



CHOOSING A PATH FORWARD

A Long-Term Outlook for Denendeh

Denendeh has enjoyed a prolonged period of economic prosperity and stability as a direct result of the investments in the oil and gas and diamond industries. However, this economic stability will soon be replaced with a period of change and instability. This period will include a decline in economic and business activity, lost jobs and lower incomes, and a population movement away from rural communities and out of the territory altogether. Indeed, in some parts of Denendeh, these changes are already well underway.

But, there remain opportunities to replace what is being lost. Not every opportunity will be in mining, and there may not be a new job created for everyone that is lost. The new-look economy will require new perspectives, realigned expectations, and a new approach to planning and investing. Denendeh remains a region with immense economic potential, but tapping into this potential will require inter-regional cooperation, strategic investments, strong leadership, and some risk taking.

The purpose of this report is to improve our understanding of the changing economic landscape across Denendeh, when and how these changes will take place, and what can be done to change the downward trajectory of our economy.

Impact Economics
(w) +1.867.873.8008 (m) +1.867.444.619 1
clinton@impacteconomics.ca

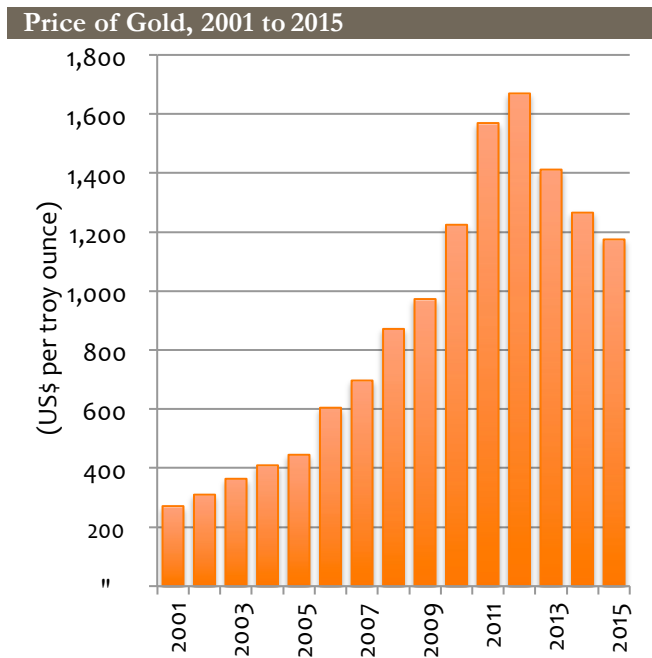
TABLE OF CONTENTS

A Look Back at 25 Years of Change	1
Denendeh’s Current State of Development	4
What do we mean by “State of Development”	4
Demographics	4
Financial Wellbeing	7
Human Capabilities	10
Social Wellbeing	13
Economic Assessment of Next Five to Ten Years	16
Scenarios	16
How will people respond to the changing economy?	20
Effects on Population	20
Effects on Communities	21
What’s Next for Denendeh?	23
Creating a New Path Forward	23
Conclusion	26
Appendix	27
Status of Major Projects within Denendeh	27

A LOOK BACK AT 25 YEARS OF CHANGE

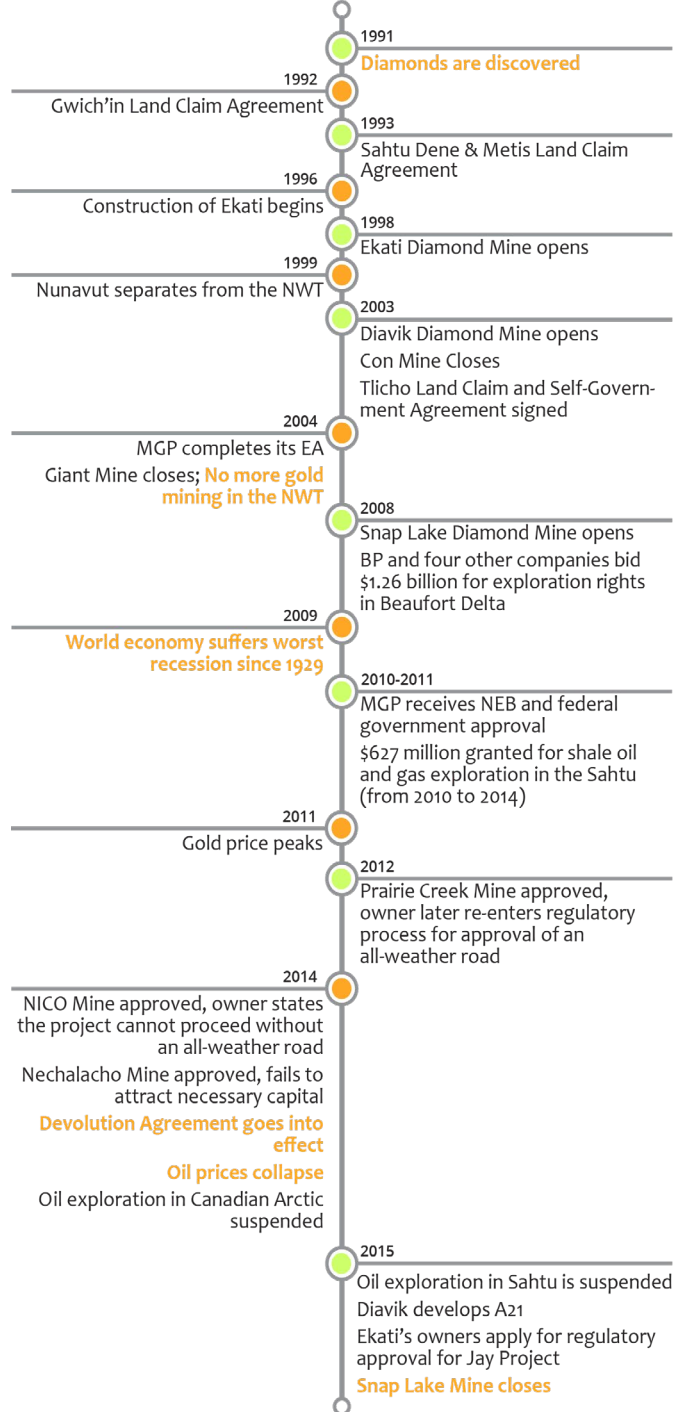
The Denendeh economy has undergone a major transformation over the past 25 years. It is worthwhile taking a few minutes to consider these changes. This history provides the context for understanding the current economy, the prospects over the medium to long term, and for discussion regarding how residents might respond to the coming changes.

Highlighting the past 25 years of economic activity is the decline and eventual end of gold mining in the NWT. The closure of Con and Giant Gold Mines in 2003 and 2004, respectively, ended 75 years of (almost uninterrupted) gold production in the Northwest Territories. There has been little interest in a revival since; no doubt discouraged by a gold price that is now several hundred dollars below its peak price of \$1,826 per ounce in August 2011. There may come a time in the future that we look at a revival of gold mining in the territory, but this will not happen until prices have recovered.

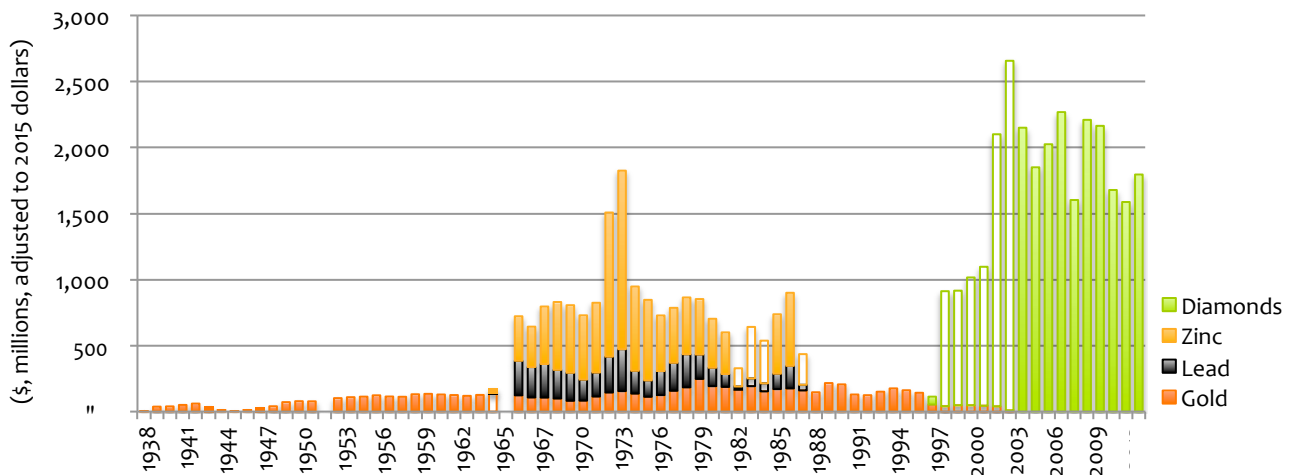


Source: World Bank, *World Commodity Prices*.

MAJOR ECONOMIC EVENTS OVER PAST 25 YEARS IN DENENDEH



History of Mineral Production in the Northwest Territories, Gold, Lead, Zinc, & Diamonds



Source: NWT Bureau of Statistics, *Mineral Production*; Statistics Canada, *Inflation Rate*.

Diamond mining made it easier to forget the importance of gold mining to the economy. The discovery of diamonds and the eventual development of Canada's first diamond mine set the territory's economy on a new path. The size of operations, the value of the resource, and their location combined with an industry-wide move away from establishing mining towns and toward a new and enforced commitment to ensuring local benefits through such things as Fly-in/Fly-out work rotations, Impact and Benefit Agreements, and Socio-economic Agreements have brought great change to Denendeh—none more so than to the First Nation peoples of the region. At the same time, one cannot help but notice that the transformation is not complete—that there remain many First Nations people living in poverty. We'll return to that topic later in the report.

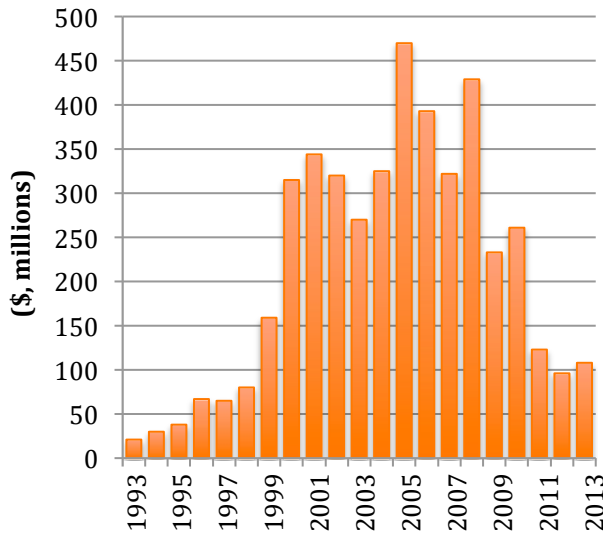
The contribution of diamond mining to the Denendeh economy has hidden other important economic events, most notably the rise and fall of the Mackenzie Gas Project. Imperial Oil filed its Environmental Impact Statement for the project in 2004. Public hearings began in 2006. But it wasn't until December 2010 that the National Energy Board gave the project its approval subject to 264 conditions. Unfortunately for the MGP and for the labour or business counting on

the work it would create, the economic realities had changed in the time since the project was proposed six years earlier.

- Projected construction costs had risen from as estimated \$5 billion to \$16 billion;
- The price of natural gas had fallen from a high of \$US14 per tcf in 2006 to \$4 per tcf by 2010; and,
- the production of shale gas throughout North America had escalated to a point where Mackenzie gas was too expensive and largely unnecessary.

A shorter version of the MGP story has played out in the Sahtu region, where the National Energy Board and NWT Geological Survey have estimated the presence of 191 billion barrels of oil. Fourteen exploration licences worth \$627 million were granted in the region over the past five years. However, the region's oil is trapped within the Canol and Bluefish shale formations meaning it will stay there unless multi-stage hydraulic fracturing is used to extract it. The residents of Denendeh have not reached a consensus on this method of extraction, causing uncertainty in future development. And, as with the case of Beaufort-Delta natural gas, a recent collapse in global demand means exploration, extraction, and transportation of Sahtu oil is no longer financially viable. Most of the interest in the Sahtu oil came at a time when a barrel sold for more than \$120; as of January, oil was trading for less than \$30 per barrel.

NWT Oil & Gas Exploration Expenditures, 1993 to 2013



Source: NWT Bureau of Statistics, *Mineral Exploration Expenditures*

Of course, many other economic events transpired over the past 15 years. No fewer than three mining

projects applied for and received regulatory approval—Prairie Creek, NICO, and Nechalacho. All three have since moved their projects into care and maintenance, suffering from a combination of low commodity prices, missing infrastructure, and tight capital markets. Also during this time, the Cantung Mine re-opened, but soon closed with its owner going into bankruptcy protection, and the Mactung property was purchased by the GNWT. And finally, to close out 2015, De Beers closed its Snap Lake Mine, where approximately 750 people were employed.

More so than ever, this leaves the Denendeh economy dependant on the fortunes of a single commodity—one that is a luxury item, making it vulnerable to changes in the global economy. The demise in oil and gas exploration also means we can expect rising inequality between regions within Denendeh, with all near-term opportunities concentrated in the North Slave region. We will explore this in more detail later in the report.

DENENDEH'S CURRENT STATE OF DEVELOPMENT

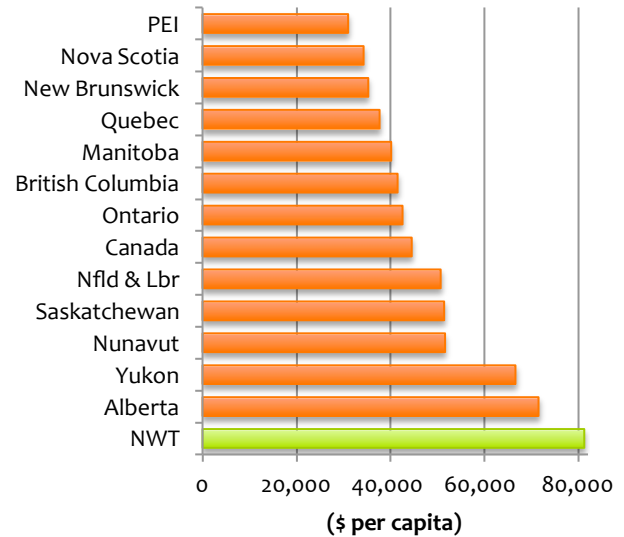
WHAT DO WE MEAN BY “STATE OF DEVELOPMENT”

In modern economics, there has been a shift in thinking around the idea of societal goals and how to measure them. For decades, it was believed that society should focus its efforts (and investments) on economic growth because it leads to greater prosperity and ultimately an improved quality of life. Over the years, this close connection between growth and wellbeing has been shown to be weaker than originally thought. Rising inequality in western, industrialised nations is evidence of this lost connection. In the NWT, GDP per capita is the highest in the country, but yet, rates of poverty are extreme – topped only by the poverty rates we see in Nunavut.

We have learned that society's progress (its development) must be judged by the progress of people, not only by changes in their income but more generally in terms of improvements in their choices, capabilities, and freedoms; and we should be concerned with the distribution of these improvements, not just the simple average for a society (Sen 1999) (Barder 2012). The ultimate goal for a society is thus recognised as the freedom to live a life fulfilled, to have choices, to have the capabilities needed to make those choices, and to have the social connections that ensure one's voice is included when choices are being made for you. These ideas are expressed as the state of wellbeing or quality of life, or even more simply as the state of happiness (Impact Economics 2013).

To turn these concepts into tangible measures, development can be investigated by observing peoples' freedoms associated with financial resources, human capabilities, and social wellbeing. The investigation is improved with an understanding of the region's population, which is where we turn first.

Real GDP per capita, Provinces and Territories, 2012



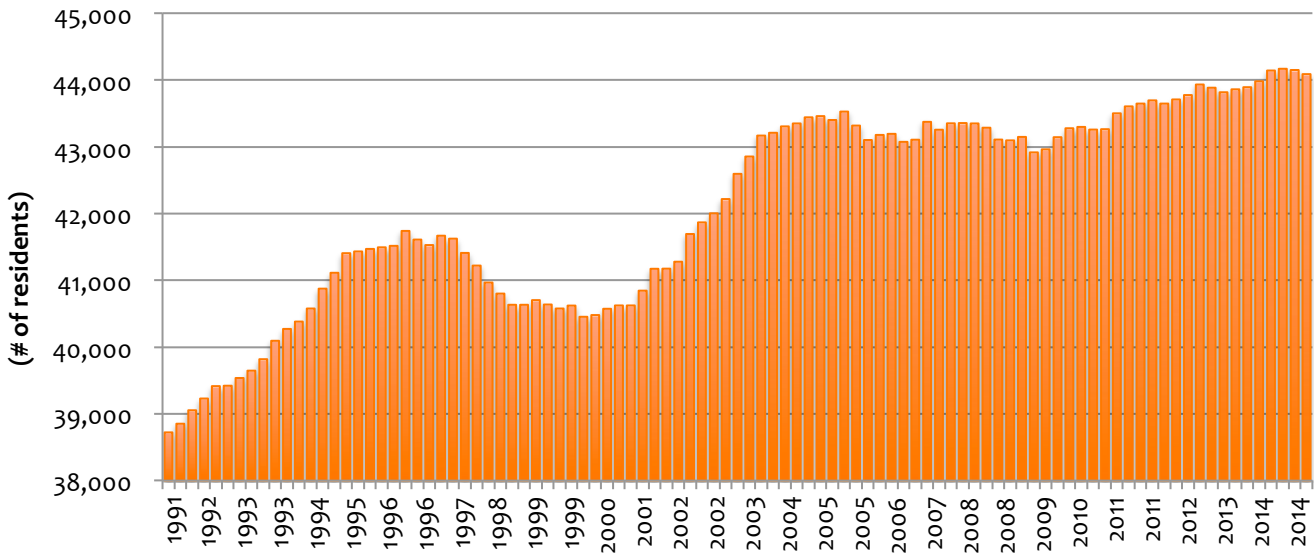
Source: Statistics Canada, CANSIM Table 051-0001 & 384-0038.

DEMOGRAPHICS

There are some interesting trends occurring within the NWT's overall population. After dropping to 43,000 in 2009, there has been slow but steady growth. The territory is now home to just over 44,000 residents. This is a somewhat puzzling trend because there has been little job growth since 2011, and in fact, there was a decline in employment of more than 1,000 jobs in 2014.

The rising population masks other changes taking place at the community level. Most noteworthy is the fact that not all communities are growing. Since 2001, thirteen communities across Denendeh have seen their populations' decline, while most of the remaining communities are largely unchanged. On the surface, these numbers don't make sense if you consider the fact that there are, on average, 700 babies born in the territory every year, 400 of which are born to mothers who live in a community other than Yellowknife.

Population of the Northwest Territories



Source: Statistics Canada, CANSIM Table051-0001.

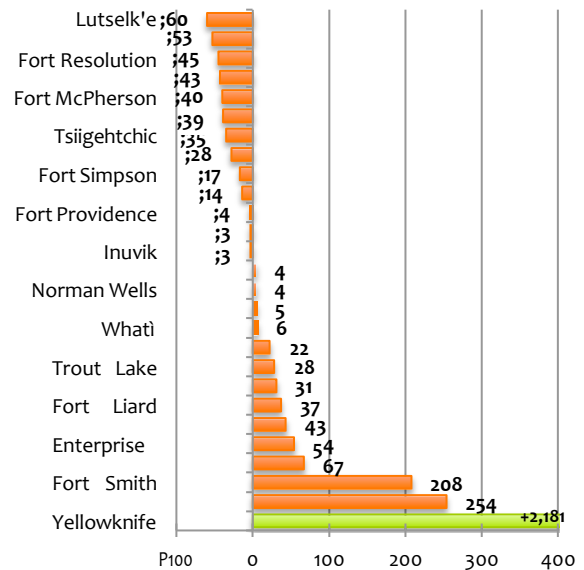
WHERE ARE PEOPLE GOING?

Despite the high rates of natural population growth (births minus deaths), the number of people living in regions outside Yellowknife is either in decline or holding steady. This is evidence that a slow deruralisation of NWT's communities is taking place, where people are migrating from smaller, rural communities to larger, urban centres.

Denendeh is not alone here—deruralisation is a global phenomenon. People move to access jobs, education, housing, family and friends, a larger array of goods and services, and better Internet access, and because of changing lifestyles.

All of these factors are likely contributing to the movement we are seeing across Denendeh communities. The implications are far reaching. Small communities are more expensive to operate from the perspective of public programs and services. The smaller consumer base tests the viability of private-sector businesses. A slow exodus of families can be the cause of anxiety among community members that remain. A stagnant or deteriorating population also means there is little chance for increased economic activity that might create jobs.

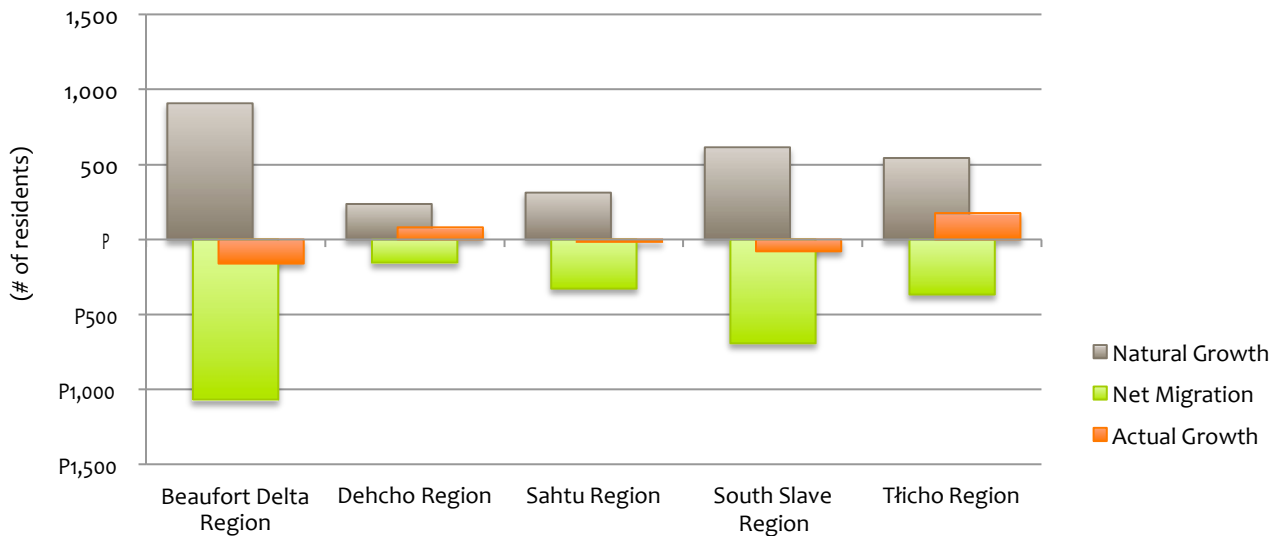
Population Change Since 2001



Source: NWT Bureau of Statistics, *Community Population Estimates*.

Population movement is not limited to deruralisation. There has been a steady out migration of residents from the NWT to southern Canada. Only twice in the past 15 years has the territory been a net recipient of migrants from the rest of Canada.

Changes in Regional Populations, 10-years

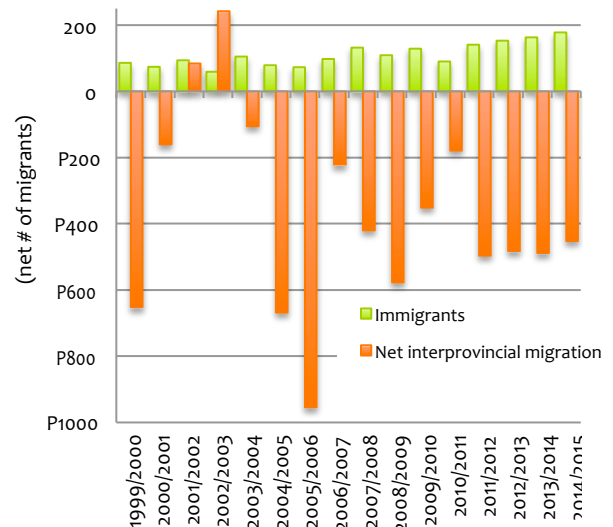


Source: NWT Bureau of Statistics, *Community Population Estimates*.

The one consistent source of positive population growth has been international migration. In recent years, the NWT has been welcoming, on average, more than 125 new Canadians annually. Immigrants are not only stabilizing the overall population, but are changing the ethnic make-up of Yellowknife.

From the perspective of communities impacted by the diamond industry, it is unfortunate if not ironic that greater access to economic opportunities is a contributing factor to out migration. With smaller populations, public services that are funded on a per capita basis (schools being an example) are being scaled back. These are effects that are not easily mitigated. But it is also a reality that deruralisation will likely escalate if and when the economy falters.

Inter-Provincial and International Migration, 1999 to 2014



Source: Statistics Canada, CANSIM Table 051-0004.

FINANCIAL WELLBEING

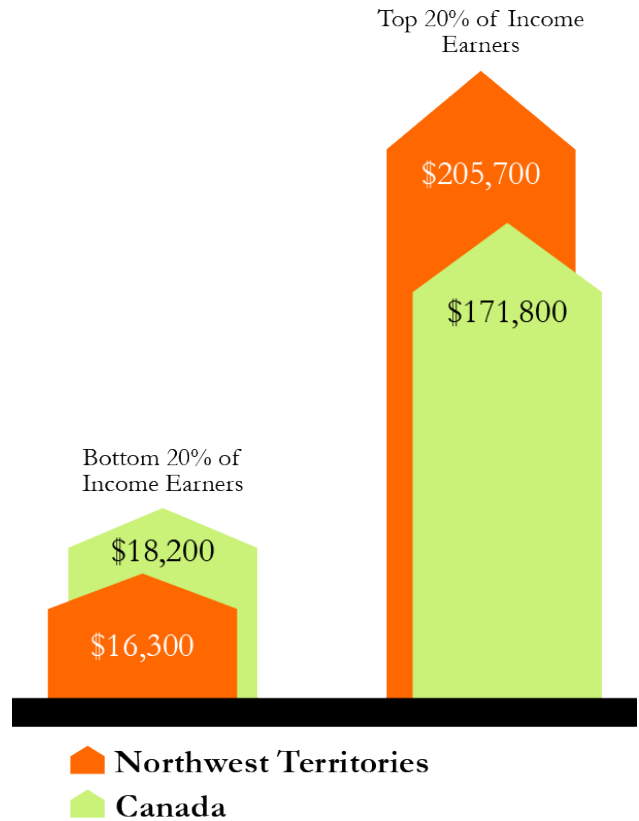
Financial wellbeing means having the financial resources to live a life fulfilled. This is often referred to as financial freedom, or the freedom to make choices. This “freedom” is one of the truly tangible consequences of economic growth. But let’s not forget that this freedom extends beyond what an individual can place in their shopping cart. Financial wellbeing affords wage earners and families a broad array of consumer, social, and political choices. In that sense, financial wellbeing affects and is affected by our capacity to make good consumer choices and by our connection to the community that allows us to become active participants in discussions important to the community’s future.

If we look at the personal finances of NWT residents, it would be easy to conclude that residents have high standards of living and that poverty is not a concern. Income per capita is higher here than anywhere else in the country—higher than Ontario, higher than Alberta.

The problem with averages is that they can hide important realities. In the NWT, there are many upper middle class families—the wealthiest among us (the top 20 percent of income earners) earned an average of \$205,700 in 2010. This is \$33,900 more than the average in Canada amongst other top earners. However, the average income of families in the

bottom 20 percent was \$16,300, which is \$1,900 below the national average. There is a massive discrepancy between these two groups. In fact, with the exception of Nunavut, it represents the greatest discrepancy between rich and poor in the country.

HOUSEHOLD INCOME



COMPLEXITY IN OUR PURSUIT OF HAPPINESS



If, instead of separating the data by levels of family income, we looked specifically at the difference between Aboriginal and non-Aboriginal families, we find the discrepancy is even greater. This shouldn't be news to anyone living in the territory, but as we investigate the root causes behind these well-known discrepancies, we learn a great deal about the state of financial wellbeing in Denendeh, why some communities are struggling, and why deruralisation is a concern.

DIAMOND MINES EFFECT ON DENENDEH

The introduction of diamond mining to the Denendeh economy alongside more rigorous efforts on behalf of territorial and Aboriginal governments to ensure benefits flow to the resident population has brought tremendous wealth into Denendeh communities in the North and South Slave regions. This growth was truly transformative for the economy and for some families, bringing hundreds of people into the workforce, lifting their families out of poverty, and setting them on a new path in terms of workforce participation, education, and standard of living. We can see this transformation in numerous statistics, such as the pace at which income support recipients declined over the 10-year period starting in 1995. But one can't help but notice the decade-long

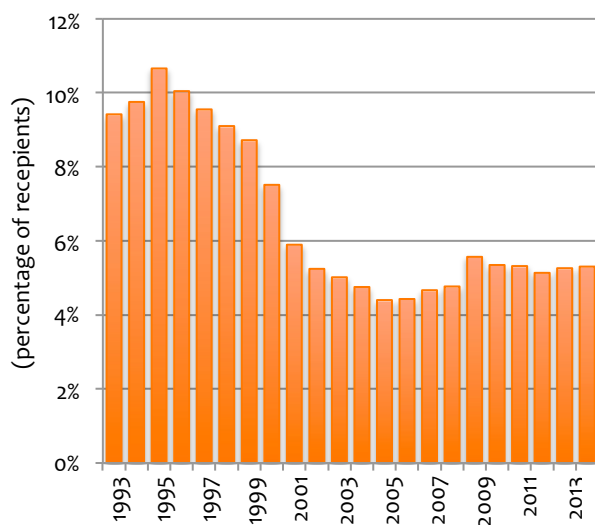
improvement has long-since levelled off, with no progress in the last ten years. And, we are now seeing the percentage edge upward, if only by a small margin.

A similar transformation took place in the labour market. Employment grew throughout the first seven or eight years of the past decade, but then suffered a major setback during the recession and has never fully recovered to its peak level established in 2007.

The employment numbers reported by the three diamond mines show that participation hits a ceiling somewhere between 1,500 and 1,600 person-years of employment. If and when these operations need more labour, whether for construction, development, or expanded production, the new workforce is sourced from outside the NWT.

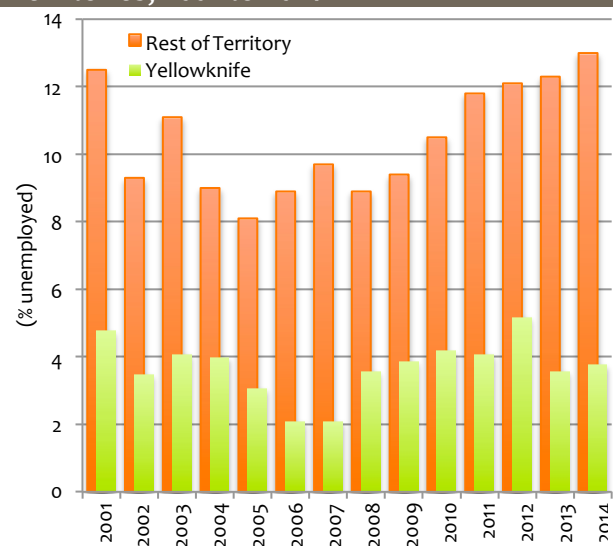
What's more, the demographic data described earlier tells us that growth in population has been centred in Yellowknife where there is already a strong economy and where rising incomes have served to support further economic expansion in that community. Outside of Yellowknife, conditions are not so rosy. There is little job creation in areas outside resource development, and jobs in this area have been stagnant since 2011.

Population Receiving Income Assistance, 1993 to 2013



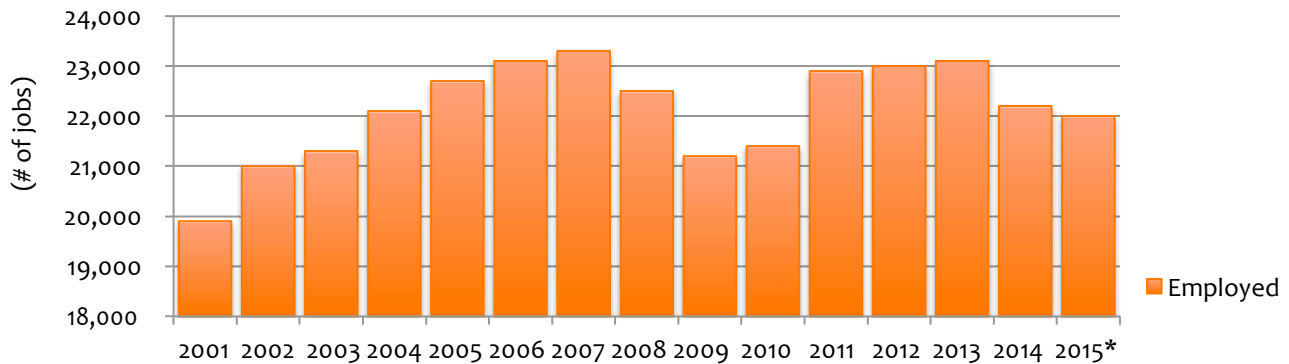
Source: Statistics Canada, prepared by NWT Bureau of Statistics, 2015 *Socio-Economic Scan*.

Unemployment Rate, Yellowknife and Rest of Territories, 2001 to 2014



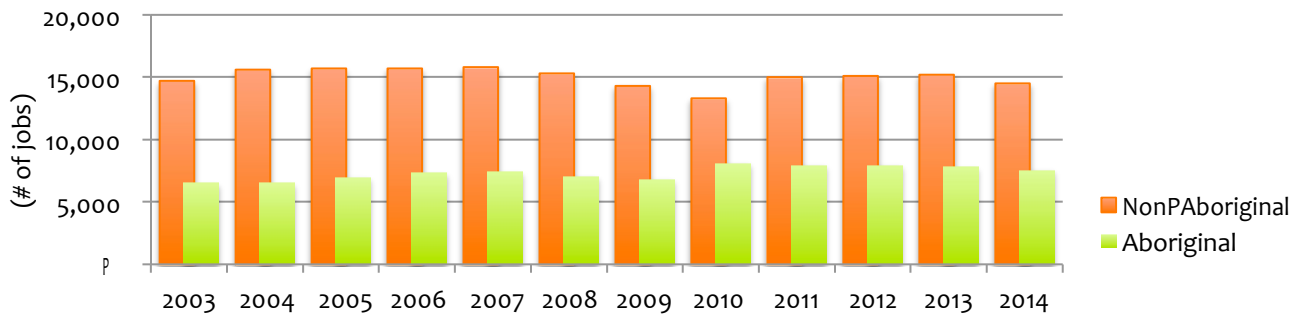
Source: Statistics Canada, *Labour Force Survey*. Prepared by NWT Bureau of Statistics, *Community Unemployment*.

Employment, 2001 to 2015



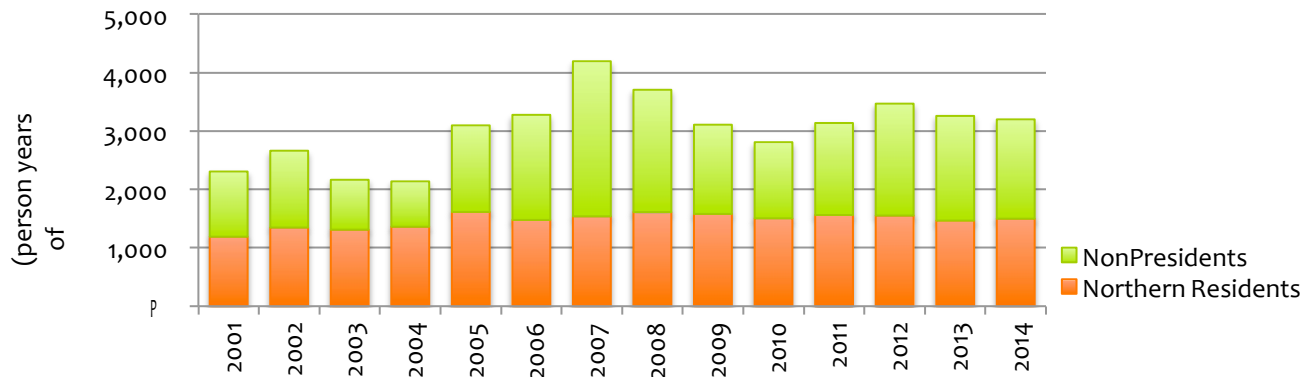
Source: Statistics Canada, *Labour Force Survey*, CANSIM Table 282-0100

Employment, Aboriginal and non-Aboriginal, 2003 to 2014



Source: NWT Bureau of Statistics, *Labour Force Activity*.

Employment at NWT's Diamond Mines, 2001 to 2014, by residency



Source: Ekati, Diavik, and Snap Lake *Socio-Economic Agreement Reports*, various years.

HUMAN CAPABILITIES

Human capabilities are those factors that allow individuals to live lives that are valued, something that is often determined by decision making and critical thinking and that affect one's ability to transform their own resources into improvements in quality of life. Education, health, literacy, and lifelong learning are the most obvious factors. To have strong capabilities is to have the ability to make sound decisions, to have the physical, social, and mental assets needed to follow through with those decisions, and to understand and adapt to changes.

There is a close relationship between financial wellbeing and human capabilities, where the cause and effect flow in both directions. Poor health and low education can negatively affect workforce participation and performance, while limited access to employment opportunities, long periods of unemployment, or dependence on income support limits one's ability to purchase more and better food, improve their living conditions, or invest in their education or that of their children.

It is in the human capabilities data that we see the greatest discrepancies between Denendeh residents. There is a gap between the generally healthy, educated non-Aboriginal population who are active in the region's workforce, and the Aboriginal community that has a disproportionate number of members who have not completed formal education, are more likely to have poor health conditions, are living in social housing, and who are not participating in the labour force on a consistent basis.

Fifteen years ago, there were expectations that the growing economy would spark a transformation throughout Denendeh that would narrow this gap. The emerging diamond industry, the renewed interest

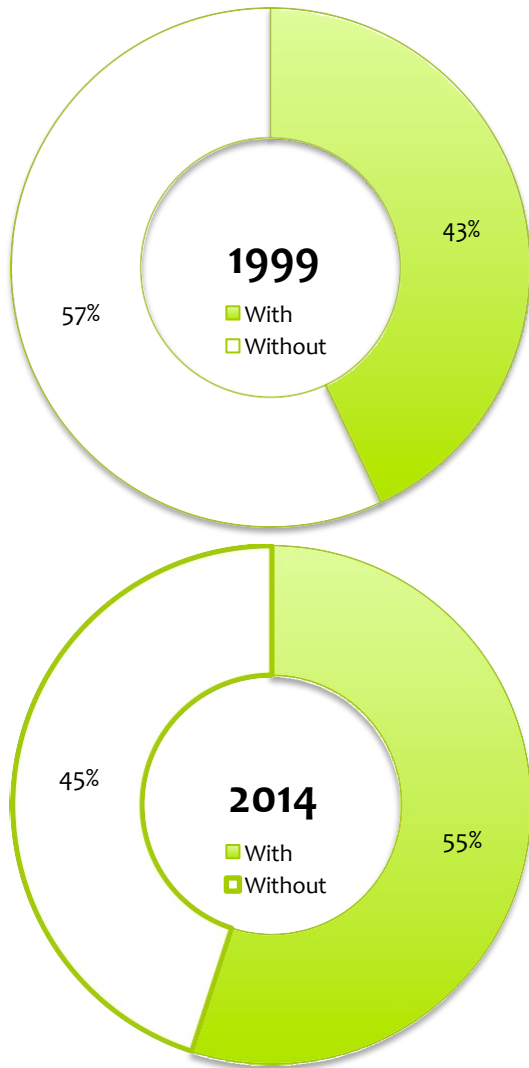
in the Mackenzie Gas Project, strong employment growth, and the growing opportunities for training and education contributed to these expectations. Indeed, there are many success stories, and many Denendeh families are far better off today than where they were 20 years ago, having received valuable training and finding employment in the growing economy. But as with financial wellbeing, the transformation in resident's capabilities is far from being complete.

FINANCIAL WELLBEING AND HUMAN CAPABILITIES



We can see this partial transformation in the education attainment rates over the past fifteen years. In 1999, 43 per cent of Aboriginal residents in the NWT had attained a high school education or better. By 2014, this percentage has risen to 55 per cent. This is slow but positive change. However, if we are to look at the data on a regional basis, we find that 77 per cent of Aboriginal residents living in Yellowknife have at least a high school education, compared to 42 per cent of Aboriginal residents living outside Yellowknife, Hay River, Fort Smith, and Inuvik.

High School Attainment, Aboriginal Students, Northwest Territories, 1999 and 2014

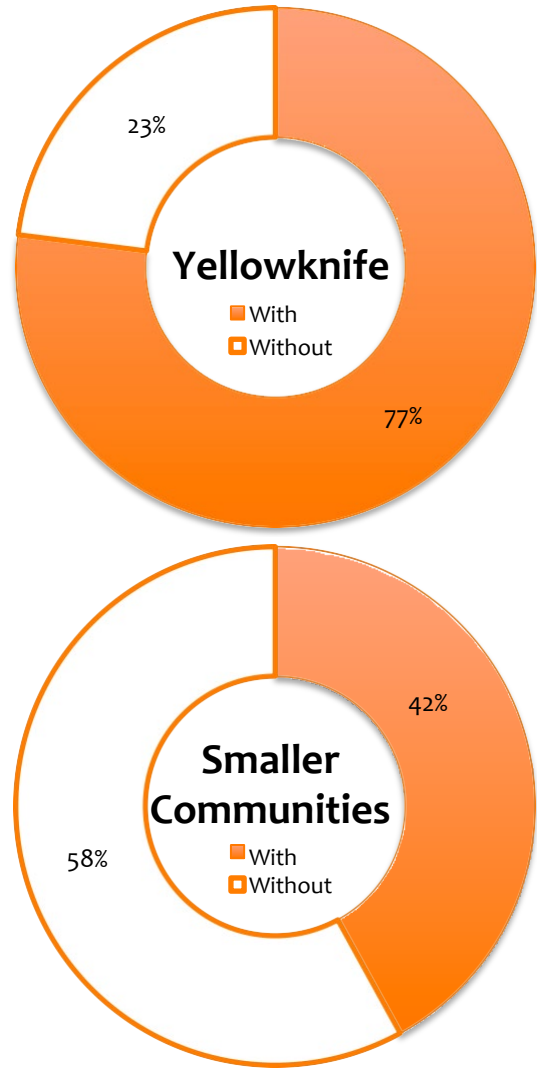


Source: NWT Bureau of Statistics, *Education Statistics*.

This tells us that a critical factor in education is location, which adds to the growing concerns regarding deruralisation in Denendeh and the future viability of its small communities.

The graduation rates across the territory suggests that

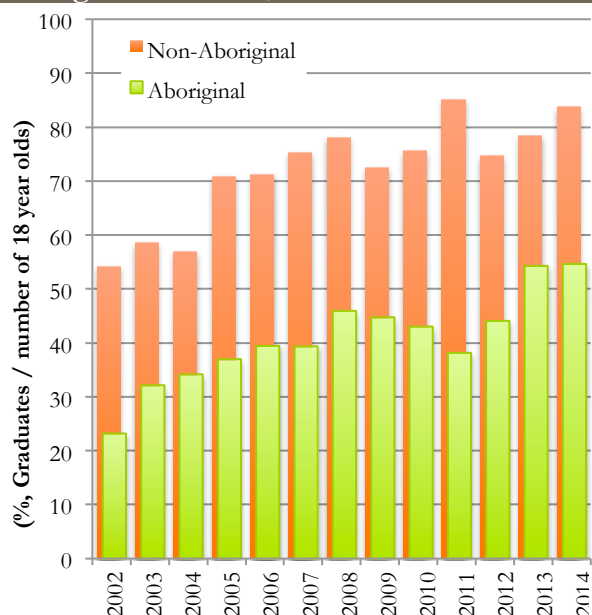
High School Attainment, Aboriginal Students, Yellowknife and Smaller Communities*, 2014



Source: NWT Bureau of Statistics. *Smaller Communities is defined as all communities outside Yellowknife, Hay River, Fort Smith, & Inuvik.

the percentage of people with a high school certificate is not going to change much in the future. The rate of graduation amongst Aboriginal students is improving, but remains well below 50 per cent. This isn't good enough if we want continued improvements in quality of life for all Denendeh residents.

Graduation Rate, Aboriginal and Non-Aboriginal Students, 2002 to 2014



Source: NWT Bureau of Statistics, *Education Statistics*; Department of Education, Culture, & Employment.

LIFESTYLE AND LIFE CHOICES

Our capabilities are also shaped by our health and by our lifestyle. Throughout Denendeh, the results from different surveys tell us that health and lifestyle choices are influenced by where we live and our income levels. Higher income earners are less likely to be smokers, are less likely to binge on alcohol, are more likely to consider themselves healthy, and are much more likely to be satisfied or very satisfied with their current state. Interestingly, income does not appear to be a factor in physical activity or obesity.

We can separate the results by Aboriginal and non-Aboriginal respondents in order to study the effects of geographic location. The survey results show the Aboriginal population who live predominantly in small, rural, or isolated communities are more likely to be smokers and to binge drink, and are less likely to have a good opinion of their own health. There was only a small difference in life satisfaction results between communities and little difference in obesity or exercise.

NWT Community Health Survey Results, 2014

		By Household Income (\$)	
		< \$50,000	\$100,000+
Self; Perceived Health	Very Good/Excellent	34%	64%
Life Satisfaction	Satisfied/Very Satisfied	69%	95%
Health	Overweight/Obese Adults	56%	63%
	Physically Inactive	43%	44%
Smoking	Daily or Occasional Smoker	41%	28%
Alcohol	Current Drinker	58%	82%
	Consuming 5 or more drinks more than once a month	30%	20%
		By Ethnicity	
		Aboriginal	Non Aboriginal
Self; Perceived Health	Very Good/Excellent	40%	62%
Life Satisfaction	Satisfied/Very Satisfied	82%	92%
Health	Overweight/Obese Adults	65%	60%
	Physically Inactive	42%	47%
Smoking	Daily or Occasional Smoker	48%	21%
Alcohol	Current Drinker	68%	91%
	Consuming 5 or more drinks more than once a month	40%	23%

WHY ARE THESE RESULTS IMPORTANT?

In trying to understand the current state of development across Denendeh communities, these results tell us something about life in the communities versus life in the larger centres, about the differences in capabilities, and about the effect of income (and in particular, the effect of employment). This knowledge must be considered alongside the next discussion, which is focussed on the future economy and on potential investment opportunities. Economic opportunity and investments tend to flow towards areas poised for and capable of success. In the case of Denendeh, this could mean away from smaller communities where there are fewer consumers and less capacity, and toward larger centres where there is more money, more people, more institutions, and more opportunities.

SOCIAL WELLBEING

Social wellbeing (also referred to as social inclusion) is a complex concept with many different elements. It can be described as the strength of connection between people, government, and institutions, and within communities and organisations. Some would call this the social fabric of a community and would draw a direct link between it and the concepts of social cohesion and trust.

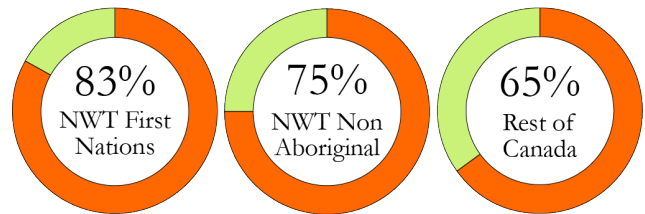
Some find it easier to understand social wellbeing as being the opposite of exclusion, which is the process of marginalization through barriers to participation in economic, political, civic or cultural life.

Social wellbeing is relevant at all levels of society. For example, success for small non-government organisations depends on a close association with government and, increasingly, with industry. At the broadest level, cohesion exemplified by trust and collaboration between the Government of the Northwest Territories, Aboriginal governments, industry, and non-profit interest groups is needed to create, implement, and test processes aimed at improving development of the territory.

The greatest challenge with social wellbeing is in its measurement. Concepts such as social fabric, trust, or

strength of connection are intangible. There are several different approaches, with most looking at levels of inclusion at a community level. One example would be the results from a 2013 survey conducted by Statistics Canada for the Canadian Institute for Health Information. It showed that 83.2 per cent of First Nations' people living in the NWT indicated a somewhat strong or very strong sense of community. This compares to 75 per cent of non-Aboriginal residents with the same response, and 65 per cent of all Canadians.

Strong Sense of Community



SOCIAL WELLBEING AND EQUALITY

Economists and social scientists are increasingly looking at inequality as an indicator of numerous challenges facing a country's development, including health and social problems, criminal activity, abuse, education, and economic growth. Research is showing that in rich countries, a smaller gap between rich and poor means a happier, healthier, and more successful population.

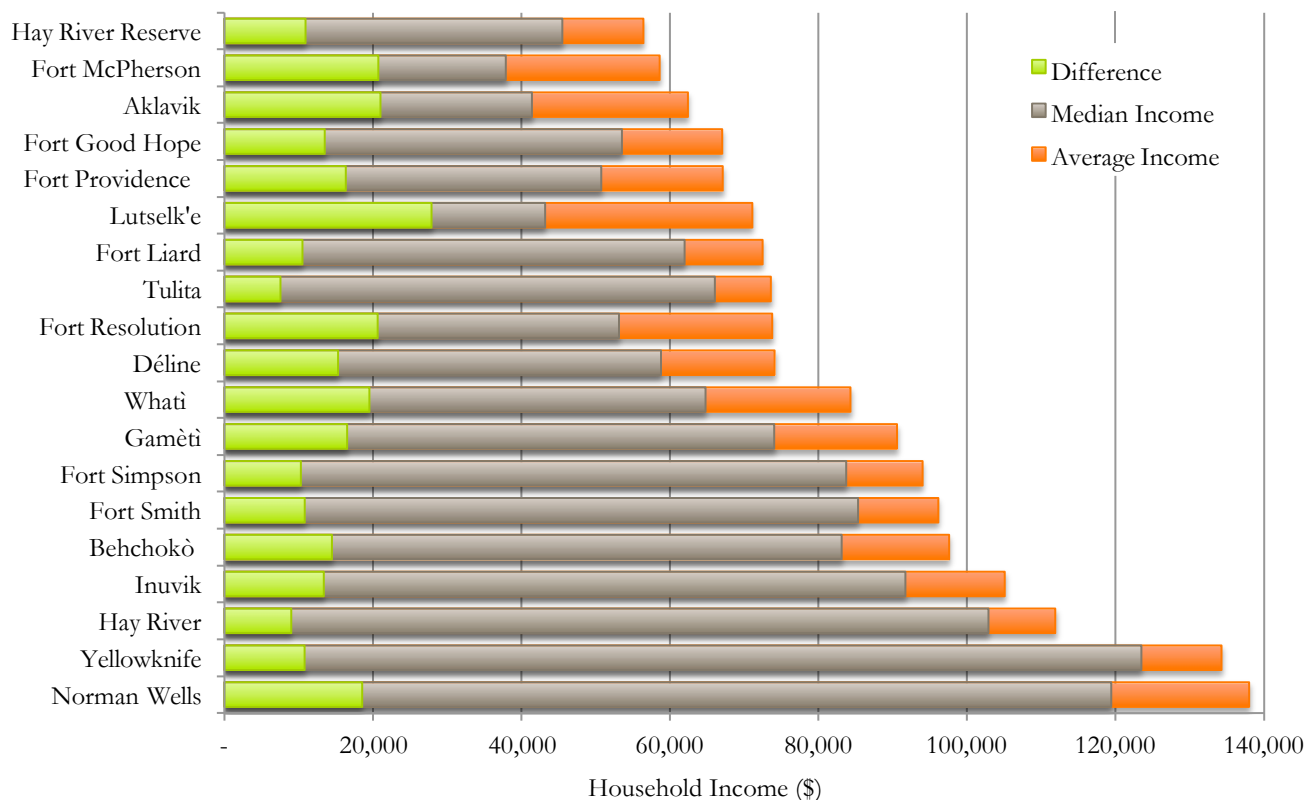
Some initial data describing the distribution of income was presented earlier. In truth, the findings are not new. Geographic- and ethnicity-based income inequality across Denendeh is common knowledge but this doesn't make it any less important to the analysis.

The majority of jobs in the NWT are found in Yellowknife. And, as we have learned, the large majority of residents working in the diamond industry live in Yellowknife—many are long-time residents, but a great number have moved from their home community despite of (or because of) the ability to live anywhere without jeopardising their employment.

Meanwhile, the economic downturn in western NWT will further exaggerate income inequality, where the economies of the Deh Cho, Sahtu, and Gwich'n regions have faltered. Job loss combined with out-migration is depleting these regions of income, which has a cascading effect on local retailers and other private-sector service providers.

This must be followed closely. Current data show the divide at the time of the last Census, with North and South Slave and major centres having much higher average and median household incomes when compared to the rest of the territory.

Household Income, Average, Median, and Difference, 2011



Source: Statistics Canada, 2011 National Household Survey.

CRIME IN DENENDEH

Crime statistics are used in the analysis of a number of social variables. Crime is closely associated with poverty and income inequality. Together, these three factors can raise stress levels amongst community members. It is reasonable to assume that higher rates of crime can cause a deterioration of social inclusion and reduce levels of trust within a community.

The levels and rates of crime are well documented in the NWT. Residents are exposed to crime at a rate 6 to 9 times that of the average Canadian, depending on the category. The exception is mischief and disturbing the peace, which occurs in the NWT at a rate 28 times higher than in the rest of Canada.

Number and Rate of Crime, 2013

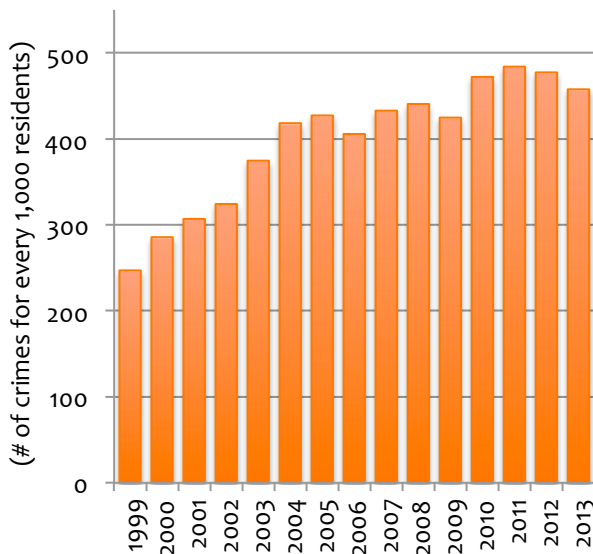
	Number	Rate (per 100,000 population)	
All Crimes (excluding traffic)	19,924	45,763	8.8x
Violent Crime	3,233	7,426	6.8x
Sexual Assault	173	397	6.6x
Property Crime	10,533	24,193	7.7x
Mischief and Disturbing the Peace	13,490	30,985	28.4x

Source: Statistics Canada, CANSIM Table 252-0051.

Perhaps more important for the study of social wellbeing is the change in crime rates. Improvements would suggest greater peace and ease within a community that could lead to improved relations and a more positive outlook, making it easier to establish trust.

Data show little improvement however. After a dramatic rise in crime between 1999 and 2004, the rate of increase has slowed, but the overall trend remains upwards.

Rate of Crime, 1999 to 2013



Source: Statistics Canada, CANSIM Table 252-0051

WHY IS INCLUSION IMPORTANT?

Social inclusion might seem a largely academic concept. It is difficult to define and even more difficult to measure. But closer study is revealing it to be critically important.

Consider some of the key social inclusion questions:

- Can Denendeh communities withstand the economic pressures that are on their way?
- Is Denendeh society best characterised as one of cooperation, respect, and openness?
- Or, is it more appropriate to define these communities with examples of distrust, isolation, and exclusion?

The reality Denendeh faces is one where its economy is slowing and is likely to enter a period of decline. This will surely test the strength of communities—the social fabric. This period will see incomes stagnate for some, while others will surely lose their job. It is during such times that financial insecurity causes more close-mindedness and less tolerance toward outsiders. The benefits of greater inclusion are not obvious to people who feel their standard of living and relative position within their community is threatened. In these times, positive social change is difficult to attain since those wielding the most power become fixated on economic issues and their own financial security.

A community must, therefore, rely on its own strengths. Social networks, volunteers, and religious and informal support groups become increasingly important. The challenge is to ensure these non-profit organisations are functional in advance of the economic downturn since they are difficult to fund when finances are tight and most spending is done in the name of economic growth.

ECONOMIC ASSESSMENT OF NEXT FIVE TO TEN YEARS

There is mounting concern throughout Denendeh regarding the current economic climate. DeBeers has closed its Snap Lake Diamond Mine. Interest in exploring for and potentially extracting the oil and gas found throughout the Mackenzie Valley has all but vanished. Three to five years ago, mining projects including Prairie Creek, NICO, and Nechalacho in the Deh Cho, Tlicho, and Akaitcho regions respectively, were being touted as the next big things for the economy but have since suffered major setbacks due to missing infrastructure, low commodity prices, and a poor investment climate.

There are opportunities for additional production at the Ekati and Diavik mines. Rio Tinto has already begun the development of its A21 deposit at Diavik. This will not extend its mine life, but does ensure it will remain open until 2023. Dominion Diamonds is in the final stages of its regulatory review of the Jay Project that will extend the mine life of Ekati by a minimum of ten years. The development of this deposit will bring other known deposits into play, namely the Sable deposit that will in all likelihood be developed alongside Jay.

Gahcho Kué remains the one new project moving forward, and is now in the midst of its construction phase. The project is small in relation to Ekati and Diavik. It will operate for 11 years and will create 365 direct jobs annually.

Other major projects across the Denendeh are government-sponsored, including the Giant Mine reclamation, the Yellowknife hospital, the fibre-optic transmission line along the Mackenzie Valley, and the all-weather road from Inuvik to Tuktoyuktuk.

To be clear, Denendeh is a long way from a major economic collapse, but there is good reason to be concerned about the medium-term outlook with the absence of any large projects set to replace mine closures. The region is in grave danger of entering a prolonged period of economic malaise, where no real growth occurs, few new jobs are created, and new

entrants into the workforce—namely recent graduates—have little choice but to leave the region in order to find work.

In this chapter, the results from two economic scenarios are presented. These results will help in investigating the future prosperity of Denendeh communities.

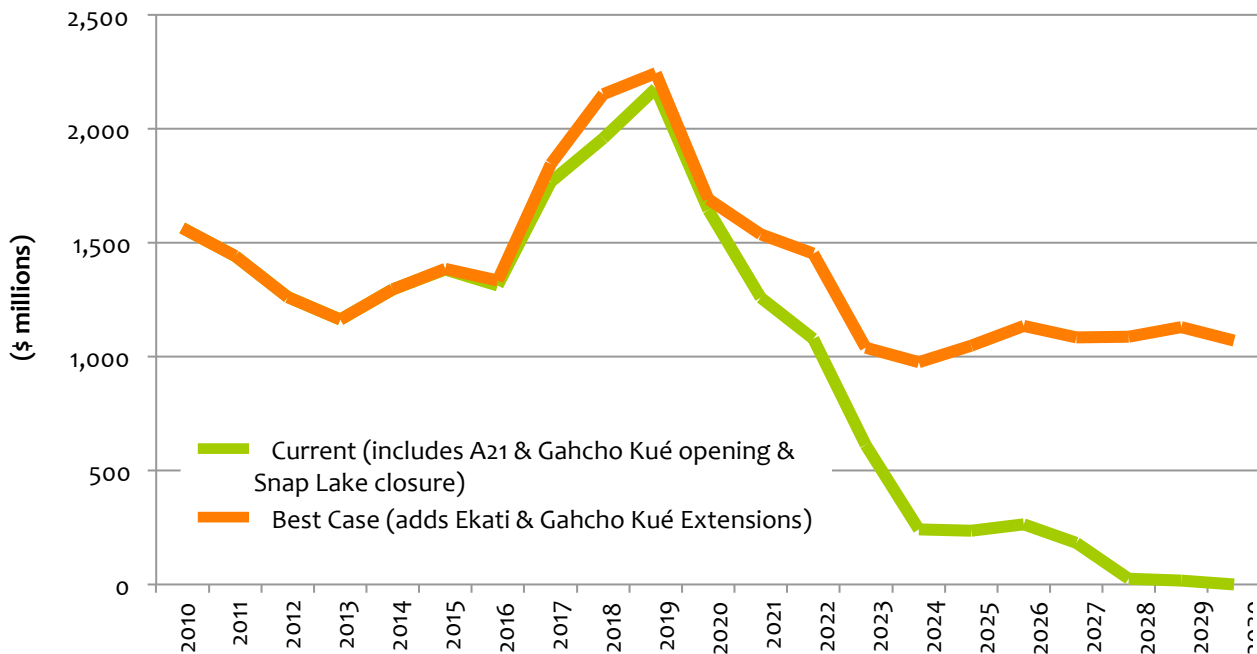
SCENARIOS

Scenario One (Current): In this scenario, the current economic profile of the territory remains intact, but no new projects are added. This implies that Ekati continues according to its existing mine plan that doesn't include the development of either the Jay or Sable deposits. Diavik proceeds with the development of A21 and the mine remains open until 2023. De Beers proceeds to reclamation of the Snap Lake mine, and opens Gahcho Kué in late 2016 and operates for 11 years as scheduled. No other mineral deposits are developed.

Scenario Two (Best Case): This scenario represents one of the territory's best cases, while also being prudent. The anchor of this scenario is the addition of the Jay Project as currently proposed by Dominion Diamonds. The addition of Jay to Ekati's operations will allow the development of the Sable deposit, which will add another two or three years to the mine's production, pushing the closure date beyond 2031 and beyond the timeframe being studied in this analysis. There are no changes to Diavik from scenario one. A small change occurs at Gahcho Kué where De Beers extends its mine life by expanding production of the Tuzo deposit for an additional six years.

EFFECTS ON GDP

Mining-Related Gross Domestic Product, 2010 to 2030



Source: Impact Economics, NWT Economic Impact Model

In the Current Case, there are no new projects after Gahcho Kué opens. Therefore, in this scenario, mineral production falls dramatically between 2020 and 2025 when both Ekati and Diavik close. At that point, only the production at Gahcho Kué remains.

In the Best Case, production at Ekati and Gahcho Kué are extended. We still see the effects of Diavik's closure in 2023, but beyond that date, economic activity holds steady for a prolonged period. Currently, there are no defined projects that could replace the production or jobs that will be lost when Diavik closes.

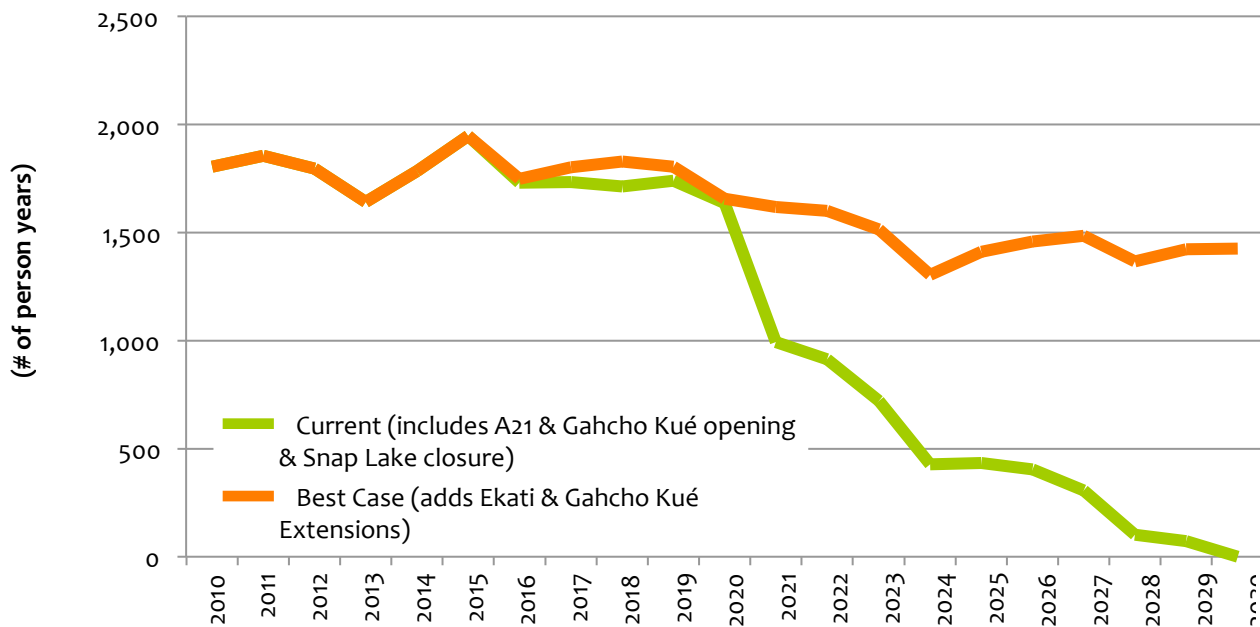
In both scenarios, economic activity grows over the five-year period starting in 2016. This growth is related

to construction of Gahcho Kué and the development projects at existing mines. The Best Case scenario has the added benefits from the development of the Jay and Sable deposits. These projects represent an enormous increase in (what is referred to as) domestic demand, which is the measure of economic activity ignoring the effects of importation. Much of the goods and services (including labour) needed for these developments must be purchased from southern Canada.

In both scenarios, the loss of Snap Lake does not have a large effect on production because of the relatively small size of that project.

EFFECTS ON EMPLOYMENT

Mining-Related NWT-Resident Employment, 2010 to 2030



Source: Impact Economics, NWT Economic Impact Model

The growth path of employment is somewhat different than that of production, most notably, NWT resident employment does not experience much growth during the 2016 to 2020 period. One reason is the closure of Snap Lake. Another reason is the fact that mine construction projects employ fewer NWT residents than mine operations—and the difference can be significant. Over the past 15 years, NWT residents have accounted for, on average, 55 per cent of the operations workforce at Ekati, Diavik, and Snap Lake, but only 30 per cent of the construction workforce. Also, since 2008, this employment rate in construction projects has been falling.

In the Current scenario, the employment picture is severely impacted by the closure of Ekati where presently 800 NWT residents work (person years),

followed by the closure of Diavik and another loss of jobs. Gahcho Kué closes in 2026 in this scenario, followed by a small reclamation project.

The relatively small workforce requirement at Gahcho Kué affects both scenarios. We do expect NWT resident participation will be higher at Gahcho Kué than what was achieved at Snap Lake because the mine will use an open pit method of extraction, which has a lower skill level requirement of its labour force than does underground operations.

In our Best Case scenario, employment levels stabilize between 1,300 and 1,500 in the outer years of the simulation period. There isn't any new projects in this scenario after Gahcho Kué opens, so there isn't any job creation. But, the extended production at Ekati and Gahcho Kué does preserve existing jobs.

Labour Market, 2010 to 2030

Current (includes A21 & Gahcho Kué opening and Snap Lake closing)

	Population	Labour Force	Employed	Unemployed	Employment Rate	Unemployment Rate	Participation Rate
2010	43,300	23,200	21,500	1,700	67.2%	7.3%	72.5%
2011	43,500	24,800	23,000	1,800	71.2%	7.3%	76.8%
2012	43,600	25,100	23,100	2,000	71.3%	8.0%	77.5%
2013	43,800	25,100	23,200	1,900	71.2%	7.6%	77.0%
2014	44,000	24,000	22,100	1,900	68.4%	7.9%	74.3%
2015	44,100	23,900	22,000	1,900	68.4%	8.1%	74.4%
2016	44,200	24,200	22,100	2,200	68.7%	9.0%	75.5%
2017	44,200	24,300	22,200	2,200	69.2%	9.0%	76.0%
2018	44,300	24,400	22,100	2,200	69.1%	9.1%	76.0%
2019	44,300	24,400	22,200	2,200	69.3%	8.9%	76.1%
2020	44,300	24,500	22,200	2,300	69.1%	9.4%	76.2%
2021	44,100	24,300	21,500	2,800	67.0%	11.7%	75.9%
2022	43,200	23,600	21,000	2,500	66.8%	10.7%	74.8%
2023	43,100	23,600	20,900	2,700	66.2%	11.5%	74.9%
2024	42,500	23,100	20,400	2,700	65.3%	11.8%	74.0%
2025	41,800	22,500	20,100	2,400	65.2%	10.8%	73.1%
2026	41,600	22,400	20,000	2,400	65.1%	10.7%	72.9%
2027	41,400	22,300	19,900	2,400	64.8%	10.9%	72.7%
2028	41,100	22,000	19,500	2,500	64.1%	11.3%	72.2%
2029	40,600	21,600	19,300	2,300	63.9%	10.6%	71.5%
2030	40,400	21,500	19,200	2,300	63.7%	10.8%	71.4%

The labour market details shown in this table were developed from current labour market data for the entire territory.

Best Case (adds Ekati & Gahcho Kué extensions)

	Population	Labour Force	Employed	Unemployed	Employment Rate	Unemployment Rate	Participation Rate
2010	43,300	23,200	21,500	1,700	67.2%	7.3%	72.5%
2011	43,500	24,800	23,000	1,800	71.2%	7.3%	76.8%
2012	43,600	25,100	23,100	2,000	71.3%	8.0%	77.5%
2013	43,800	25,100	23,200	1,900	71.2%	7.6%	77.0%
2014	44,000	24,000	22,100	1,900	68.4%	7.9%	74.3%
2015	44,100	23,900	22,000	1,900	68.4%	8.1%	74.4%
2016	44,300	24,300	22,100	2,200	68.8%	8.9%	75.5%
2017	44,300	24,400	22,300	2,100	69.4%	8.7%	76.0%
2018	44,300	24,400	22,300	2,100	69.5%	8.6%	76.0%
2019	44,400	24,400	22,300	2,100	69.5%	8.7%	76.1%
2020	44,400	24,500	22,200	2,300	69.1%	9.3%	76.2%
2021	44,400	24,600	22,200	2,300	69.1%	9.4%	76.3%
2022	44,400	24,700	22,400	2,300	69.3%	9.5%	76.5%
2023	44,300	24,900	22,400	2,400	69.2%	9.8%	76.7%
2024	44,200	24,900	22,200	2,700	68.6%	10.7%	76.8%
2025	44,000	24,800	22,300	2,500	68.9%	10.1%	76.7%
2026	44,000	24,900	22,400	2,500	69.1%	9.9%	76.8%
2027	43,900	24,800	22,400	2,400	69.2%	9.7%	76.7%
2028	43,800	24,800	22,300	2,500	68.9%	10.1%	76.6%
2029	43,600	24,700	22,300	2,400	69.0%	9.8%	76.5%
2030	43,400	24,700	22,300	2,400	69.0%	9.7%	76.5%

The labour market details shown in this table were developed from current labour market data for the entire territory.

HOW WILL PEOPLE RESPOND TO THE CHANGING ECONOMY?

Over the next 10 years, the Denendeh economy will experience a short-lived boom in activity accompanied by modest job creation brought about by major project developments in construction and resource development, followed by a short period of stability, and then by a period of (potentially dramatic) decline. Some of this is unavoidable. All mines close eventually. The closure of Snap Lake has already brought about a loss of 700 jobs, while the closure of Diavik in 2023 will mean a loss of another 1,000 jobs.

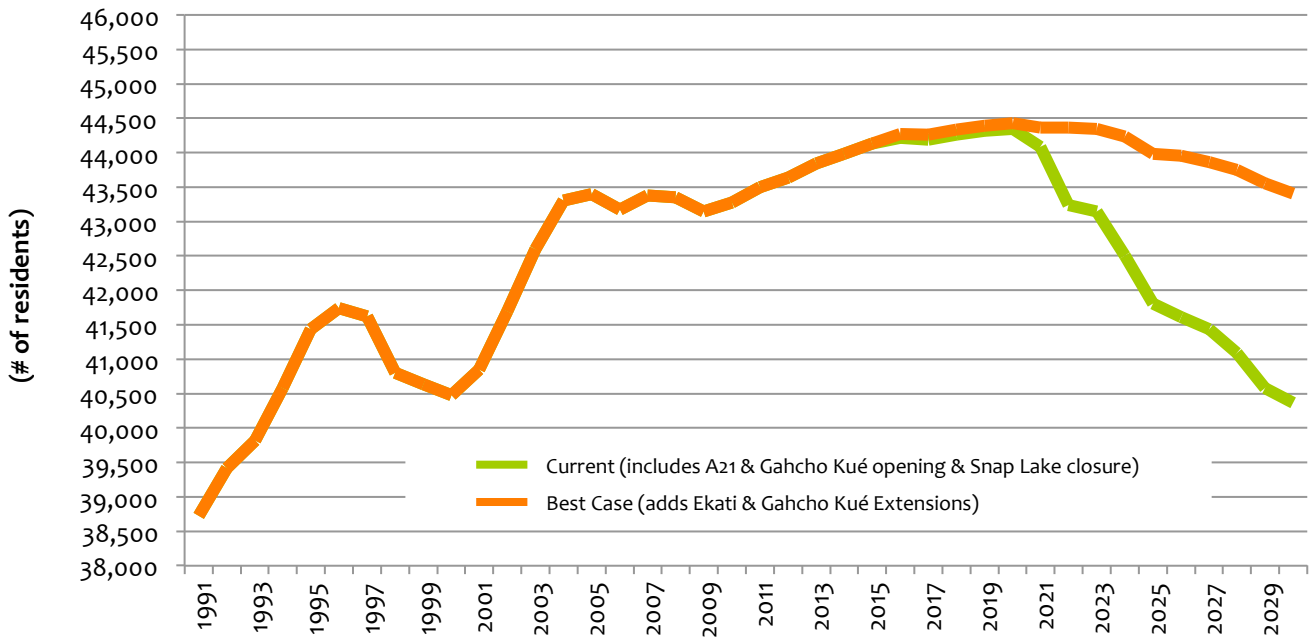
It is of the utmost importance that we understand what, when, and where these changes will occur and how people might react to them if we are to properly plan for this future. The focus of this chapter will be on the potential effects on people and their decisions, supported by the projected changes in production and employment described in the previous chapter.

EFFECTS ON POPULATION

In its most recent release, Statistics Canada revised population estimates for the Northwest Territories upward to 44,100. One would think this is approaching the upper limits of the territory’s economic capacity without increased growth or changes in the structure of the economy and its labour force. In both scenarios, the population peaks between 44,300 and 44,500.

More critical than the territory’s population peak, however, is its sustainability. In our Current scenario, the diamond mines shutdown without an increase in labour demand elsewhere in the economy. The result would be mass out migration. At first, we might expect as many as 750 people to leave after the closure of Ekati. This would be followed by as many as 1,250 over the two-year period after Diavik closes.

Potential Effects on Population



Source: Impact Economics, NWT Economic Impact Model.

Exactly how many people would leave is difficult to determine. The NWT Economic Impact Model contains several dynamic components to effect movement, but still calculates a drop in population in excess of 2,500 people over the five-year period from 2020 to 2025. This might be more than is physically or financially possible. Looking back at the changes in the labour market (see previous tables), a slower out migration would have to be accompanied by a much lower labour force participation rate and a much higher unemployment rate—bringing up a question of sustainability for those families that remain in the territory. Initially, families could cope by accessing employment insurance benefits, but then what? Without job creation elsewhere in the territory, leaving might be the only option for some families. Again, it is difficult to determine exactly how many people will leave before a new equilibrium is reached. In the complete absence of mining activities, it is not unreasonable to imagine a number close to, if not below, 41,000.

Further research is necessary if we are to determine more precisely what this “no-mining population” might be. We must also give more thought to exactly who the out migrants are, where they live currently, and if their families will move with them.

In viewing the population figures, it is important be mindful of the differences between the scenarios being tested and a forecast of the territory’s population. As noted, one would expect governments at all levels to respond to the threat of a mass exodus through a variety of spending and tax programs. Recall also that the scenarios treat all other economic activities as being static, neither shrinking nor growing. In a forecast, it wouldn’t be reasonable to assume no changes to the NWT economy over a period of 10 to 15 years. The results shown here are depicting the changes in population under a “what if” scenario.

EFFECTS ON COMMUNITIES

Perhaps the most pressing issue for the NWT economy is the plight of residents living outside major centres. The economy along the Mackenzie Valley has undergone a succession of set backs, starting with the demise of the Mackenzie Gas Project, the end of gas production in the Deh Cho, and most recently with the declining interest in Sahtu oil exploration. It is during times such as these that the value of the diamond mines’ employment policies, including fly-in/fly-out scheduling, preferential hiring, and extensive pick-up points, could provide a needed alternative to job creation closer to home. And yet, this option has not resonated with idle labour outside the North and South Slave regions. This is something that needs greater study.

There are two components of this analysis that should be highlighted. First, the distribution of mine employment across the territory and the degree to which community members outside the North and South Slave regions participate in the diamond industry. And second, the potential effects on communities under the scenarios described.

From the table, we see the majority of NWT-based employees reside in Yellowknife, with the number approaching 1,000 and representing a proportion of the population just shy of 5 per cent (This include Aboriginal and non-Aboriginal resident employees. It does not include any second round indirect or any induced employment, most of which would be located in Yellowknife as well). On a relative basis, mining jobs are equally important to the Town of Hay River. Tliche communities are also well represented, with Wekweeti sending, on a percentage basis, almost 9 per cent of its residents to the mining operations.

Fort Providence and Deline are the most active communities that are not considered “impacted”.

Lutsel’e stands out because it is an impacted community with an IBA with each of the three mining

operations, and yet its resident employment is limited to 4 person years. (Note however that this does not equate to the number of Lutselk'e First Nation employees, which is higher because it includes community members living outside their "home" community.)

Lutselk'e stands out further if we look at population change and its effects on such things as school enrolment in the community. Over a 10-year period

NWT Employment in the Diamond Industry, by Community, 2014*

	#	%	% of community
Yellowknife (incl Ndilo & Dettah)	988	68%	4.8%
Hay River	180	12%	4.9%
Behchoko	92	6%	4.5%
Fort Smith	61	4%	2.4%
Wha Ti	27	2%	5.5%
Gameti	21	1%	7.2%
Fort Resolution	14	1%	2.6%
Deline	13	1%	2.4%
Wekweti	12	1%	8.7%
Fort Providence	12	1%	1.4%
Fort Simpson	8	1%	0.6%
Inuvik	4	0%	0.1%
Norman Wells	4	0%	0.5%
Lutsel K'e	4	0%	1.2%
Fort Good Hope	3	0%	0.5%
Tulita	2	0%	0.3%
Enterprise	2	0%	1.4%
Fort McPherson	1	0%	0.2%
Tsiigehtchic	1	0%	0.8%
Tuktoyaktuk	1	0%	0.1%
Wrigley	1	0%	0.9%
Colville Lake	0	0%	0.0%
Fort Liard	0	0%	0.0%
Holman	0	0%	0.0%
Jean Marie River	0	0%	0.0%
Kakisa	0	0%	0.0%
Nahannie Butte	0	0%	0.0%
Paulatuk	0	0%	0.0%
Sachs Harbour	0	0%	0.0%
Trout Lake	0	0%	0.0%
NWT	1,450		

*Note: These figures are estimates. Dominion Diamond's Socio-Economic Agreement does not require employment be reported at a community level. However, the company did report its own employment by community for 2013 as part of its Developers' Assessment Report for the Jay Project. It did not report contractor employment. De Beers and Rio Tinto do report these data. In all cases, the data is subject to survey error, which is a point of concern for all three operations. The figures shown in the table have been adjusted to equate to the overall NWT employment figure for 2014, and therefore are approximations of employment by community. Community is defined geographically, not ethnically.

from 2003 to 2013, the population fell by 25 per cent, from 392 to 294, while the numbers of students enrolled in Lutselk'e Dene School fell by 30%. We can't say definitively what has caused the outmigration, but we can see its effects.

POPULATION AND STUDENT DECLINES IN LUTSELK'E



Beyond those noted, the remaining NWT communities are poorly represented. Inuvik and Norman Wells are most noticeable because these are larger centres, have received significant labour force training dollars in the past in conjunction with the now abandoned MGP, are experiencing a significant economic downturn resulting in an increase in idle labour, have direct flights to Yellowknife, and are designated pick up points.

Using these data to understand the potential effects on a regional and community basis, we can say that Yellowknife is by far the most impacted community, not only because of the direct participation of labour, but because of the additional indirect and induced employment and business that occurs there as a result of the mining industry.

Using basic assumptions and calculations, the 152 Tlicho residents working in the diamond industry bring home approximately \$12 million in wages and salaries every year (assuming an average annual wage of \$80,000 per year). With a larger share of the skilled workers and mining executives living in Yellowknife, direct and indirect employment in the diamond mines represents as much as \$100 million in personal income entering the City and its economy.

WHAT'S NEXT FOR DENENDEH?

The economic growth of the past fifteen years and the policies that have supported it have done a lot to bring greater financial prosperity to Denendeh families.

These results should be celebrated. But the transformation has fallen short of bringing everyone into the wage-based economy or in distributing benefits to everyone. There are still many people unemployed at a time when there are few jobs being created.

The broad array of economic opportunities that not-so-long-ago was being looked upon as the means to bring wealth to all regions of the territory have eroded to almost nothing. The only defined projects that remain are the extended life of one and possibly two diamond mines and a number of public infrastructure projects. This means that the territory's leadership must turn its focus to the preservation of existing wealth, managing the deteriorating welfare of residents living outside the North and South Slave regions, and investigating where and how to promote future growth.

In challenging times, the threat of job losses or the possibility of a deteriorating standard of living can push a society into making irrational decisions. Fear can influence how people evaluate their choices and can result in a reordering of priorities. History is full of examples of this—some of them in Denendeh—whereby entire societies have collapsed having forsaken their social values and their environment for economic gain (Jared Diamond, *Collapse: How Societies Choose to Fail or Succeed*).

In social and community development, the focus is unchanged. Education levels have improved during the period of growth, but much work is needed and graduation rates remain abysmal in the territory's smaller communities. The separation of rich and poor is pronounced because of the absence of economic activities within smaller communities and the reliance on income support. Currently, the primary mechanism

for change in this area is migration into Yellowknife—which, needless to say, is not a sustainable solution.

What we have found in the research is that the communities in the North and South Slave have reached a new stationary state—a new normal where further transformation is not likely to occur without the stimulus provided by a vibrant economy and increases in participation. Some of these communities are better off than they were in the mid-1990s, but as the effects of deruralisation take hold, they will find it increasingly difficult to maintain this new stationary state and will be in danger of slipping back to where they were two decades ago in terms of socio-economic wellbeing.

For other communities, the effects of deruralisation have already begun.

CREATING A NEW PATH FORWARD

Finding a path forward from this economic assessment is not obvious. Denendeh residents have grown accustomed to the riches that oil and gas companies and diamond mines bring. But residents and leaders alike must reposition their expectations in developing new economic opportunities. Furthermore, Denendeh can no longer be a passive player in the global economy. Leadership must promote its marketable assets, namely its natural resources, in a manner that makes them more attractive to investors than similar assets elsewhere in the world.

How can the region do this? Understanding how the territory can grow requires an understanding of the assets available and what is needed to promote them to investors.

Start by considering the challenges most investors face in advancing projects in the north. They can be summarised into seven general categories.

- Transportation (access),
- Power,
- Regulatory (timeframes),

- Unknowns operating environment (differing values when compared to the typical southern Canadian region),
- Geography (distance from markets and from resupply),
- Climate.

Little can be done to address the latter two challenges directly, while other issues not listed such as weak demand/low commodity prices and tight capital markets are global problems and are similarly out of the control of Denendeh.

This leaves four areas where Denendeh residents have some degree of influence and where their actions can result in improved economic conditions that are more attractive to investors. These are outlined below in an effort to stimulate discussion. Each deserves its own dedicated and comprehensive study.

TRANSPORTATION INFRASTRUCTURE

There are several potential projects in Denendeh that have stalled because of an absence of year-round access. The burden of including the cost of new road construction as part of a projects' capital cost can be the difference between development and no development (see Appendix). Prairie Creek and NICO are the most recent examples and there are examples in the Kitikmeot region as well such as the Izok Corridor Project. Other projects such as Oil Exploration in the Sahtu would have benefited from better infrastructure as well, though this is not the project's biggest challenge at the moment.

Highways are expensive to build and are especially expensive to maintain. For several decades now, the Canadian public has been apprehensive towards new road construction, showing an unwillingness to see tax dollars spent on what it views as a subsidy to industry. In the NWT, prior to devolution, there was the added issue that the federal government was in charge of road construction and the recipient of any resource royalties (in the case where the road was built for the purpose of development) with the territory responsible for the added maintenance costs without access to additional revenues. This arrangement made it

financially difficult for the territory to promote construction.

Under devolution, the territorial government is now responsible for all aspects of roads, including their construction cost, but is also in line to receive any resulting benefits. This change demands that the territory do its homework on the full cost of construction and maintenance and understands with certainty what those costs translate into in terms of future development.

- Does a road make the difference between development and no development? And then,
- What does that development mean in terms of new revenues?
- Is the net benefit positive? Are there opportunities for additional benefits?
- What infrastructure projects represent the best opportunity for return?

POWER GENERATION

The high cost of electricity in Denendeh is debilitating for business, and lack of access to a power grid means additional costs for remote developments. This is a particularly troubling issue in Denendeh because

- (a) there is the potential for energy generation on a massive scale if the power from the Mackenzie, Bear, and Talston rivers were fully exploited, and
- (b) the absence of this clean energy means that many communities and industries burn oil to generate power.

Denendeh likely missed an opportunity to expand the territory's power production when the diamond industry was in its infancy, and in doing so, establish a true legacy project for the territory to inherit when mining has ceased. In fairness, when the Ekati Mine was being developed there wasn't enough confidence in the industry's future to attract investors to a multi-million dollar hydro project. But Denendeh needs to learn from this, become better at anticipating opportunities, and act more quickly when the next opportunity arises.

What can Denendeh do today to prepare for future

projects (even if they are unknown)?

Domestically, there has been considerable research conducted for the Talston hydro expansion, the ATCO Group has investigated the undeveloped hydro potential of Denendeh, and other smaller hydro projects such as community-based run-of-the-river power generation have been studied at different times over the past few decades. NWT Power Corporation is also investigating wind power after Rio Tinto successfully installed and is operating a wind turbine at its Diavik Mine site. The City of Yellowknife explored the possibility of thermal heat. There have been many studies on ways to reduce the cost of energy and to reduce dependence on fossil fuels. It leaves one asking what's holding these projects back?

- Why have we not seen, at the very least, a pilot project at the community level?
- Can any of these projects attract investors?

REGULATORY TIMEFRAME

For several years, the NWT's regulatory regime has been criticised as an impediment to economic growth by a number of existing and would-be developers. The system is said to be slow and inefficient and represents too much uncertainty for developers with respect to the time and money required to complete the process.

Not all complaints are justified, however. The regulatory environment, at least in part, reflects northerners' desire to ensure developers proceed cautiously and with adequate information regarding the natural and human environment. It should also be said that the shift in paradigm within Canada's governance regimes over the past few decades has heightened expectations for corporate social responsibility and this is sometimes mistaken as a *local* regulatory issue. Meanwhile, past Supreme Court of Canada rulings on the duty to consult is still a relatively new and rather complex issue that continues to cause confusion and delay within the regulatory process.

There is no doubt that these issues slow economic growth. But from a purely practical standpoint, thorough regulatory processes are a part of

Denendeh's economic landscape and are likely here to stay. And, it must be said, that the value given to environmental safety is not what causes delays in the regulatory process.

Instead, it is the impact on people that has become the most critical variable within the process. This is where the greatest ambiguity lies. To be clear, the "people" factor should have been a focal point of the regulatory process all along. But there has never been an adequate description of the requirements related to societal benefits. The Mackenzie Valley Environmental Impact Review Board developed the *Socio-Economic Impact Assessment (SEIA) Guidelines*, but they have proven inadequate and fall short of establishing any certainty around these benefits. If anything, the guidelines have promoted greater animosity between industry and affected communities by linking communities' overall wellbeing to the outcomes of major projects, leaving industry in a position to deliver on expectations that are beyond the reach of their projects. (The SEIA for the MGP is a shining example of this.) With industry and communities set as adversaries, communities are left to use whatever regulatory tools at their disposal to challenge development, and they do so with great effectiveness.

The regulatory timeframe would be shortened if there were greater trust between industry and communities, and between communities and government. This is something that Denendeh could be working to achieve.

- What is needed to start this process?
- Who should be involved?
- What has been tried in the past? Why has it failed?

UNKNOWN ENVIRONMENT

Operating in Denendeh can mean operating in an unknown environment for investors. Any uncertainty means increased risk and the need for higher returns. Risks can be related to environmental, regulatory, geographic, and climatic issues.

There are resources available to help investors through many of these challenges. There is expertise within northern-based businesses to solve logistical,

expediting, and remote communication problems. The GNWT has a division within the Department of Industry, Tourism, and Investment to help investors navigate the northern political, regulatory, and governance systems. Where there isn't enough support is in uniting investors with communities. It is reasonable to suggest that there is a high level of mistrust between the two parties. This distrust comes with a very high cost. Many opportunities are lost because of poor communications and misunderstandings.

Communities, themselves, can do a lot to eliminate this risk and, at the same time, increase the chance for positive economic outcomes by establishing clear priorities, helping industry understand what is expected of them, and conveying any other important information about the community through better communications.

- What else can Denendeh residents and communities do to improve their relationship with industry?
- How can Denendeh assist industry in their efforts to establish positive relationships with communities?

CONCLUSION

Denendeh has experienced exceptional economic growth and stability over the past 15 years. The growth has been transformative, having altered the social landscape, allowing many families to make improvements in their standard of living and quality of life that will be passed onto future generations. In many cases, it means families no longer live in poverty, children are the first in their families to graduate from high school and to attend university. There are many reasons to celebrate these changes.

But times are changing, and for too many, the economic growth that has been so important for so many may not last long enough to have the same transformative effect on their families. For different reasons, these people have not been able to connect with the opportunities and they have watched as their relative position in life has deteriorated (recognising that it is not everyone's goal to work in the wage economy and that a subsistence lifestyle remains a productive choice for some).

With attention turning to the preservation of existing economic standards, there will be less attention paid to those that have been left behind. More so than ever, this will test the strength of communities. Denendeh should be mindful of this and consider how to best support families through the transition.

Denendeh leadership should not take this to mean the end is near, however. In the midst of change, there are always opportunities. The territory's economic future presents obvious challenges, but it remains strong today and there is no denying the economic potential of the region. Should the expansions at Ekati and Gahcho Kué take place as described, there will be enough activity to support the economy for another 15 years, enough time to consider and invest in innovations and adaptations that will reposition the territory for the future.

This report introduced four areas where investments could better prepare and promote the region for future opportunities. These all need more careful study. New ideas, new partnerships, and greater trust can combine to ensure a healthy future for the region and the continuation of the social change already underway.

APPENDIX

STATUS OF MAJOR PROJECTS WITHIN DENENDEH

Name	Location	Resource	Majority Owner	Status	Regulatory	Challenges/Needs
In Production						
Ekati	North Slave	Diamonds	Dominion Diamonds	In Production	Permitted, Expansion currently under review	Current mine plan has mine closing in 2020-21
Diavik	North Slave	Diamonds	Rio Tinto	In production, expansion underway	Permitted	Closure in 2023
Norman Wells	Sahtu	Oil	Imperial Oil	In Production	Permitted	End of oil within 10 years, low commodity prices, reduced exploration
In Development						
Gahcho Kué	Akaiitcho	Diamonds	De Beers	Under construction	Permitted	None
Closed (recent history)						
Snap Lake	Akaiitcho	Diamonds	De Beers	Care and Maintenance	Permitted, new water licence	Profitability, water issues
CanTung	Deh Cho	Tungsten	North American	Care and Maintenance	Permitted	Profitability, owner in bankruptcy protection
Giant Mine	Yellowknife	Gold	Tungsten Federal	Reclamation	Permitted with requirements	Arsenic Trioxide, Ongoing Regulatory
Con Mine	Yellowknife	Gold	Newmont	Reclamation	Permitted	None
Cameron Hills	Deh Cho	Natural Gas	Paramount	End of production	Permitted	No new exploration, low commodity prices
Known and Advanced Exploration						
Kennady Lake	North Slave	Diamonds	Mountain Province	Advanced Exploration	Exploration Permits	Have not defined a project
Prairie Creek	Deh Cho	Silver, Lead, Zinc	Canadian Zinc	Care and Maintenance	Permitted with Water Licence	All-weather road, low commodity prices, financing
Nechalacho	Akaiitcho	Rare Earth Elements	Avalon	Care and Maintenance	Permitted, class B water licence	Low commodity prices, financing, logistics
NICO	Tlicho	Gold, Cobalt,	Fortune Minerals	Care and Maintenance	Permitted with Water Licence	All-weather road, low commodity prices, financing
Canol Oil & Gas	Sahtu	Bismuth Oil and Gas	Multiple owners	Inactive	No permits	Hydraulic-Fracturing, low commodity prices, road access
Offshore Oil & Gas	Beaufort-Delta	Oil and Gas	Imperial Oil, British Petroleum, and others	Inactive	MGP approved but deadline approaching, no offshore permits	Low commodity prices, expensive exploration project, regulatory for deep water, Arctic exploration
MacTung	Sahtu	Tungsten	GNWT	Exploration		Road access, cross-boundary permitting, low commodity prices, ownership
Mackenzie Gas Project	Mackenzie Valley	Natural Gas	Imperial Oil	Inactive	Permitted with conditions	Permit time limits approaching, low commodity prices, high cost, no demand
Energy						
Talston Hydro Expansion	Akaiitcho	Hydro-electricity	NWT Power Corporation	Existing Power Plant operational		Feasibility, secured contracts, financing