY EMPLOYMENT
CITY OF KOTZEBUE, 1978

Industry Classification	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Ott	Nov	Dec
Mining	*	*	*	*	*	*	*	*	*	*	*	*
Construction	*	*	*	*	*	*	*	*	*	*	*	*
Manufacturing	*	*	*	*	*	*	*	*	*	*	*	*
Transportation, Communication and Public Utilities	91	87	92	92	130	189	180	166	182	81	84	87
Wholesale Trade	0	0	0	0	0	0	0	0	0	0	0	0
Retail Trade	99	88	117	115	125	131	119	123	126	122	124	123
Finance, Insurance and Real Estate	*	*	*	*	*	*	*	*	*	*	*	*
Services	148	139	140	99	105	114	87	123	140	113	127	119
Miscellaneous	0	0	0	0	0	0	0	0	0	0	0	0
Government												
Federal	277	271	270	275	205	247	248	270	281	280	280	279
State	41	41	55	40	41	40	37	37	42	40	50	57
Local	399	401	419	421	407	225	245	259	401	432	429	420
TOTAL	1,100	1,371	1,134	1,080	1,122	1,004	967	1,033	1,220	1,115	1,147	1,135

* Figures withheld to comply with disclosure regulations.

Source: Alaska Department of Labor.

TABLE 55

COVERED INDUSTRY EMPLOYMENT
CITY OF KOITZEBUE, 1980

Industry Classification	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mining	0	0	0	0	0	0	0	0	0	0	0	0
Construction	21	23	28	25	21	34	33	27	25	57	41	97
Manufacturing	*	*	*	*	*	*	0	0	0	0	0	0
Transportation, Communication and Public Utilities	106	103	99	100	113	169	166	165	147	117	109	109
Wholesale Trade	0	0	0	0	0	0	0	0	0	0	0	0
Retail Trade	99	93	91	104	112	121	137	127	128	120	109	120
Finance, Insurance and Real Estate	*	*	*	*	*	*	*	*	*	*	*	*
Services	125	119	120	154	136	140	151	158	147	151	127	133
Miscellaneous	0	0	0	0	0	0	*	*	*	*	*	*
Government Federal State Local	212 48 471	215 61 467	214 74 460	226 73 468	226 70 471	203 58 531	190 51 290	191 44 289	195 61 477	216 53 486	217 50 494	211 50 480
TOTAL	1,095	1,095	1,099	1,165	1,163	1,268	1,033	1,024	1,234	1,267	1,213	1,267

* Figures withheld to comply with disclosure regulations.

Source: Alaska Department of Labor.

TABLE 56
COVERED INDUSTRY EMPLOYMENT
CITY OF KOTZEBUE, 1981

Industry Classification	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Ott	Nov	Dec
Mining	0	0	0	0	0	0	0	0	0	0	0	0
Construction	*	*	*	*	*	*	*	*	*	*	*	*
Manufacturing	0	0	0	0	0	0	0	0	0	0	0	0
Transportation, Communication and Public Utilities	103	108	109	101	141	173	222	202	256	139	130	123
Wholesale Trade	0	0	0	0	0	0	0	0	0	0	0	0
Retail Trade	105	109	103	108	131	145	187	264	192	167	173	171
Finance, Insurance and Real Estate	26	30	31	29	32	32	38	54	61	55	47	41
Services	142	142	142	202	201	235	*	*	*	137	141	142
Miscellaneous	*	*	*	*	*	*	*	*	*	*	*	*
Government												
Federal	212	217	213	212	211	192	204	202	201	191	185	182
State	48	50	48	48	44	47	52	53	51	57	47	56
Local	505	542	497	609	613	601	597	589	633	657	672	680
TOTAL	1,165	1,216	1,160	1,334	1,385	1,440	1,633	1,673	1,634	1,556	1,564	1,558

* Figures withheld to comply with disclosure regulations.

Source: Alaska Department of Labor.

TABLE 57
COVERED INDUSTRY EMPLOYMENT
CITY OF KOTZEBUE, 1982

Industry Classification	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mining	0	0	0	0	0	0	0	0	0	0	0	0
Construction	23		26		23	16	2	2	*	*	*	*
Manufacturing	0	0	0	0	0	0	0	0	0	0	0	0
Transportation, Communication and Public Utilities	164	168	170	169	187	216	244	239	241	190	177	181
Wholesale Trade	0	0	0	0	0	0	0	0	0	0	0	0
Retail Trade	164	155	148	151	157	200	314	373	177	209	209	206
Finance, Insurance and Real Estate	*	*	*	32	30	41	31	42	41	41	42	36
Services	139	167	146	*	*	*	212	191	165	*	*	*
Miscellaneous	*	*	*	*	*	*	*	*	*	*	*	*
Government												
Federal	179	178	175	174	179	144	106	109	105	101	107	105
State	54	59	59	52	55	54	57	57	60	64	66	64
Local	704	733	761	798	830	873	703	716	899	574	581	554
TOTAL	1,458	1,513	1,513	1,558	1,615	1,716	1,727	1,782	1,743	1,420	1,422	1,351

* Figures withheld to comply with disclosure regulations.

Source: Alaska Department of Labor.

TABLE 58
COVERED INDUSTRY EMPLOYMENT
CITY OF KOTZEBUE, 1983

Industry Classification	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Ott	Nov	Dec
Mining	0	0	0	0	0	0		0	0	0	0	0
Construction	*	*	*	*	*	*	*	*	*	35	30	45
Manufacturing	0	0	0	0	0	0		0	0	0	0	0
Transportation, Communication and Public Utilities	179	173	180	190	204	219	212	225	215	191	174	168
Wholesale Trade	0	0	0	0	0	0		0	0	0	0	0
Retail Trade	181	168	175	179	182	202	230	290	182	156	157	160
Finance, Insurance and Real Estate	38	35	40	41	41	38	50	56	40	40	42	40
Services	*	*	*	*	*	*	259	255	185	*	*	*
Miscellaneous	*	*	*	*	*	*	*	*	*	*	*	*
Government												
Federal	105	104	109	110	113	113	115	114	114	106	105	109
State	68	69	76	88	77	83	78	82	89	87	81	79
Local	585	600	590	601	613	502	141	185	526	595	599	553
TOTAL	1,370	1,362	1,374	1,419	1,456	1,442	1,133	1,254	1,400	1,408	1,414	1,365

* Figures withheld to comply with disclosure regulations.

Source: Alaska Department of Labor.

TABLE 59

COVERHI 1NSTR% EMPLOYMENT
CITY OF KOTZEBUE, 1984

Industry Classification	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct.	Nov	Dec
Mining	0	0	0	0	0	0		*	*	*	*	*
Construction	7	4	5	*	*	*	10	37	34	29	10	4
Manufacturing	0	0	0	0	0	0	0	0	0	0	0	0
Transportation, Communication and Public Utilities	171	174	173	166	179	196	206	220	201	175	163	161
Wholesale Trade	0	0	0	0	0	0	0	0	0	0	0	0
Retail Trade	146	138	136	139	155	174	191	173	180	188	156	159
Finance, Insurance and Real Estate	57	69	78	68	59	62	93	139	66	67	53	55
Services	*	*	*	*	*	*	223	218	225		*	*
Miscellaneous	*	*	*	16	17		24	*	*	*	*	*
Government												
Federal	106	110	108	117	118	135	138	131	129	133	121	114
State	76	85	75	78	79	82	86	91	100	97	86	101
Local	607	621	586	634	638	514	173	245	579	630	625	604
TOTAL	1,385	1,410	1,363	1,425	1,457	1,403	1,130	1,268	1,527	1,529	1,453	1,433

* Figures withheld to comply with disclosure regulations.

Source: Alaska Department of Labor.

TABLE 60

COVERED INDUSTRY EMPLOYMENT
CITY OF KOTZEBUE, 1985

Industry Classification	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mining	*	*	*	*	*	*	*	*	*	*	*	*
Construction	*	*	*	*	*	*	*	*	*	*	*	*
Manufacturing	0	0	0	0	0	0		0	0	0	0	0
Transportation, Communication and Public Utilities	156	146	140	109	110	114	106	115	115	109	109	104
Wholesale Trade	0	0	0	0	0	0		0	0	0	0	0
Retail Trade	142	151	156	155	165	166	188	248	172	181	150	153
Finance, Insurance and Real Estate	60	61	59	62	63	70	101	174	79	75	66	61
Services	° *	*	*	214	210	222	*	*	*	237	241	262
Miscellaneous	*	*	*	*	*	*	15	12	15	*	*	*
Government												
Federal	115	119	120	124	126	133	150	146	145	161	150	147
State	97	93	104	85	96	81	73	76	104	96	98	90
Local	637	615	615	645	646	428	363	383	600	694	650	626
TOTAL	1,435	1,415	1,420	1,405	1,430	1,226	1,264	1,442	1,453	1,571	1,479	1,465

* Figures withheld to comply with disclosure regulations.

Source: Alaska Department of Labor.

TABLE 61

COVERED INDUSTRY EMPLOYMENT
CITY OF KOTZEBUE, 1986

Industry Classification	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Ott	Nov	Dec
Mining	*	*	*	*	*	*	*	*	*	*	*	*
Construction	6	4	5	*	*	*	33	24	17	*	*	*
Manufacturing	0	0	0	0	0	0		0	0	0	0	0
Transportation, Communication and Public Utilities	98	94	96	93	94	95	103	117	100	102	103	96
Wholesale Trade	0	0	0	0	0	0		0	0	0	0	0
Retail Trade	179	170	165	179	187	184	222	237	226	262	257	263
Finance, Insurance and Real Estate	55	55	55	56	57	59	84	110	71	58	66	62
Services	*	*	*	*	*	*	*	*	*	*	*	*
Miscellaneous	*	*	*	*	*	*	*	*	*	15	15	10
Government												
Federal	142	145	149	131	147	166	170	173	165	152	137	130
State	100	87	88	99	90	93	87	89	78	95	89	79
Local	626	657	652	665	602	434	374	403	716	499	543	549
TOTAL	1,459	1,473	1,478	1,509	1,468	1,315	1,365	1,395	1,595	1,438	1,458	1,430

* Figures withheld to comply with disclosure regulations,

Source: Alaska Department of Labor.

in that sector also, but it should be recalled that the classification of non-governmental service agencies (e.g., **Maniilaq** Association) fudges this sector's figures. Overall, the employment gains are proportionate to the population increases estimated for Kotzebue by the Department of Labor for this period, as shown in Table 49.

In order to assess the **seasonality** of wage employment at Kotzebue, the Alaska Department of Labor's average monthly covered employment was calculated over the seven-year span 1980-1986. The percent difference between the monthly averages and annual average was measured. The statistical results indicate that Kotzebue's wage employment pattern exhibits only a mild degree of **seasonality**. The peak employment months have tended to be September and October, while the low employment months were January through March and **July** (see Table 62 and Figure 19). The drop in **July** employment reflects the summertime release of **school** district employees, which introduces a counter-cyclic tendency. In the Alaska Department of Labor data series, this tendency may be exaggerated, were all regionwide school district employment attributed to the headquarters office in Kotzebue, as commonly happens. In fact, the number and seasonal pulse of local government employment reported for Kotzebue indicate that **school** district employees resident in the outlying villages are, indeed, attributed to Kotzebue.

The 1980 survey of Kotzebue total employment and earnings compiled by Derbyshire and Associates provides an additional source of employment and earnings data (see Table 63). But, like the Census and the Alaska Department of Labor employment data, this survey presented some improbable findings.

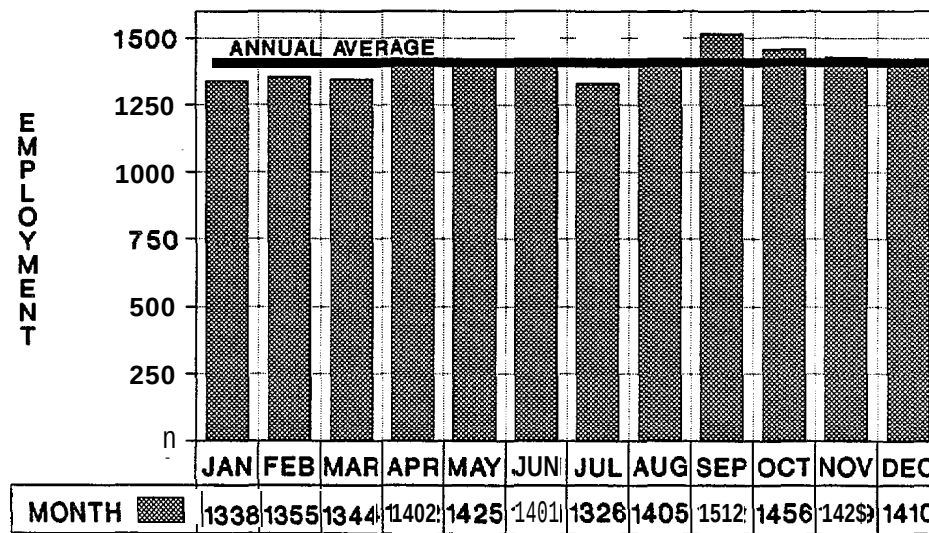
TABLE 62

AVERAGE MONTHLY EMPLOYMENT
CITY OF KOTZEBUE, 1980-1986

	Average Monthly Employment	Percent Dif- ference from Annual Average
January	1,338	-4.4%
February	1,355	-3.2
March	1,344	-4.0
April	1,402	+0.1
May	1,425	+1.8
June	1,401	+0.1
July	1,326	-5.3
August	1,405	+0.4
September	1,512	+8.0
October	1,456	+4.0
November	1,429	+2.1
December	1,410	+0.7
Annual Average	1,400	

Source: Alaska Department of Labor.

Figure 19
AVERAGE MONTHLY EMPLOYMENT
CITY OF KOTZEBUE, 1980-1986



Source: Alaska Department of Labor.

TABLE 63
EMPLOYMENT AND EARNINGS BY INDUSTRY
CITY OF KOTZEBUE, 1980

Industry	Number of Employees	Total Income (\$000)	Average Annual Income
Natural Resource Production	90	1,705	18,900
Mining and Exploration	17	653	38,400
Construction	100	6,739	67,400
Household Manufacturing	7	500	71,400
Transportation	77	2,443	31,700
Warehousing and Distribution	20	1,154	57,700
Commun. and Pvt. Utilities	34	903	26,600
Trade and Private Services	197	4,212	21,400
Finance and Real Estate	34	1,200	35,300
Quasi-Public and Non-Profit	129	2,965	23,000
Local and Regional Government	329	10,129	30,800
State Agencies and Services	62	1,680	27,100
Federal Agencies and Service	103	2,927	28,400
Intra-region Migration	48	1,255	26,100
Subtotal	1,247	38,465	30,800
Transfer Payments		3,949	
TOTAL		\$42,414	

Source: Derbyshire and Associates, 1981.

First, this survey's reported employment count (average annual employment: 1,247) was implausibly high. According to the 1980 Census, Kotzebue had a total of 1,261 residents between 15 and 64 years of age. Even allowing for some Census undercount, offset for unemployment and non-participation in the workforce, it seems very unlikely that Kotzebue's average annual employment, including self-employment, attained the level cited, which exceeded the workforce size.

Second, the figure reported for average annual earnings (\$30,800) at Kotzebue was one-third higher than the statewide average annual wage recorded by the Alaska Department of Labor. Taken together, the seemingly high employment and earnings levels reported by this survey yield a 1980 average earned income per household of approximately \$76,000, assuming 506 households as reported by the 1980 Census. For comparison, the Census reported a 1979 average total family income of \$32,250 for Alaska and \$23,371 for Kotzebue. In sum, the overall picture of Kotzebue's total employment and earnings presented by this survey appear suspect in comparison to other data sources. The survey's findings are also at odds with the widespread belief that unemployment and underemployment are commonplace in Kotzebue and that local incomes are below statewide averages.

On the other hand, the Derbyshire and Associates study provided useful information on the relative scale of employment in commercial fishing and fish processing and by quasi-public and non-profit service organizations at the time of the survey.

Maniilaq Manpower (undated, circa 1984) compiled an inventory of all jobs in the region, including Kotzebue (see Table 64). The inventory

TABLE 64
KOTZEBUE JOB LIST, c. 1984

Employer	Employees
Cominco Alaska, Inc.	11
Chalet Home Builders	4
Eon, Inc.	16 ^a
Alaska Airlines	13 ^b
Arctic Lighterage	10
Baker Aviation	16
Cape Smythe Air Service	8
Mark Air Cargo	4
Ryan Air	9 1/2
Shellabarger Flying Service	8
Alascom, Inc.	2
KOTZ Broadcasting	13
Kotzebue Electric Association	16
Kotzebue Cablevision	2
OTZ Telephone Cooperative, Inc.	11
Alaska Commercial Company	35 ^c
Arctic Bookstore	3
Hanson's Store	32 1/2 ^d
Alaska Bank of the North	6
Kikiktagrük Inupiat Corporation	13
Alaska Legal Services	3
Churches	6
C.J. Winkle	5
E & N Auto	2
Kotzebue Janitorial Services	1
NANA Regional Corporation	7
Nullagvik Hotel	2 ^e
Museum of the Arctic	5
Noyuk Laundromat	1
Private Attorney	2 ^f
Starcade	1
<u>Subtotal</u>	<u>268</u>
Federal Government	
Federal Aviation Administration	3
National Park Service	119
Postal Service	7
Public Health Service	68
<u>Subtotal</u>	<u>89</u>

TABLE 64
(cont.)

State of Alaska	
Alaska Army National Guard	44
Alaska Court System	11
Alaska State Troopers	7
Chukchi Community College	23
Dept. of Community/Regional Affairs	3
Department of Fish and Game	6
Department of Law	2
Job Service	1
Legislative Affairs Office	2
Office of the Governor	2
<u>Subtotal</u>	<u>101</u>
Local Government	443
City of Kotzebue	99
Kotzebue IRA	5
Maniilaq Association	187
Maniilaq Manpower	10
Northwest Arctic School District	142
<u>Subtotal</u>	<u>443</u>
TOTAL	<u>901</u>

^a Includes 20-25 part-time and/or seasonal jobs, here counted as equivalent to 6 full-time positions.

^b Includes 5 part-time positions, here counted as equivalent to 3 full-time positions.

^c Original survey lists 34-36 positions, here counted as 35.

^d Original survey counts 32-33 positions, here counted as 32 1/2.

^e Only 2 positions at **Nullagvik** Hotel were reported in original survey; actual employment was certainly higher.

^f Original survey lists 1-3 positions, here counted as 2.

^g Includes 16 full-time-summer jobs, here counted as equivalent to 4 full-time positions.

Source: NANA Region Career Survey, undated (c. 1984).

counted the number of jobs by employer, along with details on part-time or seasonal employment. For present purposes, these data were regrouped by private sector employers and by federal, state and **local** governmental agencies. In view of their functions and sources of funding, quasi-public and non-profit agencies serving **Kotzebue** and its region were classified as **local** employers, although they are usually classified as service employment by the Alaska Department of Labor.

The **Maniilaq** Manpower survey counted 901 jobs in **Kotzebue**, of which about 30 percent (**268** jobs) were in the private sector; about 10 percent (89) in federal government; about 11 percent (101) in state government; and 49 percent (443) in **local** and regional governing agencies. Thus, according to the **Maniilaq** survey, fully 70 percent of **Kotzebue's** employment base was in the public sector, with nearly half of all employment concentrated in **local** governmental agencies (see Table 64; the government vs. private-sector employment trends are also discussed in the two sections that follow this overview).

The Subsistence Division of the **Alaska** Department of Fish and Game recently conducted a survey of household employment in **Kotzebue** during 1987. The preliminary findings of that survey yield the tabulation of employment by industry at the household level shown in Table 65. It is important to note that the data presented in this table concern the numbers and percentages of all households who report one or more members working in designated categories. Because some households harbor two or more employees, because some persons held two or more jobs during the year and because the unit of analysis was households rather than individuals, these figures are not a count of average annual employment or even of **total local**

TABLE 65
HOUSEHOLD EMPLOYMENT, BY INDUSTRY
KOTZEBUE, 1987

<u>Industry</u>	<u>Employment</u>	
	Number	Percent
Commercial Fishing	108	9.0
Mining	22	1.8
Construction	49	4.1
Manufacturing	75	6.3
Transportation, Communications and Public Utilities	67	5.6
Trade	126	10.5
Finance, Insurance and Real Estate	10	.8
Services	209	17.4
Government	532	44.4
(Federal)	(126)	(10.5)
(State)	(72)	(6.0)
(Local)	(334)	(27.9)
TOTAL	1,198	100.0

Note: The employment figures in this table do not represent average annual **employment** or a momentary account of employment at the time of the survey. The employment figures in this table derive from respondents' answers to a survey question asking them to list all jobs they held in 1987; respondents may have listed several jobs/employers, including brief seasonal jobs. All these jobs were then classified by industry. Thus, while many individuals reported working in commercial fishing or manufacturing, these short-season industries may have contributed only a few man-years of work.

Source: Alaska Department of Fish and Game, Division of Subsistence.

employment at a single point in time. For this very reason, this survey's data help show the breadth of local engagement in such short-season industries as commercial fishing and fish processing. Indeed, it appears that a surprisingly large number of households have members engaged in commercial fishing (108 or 9 percent) or in fish processing, assuming that most of the manufacturing employment (75 households or 6.3 percent) is actually fish processing. Thus, participation in commercial fishing-related work appears widespread, even if of brief duration.

According to preliminary results of the 1988 NANA Region Social Indicators survey of four local communities, 15 of 65 or 23 percent of the sample heads of household worked away from their home community during 1986. This rate may indicate a scarcity of jobs in some communities or at least a very uneven distribution of jobs among communities. Although this fact shows a willingness to work and to relocate if need be, the specific details of work availability reveal a more pessimistic situation.

Nineteen of 65 household heads (29 percent) had less than two weeks of work in 1986, if they worked at all. Only 15 heads (23 percent) worked for two or more weeks during each month of the last year. Half (51 percent) of the sample heads worked for two weeks or more during eight of twelve months but no more than that. Over half (54 percent) of all respondents considered themselves "unemployed" during all twelve months of 1986 and desired jobs. (The discrepancy between the last two figures stems from the fact that intermittent "stop gap" jobs are seldom considered solid, real employment.)

There is another important aspect of local work patterns that is poorly accounted for in official employment data but promises to become

increasingly important. That is the practice of pursuing employment outside the home community on a rotation schedule or seasonal basis. This practice has long been widespread within the region. For example, **Saario (1966)** commented on the habit of many **Kivalina** men in the late **1950s** to find summertime work at **longshoring** in Kotzebue, construction in Fairbanks and fire-fighting wherever needed. VanStone (1960) documented a similar work pattern at Point Hope. **Kivalina** workers later showed this same mobility during the pipeline construction era; a study of Alaska Native hire on the pipeline project (Institute of Social and Economic Research, **1978**) found that 31 **Kivalina** residents, fully one-sixth of the total population, had worked on the project. **Kivalina** may be an extreme case of this particular adaption to the dearth of local cash employment opportunities, but these data help show that this work pattern is familiar and acceptable to part of the region's **workforce**. NANA Development Corporation's ownership interest in a variety of construction, camp operation, security and similar enterprises in the **Prudhoe** Bay oil patch has given many of its shareholders access to a **pool** of regular employment outside their home communities, often outside the region, on a rotation basis. And, for the future, the **NANA/Cominco** strategy for staffing of the **Red Dog** mine aims to recruit a share of Kotzebue and village residents to work on a rotation schedule at the **minesite**.

Based on the **Social** Indicators NANA Region sample, average yearly household income is \$25,390. This figure is heavily influenced by a handful of very high incomes that exceed \$60,000. In this case it is useful to examine the median income, which is \$20,000. About one-quarter (28 percent) of the sample incomes were \$8,000 annually or less. We have

not calculated a cost of living differential for the region, but it is fair to say that these incomes buy far less than they would in metropolitan centers of the state.

Fourteen of the 65 households or 22 percent were supported wholly or in part by commercial fishing or other forms of self-employment. These households reported business expenses ranging from \$1,000 to \$20,000. The average amount of business expenses in 1986 was only \$850 if spread out over all 1 households, but counting only self-employment households, the average business expense was \$5,170. The average net income earned from self-employment cannot be estimated, since sample households did not uniformly deduct business expenses.

According to the Northwest Arctic Borough economic surveys of 1987 and 1988, unemployment is a chronic problem in the area. In 1987, 60 percent of the regional "labor force" respondents indicated that they were unemployed. In 1988, the percentage reached 63 percent. (For comparison, recall that the 1980 Census reported that 56 percent of the Kobuk Census Division's working-age population was unemployed or not in the active labor force. See Table 48).

The survey reported that, in Kotzebue, 38 percent of the unemployed respondents for 1987 had not worked in the last eight months. In 1988 in Kotzebue, 16 percent of the unemployed respondents had not worked in the last eight months (see Northwest Arctic Borough 1987b, 1988a). Although the long-term unemployment problem may eventually diminish when the Red Dog mine starts operation, the survey results show that economic dependency remains a serious concern. In 1987, 59 percent of the Kotzebue respondents

indicated that they would be willing to relocate for or commute to a job, and in 1988, the figure was 48 percent (see Ibid.).

Ongoing Social Indicators research in the NANA region suggests that markets for labor may be perceived differently in Kotzebue in comparison to the outlying villages. For example, wage or fee rates are standardized in Kotzebue, but costs are not firmly established by custom or impersonal market pressures in the villages. We suggest that the distinction between Kotzebue and the villages is due mainly to two factors. On one hand, economic transactions in the villages are more frequently "circumstantial" and based on shifting, impermanent features such as sentiment, as well as on other features such as kinship considerations, attitudes about reciprocity, and perceived need that are not strictly economic in origin. In Kotzebue, there is a greater tendency for labor to be seen as a commodity in strict value-for-value exchanges. On the other hand, wage expectations in the villages are undoubtedly influenced by local opportunities, which are limited compared to Kotzebue. Villagers sell their labor in restricted markets with few opportunities, hence there is **less** likelihood of comparative and competitive "bidding" for labor resources. Villagers take advantage of those few opportunities that are available at rates of pay determined by a "buyer's market." These issues are described in McNabb (1987c).

Social Indicators sample respondents were also asked to identify the lowest monthly income they would need to survive, given local prices. The average monthly income so identified was \$1,161 or about \$14,000 annually. Similarly, residents were asked to designate a desirable monthly income

level, without allowance for luxury items. The average figure based on the responses is \$1,944 or slightly more than \$23,000 annually.

We suggest that these subjective figures show great restraint on the part of sample residents. Respondents identified a "bare survival" figure that is undoubtedly accurate in some contexts, but which is close to and even exceeds the incomes of some households. The desired income is actually a very modest level close to the sample mean and median incomes.

Respondents were also asked if they thought they were economically better off, worse off, or the same compared to five years ago. Forty-five percent of the sample said "better off" while 29 percent said "worse off." Then, respondents were asked to guess if they would be better or worse off in five years from now. Thirty-four percent said "better off" but 39 percent said "worse" or were uncertain; 26 percent said they would be "the same." These sorts of questions are commonly used to assess citizens' confidence in the economy. That is, they are subjective attitudinal measures complementary to more objective factors like actual incomes. For this reason they are informative indicators of the local sense of economic "security."

As part of the present project, Kevin Waring Associates canvassed Kotzebue employers in summer 1988 to obtain current information about local employment levels. Table 66 summarizes the average annual full-time equivalent employment by industry counted in that inventory. Tables 67 and 68 in the following sections on governmental and private employment present breakdowns of public and private sector employment by individual employer. (It is important to note that, based on other available information and non-response by some employers, we believe the figures in

TABLE 66

AVERAGE ANNUAL FULL-TIME EMPLOYMENT BY INDUSTRY
KOTZEBUE, 1988

	Number	Percent
Agriculture, Forestry and Fishing	8	1.0
Mining	1	.1
Contract Construction	8	1.0
Manufacturing	5	.6
Transportation, Communication and Public Utilities	97	12*0
Trade	106.5	13.1
Finance, Insurance and Real Estate	19	2.3
Services	191	23.6
Government	374.5	46.2
Federal Government	94.5	(11.7)
State of Alaska	85.5	(10.6)
Local Government	194.5	(24.0)
TOTAL	810	100.0

Source: Field notes and Mani il aq Manpower employer survey (1988).

Tables 66 through 68 understate actual employment.) With particular regard to the split between public and private employment, it should be noted that the single largest local employer, Maniilaq Association, was classified as a service employer, consistent with the practice of the Alaska Department of Labor.

Government Employment.

Notwithstanding the technical and numerical inconsistencies that pervade the various surveys of local employment since 1980, by all accounts government continues to comprise the largest source of wage employment in Kotzebue, as it has for decades. However, the past two decades have seen a significant realignment in the distribution of employment among the three levels of government.

Federal government, once the primary public sector employer, is now in relative eclipse, having gradually ceded management of its key functions (e.g., education, health care) to state government or local entities. As a result, the level of federal involvement in the community has stagnated, with the exception of newly present resource management agencies such as the National Park Service. Generally, state government has, in its turn, delegated some major functions (e.g., local education) to local government. Also, since the mid-1970s, state government has expanded the range of services and employment it provides at Kotzebue. Likewise, state government has applied its new-found petroleum income to increase greatly the level of financial support it provides to local government.

Thus, for a decade, local government employment was boosted by two trends: the rearrangement of governing functions and rising intergovernmental fund transfers. More recently, both state and federal funding cuts

have imposed more austere budgetary and staffing constraints on local entities, but these constraints have not been so severe as to undo the shift to local government employment. *In* fact, the transfer of functions to local entities continues, as evidenced by the recent agreement to contract operation of the PHS hospital to Maniilaq Association.

The bulk of total governmental employment in Kotzebue may be regarded as basic employment for the following reasons. State government is funded almost wholly by petroleum revenues; state-levied personal taxes are negligible. Likewise, local governing bodies mostly rely upon inter-governmental transfers (mainly from the State of Alaska and, to a lesser degree, from the federal government) to fund their activities. There is no local property tax; sales taxes, service charges and other sources of locally raised revenues contribute a minor share of the cost of services and facilities provided by local agencies (see the account of city government and school district finances in Chapter IV). Finally, the federal government puts more money into Kotzebue's economy than it collects as taxes and other receipts.

In sum, the operations of federal, state and local governments in Kotzebue are chiefly supported by non-local revenues. To that extent, these operations represent a transfer of income into the local economy and the direct governmental employment may be regarded as basic employment.

Government payrolls, purchases and personal transfer payments, in turn, generate a substantial share of local employment in trade, services, transportation and other support sector industries. *In* contrast, there is very little private sector basic employment in Kotzebue, as discussed in greater detail below.

Table 67 presents a count of 1988 average **annual** full-time equivalent employment by agency **for** federal and state governments and a summary count of employment by **local** governmental bodies. For the latter, more detailed information on currently authorized staffing **levels** is presented in appropriate sections of Chapter **IV** for the City of **Kotzebue**, the Northwest Arctic Borough and the Northwest Arctic **School** District. Chapter **IV** **also** presents detailed staffing data for **Maniilaq** Association which is here classified as a service employer although the services it provides are essentially governmental in **nature**.

According to the preliminary results of the Subsistence Division survey reported upon above, almost one-half of the sample households contained members who were employed by government at some time during **1987**. Most (43.6 percent overall) were employed by local government. After adjustments for different definitions and methods that affect the count and classification of employment, the numerical findings of these two recent surveys of governmental employment appear quite similar.

Private-sector **Employment**.

Table 68 presents the results of **an** inventory of private sector employment by individual employer for **Kotzebue** in 1988. Of particular note is the scarcity of basic private employment. There is a minor amount of employment in commercial fishing, manufacturing and mining. The visitor industry, which may be considered to include tourist and recreational visitors plus itinerant non-local public employees, accounts for part of the demand for local goods and services, including transportation services. For the future, the operations of the Red Dog mine **will** generate some **off-site** basic employment in related industries at **Kotzebue**. Minesite and port

TABLE 67

AVERAGE ANNUAL FULL-TIME PUBLIC EMPLOYMENT

Federal Government	
FAA Flight Service	11
National Park Service	9.5
Postal Service	7
Public Health Service	56
Fish and Wildlife Service	6
Bureau of Land Management	1
Weather Bureau	3
Marine Advisory Program (U of AK.)	1
subtotal	94.5
State of Alaska	
Alaska Army National Guard	31
Alaska Court System	7.5
Alaska State Troopers	6.5
Department of Motor Vehicles	.5
Chukchi Community College	16
Department of Law	2
Department of Comm.& Regional Affairs	3
Department of Fish and Game	10
Job Service	2
Division of Family and Youth Services	4
Fish and Wildlife Protection	1
Legislative Affairs/Governor's Office	2
subtotal	85.5
Local Government	
City of Kotzebue	69.5
Northwest Arctic Borough	11
Northwest Arctic School District	105
Northwest Inupiat Housing Authority	9
subtotal	194.5
TOTAL	374.5*

Source: Field notes and Mani i 1 aq Manpower employer survey (1988).

TABLE 68
AVERAGE ANNUAL FULL-TIME PRIVATE EMPLOYMENT
KOTZEBUE , 1988

Full-Time	
Agriculture, Forestry and Fishing	<u>8</u>
Locally based commercial fishermen	8
Mining	<u>1</u>
Cominco Alaska, Inc.	1
Contract Construction	<u>8</u>
Gallahorn Enterprises	2
Wayne Drake Contractor	6
Manufacturing	<u>5</u>
Arctic Sounder Newspaper	3
NANA Seafoods	2
Transportation, Communication	<u>97</u>
and Public Utilities	
Alascom, Inc.	2
Alaska Airlines	7
Arctic Lighterage	11
Baker Aviation	14
Cape Smythe Air Service	7.5
KOTZ Broadcasting	8.5
Kotzebue Cablevision	1
Kotzebue Electric Association	14
Mark Air Cargo	4
Northwestern Aviation	1
OTZ Telephone Cooperative, Inc.	13
Ryan Air	1
Shellabarger/Bering Air	13
Trade	<u>106.5</u>
Alaska Commercial Company	32.5
Arctic Bookstore	1.5
Arctic Circle Parts	1
Arctic Dragon Restaurant	2.5
Aurora Chicken Coop	3
Eon, Inc.	7.5
Hanson's Store	31
Mike's Sport Shop	2
Pizza Hut	4

TABLE 68

AVERAGE ANNUAL FULL-TIME PRIVATE EMPLOYMENT
KOTZEBUE , 1988
(cont. p.2)

Trade (continued)	
R & S Stores/Yellow Cab	12.5
Rotman's Store	7.5
Satkut Sports Shop	1
Uutuukuu Store	.5
Finance, Insurance and Real Estate	<u>19</u>
National Bank of Alaska	6
Kikiktagruk Inupiat Corporation	10
NANA Regional Corporation	
Nulukvik Hotel	
Museum of the Arctic	3
Services	<u>191</u>
Churches	6
E & N Auto	1
Alaska Airships	2
Alaska Legal Services	2
Arctic Cab	2
Arctic Hare Beauty Salon	1
Arctic Plumbing and Heating	3
Arctic Travel	2
Kotzebue Beauty and Barber Shop	1
Kotzebue IRA	6
Kotzebue Lions' Club	2
Maniilaq Association	153
Maniilaq Manpower	3
Midnight Sun Cab	2
Private Attorney	2
Tucker Heating	3
TOTAL	435.5

Source: Field notes and **Maniilaq** Manpower employer survey (1988).

operations, though not properly part of Kotzebue's local employment base, are expected to employ a substantial number of Kotzebue residents and thereby augment the local purchasing power and demand for locally provided goods and services. Appendix A reproduces a lengthy excerpt from the Final Environmental Impact Statement that describes the socioeconomic impacts of the Red Dog Mine Project.

Inasmuch as they are the two most influential private enterprises in Kotzebue, the corporate activities of Kikiktagruk Inupiat Corporation and NANA Regional Corporation are briefly described.

Kikiktagruk Inupiat Corporation (KIC) is the ANCSA village corporation for Kotzebue. Incorporated in the State of Alaska on July 16, 1973, pursuant to the Alaska Native Claims Settlement Act, KIC had an original enrollment of 1,983 shareholders, and a land entitlement of 161,280 acres under Section 12(a) of ANCSA, plus an additional 3,140 acres under Section 12(b). As of December 3, 1987, KIC has received interim conveyance to 135,600 acres and patent to 5,175 acres (Kikiktagruk Inupiat Corporation > 1987) .

KIC has invested aggressively in real estate and commercial ventures in Kotzebue. Although KIC does not have a formal policy directing local investments, they have proven to be profitable for the corporation. KIC owns the 41-unit and 29-unit apartment buildings in Kotzebue and the Eskimo Building, which houses the U.S. Post Office, and several small retail businesses and offices (KIC, Mani ilaq Association, Kotzebue IRA and the Alaska Department of Fish and Game).

KIC built and leases the Alaska Commercial store located in the Kotzebue Square complex. KIC leases to the Alaska Department of Education

the site upon which the Kotzebue Technical Center is located. The National Guard Armory is on **KIC** land. The Public Health Service is currently planning a new hospital to be constructed in Kotzebue on land also owned by **KIC**. **KIC** is negotiating with PHS to construct housing to lease to employees and staff of the new hospital.

Kotzebue Development Corporation (**KDC**), a wholly owned subsidiary of **KIC**, owns and operates Hanson's Trading Company in Kotzebue. **KIC**, in conjunction with NANA Regional Corporation, Inc. and Maniilaq Association? is considering the construction of a new office building in Kotzebue. This complex would consolidate the existing, separate office facilities of these three organizations. The intent is to replace the old and inefficient Eskimo Building and to construct this new building on **KIC** land.

KIC owns a dredge which is used to remove gravel from Kotzebue Lagoon. **KIC** also owns the Sunshine Plaza in Anchorage, which houses office and retail space.

The corporation has been acquiring property within the Kotzebue townsite. Some of these properties have been developed (e.g., the apartment buildings, National Guard Armory and the Eskimo Building), some remain vacant. The corporation is currently negotiating with the Federal Aviation Administration to acquire the perimeter of the parcel on which the FAA towers are located. The **FAA** will retain the interior portion. As part of its negotiations with **PHS**, **KIC** is seeking to obtain the land on which the existing hospital is located.

Overall, **KIC** has been profitable for the past nine years. Total assets for the nine-month fiscal year ending March 31, 1987 were in excess of \$17.6 million. Besides its investments in real estate and commercial

ventures, KIC **holds** marketable securities and stock, which represent approximately **16** percent of the corporation's **total** assets (**Kikiktagruk Inupiat Corporation 1987**). An investment committee, which is a subcommittee of the **KIC** Board of Directors, reviews investment opportunities and submits recommendations to the **full** Board for confirmation.

Discussions have intermittently taken place over the years regarding a merger of **KIC** with NANA Regional Corporation. **KIC** is the region's most **viable** village corporation, with the largest enrollment and most **land** and capital assets. **It** is the only village corporation **in** the NANA region that has not merged with the regional corporation. Merger discussions have never progressed to the point where the issue has been presented to **KIC** shareholders for a vote. KIC officials expressed a desire to have the merger question resolved within the coming year.

KIC has made a firm commitment **to employ local** people, particularly shareholders, as much as possible. The corporation's personnel policies contain a shareholder hire preference. KIC, along with NANA established a scholarship fund for shareholders. A total of \$100,000 is available for shareholders seeking post-secondary education, including vocational training. **KIC** views the Kotzebue Technical Center as having an integral role in preparing its shareholders to participate in the local job market. **KIC** itself directly employs twelve people, nine of whom are KIC and NANA **shareholders**, and another of whom is a NANA shareholder only. Hanson's Store employs 42 people; of these, approximately 75 percent are Native and **50** percent are KIC shareholders. The store's assistant manager is a KIC shareholder training to assume the **manager's** position.

NANA Regional Corporation's business activities in **Kotzebue** include the 84-room **Nullagvik** Hotel, commercial real estate holdings, NANA Seafoods which purchases chum salmon from local commercial fishermen for processing and transshipment and Jade Mountain Products which processes jade from a NANA-owned jade mine into saleable items. **As of 1987, NANA's** chief enterprises outside the region include Arctic Utilities, Inc. which owns and operates an electric utility at **Deadhorse** Airport; Purcell Services, Ltd. which provides security services, **mainly for Prudhoe Bay oil** operations; and NANA **Oilfield** Services, Inc. which operates a support camp and other interests at Deadhorse Airport.

For many years, NANA's corporate strategy has balanced in-region enterprises which provide employment for resident shareholders with **out-of-region** businesses, including joint ventures, which have helped maintain corporate solvency and profitability. **However,** in both its Anchorage-based operations and its joint venture undertakings, NANA Regional Corporation and its subsidiary NANA Development Corporation have successfully sought to promote shareholder employment. Table 69 displays the level of shareholder employment achieved in NANA's own operations as well as in joint venture operations for the period 1982-1987. Total direct shareholder employment has varied from 587 in 1982 to 249 in **1987**, of whom **167** were employed by in-region operations and 82 by Anchorage-based operations. **The post-1982 decline** in shareholder employment is largely attributable to the deteriorating fortune of **Prudhoe Bay** petroleum service industries, which has adversely affected a number of NANA subsidiaries and joint ventures,

Over this period, NANA corporate data show that over half of all direct employees in corporate operations have been shareholders. These

TABLE 69

NANA REGIONAL CORPORATION SHAREHOLDER EMPLOYMENT, 1982-1987

	NANA Operations	Joint Ventures	Total
1982	587	147	734
1983	450	92	542
1984	392	112	504
1985	389	124	513
1986	265	105	370
1987	249*	226	475

*** Includes** 167 employees in region-based operations and 82 employees in Anchorage-based operations.

Source: NANA Regional Corporation Annual Reports.

figures include all regional corporate shareholders, not just Kotzebue shareholders. Unfortunately, data by shareholder place of residence is unavailable, but it may be presumed that Kotzebue residents comprise the largest shareholder group by residence.

In recent years, NANA has dedicated its entrepreneurial efforts to development of its Red Dog mine property in affiliation with Cominco Alaska. Development of transportation and minesite infrastructure is now underway. Once the mine begins operation, it will become the region's first substantial basic industry and will contribute to the region's employment base and, indirectly, to Kotzebue's economy. See Appendix A.

The Subsistence Division survey for Kotzebue indicates that 27.3 percent of the sample households contained members who were employed in the services sector, the most frequent private sector category during 1987. However, due to duplication across categories for household members holding more than one job or for multiple jobs at the aggregate household level, the total private sector percentage cannot be accurately calculated. Additionally, since most of the temporary, seasonal and part-time jobs are in the private sector (especially in construction and commercial fishing, and to a lesser extent in services and trade), the distribution of household employment in this survey is not directly comparable to average annual full-time equivalent employment.

3. Cost of Living.

Average and peak yearly expenses in several categories are summarized in Table 70 from the regional Social Indicators sample.

The market basket survey included in Technical Memorandum S187-2 (see McNabb 1987c) provides a great deal of detail on food and other commodity

TABLE 70

**AVERAGE HOUSEHOLD EXPENDITURE FOR SHELTER AND UTILITIES
KOTZEBUE, BUCKLAND, DEERING AND KIVALINA, 1987**

	Average House- hold Expenditure
Rent/mortgage	\$3,897
Heat	1,820
Electricity	869
Telephone	865
Other utilities	845
TOTAL	\$8,296

Source: McNabb, 1987c.

expenses in the region. It is fair to say that these 'expenses seriously undercut the economic status of many regional residents who have access mainly to low and intermittent sources of income. In addition, those residents who are most impoverished cannot afford to make bulk seasonal purchases of food and non-perishable goods, hence they pay a proportionally higher cost of their low incomes for a modest standard of living.

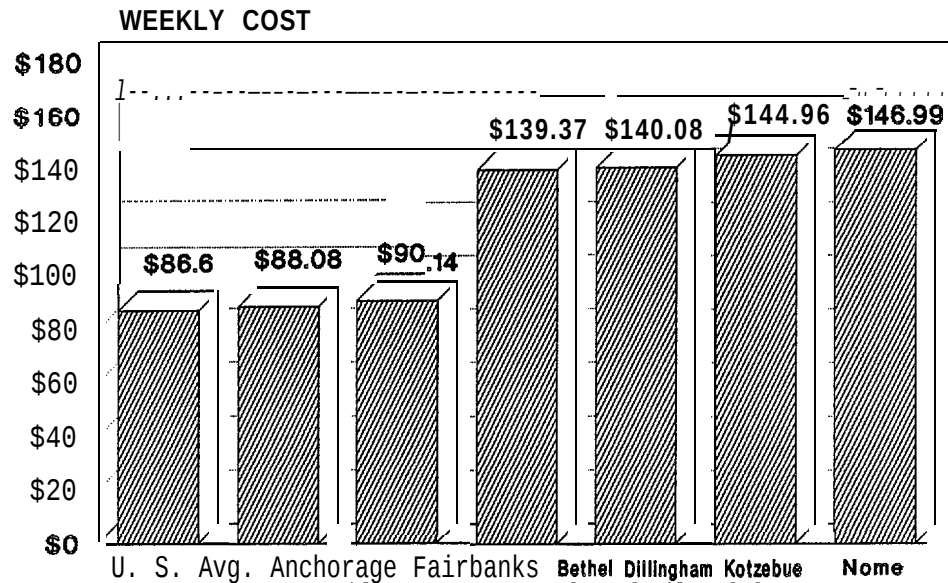
Figure 20 displays the March 1988 weekly cost of a market basket of food for a family of four for **Kotzebue** and other selected urban and rural regional centers, compiled by the University of **Alaska** Cooperative Extension Service. By this measure, weekly food costs in **Kotzebue (\$144.96)** were 65 percent higher than in Anchorage (\$88.08) and exceeded only by Nome.

4. Transfer payments.

Government public assistance transfer payments to individuals generally decreased in Kotzebue during the capital improvements and public service employment booms of the early **1980s** (see Table 71). Total **public** assistance payments almost halved between 1980 and **1983**. But by 1985, these transfer payments had rebounded to match, and by 1987 substantially to exceed, **1980** amounts. According to the Alaska Department of Health and **Social** Services, total payments under three key income assistance programs (Aid to Families with Dependent Children, Food Stamps, and AFDC/Food Stamps Combined) amounted to \$684,537 in Kotzebue during 1987.

Alaska Department of Labor earnings data help put the relative contribution of these income assistance programs into perspective. In **1986**, the most recent year for which annual data is available, the Department of Labor reported total annual earnings of \$37,877,281 for

Figure 20
WEEKLY COST OF MARKET BASKET OF FOOD
SELECTED REGIONAL CENTERS, MARCH 1988



Note: Average weekly cost is estimated for a family of four.
Source: University of Alaska, Cooperative Extension Service.

TABLE 71

ANNUAL AFDC, FOOD STAMP AND COMBINED PUBLIC ASSISTANCE PAYMENTS
KOTZEBUE, 1980-1987

Year	AFDC	Food Stamps	Combined	Total
1980	\$265,811	\$226,915	\$25,085	\$517,811
1981	251,631	241,517	0	493,148
1982	183,594	130,732	0	314,326
1983	93,136	186,688	0	279,824
1984	246,861	164,544	71,450	482,855
1985	219,021	147,265	155,070	521,356
1986	222,690	177,158	182,017	581,865
1987	240,746	197,816	245,975	684,537

Source: Division of Public Assistance, Alaska Department of Health and Social Services.

Kotzebue. For comparison, that year's public" assistance payments under the three programs noted above totaled \$581,865 or about 1.5 percent of earned wages. Other programs, such as BIA income assistance programs, may have slightly added to transfer payments. But, overall, it is clear that public assistance payments, however important to recipients, comprised a very minor share of total cash income.

5. Summary.

Before World War II, the area's modest natural resource endowment limited Kotzebue's growth. Local subsistence resources could support only a small concentration of permanent residents and the region's gold and salmon resources were of marginal economic value. At the outbreak of World War II, mining was still the region's chief commercial activity and Kotzebue was then only slightly larger than several other nearby communities.

Kotzebue's ascent to regional economic and political preeminence was fortified by the growth of governmental programs and institutions in the region and the accelerating process of regionalization. The establishment of the Public Health Service Native Hospital in 1938, war-time and post war construction and operation of military support facilities (DEW line installation Civil Aeronautics Administration and Weather Bureau stations), expansion of the local Alaska Native Service School and the growth of governmental bureaucracy all boosted Kotzebue's economy and reinforced its regional functions.

The past decade-and-a-half of economic growth has swelled Kotzebue's public and private sector employment. Over the same time, command of major local political and economic institutions has largely passed to Alaska

Natives who comprise a majority of local residents. This transition is partly the outcome of social programs initiated in the Kennedy-Johnson administrations, partly a result of the Native land claims movement. During the 1960s and early 1970s, the federal government brought many new programs for housing, sanitation facilities, electrification, health care, pre-school education, manpower development, legal services and other basic services to the Kotzebue region. These programs improved local living conditions and created new employment opportunities and stimulated aspirations toward self-determination. Gradually, many federal- and state-administered programs for health and social services, housing development, education and manpower development were transferred to administration by local or regional governing bodies.

The Native land claims movement likewise brought a transfer of political power and public sector resources to local entities. Passage of the Native land claims legislation in 1971 was followed by the task of creating permanent institutions to secure, manage and conserve Native corporate lands and financial assets. ANCSA implementation propelled Kotzebue-area Alaska Natives into new administrative, economic and political arenas, with significant opportunities to influence local economic development and employment patterns. In Kotzebue, NANA Regional Corporation and Kikiktagruk Inupiat Corporation have both capitalized on these opportunities in their economic ventures and staff development.

In the late 1970s and early 1980s, the Kotzebue region captured its share of state expenditures and local governmental programs and payrolls expanded. Public sector expansion, in turn, fostered support sector growth and further enlarged the range of local business and cash employment oppor-

tunities. More recently, the drop in state petroleum income has reduced state funds for community development projects and revived the region's concern about its economic dependence upon state and federal grants and programs.

Despite the economic gains of the 1970s, the 1980 census showed that the region's Native residents' family incomes and labor force participation rates still lagged well behind local white residents' and behind statewide levels.

Although government dominates the job situation in Kotzebue and the region, but the significant point is not that the region has a large number of public service jobs but it has so few jobs of any other sort. The apparent dominance of public sector employment is less due to an over-large public sector, more due to (1) a deficient private sector economy that provided jobs to only 14 percent of the potential labor force and (2) a job-short economy which imposed a high rate of unemployment and non-participation upon the potential labor market.

Kotzebue's wage employment shows only mild seasonality, with peak employment months in September and October and low employment in January through March and July. Another important aspect of local work patterns is the practice of pursuing work outside the home community on a rotation schedule or seasonal basis. NANA Development Corporation's ownership interest in various Prudhoe Bay enterprises has given many of its shareholders access to a pool of regular employment outside their home communities, often outside the region, on a rotation basis. For the future, the NANA/Cominco strategy for staffing of the Red Dog mine aims to

recruit a share of Kotzebue and village residents to work on a rotation schedule at the minesite.

By all accounts government continues to comprise the largest source of wage employment in Kotzebue, as it has for decades. However, the past two decades have seen a significant realignment in the distribution of employment among the three levels of government. Federal government, once the primary public sector employer, is now in relative eclipse, having gradually ceded management of its key functions (e.g., education, health care) to state government or local entities. Generally, state government has, in its turn, delegated some major functions (e.g., local education) to local government. Also, since the mid-1970s, state government has expanded the range of services and employment it provides at Kotzebue and applied its new-found petroleum income to increased greatly the level of financial support it provides to local government. Thus, for a decade, local government employment was boosted by two trends: the rearrangement of governing functions and rising intergovernmental fund transfers.

A 1988 employment inventory found a scarcity of basic private employment. There was a minor amount of employment in commercial fishing, manufacturing and mining. The visitor industry, which includes tourist and recreational visitors plus itinerant non-local public employees, accounted for part of the demand for local goods and services, including transportation services.

Kikiktagruk Inupiat Corporation and NANA Regional Corporation are the two most influential private enterprises in Kotzebue. Kikiktagruk Inupiat Corporation, the ANCSA village corporation for Kotzebue, has invested aggressively in real estate and commercial ventures in Kotzebue and has

been profitable for nine consecutive years. For the nine-month fiscal year ending March 31, 1987 total assets exceeded \$17.6 million. Besides its investments in real estate and commercial ventures, KIC holds marketable securities and stock, which represent approximately 16 percent of the corporation's total assets. Although KIC and NANA Regional Corporation have had exploratory discussions about a possible merger, KIC remains the region's only independent village corporation.

NANA Regional Corporation's business activities in Kotzebue include the 84-room Nullagvik Hotel, commercial real estate holdings, NANA Seafoods and Jade Mountain Products. As of 1987, NANA's chief enterprises outside the region include Arctic Utilities, Inc. which owns and operates an electric utility at Deadhorse Airport; Purcell Services, Ltd. which provides security services, mainly for Prudhoe Bay oil operations; and NANA Oilfield Services, Inc. which operates a support camp and other interests at Deadhorse Airport.

For many years, NANA's corporate strategy has balanced in-region enterprises to provide employment for resident shareholders with out-of-region businesses, including joint ventures, to help maintain corporate solvency and profitability. However, NANA Regional Corporation and its subsidiary NANA Development Corporation have successfully sought to promote shareholder employment throughout their operations. Between 1982 and 1987, over half of all direct employees in corporate operations have been shareholders in the regional corporation.

For several years, NANA had dedicated its entrepreneurial efforts to develop its Red Dog mine property in affiliation with Cominco Alaska. Development of transportation and minesite infrastructure is now underway.

Once the mine begins operation, it will become the region's first substantial basic industry and will contribute to the region's employment base and, indirectly, to Kotzebue's economy.

IV. **FORMAL** INSTITUTIONS

1. Government.

City of Kotzebue.

The City of Kotzebue incorporated in 1958 as a fourth class city and later reclassified to second class status. Kotzebue adopted the manager form of government, with a seven-member council from whose membership a mayor is elected. Of the powers authorized by Alaska Statutes for second class cities (AS 29.35.010-.310), the City of Kotzebue exercises the following:

- water, sewer and solid waste
- police protection and jail facilities
- fire protection
- streets and sidewalks
- recreation
- community center
- animal control
- licensing of taxis
- **public transportation**
- planning, platting and land use regulation
- building code and **inspection**
- libraries
- flood plain management

For administrative purposes, the City's governmental structure is divided into the following functional classifications:

- public safety: police, jail, fire department and fire training center, animal control.

- **health** and human services: homeless shelter, bus system, recreation **center**, **library**, museum.
- l public works: water, sewer, **solid** waste, street maintenance.
- administration: finance, accounting, planning, building safety, city manager, purchasing.

In FY 1989, the City created an Office of Management and Budget, which incorporates the finance, purchasing and planning functions previously housed in Administration. The Director of OMB reports directly to the City Manager.

The City as of June 1988 has a total permanent, full-time staff of 75.5 employees, of whom 69.5 are salaried and six are contract employees. The contract employees are the top administrative personnel of the City: City Manager, Director and Deputy Director of Public Safety, Fire Chief, Fire Training Center Director, and Police Captain. The City also employs additional labor on an as-needed basis throughout the year.

Table 72 lists these 75.5 positions by job classification.

For FY 1989, the City has budgeted for an additional full-time mechanic position and one half-time building maintenance position.

The City budget for the most recent complete fiscal year (FY 1987, ending June 30, 1987) is summarized in Table 73. For comparison, the budget for the previous fiscal year is presented in Table 74. The City's budget for FY 1988, as adjusted at midyear (December 31, 1987) is presented in Table 75.

TABLE 72
CITY OF KOTZEBUE EMPLOYMENT
JUNE 1988

Job Classification	Number of Positions	Grade	Rate of Pay (\$/hr)
Administration			
City Manager	1	Contract	
Finance Officer	1	8	\$15.18
City Clerk	1	8	15.18
Deputy City Clerk	1	7	13.88
Administrative Assistant	5	5	11.60
Purchasing Agent	1	9	16.60
Director of Governmental Relations	1	12	21.72
Data Processing Operator	1	8	15.18
Recreation			
Recreation Center Coord.	1	8	15.18
Senior Recreation Aide	1	5	11.60
Recreation Aide	2	3	9.70
Planning			
Senior Planner	1	9	16.60
Planner	2	7	13.88
Police			
Director of Public Safety	1	Contract	
Deputy Director of Public Safety	1	Contract	
Police Captain	1	Contract	
Patrolman	10	4	10.61
Corporal	1	8	15.18
Dispatcher/Jailer	8	3	9.70
Cook	2	3	9.70
Computer Operator	1	5	11.60
Senior Dispatcher/Jailer	1	4	10.61
Chief Dispatcher/Jailer	1	8	15.18

TABLE 72 (cont.)

Fire

Fire Training Center Dir.	1	Contract	
Fire Chief	1	Contract	
Emergency Medical Technician	1	5	11.60
Firefighter/Extinguishers	1	6	12.69
Firefighter/EMT	2	6	12.69

Building/Maintenance

Supervisor/Building Safety	1	10	18.16
Electrician/Plumber	1	9	16.60
Electrician	1	9	16.60
Boiler Technician	.5		

Public Works

Equipment Operator	4	7	13.88
Supervisor/Vehicle Maint.	1	10	18.16
Mechanic II	2	8	15.18
Supervisor/Line Maintenance	1	10	18.16
Operator/Line Maintenance	4	7	13.88
Supervisor/Water Treatment Plant	1	10	18.16
Water Treatment Plant Operator I	2	7	13.88
Water Treatment Plant Operator II	1	8	15.18

Library

Chief Librarian	1	5	11.60
Assistant Librarian	1	4	10.61

Public Works Administration

Director, Public Works	1	12	21.72
Administrative Assistant	1	5	11.60

Source: City of Kotzebue, 1988.

TABLE 73
CITY OF KOTZEBUE FY 1987 BUDGET

<u>REVENUES</u>		<u>EXPENDITURES</u>	
<u>Source</u>	<u>Amount</u>	<u>Source</u>	<u>Amount</u>
General Fund ^a (gross sales)	\$3,332,006	Administration Dept.	\$ 365,016
		Finance Dept.	98,765
		Planning Dept.	76,531
		Library Dept.	47,931
		Police Dept.	343,247
		Jail Dept.	368,378
		Animal Control Dept.	32,407
		Fire Dept.	127,908
		Streets Dept.	234,854
		Refuse Dept.	61,182
		Building Maintenance Dept.	121,115
		Vehicle Maintenance Dept.	79,269
		Non-departmental ^b	1,560,635
Fire Training Center	132,500	Fire Training Center	200,386
Day Care Dept.	204,447	Day Care Dept.	289,103
Recreation Center Dept.	274,297	Recreation Center Dept.	316,146
Water/Sewer Dept.	1,043,905	Water/Sewer Dept.	503,298
		Public Works Dept.	160,984
Shore Disaster	<u>359,250</u>	Shore Disaster	<u>359,250</u>
Total Budgeted	\$5,346,405	Total Budgeted	\$5,346,405
Unbudgeted ^c	<u>\$2,943,349</u>	Unbudgeted ^c	<u>\$2,368,145</u>
Total Revenues	\$8,289,754	Total Expenditures	\$7,714,550

^a General Fund includes taxes, gravel sales, state jail contract, building permits, revenue sharing, municipal assistance, etc.

^b Non-departmental expenditures include legal, audit, donations, insurance, contingency, debt service, and others.

^c Unbudgeted revenues and expenditures include grants (e.g., search and rescue, EMS equipment, day care construction, streets, library, etc.) and water/sewer disaster.

Source: City of Kotzebue 1988.

TABLE 74

CITY OF KOTZEBUE FY 1986 BUDGET

<u>REVENUES</u>		<u>EXPENDITURES</u>	
Source	Amount	Source	Amount
General Fund	\$2,939,680	Administration Dept.	\$ 304,438
		Finance Dept.	140,839
		Planning Dept.	113,839
		Library Dept.	52,877
		Police Dept.	500,710
		Jai 1 Dept.	425,030
		Animal Control Dept.	45,207
		Fire Dept.	214,734
		Streets Dept.	416,004
		Refuse Dept.	79,808
		Building Maintenance Dept.	215,090
		Vehicle Maintenance Dept.	197,341
		Non-departmental	1,067,502
Fire Training Center	158,462	Fire Training Center	120,000
Day Care Dept.	329,861	Day Care Dept.	357,473
Recreation Center Dept.	550,177	Recreation Center Dept.	582,299
Water/Sewer Dept.	812,200	Water/Sewer Dept.	765,975
Teen Center	50,000	Teen Center	12,214
Operating Grants ^a	771,000		
Grants ^b	<u>1,040,000</u>	Grants ^b	<u>1,040,000</u>
Total Budgeted	\$6,651,380	Total Budgeted	\$6,651,380
Unbudgeted ^c	<u>\$1,409,194</u>	Unbudgeted ^c	<u>\$1,782,047</u>
Total Revenues	\$8,060,574	Total Expenditures	\$8,433,427

^a Operating grants include street construction grants, planning block grant, coastal management grant, state DOT/PF planning grant, and library grant.

^b Grants include a Kotzebue Electric Association grant and a water/sewer grant.

^c Unbudgeted revenues and expenditures include grants (e.g., daycare construction, Kotzebue Technical Center dormitories/construction, senior center construction, and disaster relief.)

Source: City of Kotzebue 1988.

TABLE 75
CITY OF KOTZEBUE ADJUSTED FY 988 BUDGET

<u>REVENUES</u>		<u>EXPENDITURES</u>	
Source	Amount	Source	Amount
General Fund (gross sales)	\$2,269,731	Administration D	\$ 323,138
		Finance Dept.	95,304
		Planning Dept.	69,375
		Library Dept.	21,317
		Police Dept.	306,009
		Jail Dept.	538,050
		Government/Supp es Div.	97,167
		Fire Dept.	10,020
		Streets Dept.	49,447
		Refuse Dept.	58,688
		Building Safety Div.	165,549
		Vehicle Maintenance Dept.	78,207
		Non-departmental	1,844,595
Fire Training Center	100,000	Fire Training Center	100,504
Recreation Center Dept.	289,328	Recreation Center Dept.	227,039
Water/Sewer Dept.	1,639,097	Water/Sewer Dept.	389,775
		Public Works Admin. Div.	105,992
Shore Disaster	210,000	Shore Disaster	210,000
Water/Sewer Disaster	323,000	Water/Sewer Disaster	323,000
Grants	<u>406,600</u>	Grants	<u>3,000</u>
Total Budgeted	\$5,237,756	Total Budgeted	\$5,216,176
Unbudgeted ^a	<u>\$ 287,689</u>	Unbudgeted ^a	<u>\$ 622,570</u>
Total Revenues	\$5,525,445	Total Expenditures	\$5,838,746

^a Unbudgeted includes grants for day care, homeless shelter, jail, streets, EMS equipment, search and rescue, and water/sewer.

Source: City of Kotzebue 988.

Approximately \$2,945,200 or 53 percent of the City's anticipated FY 1988 revenues were locally generated. The most significant local revenue sources were water and sewer fees (the largest single source of budgeted revenue), retail sales tax, recreation center income, and gravel sales. The major sources of non-local revenues were contract funds for the City jail, State Revenue Sharing, and Municipal Assistance.

A summary of these revenue sources and their individual percentages of the total revenues is presented in Table 76. The major components of City expenditures are depicted in Table 77.

Over the past several years Kotzebue has experienced severe financial difficulties caused by declining state, federal and locally generated revenues and increasing service costs. The latter costs rose substantially as the City added several new facilities during the peak of the state's oil revenue boom. Between 1979 and 1983, the City received funds to construct a library, recreation center and fire training center, and to expand the daycare center.

According to City audits, at June 10, 1985, total liabilities exceeded assets by \$592,224 and at June 30, 1986, total liabilities exceeded assets by \$684,843. The auditors noted "that the City's ability to continue in existence is dependent upon its finding additional revenue sources or substantially decreasing expenditures" (City of Kotzebue 1985, 1986).

The actions undertaken by the City to improve its financial situation included the following:

- turning operation of the daycare center over to a non-profit corporation composed of daycare center employees;
- scaling back operation of the recreation center;

TABLE 76

MAJOR COMPONENTS OF CITY ADJUSTED FY 1988 OPERATING REVENUES

Source	Budgeted Amount	Percent of Total
Retail Sales Tax	\$ 675,000	12.9
State Revenue Sharing	254,583	4.9
State Municipal Assistance	327,047	6.2
State Jail Contract	535,000	10.2
Interest Income	90,000	1.7
Gravel Sales	150,000	2.9
Fire Training Center Operating Grant	100,000	1.9
Recreation Center	289,328	5.5
Water/Sewer Sales , Fees, and Equipment Rental	1,639,097	31.3
Shore Disaster	210,000	4.0
Water/Sewer Disaster	323,000	6.2
Grants	, 406,600	7.8
Bal ante	<u>238,101</u>	<u>4.5</u>
TOTALS	\$5,237,756	100.0

Source: City of Kotzebue 1988.

TABLE 77

MAJOR COMPONENTS OF *CITY* ADJUSTED FY 1988 OPERATING EXPENDITURES

Expenditure	Budgeted Amount	Percent of Total
Personnel Costs	\$2,065,770	39.6
Insurance	295,000	5.7
Contingency	150,000	2.9
Debt Service	650,000	12.5
Gravel Dredge Contract	335,000	6.4
Legal Fees	125,000	2.4
Electricity	104,342	2.0
Heating Fuel	69,884	1.3
Telephone	53,040	1.0
Bal ante	<u>1,368,140</u>	<u>26.2</u>
TOTALS	\$5,216,176	100.0

The above figure for personnel costs is overstated because the City later budgeted a 4 percent (\$72,201) salary reduction. Another \$30,000 in salary reductions was budgeted in selected divisions of city government (police, jail, water/sewer, and public works).

Source: City of Kotzebue 1988.

- closing the teen center;
- reducing employee wages by 4 percent;
- increasing water and sewer fees increments⁷¹ly over a period of three fiscal years;
- reducing the operating budget by 25 percent;
- rescheduling debt service;
- leaving vacant positions unfilled;
- force accounting more capital projects, including contracting out City construction equipment.

These actions resulted in a small surplus for FY 1987. However, the City is still experiencing cash flow problems. The City had cash reserves sufficient for only two payrolls as of January 1988. Furthermore, the closure in January 1988 of bars and retail liquor stores in Kotzebue eliminated a sizeable source of City income. In FY 1987, for example, the City budgeted \$140,000 in revenues from the alcohol sales tax. To date, this revenue loss has not been offset by any other revenue source. Even so, under present efforts, the City expects to be free of debt by the end of FY 1989.

The City's fiscal circumstances forced a noticeable reduction in services. Not surprisingly, residents of Kotzebue complain about the decline in services, even while acknowledging the City's financial straits. Nonetheless, the City still struggles with balancing services and finances. The City wants to transfer administration of the library to the Northwest Arctic Borough; negotiations are underway toward that end. The teen center, once closed, has been relocated and reopened as a homeless shelter. A \$50,000 grant funded the relocation and early operation of the

shelter. The City now seeks to transfer operation of the homeless shelter to **Maniilaq** Association.

The City recently embarked on a novel approach to simultaneous **resolution** of two problems--declining city revenues and chronic **local** unemployment. The City, in partnership with others, successfully bid on a State construction project at the Kotzebue airport. The project **will** be conducted by force account labor using City construction equipment. A third benefit **to** this approach is that a larger part of project funds remains within the community. The City feels encouraged by the initial success of this technique and is likely to employ it again.

The City's priority for the short term is to become solvent. To that end, the City intends to maintain current staffing and expenditure levels until the City balance sheet is positive. Beyond that, the priority is to restore service levels by replacing aged and obsolete equipment and by filling vacant staff positions.

By the end of the **1988** fiscal year, the City was anticipating a fund balance of \$21,000. All of the City's major debts had been paid off in the early part of FY **1988**. The two significant remaining debts will be paid off by September of **1988**. The City now has approximately \$2.0 million in cash reserves (Busch, personal communication). In FY **1989** the City is eliminating the **4** percent salary reductions for **all** personnel except the City Manager. No services **will** be expanded or added and no new equipment is to be purchased. The City's proposed FY 1989 budget is presented in **Table 78**.

The City of Kotzebue exercises planning, platting and land use regulatory powers. However, Alaska statutes **allow** new boroughs two years

TABLE 78

CITY OF KOTZEBUE FY 1989 BUDGET

<u>REVENUES</u>		<u>EXPENDITURES</u>	
Source	Amount	Source	Amount
General Fund (gross sales)	\$1,584,171	Administration Dept.	\$ 337,615
		Finance Dept.	124,049
		Planning Dept.	74,010
		Library Dept.	40,415
		Police Dept.	306,142
Jail Dept.	535,000	Jail Dept.	535,050
		Government/Supplies Div.	111,094
		Fire Dept.	111,429
		Streets Dept.	220,122
		Refuse Dept.	65,293
		Building Safety Div.	141,885
		Vehicle Maintenance Dept.	115,644
Fire Training Center	81,500	Non-departmental	1,233,536
Recreation Center Dept.	167,250	Fire Training Center	85,500
Water/Sewer Dept.	1,882,593	Recreation Center Dept.	163,178
		Water/Sewer Dept.	450,531
		Public Works Admin. Div.	112,376
Total Budgeted	\$4,250,514	Total Budgeted	\$4,223,869
Total Revenues ^a	\$4,250,514	Total Expenditures	\$4,223,869

^a Excludes grants which were not available.

Source: City of Kotzebue 1988.

to assume certain powers, including exercise of planning, platting and land use regulatory powers, from the cities within the Borough. State law also authorizes borough delegation of those powers to a city within the borough. The City and Northwest Arctic Borough are presently negotiating disposition of these powers.

At present, the City is updating its comprehensive plan. A draft of the background studies and inventory is scheduled for release the fall of 1988. Otherwise, the basic planning emphasis is to enforce existing ordinances. The planning staff reviews building permits (required for commercial structures and optional for residential structures), as do Public Works, the City Manager and the Fire Department. A watershed study is currently being carried out to address the City's chronic water shortages. The Alaska Department of Transportation and Public Facilities is funding a transportation study of the area east of Kotzebue across the 1agoon. Known locally as "hillside," this area is a likely location for future community expansion. Since Kotzebue has very little vacant developable land left within the built-up area, interest in developing the hillside area is growing.

Northwest Arctic Borough

The following passages derived from McNabb (1987c) describe the recent history of the Northwest Arctic Borough.

Northwest Arctic Borough. The Northwest Arctic Borough (NWAB) was created in 1986. In 1981 the first public documents appeared that projected the creation of Borough government in the near future (Derbyshire and Associates 1981) and NANA Corporation identified Borough government as a specific regional objective in 1983 (NANA 1983:5; see also Davis 1983:240).

The Borough was approved by popular vote in 1986, and John Schaeffer was elected Borough Mayor. Late in 1986 Schaeffer was appointed State Commissioner of Veteran's and Military Affairs,

and Ms. Marie Greene, President of Maniilaq Association, was appointed Acting Mayor until an election could be held. In late February 1987 Mr. Charles Greene Jr. was elected Borough Mayor.

The creation of the Borough and state appointments subsequent to Governor Cowper's inauguration have altered the leadership structure of the region, and all evidence suggests that the transitions have been tranquil. Marie Greene has returned to her post as President of Maniilaq, a position she intended to retain. John Schaeffer moved from his position as NANA Corporation President to NWAB Mayor, and then to his Commissioner's position. Mr. Willie Hensley replaced Schaeffer as NANA President, but then was appointed Sen. Ferguson's replacement in the State Senate when Ferguson stepped down for health reasons. Mr. Pete Schaeffer of NANA Corporation has since been named Vice President and Acting President of NANA Corporation.

The development of the Red Dog lead-zinc mine in the northwest portion of the region is expected to provide the major revenue base for the NWAB as well as an important source of jobs for residents. Cominco-American Ltd., General Crude Oil and NANA Development Corporation (a subsidiary of NANA Corporation) own the main mineral interests at the site. Cominco-American Ltd. will exercise management and fiscal responsibilities for actual site operations, and the distribution of profits to the three parties is a proprietary issue on which we cannot comment.

Although NANA officials have had regional government under consideration for quite some time, until recently the prospects for locally financing borough government were limited. Still, the region has had extensive experience in formulating and implementing programs on a regional scale, as for example the NANA Regional Strategy, now in its eleventh year, the Alaska Coastal Management Program, regional social services delivery programs administered by Maniilaq Association, and education programs of the Northwest Arctic Borough School District.

Earlier, for example, the NANA Regional Strategy, which began to take shape in 1978, formalized the consensus model that previously characterized informal administrative practices. The Regional Strategy marked the beginning of a centripetal phase in regional sociopolitical processes. The

consolidation of agency goals first pursued through the regional strategy culminated in borough formation.

There were numerous reasons for the NANA region to seek incorporation as a borough. A borough " government provides the region a powerful mechanism for managing development. Planning is carried out locally and **local goals** and needs can be properly incorporated into the planning process. Reapportionment of the Alaska Legislature following the 1990 Census may restructure existing statewide representation patterns due to relative increases in the urban populations of the state. Borough government affords residents the opportunity to make key decisions locally, and to present a unified position on local issues and priorities. An important function of **local** government is to provide services to its residents. A borough in the NANA region meant that many services previously provided from without the region could now be provided locally. A borough is also an employer and has the capability to develop and enforce **local** hire provisions. A borough school district is eligible for increased financial aid and a borough has authority to issue bonds to finance improvements.

All three regional institutions supported formation of the borough. It was an adopted goal of NANA Regional Corporation and was supported in formally adopted resolutions of **Maniilaq** Association and the former Northwest Arctic School District.

The Red Dog mine, located on **land** owned by NANA Regional Corporation, was within the jurisdictional boundaries of the North Slope Borough. Since projected Red Dog revenues were critical to operation of the proposed borough, NANA region leadership convinced the State to initiate detachment

proceedings for the narrow strip of land that lay within the overlapping boundaries of both the North Slope Borough and NANA Regional Corporation. The detachment was opposed by the North Slope Borough, however, it was approved by the Alaska Local Boundary Commission, paving the way for incorporation to proceed.

The organization and single-minded purpose that the region's leadership brought to bear on borough incorporation is illustrative of the region's leadership strengths. Key regional institutions identify common goals and effectively marshal their resources to accomplish those goals. The NANA region has long been known for its political acumen. This reputation is supported by the consistent presence of the region's leadership in state government (e.g., the Governor's Office, line agencies and commissions) and the legislature. The NANA region incorporation was successful in large part due to the ability of the region's leadership to work within the political system and avoid adversarial confrontations.

The Northwest Arctic Borough incorporated as a first class borough in May of 1986. The preference of regional leaders was to incorporate as a home rule borough, but that option was not authorized under Alaska statutes in effect at the time. Therefore, shortly after successfully incorporating as a first class borough, the Northwest Arctic Borough established a charter commission to prepare a home rule charter for submittal to borough voters. The charter was approved by borough voters in the general election held in October of 1987.

Under Alaska Statutes (AS 29.04.010) a home rule borough may exercise any powers not expressly prohibited by state law or its own charter. This

gives home rule boroughs great flexibility in assuming and exercising governmental powers.

Alaska statutes also specify certain mandatory powers to be exercised by all home rule boroughs (AS 29.35.150-.180). These powers are:

- education;
- assessment and collection of taxes;
- planning, platting and land use regulation.

Initially, the Borough chose to exercise only these mandatory powers. Additional powers will be exercised when the need arises and as revenues are available to support the exercise of those powers.

Education powers were assumed immediately upon incorporation. The existing REAA administration, staff and facilities were retained and transferred to the Borough as the Borough school district. The existing REAA school board was also retained. Elections for school board members will continue to be held at appropriate general elections.

The Borough had originally planned to impose a property tax. However, for the time being, a property tax has been deferred due to a financial services agreement executed by the Borough and Cominco Alaska, the developer of the Red Dog mine. The Borough's Home Rule Charter, however, does authorize the assessment and collection of taxes.

The Borough assumed the powers of planning, platting and land-use regulation immediately following incorporation. The existing coastal management and regional strategy planning functions were transferred from their former sponsor, Maniilaq Association, to the Borough. The City of Kotzebue still exercises its planning power, pending negotiations with the Borough.

Administration of **the** Borough government is directed by the mayor, who reports to an Ii-member assembly. The overall philosophy of the Borough is to keep Borough government **small** and self-sufficient. Rather than finance or assume **local** "operation of programs and services in the Borough's communities, the Borough aims to help the communities continue their own programs.

For example, the Borough, with state assistance, is performing **pre-audits in all of** the Borough's communities **except Kotzebue**. These **pre-audits**, coupled with accounting assistance, are designed to preclude severe financial difficulties **in** the communities and to improve the communities' financial management capabilities. **The** Borough prefers communities maintain their autonomy rather than rely on the Borough. The Borough also anticipates that its communities **will not** require assistance through the State's "bail-out plan" for financially troubled **rural** communities.

The Northwest Arctic Borough's administration is comprised of four departments:

- Office of the Mayor
- Finance Department
- Planning Department
- Education Department

The Borough's **FY 1989** budget was adopted by ordinance 88-07 on May **25, 1988**. The budget consisted of the revenues as depicted in **Table 79** and expenditures as depicted **in** Table 80.

These budget figures reflect a projected fund balance of \$454,225. According to the Borough Finance Director's report to the Committee, **total**

TABLE 79
NORTHWEST ARCTIC BOROUGH FY 1989 BUDGET
REVENUES BY SOURCE

Source	Projected Amount
State Revenue Sharing	\$ 389,829
State Municipal Assistance	112,800
Interest from Investments	69,000
Grants	210,061
Cominco Agreement	<u>1,000,000</u>
TOTAL	\$1,781,690

Source: Northwest Arctic Borough 1988.

TABLE 80
NORTHWEST ARCTIC BOROUGH FY 1989 BUDGET
EXPENDITURES

Expenditures	Amount
Assembly	\$ 158,103
Office of Mayor	328,383
Administration and Finance	294,298
Planning	209,237
Other	<u>337,444</u>
TOTAL	\$1,327,465

Source: Northwest Arctic Borough 1988.

expenditures for salaries, professional fees and the Economic Development Commission's advisor's salary are expected to be \$474,000. According to salary figures provided by the Borough in January 1988, the Borough salary structure is shown in Table 81.

TABLE 81
NORTHWEST ARCTIC BOROUGH FY 1988 SALARIES

Position	Sal ary
Mayor	\$55,000
Assistant Mayor	50,000
Finance Director	40,000
Planning Director	37,000
Planner	35,000
Local Government Specialist	40,000
Clerk	37,000
Accounting Clerk	31,000
Secretary	<u>24,000</u>
TOTAL	\$349,000

Source: Northwest Arctic Borough 1988.

In addition, the Borough employs four part-time secretaries at \$8.00/hour. Professional services are budgeted at \$30.00/hour.

By comparison, budget figures for FY 1987, the Borough's first year of operation, are presented in the following tables (Tables 82 through 85).

An interesting feature of the Borough's budget is the Contract for Services With Cominco Alaska Incorporated. Executed February 23, 1987 between Cominco, the developer of Red Dog, and the Borough, this agreement authorizes payments to the Borough by Cominco in lieu of Borough-imposed taxes. Payments are to be made quarterly for 14 years (a total of 56 payments), escalating by \$50,000 annually following the fourth through the

TABLE 82

NORTHWEST ARCTIC BOROUGH FY 1987 BUDGET
(13-MONTH PERIOD ENDING 6/30/87)

<u>REVENUES</u>	
<u>Source</u>	<u>Amount</u>
Contract Services	\$ 8,000
Cominco Agreement	62,500
Interest on Investments	19,037
State Organizational Grant	500,000
State Revenue Sharing	162,600
State Municipal Assistance	34,989
Alaska Coastal Management Program Grant	82,800
Economic Development Administration Grant	<u>20,500</u>
TOTAL REVENUES	\$890,426

<u>EXPENDITURES</u>	
<u>Source</u>	<u>Amount</u>
Assembly	\$116,045
Charter Commission	47,600
Office of Mayor	217,779
Administration and Finance	173,000
Planning	74,143
Planning Commission	10,215
Alaska Coastal Management Program Grant	82,800
Economic Development Administration Grant	20,500
Debt Service	<u>8,441</u>
TOTAL EXPENDITURES	\$750,523

Source: Northwest Arctic Borough 1988.

TABLE 83

NORTHWEST ARCTIC BOROUGH FY 1987 BUDGET, BUDGETED VS.
ACTUAL REVENUES (13-MONTH PERIOD ENDED 6/30/87)

Source	Budgeted	Actual	Difference
Contract Services	\$ 8,000	\$ 3,000	(\$ 5,000)
Cominco Agreement	62,500	62,500	0
Interest on Investments	19,037	18,315	(722)
State Organizational Grant	500,000	500,000	0
State Revenue Sharing	162,600	161,827	(773)
State Municipal Assistance	34,989	34,711	(278)
Alaska Coastal Management Program Grant	82,800	35,039	(47,761)
Economic Development Administration Grant	<u>20,500</u>	<u>20,500</u>	<u>0</u>
TOTALS	\$890,426	\$835,892	(\$ 54,534)

Source: Northwest Arctic Borough 1988.

TABLE 84

NORTHWEST ARCTIC BOROUGH FY 1987 BUDGET, BUDGETED VS. ACTUAL
EXPENDITURES (13-MONTH PERIOD ENDED 6/30/87)

Source	Budgeted	Actual	Difference
Assembly	\$116,045	\$119,057	\$ (3,012)
Charter Commission	47,600	37,042	10,558
Office of Mayor	217,779	198,209	19,570
Administration and Finance	173,000	183,192	(10,192)
Planning	74,143	30,931	43,212
Planning Commission	10,215	5,231	4,984
Alaska Coastal Management Program Grant	82,800	35,039	47,761
Economic Development Administration Grant	20,500	20,518	(18)
Debt Service	<u>8,441</u>	<u>8,441</u>	<u>0</u>
TOTALS	\$750,523	\$637,660	\$112,863

Source: Northwest Arctic Borough 1988.

TABLE 85

NORTHWEST ARCTIC BOROUGH FY 1987 BUDGET,
BUDGETED VS. ACTUAL FUND BALANCE (13-MONTH PERIOD ENDED 6/30/87)

	Fund Balance
Budgeted	\$139,903
Actual	\$198,232
Difference	\$ 58,329

Source: Northwest Arctic Borough 1988.

eleventh years. The initial quarterly payment is \$250,000; the final quarterly payment will be \$750,000 (Northwest Arctic Borough 1987a).

In return for these payments, the Borough agreed to expend the funds for community purposes, facilities and services as authorized by the Borough's code of ordinances. **Cominco** employees are to be guaranteed equal access to all programs, services and facilities for which they qualify pursuant to the terms of such program or service, regardless of the source of funding for such program, service or facility (Ibid.).

"Quad Board".

The "Quad Board" is an informal body composed of representatives from **Maniilaq** Association, NANA Regional Corporation, Northwest Arctic School District, and Northwest Arctic Borough that has emerged as a regional governing council over the past decade.

Several years ago, leaders in the NANA region became increasingly alarmed at the human devastation being caused by alcohol and drug abuse. The most tragic consequence of this was the dramatic increase in suicides. The regional leadership was also concerned that traditional **Inupiaq** values were not being passed on to the younger generations.

The outcome of this concern was **Inupiat Ilitqusi**at, more popularly known as the Spirit Movement. The thrust of this movement is to restore pride in the **Inupiat people** and their values and skills honed over centuries of survival in a harsh and often hostile environment.

Inupiat Ilitqusiat was formally "de-institutionalized" in late 1986 when programs and staff devoted to **Ilitqusi**at activities were phased out in local institutions. It should be emphasized that de-institutionalization did not (and does not today) imply the elimination of the **Ilitqusi**at

ideology or movement itself (see McNabb, 1987c for a topological analysis of the movement). Rather, the stated intentions of institutions from the beginning were to create a public forum for movement advocacy and planning that **would** dissolve soon afterward, leaving the impetus and direction for the movement in the hands of regional residents, so **that formal and** informal contexts for **Inupiat Ilitqusiatic** efforts could be developed on an as-needed basis in each community if those efforts were desired.

Hence, no formal **Inupiat Ilitqusiatic** movement now exists. However, the Elder's Committees, Regional Strategy (or rather, its descendants in current planning programs), the Quad Board, and specific program goals (including local hire and local option alcohol control efforts) grew out of **Inupiat Ilitqusiatic**, both directly and indirectly. **Inupiat Ilitqusiatic** now comprises a regional "idiom" of local control, regional unity and cultural heritage that is embraced by many institutions, but not in terms of **Inupiat Ilitqusiatic** per se. The movement is evident in a general climate of social restoration in the region.¹⁰

The most common current references to **Inupiat Ilitqusiatic** are in fact virtually non-institutional. For instance, a recent opinion article in the Tundra Times submitted by a Kotzebue student illustrates this fact. The article, entitled "**Inupiat Ilitqusiatic** Helps Preserve Culture," contained no references to programs, curricula or agencies (see Tundra Times 1988). Rather, the article expressed a personal vision of the meaning of

¹⁰ The term "idiom" is appropriate in this context. By analogy, the "Great Society" of the 1960s was an idiom for general social goals, but no specific program would trace its ultimate roots to anything called "Great Society" per se and policy makers would have been generally unable to point to any **specific** program or agency as an example of "Great Society." Nonetheless, the idiom was a valid expression of broad goals.

underdevelopment and cultural preservation in the face of global political -economic influences on remote indigenous peoples. In the student's view, **Inupiat Ilitqusi**at is a result of preserving Native tradition, not **vice versa**. Hence one resident has **subtly** reformulated **some** earlier precepts of the movement and created a valid restatement that may or may not be **shared** by other residents. Since the movement eschewed a standardized, **lockstep** adoption of dogma, this development is completely consistent with the goals of the movement.

Traditionally revered for their wisdom and culturally important for passing on **Inupiat** ways, the elders were seen as the "governing body" for the **Spirit** Movement. The elders would offer guidance to the region's institutions as they carried out their responsibilities and programs. The Regional **Elders Council** 1 was established, composed of **elders** from each **village**. The Council meets periodically to address issues of regional concern. All of the key regional institutions attend the Regional **Elders** Council meetings and present status reports on their programs and how they are addressing the **issues of concern to the council**.

Since the inception of the NANA Regional Strategy and the Steering Committee established to oversee it, the leadership of **Maniilaq** Association, NANA Regional Corporation, Inc., and the Northwest Arctic School District have met **to** discuss regional issues. These meetings gradually evolved into an annual affair held apart from Regional Strategy Steering Committee or other meetings, in recognition of the need to separately address issues that transcended any single organization.

These meetings became known as the "**Tri-Board**" meetings. The **full** boards of **Maniilaq**, NANA, and the **school** district met with the Regional

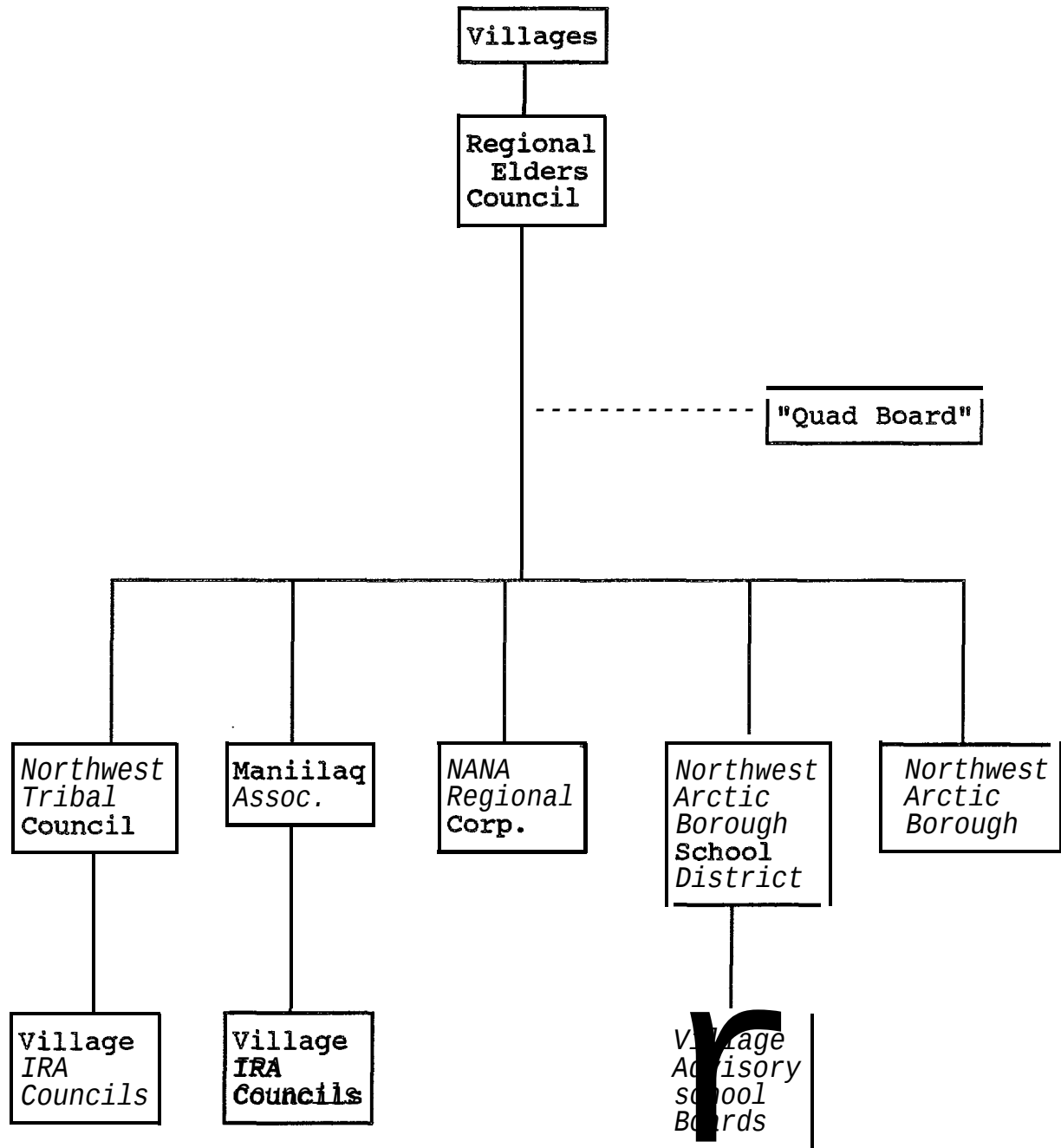
Elders Council to identify and discuss issues and to seek the counsel of the elders. Following incorporation of the Northwest Arctic Borough, the Borough assembly became a participant in what then became known as the "Quad Board" meetings. Following these "meetings, each governing body individually passes resolutions in support of the issues discussed at the Quad Board meeting.

As appropriate, the governing bodies of other organizations are invited by the elders to participate in the Regional **Elders** Council meetings. This apparently is occurring with such regularity that these meetings are now being referred to by some as the "Multi-Board" meetings. Figure 21 depicts this governance structure as practiced in the NANA region.

Regional decision-making mechanisms in the NANA region rely on, in fact require, input from **all** of the villages. Each regional institution's governing body consists of representatives from each individual village; the exception is the Borough assembly, which at the present time has some assembly members representing more than one village. Routinely, individual board members consult with their constituents prior to reaching a decision and casting a vote. In fact, as expressed by a former council member, the Kotzebue City Council often considers the impacts of its decisions on the other villages (Busch, personal communication). This is undoubtedly due to the village origins of many Kotzebue residents.

It therefore becomes quite difficult to isolate the City of Kotzebue from the context of the formal and informal governance structures in place in the NANA region. Officials of the regional organizations interviewed,

FIGURE 21
NANA REGION GOVERNANCE STRUCTURE



Note : This chart portrays the informal structure of governance customarily respected by the region's institutions. The chart does not reflect statutory or formal organizational lines of authority.

as well as City of Kotzebue officials, raised the following points that further validate the linkages between Kotzebue and the NANA region:

1. Village input would be sought concerning OCS development, regardless of where it might occur within the region.
2. Village residents will come to Kotzebue seeking employment. They will stay for varying lengths of time and consume services.
3. Village residents often have little money when they arrive in Kotzebue seeking employment, in contrast to arrivals from outside the region who generally have money. Therefore, the regional job seekers typically consume different services and impact Kotzebue differently than those from outside the region.
4. An overriding and universal concern is the effects OCS or any other significant development would have on subsistence. The pursuit of subsistence resources takes NANA residents wherever in the region the resource happens to be.
5. To a lesser extent, the same holds true for commercial fishing. An estimated 20 to 30 families relocate from the villages to Kotzebue for the summer commercial fishing season. These families camp out in tents along the shoreline north and south of the city.

Tribal Governments (IRA and NWTCT).

A brief background summary of the Kotzebue IRA council and the Northwest Tribal Council (a regional body) is provided below, derived from McNabb (1987c). Additional descriptive comments follow this summary.

The Kotzebue IRA council and Noatak traditional council, both organized 'officially in 1939, are the governments with the longest history of continuous operation in the region.

Relationships between village councils and other more recent administrative bodies, such as municipal governments and regional organizations, typically have been cooperative. For example, lands on municipal reserves have been provided for council programs (e.g., the Kotzebue IRA built and now operates a day care facility on municipal property; in 1986, KIC sold land "at cost" to the Kotzebue IRA to build a subsistence butchering and freezer facility) and one organization may serve as a grantee or flow-through for funds that are directed to another organization. In addition, village councils nominate candidates for the Maniilaq Association Board of Directors.

Councils have operated at the village-level for the last forty years (except in their nomination capacity, as above), however a new regional council, the Northwest Tribal Council (NWTC), was organized in 1986. The regional council has not yet established specific programs, however the impetus for the creation of a regional body derived from the idea that a renewed regional approach to tribal courts, provisions of the Indian Child Welfare Act, and land protection in general was needed. One key informant noted that land protection was the central issue, adding: "The regional tribal council formed due to the perception of not enough attention being paid to land protection, and mistrust of other agencies in this area [e.g., on this topic]."

The Indian Child Welfare Act program was established in 1986. The program aims to prevent the transfer of Native children out of the region or out of Native custody. Program staff work closely with Maniilaq Association social services staff, the courts, and Alaska Legal Services staff to identify children at risk, perform home visits to assess home conditions, provide advocacy services on behalf of children, and make placement recommendations. They also assist families to legitimize informal adoptions (known to the courts as "cultural adoptions"). The number of such adoptions has increased over the last year, from 16 in 1985, 8 in 1986, and 14 in 1987 to 15 (completed and scheduled] during the first two months of 1988 (Alaska Legal Services, personal communication). The increase in adoption cases and broader community and court acceptance of the IRA program is probably due to challenges by the Alaska Department of Revenue of permanent fund applications of "informally" adopted minors.

The NWTC has not yet evolved a plan of action and, as one IRA official states, "...it hasn't jelled yet." But the Kotzebue IRA carries out functions at a regional level that may obviate the need for a separate regional body at this time. For example, the Kotzebue IRA receives BIA funds for the ICWA and tribal courts programs (the latter is designed to

complement the ICWA program, aiming to establish tribal courts that will hear and rule on child custody and, possibly, local option alcohol possession and sale cases). These funds underwrite efforts not-only in Kotzebue, but **also** in **Selawik**, Kiana and Noorvik. Kotzebue IRA staff provide technical assistance to those communities. Hence, the Kotzebue organization has **intraregional** obligations.

2. Health.

The section on Health **will** be divided into two subsections. The first of these will present a description of major health and social services agencies, facilities and services. The second subsection will present available health statistics.

AGENCIES AND SERVICES

Health Services for Kotzebue and the region are provided primarily through the Indian Health Service (IHS) Kotzebue Service Unit and through **Maniilaq** Association.

Kotzebue Hospital/Service Unit

The IHS Kotzebue Service Unit provides medical and dental care and health education for the Native population (approximately 5,580 in 1987) of Kotzebue and 11 villages (**Ambler**, **Buckland**, **Deering**, **Kiana**, **Kivalina**, **Noatak**, **Noorvik**, **Selawik**, **Shungnak**, **Kobuk** and **Pt. Hope** which are served by community health aides) located in an area of 36,000 square miles.

The Service Unit has a 40,000 square foot, 31-bed general medical/surgical facility which was constructed in 1961. In FY 1987, 72 employees worked in the hospital. (Table 86 provides a breakdown of hospital staffing for FY 1987.) In addition to the inpatient and outpatient care provided through the hospital, the Service Unit provides

TABLE 86

KOTZEBUE HOSPITAL FY 1987
PROFESSIONAL STAFFING AND ANCILLARY SUPPORT

Employee Group	Employee Type	Number of Persons
Administration	Health Systems Administrator	2
	General Supply Specialist	1
	Medical Supply Technician	1
Medical Service	Physician	4
Dental Service	Dentist	3
	Dental Assistant	2
Nursing Service	Director of Nursing	1
	Nurse Specialist	1
	Registered Nurse	21
	Medical Clerk/Secretary	1
Pharmacy Service	Pharmacist	2
Dietary Service	Dietitian	1
	Cook	4
	Food Service Worker	2
Laboratory	Medical Technologist	1
Radiology	Radiology Technician	1
Medical Records	Medical Records Technician	1
Environmental	Sanitaria	1
Other Professional	Medical Social Worker	1
Non-Health Tech.	Custodial Worker	6
	Laundry Worker	4
	Facility Manager	1
	Maintenance & Repair	8
	Motor Vehicle Operator	1
	Laborer	1
TOTAL PERSONNEL		72

Source: 'Indian Health Service 1988.

preventive services including prenatal and well-baby care, health screening, social service and mental health service. Environmental health services are provided by **Maniilaq** Association through a Public Law 93-638 contract.

The FY 1987 IHS allocation for the Kotzebue Service Unit was \$3,204,716 (for direct hospital operating expenses) and \$1,542,491 for health service contracts with **Maniilaq** Association (\$1,160,260 of which went for hospital and clinic expenses). Table 86 lists the professional and ancillary support staffing for the Kotzebue Hospital.

Maniilaq Association

The **Maniilaq** Association, which began in 1966 as the Northwest Alaska Native Association, provides comprehensive health, social services and public assistance programs, primarily through contracts with the state and the federal government. **Maniilaq** serves Kotzebue and the 11 surrounding villages of Ambler, **Buckland**, Deering, Kiana, Kivalina, Kobuk, Noatak, **Noorvik**, Point Hope, **Selawik** and **Shungnak**. **Maniilaq** Association is governed by a Board of Directors consisting of one representative from each community in the borough. **Maniilaq's** health programs are directed by the Health Board, which is the **Maniilaq Board** expanded to include a representative from Pt. Hope.

Maniilaq Association operates 34 different programs, including: health promotion and education; accident and injury control; maternal and child health; nutrition; mental health; substance abuse; domestic violence; dental health; vision and hearing; public health nursing; community health practitioners; environmental health; senior services; and traditional medicine. Although all of these programs are headquartered in **Kotzebue**,

most offer itinerant services to other communities in the region. During the fiscal year ending September 30, 1986, Maniilaq received \$8,184,532 in revenues (\$7,979,120 in grants and contracts) and listed total operating expenses of \$8,401,683 (\$5,310,182 in personnel expenses) with a year-end fund balance of \$666,495. During 1987, Maniilaq employed 155 full-time and 70 part-time personnel. The Health Services, Human Services, and Senior Services Divisions are described in the following sections.

The Health Services Division operates 16 programs which are summarized below.

1. The **Safety Program**, funded by the **Indian Health Service (IHS)** is staffed by a Safety Coordinator. The Accident and Injury Control Program works towards increasing safety in boating, the use of snowmobiles, motorcycles and all-terrain vehicles, The program also addresses safety in the home and community through its comprehensive accident prevention plan. The Safety Coordinator functions as a resource to the Village Public Safety Officers, Village Fire Departments, regional and local Search and Rescue programs, Alaska State Troopers and local schools.

During FY 1986, a total of 381 public school students in seven villages (229 in Kotzebue) participated in ATV workshops and 48 students passed the driver's skill test.

2. The **Community Health Practitioners** program, funded by the State of Alaska and IHS, is staffed by a Program Manager, 2 CHP Instructors, and a CHP Administrative Assistant. It provides health care delivery services within the Northwest Arctic Borough through a network of 11 community clinics (Kotzebue is not included) which are staffed by a total of 28 Community Health Practitioners (CHPs).

Each clinic provides acute and emergency care, preventive health care (including: prenatal exams; well-child exams and immunizations; health surveillance; fluoride rinses; health education; **Women, Infants and Children (WIC)** Program; Sexually Transmitted Diseases (STD) program), chronic health care, mental health care and health administration.

During FY 1986, a total of 25,487 patient contacts were recorded, including 8,089 in preventive health, 372 in mental health, 11,012 in health education and 130 emergency transports.

3. The **Consumer Education** program, funded by IHS, is staffed by an Itinerant Health Educator. The program's major focus is documentation of the changing **Inupiat** culture and education regarding traditional **Inupiat** cultural values and practices.

During FY 1986, the program provided multimedia presentations on nutrition awareness and the use of traditional Native foods; documentation of the techniques employed by traditional health care providers; and development of a slide presentation depicting **Inupiaq** values derived from the Regional Elders Council.

4. The **Dental Care** program is funded by IHS and is located in the **Public** Health Service Hospital in Kotzebue. It offers dental health care to residents of the Northwest Arctic Borough through three components: preventive treatment (fluoride rinses and sealants), clinical treatment (office visits, checkups, fill ings, etc.) and dental education.

The program was expanded during FY 1986 to employ a staff of three dentists and three dental assistants. Each dentist spent 12 weeks in the villages for a total of 36 weeks of village services. Two new programs were also developed during 1986--a dental health educational program which

utilizes print, radio and community education and an added prevention program which includes a sealant program to supplement the fluoride treatment program.

During FY 1986, there were 4,296 **Class I** (Emergency Care) patient contacts, 1,631 **Class II** (Primary Care), **5,847 Class III** (Secondary Dental Care), **199 Class VI** (Limited Rehabilitation), **101 Class V** (Rehabilitation), **154 Class IV** (Complex Rehabilitation), and **1,188 Class X** (Exclusions).

5. The **Emergency Medical Services (EMS)** program is funded by **EMS/IHS**, **EMS/State** and **Legislative** funds. It is staffed by a Program Manager, an EMS Trainer, an EMS Training Assistant and a Safety Coordinator. This section will provide information primarily about **Maniilaq's** EMS program and its role in the larger, cooperative EMS effort which will be described in a subsequent section.

The EMS office helps to provide improved emergency medical care within the region through coordination of personnel and training; communications and transportation; critical care units; public safety agencies; accessibility to care; patient transfers; consumer awareness education; evaluation; disaster linkage; mutual aid agreements; record keeping.

Training is provided in **Cardio-Pulmonary Resuscitation (CPR)**, **Emergency Medical Technician (EMT-1 and EMT-2)**, **Basic First Aid**, **Standard First Aid**, and **Emergency Trauma Technician (ETT)** and in the clinical phases of the EMS system (for PHS hospital nurses and doctors).

6. The **Environmental Health** program, funded by **IHS**, is staffed by an **Environmental Health Sanitaria**. This program provides environmental monitoring of various facilities in Kotzebue and surrounding villages and

monitors any environmental situations or conditions that might affect residents of the area. Specific program responsibilities include:

1. surveys of village health clinics
2. surveys of community water systems
3. surveys of community sewage disposal systems
4. surveys of community solid waste disposal systems
5. operation and maintenance surveys of community sanitation facilities
6. surveys of Maniilaq association residential programs
7. village rabies vaccination clinics
8. community service profiles of Kotzebue Service Unit villages
9. monthly monitoring of fluoride levels of community water supplies
10. monthly monitoring of village bacteriological water quality
11. various surveys of the PHS hospital
12. training programs for various PHS hospital staff
13. chairing PHS hospital infection control committee
14. personnel radiation monitoring program, PHS hospital
15. assisting state and federal agencies in environmental monitoring

During FY 1986, the program established and received State certification of a bacteriological water analysis laboratory in Kotzebue. This cooperative effort between Maniilaq and the City of Kotzebue conducts a monthly sampling program to meet the State's drinking water quality

monitoring requirements. The Fluoridation Committee was reactivated and fluoride monitoring was begun, and 107 surveys, inspections and clinics were conducted in the villages outside Kotzebue.

7. The Regional **Eye Care** program is funded by IHS and the State, is staffed by an Optometrist and an Eye Care Assistant and is located in the Dental/Pediatrics Wing of the PHS Hospital.

It provides comprehensive vision services including: visual examinations; examinations and treatment of minor eye infections and diseases; coordination of field trips by the ophthalmologist from the Alaska Native Medical Center; some specialized eye testing; measuring, ordering and dispensing eye glasses; and minor frame repair and adjustment.

One field trip per year is made to each of the villages in the Borough. Other services include Emergency Medical Training course instruction, Community **Health** Practitioner training and coordination of school vision screenings.

The Eye **Clinic** officially opened March 3, 1986, conducted field trips to five villages, held one ophthalmology clinic in Kotzebue, screened 269 Kotzebue Elementary School students and had close to 400 patient contacts.

8. The **Health Education** program, funded by IHS, is staffed by a Program Manager. The purpose of the program is to expand health education and' **health** awareness in the Borough through education, training and awareness.

Program activities during FY 1986 included a health fair in Selawik, public service announcements (Hepatitis B and Hemophilus Influenza Type B), technical assistance, workshops and staff training.

9. The **Social Services** program, funded by IHS, is staffed by a social worker and a social services translator and is located in the PHS Hospital. The Medical Social Services staff function as part of an interdisciplinary team with other hospital personnel.

The program coordinates the following activities:

1. counseling to inpatient and outpatient **clients** and their families
2. crisis intervention
3. coordination of child abuse and neglect **services** in the hospital
4. patient advocacy
5. patient referral services for public assistance
6. nursing care placement
7. patient travel
8. Medicaid and Medicare benefits and other third-party resources
9. twenty-four hour on-call coverage as part of **Maniilaq** Counseling Services team
10. occasional long-term counseling
11. social services support services for village health practitioners

During FY 1986, the program had a total of 3,367 patient contacts including: 874 in mental health; 1,286 in medical social services; 412 in Medicare/Medicaid/other third-party resources; 583 in patient travel; 197 in general **social** services; and 15 in education.

10. The **Inupiat Ilitqusi**at program is funded by IHS, is staffed by an Inupiat Ilitqusi at Coordinator and located in the Eskimo Building. The purpose of the program is to assist the people of Kotzebue to teach **Inuṣi**aq values, develop individual identity and self-esteem, develop and

achieve use of the Inupiaq language, preserve Inupiaq cultural heritage and teach traditional job skills.

Activities and principles are coordinated and integrated with the Northwest Arctic Borough and School District, NANA Regional Corporation, Maniilaq Association and all other businesses as requested. The program is also responsible for assisting in the development of the Innuunailiq camp and for meeting and working closely with the Kotzebue Elders Council.

During FY 1986, the program held two workshops in Kotzebue concerning suicide, alcohol and drug abuse; held 20 Inupiaq language classes at the Substance Abuse Treatment Center in Kotzebue; held skin sewing classes for youth at the Kotzebue Group Home; attended NANA Regional Elders Council Meeting; and participated in Health Promotion Task Force project meetings and Spirit Committee Kinship subcommittee meetings.

11. The Maternal Child Health program, funded by IHS, is staffed by a Maternal/Child Health Coordinator and is located in the PHS Hospital. The program provides routine maternity health services, prenatal education and family planning counseling for the Kotzebue Service Unit and training in prenatal health care and medical aspects of family planning to village Community Health Practitioners.

The position of Maternal/Child Health Coordinator was vacant for all of FY 1986.

12. The Medical Records/Clerical Services program is funded by IHS. It is staffed by a Medical Records Clerk Transcriptionist, an Admitting/Discharge Clerk, a Utilization/Review Clerk, a File Clerk, a Switchboard Operator/Travel Clerk and a Ward Clerk. The program is responsible for the management of the Kotzebue Hospital's health records

(including outpatient and admissions) and for Medicare and Medicaid billings as well as for a variety of administrative support and non-nursing clerical duties.

13. The **Public Health Nursing** program is funded by the State of Alaska. It is staffed by a PHN Program Manager, a Data Coordinator, an Immunization coordinator/Itinerant PHN, a Hepatitis B Coordinator, and an STD Coordinator/Itinerant PHN.

The PHN program is involved in preventive health care and health education and also offers health promotion and screening services throughout the Borough.

Service programs include:

1. immunizations
2. tuberculosis control
3. sexually transmitted diseases
4. school age children's programs
5. early periodic screening, diagnosis and treatment program
6. handicapped children's program
7. adult health services
8. maternal and child health

14. The **Traditional Health** program, funded by IHS, is staffed by a Tribal Doctor Coordinator, two Tribal Doctors in Noorvik (one part-time) and a Tribal Doctor in Point Hope.

The program seeks to teach and preserve traditional Inupiaq medical practices. It provides treatment for: abdominal manipulation and repositioning (stomach, aorta, liver, intestines and womb); dislocations and sprains (neck, shoulder, upper and lower spine, hip, knee, ankle and

wrist); maternal (repositioning fetus); and traditional herbal practices (algae, stinkweed, animal fat, etc. for illness and infections).

The program **also** arranges therapeutic trips to Serpentine Hot Springs in March and **July** for patients referred for treatment by tribal doctors or other IHS Medical staff.

During FY **1986**, the program recorded **a total of 1,276** patient contacts (of which over **400** were from **Kotzebue**). Forty-six referrals were made to the hospital.

15. The **Women, Infants and Children** program is funded by **IHS** and the **U.S. Department of Agriculture** and is staffed by a **WIC** Coordinator and a Nutrition Assistant. The Special Supplemental Food Program for Women, Infants and Children (**WIC**) serves pregnant, postpartum and breast-feeding women, infants and children under five years of age who are low income and at nutritional risk.

The program provides three basic services: nutritious, free foods each month; nutrition counseling on improving diet to achieve better health; and encouraging participation in health care and social services as needed.

FY **1986** program activities included **19 village** trips, **applicant** screenings, education, community **health** presentations, and public service announcements on Fetal Alcohol Syndrome and gathering of subsistence foods .

16. The **Putyuk Prematernal Home**, funded by the State of Alaska, is staffed by a Program Manager and two Nurse's Aides. The home accommodates pregnant women, including high risk women, who can stay during the last two to four weeks of their pregnancy. During their stay, women participate in various classes on prenatal and postpartum care.

The program opened in February 1986 and, for the balance of FY 1986, had about 50 admissions coming from every village in the region except **Kobuk**.

The Human Services Division is described below.

1. The **Homemakers** program, funded by the State of Alaska, is staffed by a Social Services Program Manager, a Social Worker, a Counselor II, and eight locally based village Homemaker Coordinators. The program provides housekeeping assistance to elderly and disabled community residents. Homemaker staff services include cleaning house, doing laundry, planning menus, mending clothing, shopping, hauling water and fuel, shoveling snow, and providing emotional support and needed referrals.

During the second half of FY 1986, the program had an average of 67 clients (the past average was 45) in nine villages and **Kotzebue**. There were a total of 45 active homemakers providing services. Staff travelled to each village in the Borough at least twice to assess and monitor client needs.

2. The **Counseling Services** program, funded by the State of Alaska, is staffed by a Counseling Services Program Manager, an Itinerant Counseling Services Worker, a Counseling Services Therapist and an Intake Data Coordinator.

The program provides a variety of mental health services in **Kotzebue** and to surrounding villages on an itinerant basis including: individual, family and group counseling on a crisis or continuing basis; evaluations, assessments and consultations for individual clients, families, groups or agencies; special services for clients who are mentally retarded, developmentally disabled and chronically mentally ill; referral to Alaska

Psychiatric Institute (API) and **case** management of' **clients** in **API or other** placements; and community-based prevention services.

The program caseload for FY 1986 consisted of' **283** individual clients, **47** percent of whom were male, **53** percent of whom were female, **90** percent of whom were Native and **81** percent of whom were **from Kotzebue**.

3. The **Maniilaq Social Services** program is funded by the State of **Alaska** and is staffed by a Social Services Program Manager, a **Social Worker** and a Counselor **II**.

The program offers individual and family counseling, information and referrals, and child and adult protection services. The program assists children and adults who are at risk, who are **alleged** or actual victims of abuse or neglect, and offers case assessment, planning and management services.

During **FY 1986**, staff increased, as did prevention and individual work with clients and families. Twenty-six foster homes were established and more were in the process of being licensed. Close to 70 children were placed, with 35 children placed in State custody and the remainder in group homes, with relatives or parents, in foster homes, adoptions or institutions.

4. The **Public Assistance** program is funded by the State of Alaska. It is staffed by a Program Manager, two Eligibility Technicians, a Public Assistance Clerk, and 18 fee agents, at least one in each village. Fee agents are not regular employees but volunteers, although they are paid for completed applications. During **FY 1986**, over **1,200** applications were processed.

The program provides intake services for State Public Assistance which consists of providing help in completing applications and interviews and responding to inquiries concerning all categories of Public Assistance.

5. The Family Shelter program is funded by the State of Alaska. It is staffed by a Program Manager, a Counselor, a Village Coordinator, a Shelter Coordinator Advocate and a part-time Volunteer Coordinator. The program provides services to prevent domestic violence and to help domestic violence victims.

Program services include:

1. twenty-four hour shelter for women and their children
2. twenty-four hour crisis/referral/information hotline
3. community education
4. education in the schools
5. village safe home program
6. individual and group counseling
7. advocacy
8. referrals
9. statistics and record-keeping
10. library of related films, books, and other materials.
11. volunteer programs
12. training on domestic violence/sexual assault, child sexual assault and abuse

During FY 1986, 23 clients were flown from their village to Kotzebue for services. Staff traveled to all 11 villages to give presentations in the schools on child sexual abuse, hold community meetings, maintain village contacts and offer counseling and referrals services. Several

workshops were conducted in **Kotzebue** and **14 new** volunteers were recruited and trained. The program provided service to **364** clients from Kotzebue and 249 from the villages. Approximately **50 percent of these** were repeat clients.

6. The Substance Abuse Treatment program is funded by **IHS** and the State of Alaska. It is staffed by a Program Director, a Treatment Coordinator, an **Aftercare Counselor**, a Youth/Prevention Counselor, an Outpatient Counselor, an Alcohol Safety Action Program Coordinator, three Treatment Aides and 10 locally based Village Coordinators.

This comprehensive and multi-faceted program is comprised of the following components:

1. Intermediate/Residential Care

This is an intensive 30- to 90-day recovery program which provides individual counseling, group therapy and educational groups in a live-in community setting. The program emphasizes personal responsibility and the use of traditional **Inupiaq** values and alternative cultural activities.

During **FY 1986**, **58** clients were admitted, and 6,032 hours of individual counseling, 2,270 hours of group therapy and 290 hours of educational group counseling were provided.

2. Outpatient

This component provides assessment and screening, individual counseling, group therapy (as of *June 1986*) and alternative activities on an outpatient basis.

During **FY 1986**, the program saw 56 clients for assessment and screening, and **2,912** hours of individual counseling and 200 hours of alternative activities were provided.

3. Aftercare

Aftercare services are provided to clients who have completed Intermediate Care and/or Outpatient care. Services include: individual counseling; aftercare groups; continuing education; and supporting groups such as Alcoholics Anonymous and Alanon.

During FY 1986, nearly 600 hours of aftercare group and over 400 hours of individual counseling were provided.

4. Referral Services

This component provides assessments, screenings and placements of all referrals from agencies within and outside the Borough (e.g., Anchorage Alcohol Safety Action Program, Anchorage Correctional System, Palmer Correctional System, Norton Sound Health Clinic, etc.).

During FY 1986, there were 225 incoming referrals, screenings, assessments and placements (the Court System, PHS and Mental Health representing the three largest referral sources). There were 110 referrals made to other agencies (64 percent to PHS).

5. Youth/Prevention

This component began operations in July 1986. Prevention and early intervention services are directed to young people under the age of 18 and include information and referral, screening, placement and education.

6. Village Coordinators

This component provides village-based community organization, crisis intervention, aftercare follow-up, referral, work with schools, organization of alternative sober activities and work with local elders committees. Village Coordinators were active for eight months (October to May) during FY 1986.

7. Maniilaq Alcohol Safety Action Program

This component provides a direct link between the State Court System and Treatment/Education services for alcohol-related misdemeanor cases. Services include early identification, referral and case monitoring. Liaison is maintained with the State Court System, District Attorney's Office, Public Defender's Office, private court-appointed attorneys, Kotzebue Police Department, Alaska Pre-Trial Diversion Program and Maniilaq Social Rehabilitation Center at Sivunniigvik.

During FY 1986, 99 clients were sentenced for treatment/counseling, including 45 who were repeat offenders. Treatment/counseling was successfully completed by 68 clients.

7. The Youth Group Home program is funded by the State of Alaska and staffed by a Program Manager, a Counselor, and three full-time and five on-call House Parents/Youth Workers, and is located in the F.R. Ferguson Building. The program mainly provides residential care for minors in State custody. Additional services include instruction in practical living skills (career guidance; money management; care of clothing; cooking and nutrition; job habits; study habits) and recreational activities.

There were a total of 52 placements in the program during FY 1986, including 32 boys and 20 girls.

The Senior Services Division is described below.

1. The Senior Citizen's Cultural Center program is funded by the State of Alaska. It is staffed by a Director, an Assistant Director, an Administrative Assistant, a Registered Nurse, nine full-time and two on-call Nurses Aides, a Head Cook, an Assistant Cook, a Kotzebue Electrical Cooperative (K.E.C.) Cook, two Food Services Workers, a Housekeeping

Supervisor, a Housekeeping Aide, a Janitor, a Janitor/Driver and a K.E.C. Driver.

The Senior Center is an ambulatory residential home which provides 24-hour health care for 16 to 24 residents. It also provides dinner for community elders on a nightly basis. Between 12 and 16 elders are transported to the Center. Meals are delivered to elders who are unable to come to the Center. Additional services include telephone contacts with homebound elders, information and referral services, outreach, shopping and transportation assistance, meetings, workshops and cultural activities.

During FY 1986, the Center provided 15,338 meals to Center residents, 3,022 to community elders and 1,945 home deliveries for homebound elders.

Emergency Medical Services.

The provision of emergency medical services is a cooperative effort among several agencies and organizations in Kotzebue. Within city limits, the Kotzebue Fire Department and the region's search and rescue organization coordinate their activities.

The Kotzebue Fire Department has two ambulances with modular life support systems. The fire department provides ambulance service for the entire region, transporting patients and victims to and from the airport and PHS hospital. During FY 1988, the fire department had between 600 to 650 ambulance and medivac runs. Approximately half were of Kotzebue origin, the remainder from elsewhere in the region, including three ambulance calls from the Red Dog port and mine project.

During 1986, according to the Kotzebue Volunteer Fire Department's Ambulance Service Survey, there were 583 runs of which 114 required emergency transport to hospital and 150 required non-emergency transport to

the hospital. A **total** of 303 were routine **interfacility** transfers. Most incidents occurred at home (200) or at business establishments (260) and **158** were from surrounding villages. A **total** of **321** patients were **local** residents and 267 were **other Alaska** residents.

Three-wheelers accounted for 24 **calls, falls** for **24**, other trauma for **72**, violent assault for 13, alcohol for **67**, overdose for **19**, attempted suicide for 25, hypothermia for 13, obstetrics for 64, respiratory for **73**, cardiac for 37, stroke for 20, gastrointestinal bleeding for **51**, seizures for **56**, communicable disease for 55 and other medical complaints for 182 incidents.

The City has 14 trained emergency medical technicians (EMT's], eight of whom are at the **EMT II level**. Training costs are paid by **Maniilaq** Association, which administers the emergency medical services program on **behalf** of the region. **Maniilaq** also compiles **all** of the EMS data and submits annual reports to the **Alaska** Department of Public Safety. These reports constitute justification for continued state funding of the EMS program in the NANA region.

The City **would** like to upgrade the EMS program from its current **Level I** status (basic life support) to Level **II** status (advanced l i fe support). This change would allow the service to use **IV's** and to administer certain drugs. Level 11 services require a sponsoring physician who must sign standing orders. The **Kotzebue IHS** hospital **could** function as the sponsor with the cooperation of its medical staff. (The EMS program plans to move into the new hospital after it has been built.) This upgrading is scheduled for the fall of **1988** and is proposed in the **EMS FY 1989** program funding request to the **Alaska** Department of **Health** and Social Services.

The EMS Coordinator reported a decline in medical evacuations as a result of the employment of a physician's assistant at the Red Dog Mine site, despite an increase in trauma cases at the site. He also reported an increase in alcohol-related problems and the use of Lysol as an alcohol substitute.

The Coordinator also cited as an issue the cost of medical evacuations. Alaska Airlines charges for nine seats for a stretcher patient, air charters cost \$2,000 for a round-trip flight to Anchorage, and a Providence Hospital Life Guard airplane evacuation costs \$12,000. Concern was also expressed about the inappropriate use of Medevac/ambulance services for minor or trivial injuries. The EMS program is considering instituting a fee for services system in order to deal with these problems.

Service Planning and Current Priorities.

The Regional Strategy represents the major vehicle for planning and coordinating the development and delivery of the various health and social service programs described above. The Regional Strategy process is best described in the following passages derived from McNabb (1987c) .

Regional health and social service planning is generally coordinated by means of the Regional Strategy. Although erratic state and federal funding for those services as well as service priorities conceived outside the region tend to impede integrated services at the local level, the Regional Strategy provides objectives and a planning forum that help to overcome some of those constraints. A consortium of regional institutions composed of NANA Corporation, Maniilaq Association and the Northwest Arctic School District, or NWASD, embarked on a regional planning program in 1979. Local PHS staff participated in the program at the outset. State funds supported the program. Designated the Regional Strategy Program and administered through Maniilaq, the consortium sought to

...provide a mechanism to tie together programs in the region, including Coastal Management, so that projects are formulated as an integrated set, consistent with

the goals, objectives, and policies of the region
(Maniilaq 1979:1).

The Regional Strategy Program was organized as a consensual decision-making apparatus designed to encourage public opinions about community needs on a broad front, to identify objectives that meet with the greatest public support, and to foster community and agency commitment to those objectives. Next it sought to consolidate agency responses to these needs so as to increase efficiency and integration among all agencies. A Health, Education and Social Services Task Force was created to oversee these activities in the services area.

Key informants generally agreed that the Regional Strategy program has increased service planning and delivery efficiency, however it is impossible to formally assess these efficiencies since no controlled pre- and post-test measurements are possible. The design of the program itself does eliminate some common sources of inefficiency, though. For instance, the Regional Strategy program:

- provides a common and comprehensible set of objectives and procedures that are familiar to residents, advocates and special interest groups, planners, and service delivery staff;
- provides clear and workable procedures for constituents to apply political pressure on decision-makers;
- provides a common set of planning priorities established by consensus, which counterbalance the typical capacity for overlapping and competitive functions among providers which is encouraged by shifting sources of soft money;
- provides a common set of priorities which also encourage coordination among providers, which is necessary in order to eliminate piecemeal programs that also result from short-term, erratic discretionary funding.

The members of the Task Force continue to represent the key service agencies in the region: Maniilaq, NWASD, and the PHS hospital. State representatives of the Department of Health and Social Services are periodically involved, however their share of all services is low. Although the Regional Strategy Program and the Task Force have no vested authority to make policy in the services area, they are the de facto policy body. Since 1979 these bodies have coordinated virtually all services in two ways: they have established guiding policies designed mainly to specify new goals and target populations for member agencies; and they

have recommended programmatic changes such as staffing and allocation modifications.

Since 1985 the integrative process has accelerated. **Maniilaq** has anticipated the assumption of IHS inpatient services for several years, but neither funds nor full administrative approval were available until recently. The assumption of inpatient services by the regional tribal organization is authorized by P.L. 93-638 (The Indian Self-Determination and Education Assistance Act), which is **also** the vehicle for contract provision of other **health** services previously delivered by IHS, such as **field** health services (CHA and EMS programs) and ambulatory medical and dental care. In 1987 the **Maniilaq** Board initiated the first phase of assumption, beginning with specialized Board training and an administrative and finance review of the Kotzebue Service Unit operation. Funds to carry the assumption through the remaining phases have been committed by PHS, but as of January 1988 delays by PHS have slowed the schedule and prompted the **Maniilaq** Board to become more aggressive in securing necessary federal funds. When the transition is complete, **Maniilaq** will oversee all public medical and most social services in the region. Plans now under consideration include a new hospital (tentatively funded at about \$34 million) and a geriatric care wing at the existing Senior Center. As of January 1988, the Borough has deferred to **Maniilaq** for the provision of health and social services, and no plans are evident for Borough assumption of such services.

On July 1, 1988 **Maniilaq** Association assumed operation of the Indian Health Service hospital in **Kotzebue**. The twelve-month operating budget for the hospital is \$5.4 million and **Maniilaq** will attempt to increase revenues through patient insurance and other benefit plan payments.

Maniilaq offered to retain existing hospital employees and plans to add several additional staff, including a pharmacist and three nurse's aides.

Maniilaq continues to plan for a new hospital which would also house all of their community health programs and might include a geriatric care facility funded by Medicare and an alcoholism treatment facility if federal funds are available.

The design cost for the new hospital is \$1.8 million and the total construction cost is estimated at \$34 million (for 72,000 square feet) which includes construction of new space, renovation of the old structure and asbestos abatement. A two-phase appropriation is planned, with \$18 million allocated for 1989 and \$16 million for 1990.

The Senior Center has accumulated a fund balance of \$190,000. This money will be applied to build a new intermediate care (level II) nursing wing, with seven to nine beds, at the Center starting in 1989. Plans are under consideration to further increase the Center to a level III facility, which would allow for non-ambulatory geriatric care.

Major program priorities for the future include expanded health promotion, community development and education activities; adding child care services at the Pre-maternal Home; expanded maternal, child health, child wellness and family planning services; and improved staff development and training efforts.

Recent changes in the health care services provided by the City include closing of the City's Teen Center (which now functions as a "homeless shelter" using a \$50,000 grant), cut backs on the operation of the City's Recreation Center, and "privatization" of their Day Care Center.

HEALTH STATISTICS

Primary Medical Care: Mortality and Morbidity

Table 87 ranks the leading causes of death for 1982-1984 for Natives in the Kotzebue Service Unit. According to Table 87, accidents represent

TABLE 87

KOTZEBUE SERVICE UNIT
LEADING CAUSES OF NATIVE MORTALITY
THREE YEAR AVERAGE CRUDE RATE
1982-1984

Cause	1982	1983	1984	3-Year Rate*
1. Accidents	10	7	5	148.7
2. Heart disease	10	6	3	128.4
3. Neoplasms	6	2	9	114.9
4. Suicide	1	6	1	70.0
5. Cerebrovascular	2	1	1	33.8
6. Influenza Pneumonia	1	1	1	27.0
7. Disease of Early Infancy	1	2	1	27.0
Total Deaths	45	33	29	723.4

*Deaths per 100,000 population

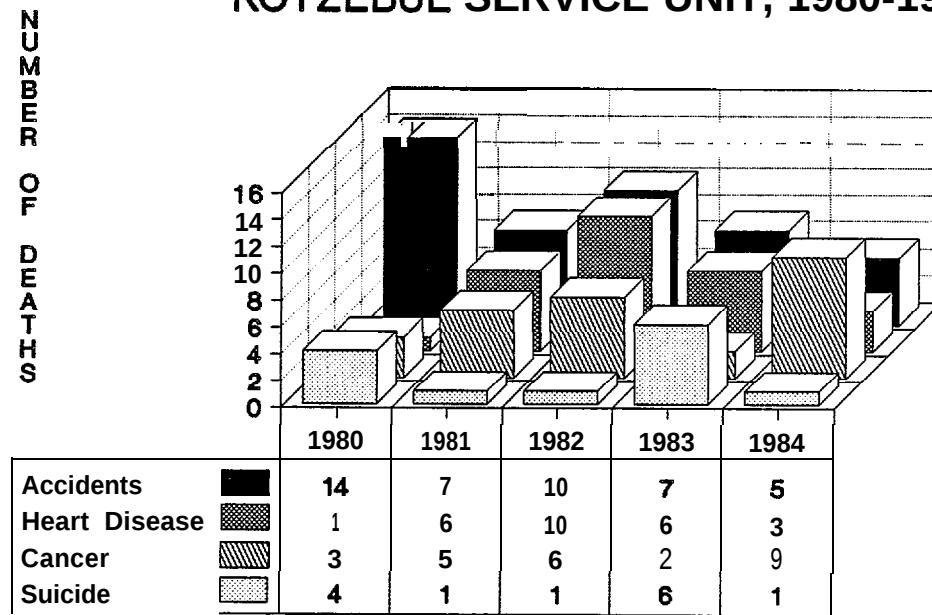
Source: Alaska Area Native Health Service 1987.

the leading cause of death among Alaska Natives in the Kotzebue Service Unit area between 1982 and 1984 and suicides represent the fourth leading cause of death. Figure 22 graphically displays the frequency of death from the four leading causes between 1980-1984.

Table 88 lists the leading causes of Native mortality for the entire Alaska Area. According to Table 88, accidents represent the leading cause of death among Alaska Natives statewide and suicide represents the fourth leading cause of death, as they did respectively for the Kotzebue Service Unit. However, the mortality rate for accidents is approximately 15 percent lower for the Kotzebue Service Unit area than for the Alaska Area. More striking is the difference in the two suicide rates, with the Kotzebue rate being approximately 70 percent greater than the Alaska rate. It should also be noted that homicide ranks sixth on the Alaska list but is not included in the top seven causes on the Kotzebue list. Figure 23 compares the five leading causes of Native mortality for the Kotzebue Service Unit and Alaska for 1982-1984,

Table 89 lists the leading causes of death for the United States for 1985. (Note: Homicide is included, rather than the tenth ranked cause--arteriosclerosis--for purposes of comparison with the preceding table.) According to Table 89, diseases of the heart ranked first nationally as a cause of death, followed by cancer (malignant neoplasms) and cerebrovascular disease (stroke). Figure 24 compares death rates from the three leading deadly diseases nationally and in the Kotzebue Service Unit. Accidents, which were the leading causes of death for both the Kotzebue Service Unit and Alaska Areas, ranked fourth nationally. (The

Figure 22
LEADING CAUSES OF DEATH
KOTZEBUE SERVICE UNIT, 1980-1984



Source: Alaska Area Native Health Service.

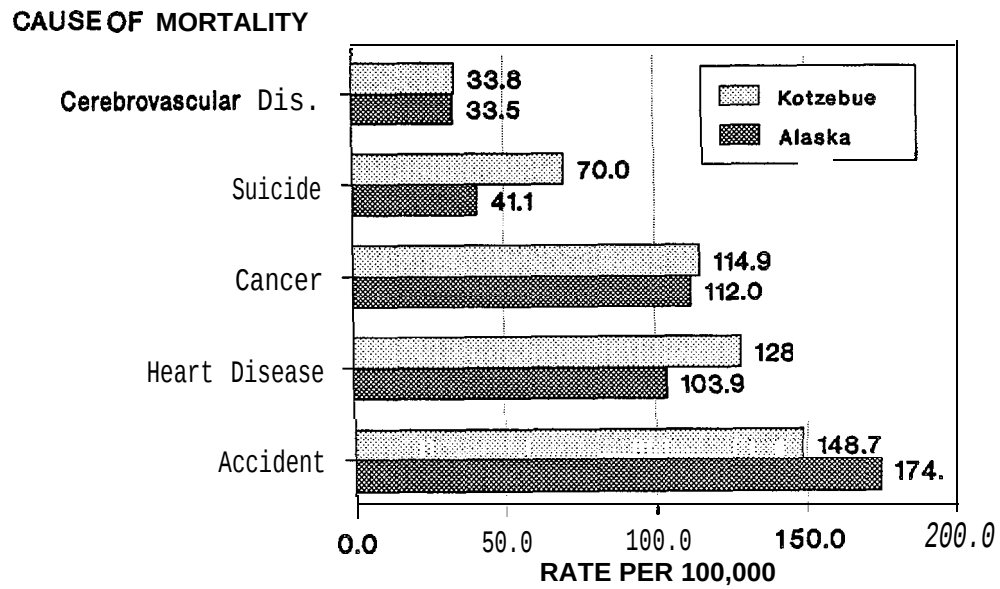
TABLE 88
ALASKA AREA
LEADING CAUSES OF NATIVE MORTALITY
THREE YEAR AVERAGE CRUDE RATE
1982-1984

Causes	1982	1983	1984	3-Year Rate*
1. Accidents	130	112	122	174.3
2. Malignant Neoplasms	71	83	80	112.0
3. Heart Disease & Hypertension	68	68	81	103.9
4. Suicide	n.a.	32	26	41.1
5. Cerebrovascular Disease	29	13	28	33.5
6. Homicide	16	18	16	23.9
7. Diseases of Early Infancy	12	15	17	21.1
8. Influenza Pneumonia	26	17	19	17.2
9. Cirrhosis of Liver	15	5	13	15.8
10. Congenital Anomalies	6	8	11	12.0

Deaths per 100,000 population.

Source: Alaska Area Native Health Service 1987.

Figure 23
LEADING CAUSES OF NATIVE MORTALITY
KOTZEBUE SERVICE UNIT & ALASKA, 1982-84



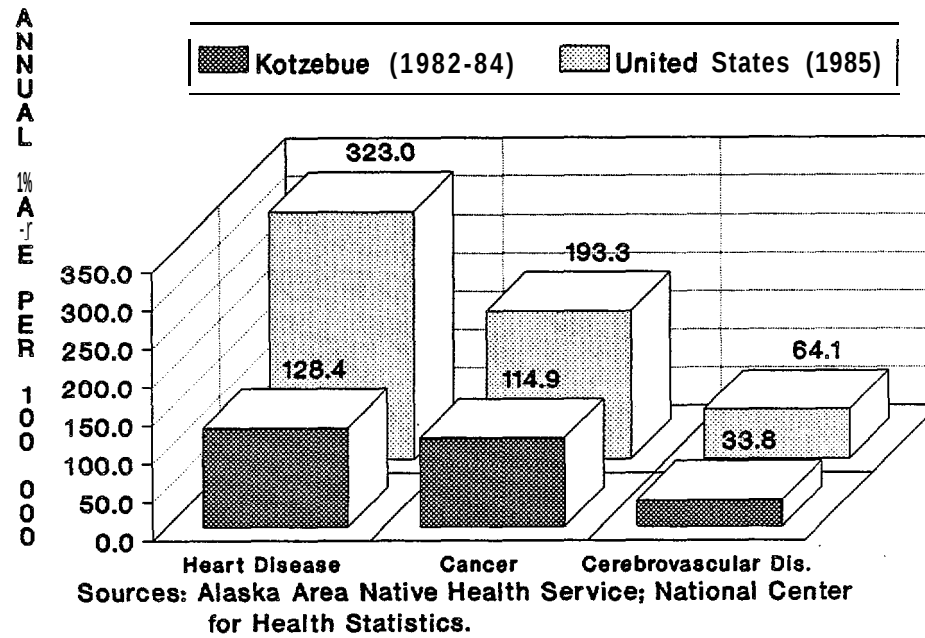
Source: Alaska Area Native Health Service.

TABLE 89
UNITED STATES
LEADING CAUSES OF MORTALITY
(CRUDE RATE)
1985

Cause	<u>Rate</u> (Per 100,000)
1. Diseases of the Heart	323.0
2. Cancer	193.3
3. Cerebrovascular Disease	64.1
4. Accidents	39.1
5. Chronic Obstructive Pulmonary Disease	31.3
6. Pneumonia and Influenza	28.3
7. Diabetes	15.5
8. Suicide	12.3
9. Chronic Liver Disease and Cirrhosis	11.2
(12.) Homicide	8.3

Source: National Center for Health Statistics, 1988.

Figure 24
LEADING CAUSES OF DEATH BY DISEASE
KOTZEBUE SERVICE UNIT & UNITED STATES



difference between the years used for calculating Kotzebue and Alaska rates versus the United States rate should be noted.)

Figure 25 compares recent death rates by accident and suicide for the Kotzebue Service Unit and the nation. The accident mortality rate for Kotzebue is approximately 3.8 times greater than it is for the United States and the Alaska rate for accident mortality is close to 4.5 times greater than the U.S. rate. Suicide ranked ninth for the U.S. and fourth for both Kotzebue and Alaska areas. The Kotzebue suicide rate is nearly 5.7 times greater than U.S. suicide rate and the Alaska Area suicide rate is approximately 3.3 times greater than the U.S. rate. The homicide rate for the Alaska Area is nearly 2.9 times the U.S. rate. (The homicide rate for the comparable period for the Kotzebue Service Unit is not available.)

These comparisons clearly point to higher rates of violent death in the Kotzebue and Alaska Areas than in the United States as a whole and to lower heart disease, cancer and stroke death in the former two than in the latter. To some extent the differences in violent deaths, heart disease, cancer and stroke death rates are due to the larger proportion of young people in Alaska than in the U.S. (32.6 percent in Alaska under 18 years old in 1985 versus 26.4 percent for the U.S.) and the smaller percentage of older people in Alaska than in the U.S. (3.2 percent 65 years old and over in Alaska in 1985 versus 12.0 for the U.S.).

Table 90 lists leading causes of hospitalization ranked in order of discharges in FY 1984 through FY 1986 for the Kotzebue Service Unit. (Note: Total diagnoses exceeds the sum of listed diagnoses since only the leading, but not all, causes are listed.)

Figure 25
DEATHS BY ACCIDENT AND SUICIDE
KOTZEBUE SERVICE UNIT & UNITED STATES

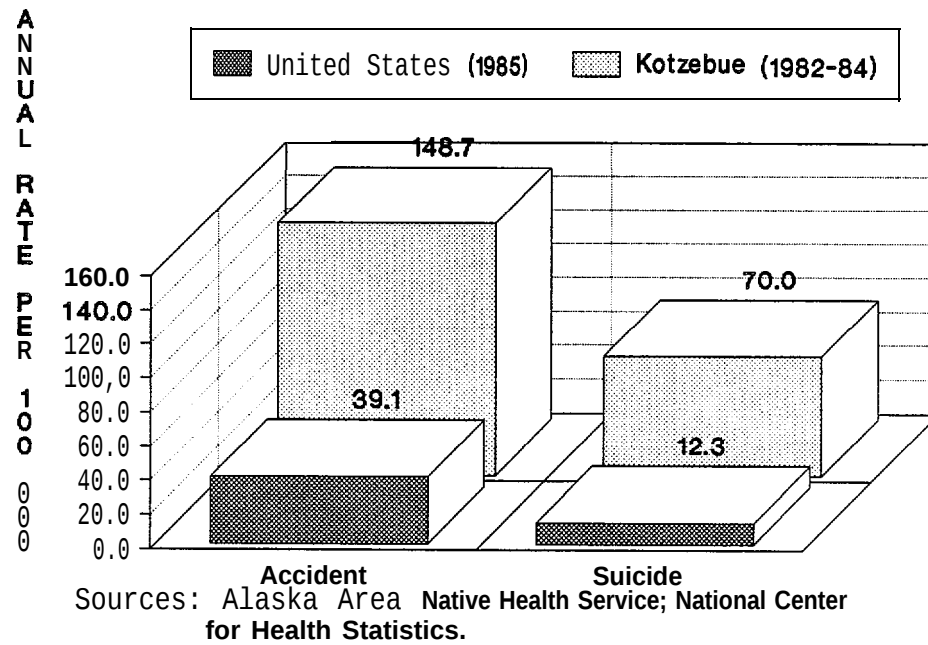


TABLE 90

KOTZEBUE SERVICE UNIT
LEADING CAUSES OF HOSPITALIZATION
(RANKED IN ORDER OF DISCHARGES)
FY 1984 - 1986

Diagnoses	FY 1984	<u>Discharges</u>	FY 1986
		FY 1985	
1. Deliveries	163	149	160
2. Accidents Injuries	87	103	139
3. Complication of Pregnancy	44	37	47
4. Heart Disease	15	24	29
5. Pneumonia	43	31	26
6. Undiagnosed Symptoms	23	22	26
7. Infected Skin Abrasions	16	17	22
8. Urinary Tract Disease	15	15	19
9. Alcohol Abuse	46	37	17
10. Bronchitis Emphysema	10	16	16
11. Peptic Disease of Stomach	58	10	15
12. Psychoses	12	19	15
13. Abdominal Pain	12	14	14
14. Gynecologic Problems	16	13	11
15. Upper Respiratory Disease	8	18	10
Total Discharges	748	731	735

Source: Alaska Area Native Health Service, 1987.

According to Table 90, close to 22 percent of all discharges were due to deliveries and close to 19 percent were due to accidents and injuries during FY 1986. The greatest changes between FY 1984 and FY 1986 occurred for heart disease (+93 percent), accidents and injuries (+60 percent), bronchitis and emphysema (+60 percent), peptic disease of the stomach (-74 percent), alcohol abuse (-63 percent), and pneumonia (-39 percent). The change in total discharges over three years was negligible.

Table 91 lists the leading causes of outpatient visits ranked in decreasing order of total visits for FY 1981 through FY 1986 in the Kotzebue Service Unit. (Note: Total diagnoses exceeds the sum of 1 listed diagnoses, since only the leading causes are listed.)

According to Table 91, accidents and injuries were the leading causes of outpatient visits each year, and decreased by 24.5 percent between FY 1981 and FY 1986. In 1984, pre-natal care replaced upper respiratory problems as the second leading cause and otitis media dropped from third to fourth place in FY 1986.

Substance Abuse

Table 92 presents alcohol program admissions for 1982 through 1986 for Kotzebue residents. It should be noted that these data are highly influenced by budget and program changes, notably in 1982 and 1986.

According to the data in Table 92, there was a decline in the number of cases after 1984. This may be explained partly by a decrease in available grant funds and partly by preventive efforts including the exercise of local option laws restricting the sale and/or possession of alcohol.

TABLE 91

LEADING CAUSES OF OUTPATIENT VISITS, FY 1981-86
KOTZEBUE SERVICE UNIT

Fiscal Year	Ranked Outpatient Diagnoses
FY 1981	1. Accidents and injuries (3136) 2. Upper respiratory problems (2253) 3. Otitis media (1361) 4. Prenatal care (1050) 5. Physical exams (886)
FY 1982	1. Accidents and injuries (2647) 2. Upper respiratory problems (1954) 3. Otitis media (1427) 4. Prenatal care (808) 5. Hospital/surgical follow-up (619)
FY 1983	1. Accidents and injuries (2950) 2. Upper respiratory problems (1947) 3. Otitis media (1612) 4. Prenatal care (1205) 5. Disease of female genitalia excl. VD (799)
FY 1984	1. Accidents and injuries (2966) 2. Prenatal care (2532) 3. Otitis media (2247) 4. Upper respiratory problems (2142) 5. Hospital/surgical follow-up (862)
FY 1985	1. Accidents and injuries (2786) 2. Prenatal care (2410) 3. Otitis media (2104) 4. Upper respiratory problems (1922) 5. Hospital/surgical follow-up (842)
FY 1986	1. Accidents and injuries (2366) 2. Prenatal care (1607) 3. Upper respiratory problems (1552) 4. Otitis media (1366) 5. Hospital/surgical follow-up (765)

Source: Alaska Area Native Health Service, 1985d, 1987.

TABLE 92

ALCOHOL PROGRAM ADMISSIONS, BY SEX AND RACE
KOTZEBUE RESIDENTS, 1982-1986

	1982	1983	1984	1985	1986
<u>Sex</u>					
Male	5	86	91	55	23
Female	2	32	33	23	21
Unknown	0	1	0	0	0
TOTAL	7	119	124	78	44
<u>Race</u>					
Inupiaq	7	108	112	68	34
OtherAkN	0	2	5	1	7
Total AkN	7	110	117	69	41
White	0	3	5	4	3
Other/ Unknown	0	6	2	5	0
TotalNonN	0	9	7	9	3
TOTAL	7	119	124	78	44

Source: Office of Alcoholism and Drug Abuse, Department of Health and Social Services.

Overall, **male** admissions outnumber females **by** an average of about **2.5:1** and Natives represent approximately 92 percent **of all** admissions and **Inupiaq** clients represent **close** to 96 percent of **all** Natives.

Mental Health

Table 93 presents community mental health admissions for **1977** through **1986**. These data represent admissions for **Kotzebue** residents **only**. The annual totals in **Table 93** show considerable variation over time (due in part to program and budget changes) but with some trend toward increasing admissions. Natives consistently outnumber Whites **by a sizeable** ratio. Males outnumbered females in earlier years, and females outnumbered males in two of the last three years.

Table 94 presents admissions **of** Kotzebue residents to the Alaska Psychiatric Institute for the period 1977 through **1986**. As can **be** seen in **Table 94**, the number of admissions varies over time. Overall, Natives account for nearly 96 percent of **all** cases and **males** account for **64** percent of all cases listed.

Table 95 reports Child and **Adult** Protective Services delivered by the State Division of Family and Youth Services (**DFYS**) for **1986**, by race and age group, for **Kotzebue** residents.

According to **Table 95**, Natives account for close to **97** percent of all clients receiving services such as counselings information and referral, casework and placement referral. Children (**i.e.**, under **18**) comprise **74** percent, persons between 20 and **59** years old comprise 9 percent and persons 60 and older comprise **17** percent of the **total**.

TABLE 93

COMMUNITY MENTAL HEALTH CENTER ADMISSIONS, BY RACE AND SEX
KOTZEBUE RESIDENTS, 1977- 1986

Year	Race			Sex		
	Native	White	Total	Male	Female	Total
1977	48	17	65	30	33	63
1978	20	12	32	22	10	32
1979	29	3	32	17	13	30
1980	1	0	1	1	0	1
1981	n.a.	n.a.	0	n.a.	n.a.	0
1982	5	0	5	2	3	5
1983	7	5	12	8	4	12
1984	37	8	45	18	27	45
1985	122	29	151	68	82	150
1986	96	16	112	55	61	116
TOTAL	365	90	455	221	233	454

(Column "Total" differences are due to unknowns)

Source: Division of Mental Health, Department of Health & Social Services.

TABLE 94

ALASKA PSYCHIATRIC INSTITUTE ADMISSIONS, BY RACE AND SEX
KOTZEBUE RESIDENTS, 1977-1986

Year	Race			Sex		
	Native	White	Total	Male	Female	Total
1977	2	0	2	2	0	2
1978	8	1	9	4	5	9
1979	8	2	10	8	2	10
1980	7	0	7	4	3	7
1981	12	1	13	10	3	13
1982	9	0	9	2	7	9
1983	8	0	8	4	4	8
1984	14	0	14	7	7	14
1985	7	0	7	5	2	7
1986	17	0	17	9	8	17
TOTAL	92	4	96	55	41	96

Source: Division of Mental Health, Department of Health & Social Services.

TABLE 95

PROTECTIVE SERVICES, BY RACE AND AGE
KOTZEBUE RESIDENTS, 1986

Race	Native	Non-Native	Total
Age			
0-4 years	12	0	12
5-12	18	1	19
13-17	11	1	12
18	0	0	0
19	0	0	0
20-59	5	0	5
60+	10	0	10

Source: Division of Family and Youth Services, Department of Health and Social Services.

Conclusions

The community of Kotzebue possesses a comprehensive and well-organized health and social services system. Services have been well-integrated under the sponsorship of **Maniilaq** Association, the tribal non-profit health corporation headquartered in Kotzebue.

The pattern of program development and funding (e.g., direct or line-item State block grants and the assumption of full operating responsibility for the Kotzebue Public Health Service Hospital) is evidence of a substantial and comparatively rare degree of local autonomy and control.

The diverse array of programs evidences the community's awareness of ongoing and emerging health needs and their ability to develop an appropriate institutional response. The ability to respond in an immediate and predictably effective manner, however, is limited by the vicissitudes of government funding and the availability of adequate and **stable** professional resources. Moreover, the implementation and maintenance of health programs is further dependent upon a variety of potentially limiting intangibles such as public faith and trust and cultural relevance.

In addition, health and social service programs, especially prevention or health maintenance programs, tend not to yield immediate results. Their ultimate **success, therefore, must be measured over the** long term. It is within this context that the potential of Kotzebue's health institutions to respond to emerging needs or impacts must be viewed.

In closing, it is important to underscore the fact that Maniilaq Association and the regional health officials have traditionally displayed a diligent awareness of health status in the region in their service planning efforts. In formal terms, health planning is "rational" in the sense that objective health needs and service gaps are the main determinants of service priorities. Coupled with institutional unification and consensual decision-making, both of which characterize regional organizations this rational approach tends to yield rapid responses to emerging health needs. For example, data disclosed in the population chapter indicated that youngsters and senior citizens are vulnerable high-risk subpopulations with high rates of mortality. Based in part on this recognition, Maniilaq Association and the health authority have responded by (1) securing funding for the only remaining Women, Infants, and Children (WIC) program in Alaska, (2) planning a nursing wing for senior citizens in the new hospital, and (3) establishing a pre-maternal home for mothers and infants. These institutions showed their customary adeptness in securing WIC funding. By arguing that a tribe satisfied the technical definition of a "state," Maniilaq Association, as a tribal authority, submitted an application for state funding despite the fact that Alaskan programs per se had been discontinued. Their application was successful, hence Maniilaq Association is essentially one of five "states" that retain a WIC program.

Within the context of these factors, and on the basis of past performance, it may be concluded that Kotzebue's response to changing or increasing health needs through its established institutions is likely to be appropriate, creative and effective in the relatively short term and especially in the long term.

3. Churches and Religion.

The discussion of missionary activity in the historical section underlined the prominent role of the Friends' Church (California Yearly Meeting) in establishing Kotzebue as a regional center at about the turn of the century. From the outset, it appears that Friends' missionaries were active in both religious and secular affairs, serving as agents of social control and technological and economic change in addition to their religious roles. They quickly established missions, nursing stations and/or schools with medical and educational components in several villages in the immediate Kotzebue Sound area, including Deering, Buckland, Kivalina, Noatak, Selawik and Noorvik in addition to Kotzebue. Pertinent citations include Hadley (1969), Kelsey (1917), and most importantly Roberts (1978). The following discussion, which derives from McNabb (1987 c), illustrates the continuing secular and religious prominence of the Friends' Church.

The **denominations** and evangelical missionary groups that practice in the NANA region are as follows:

- Friends' Church (California Yearly Meeting)
- Episcopal
- Baptist
- Church of God Full Gospel
- Catholic
- Latter Day Saints
- Baha' i
- Seventh Day Adventist
- Bible Missionary

The last three named sects only rarely operate on a year-round basis, instead mobilizing on a sporadic or seasonal basis. 'Members of other denominations have proselytized from time to time. The Friends' Church is clearly the dominant religious body in the region and has been since 1897.

According to published records, the stimulus for **missionary** activity in the region came from local **Inupiat** themselves. Local **Inupiat** first met Sheldon Jackson when he visited Kotzebue Sound

briefly, probably in 1895. In 1896 two Inupiat from Kotzebue Sound journeyed to Cape Prince of Wales in order to catch a steamer bound south in order to seek out missionaries they learned of through Jackson. They caught the steamer and made their way to Douglas, Alaska via Sitka. There they approached Charles Replogle who administered the Friends' mission there. Anna Hunnicutt, who was later to become an important Friends' missionary in the NANA region, was then working with Replogle.

Replogle and Hunnicutt took the matter to the California representatives of the Friends'. A missionary program was approved in which Hunnicutt was joined by Robert and Carrie Samms. They travelled north and established the Friends' mission-school at Kotzebue in 1897. Over the next twenty years Hunnicutt and the Samms served as missionaries at Kotzebue, Deering, Oksik (a now abandoned settlement on the lower Kobuk River), Noatak, Kivalina, Shungnak, Selawik and Buckland (Kelsey 1917:253-254).

The Friends' Church has been an influential social force in the region for its entire history, and this influence has often extended to secular affairs. Key members of important boards and committees are also Church leaders. During the formative years of the Spirit Movement (see McNabb 1987c) the Friends' Church was formally represented on the steering committee, joining representatives of NANA, Mani i 1 aq, and NWASD. One result of the Spirit Movement was the creation of Elder's Committees in each community. Key members of Elder's Committees are frequently Friends' Church leaders. For these reasons, it is difficult to disentangle the social, political, and sectarian dimensions of ideologies in the NANA region.

The other denominations have serious and committed adherents, however their larger social roles are minor compared with those of the Friends' Church. By and large the activities of the other denominations are private and constrained. Aside from the evangelical proselytizing sects, the other groups do involve themselves in charitable work in the region, however their activities have never involved the public exposure and advocacy evident in Friends' Church work.

Kotzebue remains the formal center of Friends' organizational activity in the region, since the church is headquartered there. In real terms, however, the core of church leadership and congregational support has become decentralized over the last 50 years. Today, Noorvik, Noatak, Buckland and Kiana may be considered prominent Friends' Church centers in their own right, not eclipsing but rather complementing the ecclesiastical role of Kotzebue (McNabb, personal observation).

The Catholic and Baptist denominations have had relatively stable and long-term congregations in the region, primarily in **Kotzebue**. The Episcopal Church had a relatively prominent role in the community until the 1970s, when the congregation began to wane. Among the proselytizing **sects**, all but the Latter Day Saints have mustered meager resources and gained few converts in the region. In the late 1970s, the Latter Day Saints rapidly established a small but very committed and generous congregation. Its church and facilities in Kotzebue are probably the most extensive among any of the proselytizing sects (McNabb, personal observation).

Key informants in Kotzebue indicate that denomination memberships and attendance have been generally stable over the last two years. The Friends' Church in Kotzebue has an attendance of about 100 persons for Sunday morning services, and 150 to 200 **during evening services**. Attendance varies substantially by season, but the variation per se is relatively predictable. The Baptist Church attendance is 40 to 60 persons at services, but the core congregation is estimated at about 45. The other congregations have **smaller** but stable memberships and attendance as noted above. The **stability** of membership is considered by key informants to be due to two factors: (1) kinship, and (2) transient demography.

The key informants note that membership is greatly influenced by kinship. Offspring tend to attend the church of their parents, and to the extent that natural increase is relatively uniform across membership **subpopulations**, memberships remain stable. The smaller sects tend to attract members who are part of the transient, largely non-Native population. We do not possess data to confirm this perception, but key informants suggest that despite momentary irregularities in the composition

of the non-permanent population, their demographic roots are fairly uniform and, thus, their sectarian tendencies are fairly similar from year to year. As a result, in- and out-migration removes and then replaces memberships in generally equal proportions.

Yet this stability should not be construed as stagnation. Several changes in church activities over the last three years warrant attention. The Bible Missionary church has terminated local activity and sold their mid-town property. The Seventh Day Adventists may be in the midst of terminating their activity, and their facility may be converted to a Montessori school. The Church of God has experienced severe staffing problems but may now be stabilizing. The Friends' Church will complete the establishment of a new church at Kobuk in 1988, providing a permanent facility where previously a pastor had worked out of a home.

But a strong conservative ideology, notably among some Friends' Church members, does tend to inhibit changes. For example, some Kiana residents attempted to develop an Inupiaq dance program in local schools. Great pressure was exerted by core Friends' Church households to eliminate dancing, and this pressure was successful: in early 1988, parents of children in Kiana first registered their resentment that programs seen as valid expressions of cultural heritage would be prohibited due to efforts of religious special interest groups (see Arctic Sounder 1988a:2). A response by Kiana elders to a letter from an angry Kiana parent stated:

An elderly man informed the Kiana Elders' Council . . . that in 1912, a Friends Church missionary saw some Eskimo dancers in the act of dancing went through a small hole which was done through shamanism, therefore we feel that if Eskimo dancing is continued here in Kiana, shamanism may return. The majority of the Kiana Elders' Council do not approve of Eskimo dancing in our community, and we feel that the banning of Eskimo dance classes in Kiana should be respected (Arctic Sounder 1988b: 2).

These opinions are not widely shared in Kotzebue, but this perspective underscores ideological differences within one congregation that is partly illustrative of Kotzebue, since that hub community represents a mosaic of opinions from throughout the region.

4. Infrastructure.

The City of Kotzebue provides water, sewer and solid waste services. At the present time, all three of these are at or near maximum capacity.

Water.

The City's water supply is Vortac Lake, located to the east across Kotzebue Lagoon in the hillside area. Water is pumped directly from Vortac Lake through a boiler house to the water treatment facility across Third Avenue from the PHS hospital. The heat generated in the boiler house prevents the water from freezing in the winter as it flows through the 8,000-foot transmission line to the treatment plant. From there, the water is pumped to an insulated 1.5 million gallon storage tank adjacent to the treatment plant for distribution throughout Kotzebue.

The water system was originally designed and constructed by the Public Health Service, starting as a central watering point in 1966 and subsequently evolving in stages to the present system. The water system in its present configuration is a complex scheme of storage, pumping, heating, treating and distributing water. The entire distribution system is heated by waste heat from the Kotzebue Electric Association power plant. Nonetheless, water lines still occasionally freeze in the winter.

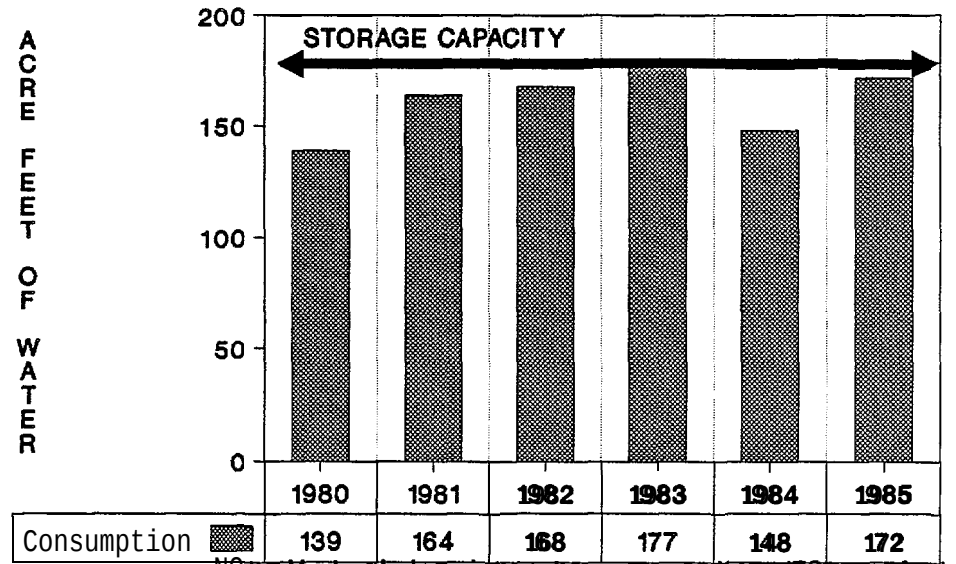
The following discussion is based upon the City's Hillside Transportation Plan (Kotzebue 1986).

The storage capacity of **Vortac** Lake is approximately 134,500,000 gallons (412 acre-feet). However, in the winter this capacity is reduced to approximately 57,350,000 gallons (176 acre-feet), an overall reduction of **57** percent. Winter water consumption in **Kotzebue** requires nearly the entire storage capacity of **Vortac** Lake. This **level** of demand necessitates pumping water from nearby Devil's Lake to **Vortac** Lake to maintain adequate water **levels**. This transfer originally occurred once a year in late summer; however, rising demand now requires the City to pump water from Devil's Lake in the winter **also (Figure 26)**. Devil's Lake is estimated to have a **total** capacity of 237,870,000 gallons (730 acre-feet) in summer, reduced **by 80** percent in winter to 48,880,000 gallons (150 acre-feet), because the lake is shallow and freezes **nearly** to the bottom. **Table 96** shows actual vs. projected annual water consumption (1980-1985) and **Table 97** shows winter water consumption as a percentage of total annual consumption (1980-1985).

There were 823 water hookups in **Kotzebue** as of June 1988. Of these, 721 were residential and 102 were non-residential. There were three new hookups in FY 1988. Approximately 20 residential structures were not hooked up to the City water or sewer system. There were **85** water hydrants located throughout the developed area **of the** City.

In response to the recent unforeseen increase in water consumption, the **City** is investigating alternative water conservation measures. Water metering appears to be the most favorable option. The City also commissioned a study in 1980 of alternative sources of water, including the **Noatak** and **Kobuk** rivers, other lakes on Baldwin Peninsula, June Creek south

Figure 26
WINTER WATER STORAGE VS. CONSUMPTION
KOTZEBUE, 1980-1985



Note: Vortac Lake winter storage capacity = 176 acre feet.

Source City of Kotzebue.

TABLE 96
ACTUAL VS. PROJECTED ANNUAL WATER CONSUMPTION,
1980-1985

Year	Water Consumption (acre-ft.)		Vortac Lake Capacity (acre-ft.)
	Actual	Projected	
1980	218	203	412
1981	281	213	412
1982	308	223	412
1983	305	233	412
1984	248	243	412
1985	287	253	412

Source: City of Kotzebue 1988.

TABLE 97
WINTER VS. ANNUAL WATER CONSUMPTION, 1980-1985
WATER CONSUMPTION (ACRE-FEET)

Year	Winter	Annual	% of Annual
1980	139	218	63.8
1981	164	281	58.4
1982	168	308	54.5
1983	177	305	58.0
1984	148	248	59.7
1985	172	287	59.9

Source : City of Kotzebue 1988.

of Kotzebue Lagoon, and Pipe Spit northeast of Kotzebue. All of these sources proved either too costly to develop or too low in water quality. The recommended and most cost effective solution was to enlarge Vortac Lake by dredging a channel on the back part of the lake. This option would increase the capacity of Vortac Lake by an estimated 24 acre-feet (approximately 7,820,424 gallons). The bottom of the lake could also be dredged to increase storage capacity.

A second option is to install snow drift fencing around the lake, increasing snow accumulation and hence water quantity at spring thaw. The additional snow cover would also insulate the lake, reduce ice thickness and increase winter storage capacity.

Kotzebue is also exploring watershed protection of Vortac and Devil's lakes. The joint watershed covers 5 square miles, largely consisting of Devil's Lake drainage. The City is considering acquiring 613 acres of land from KIC through the ANCSA 14(c)(3) reconveyance process for a buffer around both lakes and for a utility/access corridor for transmission lines and maintenance. Negotiations have yet to start in earnest with KIC, although the City held a public meeting January 28, 1988 to solicit community input on land needs to be addressed through the 14(c)(3) reconveyances.

Sewer.

The City's sewage system was also originally constructed by PHS and was expanded by PHS in 1976 with the addition of 30,000 linear feet of sewer mains. As of June 1988, there were 721 residential sewer hookups and 102 commercial hookups, including major facilities such as the PHS hospital, the school complex, the Nullagvik Hotel, the Eskimo Building, the

Drift Inn and the airport. There were three new sewer hookups in FY 1988. Twenty residential structures in Kotzebue still are not tied to the City sewer system.

Sewage is pumped to a two-cell sewage lagoon located on a narrow strip of land between the southern end of the airport and Kotzebue Sound. Treatment is by facultative percolation and effluent is discharged directly into Kotzebue Sound. The City dredged the lagoon in 1983 for the first time, removing sludge and enlarging the lagoon's capacity. Still, the lagoon reached capacity in the spring of 1986 from sewage volume plus spring runoff. To prevent failure of the dike separating the two cells and flooding of the airport, some sewage was discharged directly into Kotzebue Sound. The City's permit issued by the Alaska Department of Environmental Conservation allowed a maximum discharge of 150,000 gallons, which was exceeded.

An engineering study was performed to evaluate appropriate solutions to this situation. To date, the most workable solutions are either to add a third cell to the existing lagoon or to construct a treatment facility. The City would need to acquire additional land for a third cell. Construction and operation of a treatment facility would be extremely expensive; moreover, treatment facilities in the Arctic have not proven cost-effective or reliable.

Solid Waste.

A seven-acre solid waste landfill is located south of the sewage lagoon. The landfill is over capacity and the City, in concert with DEC, is evaluating alternative sites. Three sites south of the present landfill have been identified, two by DEC and one by the City. No detailed soils

information is available for any of the sites. The two sites selected by DEC are adjacent to the road to the Air Force White Alice site. The City's selection is approximately one and one-half miles east of this road at a higher elevation, which would permit deeper excavation of the landfill.

The acreage requirements are dependent upon several factors: depth of the landfill, population, and amount of solid waste generated per capita. The City has estimated that a new landfill sized to serve City needs for 30 years would require from 45 to 177 acres, depending on depth. These estimates are based upon an annual population increase of about four percent (Kotzebue 1986b).

The City will also require land at the existing landfill to accommodate solid waste disposal until a new landfill is operational and to allow proper close-out of that landfill. This landfill is on land owned by KIC and may be addressed as part of the 14(c)(3) reconveyances.

Power.

The Kotzebue Electric Association (KEA) has been providing electrical power to Kotzebue since it was established as a Rural Electrification Administration cooperative in 1955. The KEA power plant is located near the airport and has a name plate rating-installed capacity of 6,625 megawatts (MW).

In 1986, KEA generated a total of 16,101,000 *kilowatt hours (KWH)* of power, of which 13,294,775 KWH were revenue producing; the balance was used by the utility itself (117,000 KWH) or resulted from distribution losses (2,689,000 KWH) (KEA Annual Report 1986) . Table 98 presents monthly revenue power produced as compared to total output.

TABLE 98

**KOTZEBUE ELECTRIC ASSOCIATION 1986 OUTPUT
KWH SOLD VS. KWH PRODUCED BY MONTH**

Month	KWH Sold	KWH Produced
January	1,122,874	1,459,000
February	1,184,275	1,371,000
March	1,152,647	1,472,000
April	1,152,909	1,362,000
May	1,055,113	1,211,000
June	978,906	1,098,000
July	992,829	1,203,000
August	965,761	1,188,000
September	1,124,905	1,367,000
October	1,117,130	1,340,000
November	1,407,635	1,512,000
December	<u>1,039,791</u>	<u>1,518,000</u>
TOTAL	13,294,775	16,101,000

Source: KEA 1986 Annual Report.

KEA's rate structure, as approved by the Alaska Public Utilities Commission effective January 8, 1985 is presented in Table 99 and Table 100. According to the Alaska Department of Labor (1988), the March 1988 cost of 1,000 KWH of electricity in Kotzebue was \$239.46 compared to \$71.12 in Anchorage.

Comparative balance sheets for 1985 and 1986 are presented in Table 101. Figures for 1987 were not yet available.

Operating expenses for 1986 consisted of the following components as shown in Table 102. In 1986 fuel costs for power production totalled \$1,165,761 or 46 percent of operating expenses (KEA Annual Report 1986).

Total power sales, power produced and average monthly customers by type of customer are presented in Table 103 for 1985 and 1986. Total sales figures in Table 103 differ from operating revenue figures presented

TABLE 99

KEA RATE STRUCTURE
RESIDENTIAL, PUBLIC BUILDINGS, SMALL COMMERCIAL CONSUMERS

Consumption	Charge
First 50 KWH/month	\$0. 3655/KWH
Next 50 KWH/month	\$0.3214/KWH
Next 9,900 KWH/month	\$0. 2279/KWH
Over 10,000 KWH/month	\$0. 2169/KWH

Minimum monthly charge (residential & public buildings): **\$15.41.**

Minimum monthly charge (small commercial): \$27.51

Source: KEA Master Tariff, 1974.

TABLE 100

KEA RATE STRUCTURE, LARGE POWER SERVICE

Consumption	Charge
First 10,000 KWH/month	\$0. 2334/KWH
Over 10,000KWH/month	\$0. 2147/KWH
Demand Charge	\$2. 20/KWH

Minimum monthly charge the' highest of:

1. Minimum monthly charge specified in contract of service
2. Demand charge
3. \$110.06

Source: KEA Master Tariff **1974**

TABLE 101

KEA REVENUES AND EXPENDITURES, 1985-1986

Year	Operating Revenue	Operating Expense	Net Operating Income
1985	\$2,982,594	\$2,686,016	\$296,578
1986	2,867,787	2,553,007	314,780

Source: KEA Annual Report, 1986.

TABLE 102

COMPONENTS OF 1986 OPERATING EXPENSES

Operation	\$2,109,419
Maintenance	\$ 219,749
Depreciation	\$ 175,501
Taxes	<u>\$ 48,338</u>
TOTAL	\$2,553,007

Source: KEA Annual Report 1986.

TABLE 103

KEA POWER SALES, POWER PRODUCED, AND AVERAGE MONTHLY CUSTOMERS
BY TYPE OF CUSTOMER, 1985-1986

Type of Customer	Total Sales		Megawatt Hours Sold		Average Number of Customers/Month	
	1985	1986	1985	1986	1985	1986
Residential	\$1,042,778	\$1,038,718	4,845	4,572	782	757
Commercial	674,394	667,323	3,057	3,150	120	120
Large Commercial/ Industrial	899,180	860,456	4,060	4,230	21	21
Public Street Lighting	23,015	25,129	132	128	2	2
Public Auth.	<u>255,871</u>	<u>250,564</u>	<u>1,199</u>	<u>1,180</u>	<u>46</u>	<u>44</u>
	\$2,895,238	\$2,840,190	13,293	13,260	971	944

Source: KEA Annual Report 1986.

in Table 101 because KEA realizes revenues from sources other than the sale of power.

KEA participates in the State's Power Cost Equalization (PCE) program, which provides state-funded subsidies to rural electric utility customers. The amount of state subsidy is a function of the amount of power consumed. KEA must obtain approval of the Alaska Public Utilities Commission for the PCE rates it sets as part of its Master Tariff. Effective February 12, 1988, the PCE rates set by KEA and approved by the APUC are as shown in Table 104.

TABLE 104

KEA POWER COST EQUALIZATION RATES - 1988 RATE

Type of Customer	Under 10,000 KWH	Over 10,000 KWH
Residential, Small		
Commercial/Public Bldgs.	\$0. 1042/KWH	\$0.1027/KWH
Large Power	\$0. 1042/KWH	\$0. 1005/KWH
Street Lights	\$0. 0780/KWH	\$0. 0780/KWH

Source: KEA Master Tariff, 1974.

Telephone

OTZ Telephone Cooperative provides telephone service to Kotzebue and to the 10 outlying communities in the NANA region. As of December 31, 1987, OTZ had a total of 596 residential access lines in Kotzebue and 443 business access lines (including 27 pay telephones). This compares with 574 residential and 398 business access lines as of February 1, 1987. Access lines do not equate to telephone hookups, since many businesses have more than one access line. OTZ does not report hookups in its annual filings.

Table 105 summarizes the 1986 and 1987 financial statements of O T Z Telephone Cooperative. As of December 31, 1987 OTZ had assets of \$6,138,864.

TABLE 105

OTZ TELEPHONE COOPERATIVE SUMMARY FINANCIAL STATEMENT
1986 AND 1987

	1986	1987
Total Service Revenues	\$ 891,530	\$ 880,490
Miscellaneous Operating Revenues	26,237	42,174
Total Operating Revenues	1,917,767	2,001,498
Operating Expenses	1,033,197	1,112,285
Net Operating Income	412,857	383,750
Retained Earnings	958,733	1,309,224

Source: Rural Electrification Administration Financial and Statistical Report for Telephone Borrowers, December 31, 1987.

Table 106 depicts overall and sample residential telephone densities for selected rural regional centers. The residential sample densities are derived from work underway on the Social Indicators study. The discrepancy between the two density proportions is a function of multiple phone lines, public telephones, and business telephones: as those increase, the overall density increases since the denominator for both figures is the estimated number of households. A review of the figures may therefore illustrate the scale of administrative and commercial communications infrastructure in different regional centers. Regional centers typically have high densities, however they (or high density communities in general) do not necessarily have higher proportions of households with telephones.

TABLE 106

SELECTED REGIONAL CENTERS' TELEPHONE DENSITIES

Community Name	Overall Density ¹	Sample Residence Density
Aniak	78%	67%
Barrow	191%	75%
Bethel	209%	63%
Dillingham	213%	unknown
Kodiak	326%	unknown
Nome	207%	unknown
Sand Point	176%	89%
Unalakleet	133%	unknown
Unalaska	145%	87%
Kotzebue	171%	63%

¹ Estimate based on ALASCOM data; includes residences, businesses, multiple lines and public telephones. Denominator, however, is estimated number of households.

Source: Alascom.

Communications.

KOTZ radio, a public radio station and member of the Alaska Public Radio Network, operates a 10,000 watt transmitter, broadcasting entertainment, educational and public service programming throughout the region 18 hours a day and 24 hours a day during fishing season.

A Kotzebue Broadcasting Community Advisory Board has been established to advise the radio station. The purposes of the board are to review the station's programming goals and evaluate whether they are being met, and to submit recommendations to the station's board of directors regarding how the region's specialized educational and cultural needs are being addressed through the station's programming. The advisory board meets quarterly. As a result of community input and in response to Inupiat Ilitqusiatic,

programming in **Inupiaq** has increased. **Inupiaq** programs include, for example, **Inupiaq** News, Eskimo Stories, and The Elder Speaks.

KOTZ broadcasts a local discussion call-in show called Northwest Perspectives three times a week in the afternoons. The station **also** participates by satellite uplink with other public radio stations in a weekly call-in show that is hosted on a rotating basis. Both programs focus on issues of local and rural interest.

The Arctic Sounder, a local newspaper, is published in Kotzebue bi-monthly, reporting primarily on events of local and regional interest. **Maniilaq** Association periodically publishes the Northwest Arctic NUNA, a newspaper devoted to issues of particular importance to the NANA region and describing programs and services offered by **Maniilaq**.

Transportation.

Kotzebue is the transportation hub for the NANA region.' Virtually all goods destined for the NANA region are brought to Kotzebue by air or barge. From there, they are transshipped to the region's communities. Bulk goods are generally shipped by barge during the summer months, although air transport of bulk goods such as construction equipment, fuel and heating oil occurs year-round when required.

The State-owned and operated Ralph **Wien Memorial** Airport at Kotzebue can accommodate passenger jets and large cargo transports. The airport has two runways, a 150 foot by 5,900 foot paved runway and a 100 foot by 3,800 foot gravel runway. The taxiways and aprons are paved. The airport presently serves one major carrier (Alaska Airlines), two cargo transports (**MarkAir** and Northern Air Cargo), and several small commuter and charter airlines (e.g., Cape Smythe, Baker Aviation, and Bering Air) that serve

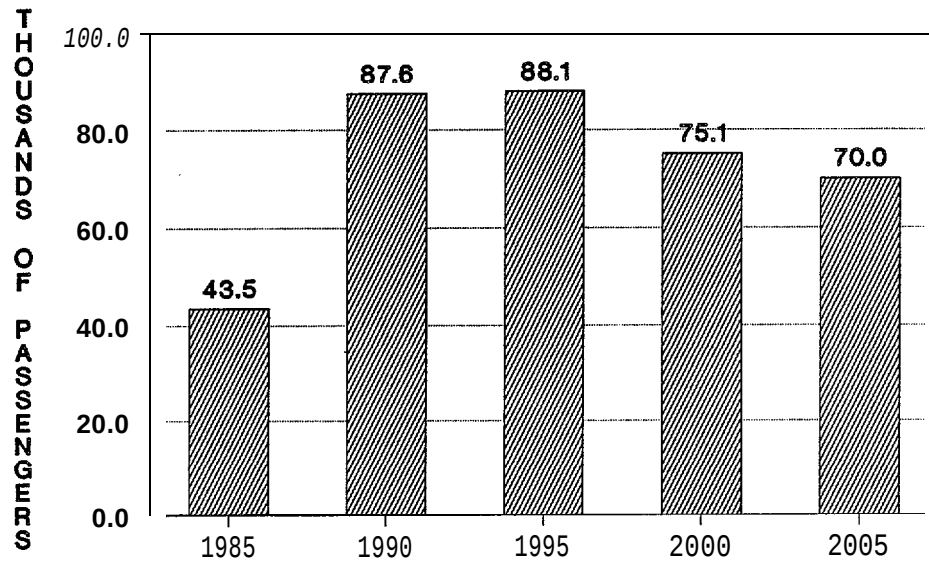
the outlying NANA villages and communities in the North Slope Borough and occasionally on the Seward Peninsula.

Increasing air traffic at the Kotzebue airport has prompted the Alaska Department of Transportation and Public Facilities to prepare an updated Airport Master Plan. The objectives of the plan are to prepare forecasts of passenger, cargo and mail volumes in five year increments through the year 2005, identify and evaluate alternative airport configurations and locations designed to respond to those projected needs and select the most feasible development scenario (Alaska Department of Transportation and Public Facilities 1988).

At this point in the study, forecasts of demand and capacity have been completed. Demand forecasts specifically took into account mineral and OCS oil and gas development. Three growth scenarios (low, medium and high) were estimated and evaluated. A medium growth scenario was selected as the basis for planning future airport facilities. Figures 27 and 28 depict the medium-growth projections for passengers and mail and freight tonnages, respectively.

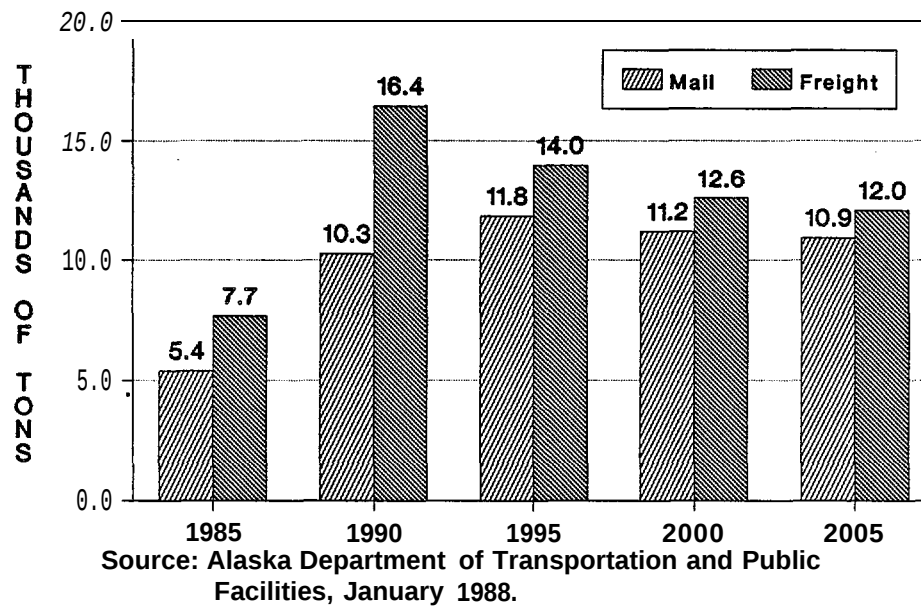
The airport study also investigated three alternative airport sites, selecting one to compare costs for a relocated airport versus an upgrade of the existing airport. The costs of upgrading Ralph Wien Memorial Airport were estimated to be about 53 percent of the costs to construct a new airport (\$26.5 million to \$49.9 million). Accordingly, the preferred alternative will be to upgrade the existing airport. The study identified several facility improvements warranting further evaluation, among them:

Figure 27
FORECAST OF EMPLANED PASSENGERS
KOTZEBUE, 1985-2005



Source: Alaska Department of Transportation and Public Facilities, January 1988.

Figure 28
**FORECAST OF MAIL & FREIGHT TONNAGE
KOTZEBUE, 1985-2005**



- lengthening the main runway by 1,100 feet;
- constructing parallel taxiways for both runways;
- expanding aprons and general aviation aircraft tiedowns; and
- expanding and consolidating terminal facilities.

Kotzebue is served during the ice-free summer months by three Seattle-based mainline barge companies--Alaska Marine Lines, Northland, and Pacific Alaska Line. Village-bound goods are reshipped by river barge to the outlying communities. Frequency of service depends on the duration of ice-free water and river water depth. Most communities receive two or three barge shipments a summer from Kotzebue.

Because of Kotzebue Sound's shallowness, the mainline barges anchor 11-15 miles offshore and cargo is lightered into Kotzebue. This two-step process adds significantly to the cost of shipping. Because of this, consideration is being given to backhauling bulk cargo to the deep water port being developed for the Red Dog mine. The cargo would then be distributed from the port site. It is hoped that this will reduce the shipping cost for commodities such as fuel and heating oil, particularly if sufficient quantities can be stored at Red Dog so that fuel and heating oil need not be flown into the region's villages to ameliorate winter shortages. Storage capacity for fuel and heating oil at Red Dog is expected to be sufficient to accommodate this aim.

5. Fire Protection.

The City of Kotzebue Volunteer Fire Department is supervised by the City Director of Public Safety. The City has four full-time salaried firefighters--a chief, a captain, and two firefighters. In addition, the Fire Department can count on 28 trained volunteer firefighters in Kotzebue.

One of the firefighters is an advanced EMT. Of the 28 volunteers, 16 are EMT trained (1 EMT I, 10 EMT II's, and 5 EMT III's). The Fire Department anticipates training and certifying an additional 12 to 13 EMT I's by the end of 1988. There are four certified scuba divers in Kotzebue, one of whom is a city firefighter.

Firefighting equipment currently on hand at the City consists of the following:

- a 75 foot ladder truck with snorkel and a 2,000 gallon tank with a 1,500 gpm pump;
- a tanker truck with a 2,000 gallon tank and a 250 gpm portapump;
- a Class A pumper (Engine No. 6) with an 800 gallon tank and a 1,250 gpm pump;
- a tracked unit (Engine No. 1) with a 2,000 gallon tank and 750 gpm pump;
- an attack unit with a 300 gallon tank and 250 gpm pump;
- a rescue van and inflatable boat used for search and rescue operations; and
- two ambulances with modular life support systems (Type III).

The Fire Department operates out of the Fire Training Center. Most of the equipment is located there. The backup ambulance, tracked vehicle, Engine No. 6, rescue van and boat are kept at the old fire hall adjacent to city hall. A 60' x 60' addition to the Fire Training Center is being constructed this summer to house the tracked vehicle and Engine No. 6. A smaller 20' x 60' addition is scheduled for 1989 that will ultimately complete that facility,

The Fire Department plans to upgrade both **ambulances** to advanced life support systems in 1988. The Fire Department **would also** like to purchase an additional Class A pumper with approximately a **1,500 gallon** tank and **1,250 gpm** pump. Funding for this additional vehicle has **not** yet been acquired.

Average response time to a fire is three to five minutes under the worst case scenario: in the middle of the night with firefighters at home.

Present equipment is capable of dealing with any fire in Kotzebue except one at the fuel tank farm. The most significant limiting factor to the Fire Department's fire fighting capabilities is water supply. The majority of the City's fire hydrants are on water loops with inadequate water pressure. Pending improvement of that situation, the Fire Department relies on the capacity of its vehicles. Hydrants are used to **refill** the vehicles' tanks. According to Fire Department officials, potential future development should not affect the Fire Department's ability to respond quickly to any expected fire or emergency calls (Busch, personal communication). The Fire Department's current operating procedures **call** for responses to a fire with **only** the equipment needed to fight that fire rather than to respond with most or **all** vehicles. The Fire Department **rarely** needs to commit **all** of its vehicles in any given emergency situation.

In **1986**, the Fire Department had **93** fire calls, of which **32** were actual fires, resulting in damages of approximately \$650,000. In **1987**, the department responded to 86 fire **calls**, of which **13** were actual fires. Losses were estimated at \$10,000. The balance of the fire calls were false

alarms and requests for mutual aid. The reduction in losses was due to a combination of factors. In 1986, fires destroyed several homes, which are typically valued at a minimum of \$100,000. In 1987, no homes were destroyed. The Fire Department also initiated an intensive fire education program in 1987, conducting classes in the schools and day care center. Free fire extinguishers and smoke detectors were distributed to homeowners and fire extinguisher classes were held. The Fire Department aggressively broadcast public service announcements. The call paging system used to summon firefighters and volunteers was improved (Busch, personal communication).

The Fire Department is continuously working to upgrade its facilities and improve its capabilities. New and improved radio equipment was purchased in the summer of 1988. At present, all of the major commercial and public buildings in Kotzebue have fire alarm systems that tie into the police department dispatch center by telephone line. The Fire Department is currently evaluating conversion to a telemetry system that would eliminate reliance on phone lines. High winds often trigger fire alarms by whipping about the phone lines.

The Fire Department also operates the Kotzebue Fire Training Center, which trains firefighters from the NANA region and western Alaska. Since starting operation in 1986, the Fire Training Center has trained approximately 50 rural residents in each of its two years of operation. Upon completion of the training, participants are State-certified Fire Fighter 1's. Training includes EMT and CPR basic courses. The center offers three intensive courses a year, each consisting of 93 hours of

instruction as required for State certification. The Alaska Department of Public Safety funds the center.

Maniilaq Association uses the Fire Training Center for EMS and CPR classes. The State Troopers use the facility as well. All public safety organizations in Kotzebue jointly use this facility and share in an extensive program of public education. The center continually reshapes its programs to address changing situations. The Red Dog project, for example, requires the use of hazardous materials, such as explosives, which are sometimes transshipped through Kotzebue. The Fire Department accordingly sees a need to address hazardous materials in its public education programs (Busch, personal communication).

6. Public Safety.

The Director of Public Safety manages the Kotzebue Police Department. The Police Department has a total of 27 employees, including the Director and Deputy Director of Public Safety.

Following the vote in January 1988 to ban retail sale of alcoholic beverages in Kotzebue, the Police Department has been concentrating on arresting bootleggers. Within a month, four bootleggers were arrested. Police Department officials noted that overall police calls have decreased since the ban, but they were guarded as to how long this situation might last.

The City has begun planning for a new jail facility. Funding of \$1.2 million is available for design and initial construction. The City is requesting an additional \$1.2 million from the governor's jobs bill to fund construction. The new facility, which would contain the cells, would be

added to the existing facility, which in turn will be remodeled as the support facility (e. g., kitchen) for the jail.

The **Police** Department sponsors a crime telephone hotline, offering a reward of \$5,000 for information that results in an arrest. Kotzebue has **911** emergency telephone status and also has 24-hour dispatch, by radio and pager, for police and fire.

Table 107 reports juvenile arrests made by the Kotzebue Police Department and Table 108 reports adult arrests for the period 1980 through 1986. No data is available for 1984. According to Table 107, there was a **21.8** percent decrease in total juvenile arrests between 1981 (the first full year for reporting) and 1986. Overall, Natives account for 98 percent of all juvenile arrests, males for 67 percent and females for 33 percent. In the adult category (Table 108) there was a decrease of 19.2 percent between **1981** and **1986**. Overall, Natives account for 96 percent of all **adult** arrests, males for approximately 84 percent and females for 16 percent. Figure 29 displays juvenile and adult arrests from 1980 to **1986**.

Table 109 reports Youth Services (juvenile justice system) Intake Services provided by DFYS during 1987. (Note: The figures reported here may represent some youth from outside Kotzebue; detention figures represent admissions--not individuals--and those for McLaughlin Youth Center (MYC) may include cases originating at Fairbanks Youth Facility (FYF).) According to Table 109, only 14 percent of total referrals are serious enough to warrant adjudication by the courts and only about 4 percent are detained in a correctional facility.

TABLE 107

JUVENILE ARRESTS, BY RACE AND SEX
KOTZEBUE POLICE DEPARTMENT, 1980-1986

	1980	1981	1982	1983	1984	1985	1986
Race							
Native	46	149	153	151	nos.	127	120
Non-Native	1	7	3	2	n.a.	1	2
Sex							
Male	31	102	100	94	n.a.	99	83
Female	16	54	56	59	n.a.	29	39
TOTAL	47	156	156	153	n.a.	128	122

Note: Only two months data for 1980. 1984 data not available.

Source: Alaska Department of Public Safety.

TABLE 108

ADULT ARRESTS, BY RACE AND SEX
KOTZEBUE POLICE DEPARTMENT, 1980-1986

	1980	1981	1982	1983	1984	1985	1986
Race							
Native	119	333	328	353	n.a.	338	281
White	4	15	11	9	n.a.	8	11
Other	0	0	3	0	n.a.	1	6
Sex					n.a.		
Male	114	294	266	289	n.a.	299	259
Female	9	54	76	73	n.a.	48	39
TOTAL	123	348	342	362	n.a.	347	298

Note: Only two months data for 1980. 1984 data not available.

Source: Department of Public Safety.

Figure 29
**JUVENILE AND ADULT ARRESTS
KOTZEBUE, 1980-1986**

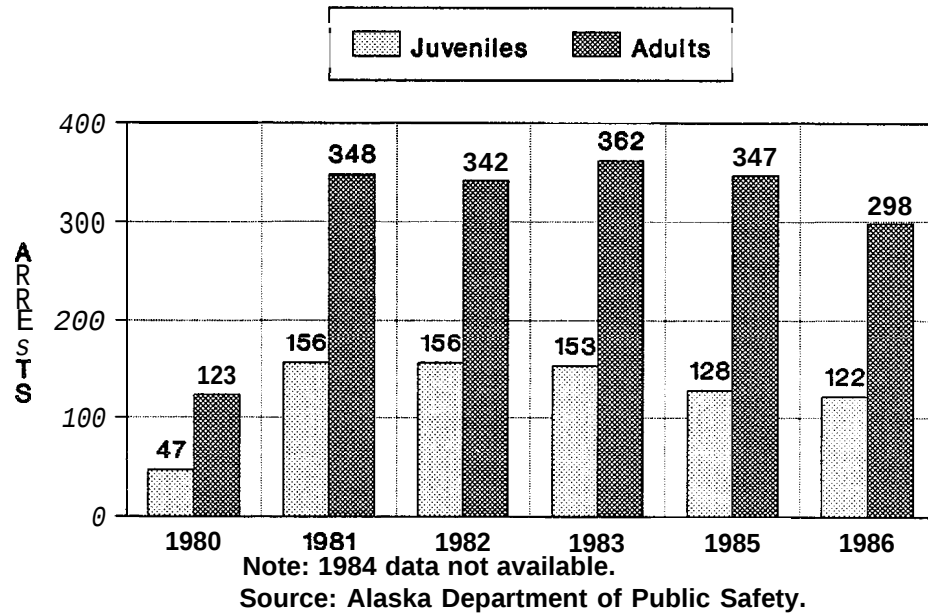


TABLE 109
YOUTH SERVICES
INTAKES, KOTZEBUE, 1987

<u>Intakes</u>	
Referrals (To DFYS Office)	159
Diverted (By DFYS)	134
Waived (To Adult Status)	0
Adjudicated (Delinquent, By Court)	22
Pending (Disposition)	3
Formal Predisposition Reports	4
 <u>Average Caseload</u>	
Informal Probation	12
Formal Probation	17
 <u>Detention</u>	
Under 48 Hours	0
Over 48 Hours	
To Fairbanks Youth Facility (FYF)	3
To McLaughlin Youth Center (MYC)	6

Source: Division of Family and Youth Services, Department of Health and Social Services.

Search and Rescue

Search and rescue services are provided by a volunteer organization headquartered in Kotzebue. NANA Regional Search and Rescue, a non-profit corporation organized under state law, oversees all search and rescue operations in the NANA region. This regional corporation is governed by an n-member board of directors, with one director from each village. The board meets quarterly. All 11 communities have a local search and rescue organization responsible for their immediate geographic area. Each local organization has snow machines and a boat with motor for use in search and rescue operations. Sno-go repair facilities funded several years ago by Maniilaq in each village are used to service search and rescue equipment.

The regional search and rescue organization applies for grant funds on behalf of the entire region. Administration of the grant funds is delegated to Kotzebue Sound Search and Rescue, the non-profit corporation organized under state law for the Kotzebue area. Grant funds requested annually from the legislature are used to purchase equipment. No funding was authorized for FY 1988; FY 1989 funding will be requested for purchase of communications equipment so that each village in the region will have a base station radio and repeater facility. At the present time, only Ambler, Kiana, and Kotzebue have base stations.

Search and rescue personnel are volunteers. Expenses incurred during operation are paid by the state only when such operations are authorized in advance by the Alaska State Troopers post in Kotzebue.

Other organizations that may assist include the National Guard, Civil Air Patrol, U.S. Fish and Wildlife Service, National Park Service, and Maniilaq EMS. Search and rescue operations in the Kotzebue area are

coordinated with the **Kotzebue Volunteer** Fire Department and the **Kotzebue** Police Department. The State's airport crash-fire-rescue (CFR) equipment is also available.

Because of the **volume** of **small** aircraft traffic in the region, search and rescue operations for overdue, missing or downed aircraft are **vital**ly important. The Air Force Rescue Center at **Elmendorf** Air Force Base in Anchorage is responsible for initiating searches for aircraft. The rescue center contacts the commander of the Kotzebue Squadron of the **Civil** Air Patrol once an aircraft's emergency locator transmitter signal has been verified and located by satellite. The commander then contacts the troopers for authorization to conduct a search. When given, the commander next contacts the appropriate local search and rescue officials and other organizations as appropriate.

7. Schools.

Northwest Arctic Borough School District

The Northwest Arctic Borough **School** District serves all 11 communities in the borough. Headquartered in **Kotzebue**, the school district has budgeted revenues of \$26,196,022 in FY 1987 and \$25,919,336 in FY 1986. Anticipated revenues for FY 1989 total \$16,545,000, a projected reduction of 27 percent over FY 1987. The bulk of the reduction arises out of a significant decline in state aid. FY 1987 state aid was \$18,549,861; projected FY 1989 state aid is \$11,580,000.

Expenditures are budgeted by categories of instruction (e.g., regular, vocational education, correspondence study, special education, adult and continuing education and so on). Regular instruction consumed fully 75 percent of funds budgeted for all instruction in FY 1987 (\$5,975,580 out of

\$7,929,016), and 24 percent of the **total** budget. Support services (**\$5,091,294** or 20 percent), **plant** operation and maintenance (\$4,736,266 or 19 percent) and facility acquisition and construction (\$5,357,836 or 21 percent) represent the other major expenditure categories for FY 1987. These four expenditure categories total 84 percent of FY 1987 budgeted expenditures.

Comparative fiscal year budget figures are presented in Table 110 for FY **1986** and FY 1987 revenues, and Table 111 for FY 1986 and FY **1987** expenditures. Table 112 displays FY 1989 anticipated revenues.

Declining state revenues have forced the school district to undergo a rigorous self-evaluation of its academic programs and physical plant. School facilities in Kotzebue are adequate to accommodate growth, except for the new elementary school which is already overcrowded. The new high school has a capacity of 300 students, while present enrollment is 150. The junior-high is to be remodeled, adding space. The school district is also upgrading buildings to make them more energy efficient and improving maintenance procedures (McNabb, personal communication).

The school district's programmatic evaluation has resulted in the elimination of many elective courses, and a corresponding emphasis on strengthening the core academic courses (language, arts, mathematics and science). The school district budgeted \$80,000 in both FY 1988 and FY 1989 for curriculum development. A second reason for these curriculum revisions is Red Dog. School district discussions with NANA and Cominco have provided an incentive to correlate education more directly with employment.

TABLE 110 "

NORTHWEST ARCTIC BOROUGH SCHOOL DISTRICT BUDGET
REVENUE SOURCES FY 1986 AND FY 1987

Revenue Source	FY86	FY87
Local	\$ 1,217,490	\$ 1,306,904
State	21,977,686	18,549,861
Federal	<u>2,724,160</u>	<u>6,339,257</u>
TOTAL	\$25,919,336	\$26,196,022

Source: Northwest Arctic Borough School District.

TABLE 111

NORTHWEST ARCTIC BOROUGH SCHOOL DISTRICT BUDGET
EXPENDITURES FY 1986 AND FY 1987

Expenditure	FY86	FY87
Regular instruction	\$7,516,898	\$ 5,975,580
Vocational education instruction	950,096	630,587
Correspondence study instruction	188,594	190,155
Special education instruction	875,932	695,179
Bilingual/bicultural education instruction	471,900	437,515
Adult and continuing education	<u>140,990</u>	--0--
Support services	6,135,310	<u>5,091,294</u>
Plant operation and maintenance	4,839,464	4,736,266
Food services	<u>813,337</u>	1,033,751
Facility acquisition and construction	3,619,152	5,357,836
Pupil activities	459,956	454,168
Other	<u>131,451</u>	<u>543,370</u>
TOTAL	\$26,143,080	\$25,145,701

Source: Northwest Arctic Borough School District.

TABLE 112
NORTHWEST ARCTIC BOROUGH SCHOOL DISTRICT BUDGET
ANTICIPATED REVENUE FY 1989

SOURCE	AMOUNTS	
<u>Local</u>		
Northwest Arctic Borough	\$ 480,000	
Interest Income	225,000	
Other	120,000	
TOTAL LOCAL		\$825,000
 <u>State</u>		
State aid	11,580,000	
TOTAL STATE		11,580,000
 <u>Federal</u>		
Federal aid	3,900,000	
TOTAL FEDERAL		3,900,000
 <u>Fund Transfers</u>		
Indirect costs	240,000	
TOTAL TRANSFERS		<u>240,000</u>
 GRAND TOTAL		\$16,545,000

Source: Northwest Arctic Borough School District.

The school district, at **Cominco's** encouragement, is emphasizing building basic mathematics and science **skills** critical to **Cominco** employment. Vocational education has now largely been assumed by Kotzebue Technical Center.

In 1983, the school district had about **1,400** students and **\$18.5** million in state revenues; in **1988**, there were **1,600** students and **\$16.5** million in state revenues. There were **154** teachers in 1983 and **113** in **1988**. Despite these trends, **overall** student achievement (as measured by Stanford Research Associates test scores) has improved from the **twenty-third** to the **thirty-second** percentile. School district officials contend this trend is due to improvements in overall efficiency (**McNabb**, personal communication).

Curriculum revisions are ongoing and include input from the villages. To the extent practicable, the district tailors programs to fit regional needs and residents' wishes. The school administration has a proposal before the School Board to develop a strategic five-year plan that would formalize the curriculum revision process. The five-year plan would be **goal** oriented rather than process oriented.

As of January 1988, the school district employed a total of 501 people; 336 were **full** time and **165** were part time (including **96** casual employees). **Of** the total employed, **164** worked in **Kotzebue** and the balance of 337 worked in the outlying 10 villages of the borough. Elementary and secondary teachers and teacher aides comprised 59 percent of total employment (298 of 501 total). **Of** 113 teachers, **41** are located in Kotzebue and **72** in the villages; **all** are **full** time. **Of** 185 teacher aides,

11 are located in **Kotzebue** and 174 outside **Kotzebue**. A total of 67 teacher aides are full time and 118 are part time.

Kotzebue Technical Center

The **Kotzebue** Technical Center (**KTC**), an adjunct to the Northwest Arctic Borough School District, was established in 1981. KTC is an adult vocational school designed to meet the particular vocational training needs of rural Alaskans. The center offers both nine month courses and short courses designed to meet immediate skills needs of employers.

KTC offers courses in three vocational training programs:

1. Business Occupations (secretarial, accounting, and clerk typist)
2. Industrial Mechanics
3. Building Maintenance

Other courses have been offered in the past, including Entry-Level Food Service, Carpentry and Natural Resources. The latter two programs have been dropped, but KTC intends to resume the Food Service program once a qualified instructor is hired.

The duration of these vocational training programs is shown in Table 113.

TABLE 113
DURATION OF KTC VOCATIONAL PROGRAMS

<u>Program</u>	<u>Duration {weeks}</u>
Industrial Mechanics	31
Building Maintenance	31
Business Occupations	
Secretarial	31
Accounting	31
Clerical	24
Food Service	14

Source: **Kotzebue** Technical Center 1988.

KTC also **offers** courses in Adult Basic Education (ABE) and courses leading to award of a GED certificate. **All** students at KTC receive training in first aid and **CPR**. Drivers' training is **also** offered for those students whose future employment **will** require them to drive a vehicle. Upon entering KTC, students are tested to establish competency **levels** in basic reading, writing, and **math**. Deficiencies are addressed through individualized study plans.

All KTC students **are** required to take an employability course. This 30-hour course **focusses** on the fundamentals of seeking and keeping employment. Topics covered include searching for a **job**, resume writing, **job** interviews and applications, employee/employer relations and proper work habits.

KTC has a full-time staff counselor to counsel students on educational, career and personal matters, **or** to refer students to counseling services offered **by** other organizations in Kotzebue. KTC **also** supports seven **GED** village tutors who provide **GED** instruction and basic counseling. These individuals can also help interested village residents apply for admission to KTC.

Enrollment for the 1988-1989 school year is 3 students at KTC in ABE/GED with an additional **50 enrol** 1 ed throughout the region, and **41 ful** 1-time students in the three basic programs. KTC has one full-time instructor for each program and two full-time and one half-time ABE/GED instructors.

KTC budget reductions in the past year have required the deletion of the Natural Resources and Carpentry programs for FY **1988**. In FY **1989**, the center **plans** to continue programs in Industrial Mechanics, Building

Maintenance and Business Occupations and to offer a Food Service entry level program. Should future budgets increase, KTC is considering offering programs in Surface Mining and possibly Nursing Care (Burch, personal communication). KTC's FY 1987 and FY 1988 budgets are presented in Table 114.

TABLE 114
KOTZEBUE TECHNICAL CENTER FY 1987 AND FY 1988
STATE GRANT BUDGETS

	FY87	FY88
Personnel	\$912,298	\$643,342
Travel	12,750	0
Contractual	151,245	251,774
Commodities	3,825	54,884
Indirect	<u>108,012</u>	<u>0</u>
TOTAL	\$1,188,130	\$950,000

Source: Kotzebue Technical Center 1988.

KTC successfully negotiated with the Northwest Arctic Borough School District to eliminate the indirect charges previously levied by the School District. The FY 1989 state grant is also \$950,000. The KTC FY 1989 had not yet been prepared.

In addition to the basic curricula discussed above, KTC participates with industry and potential employers in developing specific training programs. These programs provide trained people with the necessary skills identified by industry so that they will be hired by those industrial sponsors upon completion of their training. Two such programs are under way now that are directly related to the Red Dog project.

Green Construction Company, the **Cominco** contractor for the mine site, is providing instructors to teach students how to operate heavy equipment. Green Construction also funds the students' housing and food services. **After** three weeks training, students go directly to the mine project for on-the-job training. In this program, **KTC's** main **role** is to provide the facility.

NANA and **Cominco** are jointly sponsoring and **partly** funding an industrial mechanics course to provide trained personnel for the electrical contractor at Red Dog. Students attend five weeks of basic training (including **ABE** if required), then transfer to Alaska Vocational Technical Center in Seward for **an** additional four months of training. Following that, the students are employed at the Red **Dog** project., undergoing additional on-site training.

In programs such as building maintenance or heavy equipment operations, KTC instructors will **travel** with the students to the villages or outlying project sites. This is done simply because KTC does not have the equipment, or an actual school facility, on which the students can train.

An important part of KTC'S program administration is tracking students after they graduate. KTC staff conduct follow-up surveys at three and six month intervals of each graduating **class**, and then annually thereafter. A **sample** of follow-up survey results is presented in Table 115 for 1985-1986 graduates and in Table 116 for 1986-1987 graduates.

Results for the 1986-1987 **class** indicate that two-thirds (65.7 percent) of the graduates were employed **within** three months of graduation. **Actual** employment figures may be higher, as only 61 of 73

TABLE 115

KTC FOLLOWUP SURVEY OF 1985-1986 GRADUATES
3-MONTH AND 12-MONTH BY PROGRAM

	Respondents/ Graduates		Employed ^a		Unemployed	
	3-Mo.	12-Mo.	3-Mo.	12-Mo.	3-Mo.	12-Mo.
Building Maintenance	5/5	4/5	4	3	1	1
Carpentry	5/5	5/5	4	4	1	1
Food Service	10/12	8/12	8	4	2	4
Industrial Mechanics	10/11	8/11	5	5	5	3
Office Occupations	7/7	7/7	7	7	0	0
Natural Resources	7/7	6/7	5	5	2	1^b
Total	44/47	38/48	33	28	11	10

^aincludes those in employer training programs^bIn college at time of survey; worked seasonally

Source: Kotzebue Technical Center.

TABLE 116

KTC FOLLOWUP SURVEY OF 1986-1987 GRADUATES
6-MONTH BY PROGRAM

	Respondents/ Graduates	Employed	Unemployed	Continuing Education
Building Maintenance	6/7	5	0	1
Carpentry	11/12	9	1	1
Food Service	13/18	11	2	0
Industrial Mechanics	12/13	11	0	1
Office Occupations	14/14	9	2	3
Natural Resources	5/9	3	1	1
Total	61/73	48	6	7

Source: Kotzebue Technical Center 1988.

graduates responded to the survey. The surveys conducted since the 1984-1985 class are showing that 70 percent to 90 percent of KTC graduates are employed shortly following graduation and that the majority of those were employed in jobs directly related to their training program at KTC. The surveys also found that a significant number of graduates (approximately 25 percent) elect to pursue additional post-secondary training or education, typically at the Seward Skills Center, union training programs or other specialized training. Some students enter the state university system to pursue degrees. Of those respondents who were unemployed at the time of the surveys, KTC found that a limited number over the years had in fact been offered employment, but declined due to an inability or unwillingness to relocate to the site of the job (Busch, personal communication).

A total of 38 students graduated from the 1987-1988 class; as of June 1988, 21 were employed. Of particular interest is the number of recent graduates that have obtained employment at Red Dog. Four of the graduates were employed at Red Dog, two with degrees in Business Occupations and two with degrees in Industrial Mechanics. One is employed by Enserch and three by Green Construction. Other employers include the Northwest Arctic Borough School District (seven; one in Business Occupations, four in Building Maintenance and two in Industrial Mechanics), City of Kotzebue (one as an Accounting Clerk, and one in Building Maintenance), the Army National Guard (one), the National Park Service (one), and the U.S. Fish and Wildlife Service (two).

Chukchi Community College

Chukchi Community College (CCC), located in Kotzebue, is a part of the University of Alaska Fairbanks under the statewide restructuring of the University of Alaska approved by the Board of Regents effective July 1, 1987. Administratively, CCC is a part of the Rural College and 'is considered a campus of the University of Fairbanks (Commission on Colleges 1988). CCC first opened in 1982.

CCC's mission is to provide residents of the NANA region with an education culminating in an associate's degree and to encourage pursuit of higher educational opportunities. The philosophical framework of that mission is a post secondary academic program designed to strengthen Inupiaq values in the NANA region and to enable residents to reach informed decisions concerning their' own political, social and economic needs (Chukchi Community College 1988). The following additional discussion of its mission statement and goals is excerpted from Chukchi Community College 1988:

In order to serve the changing economic, social and intellectual needs of the NANA Region, Chukchi College will provide:

1. Academic programs in fulfillment of associate degree requirements.
2. Developmental education courses for college preparation in English, math and college study skills.
3. A mechanism for ongoing delivery of upper division and graduate courses and programs.
4. Community service endeavors and activities.

In support of the mission of providing academic programs in fulfillment of an Associate degree, Chukchi College will strive to achieve the following goals:

1. To create an awareness of educational programs and to increase accessibility to higher **education** resources and facilities by students, both **in** the villages and **on** the Chukchi College campus in Kotzebue.
2. To provide increased support services **in** terms of library, counseling, and learning resources. To achieve this goal, the **college will strive to:**
 - a. Create a greater **level** of awareness of financial aid programs.
 - b. Create a greater understanding of the **value** that higher education **will** play in **an individual's** employability in the region.
 - c. Create an awareness of the need for completing courses and graduating.
3. To create an understanding **of** traditional Inupiaq values.
4. To achieve accreditation from the Northwest Association of Schools and Colleges.
5. To demonstrate greater cooperation **with** the Kotzebue Technical Center and the Northwest Arctic School District.
6. To provide a greater **level** of community service in terms of awareness and access to resources **in both** Alaska and the "Lower 48."
7. To create a regional identity for the college.
8. To expand course offerings and faculty, particularly as they pertain to the offering **of** the Baccalaureate and Graduate programs, both within the Rural College and the University of Alaska.

CCC serves not only Kotzebue but **all** of the villages in the **NANA region**. Because of the distances involved and logistical considerations, CCC has focused on the development of a field-delivered academic program utilizing audio **conferencing**, computer-assisted instruction and travel by instructors. Consequently 84 percent of CCC's courses are offered regionwide. CCC also works closely with the Northwest Arctic Borough

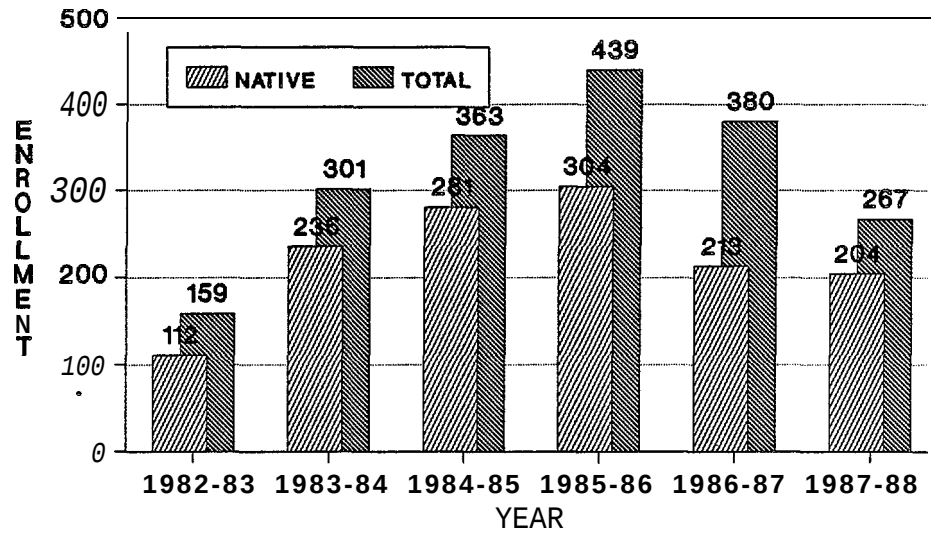
School District and Kotzebue Technical Center in jointly sponsoring courses and sharing facilities.

For the 1987-1988 academic year, CCC had a faculty of six full-time instructors and nine part-time instructors. However, two of the full-time faculty have resigned and a third was on leave for the 1987-1988 academic year. Moreover, the director is acting. The Commission on Colleges report found the CCC faculty competent, enthusiastic and committed. Beyond academic qualifications, the faculty was judged to possess other equally important qualifications--a sensitivity to cultural considerations, interpersonal skills and the ability to adjust teaching skills to the more impersonal distance delivery techniques. In fact, CCC faculty find distance delivery courses more demanding than classroom teaching.

Student enrollment has generally increased since the college opened in 1982. At least 60 percent of total enrollment has been Alaska Natives, the majority of whom are NANA region residents. Figure 30 displays enrollment for CCC. See Section II.5 Educational Levels for a discussion of CCC graduates.

CCC's physical plant is presently being used at capacity, and the college must use classrooms at Kotzebue Middle and High Schools, Kotzebue Technical Center and the National Guard Armory. Through an agreement with the Northwest Arctic Borough School District, CCC computer-assisted classes are held in the village schools. The present state budget status precludes the likelihood of an expansion of CCC's facilities. However, the college and the Borough are cooperatively pursuing development of a regional consortium library to be constructed adjacent to the college.

Figure 30
STUDENT ENROLLMENT “
CHUKCHI COMMUNITY COLLEGE, 1982-1988



Source Chukchi Community College, 1988.

Should this facility be built, approximately 800 square feet of space currently housing the college's library will be available for conversion to classroom and faculty office space.

8. Summary.

City of Kotzebue

Kotzebue is incorporated as a second class city with a city manager form of government and a seven-member council from whose membership the mayor is elected. The City currently exercises the following governmental powers: water, sewer and solid waste; police protection and jail facilities; fire protection; streets and sidewalks; recreation; community center; animal control; licensing of taxis; public transportation; planning, platting and land use regulation; building code and inspection; libraries; and flood plain management. These city functions are organized into four main administrative groups: public safety; health and human services; public works; and administration.

In June 1988, the City had a total permanent, full-time staff of 75 employees. The top administrative personnel were contract employees, including the City Manager, Director and Deputy Director of Public Safety, Fire Chief, Fire Training Center Director, and Police Captain.

Approximately \$2,945,200 or 53 percent of the City's anticipated FY 1988 revenues were locally generated. The most significant local revenue sources were water and sewer fees (the largest single source of any budgeted revenue), retail sales tax, recreation center income, and gravel sales. The major sources of non-local revenues were contract funds for the City jail and State Revenue Sharing and Municipal Assistance funds.

Over the past several years **Kotzebue** has had severe financial **dif -
ficulties** due to declining state, federal and **local** revenues and increasing service costs. **In** the past two years, the City has taken effective steps **to** improve **its** financial situation, including cutbacks in budget, staff **and** services, wage reductions, **fee** increases, and rescheduling **of** debt service. These actions achieved a small surplus for **FY 1987** but the City is **still** experiencing fiscal strains. The City's immediate priority is to become fiscally sound by holding the line on staffing and expenditure **levels** until **the** City balance sheet is positive.

Northwest Arctic Borough

The Northwest Arctic Borough (NWAB) was incorporated as a first **class** borough **in 1986**, with its headquarters in **Kotzebue**. NANA leaders **had** regional government under consideration **for** some time, but proposed development of the Red **Dog mine finally** provided a compelling reason as well as the financial means to establish borough government. The Red Dog mine prospect is located on land owned by NANA Regional Corporation formerly within the jurisdiction of the North **Slope** Borough. NANA region residents sought **to** obtain local governmental control over mine development as well as access to its revenue potential **to** support **local** government. NANA region leadership urged **the** State to detach a strip of **land** within the overlapping boundaries of the North Slope Borough and NANA Regional Corporation, conditional upon its being incorporated into a new Northwest Arctic Borough. The controversial detachment was approved by the Alaska Local Boundary Commission against the opposition of the North Slope Borough, paving the way for incorporation. The Red Dog mine is expected to

.

Spirit Movement. The movement's thrust is to restore pride in the **Inupiat people** and their values and skills. The Spirit Movement was intended to create a public forum for movement advocacy and planning, putting the impetus and direction for revitalization in the hands of regional residents. Traditionally revered for their wisdom and ability to pass on **Inupiat** ways, the elders were seen as the "governing body" for the Spirit Movement whose guidance was sought by the region's institutions.

There is no longer a formal **Inupiat Ilitqusiak** movement, since the movement's goals have become embodied in the Elder's Committees, Regional Strategy (or rather, its descendants in current planning programs), the Quad Board, and other specific program goals. **Inupiat Ilitqusiak** now comprises a regional "idiom" of local control, regional unity and cultural heritage now embraced by many institutions.

Since the inception of the NANA Regional Strategy and the Steering Committee "established to oversee it, the leadership of **Maniilaq** Association, NANA Regional Corporation, Inc., and the Northwest Arctic School District, now joined by the Northwest Arctic Borough (hence, the "Quad Board) have met to discuss regional issues. These meetings gradually evolved into an annual affair held apart from Regional Strategy Steering Committee or other meetings, in recognition of the need to separately address issues that transcended any single organization.

Health

Health services for **Kotzebue** and the region are provided mainly through the Indian Health Services Kotzebue Service Unit and through **Maniilaq** Association. The IHS has long provided medical and dental care and health education for the region's Native population. **Maniilaq**

Association provides comprehensive health, **social** services and **public** assistance programs, primarily through contracts with the state and the federal government. **Maniilaq** Association currently operates **34** different **health** and social service programs. **On July 1, 1988 Maniilaq** Association assumed operation of the **Indian** Health Service hospital in **Kotzebue**. **Maniilaq** has **plans** for a new \$34 million hospital which would also house **all** of **their** community health programs and might include a geriatric care facility funded **by** Medicare and an alcoholism treatment facility **if** federal funds are available. The major vehicle for planning and coordinating the development and delivery of these various **health** and **social** service programs has been the Regional Strategy.

Accidents and suicide, with death rates **well** above national averages, are **major health problems in the region**. **On** the other hand, the **Kotzebue** region experiences lower death rates from heart **disease**, cancer and strokes. To some extent, the differences in violent deaths, heart disease, cancer and stroke death rates are due to the larger proportion of young persons in the NANA region compared to the nation.

Substance abuse is also a serious **local** health and social problem. Alcohol is frequently a factor in the high rates of accidents and suicide, and in incidents of interpersonal violence as **well**.

In general, **Maniilaq** Association has provided the community of Kotzebue with a comprehensive and well-organized health and social services system. Program operations show a substantial and unusual degree of local autonomy and control. The diversity of programs reflects **Maniilaq** Association's awareness of ongoing and emerging health needs and its

ability to develop appropriate responses, within the limits of governmental funding and available professional resources.

Churches and Religion

The Friends' Church played a key role in establishing Kotzebue as an embryonic regional center at the turn of the century. The Friends' Church has remained a strong force in the community and its influence has often extended to secular affairs. Key members of important local boards and committees are also often Church leaders. For these reasons, it is difficult to disentangle the Friends' Church from other social, political, and sectarian trends and values in the NANA region.

Other denominations and evangelical missionary groups present in Kotzebue include: Episcopal; Baptist; Church of God; Catholic; Latter Day Saints; Baha'i; Seventh Day Adventist; and Bible Missionary. All these denominations have serious and committed adherents, but their larger social roles are minor compared with those of the Friends' Church.

Kotzebue informants indicate that denominational memberships and attendance have been generally stable in recent years. Membership is greatly influenced by kinship, with offspring tending to attend their parents' church. The smaller sects tend to attract members who are part of the transient, largely non-Native population.

Infrastructure

The City of Kotzebue provides water, sewer and solid waste services. At the present time, all three of these are at or near maximum capacity. The Kotzebue Electric Association has provided local electrical power since its establishment as a Rural Electrification Administration cooperative in 1955. OTZ Telephone Cooperative provides telephone service to Kotzebue and

to the 10 outlying communities. KOTZ radio, a public radio station and member of the Alaska Public Radio Network, operates a 10,000 watt transmitter and broadcasts throughout the region 18 to 24 hours a day. The Arctic Sounder, a local newspaper, is published in Kotzebue bi-monthly and reports primarily on events of local and regional interest.

Kotzebue is the transportation hub for the NANA region. Virtually all goods destined for the NANA region are brought to Kotzebue by air or barge, whence they are transshipped to the region's communities. The state-owned and operated Ralph Wien Memorial Airport at Kotzebue accommodates passenger jets and large cargo transports.

The City of Kotzebue Volunteer Fire Department has four full-time salaried firefighters and 28 trained volunteer firefighters. The City's stock of firefighting equipment includes a ladder truck, several pumper trucks, a rescue van and inflatable boat used for search and rescue operations, and two ambulances with modular life support systems. The Fire Department also operates the Kotzebue Fire Training Center to train firefighters from the NANA region and western Alaska.

The Kotzebue Police Department has 27 employees, including the Director and Deputy Director of Public Safety. Since the January 1988 vote to ban retail sale of alcoholic beverages in Kotzebue, the Police Department has been concentrating on arresting bootleggers. Police Department officials have noted a decrease in police calls since the ban. The City has begun planning for a new jail facility.

NANA Regional Search and Rescue, a non-profit corporation organized under state law, oversees all search and rescue operations in the NANA region.

Education

The Northwest Arctic Borough School District, headquartered in Kotzebue, serves all 11 communities in the borough. The school district's FY 1987 budget was \$26,196,022, of which \$18,549,861 was state aid. School facilities in Kotzebue are adequate to accommodate growth, except for the new elementary school which is already overcrowded. The new high school has a capacity of 300 students, while present enrollment is 150. The junior high is to be remodeled to add space.

Other educational facilities in Kotzebue include (1) the Kotzebue Technical Center (KTC), an adjunct to the Northwest Arctic Borough School District, established in 1981 as an adult vocational school to meet the vocational training needs of rural Alaskans, and (2) Chukchi Community College, a part of the University of Alaska Fairbanks. The College's mission is to encourage residents of the NANA region to pursue higher educational opportunities and offers an educational program culminating in an associate's degree. The College serves all of the villages in the NANA region and works closely with the Northwest Arctic Borough School District and Kotzebue Technical Center to sponsor joint courses and share facilities. At least 60 percent of the College's enrollment has been Alaska Natives, most of them NANA region residents.

V. CULTURAL ISSUES AND INFORMAL INSTITUTIONS

1. Subsistence.

A discussion of subsistence in Alaska should be introduced with a set of distinctions. This is because the term "subsistence" can have at least three meanings in an Alaskan context: "(1) economic production that provides for sustenance and shelter in the largest sense (which would include wage labor, commercial transactions, and capital formation for future gain); (2) the harvest of renewable resources, mainly for food but possibly for cottage industry, shelter and other household needs; and (3) the harvest of renewable resources under the terms of subsistence statutes, laws, or treaties (see Luton 1987). In this section we concentrate on the second and third meanings of "subsistence." We begin by focusing on the second definition, but since subsistence activity in Alaska is now a regulated practice whose dimensions cannot be separated from a regulatory milieu, the second and third meanings will be addressed together in the remainder of the section.

Section two (history) in chapter one sketched out the historical cycle of harvests for the Qikiqtagrungmiut in the Kotzebue Sound area. The historical cycle has changed significantly, most importantly because of the centralization and sedentarization of the population. These factors have inhibited seasonal mobility and resulted in almost complete destruction of wildlife habitat on the Baldwin Peninsula. Two other key differences warrant attention. First, subsistence harvests today are conditioned by commercial and employment concerns that arose only after the establishment of a Western economy. By "Western economy" we mean monetary exchange, sale of labor, and accumulation of surplus for future gain. Contemporary

subsistence practices are costly, hence harvesters must earn wages on the side or secure financing from other sources in order to hunt and fish. Second, the opportunity costs of seeking one resource (food) as opposed to another (money) must be balanced against one another. This central dilemma is recognized in most of the subsistence literature (for this region, see Anderson et al 1977; **Berger and Associates 1983**; Jorgensen et al 1985; **McNabb 1982, 1985b**; **Uhl and Uhl 1977, 1979**; see **Burch 1985** and **Saario and Kessel 1966** for a discussion of subsistence harvests at the northwest fringe of customary **Kotzebue-area** activity). The literature cited here demonstrates that subsistence harvests are not a refuge for the rural poor, but instead are practices that arouse profound sentiments and demand intense devotion and considerable investment.¹¹ Despite the ideological devotion to subsistence, however, economic variables exert a substantial and even controlling influence on harvests.¹²

11 The balance between subsistence harvests and the "money" economy is a topic of numerous analyses, none of which fully explain how the mixed or hybrid economy works. The more astute analyses recognize that the concept of "mixed" is itself flawed since we are speaking of a single economy. See **Luton 1987**; **McNabb 1982, 1985b**. The best examples of how wage and subsistence practices are combined in the Kotzebue Sound area are contained in **Uhl and Uhl 1977, 1979**. Although the latter citation refers to Noatak residents, it is pertinent to the Kotzebue area since many Kotzebue inhabitants are from the Noatak area and continue to hunt and fish there. The reader is also directed to **Kotzebue Fish and Game Advisory Committee 1986** and **Moore 1980**.

12 In Moore (1980) we see that cost of gasoline, condition of capital (snowmachine), and household income are the main considerations in determining whether or not to hunt. Circumstances such as distance of game from the location are considered minor or negligible by informants. Even the condition of game (prime, "fat" etc.) is a minor point. Although Moore's data are based on a single village and a single point in time, they warrant careful consideration. Other data (for example, the MMS Village Economies study) tend to support Moore's findings.

Some estimates of subsistence harvests for past years exist. Mauneluk (1974) cites these figures for Kotzebue (see Table 117; based on Patterson 1974). NANA officials generally consider these figures accurate in terms of balance if not in terms of sheer numbers (McNabb, personal observation).

The emphasis on inland resources (caribou for instance) is an important divergence from historical patterns immediately subsequent to the caribou population crash of the 1870s and 1880s (see Burch 1972). The vulnerability and sensitivity of inland resources for Kotzebue is described indirectly in Woodward-Clyde (1985) in the discussion of uses and use areas and intensive resource use areas.¹³ The clearest long-term divergence from historical harvest patterns is a reduction in sea mammal use, particularly of belukha and bearded seal.

Table 118 tabulates harvests in Kotzebue based on a sample of residents used in the Subsistence Division, Alaska Department of Fish and Game survey in 1987.

The emphasis on caribou shown in the earlier survey is reinforced by these results, however note that the salmon figures have increased substantially. Sheefish harvests are large for both years, but larger in proportion to the population in 1972. The marine mammal figures generally support a picture of a maritime subsistence zone (but note the historical comment above), whereas the earlier data do not underline such an

¹³ See Woodward-Clyde (1985) for a list of sensitive environmental areas, special environments, and intensive subsistence use areas. Maps are included. That document is generally considered accurate and the maps are valid, despite seasonal or cyclic changes in resource availability that may mar its usefulness in any particular year. The reader is urged to refrain from using the document to predict "normal" subsistence harvest zones.

TABLE 117
SUBSISTENCE HARVESTS, KOTZEBUE, 1972
BY MAJOR CATEGORY

Land Mammals	Number	Sea Mammals	Number
Black bear	0	Bearded seal	260
Brown bear	0	Hair seal	90
Beaver	0	Belukha	50
Caribou	5000		
Moose	60	Fish:	Pounds :
Muskrat	350	Char and Pike	337
Dall sheep	13	Salmon	1296
		Mudshark	265
Birds:	Number:	Sheefish	138,300
Waterfowl	556	Trout	10,000
Other	1839	Whitefish/Cisco	2647

Note: The 1970 Kotzebue population was 1,696 and, estimating annual growth at 3 percent., would have rested at about 1,800 in 1972.

Source: Mauneluk 1974; see analysis in McNabb 1985b.

TABLE 118

HARVESTS OF SUBSISTENCE SPECIES IN KOTZEBUE, 1986
TOTAL ESTIMATED HARVEST AND MEAN HOUSEHOLD HARVEST (POUNDS)

Species Name	Mean Harvest (dressed weight)	Total Harvest (dressed weight)
Bearded seal	242.969	185871.0
Bearded seal (juvenile)	21.641	16555.7
Ringed seal	42.588	32579.7
Spotted seal	25.800	19737.2
Walrus	15.434	11806.7
Bel ukha	26.360	20165.3
Salmon	256.184	195980.6
Sheefish	170.692	130579.7
Pike	24.806	18976.4
Whitefish	21.947	16789.1
Trout	32.365	24759.3
Flounder	15.355	11746.3
Tomcod	18.456	14119.0
Caribou	340.712	260644.9
Moose	45.387	34720.7
Sheep	2.379	1820.0
Black bear	2.331	1783.5
Brown bear	0.967	739.6
Geese	8.876	6790.0
Ducks	9.071	6939.3
Ptarmigan	2.807	2147.3
Eggs	1.634	1249.7
Berries	25.019	19139.4
Greens	2.059	1575.2
Roots	0.032	24.5

Note: The 1986 Kotzebue population is estimated at 2,681 by Alaska Department of Fish and Game. Analysis reported in Chapter II supports this figure.

Source: Alaska Department of Fish and Game, Division of Subsistence 1988

adaptation. On balance, we consider both data sets to be essentially **valid**. Harvest volumes and proportions may shift drastically over the short and **long terms**. **Sheefish** are a conventional "solid" resource at **Kotzebue**, but not in every year. Similarly, caribou are a conventional "solid" resource, but not **in** every year. The same can be said for the marine mammals.

Subsistence resources are steadily and constantly used **in Kotzebue** homes. According to the **Social Indicators Kotzebue** survey results, subsistence foods were an important part of **meals** eaten "yesterday" by **57.5** percent of **all** respondents. Furthermore, subsistence foods were an important part of meals eaten "the day before yesterday" for **65** percent of the **Kotzebue** respondents.

From an institutional perspective, compliance with and attitudes toward regulations concerning harvests of these resources is an important issue. Records indicate that **only 15** percent to **20** percent of the active hunters in the **Kotzebue** area have obtained hunting licenses, suggesting that relatively few hunters **fully** accept the state **regulatory** regime (**Kotzebue** Fish and Game Advisory Committee 1986:3).

Part of this problem relates to qualifications for **low-income** or senior (over the age of **60**) licenses. Licenses may not be generally available and confusion among vendors and purchasers over qualifications and paperwork requirements often occurs. Some **Kotzebue** area hunters are unaware of or are unwilling to accommodate these provisions (Ibid.). The sheer volume of game regulations (**107** pages in **1986**) also discourages local **Inupiat** from "buying into" the state game regime. Literal interpretation of certain regulations (see **5 AAC 92.080**) regarding unlawful methods of

taking game make it virtually impossible to use technology such as snowmachines to hunt caribou. The bag limit (see 5 AAC.92.130) does not recognize the custom of sharing among families and within the village. Other regulations (see 5 AAC.92.140) make it unlawful to transport game for another person (that is to say, share game), if that game was unlawfully obtained (see Ibid.).

State game regulations

...have the effect of discriminating against the Inupiat hunter. The Inupiat people have demonstrated good stewardship of the land and the resources upon which they depend. It seems self-defeating to strike anything other than a cooperative relationship with the Inupiat hunter (Kotzebue Fish and Game Advisory Committee 1986:25).

So ends an important document that reveals local attitudes about subsistence. We cannot verify nor refute the substance of those claims, but the allegations deserve careful consideration.

Regional Fish and Game Advisory Committees and Indian Reorganization Act (IRA) councils have increased their advocacy efforts aimed at preserving and protecting subsistence priorities since 1986. The Kotzebue Advisory Committee in conjunction with the Arctic Regional Council assisted in drafting an exemption proposal in 1987 that urged the elimination of state regulation of subsistence harvested resources in rural Native villages and delegation of game management authority to particular villages. The Noatak and Noorvik IRA councils endorsed the proposal and forwarded the draft to the state Board of Game for consideration in its December 1987 call for proposals. The proposal was deleted from consideration, due, according to a Kotzebue key informant, to the assertion by the Board of Game and the state Attorney General's Office that the State cannot entertain proposals from IRA's.

By all appearances, the IRA councils and the Kotzebue Advisory Committee were outraged by what was construed as a deliberate adversarial posture on the part of the State. Early in 1988, the Noatak and Noorvik IRA's drafted resolutions (Noorvik IRA resolutions 88-01 and 88-05 and Noatak IRA resolution 88-2) and petitions with the assistance of the Kotzebue Fish and Game Advisory Committee which proposed an IRA authority in those villages for the oversight and regulation of fish and game harvests which preempts the State's authority. The Kotzebue Fish and Game Advisory Committee drafted a proposed regulation which effectively terminated state authority in particular villages if adopted; the ordinances and petitions noted above referenced this regulation and resolved to adopt it. Specifically, the regulation exempts listed villages fulfilling certain criteria (essentially, eligibility hinges on rural residence, procedural mechanisms for resolving regulatory disputes, and lack of wanton waste) from terms of 5 AAC 86 and 5 AAC 92 for subsistence purposes (McNabb, proprietary files].

The state Board of Game met with regional representatives in early June 1988 to discuss the petitions, resolutions, and proposed regulation. As of July 1988, the drafts are still undergoing administrative review by state officials. One key informant associated with the Kotzebue Fish and Game Advisory Committee explained that local authorities entertained two options: one, to seek the elimination of current subsistence regulations and allow villages to develop their own subsistence regulations; and two, to seek administrative review of proposals that, if adopted in their current or moderately revised form, might help balance (but not eliminate) perceived inequities in the state system of harvest oversight. Since the

first option posed the most drastic alternative with the least hope of success, the **latter** option was seen as an acceptable compromise. This example serves to underscore the regional leadership that Kotzebue provides in numerous spheres, and illustrates that the concerns of outlying regional villages **are** seriously considered even among **Kotzebue** institutions with no **formal** regional constituencies.

2. Sharing.

The sharing of food, **labor** and capital is a hallmark of **Inupiaq** culture (see Jorgensen et al 1985). Prior to contact, regional **Inupiat** had a well-defined system of sharing and exchange that served to unify kinship groups, reduce **intra-regional** enmity, and move valued goods from one area to another. This system has collapsed in some respects over the last century but it has not been eliminated. Table 119' discloses the key relationships that comprised the indigenous exchange system.

Few people recognize these relationships today (see McNabb 1987c), but sharing persists as an idiom of Native culture. It is clearly more than an idiom, however. Data from the Social Indicators study show that 42.5 percent of the respondents in Kotzebue who ate subsistence food in the last day obtained that food from another household. Furthermore, 25 percent of that food originated in another village. In Kotzebue, 65 percent of the respondents ate subsistence food "the day before yesterday" and 32.5 percent of that food was obtained from another household. Fifteen percent of that food was obtained from another village. Sharing can be considered a constant and general practice in **Inupiaq** society, and it is certainly so in **Kotzebue** (see Moore 1980 on the subject of sharing in Kotzebue Sound).

TABLE 119

NANA REGION PARTNERSHIP MODELS

Partnership Term	Description
ilagiik	partner, any type; based on the root used for "kinspersons" (ilagiit) but expressed in dual number; rarely used except to refer to a "kin-like" -relationship.
niuvigiik	"trading partner"; derived from the stem "niu-/niuri-" (unload); the stem is widely used in Inupiaq dialects to signify commerce and trade.
piqatigiik	"partners that do things together or own something in common"; based on neutral (meaningless) "pi-" root, plus suffix for dual partners.
kuuvraqqatigiik	"fishing partners"; implies the equal division of harvest but does not necessarily connote equal labor or equal contribution although that is normally the case.
suraqqatigiik	"equal sharing partners"; implies partners in gathering activities but more literally it conveys sharing of all personal property.
suniaqqatigiik	"partners who go places together"; traveling companions; this term may be applied to kin, however the others may not ("ilagiik" is problematic in this sense).

Source: personal field notes; see Anderson et al (1977) and Burch (1970).

So despite the fact that a traditional system of redistribution (sharing) with numerous categories and nuances has disintegrated in some respects, it should be emphasized that the ideology that underlies the system has not disappeared. In general, cultural systems possess well articulated categories (such as this **terminological** system) when those categories are salient. In historic times, it was sensible to distinguish among the named categories of partners because each category identified a class of persons with whom customary or obligatory relations took place. The **terminological** system per se may be disintegrating because historical distinctions between relationships are no longer salient, rather than because sharing is no longer important. On the contrary, our general findings indicate that sharing remains one of the most durable and persistent features of Native culture. But new forms of relationship are also salient: colleagues, work mates, school friends, and co-members of secular special interest groups or modalities have in important respects replaced traditional categories of friend, kin or partner. Hence, the contents of traditional categories may persist despite a gradual decline in the use or recognition of the traditional names for those categories. Partnership and sharing relationships now appear to be fusing with other salient relationships.

A recent example of complex sharing arrangements in the region may throw light on how sharing has been integrated into current institutional contexts. In 1987, one key individual who resided in Kiana, on the Kobuk River, proposed that Point Hope and Kiana residents establish a sharing network. The Point Hope Lions Club and whaling captains raised money to underwrite the cost of charter flights between the villages. Kiana

residents donated three loads of caribou meat and 38 caribou skins to be used as sleeping mats, all of which was used by the Point Hope whalers. In return, the Point Hope whalers sent back one ton of bowhead maktak and one and one half' tons of belukha maktak. Some of the meat was redistributed to Kotzebue households from Ki ana (and additional maktak was shared with regional residents who attended the Whaling Festival at Point Hope in June). In 1988 a similar but less elaborate network was established between the two villages. Key informants indicate that these precedents are seen as independent arrangements that do not necessarily portend long-term exchanges, however that possibility may yet unfold (McNabb, field notes].

3. Attitudes Toward Development.

It is clear from interviews conducted to date with key informants at local and regional institutions in Kotzebue that there is neither categorical opposition to nor categorical support of OCS development in or "near Kotzebue. There is, however, universal concern about the potential impacts from such development. Detrimental impacts on subsistence resources and traditional lifestyles were the most frequently mentioned concern. Most people also noted the potential for additional demands being placed on Kotzebue's already overtaxed facilities and services. It was apparent that the regional and local leadership has already developed an appreciation for the types and magnitude of impacts potentially associated with large-scale resource development. This awareness is reflected in the local governmental and corporate planning strategy for development of the Red Dog mine.

To illustrate, the Northwest Arctic Borough recently established by ordinance an Economic Development Commission (Northwest Arctic Borough 1986) . The commission consists of three members representing interests actively involved in capital development activities in the Borough, two Borough residents representing the public and two **ex-officio** members (Borough Assembly President and Borough Planning Commission Chairman). The purpose of the Economic Development Commission is to seek balanced economic development by promoting business while at the same time monitoring and assessing impacts from such development. Specifically, this commission is to advise the Mayor and Borough Planning Commission on issues that will impact economic development and to suggest appropriate means to promote private enterprise in the Borough.

In conjunction with creation of the Economic Development Commission, the Borough established the position of Economic Development Advisor. This position is charged with the primary responsibility of assisting the commission in the preparation of economic development strategies for:

- fishing
- tourism
- energy
- minerals
- agriculture
- fur trading
- local hire/training
- subsistence

Furthermore, the position is responsible for assisting with the identification of secondary business opportunities in the Borough and to inform the Borough on statewide efforts to expand trade opportunities with Pacific Rim countries (Northwest Arctic Borough undated, c. 1987).

The Borough is generally cautious about development. The Borough administration noted that there has already been small scale development

occurring in **Kotzebue**, such as fishing and tourism. The next step is to expand the markets for these existing activities. The Borough is considering establishing a cultural heritage center **as a** companion to the Museum of the Arctic, which **would** then **be** incorporated into tourist itineraries. The Borough's attitude is to keep the tourists **in Kotzebue** and out of villages.

This attitude is prevalent regarding the impacts from any development. **Kotzebue**, despite its problems, is **still** better equipped to deal with impacts than the villages. This attitude **also** reflects the relatively recent Kotzebue roots of **many Borough and local decision makers, board and commission members**. The Borough works closely with NANA and **Maniilaq**, informally and through the Quad Board. The Borough's positions on development **will** evolve as the need arises and in a fashion that the specific situation warrants. To date, **formal** actions have been taken by the Borough on **local** hire and drug/alcohol screening, both in response to Red Dog.

The City of **Kotzebue's** administration stated that new development would be welcome but under planned conditions. The City is presently struggling to provide adequate services **at** current **levels** of population and economic activity. Water, sewer and **solid** waste facilities are at or near capacity. The City is looking to divest itself of several social programs and facilities (e.g. homeless shelter, library, daycare center).

The City's experience with Red Dog is illustrative of the types of impacts the City is likely to face and the options available to the City to address such impacts. When startup of Red Dog construction activities became a reality, Kotzebue experienced an influx of people (approximate y

30-40) who “moved” to Kotzebue with the intent of establishing residency and obtaining employment under the project’s local hire provisions. The ploy was unsuccessful and most of these people left without gaining employment. This particular impact therefore was short-term in nature.

City staff noted that many people coming to Kotzebue presumed that Kotzebue was the hiring center for Red Dog, when in fact the actual hiring was being carried out in Anchorage by NANA and the individual contractors. The City felt that Kotzebue should be a hiring center, but not the only one. It was felt potential social problems would be concentrated in the town if Kotzebue were the only hiring center. However, a local hiring center is needed to implement local hire effectively. The City was willing to deal with the anticipated negative side effects of a local hiring office (increases in transient population, drugs and alcohol, public safety calls) in exchange for improved local hire opportunities.

Kikiktagruk Inupiat Corporation management likewise expressed conditional support for new development. Perceived benefits were increased local employment opportunities and potential development on KIC lands. KIC’s commitment to shareholder training and employment advantageously positions the corporation to capitalize on such opportunities. KIC also owns a substantial amount of land in and around Kotzebue and on the Baldwin Peninsula. In particular, KIC owns land at Cape Blossom, south of Kotzebue on the Kotzebue Sound side of Baldwin Peninsula. Cape Blossom is the only true deep water port in the region and has long been viewed as a desirable site for such development. As the landowner, KIC would be in a position to control major aspects of development at Cape Blossom. It is also fair to assume, based on recent precedents, that other Kotzebue

institutions, such as the Regional Elders Council and the Quad Board, would likewise have a role in Cape Blossom-development.

Maniilaq Association would be impacted substantially by major new development. Much like the City of **Kotzebue**, **Maniilaq** is presently working at capacity; its programmatic and staff resources are stretched due to the **IHS** hospital transition and funding reductions. On the other hand, by virtue of the programs that **Maniilaq** operates, the organization would be directly affected by any large-scale development. As a federally recognized tribe under P. L. 93-638 (Indian Self-Determination Act), **Maniilaq** is authorized to contract directly with the federal government to provide services that traditionally are provided by federal agencies. This enables **Maniilaq** to work directly with other regional entities to address the region's needs.

Maniilaq Association has demonstrated the capability to effectively administer programs that sponsoring public agencies could not. A case in point is the **Kotzebue** Senior Citizens Cultural Center. Originally operated by the State of Alaska, **Maniilaq** assumed management responsibility for the facility in the early 1970s. Despite state pessimism about **Maniilaq's** capabilities, **Maniilaq** has proven to be a more efficient administrator than the State. During **Maniilaq's** tenure, the Senior Citizens Cultural Center has achieved 100 percent occupancy and now has a waiting list. A \$190,000 fund balance, accumulated since 1982, will help fund construction of a 7-9 bed long-term care wing by 1989.

Overall, **Maniilaq's** response to proposed development activities would be to assess the likely impacts, prepare a plan for addressing those impacts, identify needed changes to **Maniilaq** programs and assess options

for matching programs with perceived needs. Discussions would be held with funding agencies and negotiations would be carried out as appropriate to adjust programs to more adequately meet changing needs. The **Maniilaq** Board of Directors would then review and revise, as necessary, the organization's goals and objectives (Busch, personal communication).

Incorporated as a non-profit public housing authority, the Northwest **Inupiat** Housing Authority constructs and manages single family and multifamily housing units for low income families. Funding for these housing units is provided by the U.S. Department of Housing and Urban Development. The Housing Authority submits housing funding requests annually to HUD on behalf of all of the NANA region's communities.

In Kotzebue, the Housing Authority presently manages three nine-unit and one 16-unit low rent apartment buildings, and 26 low income housing units. An additional 25 housing units are scheduled for construction in the summer of 1988. The apartment units have a 100 percent occupancy rate; furthermore, 55 qualified individuals are on the waiting list for the apartments. The Housing Authority has 70 applicants for the 25 housing units slated for construction this summer. The Housing Authority has under consideration the purchase of the 29-unit apartment building owned by Kikiktagruk **Inupiat** Corporation so that it can be converted to low rent housing.

The Housing Authority faces a potentially severe constraint to its ability to provide housing to qualified **Kotzebue** residents. There is a serious shortage of available land on which to construct new housing, particularly single-family units. The demand for low-income housing far exceeds the available supply of developable lots. HUD funding requires

that recipients own the lots on which the low-income housing is constructed. An influx of outsiders with **larger** disposable incomes **will** exacerbate the limited **supply** of residential **lots**. Villagers from throughout the region who relocate to Kotzebue to seek or accept employment most often stay with relatives or friends because of the high costs of private housing. These persons **place** their names on waiting **lists** for low-income housing. The Housing Authority thus views any substantial **development** activities as placing an increased demand on an already over-taxed housing program.

NANA Regional Corporation would view proposed **major** development. in light of its corporate **goals** and the overall wishes of the region, particularly those of the region's elders. The corporation's fundamental mission is to generate revenues sufficient to protect the **land and** culture of its people, to support economic development in the region, to generate **job** opportunities for residents and to provide employment to shareholders. However, the corporation **will** not pursue or be a party to development that is viewed as being detrimental to **Inupiaq** values and culture, specifically subsistence.

As discussed previously in Section 111.2 Private Sector Employment, NANA's approach has been to concentrate on revenue producing business investments outside the region, which have consistently been profitable, in order to support in-region business investments? which have largely been unprofitable but provide job opportunities and services for shareholders and **local** residents (NANA 1978-1987). In general, NANA would be supportive of development in the region if the following conditions were met (Busch, personal communication):

1. The proposed development was environmentally sound and not disruptive of subsistence activities or resources.
2. NANA shareholders were provided employment.
3. NANA was afforded opportunities to realize revenues from the proposed development.

NANA views equity participation in development as a means to exert influence over that development and to establish a degree of management authority in order to realize the three conditions listed above. To that end, NANA would seriously consider the opportunities presented by potential development (Busch, personal communication). NANA has been involved in oilfield services and operations for a long time, through camp security, catering and housekeeping, a variety of construction and service joint ventures, and ownership of four drilling rigs.

As the largest private landowner in the NANA region, the corporation occupies a very influential bargaining position with respect to virtually any proposed development. NANA is opposed to an influx of permanent residents into any of the region's communities, as well as to a new permanent community. Rather, the corporation favors a self-contained camp located away from the region's communities. The lease NANA executed with the Alaska Industrial Development Authority for Red Dog development at the port site has specific provisions for accommodating additional development, including an airfield (Busch, personal communication). NANA officials noted that the region's capacity to deal with large-scale development is limited. Red Dog has already placed great demands on NANA. The corporation would be even more strained should it become involved in additional development in the short run.

NANA Regional Corporation **would**, as **an** integral part of its **deliberations**, consult the region's elders. This has been done before. When NANA was considering mergers with the individual village corporations, the counsel of the **elders** in each village was sought. The elders concurred that the mergers were a sound idea and **so** NANA pursued the mergers. The elders were not formally organized at the time **of** the mergers (1976) but the Regional Elders Council now provides an organization. As stated by a official of NANA with a long corporate association, if the Regional **Elders** Council opposed the development under consideration, NANA would not participate. NANA might attempt to persuade the **elders** otherwise, but if the **elders** maintained their opposition, NANA would **not** act contrary to their wishes. For example, when the elders expressed concern about alcoholism in the region, NANA closed the **bar in** the **Nullagvik Hotel** even though the bar was the only profitable **hotel** operation.

This corporate attitude reflects the corporation's **goals**. Essentially, the corporation's goals are the **social goals** of **Inupiat Ilitqusi**. NANA's business operations are to provide the revenues necessary to enable the social goals to be met. NANA's stated corporate goals include the following (Busch, proprietary files):

To install **Inupiat Ilitqusi** as the guiding philosophy of all **Inupiaq** in the NANA Region to:

- Ensure that elders provide advice, leadership and training.
- Provide **Inupiat Ilitqusi** programs in each village.
- Urge **all** parents, grandparents and relatives to teach their children **Inupiaq**, as well as traditional skills.
- Implementing **Inupiat Ilitqusi** in all major institutions serving the **Inupiat** of the NANA Region.

- Develop an educational foundation that will assist in carrying out the objectives of **Inupiat Ilitqusi** among our young people, as well as to help prepare them for Western job skills in our region.

NANA would also consult the villages concerning any proposed development in the region and any potential NANA role in that development. The Quad Board would also be consulted. NANA, like the other major institutions in the NANA region, views development within the context of the region as a whole. As stated previously in this report, developmental impacts are considered to be a concern of all the villages, not just those closest to the development. As characterized by one key informant, this attitude has its roots in the sharing tradition of the **Inupiat**. This accounts for the universally expressed concern regarding adverse impacts on subsistence resources and activities. Since subsistence, the land and the **Inupiat** are culturally inseparable, NANA's corporate attitude concerning development is singularly founded on **Inupiat** values.

Kotzebue-based institutions are well known for their participatory "grass roots" approach to management in both **Kotzebue** and the region at large. Public participation in decision-making is customarily aimed at achieving a broad consensus on important issues before decisions are finalized. The Regional Strategy illustrates how group processes that have worked well are now being formalized. Another example is the creation of Elder's Committees in each NANA Region village.

The following passages are taken from McNabb (1987c).

Elder's Committees were formed so as to provide a public forum for regional elders to discuss current economic and social issues and make public recommendations. The Committees were charged with reviewing issues and providing advice based on their wisdom and **Inupiat** values. Virtually all formal institutions were encouraged to use Elder's Committees as a sounding board.

The encouragement took the form of powerful suasion by key Inupiaq leaders. Proposals that were rejected by these Elder's Committees were eliminated from further consideration with few exceptions.

Since about 1984 the Elder's Committees have become increasingly vocal and on occasion take public advocacy stands in the absence of proposals laid before them. In 1985 the Elder's Committees called on NANA to close the bar at the Nulukvik Hotel and Restaurant since alcohol was viewed as a persistent problem that shareholders could do something about, since they (through NANA) owned the bar. Despite the fact that the bar provided hotel revenues that kept the operation solvent, NANA responded by closing the bar. Some respondents have indicated that Elder's Committee advocacy in regional villages had a role in mobilizing a sufficient number of voters in Kotzebue to enact the local option ban on alcohol sales in that community, effective January 10, 1988. Although these issues are tangential to the question of industrial development itself, they illustrate that group consensus and advocacy on the part of elders typically play an important role in local decisions, and as such the evolution of attitudes about development in Kotzebue may depend in part on attitudes among elders as well as compromises among opinions in the community at large.

There is little doubt that the Regional Elders Council will be looked to for guidance by institutions of the NANA region should the region be faced with OCS development. The governance structure of the "Quad Board" is such that it offers the most formalized and consensual mechanism for dealing with issues of regional scope. Even if, for example, the issue appears to be more local than regional, key informants and representatives of all the institutions interviewed were unanimous in the observation that all villages in the region would be consulted regarding proposed major developments, regardless of their location.

The Quad Board, for example, has enacted a resolution supporting efforts to improve local hire in the Northwest Arctic Borough and calling on its member organizations to implement their own local hire plan. This

resolution was enacted May 28, 1987 and was signed by the chairperson of each of the following organizations:

- Regional Elders Council
- NANA Regional Corporation, Inc.
- **Maniilaq** Association
- w Kikiktagruk **Inupiat** Corporation
- Northwest **Inupiat** Tribal Council
- Northwest Arctic Borough
- Northwest Arctic Borough School District

A second resolution, passed the same day and signed by the same participating organizations, called for the state administration and legislature to work with the NANA region to assess the impacts of Red Dog **due** to the expected influx of job seekers and their families and to provide impact funds. The resolution noted the inability of the region to locally fund an expansion of the existing infrastructure to accommodate such an influx. The resolution also noted that the State had provided such impact funding to communities affected by the oil pipeline construction activities. As discussed elsewhere in this report, the City of Kotzebue is already financially strained, **Maniilaq** Association's programs are rigidly tied to funding agency mandates and the budget of the Northwest Arctic Borough is limited. Therefore, such a request from the Regional Elders Council and the Quad Board would appear to be a logical action for them to take.

The Regional Elders Council, in its January 21, 1988 meeting, supported legislation to increase the penalties for bootlegging. As noted elsewhere, alcohol and drug abuse is a **serious** problem in the NANA region.

Contractors working at the Red Dog port and mine site (e.g. Enserch) have prohibited importation and consumption of alcohol and drugs. This prohibition is supported by testing and a search of personal affects at the Kotzebue airport prior to transfer to Red Dog flights.

Interviews with the City of Kotzebue Public Safety Department revealed that, at the outset of the Red Dog project, the NANA region experienced an increase in drug traffic, both from local dealers as well as outsiders. However, the most significant initial increase in drug trafficking briefly occurred in the communities nearest the project site--Pt. Hope, Kivalina and Noatak. The police surmised that the dealers apparently expected that there would be higher levels of disposable income in those communities. When it became evident that such was not the case, trafficking in those communities dropped to previous levels.

Substantial evidence exists which confirms local perceptions of high alcohol and drug use, which may increase as a consequence of economic developments which draw transients to the area as either importers or consumers of illegal substances. As early as April 1988 (three months after the Kotzebue ban on sales of alcohol went into effect) a headline in the local newspaper reported "City Bootleggers Abound" and the accompanying story detailed Kotzebue police interviews which supported that assertion (see Arctic Sounder 1988a). More recent crackdowns may inhibit bootlegging over the short term, but key informant discussions indicate that bootlegging may persist as a chronic problem.

In July 1988 a commercial pilot working in Kotzebue was arrested after importing one kilogram of cocaine into the city (Arctic Sounder 1988c). The street value of diluted cocaine derived from the shipment was

estimated at \$140,000 which, for the sake of comparison, is more than three times the payroll of Borough residents working at the Red Dog site. Another comparison establishes a proper scale for interpreting the impact of one kilogram of cocaine in Kotzebue: a proportional seizure in Anchorage would be about 80 kilograms with a diluted street value of over 11 million dollars. The fact that the suspect was a pilot well situated for establishing a sales and supply network generated fears among some key informants that justify the perception that the region is vulnerable to illegal activity tied to economic development activities, although no formal allegations have been made that assert that such a network was being prepared. Hence, the perceptions of vulnerability are well founded even if objective evidence is scarce at this time.

The above illustrates a serious and pervasive development impact, one that in fact is already a significant regional problem. But the region has begun to fight back, as evidenced by the closing of the Nullagvik bar, the ban on alcohol sales in Kotzebue, the testing and screening programs at Red Dog and the recent actions by the Regional Elders Council and the Quad Board. There is little doubt that future development activities will be closely scrutinized and that rigid controls will be put into place to prevent an increase in importation of drugs and alcohol. There is also little question that all of the region's institutions will support such efforts.

4. Summary.

The cycle of aikiataarunamiut subsistence harvests has undergone several significant changes in historic times. The key shifts in scheduling, species, and demands on mobility occurred subsequent to habitat

destruction on the Baldwin Peninsula, centralization and sedentarization of the population, and the crash in the caribou population in the 1870s and 1880s. These factors introduced competition and hunting pressure and also established dependencies on species, mainly fish, that did not play such dominant roles prior to these events. The recovery of the caribou population has permitted a reorientation of the local subsistence regime in a direction that more closely characterizes the historical pattern. But a general trend that has not abated is a decreased reliance on sea mammals, particularly belukha and bearded seal.

Two other factors warrant attention. First, subsistence harvests today are conditioned by commercial and employment concerns that arose only after the establishment of a Western economy. Subsistence practices are costly, hence harvesters must earn wages on the side or secure financing from other sources in order to hunt and fish. Second, the opportunity costs of seeking one resource (food) as opposed to another (money) must be balanced against one another. This is a central dilemma in most rural communities of Alaska.

Moreover, the ideological or symbolic aspects of subsistence activity are principal components of cultural institutions in this region. Most research indicates that subsistence habits (including the full range of harvest and distribution customs) help sustain kinship patterns, socialization practices, and mutual support conventions. Subsistence harvests are not a refuge for the poor, but are practices that arouse profound sentiments and which demand intense dedication and considerable investment on the part of most population segments. Recent research suggests that the majority of Kotzebue households eat locally harvested foods on a routine

basis. Much of that food originates in other households and other **villages**, which underlines the role of sharing in contemporary society. Although the historical models of sharing and partnership that typified indigenous **Inupiaq** society have dissolved to a significant extent, sharing persists as an important idiom of Native culture, often in new forms as other kinds of **social** affiliation become more salient.

This is undoubtedly why subsistence has assumed **critical** political or ideological overtones in the NANA region. Local residents do not see their diets threatened by proposals, laws, or regulations that may infringe on subsistence privileges; their way of life is perceived to be in jeopardy. Kotzebue institutions have been virtually unanimous in their support for protection of subsistence rights and key habitats in the NANA region since the mid-1960s.

Yet these concerns have not prompted an anti-development sentiment among all or most institutions. Rather, Kotzebue-based institutions tend to review development proposals on a case-by-case basis, recognizing the need to balance costs against benefits. Kotzebue institutions register neither categorical opposition to nor categorical support for OCS development in or near Kotzebue. There is, however, universal concern about the potential adverse impacts from such development. Common concerns **frequently** fall into the following categories:

- Detrimental impacts to subsistence resources and traditional lifestyles.
- The potential for additional demands on Kotzebue's already overtaxed facilities and services.

- The potential **for** local residents **to be** excluded from **the** main benefits of local developments, i.e. employment.

The regional and local leadership has already developed an **apprecia-**tion for the types and magnitude **of** possible impacts from large-scale resource development. This awareness is undoubtedly due **in** part to the **local** experience with Red Dog mine development.

A framework for regional cooperation **in** dealing with development issues is already in place. First formalized as the Regional Strategy, new channels for regional cooperation, achievement of consensus, and **decision-**making that validates the concerns of residents and their expressed priorities include the "Quad Board" and **the** Regional Elders Council. Collectively, these organizations represent **village** Elders Councils, NANA Corporation, **Maniilaq** Association, **Kikiktagruk** Inupiat Corporation, Northwest Tribal Council, Northwest Arctic Borough, and Northwest Arctic Borough School District.

APPENDIX A

Excerpt on Socioeconomic Consequences from Final EIS, Red Dog Mine Project

Socioeconomic

The proposed project's socioeconomic consequences would be largely determined by certain fixed features of the project, e.g., the isolation of the mine, port site and transportation corridor from existing settlements, and the choice of a transient campsite for workforce support rather than a permanent townsite. Socioeconomic impacts would also be sensitive to certain entrepreneurial and managerial decisions. Under terms of the NANA/Cominco agreement, NANA participates in decisions and policies about design and operation of the mine that might affect local interests. NANA's official posture strongly reflects its perception of the development concerns and preferences of the region's residents. The NANA/Cominco agreement binds Cominco to managerial and labor policies designed to magnify positive socioeconomic impacts and mitigate adverse social impacts. For this environmental consequences assessment, it was assumed that the terms of this contractual agreement would govern the project. Where the agreement aims at, but cannot guarantee, such goals as a high level of resident hire, the analysis relies on our most realistic estimate of project impacts.

Four potential socioeconomic impacts are considered below: regional employment and income; population growth and migration; demand for community infrastructure; and social, political and cultural stability and autonomy.

Project alternatives mainly involve variations in the overland transportation corridor, port site and type of transfer facility. However, the project factors that critically affect socioeconomic impacts would be constant for all options. In terms of the most important socioeconomic impacts, there would be no material difference among the project alternatives.

Regional Employment and income

The economic impact of the Red Dog project on the region would stem partly from the new basic jobs and earnings the project would provide residents, and partly from the stimulus that this basic economic growth would contribute to the secondary economy.

For purposes of regional economic impact analysis, the Red Dog project can be usefully divided into a construction phase and a production phase. The construction phase would cover the 30-month period during which the mine project site and transportation system would be developed. As now planned, construction would begin during the winter of 1985-86 and be completed by the end of 1987 (Fig. 1-2). The mine would begin production by early 1988 and reach full production by about 1994. This assessment assumes that the project would proceed on schedule. A few years' delay in the start of the project would postpone but not materially change the socioeconomic impacts. Cominco's present mining plan aims at a total annual shipment of 434,450 Mg (479,000 tons) of combined ore concentrates during the initial phase of production. Changed market conditions or other factors could raise or lower

that production goal. However, the mining and milling operation could support higher output with only marginal added labor.

Cominco estimates that direct project employment would be 372 jobs for construction and 424 jobs for production. Table V-8 shows the employment breakdown by occupational group. There would be some overlap in the occupational skills required for each phase, especially among equipment operators and skilled trades.

Table V-8

AVERAGE ANNUAL EMPLOYMENT BY OCCUPATIONAL GROUP

CONSTRUCTION PHASE		PRODUCTION PHASE		
Craft	Number	Craft	Initial	Final
Carpenters	29	Management	7	7
Boilermakers	10	Supervisors	30	30
Electricians	21	Professionals	9	11
instrumentation	4	Technical/Clerical	51	53
Insulators	3	Equipment Operators	64	72
Ironworkers	31	Mill Operators	22	28
Laborers	57	Tradesmen	69	93
Linemen	6	Trainees	84	68
Millwrights	11	Laborers	16	22
Painters	4	Catering	<u>40</u>	<u>40</u>
Pipefitters	21	Total	392	424
Equipment Operators	78			
Sheet Metal	4			
Truck Drivers	54			
Pile Drivers	14			
Management & Clerical	<u>25</u>			
Total	372			

Source: Cominco Alaska, Inc.

Cominco projects an annual gross payroll (1983 dollars) of \$23.1 million for the construction phase and \$13.4 million for the final production phase. Average annual earnings per job amount to about \$62,000 during construction and about \$31,700 during production. This earnings differential would be due to such factors as different work schedules and occupational mixes for the two phases. By contrast, as stated in the Socioeconomic section of Chapter IV, the 1980 median household income for the entire Kobuk region was \$17,756, although the respective median household incomes of Kivalina and Noatak were \$8,304 and \$10,000.

In order to assess the economic impact of project payrolls on the NANA region, it was necessary to estimate how many of these direct jobs would be filled by residents, how many non-resident employees might eventually take up residence in the region, and how much secondary employment might be generated by basic employment in the mining project.

The management agreement between Cominco and NANA set a goal of maximum resident hire, entitled NANA to nominate the project personnel officer, and established a joint committee to prepare a manpower inventory and identify manpower training needs. The success of the employment goal would depend on a number of factors such as the number of qualified residents seeking work at the mine, the effectiveness of resident training programs, and the compatibility of work and rotation schedules with other important interests of potential employees, particularly subsistence pursuits. An intensive training program to maximize local hire has been initiated by the Regional Strategy Training Placement Committee. In addition, this committee is also working to expand trade and minimize net migration from villages.

Because of the unprecedented nature of this project for the region, projections of the level of resident hire are necessarily speculative (Table V-9). Based on a review of the construction workforce composition compared to the size and occupational skills of the resident labor pool and current unemployment and workforce participation rates, it was estimated that about one-third (124) of the construction jobs would be filled by present NANA region residents.

During the production phase, all on-site positions would be filled on a rotation basis by workers billeted in camp quarters. Cominco's preliminary operating plan foresees a two-week on/two-week off rotation for all on-site employees, with 12-hour work days for operating crews and 10 to 11-hour days for support crews.

For the production phase, Cominco estimates that regional residents would fill about 168 jobs at production start-up, climbing to about 267 jobs by the final production stage. This is a relatively high level of resident employment for a large remote project in rural Alaska. However, these estimates appear feasible in view of the skills employed by the project and available in the region's workforce, and in view of the joint commitment of NANA and Cominco to recruit, train and employ local residents.

The non-resident jobs would be filled by transient workers who would commute between the jobsite and permanent residences outside the region. Cominco would pay round-trip air transportation costs for all on-site employees. This transportation agreement would also make it easy for non-local workers on the project to retain their prior residences and discourage them from resettling into the region. For purposes of estimating economic and population impacts, it was assumed that only five percent of the non-local production workforce would take up permanent residency within the region.

This group would include former residents returning to the region as well as newcomers.

Table V-9

**ESTIMATED TOTAL RESIDENT EMPLOYMENT IMPACTS¹
NANA REGION**

	<u>Direct² Resident Employment</u>	<u>Secondary³ Resident Employment</u>	<u>New³ Resident Employees</u>	<u>Total³ Resident Employment</u>
Construction	124	100	75	299
Pre-production	168	86	96	350
Final Production	267	162	118	547

¹ For put-poses of meaningful regional analysis, project employment is assigned by residence of the worker rather than by the jobsite. By Alaska Department of Labor and U.S. Census economic and demographic statistical reporting units, the minesite is situated in the North Slope Borough.

Source:

² Cominco Alaska, Inc.

³ Kevin Waring Associates, 1983

Based on these assumptions, the prorated share of direct income to region residents would be about \$6.9 million during the construction peak and would rise to about \$8.4 million by the time the mine reached full production (Table V-10).

In addition to direct employment of residents, the mine project would trigger other changes in the region's employment and economic structure, especially at Kotzebue. First, the added purchasing power injected by mine payrolls would pump up local purchases of, goods and services. This would stimulate secondary economic growth, broadening the range of locally available goods and services for everyone and creating new jobs in the support sector. In order to calculate the effects of the mine payroll, a basic to nonbasic employment ratio of 1.0 to 0.3 was used for the construction phase, rising to 1.0 to 0.4 for the production phase. This employment multiplier, though low

Table V-10

PROJECTED ANNUAL PERSONAL INCOME
(\$ million)

	<u>DIRECT INCOME</u>			<u>INDIRECT INCOME</u>
	<u>Resident¹</u>	<u>Non-residentⁱ</u>	<u>Total ²</u>	<u>Resident Only¹</u>
Construction	6.9	16.2	23.1	2.1
1 initial Production	5.2	7.0	12.2	1.8
Final Production	8.4	5.0	13.4	3.4

Source:

¹ Kevin Waring Associates, 1983

² Cominco Alaska, Inc.

by national standards, is typical of Alaska's remote regional centers and allows for some expansion in the region's secondary economy.

Second, it is plausible that many, perhaps most, of the residents hired for the mine would be recruited from other jobs in the region, leading to a period of job shuffling. These vacated positions would become available for other underemployed and unemployed resident workers. If the vacated posts were not readily filled from the resident labor pool, some of the jobs might draw newcomers to the region to replace mine hirees. In this way, resident hire on the mining project would trigger upward job mobility throughout the region's labor pool and might also attract some new residents to the region. In all, it was estimated that about two-thirds of the combined vacated or new secondary posts would be filled by residents, with the rest filled by newcomers or former residents. On this assumption, there would be about 118 new workers moving into the region to take up jobs created by the mine project.

The proposed project would provide permanent, year-round employment in a developing region with substantial unemployment and underemployment. The project management, as expressed by the NANA/Cominco agreement, places high priority on policies and practical steps designed to make feasible a high rate of resident hire. Apart from the mine, there are no projects in the

region that seem likely to improve economic or job conditions to a significant extent. At final production, the project would contribute about 547 jobs and an annual payroll of \$11.8 million to NANA region residents. For comparison, the Alaska Department of Labor reports that in 1982, the average annual employment for the Kobuk census division was 1,863 employees, with a total annual payroll of \$39.0 million. Thus, compared to 1982 levels, the mine project at final production would increase resident employment by about 29 percent and resident earnings by about 30 percent. The project would also create about 248 construction jobs and about 157 permanent production jobs for workers commuting from other areas of the state, plus an undetermined number of secondary jobs.

The economic impact of the project would accelerate during construction and then level off as production began. Sudden prosperity might cause some transitional problems (e.g., price and labor inflation) in the local economy until the local supplies of goods and services and labor adjusted to meet new consumer demand. For the long run, however, it seems probable that economic growth would promote local diversification and economies of scale to offset short-term inflation.

Development of a deep-draft port facility for shipment of ore concentrates could lower shipping costs for fuel and other cargo delivered to the region. A fuels and general cargo depot, from which in-bound goods could be redistributed to villages, would avoid the lightering costs for shipment through the port of Kotzebue.

Population Growth and Migration

It was estimated that the mining project would eventually add about 354 persons to the total population of the region above the baseline forecast without the mine (Table V-11). Much of this growth would occur at the early stages

Table V-11

PROJECTED POPULATION IMPACT NANA REGION

	<u>Newly Resident Employees</u>	<u>Cumulative Growth Impact</u>
Construction	75	225
Initial Production	96	288
Final Production	118	354

Source: Kevin Waring Associates, 1983

of the project. This would include an estimated 118 new resident workers, plus their households. It was assumed that Kotzebue's more developed commerce, transportation and community facilities and services would make it more appealing to newcomers than the smaller remote communities. Therefore, nearly all (about 90 percent) of these new residents would probably reside in Kotzebue, "with the rest dispersed among the other rural villages" (Table V-12).

Table V-12

**ESTIMATED POPULATION - BASE CASE AND IMPACT CASE
NANA REGION**

Year	NANA Region		Kotzebue		Villages	
	Base Case	Mine Case	Base Case	Mine Case	Base Case	Mine Case
1982	5,343	5,343	2,470	2,470	2,873	2,873
1986	5,671	5,896	2,622	2,824	3,049	3,072
1990	6,019	6,307	2,782	3,041	3,237	3,266
2000	6,985	7,339	3,229	3,548	3,756	3,791

Source: Kevin Waring Associates, 1983

Recent decades show a pattern of intraregional migration to Kotzebue from its hinterland villages, but this trend appears to be leveling off. The effects of the mine project on population movements within the region are, at best, speculative. On the one hand, Kotzebue's more developed cash economy and community services might prompt some migration there of village residents working at the mine. However, provision for direct commuting rather than via Kotzebue, plus a preference of village residents to use new income to make their families better off in their home communities might neutralize this tendency. A best guess was that the project would not have much net effect on intraregional population movement.

Demand for Community Infrastructure

All elements of the proposed project (mine area facilities, overland transportation corridor and port facilities) would be remote from existing communities. Cominco would provide at the mine site all support infrastructure for its employees, including camp quarters, recreational facilities and emergency medical services. Worker housing would also be provided at the port, for emergency use, and for temporary use by ship loading and road maintenance crews. Cominco would provide charter flight pick-up and return to the home village of resident employees, and via Kotzebue or Point Hope to Anchorage for non-resident workers. Thus, the mining project would not compete with existing communities for state or federal community development programs.

However, former residents and newcomers drawn to the region to work on the project or to take advantage of other work opportunities opened up by the project would generate some demand for new community facilities and services. As the region's transportation and commercial center, Kotzebue would feel the brunt of this growth. It is estimated that Kotzebue's population would grow by about 200 persons during construction and by another 100 persons during production, for a net growth of about 300 persons or 10 percent due to the project (Table V-12). However, there is an effort by the Regional Strategy program to help establish businesses in the villages to create more jobs in the local economies.

The bulk of this population growth would derive from secondary economic growth at Kotzebue rather than from the mine itself. Since this growth would be concentrated during the construction and early production phases, it would likely impose some short-term strains on the capacity of the community to meet the housing needs and other community facility and service needs of new residents. [It is also plausible that the incidence of social problems might rise while resident workers and their families adjusted to new working and living arrangements and to improved economic circumstances. Coordinated advance planning by the City of Kotzebue and other responsible public agencies, with programs linked to progress in the mine development schedule, would help mitigate these stresses of rapid community growth.

Few new residents would be expected to settle in the rural communities, so minimal impact on their community facilities and services would ensue from the mining project.

Social, Political and Cultural Stability and Autonomy

The isolated, self-enclosed mine camp facilities would tend to buffer the existing communities from the most disruptive social impacts often associated with large resource development projects in undeveloped rural regions. Cominco would not establish a permanent townsite that might eventually incorporate as a local government. Ultimately, more than half of the permanent workforce would be drawn from the resident labor pool. An estimated 354 new residents or about a five percent increment to the base case regional forecast would accrue from the project over a period when the region would not be otherwise projected to undergo much economic or population growth. All these circumstances would tend to moderate any potential disruptions of the prevalent political, social and cultural equilibrium, except at Kotzebue which would receive the brunt of growth impacts.

The collaborative role of NANA Regional Corporation, to which most residents belong, in the development and management of the proposed project would also serve to avoid or moderate adverse impacts. The management agreement between NANA and Cominco contains many features designed to eliminate or blunt aspects of the project that might clash with traditional lifestyles and cultural values. Undeniably, the project presents new choices to residents about how to make their livelihoods. However, these choices would not be imposed by forces wholly outside local control, but would arise from a purposeful, calculated development policy by the regional corporation. Furthermore, the management agreement between NANA and Cominco provides a flexible, ongoing framework for resident involvement in project decisions to adjust for unexpected problems or changing conditions.

Because there would be no permanent incorporated settlement at the mine site requiring public services, the mine facilities would not alter the governmental status quo or impose any burdens on local governments.

Outside the incorporated cities, the NANA region is part of the unorganized borough. There are no plans to alter that status. The mine and most of the related facilities would be in the North Slope Borough. Thus, the project would offer limited revenue potential for a borough that might be incorporated in the NANA region.

As noted earlier, Kotzebue would be subject to an influx of new residents. This might dilute the cultural and social status of established residents and perhaps upset the local political equilibrium. Apart from sales taxes, population growth would not generate much additional local governmental revenue since the City of Kotzebue does not levy a real property tax. If rapid growth overtaxed the community's fiscal resources to maintain services for both existing residents and newcomers, it might be a source of community conflict.

It appears that the potential for any severe adverse or disruptive socioeconomic impacts on the region would be well contained by the isolation of the project from existing communities and by the mediating role of the NANA Regional Corporation in the development and ongoing management of the project. The relatively low level of adverse socioeconomic impacts would be partly attributable to conscious policies and decisions jointly made by NANA and Cominco about the development scheme and mode of operations for the mine. In particular, the choice of workcamp quarters, rather than a full-fledged permanent townsite, to support a transient workforce composed mostly of local residents on a rotation schedule would avoid many of the adverse and potentially disruptive impacts that a major remote resource development project might have on a remote, lightly populated and undeveloped region.

On the other hand, the project has substantial potential for positive long-term impacts on employment, income opportunities and the family stability of the region's residents. Increased family income should significantly reduce poverty-related stress, promote family stability, and decrease social problems such as alcoholism, suicide and mental illness. However, capture of these positive impacts would depend on the success of programs to recruit and train workers from the resident labor pool. If the effort to achieve a substantial degree of resident hire fell short, then it would be necessary to im-

port more non-local workers. In that case, the income benefits to residents of the region would diminish.

A high rate of resident hire would be triply beneficial in terms of socioeconomic impacts. First, it would permanently boost resident income and employment. Second, it would limit the scope of new demands on existing infrastructure by reducing the number of non-local mine employees who might opt to take up local residence. Third, by reducing the potential for new settlement in the region, it would allow for economic development while still conserving resident control over the region's political, social and cultural institutions and resources.

Most of the growth impact anticipated from the project would be concentrated on Kotzebue. This would impose some growth management problems on a community whose fiscal and physical resources to accommodate much new growth are already limited.

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