

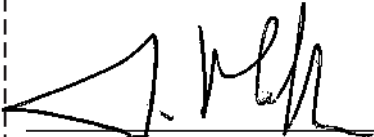
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## WEST KITIKMEOT / SLAVE STUDY SOCIETY

**Re: Community Based Monitoring 1998 (Cycle Two, Three & Four)**

### STUDY DIRECTOR RELEASE FORM

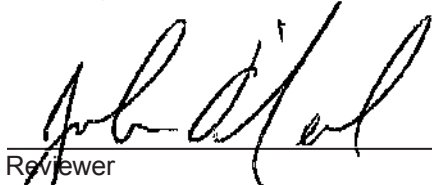
This Annual Report is the result of a project conducted under the West Kitikmeot/Slave Study. I have reviewed the report and advise that it has fulfilled the requirements to this stage of the approved proposal and can be subjected to independent expert review and be considered for release to the public.

  
Study Director

May 4/00  
Date

### INDEPENDENT EXPERT REVIEW FORM

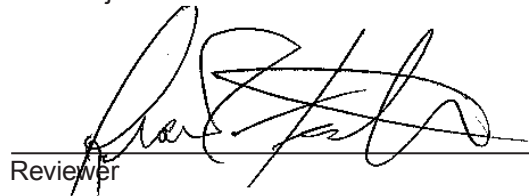
I have reviewed this annual report for scientific content and scientific practices and find the report is acceptable given the preliminary stage of the project, its specific purposes, and subject to the field conditions encountered.

  
Reviewer

June 21/00  
Date

### INDEPENDENT EXPERT REVIEW FORM

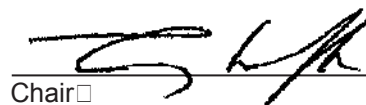
I have reviewed this annual report for scientific content and scientific practices and find the report is acceptable given the preliminary stage of the project, its specific purposes, and subject to the field conditions encountered.

  
Reviewer

June 22/00  
Date

### BOARD RELEASE FORM

The Study Board is satisfied that this Annual Report has been reviewed for scientific content and approves this Annual Report to be released to the public.

  
Chair  
West Kitikmeot/Slave Study Society

July 18/00  
Date

**Annual Report**  
**Community-Based Monitoring 1998**  
**Cycles Two, Three and Four**

**May 1999**



**Submitted to:**  
**The West Kitikmeot Slave Study Society**

**Submitted by:**  
**Lutsel K'e Dene First Nation**

**Prepared by:**  
**Brenda Parlee and Evelyn Marlowe**



**Figure 1:     Aerial Photo of Lutsel K'e, Northwest Territories**

## Summary

In 1996, the *Community-Based Monitoring Pilot Project (1996)* took place in Lutsel K'e, Northwest Territories. Similar to other northern communities in the Slave Geological Province, Lutsel K'e is currently faced with unprecedented mineral resource development. The goal of the *Community-Based Monitoring Pilot Project (1996)* was to design a tool that would increase the capacity of Lutsel K'e and other northern communities to address both the positive and negative effects (achieve benefits and mitigate negative effects) of such development.


The project was organized according to three phases. Phase one involved gathering ideas and Chipewyan terminology for concepts like monitoring, indicators and community health. During phase two, themes and indicators of community health were developed through open-ended home-visits with one hundred households in the community. In phase three, a four-step process of monitoring was designed.

Once this model for *Community-Based Monitoring* was developed, the Lutsel K'e Wildlife, Lands and Environment Committee recommended that a baseline of traditional knowledge about the Dene way of life (Dene ch'anie) be gathered. A proposal was submitted to the West Kitikmeot Slave Study Society for the *Traditional Knowledge Study on Community Health*, a study that began in March of 1997. During that project, elders told stories about the Dene way of life as it was in the past. These stories reflect many of the indicators developed during the pilot project.


Following the *Traditional Knowledge Study on Community Health (1997)*, the model for *Community-Based Monitoring* was implemented according to the process of monitoring designed during the pilot project. The four step process follows a four month time line and includes:


- 1) Information Gathering
- 2) Summarizing of Information
- 3) Evaluation
- 4) Reporting

Cycle One took place during September-December 1997 and the results are included in the *Community-Based Monitoring Annual Report (1998)*. This report presents the results of Cycles Two-Four the results of which are summarized in Figure 2. A summary of the results of Cycle One are also included in Figure 2 and in the conclusions of this report for the purposes of comparison.


Indicator	Results from Cycle One-Four	Evaluation of Impacts
<p><b>Employment</b></p> 	<p><b>1997 Cycle One</b> Twenty-two (22) people from Lutsel K'e were reported as employed in the mining sector in August 1997.</p>	<p><b>1998 Cycle Two</b> Three (3) people from Lutsel K'e were reported as employed in the mining sector in January of 1998.</p> <p>A comparison of the results of Cycle One and Cycle Two reflects the seasonal and short-term nature of employment opportunities for community members in the mining sector. Whereas 22 community members were employed in August 1997, only 3 people remained employed six months later. Responses to Question #5 of the survey done with mining sector employees in Cycle One (1997) may also provide clues as to the rapid flux in employment levels during the two study periods. Those responses included, low wages and no over-time, little room for advancement, no native food, and concern about environmental hazards. The Local Employment officer suggests that there are other institutional obstacles facing Lutsel K'e Dene Band members pursuing jobs in the mining sector. They include:</p> <ul style="list-style-type: none"> <li>• lack of job readiness</li> <li>• inadequate training and development programs</li> <li>• drug and alcohol problems</li> <li>• lack of local resource people able to assist in business development</li> <li>• limited capacity for investment in business development</li> <li>• lack of infrastructure to support business development</li> </ul> <p>One way to begin addressing these problems according to the Employment Officer is a "Comprehensive Training Strategy" that would include five stages:</p> <ul style="list-style-type: none"> <li>• Life Skills and Job Readiness</li> <li>• Adult Upgrading</li> <li>• Pre-Employment Training</li> <li>• On-the-Job Training</li> <li>• Career Development</li> </ul>





<i>Traditional Food Consumption</i>				
	<b>1997</b>	<b>1998</b>	<p>In 1997-98, the most commonly consumed traditional food in Lutsel K'e was caribou meat, eaten five times a week on average. The level of consumption for other kinds of traditional food naturally varied according to the season and the kind of wild game available. Ducks are one example of a food consumed in late summer but not in winter. During August-September, people eat slightly more fish than during December-January. Moose and muskrat are also more commonly consumed in late summer.</p> <p>The results do not suggest that elders and adults eat more traditional food than youth. In one case, the opposite appears to be true. Youth, aged 10-19, reportedly eat more caribou meat and organs than do elders (61+). The community researchers explained this difference in consumption by the fact that caribou meat may be the most available and cheapest source of protein available to parents feeding their young families. The Community Health Worker added that youth might eat more caribou meat/organs because they are better able to chew the meat than are elders.</p> <p>The level of traditional food consumption may be positively or negatively affected by increased mineral development. A baseline for late summer and winter consumption levels in Lutsel K'e has now been established. Decreases in levels between 1997 and 1998 are assumed to be seasonal. Further monitoring of this indicator in the late summer of 1999 will reveal whether there has been any <i>real</i> change in traditional food consumption over a two year period.</p>	
	<b><i>Cycle One</i></b>	<b><i>Cycle Two</i></b>		
	Community Members interviewed in 1997 eat traditional food between 11.6 and 15.30 times per week.	Community Members interviewed in 1998 said they eat traditional food between 7.55 and 9.2 times per week.		
	<u>Age</u>	<u>Age</u>		
	<u>Total per Week</u>	<u>Total per Week</u>		
	61+ 11.6	61+ 9.2		
	41-60 13.09	41-60 7.4		
	20-40 15.54	20-40 8.2		
	10-19 15.30	10-19 7.55		


<i>Youth Goals for Education / Employment</i>			
	<b>1997 Cycle One</b>  <b>92% of youth</b> are interested in careers visible in the community.  <b>46% of youth</b> are knowledgeable about specific training required to meet their goals.  <b>0% of youth</b> interested in mining sector related employment.	<b>1998 Cycle Two</b>  <b>69% of youth</b> are interested in careers visible in the community.  <b>85% of youth</b> knowledgeable about specific training required to meet their goals.  <b>0% of youth</b> interested in mining sector related employment.	<p>The education of youth is an important aspect of their participating effectively in the community. In the past that education came largely through the family and focused on the skills and knowledge required for surviving on the land. Today the emphasis lies in youth gaining skills and knowledge needed to secure employment in the community.</p> <p>During Cycle Two, students in Grades 4-6 were given the same questionnaire. The responses were similar to those given in Cycle One. With the exception of lawyers, all the careers, children were interested in were those visible in the community. None of the youth surveyed during Cycle One or Two identified education, jobs or career opportunities in the mining sector as a goal. If awareness and understanding among youth of the education and employment opportunities is a factor in youth pursuing those opportunities, it is likely that most youth will pursue training and employment in the professions that they identified, the majority of which are in the community. (teachers, nurses, and RCMP).</p> <p>If it is the goal of Lutsel K'e Dene First Nation to encourage youth to take advantage of employment and careers in the community supporting them in meeting their current goals for education and employment would be valuable. If it is the goal of Lutsel K'e Dene First Nation to take greater advantage of job opportunities in the mining sector, further work to encourage and educate youth about the opportunities that exist for them in that sector would be beneficial. Neither of these goals are mutually exclusive, however, the former goal may be interpreted as better serving the community's interest in self-government.</p>




<i>Healing</i>			
	<p><b>1997</b> <i>Cycle One</i></p> <p>45% of those community members interviewed said the <b>Drug and Alcohol Worker</b> is the greatest form of support for people working on their sobriety and personal growth.</p> <p>32% of community members interviewed said that there is little or <b>no support</b> available.</p>	<p><b>1998</b> <i>Cycle Two</i></p> <p>57% of those community members interviewed said that <b>AA or Group Meetings</b> are the greatest form of support available to community members.</p> <p>0.03% of those community members interviewed named the <b>Drug and Alcohol Worker</b> as a form of support.</p> <p>25% of those community members interviewed said there was little or <b>no support</b> available.</p>	<p>The results of Cycle One and Cycle Two reveal a rapid shift in the kinds of healing services people feel are valuable from Drug and Alcohol Worker to AA and Group Meetings. This rapid shift can be explained by the absence of a Drug and Alcohol Worker during the January-February, 1998.</p> <p>The results do not suggest there is any change in the kinds of healing services required. The sensitivity of drug and alcohol issues makes it difficult to directly question people as to their use of services. According to the testimonies of Health and Social Services Staff, however, there has been an increase in the level of service required during the study period. More people are requiring care as a result of drug and alcohol problems.</p> <p>An increase in drug and alcohol related problems in the community might in part be attributable to increased incomes from mining sector employment. However, as stated by the Employment Officer, drug and alcohol problems are often an obstacle to community members securing employment (where mandatory drug testing is a condition of employment). Workplaces where mandatory drug testing is not enforced may see a higher level of employee turn-over attributable to drug and alcohol problems.</p> <p>Further monitoring of this indicator will be done in Cycle Seven. In order to more clearly determine whether the healing needs of the community members are changing as a result of mineral resource development, a sub-set of questionnaires will be conducted with mining sector employees and their families.</p>


<i>Housing</i>		
	<p><b>1998 Cycle Three</b></p> <p><b>More Housing</b> is required particularly for single people.</p> <p><b>Housing</b> is sometimes <b>unfinished</b> and <b>poorly maintained</b>.</p> <p><b>Housing is good</b>, reliable, and better than in the olden days.</p>	<p>The quality of the housing in Lutsel K'e is an important issue for many community members. The results of Cycle Three suggest that there is a shortage of housing in the community, particularly for single people. Also, some people feel housing is unfinished and poorly maintained. Despite these concerns, many people that were interviewed suggested that housing was better, more reliable and warmer than in the olden days.</p> <p>There are various ways that the housing might be affected by increased mining activity. An increase in employment in the mining sector may increase the capacity of some families to build and maintain their own homes (as opposed to renting). On the other hand, employees in the mining sector are also spending less time in the community and with their families. This may lead to a decrease in the capacity of families to maintain their homes.</p> <p>There is also the potential for employees and their families to move away from the community. Although this may have a negative impact on the community in some ways, such out-migration may also lead to an increase in the number of housing units available in Lutsel K'e.</p> <p>These results suggest nothing about the effects of mineral resource development on housing conditions. The community researchers will ask community members the same set of questions in Cycle Eight. Drawing guidance from the impact hypotheses on housing (Figure 4), several questions may be added to determine if people see any change in the ability of community members to build or maintain their own homes.</p>

<i>Impacts of Resource Development on the Land and Water</i>		
	<p><b>1997</b> <b>Cycle Three</b></p> <p>The resource development projects discussed during the study period by the Wildlife, Lands and Environment Committee include:</p> <ol style="list-style-type: none"> <li>1. BHP Ekati <b>Diamond Mine at Lac de Gras Area</b></li> <li>2. Diavik Diamonds Inc. – <b>Proposed Diamond Mine at Lac de Gras</b></li> <li>3. Glacier Power – <b>Proposed Hydroelectric development on the Barnsten River</b></li> <li>4. Highwood Resources – <b>Proposed Beryllium Mine (Bulk Sample) at Thor Lake</b></li> <li>5. Monopros Ltd. – <b>Diamond Exploration at Kennady Lake</b></li> <li>6. <b>Proposed Hydroelectric Development on the Lockhart River</b></li> <li>7. <b>Proposed Mini Hydro- Snowdrift River</b></li> </ol> <p>As discussed during the <i>Traditional Knowledge Study on Community Health (1997)</i> and the <i>Community Based Monitoring Pilot Project (1996)</i>, the impacts of <b>Talston Hydroelectric Development</b> are of continued concern to community members.</p>	<p>During Cycle Three of the <i>Community-Based Monitoring Project</i>, a review of minutes of the Wildlife, Lands and Environment Committee revealed the kinds of mineral resource development projects that Lutsel K'e is currently facing in their traditional territory. This review also revealed the kinds of impacts that the committee was concerned about during their consultations with the mineral resource developers. During the <i>Traditional Knowledge Study on Community Health (1997)</i> and the <i>Community Based Monitoring Pilot Project (1996)</i>, the impacts of Talston Hydroelectric Development was also revealed as a continued concern to community members.</p> <p>Mineral resource development and hydroelectric projects such as the Talston Hydroelectric Projects may have potential adverse impacts on the land, water and wildlife. Specific impacts of individual projects may not be evaluated as significant by corporations and government consultants, however, the cumulative effects of many resource developments in the region may be tremendous. Although these "potential effects" are not well understood by the scientific community, they are the cause of great anxiety for members of Lutsel K'e Dene First Nation. Such anxiety may inevitably lead to greater social stresses within the community. As mineral resource development continues on Lutsel K'e Dene First Nation land, the insecurity, frustration and anxiety surrounding "potential effects" should be recognized as an impact on the Dene way of life.</p> <p>The effects of resource development on the land (water) will be reviewed again in Cycle Eight.</p>


<i>Knowledge of Traditional Values</i>		
	<p><b>1998</b> <b><i>Cycle Three</i></b></p> <p>The Lutsel K'e Dene began visiting Parry Falls long before the elders can remember.</p> <p>The average number of times community members have visited the falls is 4.6.</p> <p>People describe the "Old Lady" as sacred and their visit as an expression of <i>spirituality</i>, <i>Chipewyan history and culture</i>, and <i>love for the land</i>.</p>	<p>The community's knowledge of traditional values including those associated with the "Old Lady of the Falls" may be impacted by increased mineral resource development in various ways.</p> <p>More disposable income may increase the capacity of individuals and families to spend time engaged in activities (i.e. harvesting) that may lead to sharing of traditional values. On the other hand, it may lead to families spending less time engaged in those activities. The increase in training and education opportunities may also lead to a decrease in the amount of time people spend on the land.</p> <p>In response to the decrease in individual and family led cultural activities and in the effort to offset perceived impacts on the traditional economy, the Band may organize more community activities. A potential increase in moneys from Impact and Benefit Agreement may result in an increase in opportunities for community members to engage in activities that would lead to sharing of traditional values.</p>


<i>Cultural Programs</i>		
	<p><b>1998</b> <b><i>Cycle Three</i></b></p> <p>In the past, the skills and knowledge required for living on the land was passed on to youth through different forms of learning.</p> <p>In 1998, there were fourteen cultural programs taking place in Lutsel K'e.</p> <ul style="list-style-type: none"> <li>• 36% involved elders</li> <li>• 93% involved youth</li> <li>• Language was part of 29%</li> <li>• 35% were on the land</li> <li>• 43% were family activities</li> <li>• 43% were school organized</li> <li>• 57% were organized by the community.</li> </ul> <p>The best approaches to cultural programs include: involve children and a key motivator, offer programs on the land, work with elders, offer programs that kids can see, feel, and experience things.</p>	<p>Cultural programs may be positively or negatively affected by mineral resource development.</p> <p>More disposable income may increase the capacity of individuals and families to spend time on the land involved in cultural activities. It may also lead to families spending less time on the land and involved in cultural activities. The increase in training and education opportunities may also lead to a decrease in the amount of time people spend on the land and involved in cultural activities.</p> <p>In response to the decrease in individual and family led cultural activities and in the effort to offset perceived impacts on the traditional economy, the Band may organize more community activities. A potential increase in moneys from Impact and Benefit Agreement may result in an increase in opportunities for community members to develop and participate in cultural programs. The values, knowledge and skills passed on through family oriented cultural programs may not be the same as those passed on through larger community programs offered by the Band. Efforts by the Band may not therefore wholly compensate for changes in individual and family lifestyle.</p> <p>In 1998, almost one half (43%) of the programs offered were family oriented, and over half (57%) were organized by community members. Comparison of this information on cultural programs with results from future monitoring will provide more insight about the community's capacity to deal with the impacts of mineral resource development.</p>




<b><i>Togetherness</i></b>		
	<p><b>1998 Cycle Four</b></p> <p>Those community members interviewed interpret working together as: “sharing ideas”, “problem solving” and “working towards a common goal”.</p> <p>Respecting one another, cooperating, understanding and sharing each other’s roles and responsibilities are also seen as important elements of working together.</p>	<p>Mineral resource development might impact on togetherness in the community in several ways. With the potential increase in moneys from Impact and Benefit Agreements, community organizations may find it easier to achieve their goals. However, if not distributed equitably within the community, these moneys may cause community organizations to work less well together.</p> <p>The increase in training and employment opportunities that might result from mineral resource development may also affect the capacity of community members and organizations to work together. It may mean individuals spend less time in the community and as a result, their capacity to share ideas, problem solve and work towards a common goal may be diminished. Education can also provide community members with tools for working together. Increased self-esteem, knowledge, and skills can be developed that can increase the capacity of community members to share ideas, problem solve and work towards a common goal.</p>



<b>Traditional Knowledge and Skills (Caribou Harvesting)</b>		
	<p><b>1998</b> <b>Cycle Four</b></p> <p>The Caribou Harvesting Workshop and Dry-meat Making Workshop provided specific measurable baseline information about traditional knowledge and skills for caribou harvesting in Lutsel K'e.</p>	<p>Knowing and understanding the caribou, the signs of a healthy animal, how to respect the animal during the hunt and the skills required to respectfully use, share, prepare and store meat were shared during the caribou harvesting workshop in Lutsel K'e. The step-by-step description of how the caribou should be cut up and prepared is baseline information that can be used in future monitoring.</p> <p>Increased employment opportunities and the resulting increase in individual and family income may also result in changes in harvesting activities. More disposable income may increase the capacity of individuals and families to spend time on the land involved in harvesting activities. It may also lead to families spending less time on the land involved in harvesting activities. The increase in training and education opportunities may also lead to a decrease in the amount of time people spend on the land involved in harvesting activities.</p> <p>A potential increase in moneys from Impact and Benefit Agreement may result in an increase in opportunities for community members to engage in harvesting activities. However, the skills and knowledge passed on during family oriented activities may be different than those offered in school programs or Band organized activities.</p>

<b>Traditional Knowledge and Skills (Land Use)</b>		
	<p><b>1998</b> <b>Cycle Four</b></p> <p>In recent years people have traveled, hunted and trapped in areas as far east as Beaverhill Lake and Sid Lake, as far south as Talston Lake, as far west as MacKay Lake and as far north as Alymer Lake.</p>	<p>During Cycle Four of the <i>Community-Based Monitoring Project</i> forty-four (44) interviews were completed regarding land use activities. The people's ages ranged from twenty to eighty years old. Out of 27 interviews, only one female was interviewed. Some people told stories as they drew their land use area. The trapping and hunting areas span as far east as Beaverhill Lake and Sid Lake, as far south as Talston Lake, as far west as MacKay Lake and as far north as Alymer Lake. (It is important to note that this area does not represent the entirety of Lutsel K'e Dene First Nation Territory.)</p> <p>Increased employment opportunities and the resulting increase in individual and family income may result in changes in land use. More disposable income may increase the capacity of individuals and families to spend time on the land involved in cultural activities. It may also lead to families spending less time on the land. The increase in training and education opportunities may also lead to a decrease in the amount of time people spend on the land.</p> <p>In response to the decrease in the amount of time families spend on the land and in an effort to offset perceived impacts on the traditional economy, the Band may offer more on the land activities. A potential increase in moneys from Impact and Benefit Agreements may result in an increase in opportunities for community members to develop and participate in on the land programs. However, the values, skills and knowledge passed on during family oriented activities may be different than those offered through larger Band organized activities.</p>

<b>Traditional Knowledge and Skills (Drumming)</b>		
	<b>1998</b> <b>Cycle Four</b>	<p>Traditional knowledge and skills for drumming may be affected by increased mineral resource development.</p>
	<p>During Cycle Four of the project a set of interviews were conducted with elders known to have traditional knowledge and skills for drumming. The kinds of songs they play are Cree and Dogrib songs that they learned from other Dene during celebrations or feasts and dances. One elder suggested there may have been Chipewyan songs in earlier times, but they are not aware of any today.</p>	<p>More disposable income may increase the capacity of individuals and families to spend time involved in traditional activities such as drumming. On the other hand, it could lead to families spending less time involved in traditional activities such as drumming. The increase in training and education opportunities may also lead to a decrease in the amount of time people spend in the community engaged in traditional activities such as drumming.</p> <p>Depending on how it is spent, a potential increase in moneys from Impact and Benefit Agreements could offset negative impacts if it is used to develop opportunities for community members, especially youth, to participate in cultural activities. However, the skills and knowledge passed on during family oriented activities may be different than those offered in school programs or larger community activities.</p>

**Figure 2:** Summary of Results and Conclusions  
from *Community-Based Monitoring Cycle Two, Three and Four (1998)*

## **Acknowledgments**

Lutsel K'e Dene First Nation  
Lutsel K'e Dene First Nation - Wildlife, Lands and Environment Committee  
Former Chief Florence Catholique  
Chief Felix Lockhart

West Kitikmeot Slave Study Society

Cindy Allen of the Department of Musicology at Carleton University  
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## **Objectives**

The objectives of the *Community-Based Monitoring Project Cycle Two, Three and Four (1998)* included:

**1. Home-visits**

To measure changes according to specific indicators through home-visit information gathering.

**2. Analysis (Summarize Information)**

Analyze information gathered, recognising any change that may have occurred since the last baseline.

**3. Analysis (Evaluate Information through Workshops)**

Verify Changes to Indicators through Workshop Consultation.

**6. Communication of Results**

To present this information through newsletters or some other meaningful form of communication such as public displays.

## **2.0 Project Description**

### ***Community-Based Monitoring Cycle Two, Three and Four (1998)***

The aim of the *Community-Based Monitoring Project* was to meaningfully involve Lutsel K'e community members in documenting and understanding changes in the health of their community. Indicators of community health developed in 1996 during the pilot project were the basis for monitoring during *Community-Based Monitoring Cycles Two, Three and Four (1998)*.

## **3.0 Methodology / Methods**

### **3.1 Background**

#### ***Community-Based Monitoring Cycle Two, Three and Four (1998)***

Cycle Two, Three and Four of the *Community-Based Monitoring Project (1998)* followed the Action Research methodological framework established during the *Community-Based Monitoring Pilot Project (1996)* and the *Traditional Knowledge Study on Community Health (1997)*. Although similar to Participatory Action Research (PAR), this methodology allows for flexibility in how it is implemented. This flexibility was important because Lutsel K'e had its own ideas about the way research should be done based on past experiences with researchers and research projects. Of primary interest to the community is the nature of community participation. The main elements of community participation that were emphasized as important in the planning stages of the research were, (1) coordination with the local leadership, (2) training of local people and (3) broad participation of the community.

#### **Training**

On the job training of a local person has been fundamental to the development of the *Community-Based Monitoring Project*. The goal of this training process is to ensure that skills and knowledge from the project are being developed and passed on to local people. These skills and knowledge are a means to increase the capacity of both the individual and the community. The three trainees during Cycle Two-Four of the project were Evelyn Marlowe, Bertha Catholique and Marie Catholique. Evelyn Marlowe also began to take on more of a trainer role, passing on the knowledge she had gained to additional local community members hired to work on the project.

#### **Coordination with the Local Leadership**

The second aspect of community involvement is coordination with the local leadership. Coordination is achieved through communication and information exchange with the Lutsel K'e Dene Band Council and the committees (Wildlife, Lands and Environment Committee, Elders' Committee, Youth Committee). The aim of such coordination is to ensure that the local leadership is directly involved in the process of monitoring as well as in the evaluation of results. Their primary tasks in Cycle Two-Four was to assist the community researchers in selecting indicators and measures for monitoring, to oversee the data collection process, reflect on the results of the project and how they might be used and to approve reports destined for the West Kitikmeot Slave Study Society.

Interest in the project by the Chief and Council, and Wildlife, Lands and Environment Committee and other local agencies such as the Health and Social Services Administration has grown over the last two years. As more comparative results are put forward by the researchers for evaluation by the community, feedback on the information and the changes being documented has mounted. The community researchers are seeing the project increasingly as a "community planning tool". Their determination to see the information used by local agencies is growing. Some examples of the local agency and leadership implementation of the results in 1998 are listed below.

- Results on Land Use / Nutrition / Family Wellness were used by the Wildlife, Lands and Environment Committee during the recent Environmental Assessment of the Proposed Diavik Diamond Mine  
(Charlie Catholique – Chair Wildlife, Lands and Environment Committee)  
Brenda Parlee – Coordinator Wildlife, Lands and Environment Committee)
- Results on Healing were Used by Health and Social Services Administration to Affirm the Importance of the Drug/ Alcohol Worker in the Community.  
(Rachael Abel – Health and Social Services Administration)

The community researchers recognize that they could achieve even greater success in the Action-Research methodology and are consistently looking to improve their approach to coordination with the leadership. One example of their efforts was the development of an Elders' and a Youth Committee to assist with the selection of indicators, the development of questionnaires, and the evaluation of results.

**Broad Participation:**

Facilitating broad participation of the community was the third aspect of community participation emphasized as important during the planning of the project. Home-visit questionnaires with large numbers of community members ensure that everyone in the community is involved. Since the local language in Lutsel K'e is Chipewyan many of these home-visits are conducted by the researchers in their Aboriginal language. Home-visits continue to be the most successful means of including large numbers of community members in the project. Evaluation of results is also been done through home-visits. As the community researchers gain more confidence and results develop, workshops have become an increasingly effective means of evaluating results.

### **3.2 Project Management**

Project Management shifted during Cycles Two and Three from Evelyn Marlowe to Brenda Parlee. Evelyn Marlowe took over as Project Manager again in Cycle Four. She became responsible for implementing all four components of the monitoring process under the direction of the Wildlife, Lands and Environment Committee.

### **3.3 Selecting Indicators**

The present project builds on work done during the *Community-Based Monitoring Pilot Project (1996)* and the *Traditional Knowledge Study on Community Health (1997)*. During these projects, indicators of community health were defined based on home-visits with every household in the community. Because there were so many indicators, a process of selection had to be undertaken to find the most appropriate and useful indicators for monitoring.

Given that the process of monitoring is based on Action Research and is designed to be community-based, selecting indicators of significance to the community was fundamental to the project. In September 1997, the Project Director (Evelyn Marlowe) and community researcher Dora Enzoe selected indicators to monitor during Cycle One. The selection process involved a 3-hour evaluation of each of the indicators based on several criteria. First, they discussed whether or not the indicators were important in the sense that they reflected something significant or of concern to the community. The main references for evaluating the significance of the indicator to the community were the results from the *Community-Based Monitoring Pilot Project* and the *Traditional Knowledge Study on Community Health*.

There were also some basic practical issues to consider in selecting the indicators. The researchers considered whether the indicators were being monitored by other agencies. For example, indicators related to physical health were being monitored by the Health Centre. The vast majority of the indicators defined during the pilot project however, were not known to be monitored by other agencies. The community researchers also considered how easy it would be to collect information. Some indicators such as child well-being (happiness) were considered too difficult to monitor. The specific rationales for indicator selection are based on the stories told during the pilot project and the traditional knowledge study. Because of the sensitivity of that information those stories are not publicly available but may be accessed by contacting the Lutsel K'e Dene First Nation Band Council. A summary of those rationales however are found here in sections 3.3.1 - 3.3.12.

#### **3.3.1 Nutrition - Consumption of Traditional Food**

Food from the land is an important element of the Dene way of life. Because of its high nutritional value, it is a strong indicator of individual nutrition. It also reflects other health issues including that of the environment and cultural values. The community researcher and Wildlife, Lands and Environment Committee valued these elements of the indicator. Because *traditional food consumption* is so fundamental to the community's well-being, they saw it as necessary in monitoring potential impacts of mineral resource development.

### **3.3.2 Employment in the Mining Sector**

Employment is an important issue in many northern communities including Lutsel K'e. Employment that leads to greater economic development and self-governance was revealed during *the Community-Based Monitoring Pilot Project* as particularly important. Presently, the increase in exploration and developments such as BHP Diamonds Ltd. has raised hopes among community members that employment in the mining sector will increase. The community researchers and the Wildlife, Lands and Environment Committee therefore recognized the value of monitoring change in employment in that sector.

### **3.3.3 Youth Participation in the Community**

The ability of youth in the community to define and meet their own goals was another indicator considered to be important for monitoring. It can provide insight about how youth in the community are doing as well as their potential role in the community's vision for self-government. This was important to the community researchers as well as the Wildlife, Lands and Environment Committee who are concerned that, "Something must be done for the youth." They also saw the value in monitoring the extent to which youth are interested in education and employment in the mining sector as a indication of the impact that mineral resource development is having on the youth and their goals for the future.

### **3.3.4 Healing Services**

The healing process is a fundamental aspect of the Dene way of life in Lutsel K'e. Understanding that process, particularly community needs for healing services and approaches to sobriety and personal growth is also useful as the community works to take on its own health and social service programs. The community researchers, Wildlife, Lands and Environment Committee as well as local staff of Health and Social Services programs saw the value in monitoring the healing needs and perspectives of community members, recognizing that as mineral resource development in the region increases, the community's needs for healing may also change.

### **3.3.5 Cultural Programs**

The Dene way of Life is based around a set of skills and system of knowledge that has developed over generations. Ensuring that these skills and knowledge are passed on to the youth is very important to the community. One of the means by which these skills and knowledge are being passed on are through cultural education programs. During the pilot project there were concerns about limited number of programs in place and the effectiveness those that were being offered. The community researchers and the Wildlife, Lands and Environment Committee therefore sought to learn more about the number of cultural education programs in place, their effectiveness and how they might be affected by mineral resource development.



### **3.3.6 Housing**

The quality and availability of housing in the community was an aspect of community health identified as important by interviewees during the pilot project. In addition to its significance to the community, the community researchers and the Wildlife, Lands and Environment Committee recognized the potential for mineral resource development to increase the capacity of community members to build and/or maintain their homes.

### **3.3.7 Traditional Values - "The Old Lady of the Falls"**

Traditional values are important to the community's health in the sense that they guide the process of cultural preservation as well as other social, economic, spiritual and political dimensions of the community. One concrete example of the community's traditional values is the annual pilgrimage to the spiritual site called the "old lady of the falls" on the Lockhart River, one hundred kilometres east of Lutsel K'e. Based on the stories told by elders during the *Traditional Knowledge Study on Community Health* and the pilot project, the community researchers recognized *the number of visitations made to the "Old Lady of the Falls"* to be a useful quantitative measure. The Wildlife, Lands and Environment Committee as well as the Elders' Committee from the *Traditional Knowledge Study on Community Health* were consulted about the appropriateness of this indicator for monitoring. The researchers had some concerns that because of the spiritual significance of the site, some community members might not want to talk about it. The two Committees were supportive of the idea suggesting it might educate people outside the community about the importance of respecting that area.

### **3.3.8 Impact of Resource Development on the Land (Water)**

A key concern raised during the pilot project was the past, present and future impacts of resource development on the land. Potential impacts on the water including key spiritual sites such as the "Old Lady of the Falls" on the Lockhart River was of particular concern. The community researchers and the Wildlife, Lands and Environment Committee felt it was important to assess the level of local knowledge including community fears and anxieties about development projects and their impacts to understand how mineral resource development and its disturbance of the environment is affecting the community's health.

### **3.3.9 Land Use**

The Wildlife, Lands and Environment Committee suggested gathering information related to current land use. In addition to the important economic value associated with traditional land use and wildlife harvesting, traditional land use facilitates the preservation and development of many cultural and spiritual aspects of the Dene way of life. In that way, it was recognized by the community researchers as central to the well-being of the community. The community researchers and the Wildlife Lands and Environment Committee, also recognized that increased income in the community and disturbance of the regional

environment resulting from mineral resource development could impact on traditional land use.

#### **3.3.10 Togetherness**

The capacity of the community to work together was emphasized by community members during the pilot project as a major issue of community well-being. Elders during the *Traditional Knowledge Study on Community Health* also raised this as an important aspect of the Dene way of life. The community researchers under the direction of the Wildlife, Lands and Environment Committee selected this indicator because they felt it was important to learn to work together. By working together, the community would be better able to take advantage of opportunities created by the development as well as deal with any negative socio-economic or cultural impacts. The community researcher also felt that monitoring this indicator would encourage community members and the leadership to make better decisions for future generations.

#### **3.3.11 Traditional Knowledge and Skill (Drumming)**

The sharing of traditional knowledge and skills such as drumming are fundamental to the community and their efforts toward cultural preservation. In the indicator selection process, a Band Councillor emphasized drumming of a skill passed on from previous generations that has both cultural, spiritual and social significance. The community researchers therefore included drumming to their list of indicators for monitoring.

#### **3.3.12 Traditional Knowledge and Skills (Caribou Harvesting)**

Respecting, harvesting and preparing caribou is also fundamental in the community's journey of cultural preservation. In addition to the economic value that harvesting caribou has within the family and the community, the knowledge and skills have cultural, spiritual and social importance. The Wildlife, Lands and Environment Committee recommended gathering detailed information about caribou harvesting as a measure of changes in the level of traditional knowledge and skills in the community. The community researchers also recognized that increased incomes and environmental disturbance from mineral resource development could have an impact on caribou harvesting and therefore

Sensitivity of the indicators to the influences (stresses) of mineral development was another consideration in the selection of indicators. A literature review and a preliminary assessment of the indicator sensitivity, revealed that many of the indicators would be sensitive to changes introduced by mineral resource development. (See *Community-Based Monitoring Pilot Project 1997*)

Some of the indicators developed during the pilot project were recognized as more sensitive to predicted effects than others. Understanding how the indicators might be affected by mineral development aided by the development of impact hypotheses. An impact hypothesis links sequentially the inputs of a particular development to the effects that it has within the system. Essentially it is an illustration of the multiple

interactions between an action taken and its effects. Although impact hypotheses can be complex and mathematical equations of cause and effect relationships, they can also be simple tools for thinking about and anticipating potential effects. In that way they illustrate the community's interpretation of how the influences of mineral resource development might affect the health of the community.

Impact Hypotheses for each indicator monitoring during Cycles Two-Four are found in Figure 3-5. Each hypothesis includes a textual descriptions as well as an arrowed diagram or effects map. These impact hypotheses were developed by Brenda Parlee based on the stories told during the *Community-Based Monitoring Pilot Project (1996)* and the *Traditional Knowledge Community Health (1997)*.

These effects maps use various measures of the influences of mineral resource development (e.g. employment opportunities) and measures of changes in the community's health (e.g. increased employment and income levels) to trace effects to each indicator, highlighted in bold. (e.g. potential increase in investment in equipment for on-the-land activities > increased potential for harvesting of traditional food > potential increase in traditional food consumption).

The impact hypotheses suggest that the main pathways by which mineral resource development is likely to affect the community are:

- Employment in the mining sector
- Impact and Benefit Agreements
- Disturbance of the Environment

There may be other pathways by which mineral resource development might affect the community. The hypotheses are phrased as questions rather than as predictions. As such the hypotheses are not definitive descriptions of how the community is changing. They are instead meant to be food for thought, to assist those concerned about socio-economic and cultural impacts on northern communities, to understand some of the important issues and potential opportunities for community benefits and mitigating negative impacts.

Indicator	Rationale / Impact Hypotheses
<p><b>Self-Government Economic Development Employment</b></p> <p>Desired Job Opportunities / Level of Employment <i>The number of (mining sector) jobs in the community.</i></p>	<p>Assuming there is an increase in the number of job opportunities in the mining sector:</p> <ul style="list-style-type: none"> <li>To what extent will the community members participate in training programs and secure employment in the mining sector?</li> </ul>

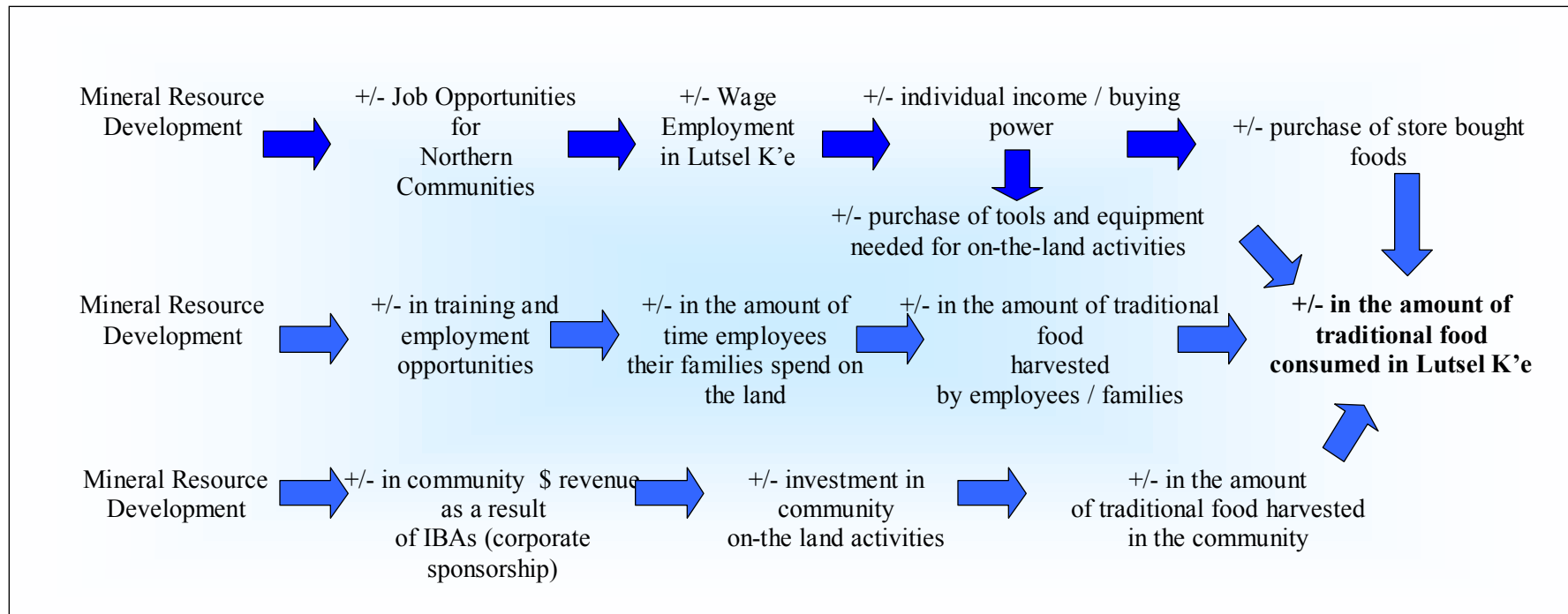
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graph LR
    A[Mineral Resource Development] --> B["+/- Job Opportunities for Northern Communities"]
    B --> C["+/- the number of community members employed in the Mining Sector"]
  
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**Figure 3a: Impact Hypothesis #1 - Employment in the Mining Sector (1998).**

<p style="text-align: center;"><b>Healing Individual Health</b></p> <p style="text-align: center;">Nutrition <i>The number of caribou, moose, other wildlife consumed during the study period.</i></p>	<p>Consumption of traditional food in the community may be affected positively or negatively by mineral resource development.</p> <p>Assuming employment levels increase in Lutsel K'e, and there is a corresponding increase in income in the community:</p> <ul style="list-style-type: none"> <li>• To what extent will consumption of traditional food decrease and store-bought foods increase?</li> <li>• To what extent will income be spent on tools and equipment for on-the-land activities?</li> <li>• Assuming there is an increase in tools and equipment for on-the-land activities: <ul style="list-style-type: none"> <li>➤ To what extent will the on-the-land activities include the harvesting of traditional food thus increasing traditional food consumption in the community?</li> </ul> </li> </ul> <p>Assuming there are Impact and Benefit Agreements made with mining companies,</p> <ul style="list-style-type: none"> <li>• to what extent will the revenue from those agreements be invested in community on-the-land activities</li> <li>• Assuming some revenue is invested in community on-the-land activities <ul style="list-style-type: none"> <li>➤ To what extent will the on-the-land activities include the harvesting of traditional food thus increasing traditional food consumption in the community?</li> </ul> </li> </ul> <p>Assuming employment in the mining sector increases and the amount of time employees and their families spend on-the-land decreases:</p> <ul style="list-style-type: none"> <li>• To what extent will the harvesting and consumption of traditional food in the community decrease?</li> </ul>
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**Figure 3b: Impact Hypothesis #2 - Traditional Food Consumption (1998).**



**Figure 3b: Impact Hypothesis #2 - Traditional Food Consumption (1998).**

<p><b>Self-Government Youth Participation in the Community</b></p> <p>Knowledge and Capacity of Youth – Education <i>How well are youth in doing in education?</i></p>	<p>The ability of youth in the community to define and meet their own goals may be affected positively or negatively by mineral resource development.</p> <p>Assuming there is an increase in the number of training and employment opportunities in the mining sector:</p> <ul style="list-style-type: none"> <li>• To what extent will the community members participate in training programs and secure employment in the mining sector?</li> </ul> <p>Assuming there is an increase in the number of community members trained and employed in the mining sector:</p> <ul style="list-style-type: none"> <li>• To what extent will these individuals be role models in the community and encourage youth to continue their education and seek employment in the mining sector? <ul style="list-style-type: none"> <li>➤ To what extent will youth continue their education and seek employment in the mining sector?</li> </ul> </li> </ul>
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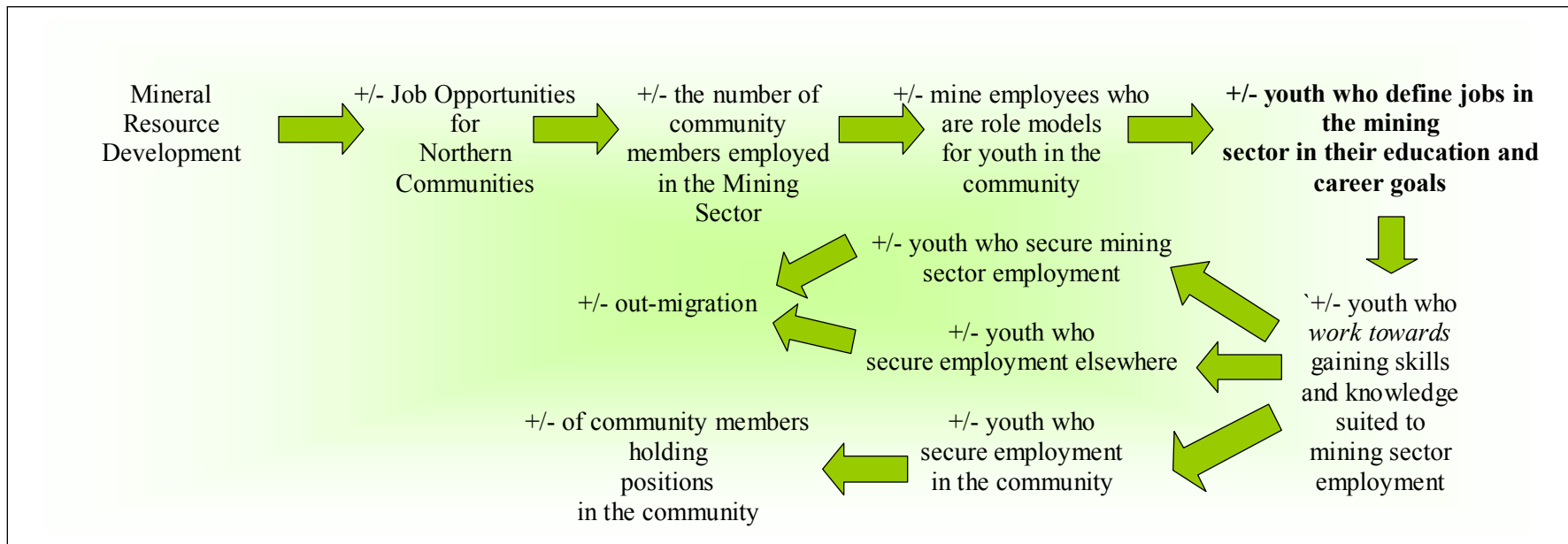
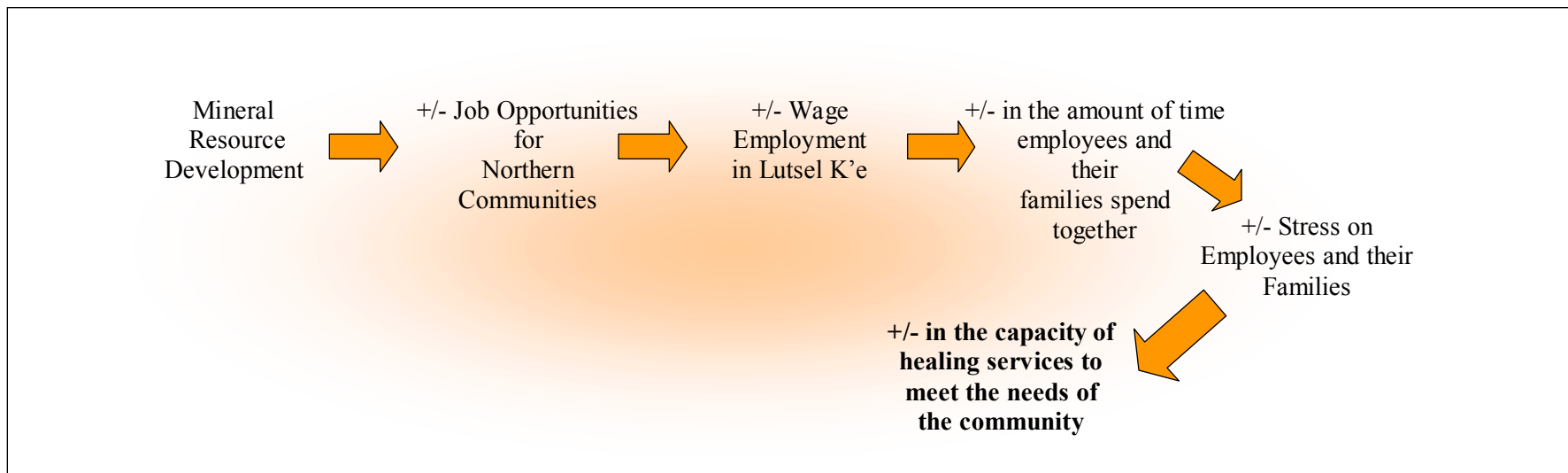


Figure 3c: Impact Hypothesis #3 -Youth Goals for Education and Employment (1998).

<p style="text-align: center;"><b>Healing Healing Services</b></p> <p>Capacity of Healing Services to Meet Community Needs</p> <p><i>How successful are healing services in meeting community needs?</i></p>	<p>The capacity of healing services to meet the community's needs may be affected by mineral resource development positively or negatively.</p> <p>Assuming there is an increase in the number of community members employed in the mining sector and assuming income of individuals increases and the amount of time families spend together decreases:</p> <ul style="list-style-type: none"> <li>• To what extent will the capacity of individuals to meet their basic needs and the needs of their families change?</li> <li>• To what extent will stress on the family increase? <ul style="list-style-type: none"> <li>➤ To what extent will this lead to an increase / decrease in family wellness?</li> </ul> </li> </ul> <p>Assuming there is a change in family wellness:</p> <ul style="list-style-type: none"> <li>• To what extent will community needs for support services such as drug / alcohol services change?</li> </ul>
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**Figure 3d: Impact Hypothesis #4 - Healing Services (1998).**



Indicator	Rationale
<p><b>Self-Government</b>  <b>What the Community Looks Like?</b></p> <p>The Quality and Effectiveness of Local Services [Infrastructure]  <i>How well is the Band doing in serving the community?</i></p>	<p>Housing in the community may be affected by mineral resource development in community positively or negatively.</p> <p>Assuming there is an increase in employment opportunities / employment in the mining sector and the incomes of employee members and their families increase:</p> <ul style="list-style-type: none"> <li>• To what extent will the capacity of individuals / families to maintain rental (public) housing increase?</li> <li>• Will individuals / families move out and rental (public) housing and build / maintain their own homes? <ul style="list-style-type: none"> <li>➤ To what extent will the availability of rental housing increase?</li> </ul> </li> </ul> <p>Assuming employment in the mining sector increases:</p> <ul style="list-style-type: none"> <li>• How many employees and their families move out of the community? <ul style="list-style-type: none"> <li>➤ To what extent will out-migration lead to an increase in the availability of housing in the community?</li> </ul> </li> </ul>

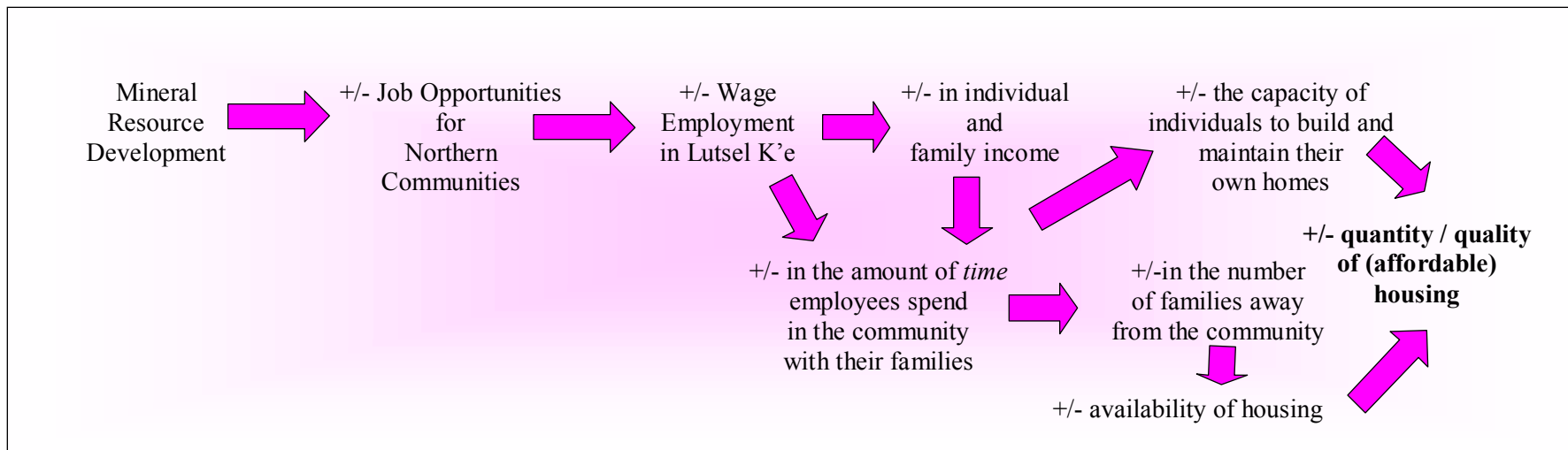
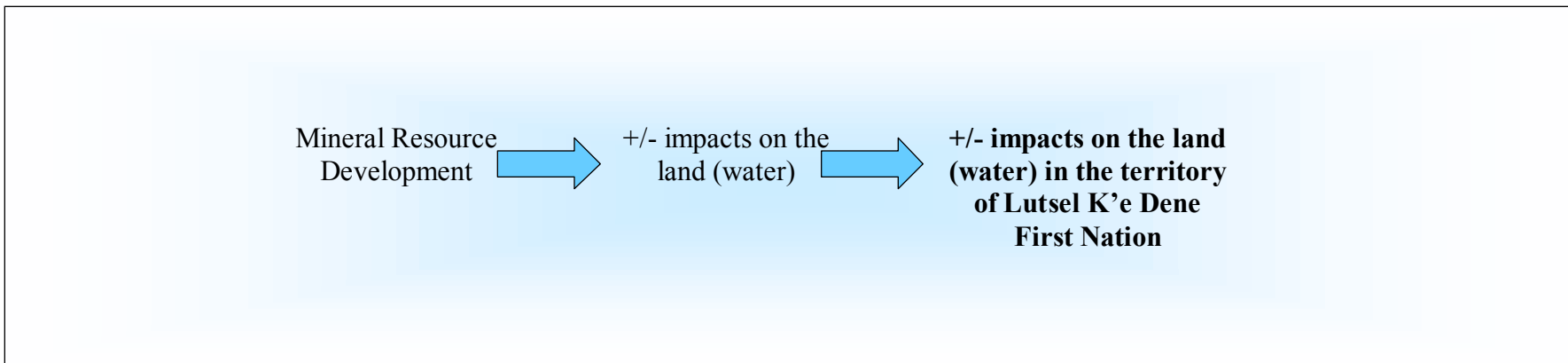


Figure 4a: Impact Hypothesis #5 - Housing (1998).

<p><b>Economic Development</b></p> <p>The Effects of Development on the Environment</p> <p><i>How are the developments in the region affecting the environment?</i></p>	<p>Assuming there is an increase in mineral resource development in the region:</p> <ul style="list-style-type: none"> <li>To what degree will disturbance of the regional environment increase?</li> </ul>
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**Figure 4b: Impact Hypothesis #6 - Impacts of Resource Development on the Land (Water) (1998).**

<p><b>Traditional Knowledge</b></p> <p>Knowledge of Traditional Values  <i>How much do people respect the land, water, and wildlife?</i>  <i>(Case: "Old Lady of the Falls")</i></p>	<p>Mineral resource development may affect traditional values in various ways. Assuming there is an increase in community revenue as a result of IBA Agreements and corporate sponsorship:</p> <ul style="list-style-type: none"> <li>• To what extent will this increase the resources available to finance the spiritual gathering at the "Old Lady of the Falls"? <ul style="list-style-type: none"> <li>➤ To what extent will this increase the capacity of community members to practice their traditions, and pay respect to the "old lady of the falls"?</li> </ul> </li> </ul> <p>Assuming there is an increase in employment in the mining sector and the incomes of individuals and families increases:</p> <ul style="list-style-type: none"> <li>• To what extent will this increased individuals invest in tools and equipment for on-the-land activities <ul style="list-style-type: none"> <li>➤ To what extent will this increase the capacity of individuals / families to practice their traditions and pay respect to the "old lady of the falls"?</li> </ul> </li> <li>• Will individuals / families spend less time in the community and involved in on-the-land activities? <ul style="list-style-type: none"> <li>➤ To what extent will this decrease in the capacity of individuals / families to practice their traditional values?</li> </ul> </li> </ul>
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**Figure 4c: Impact Hypothesis #7 - Knowledge of Traditional Values "The Old Lady of the Falls"(1998).**

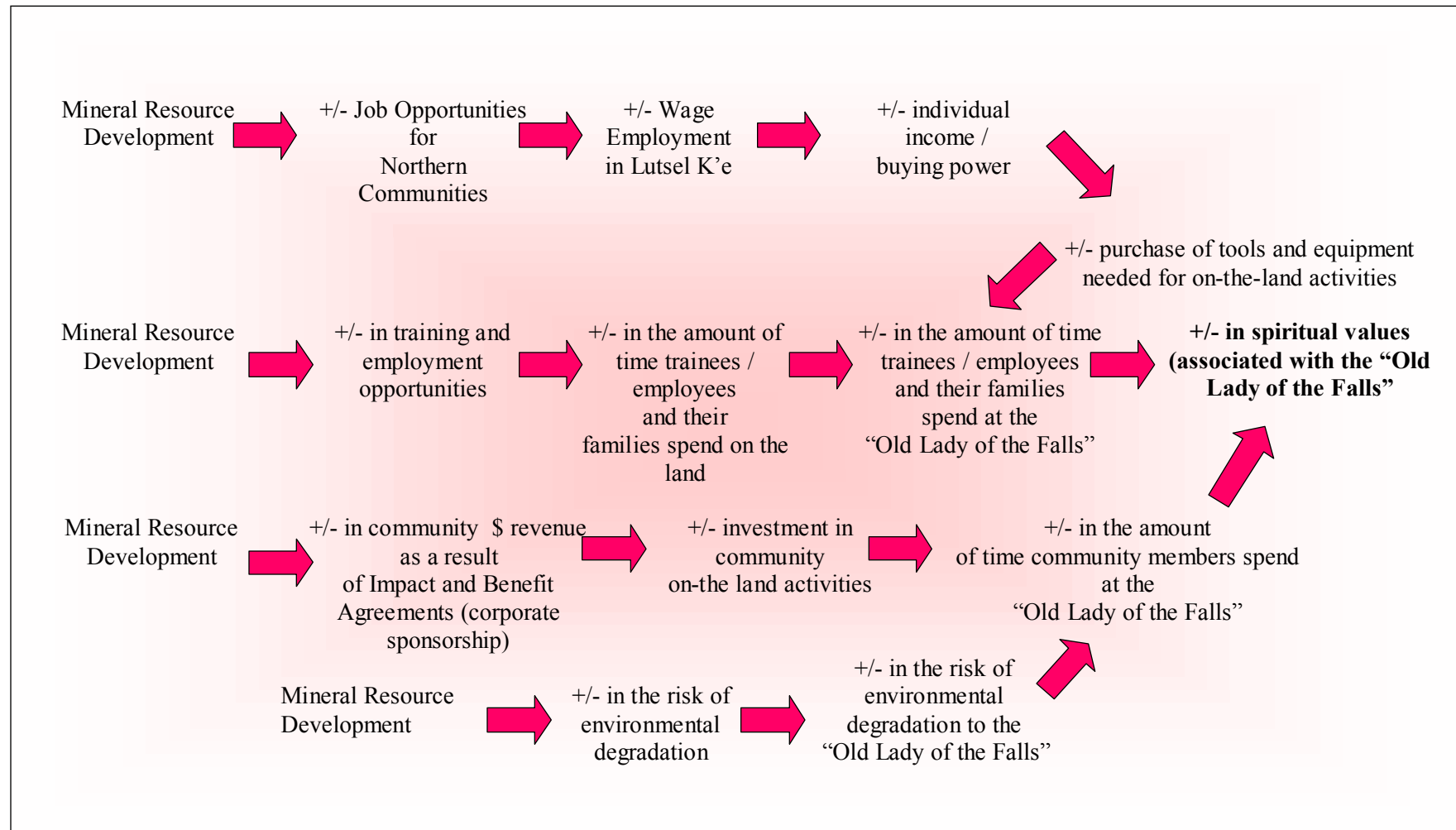


Figure 4c: Impact Hypothesis #7 - Knowledge of Traditional Values "The Old Lady of the Falls"(1998).

<p style="text-align: center;"><b>Cultural Education</b></p> <p style="text-align: center;">Success of Cultural Programs Currently Being Offered <i>How successful are the cultural programs currently being offered?</i></p>	<p>Mineral resource development might affect the success of cultural programming in various ways. Assuming there is an increase in community revenue as a result of IBA Agreements and corporate sponsorship:</p> <ul style="list-style-type: none"> <li>• To what extent will this increase the resources available to finance cultural programs? <ul style="list-style-type: none"> <li>➤ To what extent will this increase in the number of cultural programs and the cultural education of young community members?</li> </ul> </li> </ul> <p>Assuming there is an increase in employment in the mining sector and the incomes of individuals and families increases:</p> <ul style="list-style-type: none"> <li>• To what extent will this increase the number of individuals who invest in tools and equipment for on-the-land activities <ul style="list-style-type: none"> <li>➤ To what extent will this increase the capacity of individuals / families to support cultural programs including on-the-land activities?</li> </ul> </li> <li>• Will individuals / families spend less time in the community and involved in on-the-land activities? <ul style="list-style-type: none"> <li>➤ To what extent will this decrease in the capacity of individuals / families to support cultural programs?</li> </ul> </li> </ul> <p>Assuming there is an increase disturbance to the environment as a result of in mineral resource development:</p> <ul style="list-style-type: none"> <li>• To what extent will the level of anxiety about the health of the land increase? <ul style="list-style-type: none"> <li>➤ To what extent will this lead to a decrease in the amount of time people spend on the land engaged in cultural programs?</li> </ul> </li> </ul>
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**Figure 4d: Impact Hypothesis #8 - Cultural Education (1998).**

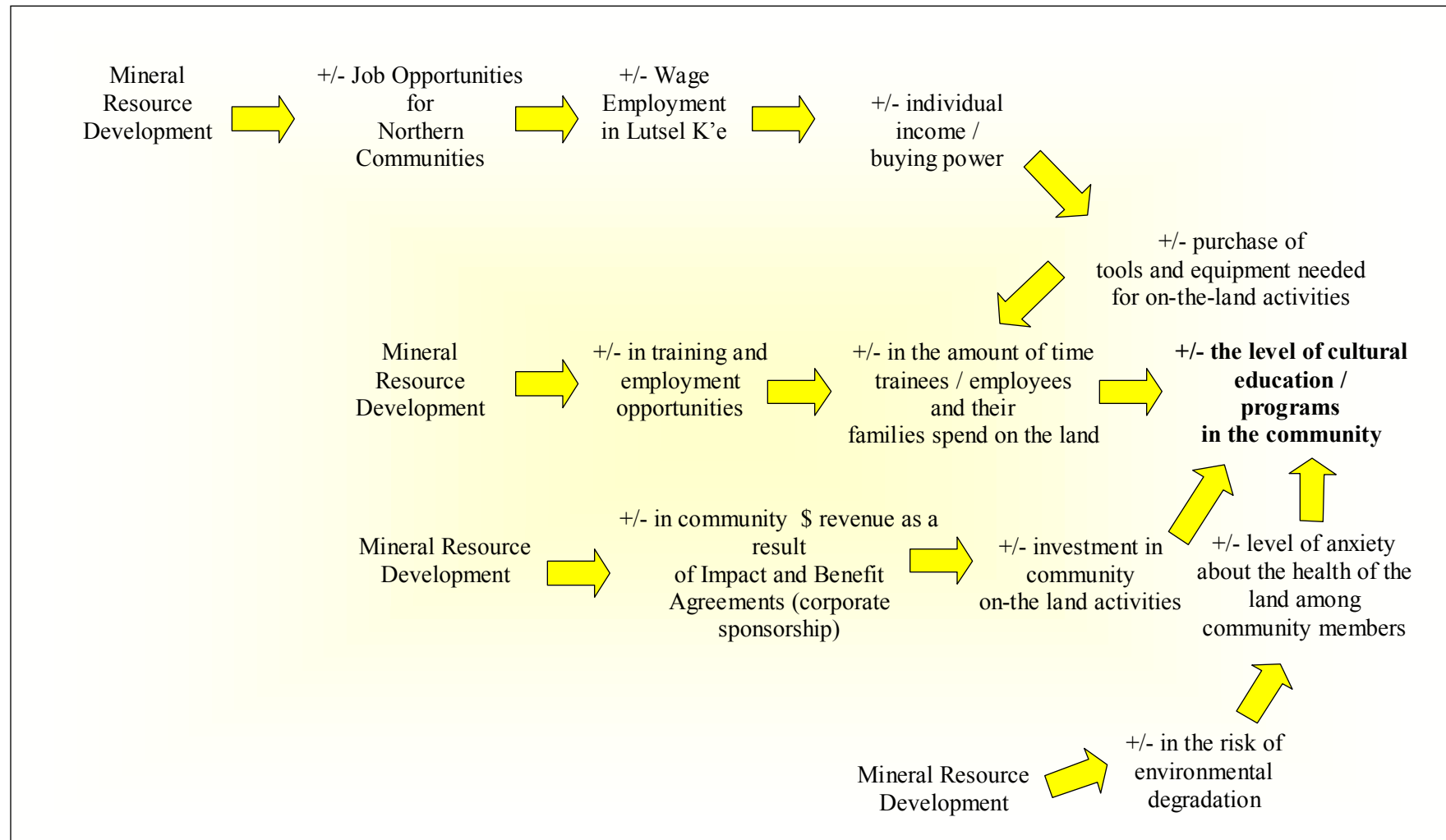


Figure 4d: Impact Hypothesis #8 - Cultural Education (1998).

Indicator	Rationale
<p><b>Self-Government Togetherness</b></p> <p>Communication and Respect <i>How well are people in the community respecting and communicating with each other?</i></p>	<p>Mineral resource development might affect communication and respect in the community in several ways.</p> <p>Assuming there is an increase in community revenue as a result of IBA Agreements and corporate sponsorship and the financial resources of the community as a whole increase?</p> <ul style="list-style-type: none"> <li>• To what extent will this increase the collective capacity of local organizations? <ul style="list-style-type: none"> <li>➤ To what extent will this increase the capacity of organizations to work together?</li> </ul> </li> <li>• To what extent will this increase the capacity of individual local organizations? <ul style="list-style-type: none"> <li>➤ To what extent will this decrease the capacity of local organizations to work together?</li> </ul> </li> </ul> <p>Assuming there is an increase in employment in the mining sector and the income of those community members already employed increases?</p> <ul style="list-style-type: none"> <li>• To what extent will this lead to greater income inequity in the community? <ul style="list-style-type: none"> <li>➤ To what extent will the capacity of community members to work together decrease?</li> </ul> </li> </ul> <p>Assuming there is an increase in employment in the mining sector and the income of those community members previously unemployed increases?</p> <ul style="list-style-type: none"> <li>• To what extent will this lead to greater income equity in the community? <ul style="list-style-type: none"> <li>➤ To what extent will the capacity of community members to work together increase?</li> </ul> </li> </ul> <p>Assuming there is an increase in employment in the mining sector and the amount of time employees spend in the community decreases:</p> <ul style="list-style-type: none"> <li>• To what extent will communication between employees and the community decrease?</li> <li>• To what extent will this limit the capacity of community members to work together?</li> </ul>

**Figure 5a: Impact Hypothesis #9 - Togetherness (1998)**

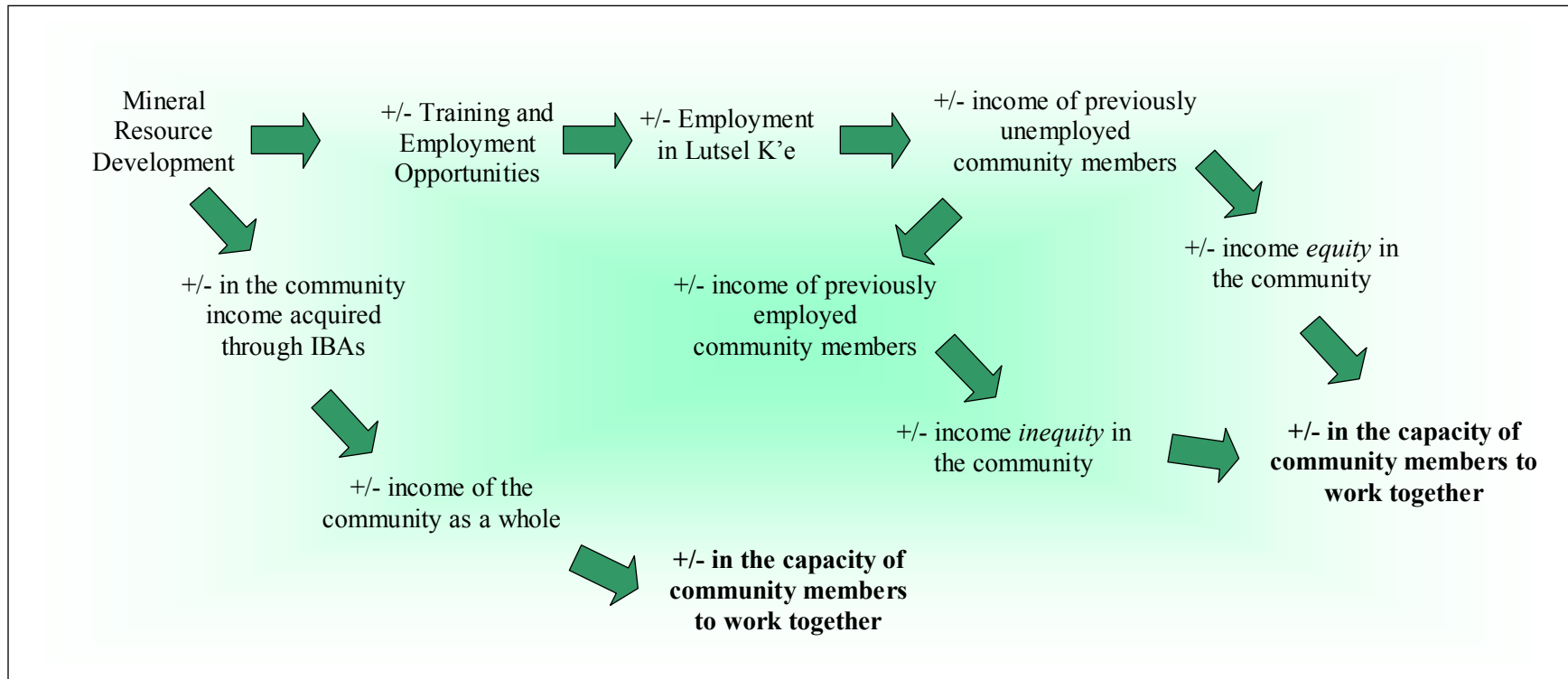


Figure 5a: Impact Hypothesis #9 - Togetherness (1998)



<p style="text-align: center;"><b>Cultural Preservation Land Use</b></p> <p style="text-align: center;">Traditional Land Use and Appreciation</p> <p style="text-align: center;"><i>The number of people trapping or involved in traditional land use activities?</i></p>	<p>Assuming there is an increase in community revenue as a result of IBA Agreements and corporate sponsorship:</p> <ul style="list-style-type: none"> <li>• To what extent will this increase the resources available to support traditional land use activities? <ul style="list-style-type: none"> <li>➤ To what extent will this increase in the number of community members involved in on-the land activities?</li> </ul> </li> </ul> <p>Assuming there is an increase in employment in the mining sector and the incomes of individuals and families increases:</p> <ul style="list-style-type: none"> <li>• To what extent will this increase the number of individuals who invest in tools and equipment for on-the-land activities? <ul style="list-style-type: none"> <li>➤ To what extent will this increase the capacity of individuals / families to participate in traditional land use activities?</li> </ul> </li> <li>• Will individuals / families spend less time in the community and involved in on-the-land activities?</li> </ul> <p>Assuming there is an increase disturbance to the environment as a result of in mineral resource development:</p> <ul style="list-style-type: none"> <li>• To what extent will the level of anxiety about the health of the land increase? <ul style="list-style-type: none"> <li>➤ To what extent will this lead to a decrease in the amount of time people spend engaged in on-the-land activities?</li> </ul> </li> </ul>
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**Figure 5b: Impact Hypothesis #10 - Land Use (1998)**

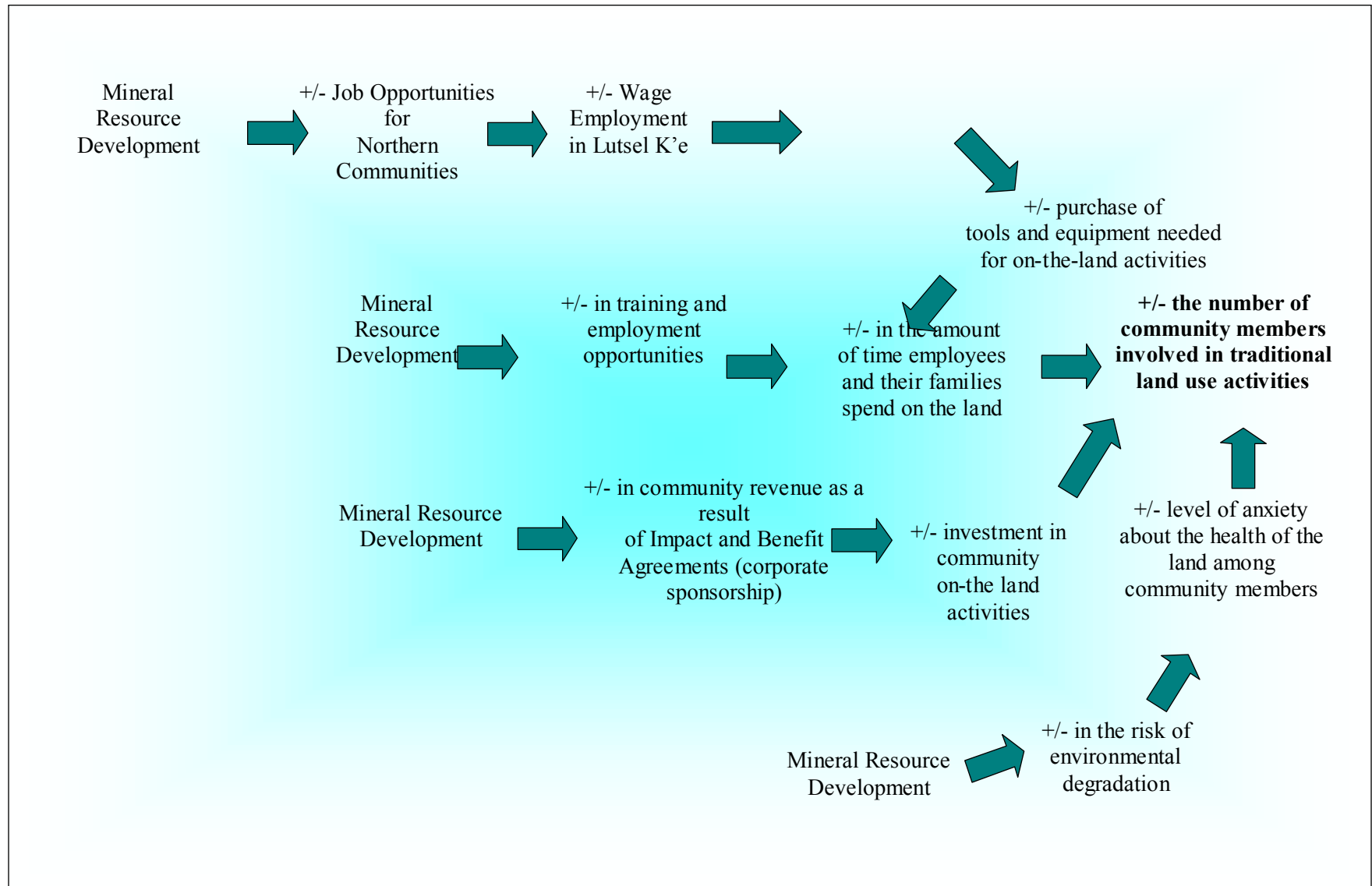
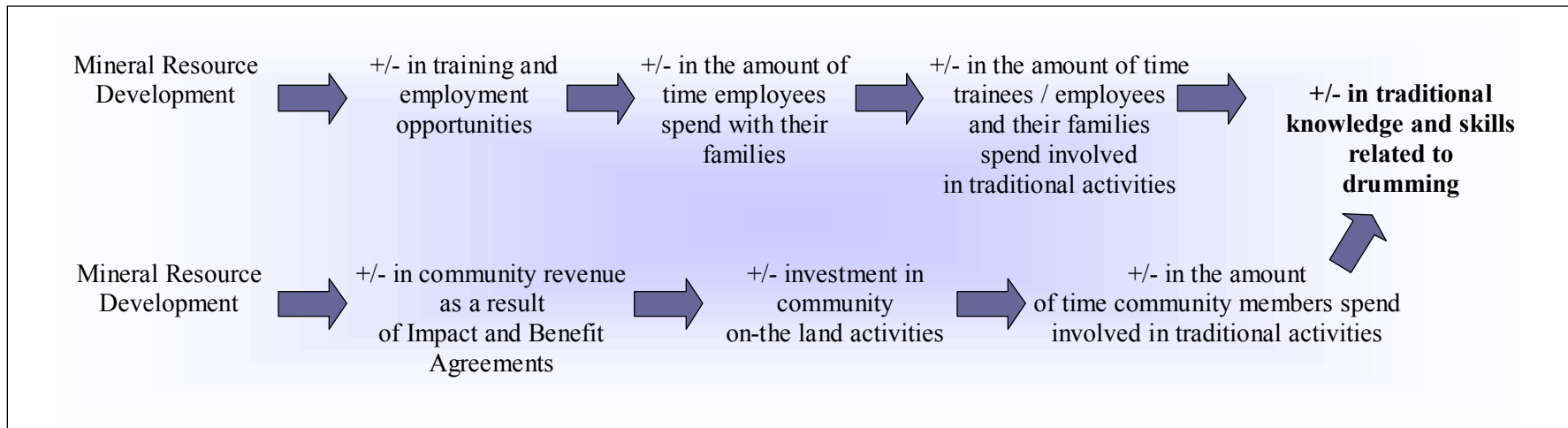


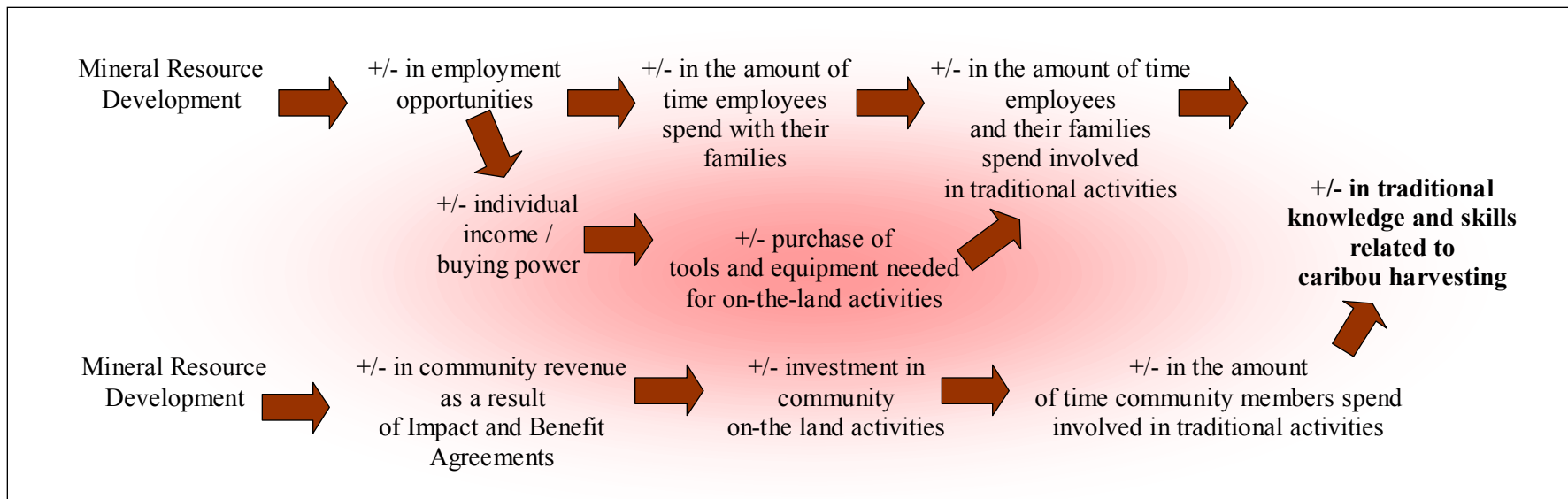
Figure 5b: Impact Hypothesis #10 - Land Use (1998)

<p><b>Cultural Preservation Traditional Knowledge</b></p> <p>Traditional Knowledge and Skills <i>How much do people know about drumming?</i></p>	<p>Assuming there is an increase in community revenue as a result of IBA Agreements and corporate sponsorship:</p> <ul style="list-style-type: none"> <li>• To what extent will this increase the resources available to finance cultural programs that teach knowledge and skills related to drumming? <ul style="list-style-type: none"> <li>➤ To what extent will this increase in the number of community members who drum?</li> </ul> </li> </ul> <p>Assuming there is an increase in employment in the mining sector and the amount of time employees spend in the community with their families decreases?</p> <ul style="list-style-type: none"> <li>➤ To what extent will this decrease the opportunities for individuals / families to support cultural programs including drumming?</li> </ul>
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**Figure 5c: Impact Hypothesis #11 - Traditional Knowledge and Skills (Drumming) (1998)**

<p><b>Cultural Preservation Traditional Knowledge and Skills</b></p> <p>Knowledge about Harvesting [Caribou Harvesting / Cutting]</p>	<p>Assuming there is an increase in community revenue as a result of IBA Agreements and corporate sponsorship:</p> <ul style="list-style-type: none"> <li>• To what extent will this increase the resources available to finance cultural programs that teach knowledge and skills related to caribou harvesting? <ul style="list-style-type: none"> <li>➤ To what extent will this increase in the number of community members engaged in caribou harvesting?</li> </ul> </li> </ul> <p>Assuming there is an increase in employment in the mining sector and the incomes of individuals and families increases:</p> <ul style="list-style-type: none"> <li>• To what extent will this increase the number of individuals who invest in tools and equipment for on-the-land activities? <ul style="list-style-type: none"> <li>➤ To what extent will this increase the amount of time individuals spend on-the-land activities and the opportunities to harvest caribou?</li> </ul> </li> </ul> <p>Assuming there is an increase in employment in the mining sector and the amount of time employees spend in the community with their families decreases?</p> <ul style="list-style-type: none"> <li>➤ To what extent will this decrease the opportunities for individuals / families to engaged in caribou harvesting?</li> </ul>
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**Figure 5d: Impact Hypothesis #12 - Traditional Knowledge and Skills (Caribou Harvesting) (1998)**

### **3.4 Data Collection**

The method of data collection and the rationale varied from indicator to indicator.

#### **3.4.1 Nutrition - Consumption of Traditional Food**

The community researchers used the 1993 work of Centre for Indigenous People, Nutrition and the Environment (CINE)<sup>1</sup> as a model. The CINE “Traditional Food Frequency Questionnaire” was intended to reveal the frequency of consumption of traditional food in the last three months prior to the visit. The researchers during the *Community-Based Monitoring Project* adapted that questionnaire from a three month to a two month recall. The methods for the CINE Study were also done as home-visits (individual interviews). The sample of households for *Community-Based Monitoring* (40) has been similar or slightly larger than the 10% sampled during the CINE project. The researchers for both the CINE study and the *Community-Based Monitoring Project* used four age categories and attempted to sample the same number of males as females.

The detailed and quantitative nature of the CINE “Traditional Food Frequency Questionnaire” for the *Community-Based Monitoring* was valuable model because it allowed the researcher to gain a great deal of quantitative data which is easily compared through charts and tables. The lack of open ended questions, however, limited the amount of qualitative information collected. Stories, and other narrative comments about traditional food consumption would have provided valuable context to the lists of numbers. In some cases, the interviewees did provide contextual or evaluative information along with their quantitative responses. For example, elders spoke about the health of fish in a nearby lake or changes in the population of certain waterfowl species. The researchers recorded these comments separately from the quantitative data.

By using the same or similar methods and questionnaires the community researchers recognized they would be able to use the results from the 1992 CINE study for comparison in *Community-Based Monitoring*.

During *Community-Based Monitoring Cycle Two (1998)*, home-visit questionnaires were conducted on traditional food consumption. The survey focused on consumption of caribou, moose, whitefish, trout, and muskrat.<sup>2</sup> These species were selected because they are commonly consumed in Lutsel K’e during the December – January season. These species correspond with the harvest calendar from the Centre for Indigenous Peoples’ Nutrition and the Environment produced in 1993.

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<sup>1</sup> Oliver Receveur et.al. *Variance in Food Use in Dene/Metis Communities*. Montreal: McGill University-School of Dietetics and Human Nutrition. (October, 1996)

<sup>2</sup> Rabbit, ptarmigan are also harvested during the December- January season. The community researchers did not include these animals in their survey. Thirteen musk-oxen tags were also distributed by the Wildlife Officer in Lutsel K’e for the winter season. From the results it is assumed that these animals were harvested after the December – January study period.

The study period for Cycle Two was December 1997 – January 1998. A total of thirty-five (35) people were surveyed, randomly selected from four age groups. (10 people - Aged 10 to 19) (9 people - Aged 20 to 40) (8 people - Aged 41 to 60) (8 people - Aged 61 and over) In both Cycles everyone of those surveyed reported eating some traditional food.

### 3.4.2 Employment:

The community researchers developed a questionnaire in Cycle One which they used again in Cycle Two. Similarly, the questionnaire was to be conducted with a focused group of community members - namely those employed in the mining sector. The questionnaire provided employees with opportunities to provide specific information related to their positions, to reflect on their employment experiences and provide opinions about the adequacy of training programs. Only three people employed in the mining industry were able to complete questionnaires during Cycle Two. It should be noted that the Project experienced a staff turnover during Cycle Two which limited time and opportunity to locate employees who may not have been in the community at the time of the interviews.

Economic Development Employment in the Mining Sector	1. Which Mining Company were you Employed by?
	2. What was your Position?
	3. How long were you employed?
	4. What did you like about the position that you held?
	5. Do you think more training programs should be implemented in town (Lutsel K'e) that would lead to more permanent employment? (Yes/No) If yes, what kind of training programs would you recommend?
	6. Are you still employed? (Yes/No) If no, what was your reason for leaving your job?
	7. What are your recommendations?

### 3.4.3 Youth Goals for Education and Employment

The community researchers decided to take an action-based approach to monitoring this indicator and took on a “career counselling” role, providing youth with an opportunity to reflect on how they could achieve their goals following the delivery of the questionnaire.

The questionnaire was developed by the community researchers in consultation with the Wildlife, Lands and Environment Committee. Youth who have role models employed in the mining sector are more likely to become employed in the mining sector than are students without those role models. Although the youth interviewed were young and are likely to change their goals before graduating high school, the community researchers saw value in learning more about their young ideas of the future. As a secondary aim the community researchers wanted to learn more about the reasons behind the students’ goals why the employment

was important and whether the youth were aware of the steps he/she would have to take to achieve their goals.

<b>Youth Participation Youth Goals for Education and Employment</b>	What is your goal for future employment (career)?
	Why is this employment important to you?
	Do you know what step you have to take [to achieve your goal]?
	What support do you have? (Parents, teachers, resource people, family members)
	Are you willing to move out of town to further educate yourself or for employment?
	Who is your role model? Explain?

The survey related to youth goals in education and training was given to thirteen (13) youth in the classrooms of Gr. 4-6 and Gr. 7-9. It should be noted that the project experienced a staff turnover during Cycle Two which limited the time and opportunities available to interview more than the thirteen students.

#### 3.4.4 Healing Services

Questions for monitoring this indicator were developed in consultation with the Lutsel K'e Drug and Alcohol Worker. Through the healing questionnaire, the community researchers sought to learn what kinds of approaches (including programs and services) are currently important to adults and young adults in the community.

Twenty-eight (28) people were randomly selected for the healing survey. There was no formal methodology for random selection. Instead, random selection was overseen by the Project Director based on an interest in interviewing people not commonly vocal in public meetings and getting a good sample from different family groups and age groups.

<b>Healing Healing Service/Sobriety</b>	What kind of support is in place at the moment for people that are trying to keep their sobriety or improve on personal growth?
	How can you be supportive?
	What kind of approach are you taking regarding healing or personal growth?
	What gives you strength in sobriety or on personal growth?
	Are there any recommendations? For example for the Drug and Alcohol Worker or Chief and Band Council?

### 3.4.5 Cultural Programs

The monitoring of cultural programs largely dealt with a community concern raised during the pilot project about the *limited number* of cultural programs ongoing in the community. Therefore the researchers sought to find out exactly how many formal opportunities for cultural education existed in the community during the study period. For ease of data collection the researchers limited their search to only those activities that were formally organized in the community. Those cultural activities that occur informally in the home were not considered. A focused set of home-visits with ten (10) cultural program leaders were done in the community with persons responsible for managing and delivering programs. The questionnaire was developed to determine the number of cultural programs in the community as well as to assess the value/success and potential to improve these programs.

Cultural Preservation Cultural Education	What kind of cultural programs are currently offered in the community?
	When do these programs take place?
	What is your opinion on the best approach to offering cultural programs in the community?
	Describe the program. What are some challenges you face?
	How do you know if the program is successful? (What are the signs that you have achieved your goal of cultural education?)

### 3.4.6 Housing

In consultation with the Housing Authority, the community developed a questionnaire that focused on quality and quantity of housing in Lutsel K'e. The questionnaires were completed during home-visits with twenty (20) randomly selected people in the community. There was no formal methodology for "random selection". Instead, random selection was overseen by the Project Director based on an interest in interviewing people not commonly vocal in public meetings and getting a good sample from different family and age groups.

The open-ended questionnaire was designed in part to reflect and affirm the Lutsel K'e Dene history of living on the land as told by elders during the *Traditional Knowledge Study on Community Health*. In that study, elders often prefaced or concluded their comments about the community by talking about other areas where people used to live. That being the case, the questionnaire provided an opportunity for people to identify and discuss other places where Lutsel K'e Dene people used to live.

The questionnaire was also designed to more clearly identify the issues surrounding current housing conditions in Lutsel K'e. When asked to comment, community members responded with some general and specific and specific comments as well as recommendations.



Community Infrastructure and Services <b>Housing</b>	Do you know of any places where Lutsel K'e Dene people used to live?
	What was housing like at that time?
	What do you think of the current housing situation?
	What do you think can be done [to improve the current housing]?

### 3.4.7 Traditional Values ("Old Lady of the Falls")

Legends about the "Old Lady of the Falls" and her power to heal Dene people were eloquently orated by Lutsel K'e elders and set a context for other stories and comments made by community members and their experiences. A quantitative measure - the number of times community members have visited the site - was included to provide additional perspective on the traditional values associated "Old Lady of the Falls".

<b>Healing Spiritual Values</b>	How many times have you been to Parry Falls? (1 / 2 / 3 / 4 / 5 / 6 / 7 More)
	Why is Parry Falls Important to You?
	Do you have any stories about Parry Falls and what it has done for the people?

The community researchers conducted the questionnaire with a sample of twenty-nine (29) community members - eight (8) elders, eight (8) adults and thirteen (13) youth.

### 3.4.8 Impacts of Development on the Land (Water)

Given the increasing number of projects in the region and their complexity, the researchers felt that community members did not have enough information in hand to clearly comment about the various projects.

The researchers therefore decided the most appropriate method would be to review comments made by community members during consultation meetings with the various developers as recorded in the minutes. The home-visit approach to gathering information was therefore modified to one of existing information review.

### 3.4.9 Current Land Use

The community researchers conducted twenty-seven (27) home-visits with hunters, trappers and land users in the community. The respondents ranged in age from twenty to eighty years old. Only one woman trapper was interviewed. All other respondents were male. The researchers collected a range of quantitative information about land use. They decided to focus on travel routes and sites related to hunting and trapping and spiritual land use. They asked community members to map out their travel routes using mylar overlays and 1:250 000 scale

map sheets. Rather than carry these materials house to house, the researchers encouraged their informants to come to the office to map their information. The majority of the information collected related to hunting and trapping rather than spiritually related land use.

<b>Cultural Preservation Land Use (Current)</b>	<u>Hunting:</u> 1. During the past year did you hunt or trap for food? 2. How many years have you been hunting? 3. How was hunting last year (refers to # of animals)? Caribou Beaver Moose Geese Muskox Muskrat Porcupine 4. How did this year's hunting compare with previous years? 5. What was the cause of the change? 6. Can you draw your hunting area for 1997 on the map? 7. Where do you go if there is no hunting close by? 8. Do you have any interesting stories about hunting that you would like to share with us?
	<u>Trapping</u> 1. During the past year did you trap for fur? With whom? 2. How many years have you been trapping? 3. How was the trapping last year? (refers to # of animals) Wolverine Mink Beaver Marten Wolf Fox 4. How did trapping this year compare with previous years? 5. What was the cause of the change? 6. Can you draw your trapline for 1997 on the map? 7. What weather conditions are most favourable for trapping these species? 8. Do you have any interesting stories about trapping you would like to share with us?

#### 3.4.10 Togetherness - Good Communication

For ease of data collection the researchers focused on the communication between various community organizations. They consulted two key organisational representatives - Lucy Sanderson (Wildlife, Lands and Environment Co-ordinator) and Addie Jonnasson (Health and Social Services) to assist in developing the questionnaire. The questionnaire was completed by 17 organizational representatives in the community including members of Chief and Council.

<b>Self-Government Working Together</b>	What does working together mean to you?
	What positive things do you see with different organizations working together?

	What other positive things would you like to see happening?
	What kind of fun things would you like to see happening in different organizations?
	Do you have any encouraging words that you would like to share about working together?

#### 3.4.11 Traditional Knowledge and Skills (Dene Songs)

The community researchers developed questions for gathering information about drumming with the assistance of researchers doing similar studies in other parts of the north including Cindy Allen of the Department of Musicology at Carleton University and Nicole Beaudry from the Department of Music at the University of Quebec.

The community researchers did a set of focused interviews with seven (7) community members who were known as drummers. Community members with traditional skills in fiddling were also interviewed. Because of the nature of the information (song), community members were interviewed using the video camera and audio-mini-disc recorder. Each interview took about an hour. The video and audio discs are stored in the Band Office.

<b>Cultural Preservation Traditional Knowledge and Skill (Drumming)</b>	Do you know any drum songs?
	Can you play them for us?
	Do you have any stories about these songs that you would like to share with us?
	Where did you learn these songs?
	Where did the songs come from?
	What are the songs about?

#### 3.4.12 Traditional Knowledge and Skills (Caribou Use)

On the recommendation of the Wildlife, Lands and Environment Committee and elders who were consulted by the researchers, a caribou cutting workshop was held rather than a set of home-visits. The community researchers asked an elder (J.B. Rabesca) to provide information to the students about properly respecting, harvesting and preparing caribou meat. School students were invited to the community hall, while the elder skinned the caribou and explained the different parts. A translator relayed the information to the students. The elder told stories about how to identify a healthy caribou and named all the important parts of the caribou in Chipewyan for the students. The students had a good laugh when J.B. demonstrated calling for caribou. The workshop was video-taped. A few days later, the community researchers showed the students how to cut up hind quarters and to make dry-meat. The students and a few adults also had a chance to make dry-meat. This dry-meat making workshop was also video-taped.

<b>Cultural Preservation Traditional Knowledge and Skill (Caribou Use)</b>	Where do you get your caribou meat from?
	What is your favourite part?
	Why are some meats more tender?
	How do you know if the caribou is male, female, young or old?
	How do you know which one to kill? (signs)
	How are each of the caribou parts used?
	How long do caribou live?
	Do you have any stories about caribou that you would like to share with us?

### 3.5 Method for Use of Results

Use of project results is another aspect of the methodology which requires discussion. As a community-based process, the two most legitimate users of the information are the community members themselves and the local leadership. There are potentially three ways in which the results might be used - (1) self-reflection, (2) community planning and for (3) gauging potential impacts of resource development.

#### 3.5.1 Self-Reflection for Community Members

Knowledge gained through "Community-Based Monitoring" can be a useful tool for self-reflection. As community members provide input and receive feedback through reporting, a greater awareness can emerge about current changes and potential changes in the journeys of Self-Government, Healing and Cultural Preservation (Figure 3).

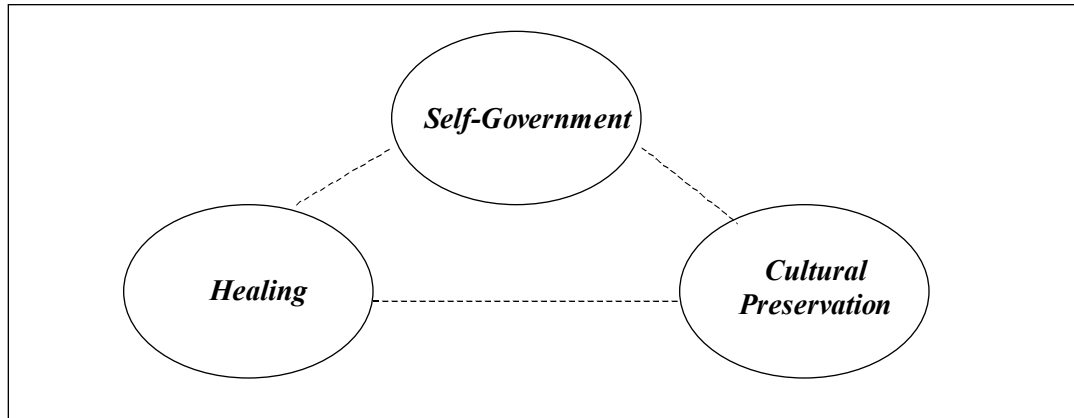
Lockhart (1990) describes some of the benefits of an action and community oriented process of sharing knowledge in the context of dependency.

[It] encourages innovative as distinct from regulated approaches to problem definition and solution. The learning that takes place is public and emphasizes collective as well as individual costs and benefits. As a consequence, "ownership" of the development problem and hence "responsibility" for its solutions cannot so easily be delegated to, or co-opted by, outside interests. Most important of all, the action approach encourages participants to overcome the "culture of silence" (Friere 1984) that typifies the feelings of hopelessness that so characteristically overtake those who live under conditions of economic dependency. (Lockhart 1990, p.5)

While monitoring is often associated with measurement and data, the definition of community-based monitoring in northern Aboriginal communities may be somewhat different. Where there is a connection to traditional or otherwise common processes already in place in the community, greater ownership over monitoring can be developed. For example, during the pilot project monitoring was defined as "watching, listening, learning and understanding changes". Other potential conceptual frameworks for monitoring community health issues include storytelling and sharing circles.

### 3.5.2 Community Planning

The indicators from the pilot project are a set of measuring sticks which community leaders may find useful in community planning. Similar to visioning, the indicators reflect goal statements for community capacity building which can be used as lenses for decision making. For example, if the Band Council is faced with the task of deciding whether to implement program (A) or program (B), they might consider which program would better build community capacity in self-government, healing and/or cultural preservation.



**Figure 6: Journeys of Change - Self-Government, Healing and Cultural Preservation -Community-Based Monitoring Pilot Project (1996)**

### 3.6 Communication

A summary of the results from Cycle One were communicated to the community through poster displays, reports to committees and ongoing and informal communication with other members of the community.

#### **Communications during Each Cycle**

- Informal Communication with Community Members
- Poster displays in Local Store, Health Centre and Band Office
- Ten Home-visits Evaluations of Results following each Cycle.
- Presentation of Interim Reports to the WLEC Committee, Elders Committee and Youth Committee

#### **Annual Communications**

- Detailed Evaluation of results with local Peer Review Committee (Stan Desjarlais, Marie Catholique, Jim Fatt, Chief Felix Lockhart)
- Summary Presentation of Report during a Public Meeting
- Forwarded results to appropriate local agencies and the WKSS

**Figure 7: Communications Community-Based Monitoring Pilot Project (1996)**

### 3.7 Preparing the Annual Report

The Annual Report was prepared by Brenda Parlee using data from the *Community-Based Monitoring Pilot Project (1997)*, the *Traditional Knowledge Study on Community Health (1998)* and *Community-Based Monitoring Cycle Two-Four*.

## **Activities for Year**

The Activities of the Year for each of Cycle Two, Three and Four followed a four month cycle gathering information, summarizing information, evaluation, and reporting.

## Results

## Discussion and Conclusions