

AN INVESTIGATION OF SELECTED  
ECONOMIC DEVELOPMENT POTENTIALS



**\*Disclaimer:** this report is missing the appendix-B section. The complete report is available in *Hard Copy* only\*

---

UNIVERSITY OF NEVADA, RENO

---

**AN INVESTIGATION OF SELECTED  
ECONOMIC DEVELOPMENT POTENTIALS  
FOR THE FORT MCDERMITT RESERVATION**

Prepared By:

Thomas R. Harris  
William O. Champney  
Karl A. McArthur  
and  
William L. Cooper

Thomas R. Harris is a Professor in the Department of Applied Economics and Director of the University Center for Economic Development at the University of Nevada, Reno.

William O. Champney is an Emeritus Professor in the Department of Applied Economics and Statistics at the University of Nevada, Reno.

Karl A. McArthur is a Research Associate in the Department of Applied Economics and Statistics and the University Center for Economic Development at the University of Nevada, Reno.

William L. Cooper is a Research Associate in the Department of Applied Economics and Statistics and the University Center for Economic Development at the University of Nevada, Reno.

September 1997

**UNIVERSITY  
OF NEVADA  
RENO**

The University of Nevada, Reno is an Equal Opportunity/Affirmative Action employer and does not discriminate on the basis of race, color, religion, sex, age, creed, national origin, veteran status, physical or mental disability, and in accordance with university policy, sexual orientation, in any program or activity it operates. The University of Nevada employs only United States citizens and aliens lawfully authorized to work in the United States.

This publication, *An Investigation of Selected Economic Development Potentials for the Fort McDermitt Reservation* was published by the University Center for Economic Development in the Department of Applied Economics and Statistics at the University of Nevada, Reno. Funds for this publication were provided by the United States Department of Commerce Economic Development Administration under University Centers Program contract #07-06-03262-97 and Technical Assistance Grant #07-06-03633. This publication's statements, conclusions, recommendations, and/or data represent solely the findings and views of the authors and do not necessarily represent the views of the U.S. Department of Commerce, the Economic Development Administration, State of Nevada Commission on Economic Development, the University of Nevada, Reno, Fort McDermitt Reservation, or any reference sources used or quoted by this study. Reference to research projects, programs, books, magazines, or newspaper articles does not imply an endorsement or recommendation by the authors unless otherwise stated. Correspondence regarding this document should be sent to:

Thomas R. Harris, Director  
University Center for Economic Development  
University of Nevada, Reno  
Department of Applied Economics and Statistics  
Mail Stop 204  
Reno, Nevada 89557-0105



UCED  
University of Nevada, Reno  
Nevada Cooperative Extension  
Department of Applied Economics and Statistics

## TABLE OF CONTENTS

Abstract .....	viii.
Executive Summary.....	ix.
Past Development on the Fort McDermitt Reservation .....	ix.
Infrastructure .....	x.
Demographic Data .....	x.
Household, Family and Per Capita Income.....	xi.
Economic Analysis of Current Situation .....	xii.
Analysis of Hog John Ranch.....	xii.
Truck-Stop Analysis.....	xiv.
Introduction .....	1
Focus of the Study .....	4
History of the Fort McDermitt Reservation .....	5
Past Development on the Fort McDermitt Reservation .....	7
Influential Economic Factors .....	14
Infrastructure .....	15
Demographic Data .....	19
Labor Force Comparisons by Native American Reservation.....	23
Disability Statistics .....	26
Place of Residence Statistics.....	29
Household, Family and Per Capita Income.....	29
Educational Attainment.....	30
Language Proficiency .....	32
Economic Analysis of Current Situation .....	35
Spatial Considerations.....	37
Location Quotient Analysis .....	38
Selected Feasibility Analysis of Alternatives for the Fort McDermitt Reservation.....	43
Analysis of Hog John Ranch Investments.....	43
Analysis of Potential Truck Stop .....	53
Conclusion .....	61

Appendix A: Loan Amortization of Truck Stop Fixed Costs.....	62
Appendix B: McDermitt Citizens Survey Results.....	64
References .....	65

## LIST OF FIGURES AND TABLES

Figure 1. Map of Humboldt and Malheur Counties and Fort McDermitt Reservation .....	2
Table 1. Land Resources of the Fort McDermitt Tribe.....	6
Table 2. Educational Attainment.....	9
Table 3. Fort McDermitt Cattle Owners and Number of Cattle, 1968 .....	14
Table 4. Comparison of Housing Stocks.....	18
Table 5. Selected Characteristics .....	19
Table 6. Population Projections for Humboldt County, Winnemucca and McDermitt Township.....	20
Table 7. Labor Force Status (Persons 16 years of age and older) .....	21
Table 8. Labor Force for males 16 years and over.....	22
Table 9. Labor Force for females 16 years and over.....	23
Table 10. Labor Force Status of Regional Tribes (Persons 16 years of age and older) ...	24
Table 11. Male Labor Force Status of Regional Tribes (16 years of age and older) .....	25
Table 12. Female Labor Force Status of Regional Tribes (16 years of age and older)....	26
Table 13. Disability of Persons Ages 16 to 64.....	27
Table 14. Report 1985 Place of Residence by 1990 Population.....	28
Table 15. Income Comparisons for 1989 Personal Income.....	30
Table 16. Educational Attainment of Fort McDermitt Reservation and Four Regional Tribes.....	31
Table 17. Language spoken at home.....	34
Table 18. McDermitt Tribe Relative to the U.S. as Whole Location Quotient .....	40
Table 19. Complete Forage Renovation of Fenced Area of Hog John Ranch.....	45
Table 20. Estimated Revenues from Complete Renovation of Fenced Area of Hog John Ranch.....	46
Table 21. Loan Amortization Schedule for Investment on Complete Renovation of Fenced Area of Hog John Ranch .....	47
Table 22. Interseeding Range Improvement for the Hog John Ranch .....	48

Table 23. Aerial Spraying Cost of All Plant Population of the Fenced Hog John Ranch .....	49
Table 24. Estimated Revenue Increase from Weed Spraying Range Improvement Investment .....	49
Table 25. Loan Amortization Schedule for Investment of Aerial Spraying of All Plants of the Fenced Area of the Hog John Ranch .....	51
Table 26. Costs for Weed Control Spraying.....	52
Table 27. Estimated Revenue Increase from Weed Control Spraying .....	52
Table 28. Loan Amortization Schedule for Investment for Weed Control Spraying of the Fenced Area of Hog John Ranch.....	53
Table 29. Ground Preparation Costs for the Fort McDermitt Truck Stop.....	54
Table 30. Equipment Costs for the Fort McDermitt Truck Stop.....	55
Table 31. Building Costs for the Fort McDermitt Truck Stop .....	55
Table 32. Pump Costs for the Fort McDermitt Truck Stop .....	56
Table 33. Operating Cost Estimates for the Fort McDermitt Truck Stop.....	57
Table 34. Estimated Revenues for the Fort McDermitt Reservation Truck Stop.....	58
Table 1-A. Loan Amortization of Fixed Costs for Truck Stop.....	63

## ABSTRACT OF STUDY

The purpose of the study entitled **An Investigation of Selected Economic Development Potentials for the Fort McDermitt Reservation** was to analyze the reservation's existing economic base and investigate feasibility of potential investments along the Hog John Ranch and truck stop. Growth within the reservation has been rather constant during the 1980's and 1990's with export potential in the retail and wholesale market. Five alternative investment scenarios were investigated on the Hog John Ranch. However, since the water rights on the Hog John Ranch were transferred and sold to ranches in the upper valley of the Quinn and King Rivers, investment potentials are somewhat limited. In addition, the state of Nevada Engineer's Office has classified the basins of the Quinn and King Rivers as closed basins. As a closed basin, new drilling for irrigation pumpage is prohibited. As for the truck stop, this alternative may be feasible but would require intensive management supervision. A combination of truck stop, smoke shop and retail outlet may be the best alternative.

## **EXECUTIVE SUMMARY**

This study was to analyze the existing socio-economic base of the Fort McDermitt Reservation and surrounding area and investigate feasibility of potential investments along the Hog John Ranch and truck stop. Five alternative range improvement scenarios for the Hog John Ranch were investigated. However, since the water rights of the Hog John Ranch have been transferred or sold to ranches in the upper valleys of the Quinn and King Rivers, range improvement potentials are somewhat limited. Also because of the sale and transfer of the water rights, potential land exchange of the Hog John Ranch may be somewhat limited. Additionally, the State of Nevada Engineer's Office has classified the basins of the Quinn and King Rivers as closed. This designation prohibits the drilling of new irrigation wells for irrigated agricultural production. As for the truck stop, this alternative may be feasible, but would require intensive management.

### **Past Development on the Fort McDermitt Reservation**

- Percent with high school degree or higher level of education for the state of Nevada is 78.8%; Humboldt County is 75.5% while the Fort McDermitt Reservation is 43.3%.
- A smoke shop had been in operation by the tribe and was successful. The smoke shop was closed. The reasons for this closure are not known.
- Tribe owns ranch land suitable for sustaining 2,000 head of cattle.
- The Hog John Ranch which the tribe owns is 54 miles south and west of the main reservation.
- Currently the Hog John Ranch is leased and the lease is handled by the Bureau of Indian Affairs (BIA).

### **Infrastructure**

- Infrastructure is important to socio-economic development.
- The community of McDermitt has two active RV parks. Development of an RV park on tribal lands would have to compete with facilities in the community of McDermitt.
- The tribe irrigates from water supplied by a small tribal diversion dam on the Quinn River. The diversion dam washed out during the 1996-97 winter floods.
- Although there is often mention of a tribal sewer system, there is no common sewer system on tribal lands. Individual buildings are serviced by septic tanks.
- From the 1990 U.S. Census of Housing, over 77% of housing units are occupied, leaving 23% unoccupied.
- Approximately 18% of housing units on the reservation lack complete plumbing facilities.

### **Demographic Data**

- Approximately 71% of the state's population 16 years and older is in the labor force. For Humboldt County the figure is 74%. However, only 48% of those 16 years and older are in the labor force on the Fort McDermitt Reservation.
- The unemployment rate in 1990 for the state of Nevada was 6.2%; for Humboldt County the figure was 6.5% as compared to the Fort McDermitt Reservation at 33.1%.
- For males 16 years and older, approximately 77% were in the labor force for the state of Nevada while 84% were in the labor force for Humboldt County. For Fort McDermitt the figure was 53%.
- For males 16 years and older the unemployment rate for the state of Nevada was 6.2%, while for Humboldt County the rate was 6.7%. However, the unemployment rate for Fort McDermitt Reservation was 38%.

- For females 16 years and older, approximately 63% were in the labor force for the state of Nevada, while 61% were in the labor force for Humboldt County. However, only 43% of working age females were in the labor force on the Fort McDermitt Reservation.
- For females 16 years and older, the unemployment rate for the state of Nevada was 6.2% while for Humboldt County the rate was 6.2%. However, the unemployment rate for females 16 years and older on the Fort McDermitt Reservation was 26.8%.
- When compared to four other Nevada Native American Reservations, the Fort McDermitt tribe had the highest unemployment rate at 33.1% compared to 15.2% for the Walker River Reservation; 20.6% for the Ely Colony; 23.7% for Duck Valley and 21.4% for the Goshute Reservation.
- Regarding labor status of males, the Goshute Reservation had the highest unemployment rate at 60% followed by the Fort McDermitt Reservation at 38%.
- Regarding labor status for females, the Fort McDermitt Reservation had the highest level of unemployment at 26.8%.

### **Household, Family and Per Capita Income**

- Over 69% of Fort McDermitt residents had incomes below the 1989 poverty level compared to the state of Nevada and Humboldt County with 10.2% and 10.3% respectively.
- Per capita income in 1989 for the state of Nevada and Humboldt County was \$15,214 and \$13,544, respectively. The per capita income for the Fort McDermitt Reservation was only \$3,093.

### **Economic Analysis of Current Situation**

- The Fort McDermitt area is geographically isolated with the closest major trade centers being Winnemucca 75 miles to the south and Boise, Idaho 190 miles to the north.
- Using location quotient procedures the chief exporting sectors for Fort McDermitt are agriculture, mining, manufacturing-durable goods, business and repair services, entertainment and recreational services (casino gaming) educational services, other professional services, and public administration.
- However, retail and wholesale sectors are currently importing sectors but could be sectors targeted for development.
- Development of a truck stop which also sold retail goods and Native American art could stimulate both local retail and wholesale sectors.

### **Analysis of Hog John Ranch**

- Hog John Ranch is 54 miles from the reservation and is currently leased.
- Water rights for this ranch were transferred or sold to ranches in the Quinn and King River valleys.
- Currently, the lands of the Hog John Ranch are irrigated by flood waters during the spring of wet years.
- One range improvement investment alternative was to drill additional irrigation wells on the Hog John Ranch and purchase new irrigation technology. However, the state of Nevada Engineer's Office has designated the Quinn and King River basins as closed. Closed basin means that new irrigation is not allowed. According to the local electric cooperative, Harney Electric Cooperative, the cost to run an electric line to an irrigation source from the closest

existing power line is \$18,000 per mile. Given these two obstacles, no further analysis was made for this option.

- A second range improvement option considered was a complete forage renovation of the fenced 1,000 acres of the Hog John Ranch. With additional revenues of only \$8,000 with an annual loan payment of \$18,000 for this option, it was judged unfeasible.
- The third option was an interseeding range improvement. This range improvement was not supported by range specialist because it failed earlier test plots on the Hog John Ranch.
- A fourth range improvement option is aerial spraying of sage and greasewood to allow cover grass to grow and spread. However, returns were not enough to cover potential debt charges. Also if a drought occurred the plants which are not drought tolerant would die. Therefore the reseeding investment would be lost.
- A fifth range improvement option was to spot spray areas for weeds such as white top. Again, the added revenue from this procedure may not be able to cover the investment costs. Also drought years could completely negate the weed control investment.

## **Truck-Stop Analysis**

- Tribal members requested an analysis of potential feasibility of a truck stop-convenience store on the reservation adjacent to U.S. Highway 95.
- Currently there are three locations in McDermitt that offer gasoline sales but diesel is not available.
- Investment costs for ground preparation equipment costs, building costs and pump costs were estimated to be \$586,358.
- Total operating costs for the proposed truck stop-convenience store with interest charges for building and pump investments were estimated to be \$320,217.
- If only repair and maintenance charges were allowed and interest charges were not allowed, the total operating expenditures were estimated to be \$270,376.
- Revenues from sale of diesel, gasoline, cigarettes, food, drink and art objects were estimated to be \$296,484.
- From this analysis the truck-stop convenience store may be feasible. It is important to note that no inventory costs were incorporated into the operating costs and that management of the facility is critical for ongoing and future business success.

## **Introduction**

Fort McDermitt Indian Reservation straddles the Nevada-Oregon border and includes parts of Humboldt County, Nevada and Malheur County Oregon. The reservation population is centered around the Tribal Government Complex about eight miles south and east of the Town of McDermitt in the Quinn River Valley. Highway 95 runs through Tribal lands. The populated area which extends both east and west along the Quinn River Valley from the Tribal Government Complex extends to the east side of highway 95 about five miles south of McDermitt. The portion of reservation land along the east side of highway 95 is slated to be the Tribe's "future commercial corridor." The unincorporated Town of McDermitt itself is situated on north-south highway 95 on the Oregon-Nevada border with most of the population residing in Nevada. The greater McDermitt area which is comprised of Fort McDermitt Reservation, the unincorporated Town of McDermitt, and the surrounding area has a population of about thirteen hundred (1,300) persons. (Figure 1.)

Highway 95 intersects with I-80 at Winnemucca approximately 75 miles to the south of McDermitt. The city of Winnemucca can be considered the closest population center which has a fairly dynamic and self contained economy. Anecdotal information from McDermitt residents indicates that Boise Idaho, located 190 miles north, is the major trade center for larger purchases of durable goods such as autos and home appliances while Winnemucca is the trade center for consumables and smaller durable goods purchases.

The topography and climate is typical of the Great Basin area. The Town of McDermitt is at an elevation of 4,600 feet above sea level. The area is generally hilly with some moderate height mountains and it is located in the rain shadow of the Sierra Nevada Mountains. Average annual snowfall is about twenty five (25) inches and average precipitation is a little over eight

Figure 1. Map of Humboldt and Malheur Counties and Fort McDermitt Reservation

and one half (8.5) inches annually in the McDermitt area. Climate is marked by relatively large variations from one year to the next. The growing season corresponding to this climate is short, averaging one hundred and forty (140) days, and difficult to predict varying from sixty three (63) days to one hundred and eighty four (184) days.

Economic activity is based on mineral extraction, agriculture, and tourism. From this limited economic base, secondary economic activity is sparse. The 1992 Economic Census which provides counts of firms for three industrial sectors or groupings lists three retail trade firms, one service firm, and one manufacturing firm in the McDermitt area. The zip code patterns U.S Bureau of the Census 1994 data base shows eight business establishments, one construction firm, one transportation firm, one wholesale firm, four retail trade establishments, and one finance insurance and real estate firm. The local school district is the second largest employer in McDermitt with the one local casino being the largest. Government employment by either the local school district, Fort McDermitt Tribe, Humboldt County or one of several federal agencies accounts for a large share of the total employment in the area. A 1996 survey implemented by a local citizens group describes the town of McDermitt as having:

“...various business establishments, including a post office, library, community hall, deputy sheriff, three churches, school - grades K-12, casino, restaurant, two motels, two bars two RV parks, grocery store, convenience store, two gasoline stations, construction company, trucking company petroleum bulk plant, consulting company, towing service, auto, tire repair services, cemetery, and a city water / sewer district.”

The recent closure of several local mining operations, the maturation of the local agricultural industry, and the somewhat cyclical nature of local tourism have combined to limit the economic activity in the area.

### **Focus of the Study**

The focus of this study is to analyze the economy of the Fort McDermitt Reservation and identify economic potentials for the reservation. Specific areas of economic development as identified by researchers and Tribal officials are potential investment for physical improvements of agricultural lands at the Hog John Ranch, and on-reservation business creation and enhancement.

The economy of the Fort McDermitt Reservation is closely tied to that of the McDermitt community. The potential for economic development of the Tribe could be expanded by investigating economic potential beyond the reservation borders. Increased local economic activity either on or off of the reservation will benefit both the tribe and the community.

Current employment opportunities are limited. Most working tribal members who are not employed by the Tribal government, or involved in agriculture, are employed in nearby McDermitt. Some tribal members follow seasonal agricultural employment returning to the reservation between seasons. Skill development for those living on-reservation but working off-reservation might be very beneficial to the Tribe. Many tribal members live off of the reservation in nearby McDermitt as well. Beyond the focus of this study the best economic development plan for the Fort McDermitt Reservation might include the potential for off-reservation employment. The Tribe has alluded to such a possibility in the form of a land swap which would give the tribe property in the Winnemucca area. However the feasibility and particulars of such a land swap is beyond the scope of this study.

## **History of the Fort McDermitt Reservation**

The Paiute and Shoshone Indians are descendants of the Numa people. Ancestors of these two tribes occupied or roamed over southeastern Utah, southern and western Nevada and parts of California and Oregon living as hunter gatherers. In the 1850's settlers and prospectors came into the area bringing domesticated livestock with them. With settlement and the introduction of domestic livestock, the natural food supply upon which the Indians depended dwindled.

The conflict which resulted when the two cultures clashed was inevitable. Fort McDermitt was first established as a military outpost to control the conflicts between settlers and Native Americans. Native Americans were initially removed from the area. A Native Americans population was reestablished as Native Americans drifted away from reservations in the Northwest and Pacific Northwest and settled in the McDermitt area. After being restored to the public domain in 1889, the land on which Fort McDermitt was located was opened to homesteading in 1890. Under the General Allotment Act of 1887 Native Americans in the area received allotments of land. There were 147 allotments made between 1892 and 1906. In 1944 under the Land Consolidation Program the original 147 allotments and subsequent allotments on lands purchased by Congress, were relinquished to the Tribe. In the 1969 Fort McDermitt Economic Development Plan, 145 acres of reservation land were listed as being allotted. Currently there are some privately owned parcels within the reservation boundaries which were not purchased by Congress and which are not owned by the Tribe or tribal members.

**Table 1. Land Resources of the Fort McDermitt Tribe**

<b>Description</b>	<b>Total Acres</b>	<b>Acres Presently Allotted</b>	<b>Tribal</b>	<b>How Acquired</b>	<b>Year Acquired</b>
Original Allotments	4,048.43	145	3,903.43	Executive Order	1889
School Reserve	160.00	0	160.00	Executive Order	1889
Grazing Reserve Lands	20,645.46	0	20,645.46	Act of Congress	1936
Giacomette Ranch	1,554.36	0	1,554.36	Purchase	1939
Hearn Ranch	3,919.37	0	3,919.37	Purchase	1939
Hoppin Meadows	1,240.00	0	1,240.00	Purchase	1939
Hog John Ranch	3,560.00	0	3,560.00	Purchase	1939
McCleary Lumber Co.	449.92	0	449.92	Purchase	1939

Source: 1969 Fort McDermitt Indian Reservation Economic Development Plan

The reservation system and federal Indian policy past and present frames much of the economic situation currently faced by the Fort McDermitt Tribe. Reservations were a means of reducing conflict between immigrants of Old World origins and Native Americans. Early Native American policy and the reservation system frames much of the current Fort McDermitt situation as the Tribe seeks to have a cultural identity in the modern post industrial world.

Along with the reservation system and federal Native Americans policy, general socio-economic trends have also influenced the Fort McDermitt Tribe. In the social revolution of the late 60's and early 70's the plight of rural Indians became an "urban" concern and many programs were directed at improving conditions on reservations through better health care, housing improvements, and job training. The feedback relationship between national social policy and the reservation system brought many improvements to the reservations in general. Other general trends have also influenced economic development of the Fort McDermitt reservation as well.

### **Past Development on the Fort McDermitt Reservation**

Development, both in terms of general trends and in the form of specific projects, has taken place on the Fort McDermitt Reservation over the years since it was established. The electrification of rural America is one such trend. The need to pump water for area farms facilitated the formation of a rural electric cooperative. The Tribe, adjacent community of McDermitt, and other areas of northern Nevada and southern Idaho are presently served by the Harney Electric Cooperative Inc.

Modern medical care is also present on the reservation. At the Fort McDermitt Reservation the community health clinic funded by Indian Health Service (IHS) provides basic medical care, a WIC (Women With Infant Children) clinic, nutrition counseling, and a substance

abuse program. The clinic serves Native Americans only. A clinic serving all residents of the McDermitt area funded by property taxes was disbanded in the 1980's. A group of area citizens conducted a needs study in 1996 and are advocating a joint effort with the Tribe. This joint effort would complement the current reservation clinic and provide for the non-Native Americans portion of the community as well as enhance the overall operation. Together the two populations can create a more effective effort towards local health services than either can do alone.

Improvements in education have also come to the reservation. Children are no longer sent to distant boarding schools as they were in the past. There is a tribal run preschool on the reservation and K-12 has been incorporated into the McDermitt school system. This has afforded some noted advantages and presents even more potential advantages. Educational attainment levels still lag behind levels for the state and county however as shown in Table 2. Education attainment is discussed further in the demographics section below.

According to available records, the Nevada Department of Welfare conducted Title V job training programs in subjects which included plumbing, handicraft, and carpentry. According to a referenced study (Christensen, 1970)

“Many tribal members living off the reservation moved back to take advantage of this program; at times there were 60 individuals attending the program. It was difficult to administer a program of this type, which was meaningful, due to the fact that there was no specific purpose for which to train the people. Most of the women were trained in crafts and home skills and the men were trained primarily in building skills.”

**Table 2. Educational Attainment**

	<b>State of Nevada</b>	<b>Humboldt County</b>	<b>Winnemucca City</b>	<b>Winnemucca Area Rural</b>	<b>Fort McDermitt Reservation</b>
Persons 25 years and over	789,638	7,745	3,702	2,839	194
Less than 9th grade	47,771	799	330	282	35
9th to 12th grade, no diploma	119,857	1,095	472	392	75
High school graduate	248,968	2,708	1,254	1,019	56
Some college, no degree	203,599	1,756	857	717	18
Associate's degree	48,803	444	219	173	5
Bachelor's degree	79,693	726	447	207	3
Graduate or professional degree	40,947	217	123	49	2
Percent high school graduate or higher.....	78.8	75.5	78.3	76.3	43.3
Percent bachelor's degree or higher.....	15.3	12.2	15.4	9	2.6

Source:1990 Census of Population and Housing

In other records there is evidence of a plumbing skills program for tribal men which culminated in the construction of the reservation's water and sewer system. (The term "sewer system" as applied here must presumably mean individual septic systems for housing and other facilities on the reservation since no common municipal sewer system exists on the reservation.) In yet another referenced study men were reported as learning carpentry skills. There are other reports of Tribe members being sent away to trade schools for training in machining and mechanical fields as well.

One of the successes attributed to the program was the revival of traditional handicraft art. This was seen as having a positive cultural benefit. The training apparently utilized and worked with the few remaining Native American artisans residing on the reservation to pass down almost forgotten skills to a whole group of younger tribal members. There were thirty-two individuals enumerated as handicraft artisans on the reservation in 1970 (Christensen 1970). This number of artisans is attributed directly to State of Nevada's Title V Program efforts. The larger group effort provided for a place in which to work, and facilitated the marketing of finished products. One of the failures has been the difficulty in finding local employment opportunities in industries requiring skills other than traditional Native American handicraft. The dearth of local industry persists into the present and in some cases has worsened.

On the Fort McDermitt Reservation twenty-five new homes were constructed under the Bureau of Indian Affairs Housing Program. At least fifteen of these houses were constructed on a self-help basis whereby owner labor was used.

In addition to the more applied economic improvement efforts which took place under Title V, the Nevada Extension Service also provided social programs intended to produce

economic development on the reservation. The educational programs included leadership training and personal development classes.

A small electronics assembly plant was established at the end of the Title V programs which sustained the reservation's economy for a time. There were twenty six individuals employed by the electronics firm according to a 1970 report. A referenced study by Christensen and Neiderfrank reported that as many as thirty persons had worked at the plant during its peak but that there were only 16 employed as of January 1971 due to the 1970 recession (Christensen 1971).

In the referenced study by Christensen and Niederfrank, (1970) overall favorable results from the available employment including family stability, improved work habits and individual discipline, and increased community morale were observed. There were some observed incidences of over extension of credit but not to the degree predicted by some detractors of economic development on Indian Reservations.

More recently a tribal smoke shop was established and operated on the reservation. Anecdotal evidence suggests that the operation was financially successful in that there was sufficient demand but that it might have suffered from poor management and tribal politics. Disagreement between the management of the shop and the tribal council is cited as the reason for ceasing operations. According to a referenced study (Economic Development Authority 1996) the smoke shop was located in "A shopping mall..." which included "...a smoke shop , snack bar, haircutting salon, arts and crafts store, and comic book store." Clarification of the reasons for closure of the smoke shop would be advisable prior to re-establishing such an enterprise in the future.

National and regional agricultural trends have also had an effect on the Tribe. The tribe owns ranch lands capable of sustaining up to 2,000 head of cattle on the main reservation and adjacent lands. The lands belonging to the tribes have been granted through Executive Order, congressional acts and purchases of private lands for the Tribe by Congress. Most of the lands owned by the Tribe are contiguous to the original Fort McDermitt lands. Congress awarded over twenty thousand acres of Grazing Reserve lands to the Tribe. Hoppin Meadows a high elevation meadow area suitable for summer grazing, and two ranches, the Giacometti and Hearn Ranch were purchased for the Tribe by the U.S. Congress. In addition a third ranch purchased for the Tribe, the Hog John is located 54 miles south and west of the main reservation. Other lands are also included in the tribal holdings. A list of Tribal land resources is provided in Table 1. There have not been any large changes in land ownership since the 1968 report.

Agriculture in the McDermitt area has followed that of other areas in that resource base limitations, technology, and management efficiency greatly impact agricultural productivity and profitability. Nationally agriculture is becoming concentrated with consolidation of smaller operations into larger farms. These large farms can take advantage of economies of scale realized from modern technologies. The picture painted in the sixties and early seventies of many small, debt laden ranchers making up the Fort McDermitt Cattlemen's Association is a typical picture of ranching during that time. Analysts at that time focused on the inability to create ranching operations of sufficient economic size under the tribal system. Non-reservation ranches without viable economic returns were generally consolidated into the more successful ranches which then became even more successful.

These same market forces did not force the Fort McDermitt residents off the reservation, and the Fort McDermitt Cattleman's Association did not purchase other cattle operations outside

the reservation boundaries. The Fort McDermitt Cattleman's Association has approximately twenty five members on the same resource base. There is evidence that the resource base utilized by the Tribe has actually decreased with some of the land suitable for hay production being leased to non-Native Americans. It is unclear whether or not any tribal ranching or farming ever occurred on the Hog John Ranch due to its remoteness from the main reservation. Currently the ranch is leased, handled by the Bureau of Indian Affairs (BIA), with very few reservation residents having any personal knowledge or interest in the operation. Proceeds reportedly go to support tribal government operations.

Native American cultural values of attachment to the land and tribal community, along with economic support by the government most likely contributed to the current situation. In terms of strictly financial efficiency, the total "operation" now comprised of about twenty five individuals in the Cattleman's Association may be more economical with fewer individuals. However each member of the association has a separate operation yet the association overlays the individual producers due to some common grazing and ownership of livestock such as bulls. However, just as in the late 1960's and early 1970's there is probably only one individual actually deriving a living from ranching and the rest are making a less than subsistence income from their ranching efforts. Table 3 show distribution of cattle owners and number of cattle owned by Fort McDermitt Cattleman's Association members in 1968.

---

**Table 3. Fort McDermitt Cattle Owners and Number of Cattle, 1968**

---

	<b>Number of Owners</b>	<b>Cattle Owned</b>
	12	0-24
	6	25-49
	1	50-74
	3	75-99
	1	100-124
	1	125-149
	0	150-199
	1	200-250
Total	25	1,203

---

*Smallest herd 10 head  
Largest herd 206 head*

---

### **Influential Economic Factors**

Influential factors which explain the economy of the Fort McDermitt are discussed as influential factors. These factors are: (1) natural resource endowment, (2) demographics, (3) culture, (4) infrastructure, (5) spatial relationships and (6) geography. Geography determines natural endowment, influences spatial relationships between the local economy and those of other areas, and also influences demographics and indirectly influences local culture. Geography then is the most salient of the factors and is the basis for most of the analysis.

Most factors which the Tribe must address may be factors they cannot mitigate. The natural resource base for example is fixed. However new uses for existing resources due to advances in technology can make the existing resource base more economical. Laser leveling of fields for instance can improve irrigation efficiency and increase rental value. The purpose of

analysis is to examine the potential changes the Tribe can effect to make the most of their resource endowments

Policy decisions will be influenced to a large degree by cultural values. It is up to members of the Tribe through their political representatives, to judge what is acceptable or not in any given instance. Potential economic improvements must be examined by tribal leaders and members, considered, and either rejected, due to incongruity with local values or accepted and implemented.

There are limits to any economic situation. This study explores these constraints, geographic and cultural, and the potential opportunities of the Fort McDermitt Tribe economy.

### **Infrastructure**

Infrastructure is important to socio-economic development. Most infrastructure normally found in a rural community such as the McDermitt area is in place. The reservation , town and surrounding area actually possess an abundance of infrastructure relative to the current population and economic base. While there are no railroads in the immediate area transportation is supported by highway 95 which runs through both the town and reservation. The area is also served by a 3,900 foot air strip adjacent to the Town of McDermitt on the Oregon side of the border. This airstrip was an important factor in the electronics industry in the late 1960's and early 1970's.

The McDermitt school system is located in one complex which handles K-12 and complements the Headstart program located on the Reservation. Local fire protection is provided by a local volunteer fire department and law enforcement is provided by the county sheriff. A community water and sewer system is also in place.

On the outskirts of the McDermitt community, there is a partially developed area with paved roads, fire hydrants, and water and sewer services. This partially developed area is large relative to the present developed area of the town. In discussions with the Tribe the possibility of an RV park on tribal property was mentioned. There are two active RV parks in the community of McDermitt. One RV park is suitable for overnight or short term use while the other RV park appears to be a trailer park for long term use. In addition there was one dilapidated facility which did not appear to have been used in years.

Housing in the town of McDermitt appeared to be mixed with some newer more expensive construction, some mobile homes and trailers, and some older construction. Business structures were also mixed. Housing on the reservation was mixed and appeared somewhat less than modern for the most part with no expensive higher end construction evident. It must be mentioned that all tribal lands are held in trust by the Bureau of Indian Affairs (BIA) for all tribes including the Fort McDermitt Reservation Tribe.

The Tribe itself owned and operated an irrigation system which delivered water to reservation farmers. The system was dependent on a small tribal diversion dam on the Quinn River located at the east end of the valley just beyond the populated area of the reservation. The small allotments and assigned plots in the populated section of the valley were supplied irrigation water through this system. The diversion dam washed out in the 1996-1997 winter flooding shortly after this study began. In addition to the irrigation system fed by the river, there are several wells on tribal lands suitable for household service and smaller irrigation demands. According to tribal sources the irrigation system is separate from the tribal drinking water system.

The Tribe also owns several community facilities including a reservation community building, and several other buildings used for various purposes such as the Tribal head start

(daycare) program. Although there is a tribal sewer system mentioned in the Economic Development Administration referenced study (1996), there is no common sewer system on tribal lands. Individual buildings are serviced by septic systems. Also, the structure which housed the smoke shop is currently used for equipment storage.

Housing is one infrastructure feature which reflects the overall development of an area. There are one hundred and forty five (145) housing units on the reservation. Over 77% of the housing units are occupied leaving almost 23% unoccupied. Table 4 presents the housing stock on the Fort McDermitt Reservation.

The quality of the housing on the reservation is reflected in data collected by the Census on selected housing characteristics shown in Table 5. The data show that almost eighteen percent of the housing units on the reservation lack complete plumbing facilities. However around twenty three percent of the housing units are not occupied. It can be assumed that the unoccupied housing units are the ones which lack such facilities but this is not a known fact. This assumption is made for the case of sewer disposal as well. Any information to the contrary would be of interest to those in charge of the economic and social well being of the tribe.

---

**Table 4. Comparison of Housing Stocks**

---

	<b>State of Nevada</b>	<b>Humboldt County</b>	<b>Fort McDermitt Reservation</b>
<b>Total housing units</b>	518,858	5,044	145
<b>Year Built</b>			
1989 to March 1990	8.2%	6.6%	0.0%
1985 to 1988	16.0%	8.3%	6.9%
1980 to 1984	15.9%	14.8%	3.4%
1970 to 1979	30.5%	31.3%	34.5%
1960 to 1969	15.9%	13.4%	33.8%
1950 to 1959	7.5%	9.1%	4.1%
1940 to 1949	3.1%	6.5%	2.1%
1939 or earlier	2.9%	9.9%	15.2%
<b>Number of Bedrooms in Unit</b>			
No bedroom	4.6%	3.5%	4.8%
1 Bedroom	17.2%	12.9%	13.1%
2 Bedrooms	32.8%	35.9%	43.4%
3 Bedrooms	33.0%	38.7%	38.6%
4 Bedrooms	10.8%	6.3%	0.0%
5 Or More Bedrooms	1.7%	2.7%	0.0%

Source: 1990 Census of Population and Housing

---

---

**Table 5. Selected Characteristics**

---

	<b>State of Nevada</b>	<b>Humboldt County</b>	<b>Fort McDermitt Reservation</b>
<b>Plumbing Facilities</b>			
Lacking complete plumbing facilities	0.5%	2.0%	17.9%
Lacking complete kitchen facilities	1.0%	2.6%	17.9%
Condominium housing units	7.4%	0.0%	0.0%
<b>Source of Water</b>			
Public system or private company	92.5%	63.9%	40.7%
Individual drilled well	6.8%	32.2%	14.5%
Individual dug well	0.3%	1.1%	0.0%
Some other source	0.4%	2.7%	44.8%
<b>Sewage Disposal</b>			
Public sewer	87.9%	57.9%	0.0%
Septic tank or cesspool	11.7%	39.8%	88.3%
Other means	0.4%	2.3%	11.7%
Total housing units	518,858	5,044	145
Occupied housing units	466,297	4,538	112
Percent of Units Occupied	89.9%	90.0%	77.2%

---

Source: 1990 Census of Population and Housing

---

### **Demographic Data**

Demographic data provides a picture of the current socio-economic situation. The Bureau of the Census and other national standardized data sources provide readily available figures for the Native American reservation area. Such data is available at the national, state, county, and tribe level as well as by region in some cases. The settlement of McDermitt and the surrounding area outside of the tribal boundaries accounts for approximately two thirds of the McDermitt community population. The town of McDermitt is an un-incorporated area and not enumerated

separately in the census. Data from national standardized sources pertaining to the non-reservation area of the community is available for the most part, only at the county level where it is commingled with that of many other communities including urban Winnemucca. Other sources are available at the township, zip code and community level however which are useful for analysis purposes. Demographic data presents a helpful context in which to examine the local economy.

Projected growth of population is presented in Table 6.

---

**Table 6. Population Projections for Humboldt County, Winnemucca and McDermitt Township**

	1997	1998	1999	2000	2001
Humboldt County <sup>a</sup>	16,462	16,714	16,883	17,265	17,602
Winnemucca	7,891	8,012	8,069	8,276	8,437
McDermitt Township	1,312	1,332	1,342	1,376	1,403

Source: Nevada Population Projections and Forecasts, Nevada State Demographer's Office

<sup>a</sup> Mid-range forecast

---

Table shows the labor force for the State of Nevada, Humboldt County, and Fort McDermitt Reservation. For all persons in the labor force, approximately 71 percent and 74 percent for the state of Nevada and Humboldt County are in the labor force. However only 48 percent are in the labor force in the Fort McDermitt Reservation. Also contrasting unemployment rates between the state, Humboldt County, and Fort McDermitt Reservation is quite revealing. For the state of Nevada and Humboldt County, the unemployment rates were 6.2 percent and 6.5 percent, respectively, while the unemployment rate for the Fort McDermitt Reservation was estimated to be 33.1 percent.

---

**Table 7. Labor Force Status (Persons 16 years of age and older)**

	<b>State of Nevada</b>	<b>Humboldt County</b>	<b>Fort McDermitt Reservation</b>
Persons 16 years and over	936,050	9,319	265
In labor force	657,878	6,850	127
Not in labor force	278,172	2,469	138
Percent in labor force	70.3%	73.5%	47.9%
Civilian labor force	647,520	6,847	127
Employed	607,437	6,400	85
Unemployed	40,083	447	42
Percent unemployed	6.2%	6.5%	33.1%
Armed Forces	10,358	3	0

Source: 1990 Census of Population and Housing

---

Table 8 contrasts the labor force of males 16 years and older for the state of Nevada, Humboldt County, and Fort McDermitt Reservation. For the percentage of sixteen year old males and older in the labor force the state of Nevada was 77.4 percent, Humboldt County 84.2 percent, and Fort McDermitt Reservation 52.6 percent. However contrasting unemployment rates for males 16 years and older shows even larger differences which were 6.2 for the state, 6.7 for Humboldt County, and 38.0 for the Fort McDermitt Reservation.

---

**Table 8. Labor force for males 16 years and over**

---

	<b>State of Nevada</b>	<b>Humboldt County</b>	<b>Fort McDermitt Reservation</b>
Males 16 years and over	475,643	5,096	135
In labor force	368,202	4,289	71
Percent in labor force	77.4	84.2	52.6
Civilian labor force	359,019	4,286	71
Employed	336,793	3,998	44
Unemployed	22,226	288	27
Percent unemployed	6.2%	6.7%	38%

---

Source: 1990 Census of Population and Housing

---

Table 9 contrasts the labor force of females sixteen years and older for the state of Nevada, Humboldt County and the Fort McDermitt Reservation. Participation rates for females in the state of Nevada and Humboldt County were approximately twenty percent higher than females in the Fort McDermitt Reservation. Also, the unemployment rate for females sixteen years and older is substantially higher in the Fort McDermitt Reservation at 26.8 percent compared to 6.2 percent for the state of Nevada and 6.2 percent for Humboldt County.

---

**Table 9 Labor Force for females years 16 and over**

---

	<b>State of Nevada</b>	<b>Humboldt County</b>	<b>Fort McDermitt Reservation</b>
Females 16 years and over	460,407	4,223	130
In labor force	289,676	2,561	56
Percent in labor force	62.9	60.6	43.1
Civilian labor force	288,501	2,561	56
Employed	270,644	2,402	41
Unemployed	17,857	159	15
Percent unemployed	6.2%	6.2%	26.8%

---

Source: 1990 Census of Population and Housing

---

**Labor Force Comparisons by Native American Reservation**

The labor force statistics for Fort McDermitt Reservation were compared to four other Native American reservations. These Nevada Native American Reservations were the Walker River Reservation, Ely Colony, Duck Valley Reservation, and the Goshute Reservation. Table 10 shows that the percentage in labor force for persons sixteen years and older was lowest for the Fort McDermitt Reservation. Also the unemployment rate for the Fort McDermitt reservation at 33.1 percent was much higher than the other four reservations; Walker River Reservation with 15.2 percent, Ely Colony with 20.6 percent, Duck Valley Reservation with 23.7 percent, and Goshute Reservation at 21.4 percent.

---

**Table 10. Labor Force Status of Regional Tribes (Persons 16 years of age and older)**

---

	<b>Fort McDermitt Reservation</b>	<b>Walker River Reservation</b>	<b>Ely Colony</b>	<b>Duck Valley</b>	<b>Goshute Reservation</b>
Persons 16 years and over	265	569	49	595	18
In labor force	127	285	34	342	14
Percent in labor force	47.9	50.1	69.4	57.5	77.8
Percent unemployed	33.1	15.2	20.6	23.7	21.4

---

Source: 1990 Census of Population and Housing

---

For males sixteen years and older, Table 11 shows that only the Walker River Reservation at 46.9 percent had a lower percentage in the labor force than Fort McDermitt Reservation. at 52.6 percent. Fort McDermitt Reservation had the second highest unemployment rate for males sixteen years and older at 38.0 percent while the Goshute Reservation had the highest unemployment rate at 60 percent.

---

**Table 11. Male Labor Force Status of Regional Tribes (16 years of age and older)**

---

	<b>Fort McDermitt Reservation</b>	<b>Walker River Reservation</b>	<b>Ely Colony</b>	<b>Duck Valley</b>	<b>Goshute Reservation</b>
Males 16 years and over	135	318	19	293	9
In labor force	71	149	19	172	5
Percent in labor force	52.6	46.9	100	58.7	55.6
Percent unemployed	38	9.5	36.8	30.2	60

---

Source: 1990 Census of Population and Housing

---

For females sixteen years and older, the Fort McDermitt Tribe had the lowest participation rate at 56.0 percent (Table 12). The Fort McDermitt Reservation had the highest unemployment at 26.8 percent, however the unemployment rate for females sixteen years and older for the Ely Colony and Goshute Reservation was zero percent.

---

**Table 12. Female Labor Force Status of Regional Tribes (16 years of age and older)**

---

	<b>Fort McDermitt Reservation</b>	<b>Walker River Reservation</b>	<b>Ely Colony</b>	<b>Duck Valley</b>	<b>Goshute Reservation</b>
Females 16 years and over	130	251	30	302	9
In labor force	56	136	15	170	9
Percent in labor force	43.1	54.2	50	56.3	100
Percent unemployed	26.8	21.3	0	17.1	0

---

Source: 1990 Census of Population and Housing

---

### **Disability Statistics**

Native American disability statistics are shown in Table 13. Approximately 20 percent of persons 16 to 64 years of age on the Fort McDermitt Reservation report a disability compared to the state and county figures of eight and nine percent respectively. Approximately thirteen percent of persons in the Fort McDermitt Reservation reported a disability which prevents them from working as compared to approximately 3.6% and 3.1% for the state and county respectively. Nationally, Native Americans are known to have a higher disability rate than the general population. There are many social and cultural factors which may account for this occurrence. The other regional tribes selected for comparison do not share this same trend. Interpretation of individual tribe data is difficult and must be made cautiously due to unique local circumstances.

**Table 13. Disability of Persons Ages 16 to 64**

---

	<b>State of Nevada</b>	<b>Humboldt County</b>	<b>Fort McDermitt</b>	<b>Walker River</b>	<b>Ely Colony</b>	<b>Duck Valley</b>
Persons 16 to 64 Years of Age	788,456	8,168	234	416	49	514
With a Work Disability	65,786	750	45	41	2	56
Percent With a Work Disability	8.34%	9.18%	19.23%	9.86%	4.08%	10.89%
In Labor Force	31,567	451	13	12	2	19
Percent in Labor Force	4.00%	5.52%	5.56%	2.88%	4.08%	3.70%
Prevented From Working	28,132	256	30	21	0	37
Percent Prevented From Working	3.57%	3.13%	12.82%	5.05%	0.00%	7.20%

---

Source: 1990 Census of Population and Housing

---

**Table 14. Report 1985 Place of Residence by 1990 Population**

	<b>State of Nevada</b>	<b>Humboldt County</b>	<b>Winnemucca City</b>	<b>Fort McDermitt Reservation</b>	<b>Walker River Reservation</b>	<b>Ely Colony</b>	<b>Duck Valley Reservation</b>	<b>Goshute Reservation</b>
Persons 5 years and over	1,110,450	11,743	5,596	355	712	85	812	28
Lived in same house	385,466	4,189	1,960	244	326	82	498	7
Percent Lived in same house	34.7%	35.7%	35.0%	68.7%	45.8%	96.5%	61.3%	25.0%
Lived in different house in U.S.	694,739	7,122	3,359	111	386	3	314	21
Same State	367,820	3,823	1,702	95	211	3	209	8
Same county	331,814	2,762	1,236	81	141	3	166	8
Different county	36,006	1,061	466	14	70	0	43	0
Different State	326,919	3,299	1,657	16	175	0	105	13
Lived abroad	30,245	432	277	0	0	0	0	0

Source: 1990 Census of Population and Housing

### **Place of Residence Statistics**

Less mobility on the part of tribal residents than in the rest of the state and county is evidenced by the fact that nearly 69% of Fort McDermitt Reservation residents reported living in the same house since 1985 in the 1990 census (Table 14). This reflects the cultural aspect of Native American ties to the land and tribal community. Also, tribal residents may not relocate as fast as persons outside of reservations where people relocate in response to economic changes. Modern communications technologies may be able to allow rural residents more participation in urban economic activity but to what extent is unknown. If such immobility is a given then economic development will be constrained by this factor. Table 14 presents a comparison of these factors between the Fort McDermitt Reservation population and the state, county, and various tribal populations in the region

### **Household, Family, and Per Capita Income**

Table 15 shows a comparison of median household income, median family income, median non-family income, and per capita income for the Fort McDermitt Reservation in comparison to the state of Nevada and Humboldt County. From Table 15, over 69 percent of the Fort McDermitt Reservation residents had incomes below the poverty level in 1989. Since these figures are prior to the closure of the Cordero Mine in 1993, these figures could conceivably be worse. It is interesting to compare per capita income. Fort McDermitt Reservation had per capita income of \$3,093 in 1989 as compared to \$15,214 for the state of Nevada and \$13,544 for Humboldt County. In 1989, per capita income for the Fort McDermitt Reservation was 20 percent of the state of Nevada and 22.8 percent of the Humboldt County per capita income values.

**Table 15. Income Comparisons for 1989 Personal Income**

---

	<b>State of Nevada</b>	<b>Humboldt County</b>	<b>Fort McDermitt Reservation</b>
Median household income (dollars)	31,011	33,269	9,008
Median family income (dollars)	35,837	37,027	10,114
Median nonfamily household income (dollars)	20,413	22,618	4,999
Per capita income (dollars)	15,214	13,544	3,093
<b>POVERTY STATUS IN 1989</b>			
Percent of Persons below poverty level	10.15%	10.30%	69.52%

---

Source: 1990 Census of Population and Housing

---

### **Educational Attainment**

Table 16 compares the educational attainment levels of four other tribes and the Fort McDermitt Tribe. All tribes have their own unique situations and cultures. From Tables 2 and 15, the educational attainment levels of Native American reservations and colonies in the region are generally lower than the state as a whole. The Fort McDermitt Reservation, when compared to the other Native American tribes had the lowest rate of high school graduation or higher for its residents over twenty five years of age. The percent of residents in the Fort McDermitt Reservation with bachelors degree or better levels is also low at 2.6 percent. The Ely Colony has a one hundred percent high school graduation rate for its residents over the age of twenty five however it does not have any college graduates. The Duck Valley Reservation which compares fairly closely to that of the Fort McDermitt Reservation geographically, has a much higher

**Table 16. Educational Attainment of Fort McDermitt Reservation and Four Regional Tribes**

	<b>Fort McDermitt Reservation</b>	<b>Walker River Reservation</b>	<b>Ely Colony</b>	<b>Duck Valley Reservation</b>	<b>Goshute Reservation</b>
Percent high school graduate or higher	43.3	65	100	65.9	46.2
Percent bachelor's degree or higher	2.6	6	0	10.7	0
Percent graduate or professional degree	1.0%	2.5%	0.0%	2.7%	0.0%
Persons 25 years and over	194	400	33	475	13
Less than 9th grade	35	27	0	58	3
9th to 12 <sup>th</sup> grade, no diploma	75	113	0	104	4
High school graduate	56	120	23	130	3
Some college, no degree	18	87	4	93	3
Associates degree	5	29	6	39	0
Bachelor's degree	3	14	0	38	0
Graduate or professional degree	2	10	0	13	0

Source: 1990 Census of Population and Housing

educational attainment level among its residents with 65.9 percent high school graduates or better and over 10 percent with a bachelors degree or better.

Educational attainment levels among residents of the Fort McDermitt Reservation were cited as a major barrier to economic development in the late sixties as well (Christensen 1969). It was hypothesized that without apparent jobs close to the reservation there was no “valid reason for needing an education.” Yet tribal members generally lacked the education needed to work at the nearby Cordero Mine in the late 1960’s which had openings on a monthly basis. In 1969 less than one-fourth of reservation residents over the age of twenty five had completed high school and only seven students had continued beyond high school with none graduating from a four year college. With the closure of the Cordero Mine in 1993 the economic incentive for education may be worse today. There are some important implications in the educational attainment levels among tribal residents and the prospects for economic development.

The large high school drop out rate hinders further development of individuals by creating barriers to higher education. This makes simple technical training such as mechanic school or construction training difficult as well as limiting education and training towards the professions. This limits the people as a tribe as well. If the few successful members move away on a continuing basis and are no longer actively involved with the tribe then the situation only gets that much worse.

### **Language Proficiency**

Closely tied to the education issue is the ability to speak English. Almost 39% of Fort McDermitt Reservation residents reported in the 1990 Census that they do not have command of the English language. Table 17 provides a comparison of this factor between the Fort McDermitt

population and that of the state and county as well as four other Native American populations in the region. Proficiency in the English language is important to communication in economic development endeavors such as gathering market information, selling, buying, analysis, and making business contacts.

Compared to the four other regional tribes, the percentage of Fort McDermitt Reservation residents who do not speak English “very well” is quite large. The Duck Valley Reservation population has the next largest proportion at 6.2 percent. The overall state of Nevada response rate of those do not speak well is 5.6 percent. The Walker River Reservation has only three individuals who report not speaking English very well. However, both Ely Colony and the Goshute Reservation had no one report difficulty in speaking English.

**Table 17. Language spoken at home**

	<b>State of Nevada</b>	<b>Humboldt County</b>	<b>Fort McDermitt</b>	<b>Walker River Reservation</b>	<b>Ely Colony</b>	<b>Duck Valley Reservation</b>	<b>Goshute Reservation</b>
Persons 5 years and over	1,110,450	11,743	355	712	85	812	28
Speak a language other than English	146,152	2,238	252	131	9	274	9
Do not speak English 'very well'	62,168	1,083	137	3	0	50	0
Percent Who Don't Speak English Very Well	5.6%	9.2%	38.6%	0.4%	0.0%	6.2%	0.0%

Source: 1990 Census of Population and Housing

Lack of English proficiency can be overcome by education. However, there may be a trade off in the maintaining of a traditional language such as Paiute versus English. Such cultural values must be decided by the Tribe and individual members.

### **Economic Analysis of Current Situation**

The single most influential factor influencing the McDermitt area economy is geography. Because of the strong influence geography has on most rural economies, rural economic studies often involve comparative studies between smaller geographic areas and the larger regional and national areas of which they are a part. Such a methodology provides a contextual basis for economic analysis. Similarities and differences can provide clues and insight into underlying economic factors influencing the local economy and development potential. While geography is a large determinant of local economic structures, in the McDermitt Tribe situation there are other influential factors as well.

Political boundaries such as state and county lines and city limits are useful for data collection purposes and are often used to approximate the geographic areas being studied. The economic situation of the McDermitt Reservation is examined with respect to the nation, the State of Nevada, and Humboldt County. The U.S Bureau of the Census collects data at each of these levels providing a readily available secondary data source. Generally political boundaries correspond well to the geographic factors which tend to define local economies. The one problem with national standardized data sources as mention above is that while data is available for the Fort McDermitt Reservation proper the other two thirds of the area's population is only available at the county level where it is commingled with that of many other communities including urban Winnemucca.

The degree to which local and regional economies are defined by political boundaries varies. In the Fort McDermitt Indian Reservation case, much of the land mass belonging to the Tribe is located across the state line in Oregon. The population resides entirely within the State of Nevada however, and there are no large metropolitan areas in close proximity across the state line influencing the local economy. State or county level data are sufficient for most analysis. However, geographical factors which cut across political boundaries also must be addressed. For example, the Tribe's agriculture would be more comparable on a regional basis ignoring state lines and considering regional geographic determinants while the politically determined gambling sector of the local economy would not cross the border yet would be influenced by proximity to highways and population centers on a spatial basis. Analysis must incorporate many factors and employ a good measure of common sense.

Cultural contexts are also very important in economic analysis. The Native American situation within the context of reservation life and tribal government is culturally unique. Factors such as tribal politics and social values can be markedly different from those in the surrounding community. Since cultural values and the conditions they foster will determine to a large degree the economic situation of the tribe there may be more relevance for some issues in comparing the McDermitt Reservation with other Indian reservations on a regional or national basis. Data from four other regional tribes is provided for comparison. Insight may be gained by such a comparison however each tribe and its situation is also unique and inferences must be made with caution.

## **Spatial Considerations**

Spatial considerations are very pertinent to the McDermitt Tribe situation especially in light of the tendency of the tribal members to identify their community with a physical place. The McDermitt area is geographically isolated from its closest major trade centers located 75 miles south in Winnemucca and 190 miles north in Boise, Idaho. The unincorporated area of Orovada is situated between the McDermitt area and Winnemucca on highway 95. There is also a small population center located east of the reservation in the Paradise Valley with summer time access via a 30 mile dirt road over the Santa Rosa Mountains. Paradise Valley is closer to Winnemucca in terms of both time and ease of travel plus there would be considerable economic inertia working to keep Winnemucca as that community's trade center due to year around roads between the two areas not to mention the fact that there is a full range of goods and services available in Winnemucca and very little in McDermitt.

The demand created by primary industry such as agriculture, logging, mineral extraction, and tourism empirically attracts secondary industries such as grocery stores and barber shops. There is a limited economic base on the reservation and in the surrounding area. The tribe is also very remote in terms of separation from large population centers and their associated economic activity. The population of the McDermitt area including those living on the reservation is currently about 1,300 persons. With such a small economic "mass," cooperation between the reservation and the community outside tribal boundaries is critical to overall economic success of the tribe and the area. Cooperation between the Tribe and local community can foster a climate favorable for individuals and groups to create economic activity the sum of which comprises the local economy.

## **Location Quotient Analysis**

Location quotients provide a method of comparing a local economy to the larger economy of which it is a part. This methodology is geographic and spatial by design. A location quotient value of one indicates sectoral economic self-sufficiency. If a local sector has a location quotient value of less than one, the local economy is assumed to import goods and services of that sector while a local sector having a location quotient value greater than one is assumed to be exporting sector goods and services. Location quotients tend to reflect economic development opportunities for an economy.

Exports provide economic “injections” of new funds into the local economy. The funds received are re-spent and circulate throughout the local economy providing further increased local economic activity. This is known as the multiplier effect.

Imports of goods and services represent “leakages” to the local economy. A leakage occurs when funds leave the local economy and are no longer available to circulate and generate further economic activity.

Mining is notably an important Nevada industry. Table 18 shows the location quotients for the various economic sectors for the Fort McDermitt Reservation. The location quotient value of 5.1 for the mining sector indicates that the percentage of employment for the McDermitt Tribe devoted to mining is over five times the national rate indicating an export of labor in the mining sector. This indicates the relative importance of the mining sector to the Tribe’s economy. The location quotient could be considered a positive indication for Indian employment in mining yet it is known that Indian involvement in the mining industry has been relatively limited. Also, the location quotient is based on 1990 census data collected prior to the closure of the local Cordero Mine in 1993. Therefore the mining sector’s location quotient probably is not as high as

it was in 1990. Mining employment by local residents now involves long distance commuting. According to local sources, local residents who work in the mineral extraction industry generally live in travel trailers at the distant mine sites and commute to McDermitt on days off. Mining continues to be an important export industry for the Tribe.

One important aspect of mining is that it occurs off the reservation. While this puts it outside of the control of the Tribe it also makes it a potentially large “export” for surplus labor and represents potential injections of funds into the tribal economy in the form of relatively high wages to tribal residents. If more individuals were to be trained in skills required by the mineral industry there could possibly be more mining employment of tribal residents.

The McDermitt Tribe wholesale trade sector has a location quotient of 0.24. Under the assumptions of location quotient analysis this is interpreted to mean that about 24 percent of local wholesale demand are met within the tribal economy. That would mean that approximately 76 percent of wholesale purchases are imports from other areas.

The retail trade location quotient at 0.38 is only slightly more favorable than the Tribe’s wholesale sector value. This indicates that approximately 62 percent of retail purchases are made off the reservation. Given the Tribe’s location and local population, most wholesaling activity may be impractical. Net economic leakages might be reduced to a larger degree however with better retail service within the reservation. Selling cigarettes to tourists for example could be a relatively large export industry. Retail sales of cigarettes, helped by the tax advantages of tribal status, and the tax differential between Nevada and Oregon, could provide an injection of funds into the local economy and counteract the economic effects of a small local wholesale sector. Additional grocery items could be stocked in the smoke shop to further counteract some of the current retail leakages. Anecdotal evidence of past success of the now closed smoke shop, along

**Table 18. McDermitt Tribe Relative to the U.S. as Whole Location Quotient**

Location Quotient	Employed Persons 16 years and Over		
	Location Quotient NV	Location Quotient Humboldt Co.	Location Quotient McDermitt
Agriculture, Forestry, and Fisheries (000-039)	0.57	2.79	1.97
Mining (040-059)	3.30	29.75	5.10
Construction (060-099)	1.26	1.40	0.00
Manufacturing, Non-Durable Goods (100-229)	0.29	0.40	0.00
Manufacturing, Durable Goods (230-399)	3.12	1.02	2.95
Transportation (400-439)	0.85	0.66	0.00
Communications and Other Public Utilities (440-499)	0.88	0.94	0.00
Wholesale Trade (500-579)	0.65	0.47	0.24
Retail Trade (580-699)	0.86	0.88	0.38
Finance, Insurance, and Real Estate (700-720)	0.79	0.33	0.46
Business and Repair Services (721-760)	0.88	0.28	1.10
Personal Services (761-799)	4.24	1.54	0.00
Entertainment and Recreation Services (800-811)	5.90	2.33	3.76
Professional Services: (812-899)			
Health Services (812-840)	0.59	0.41	0.76
Educational Services (842-860)	0.56	0.72	1.40
Other Professional and Related Services (841, 861-899)	0.72	0.33	2.88
Public Administration (900-939)	0.89	1.22	4.22

Source: 1990 Census of Population and Housing  
 Numbers in parenthesis are standard industrial classification codes

with the location quotient indicators suggests examining the potential of re-opening and expanding the local smoke shop.

For the agriculture sector the location quotient of 1.97 shows this sector to be an important export sector to the Tribe. The countywide location quotient of 2.79 for agriculture might indicate that there maybe some expanded export potential in this sector for the tribal economy. An examination of the natural endowments of the tribe in regards to agricultural production and current technology used in the operation of tribal farms will provide further insight into possible improvements.

The location quotient of 2.95 for the Durable Goods Manufacturing Sector indicates the relative strength of that local sector. The county location quotient for manufacture of durable goods is only a little more than one. This indicates it is a strong economic sector for the Tribe and could signal an absolute or comparative advantage and potential for economic development. An entrepreneurial look at the products currently manufactured and the potential for market expansion needs to be done on the part of the tribe.

Some synthesis of the various location quotient analysis along with observation provides a more dynamic picture. Opening the smoke shop would provide an additional outlet at the retail level for Indian souvenirs, jewelry, and artworks as well as capturing wholesale margins within the Tribe's economy. These economies might be small in absolute terms but could be significant in relation to the small economic base.

There are other economic and social factors which can be investigated using location quotient analysis. The education sector presents one example of these. The location quotient of 1.47 indicates that educational services are being exported. This figure must be carefully interpreted however. An export of education services would mean that outside students are

coming to reservation schools or that reservation residents are exporting their services by working in outside schools. The integral nature of the community of McDermitt and the reservation in this case make the analysis less clear. Area residents indicated that many children of the farm laborers in the Orovada area are schooled in the McDermitt public school system. This would represent an “export” of education to the surrounding area.

Demand for government services in terms of who actually pays for them is often decoupled from demand in terms of consumption. The location quotient analysis is based on sector employment. There is nothing inherent in it which identifies who actually pays for goods and services. State and federal government support of local education represents an injection of funds into the tribal economy. This same phenomena might be true of other professional services financed by the federal government. A location quotient of 2.88 for the “Other Professional Services” sector and 4.22 for the “Public Administration” sector might be explained by such factors. In this case the location quotients reflect labor devoted to a sector’s productive activity which are purchased by external governments.

## **Selected Feasibility Analysis of Alternatives for the Fort McDermitt Reservation**

In conversations with tribal officials and members of the Fort McDermitt Reservation and officials of the Economic Development Administration, two selected feasibility analyses were completed. The first study investigates potential range improvement investments on the Hog John Ranch and the second investigates the feasibility of a truck stop on the Fort McDermitt Reservation.

### **Analysis of Hog John Ranch Investments**

The Hog John Ranch was given to the Fort McDermitt Reservation in 1939. From 1939 until the 1960's the Hog John Ranch was a hay ranch that had water rights from the Quinn and King Rivers. Some diversion was used in ditches to get water dispersed to adjacent fields for grass hay production. Because the Hog John Ranch is located 54 miles from the main reservation, the Hog John Ranch is leased. Later, the water rights of this ranch were transferred or sold to ranches in the upper valleys of the rivers. Currently, the property is leased and only irrigated with flood waters during the spring of wet years.

The first option addressed in this study was investment in drilling additional irrigation wells and investing in new irrigation equipment. The State of Nevada Engineer's Office was contacted about possible irrigation well and equipment investment on the Hog John Ranch. Unfortunately the two drainage basins of the Quinn and King Rivers are closed basis which means no new irrigation wells can be drilled. Thus, if any irrigation is to be done on the Hog John Ranch, it must come from purchase of existing water rights transferred to the Hog John Ranch Property. The second hindrance to this option is the lack of electrical power to any well site.

Harney Electrical Cooperative which supplies electric power to this area indicated that they would charge \$18,000 per mile to run an electric line to the irrigation site from their closest existing power line. Given these two obstacles no further consideration was given to this option.

The second option addressed because of insufficient available water for the Hog John Ranch was a range improvement program. One procedure would be to chemically kill or chain off existing forage and then reseeding with desirable species of forage which could be Russian Wild Rye. However, a major disadvantage of this range improvement is if spring run off does not occur the improvement is lost and the indigenous forage returns. As seen from Table 19 this range improvement is very expensive. Chaining operations run \$30 to \$40 per acre and the seed price is \$5.00 per pound at an application rate of 10 pounds per acre. Currently, in the fenced area of the Hog John Ranch cattle are kept in approximately 1,000 acres. Therefore range improvements would cost \$90,000.

---

**Table 19. Complete Forage Renovation of Fenced Area of Hog John Ranch**

---

<b>Size</b>	<b>Application</b>	<b>Cost/Acre</b>	<b>Amount</b>
1,000 acres	Clearing	\$40	\$40,000
1,000 acres	Seeding	\$50	\$50,000
TOTAL			\$90,000

- Reseeding is suggested in areas that had some irrigation water a year before. Cost of this option would require ten seasons to payoff, assuming double production. Range specialists are skeptical of this range improvement investment.
- 

Table 20 shows the estimated additional revenue from this range improvement investment. At \$8,00 per Animal Unit Month (AUM's) under the current lease in force on the Hog John Ranch and with an assumed 100 percent increase with AUM production, the annual revenues would be approximately \$8,000.

---

**Table 20. Estimated Revenues from Complete Renovation of Fenced Area of Hog John Ranch**

---

<b>Size</b>	<b>Expected Per Unit Price</b>	<b>Amount</b>
1,000 AUM's	\$8.00/AUM	\$8,000
TOTAL		\$8,000

---

With current Production Credit Association (PCA) loans at 9.45 percent interest for a seven year range improvement loans, the annual loan payment for this range improvement would be \$18,153.04 annually (Table 21). Given annual revenues of approximately \$8,000 which assumes a 100 percent increase in AUM's production from this investment, this option may not be feasible.

**Table 21. Loan Amortization Schedule for Investment on Complete Renovation of Fenced Area of Hog John Ranch.**

<b>Payment Number</b>	<b>Payment Amount</b>	<b>Principal</b>	<b>Interest</b>	<b>Principal Balance</b>
Opening				\$90,000
1	\$18,153.04	\$9,648.04	\$8,505.00	80,351.96
2	18,153.04	10,559.78	7,593.26	58,234.50
3	18,153.04	11,557.68	6,595.36	58,234.50
4	18,153.04	12,649.88	5,503.16	45,584.62
5	18,153.04	13,845.29	4,307.75	31,739.33
6	18,153.04	15,153.67	2,999.37	16,585.66
7	18,153.04	16,585.66	1,567.34	0.00
<b>TOTAL</b>	<b>127,071.24</b>	<b>90,000</b>	<b>37,071.24</b>	<b>0.00</b>

- Current Production Credit Association interest rate is 9.45 percent for seven year range improvement loan.

The third option is to interseed the pastures with more desirable plant species for grazing. This requires killing plant populations in strips and then reseeding with desirable species which then can expand into non-treated areas. The same problem of wet and dry years leads to very poor establishment rates because the plants are either killed during droughts or are drowned in standing water. Those species which can tolerate wet conditions cannot withstand drought and vice versa. The cost of this option is approximately half of the precious range improvement.

---

**Table 22. Interseeding Range Improvement for the Hog John Ranch**

---

<b>Size</b>	<b>Application</b>	<b>Cost/Acre</b>	<b>Amount</b>
500 acres	clearing	\$40	\$20,000
500 acres	seeding	\$40-50	\$25,000
			\$45,000

- Interseeding is a forage practice commonly used on western ranges, but was not suggested by any range specialist because it failed earlier test plots on the Hog John Ranch.
- 

However, with this range improvement investment there may be no improvement in marketable forage which means no increase in AUM production. Also range specialists are skeptical of this range improvement because test plots on the Hog John Ranch have fulfilled under previous experiments (Vallentine 1989). Therefore this range improvement option is considered potentially infeasible.

The fourth range improvement option is the aerial spraying of sage and greasewood to allow covergrass to grow and spread. For this range improvement option, 2-4D could be used to kill plants. The Bureau of Land Management range conservationist indicated that no problem with chemical control and the Hog John Ranch is not a high priority riparian area due to drought conditions. Also the aerial spraying would be on ground away from the river and ditches. Some increase in forage could be expected but this would depend on precipitation in subsequent

seasons. It is the belief of the range staff of the Bureau of Indian Affairs and the Farm Service Agency that forage production and utilization on the ranch under the existing water and climatic conditions may be near optimum and that maintaining this production level may be the option of choice.

---

**Table 23. Aerial Spraying Cost of All Plant Population of the Fenced Hog John Ranch**

---

<b>Size</b>	<b>Application</b>	<b>Cost/Acre</b>	<b>Amount</b>
1,000 acres	spraying	\$12	\$12,000
<b>TOTAL</b>			<b>\$12,000</b>

---

Table 24 shows the estimated additional revenues from this range improvement investment. At \$8.00 per AUM under the current lease in force at the Hog John ranch and with an increase of 200 AUM's the annual increased revenue form this range improvement investment would be \$1,600.

---

**Table 24. Estimated Revenue Increase from Weed Spraying Range Improvement Investment.**

---

<b>Item</b>	<b>Number</b>	<b>Price/Unit</b>	<b>Revenue</b>
Added AUM's	200	\$8.00	\$1,600
<b>TOTAL</b>			<b>\$1,600</b>

---

With current Production Credit Association (PCA) loan at 9.45 percent interest rate for a seven year range improvement loan, the annual loan payment would be \$2,420.04 annually (Table 25). Given annual revenue increase of approximately \$1,200 which assumes a 200 AUM increase from this investment, this option may be questionable. Also given the probability of drought years, the potential to maintain this level of production is questionable.

**Table 25. Loan Amortization Schedule for Investment of Aerial Spraying of All Plants of the Fenced Area of the Hog John Ranch.**

<b>Payment Number</b>	<b>Payment Amount</b>	<b>Principal</b>	<b>Interest</b>	<b>Principal Balance</b>
Opening				\$12,000.00
1	\$2,420.40	\$1,286.40	\$1,134.00	\$10,713.60
2	2,420.40	1,407.96	1,012.44	9,305.64
3	2,420.40	1,541.02	879.38	7,764.62
4	2,420.40	1,686.64	733.76	6,077.98
5	2,420.40	1,846.03	574.37	4,231.95
6	2,420.40	2,020.48	399.92	2,211.47
7	2,420.40	2,211.47	208.98	0.00
<b>TOTAL</b>	<b>\$16,442.88</b>	<b>\$12,000.00</b>	<b>\$4,942.85</b>	<b>0.00</b>

- Current Production Credit Association interest rate is 9.45 percent for seven year range improvement plan

The fifth range improvement option is to spot spray with a ground sprayer areas that have grown to weeds such as white top. This range improvement investment is hard to estimate because an estimate of the number of acres requiring treatment is unknown. If it is assumed that 300 acres are required for spraying and the spray cost is \$22 per acre, then total cost would amount to \$6,600 (Table 26). Because this range improvement is maintenance rather than enhancing production, this improvement is foregoing future income for a more constant income stream at near established levels. Increased AUM's are expected to be low under this range improvement option. The lessee may want to increase stocking rates; however, such a decision might be more a function of ephemeral grazing than enhanced forage production.

---

**Table 26. Costs for Weed Control Spraying**

---

<b>Size</b>	<b>Application</b>	<b>Cost/Acre</b>	<b>Amount</b>
300 acres	spraying	\$22	\$6,600

---

- This option was suggested by Charles O'Rourke of the Bureau of Indian Affairs in Carson city.

This strategy was primarily spraying application to maintain production levels with some production increases possible. Spraying the entire acreage of the Hog John Ranch would not be too beneficial unless these were perimeter.

---

Table 27 shows the estimated added revenues from this range investment at \$8.00 per AUM under the current lease. With an estimated 150 AUM increase, the annual increase in revenues from this range improvement investment would be \$1,200.

---

**Table 27. Estimated Revenue Increase from Weed Control Spraying**

---

<b>Item</b>	<b>Number</b>	<b>Price/Unit</b>	<b>Revenue</b>
Added AUM's	150	\$8.00	\$1,200
TOTAL			\$1,200

---

With current Production Credit Association (PCA) loans at 9.45 percent interest for a seven year range improvement loan, the annual loan payment for this range improvement would be \$1,331.22. (Table 28). Given an annual revenue increase of approximately \$12,00 which

assumes a 150 AUM increase from this investment, this option may be questionable. Also, given the probability of drought years, the potential to maintain this level of production is questionable.

**Table 28. Loan Amortization Schedule for Investment for Weed Control Spraying of the Fenced Area of Hog John Ranch.**

<b>Payment Number</b>	<b>Payment Amount</b>	<b>Principal</b>	<b>Interest</b>	<b>Principal Balance</b>
Opening				\$6,600.00
1	\$1,331.22	\$707.52	\$623.70	5,892.46
2	1,331.22	774.38	556.84	5,118.10
3	1,331.22	847.56	483.66	4,270.54
4	1,331.22	927.65	403.57	3,342.89
5	1,331.22	1,015.32	315.90	2,327.57
6	1,331.22	1,111.26	219.96	1,216.31
7	1,331.22	1,216.31	114.94	0.00
<b>TOTAL</b>	<b>9,318.57</b>	<b>6,600.00</b>	<b>2,718.57</b>	<b>0.00</b>

For all the Hog John Ranch investments, the probability of drought must be considered in any of these range improvements scenarios. Also, this study did not address the potential for a land swap of the Hog John Ranch with properties along Interstate Highway 80. However, one must keep in mind that the water rights of the Hog John Ranch that were sold or transferred will impact any land exchange.

**Analysis of Potential Truck Stop**

The tribal members of the Fort McDermitt Reservation requested an analysis for the establishment of a truck stop-convenience store on the reservation adjacent to U.S. Highway 95. The location of the truck stop would be on the east side of Highway 95, three miles south of McDermitt on the Oregon-Nevada border.

The site is quite flat and has a slight slope to the northwest towards the Quinn River. Soil is apparently a mixture of clay and sandy strips with quite a deep subsoil of sand. Soil excavation and leveling for parking and building should not be extensive. Two entrances and exits to the highway and possible placement of two culverts as the highway has a ditch along the right-of-way will be needed. Table 29 shows cost of ground preparation.

---

**Table 29. Ground Preparation Costs for the Fort McDermitt Truck Stop**

---

<b>Item</b>	<b>Units</b>	<b>Costs/Unit</b>	<b>Amount</b>
Leveling	2 acres	\$900.00/acre	\$1,800
Digging	420 yard	\$23.82/yard	\$10,005
Tile Cover	6 hours	\$12.00/hour	\$72
Two Culverts	12 X 30 X 2 (60 ft)	\$12.00/ft	\$720
Driveways	0.25 miles	\$25.00/ft	\$33,000
Concrete	2,699 cubic yards	\$26.00/cubic yard	\$70,174
Black top	6,072 cubic yards	\$9.00/cubic yard	\$54,648
<b>TOTAL</b>			<b>\$170,419</b>

---

The main building for station-store complex was assumed to be 3,800 square feet. This space would accommodate adequate store space and sufficient restroom facilities. Space could also be used for cooling units for food and drink and in addition might handle a walk-in unit. Cashier counter and secured area would handle both fuel and store sales. Open area and flexible merchandising arrangement could also be used. Construction could be metal or block or a combination with a concrete slab floor and foundation. Walls would be painted and material was assumed to be wallboard (Table 30).

---

**Table 30. Equipment Costs for the Fort McDermitt Truck Stop**

<b>Item</b>	<b>Units</b>	<b>Cost/Unit</b>	<b>Amount</b>
Refrigerators	3	\$5,000	\$15,000
Coffee Maker	2	\$4,400	\$8,800
Checkout	1	\$13,200	\$13,200
Microwave	1	\$400	\$400
Lighting	10	\$125	\$1,250
Shelving	6	\$750	\$4,500
Water Heater	1	710	710
Water Cooler	1	670	610
Air Compressor	1	4,660	4,660
Pipe	420 ft	7.8	\$3,276
<b>Total</b>			<b>\$52,406</b>

A small second building is listed for a water pump as this may need to be located away from the main building. It is assumed this building will not be heated and because winter temperatures are very cold an insulated pump cover is also considered (Table 31).

**Table 31. Building Costs for the Fort McDermitt Truck Stop**

<b>Item</b>	<b>Units</b>	<b>Cost/Unit</b>	<b>Amount</b>
Store Station	3,800 sq. ft.	\$70.55	\$268,090
Wall	38,608 sq. ft.	\$1.27	\$38,608
Well House	1 (100 sq. ft.)	\$1,500	\$1,500
Pump Cover	1	\$500	\$500

The refueling station is designed with four diesel pumps and two drive ways so two trucks could fill both tanks while facing the same direction. Two gasoline pumps would be separated to handle two vehicles and not interfere with truck refueling. Three above ground fuel tanks will be used. One 5,000 gallon tank for gasoline and two 10,000 gallon tanks for diesel.

---

**Table 32. Pump Costs for the Fort McDermitt Truck Stop.**

---

<b>Item</b>	<b>Units</b>	<b>Costs</b>	<b>Amount</b>
Diesel Pumps	4	\$4,640	\$18,560
Gas Pumps	2	\$4,000	\$8,000
Gasoline Tanks	1	\$5,775	\$5,775
Diesel Tanks	2	\$11,250	\$22,500
<b>TOTAL</b>			<b>\$54,835</b>

---

Total building and equipment costs were derived by adding the total values from Tables 29 to 32. The total building and equipment costs were estimated to be \$586,358.

Table 33 shows estimated operation costs for the Fort McDermitt truck stop. This list is not intended to be exhaustive but serves to cover all major costs. Under management there is one overall manager who is assumed to oversee the day shift and two other managers to oversee the two other working shifts of the truck stop. Labor covers two cashiers and two employees each shift to attend to convenience stores and fuel pumping duties. Electric utilities will be used for heating and cooling. The advertising cost can vary by management and the manager's ability to make advertising expenditures. Promotional costs for initial opening of the truck stop would be helpful, but were not included in the operation cost estimates. Total operating costs are estimated to be \$320,217.

---

**Table 33. Operating Cost Estimates for the Fort McDermitt Truck Stop**

---

<b>Items</b>	<b>Units</b>	<b>Cost/Unit</b>	<b>Amount</b>
Labor	6	\$20,000	\$120,000
Shift Manager	2	\$25,000	\$50,000
Overall Manager	1	\$30,000	\$30,000
Utilities	8,800 kilowatt	0.85 X 12	\$8,976
Telephone	60	\$12	\$720
Health Insurance	450	\$54	\$24,300
Shipping	100	25	\$2,500
Packaging	2000	0.04	\$80
Life Insurance	9	3,300	\$29,700
Advertising	6 pages	50	\$300
SIIS	9	\$200	\$1,800
Sub-total			\$268,376
Fixed:			
Repair and Maintenance			\$2,000
Interest			\$49,841
TOTAL			\$320,217

---

Total operating costs are estimated to be \$320,217. If interest charges are not allowed, the total operating costs would be \$270,376. Also, it should be noted that inventory costs are not considered in these operating costs.

---

**Table 34. Estimated Revenues for the Fort McDermitt Reservation Truck Stop**

---

<b>Item</b>	<b>Unit</b>	<b>Revenue/Item</b>	<b>Sales Amount</b>	<b>Amount</b>
Diesel	Gallons	0.06	3,839,350	\$230,361
Gasoline	Gallons	0.08	57,500	\$4,600
Oil	Quarts	1.25	800	1,000
Cigarettes	Cartons	3.73	11,970	44,648
Food	Unit	0.15	25,000	3,750
Drinks	Bottles	0.40	22,812.5	9,125
Art Object	Units	0.20	15,000.00	3,000
TOTAL				\$296,484

---

Table 34 shows the annual revenue estimated for the Fort McDermitt Reservation Truck Stop. Prices and margins were derived from industry sources. From traffic count data from the Nevada Department of Transportation from 1986 to 1996, the average traffic count per day is 1,550 in the McDermitt area.

In order to sell the estimated diesel, the Fort McDermitt truck stop would require 33 trucks stopping daily and purchasing 250 gallons per day. The truck stop manager may need to make arrangements with trucking companies to obtain this volume. It was assumed that one-third of the traffic count would be trucks and that the Fort McDermitt Reservation truck stop would capture two-thirds of these trucks. The margin for diesel fuel is \$0.06 per gallon which yields the diesel revenue value.

Currently there are three gasoline stations in McDermitt and no diesel truck stop. It is assumed that given this competition, gasoline and oil sales will be local primarily to the Fort McDermitt Reservation residents. This estimate may be conservative.

Given the past history of success of cigarette sales by the reservation and using cigarettes as a complementary product with diesel and gasoline sales, it was estimated that 11,970 cartons will be sold. Cigarette sales will be split between locals and transient and between generic and brand name cigarettes. Cigarettes have a blend price with \$17.00 for brand name cigarettes and \$12.00 for generic cigarettes. Information from Steve Moran (1997) suggested that 10 percent of the population will smoke. The margin per carton was assumed to be \$1.73 per carton with a \$2.00 per carton shelf contract with the cigarette manufacturers derives a cigarette carton price of \$3.73 per carton.

If the fixed costs of the truck stop is financed as a 30 year loan at an interest rate of 8.12 percent, the annual interest charges will be \$51,841 (Appendix A). The feasibility of the truck stop will be risky. However, annual operating cost net of interest charges is \$270,376 which would indicate feasibility.

Instead of a truck stop the tribe might also investigate a smoke shop by itself. This alternative will be less costly in construction costs and could also sell some retail and art items. As stated earlier, the smoke shop was operating successfully before closure. Therefore, the tribe should investigate what caused the closure of the smoke shop in order to not repeat problems of the past.

An item which was not covered was the potential construction of a left turn lane. The Nevada Department of Transportation indicated that a project such as a truck stop may need a left turn lane so trucks can slow down and turn safely. If such a turn lane is required, the cost of this

turn lane would have to be incorporated into the cost structures. Budgeting for landscape of the truck stop was not budgeted and nothing was budgeted for snow removal over the approached and parking area during the winter. Snow fencing on both sides of the road and highway would reduce some snow removal needs. Also the tribe could seek cooperation from the Nevada Department of Transportation on keeping snow drifts from the site proper.

This analysis was intended to be an initial study of potential feasibility of a truck stop convenience store on the Fort McDermitt Reservation. However, management of this operation would have to be exceptional. Overseeing efficient use of labor and facilities is critical.

## **CONCLUSION**

This study investigated the socio-economic data of the Fort McDermitt Reservation in relation to the state of Nevada, Humboldt County, and other Native American reservations in northern Nevada. The study also conducted preliminary feasibility analysis of two potential investments for the Fort McDermitt Tribe. One investment was analysis of five alternative range improvement investments on the Hog John Ranch. It was found that the tribe had either transferred or sold the water rights to the Hog John Ranch to upper valleys of the Quinn and King Rivers. Also the State of Nevada Engineer's Office has declared the basins of the Quinn and King Rivers as closed. This means that no additional irrigation drilling can be initiated in this basin. Therefore all range improvement investments were found to be very risky for investment. The second investment strategy was for a truck-stop convenience store on the reservation. This investment may be feasible but would require intensive management supervision.

**APPENDIX A:**

**Loan Amortization of Truck Stop Fixed Costs**

**Table 1-A. Loan Amortization of Fixed Costs for Truck Stop**

<b>Payment Number</b>	<b>Payment Amount</b>	<b>Principal</b>	<b>Interest</b>	<b>Principal Balance</b>
Opening Balance				586,358.00
1	54,560.95	4,720.52	49,840.43	581,637.48
2	54,560.95	5,121.76	49,439.19	576,515.72
3	54,560.95	5,557.11	49,003.84	570,958.61
4	54,560.95	6,029.47	48,531.48	564,929.14
5	54,560.95	6,541.97	48,018.98	558,387.17
6	54,560.95	7,098.04	47,462.91	551,289.13
7	54,560.95	7,701.37	46,859.58	543,587.76
8	54,560.95	8,355.99	46,204.96	535,231.77
9	54,560.95	9,066.25	45,494.70	526,165.52
10	54,560.95	9,836.88	44,724.07	516,328.64
11	54,560.95	10,673.02	43,887.93	505,655.62
12	54,560.95	11,580.22	42,980.73	494,075.40
13	54,560.95	12,564.54	41,996.41	481,510.86
14	54,560.95	13,632.53	40,928.42	467,878.33
15	54,560.95	14,791.29	39,769.66	453,087.04
16	54,560.95	16,048.55	38,512.40	437,038.49
17	54,560.95	17,412.68	37,148.27	419,625.81
18	54,560.95	18,892.76	35,668.19	400,733.05
19	54,560.95	20,498.64	34,062.31	380,234.41
20	54,560.95	22,241.03	32,319.92	357,993.38
21	54,560.95	24,131.51	30,429.44	333,861.87
22	54,560.95	26,182.69	28,378.26	307,679.18
23	54,560.95	28,408.22	26,152.73	279,270.96
24	54,560.95	30,822.92	23,738.03	248,448.04
25	54,560.95	33,442.87	21,118.08	215,005.17
26	54,560.95	36,285.51	18,275.44	178,719.66
27	54,560.95	39,369.78	15,191.17	139,349.88
28	54,560.95	42,716.21	11,844.74	96,633.67
29	54,560.95	46,347.09	8,213.86	50,286.58
30	54,560.94	50,286.58	4,274.36	0.00
<b>Grand Total</b>	<b>1,636,828.49</b>	<b>586,358.00</b>	<b>1,050,470.49</b>	<b>0.00</b>

- Business loan for 30 years at 8.5 percent interest rate

APPENDIX B

MCDERMITT CITIZENS SURVEY RESULTS

## REFERENCES

- Barr, Dallas. "Personal Conversation." Tribal Administrator, Fort McDermitt Reservation, 1997.
- Christensen, Claire. and E. J. Neiderfrank. (1971) U.S. Department of Agriculture Extension Service. (1971) Economic and Human Development on the Fort McDermitt Indian Reservation of Nevada.
- Christensen, Claire. (1969). Fort McDermitt Indian Reservation Economic Development Plan. Cooperative Extension Service, Max C. Fleischmann College of Agriculture, University of Nevada Reno. Reno Nevada. June 1, 1969
- Christensen, Claire. 1971. Fort McDermitt Economic Development Administration Application Form ED 101. Cooperative Extension Service, Max C. Fleischmann College of Agriculture, University of Nevada Reno. Reno Nevada. April 12, 1971.
- Davis, Richard. "Personal Conversation." Water Engineer, State of Nevada Engineer's Office, Carson City Nevada, 1997.
- Hopper, Robert. "Personal Interview." U.S. Department of Interior, Bureau of Land Management, Range Conservationist, Winnemucca District, 1997.
- Jackson, Linda. "Personal Interview." U.S. Department of Interior, Bureau of Land Management, Range Conservationist, Winnemucca District, 1997.
- Judson, Dean H. Ph.D. and Baynard Webb, M. S. 1997. Nevada Population Projections and Forecasts 1997-2017 and Review of Methods. Nevada State Demographer's Office. University of Nevada, Reno. July, 1997.
- McDermitt Homemakers and Citizens. 1996. McDermitt Homemakers and Citizens club report to the Humboldt County Hospital Board of directors.
- Nevada Commission on Economic Development, Research Division. 1995. Humboldt County. (A county fact sheet) Nevada Commission on Economic Development. Carson City Nevada 1995.
- O'Rourke, Charles. "Personal Conversation." Bureau of Indian Affairs, Range Specialist, Carson City Nevada, 1997.
- Plummer, Craig. "Personal Conversation." United States Department of Agriculture, Farm Service Agency, Winnemucca, Nevada, 1997.
- Robert Snow Means Company. Means Square Foot Costs: Residential, Commercial, Industrial, and Institutional. Kingston, Mass.: R. S. Means Company, 1990.

Tiller, Veronica E. ed. 1996. American Indian Reservation and Trust Areas Economic Development Administration U.S. Department of Commerce. Tiller Research, Inc. Albuquerque New Mexico 1996.

United States Bureau of the Census. 1994. ZIP Code Business Patterns 1994 U.S. Department of Commerce. Administrative and Customer Services Division. Washington DC.

United States Bureau of the Census. 1990. 1990 Summary Tape File 3A U.S. Department of Commerce. Administrative and Customer Services Division. Washington DC.

United States Bureau of the Census. 1990. 1990 Summary Tape File 3B U.S. Department of Commerce. Administrative and Customer Services Division. Washington DC.

Valentine, John. Range Development and Improvements. Academic Press: San Diego, California, Third Edition, 1989.