

# DECHINTA RETURN ON INVESTMENT REPORT



**DECHINTA**  
Centre for Research and Learning

December  
**2024**

## ROI Project Acknowledgements

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Third Party Evaluator: CoEvaluation Lab



Photos by Morgan Tsetta

# DECHINTA BACKGROUND

Dechinta's successful model of on the land post-secondary education provides a strengths-based and culturally relevant option for post-secondary education in the North. Operating since 2010, Dechinta's programming demonstrates the multigenerational impact of community led programming. Because Dechinta's programming invests first in meaningful relationships, we are able to create agile and flexible programs that adapt to community needs, and are resilient in the face of challenging external circumstances. Leveraging ongoing support from the GNWT to increase support from the federal government, and grants from external partners, Dechinta has been able to expand programming to include important cultural programming, and engage in research activity.

- Our programming is reflective of best practices in Indigenous education, self-determination, and research.
- Dechinta is rooted in a connection to the land and local ways of knowing and understanding. We are able to achieve the outcomes that we do by centering Indigenous laws, values, and protocols in all of our work.
- We take a multigenerational approach to learning, provide a holistic and embodied approach to education, centre Indigenous pedagogy in our programs, maintain strong and reciprocal community relationships, and prioritize the inclusion of local Elders and knowledge holders in all of our work.
- We provide Elders and knowledge holders with a living wage commensurate to their contribution and to faculty salaries.
- Programs are co-developed and delivery is done in collaboration and with meaningful involvement of the community, Elders, and Dechinta staff.
  - It is important to meet a community where they are, and be able to listen to, and facilitate, their educational priorities.
- Dechinta takes a community-first approach, which includes considerations around particular struggles with mental health, trauma, or other political, ethical or social struggles in a community.
- We have invested in significant wrap around supports, and continue to generate important data around ongoing or shifting barriers that northern students are facing when accessing post-secondary education.
- Dechinta is currently delivering accredited courses or programs in partnership with the University of British Columbia to ensure credits are transferable to post-secondary institutions across Canada.



## REPORT OBJECTIVE

- To present the economic benefits of investing in the Dechinta Centre for Research and Learning, an Indigenous-centered educational institution that integrates traditional knowledge and land-based learning.
- This report presents the findings of a 3 year study to determine a limited slice of the economic benefits of investing in Indigenous-centered education.

## STUDY SCOPE AND METHODOLOGY

- **Data Collection:** Data collection began in 2021, and includes both qualitative and quantitative methodologies. Surveys and interviews were conducted with Dechinta students, alumni, staff and Elders during the course of the year, to gather data on educational goals and achievements, labor market participation, health, mental health, and life satisfaction. All students were given the option to participate in the evaluation project, however; the return on investment data shared in this briefing note is limited to the impacts of and on only the students who are both Indigenous and living in the NWT.
- **Economic Modeling:** The analysis was based on peer-reviewed studies and models that quantify the economic impact of increased educational attainment, health improvements, and social connectedness for Indigenous communities.



# BACKGROUND ON ROI RESEARCH PROJECT\*

## Two Questions informed this research project:

1. What is the economic benefit of investing in Indigenous-centered academic education?
2. What is the economic benefit of employing highly skilled Indigenous knowledge holders?

## Goals

- To demonstrate the economic benefit of investing in Indigenous-led and centered programs;
- To support policy change resulting in adequate, long-term investment in Indigenous-centered programs.

## These goals are measured across five broad and interrelated outcome areas:

- Indigenous-centered education and knowledge;
- Food sovereignty;
- Health and wellbeing;
- Ecological conservation; and
- Indigenous-centered economic development.

## We asked:

- What are the outcomes realized by students, Elders, community members, and communities?
- What are the outcomes experienced in the relevant context(s)?
- What is the estimated economic value of the outcomes from communities' perspectives?
- What is the estimated economic value of the outcomes from the payer's perspective? Including benefits to society?

\* Dechinta's analysis is part of a larger research collaboration across four different organizations working in the North. These programs are: The Dechinta Centre for Research and Learning (Yellowknife, NT), Imaryuk Monitors (Tuktoyaktuk & Inuvik, NT), Ni Hat'ni Dene Guardians of Thaidene Nënë (Lutsel K'e, NT), and Ittaq (Angunasuktiit full-time hunting-instruction program) (Clyde River, NU)

# KEY FINDINGS FOR DECHINTA

Using a very limited scope of analysis, and focusing only on Elders and Dechinta students who identified as Northern Indigenous, we found a:

**225%** Return on Investment

Based on benefits resulting in one year of extra post-secondary for individuals; self-reported changes in health and mental health for students; the value of social connectedness for Elders; and the macro-level effects of having more people with one extra year of post-secondary year of education in communities:

**370%** Return on Investment when also including the change in life satisfaction pre and post attending a Dechinta program. This includes the value of the change in life satisfaction for students and Elders.

## OUR ECONOMIC IMPACT

Dechinta programming prevents lost productivity at macroeconomic levels by increasing access to postsecondary education. By providing Indigenous-centered and culturally safe education for Indigenous adults in the NWT, Dechinta is preventing a reduction in Canada's GDP.

Weighting this for the Indigenous population of NWT, this is valued at:

**\$4.4 MILLION**

per year Dechinta is available to NWT Indigenous students.

Dechinta programming influences student labour market outcomes. These outcomes generate increased marginal tax revenue for territorial and federal governments across working age (up to age 65) valued at:

**\$3.6 MILLION**

For further information on additional data sets and further economic analysis, please see section "Extending These Analyses"

## OUR COMMUNITY IMPACT

Elders who are employed to share their deep knowledge, expertise and skills also benefit from increased social connectedness. These changes in social connection, and reduced social isolation generate yearly value in preventing avoidable emergent health service utilization in NWT. For each academic year during which Elders are employed these increases in social connectedness is valued at:

**\$38,000**

**\$75,000**

Northern Indigenous Students experience changes in their health and mental health after attending Dechinta programming. These changes in self-reported health and mental health prevent downstream mental health service utilization in NWT. For one cohort of students, these avoided costs are valued at:

In 11 Months, Dechinta's programming contributed **\$183,211** worth of traditional food to community members.

Dechinta programming influences the health of communities, and the period of time they are able to work. Students return to their communities, and this influences reductions in avoidable mortality, preventing lost productivity, and tax revenue generated for federal and territorial governments. For the NWT alone, this is valued at:

**\$4.3 MILLION**

Elders and students report higher life satisfaction related to being at Dechinta. These increases in life satisfaction connect with increased household income. For one household of one student across their life course, this is valued at:

**\$5.6 MILLION**

# METHODOLOGY

Educational programs often do not see immediate returns to the Payer on investments therein. As a result, much research has investigated the links between early childhood, school-age, and post-secondary education programs, and long-term outcomes related to health, career, and income.

Beyond its role as a research and learning centre, Dechinta has always been a learning organization. This means Dechinta has always collected information from its participants, community members, staff, and other stakeholders, to inform the responsiveness and quality of its programs. Since 2022 Dechinta has implemented an evaluation framework and tools to collect quantitative information from its current and former students, staff, and community members.

Because Dechinta's programming is so diverse and wide-reaching, staff decided to focus **only** on outcomes related to academic programming, and Elder engagement in teaching.

The following process was followed to collect program evaluation data, and conduct a cost-benefit analysis:

- Developing a logic Model
- Identifying and prioritizing outcomes
- Developing evaluation tools
- Collecting and analyzing program data
- Using data to conduct a cost-benefit analysis of Dechinta programming vs Comparator (business as usual).

Students & alumni\* completed pre/post surveys at the beginning and end of their academic term(s) – they were asked about:

- Demographic information;
- Their program-specific educational goals, and educational and career goals more broadly;
- Educational attainment\* and self-efficacy;
- Labour market information\* and self-efficacy;
- Social capital; and
- Health, mental health, and life satisfaction.





Students were also asked about structural barriers to participation and success in post-secondary education (e.g. food insecurity, housing insecurity, childcare needs; and program experiences.

Elders completed face-to-face survey questionnaires related to:

- Earnings, employment, and career history;
- Job and life satisfaction;
- Social connectedness.

Dechinta's evaluation data is informed by the observed changes for individuals. These observed changes are then connected to peer-reviewed literature exploring relationships between gains in post-secondary education and medium and long-term outcomes; as well as information related to labour market participation, educational attainment, income, and other determinants of health, which inform/provide inputs to the projected outcomes for students across working age, and Elders across their life course.

Because changes experienced by Dechinta students and Elders employed at Dechinta happen over time, and are not immediately visible within the time horizon of the evaluation, we support our assumptions of change across Students' and Elders' life courses by tying program changes to plausible changes in the medium and long-term. Co-Evaluation Lab conducted several systematic literature searches and extracted effects associated with observed program changes, over time. Co-Evaluation Lab extracted from high quality peer-reviewed and grey literature, effects that were statistically significant, and which adjusted for numerous determinants of educational, labour market, and health outcomes. Of these effects Co-Evaluation Lab chose the **lowest plausible effect size** – as such the numbers generated are **likely an underestimation of the economic benefits** realized by Dechinta programming.

In addition to changes in education, labour market outcomes, and measures of wellbeing for students, Dechinta collects information related to changes in education and career self-efficacy, social capital, and structural barriers/supports experienced by prospective and current students to enhance program responsiveness and student wellbeing.

The estimates of the monetary return on investment in Dechinta are generated based on summative evaluation data from academic students, Elders, and alumni. Alumni provided retrospective information about current levels of educational attainment, and labour market participation since completing Dechinta in 2023.

## ESTABLISHING BUSINESS-AS-USUAL

When thinking about the net benefit of investing in Dechinta, we have to establish *in comparison to what?*

Business-as-usual, or the ‘counterfactual’ is what we are comparing Dechinta’s outcomes to. We are establishing a cost-benefit relative to what students and Elders would have experienced across their life courses in the absence of attending Dechinta, based on median and mean rates of their peer populations’ health, mental health, life satisfaction, educational attainment, and labour market participation and income. We have localized these rates as much as possible based on available population-level data. We calculate the current cost savings and value generated based on the proportion and number of students and Elders who experienced these benefits. We calculate the cost savings projected across working age for students, and the life course for Elders.

Given Dechinta is unique in its offering of land-based, Indigenous-centered education, we explored the cost benefit of investing in Dechinta vs. continuing to invest in the ‘status quo’ of largely non-Indigenous centered education programs. We use current rates of:

- Labour market participation, income (age-adjusted where data are available)
- Educational attainment for individuals, and within communities;
- Health service utilization (mental health emergent care, emergency department utilization)
- All rates are age-adjusted and community-specific (where possible), aligning with communities students reported as home communities within the NWT.
- As we focus on Northern Indigenous student outcomes in these models, we utilize rates for Indigenous populations living in the NWT (as available).
- In some cases data were not stratified by age and Indigenous status – we utilize the best available data.

## ECONOMIC MODELING USING PEER-REVIEWED AND GREY LITERATURE INPUTS

*Observed:* Data collected from Dechinta students, alumni and Elders, for pre-, during-, post-programming, and ongoing measures.

*Projected:* Data collected from peer reviewed and grey literature and publicly available data. We estimated returns to increases in access to post secondary education (one year) and changes in self-reported health and wellbeing at individual, community, and societal levels. Using data from high quality, recent, peer-reviewed literature, we estimate:

### *Individual*

- Returns to increased access to post secondary education
- Reductions in downstream health service utilization across the life course
- Returns to increases in life satisfaction

### *Community/societal*

- Increased community health resulting from a proportion increase in adults with post-secondary education
- Increased macroeconomic gains as a percentage of GDP, weighted by the population of the NWT

Data selected as model inputs were extracted from education, labour market/employment, and health-related literature/fields of scholarship. CoEL conducted an extensive literature review to identify quantitative connections between Dehcinta activities included in these analyses: increased access to post-secondary education (academic programming); and increased health and wellbeing of students and Elders. A total of 213 articles were reviewed; model inputs were derived from articles that were published within the past 10 years, controlled for key determinants of educational, labour market, and health outcomes, and, where possible, included Indigenous, racialized, and/or rural populations within their analyses. Quantitative change data were extracted from 52 peer reviewed studies, addressing the following quantitative relationships:

### **Education outcomes**

- Returns to education for students completing one additional year of post-secondary education (PSE); and
- Returns to education at the community level (communities with a 10 % increase of PSE completers)
- Returns to education societally, exploring the relationship between GDP and access to post secondary education.

### **Health and wellbeing outcomes**

- Self-rated health and mental health and downstream health service utilization for students
- Increases in social connectedness/reductions in social isolation for Elders and downstream health service utilization
- Increases in life satisfaction and related income and marginal tax revenue gains for students and Elders

Relationships were extracted if they were statistically significant, and clinically important.

# CONNECTING STUDENT OUTCOMES WITH A MONETARY VALUE

Estimating returns to education for Dechinta students across working age



**Median income \* % increases in income (high value) after one-year of further PSE**



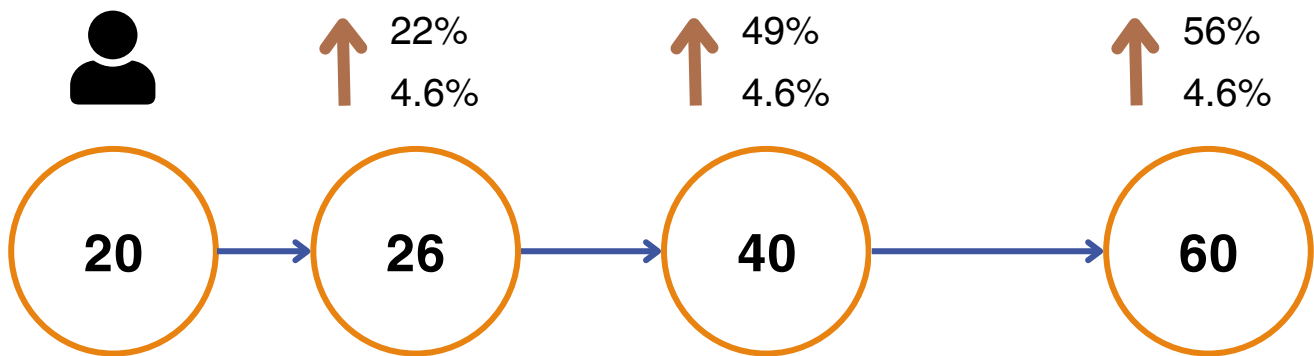
**Median income \* % increases in income (low value) after one-year of further PSE**

Tax revenue from average increased income - Tax revenue from current median income

**For the proportion of students who reported pursuing further PSE**



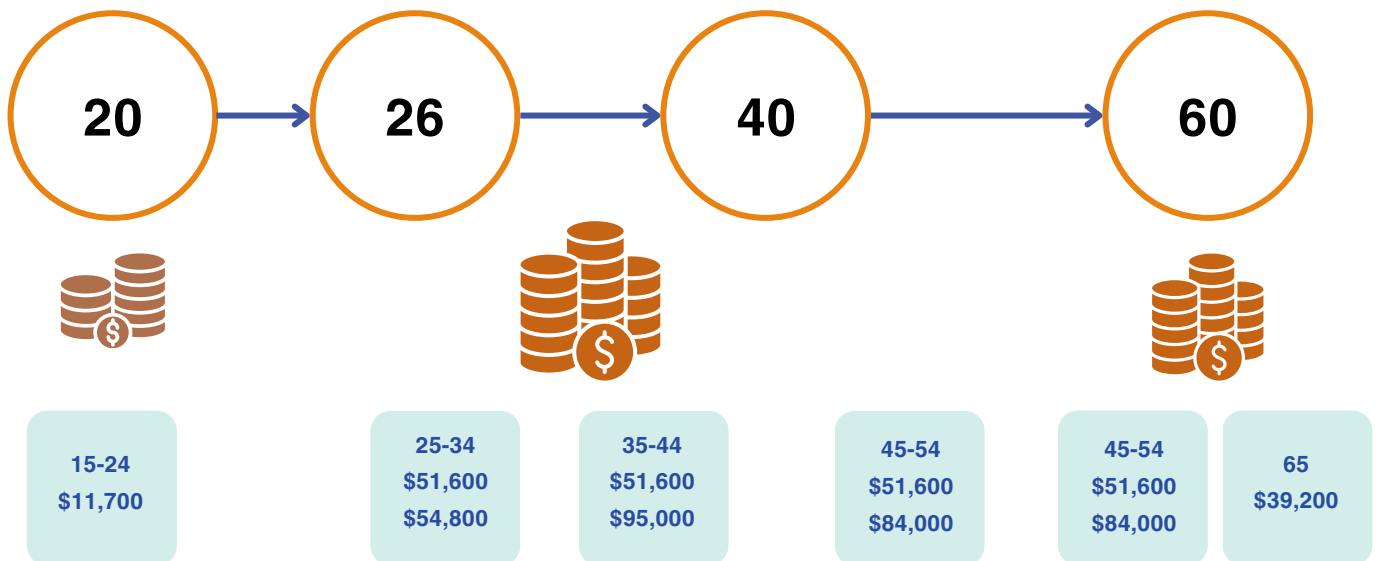
### Average student age at Dechinta



### Junctures of returns to education across working age

### Median employment income for (Indigenous peoples) across working age in NWT

High and low ranges for communities of Inuvik, Hay River, Fort Simpson, and Yellowknife  
*Highs represent median income for Indigenous peoples living in Yellowknife*



# DETERMINING COSTS

- Program costs (one year)
- Costs of operating academic programming + proportion of total general operating costs based on proportion of budget comprised by academic programming
- Costs used to calculate the marginal value generated by Dechinta are pulled from publicly available data (health systems/episodes of care) where possible we used as localized as possible costs.
  - Health Service Utilization costs (NWT, NU)
  - Health Service Utilization costs – emergency (NU)
  - Rates – NU child, youth, and adult rates of mental health-related hospitalization
  - Rates – employment rates and income
  - Localized food costs
  - All costs adjusted to 2024 dollars

# SENSITIVITY ANALYSIS AND LIMITATIONS

## Sensitivity Analysis

To get to the ROI number, we calculated multiple inputs with multiple ranges depending on the inclusion of individual and community data. We have used numbers that are the most conservative of the ranges.

- Values for incomes across communities
- Values for probabilities of increased income, and marginal change in income anticipated
- Values for probabilities of health service utilization
- Health care costs
- Discount rates over time (ranging from 2.8% to 5%; applied a 3% rate to maintain consistency with current literature)

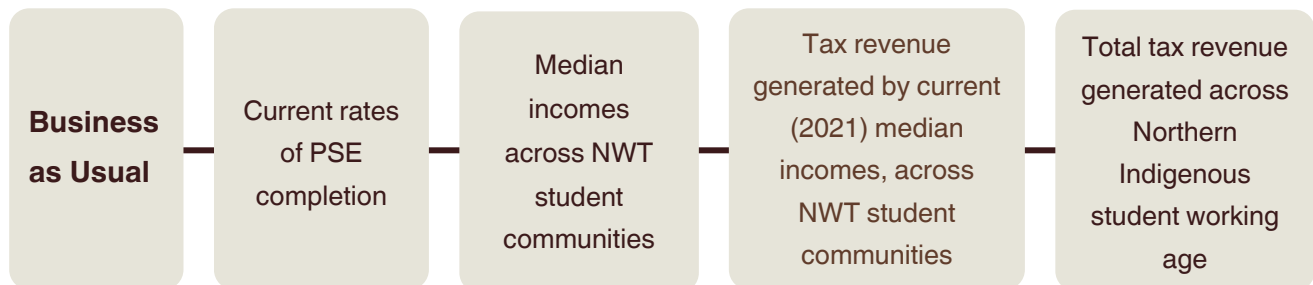
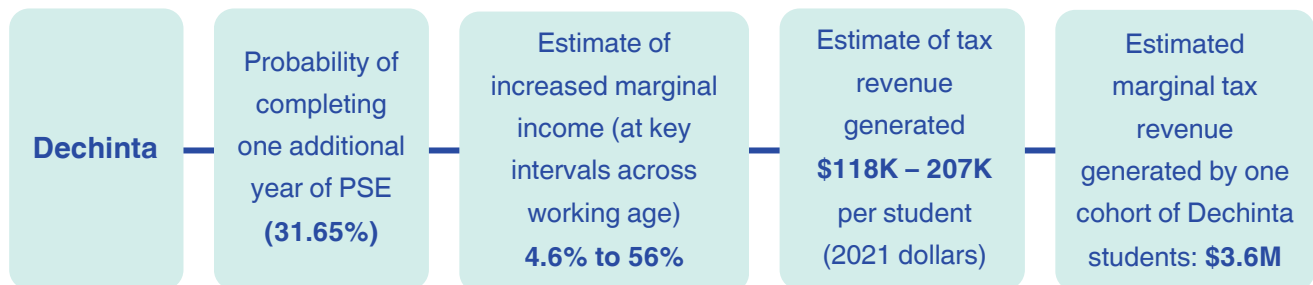
## Limitations/Assumptions

- Lack of hyper-localized data
- Current rates of Health Service Utilization
- Current costs of Health Service Utilization
- Sample sizes
- Students engage with labour market as expected

# DETAILED FINDINGS

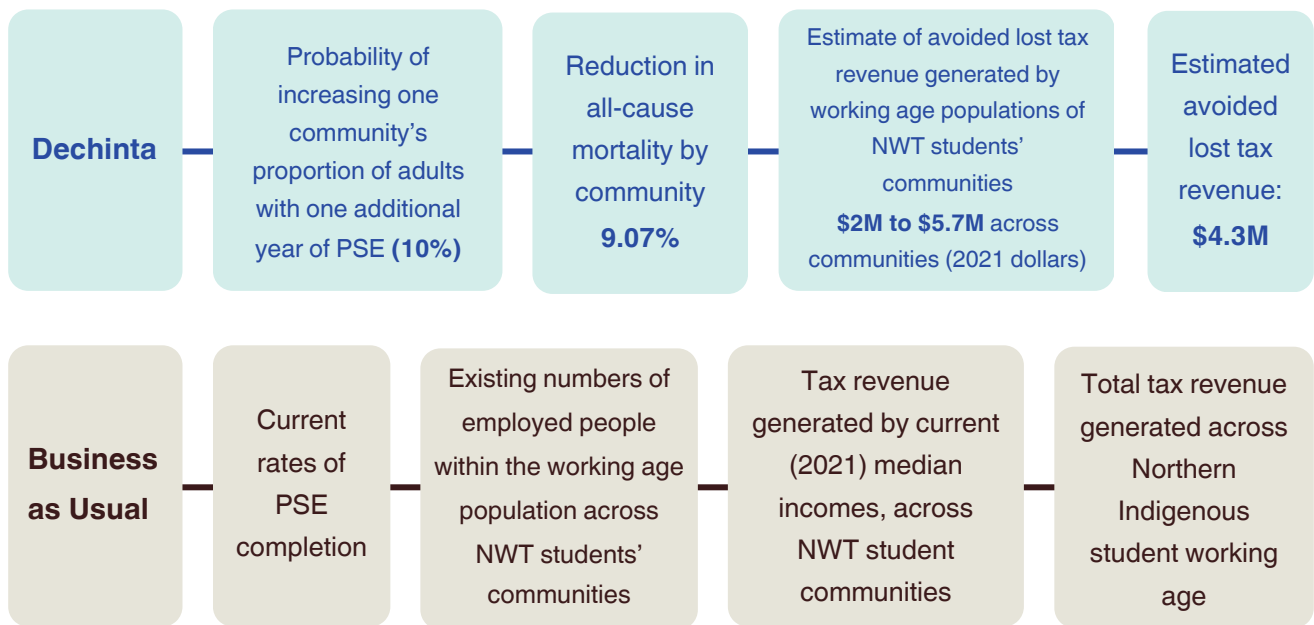
In this section, we illustrate how Dechinta's observed results are connected with literature to generate the findings.

## RETURNS TO INCREASED EDUCATIONAL ATTAINMENT FOR COMMUNITIES



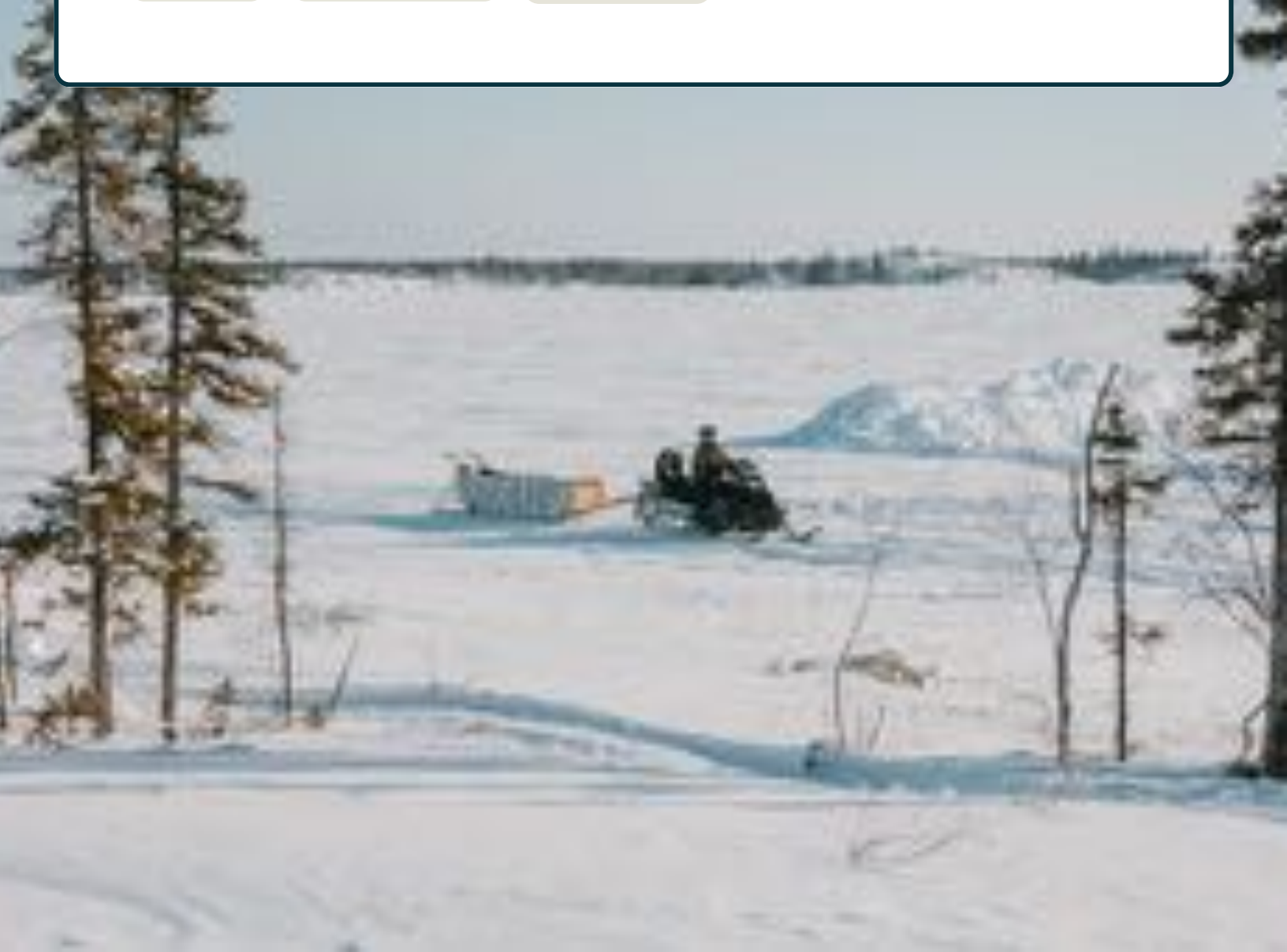
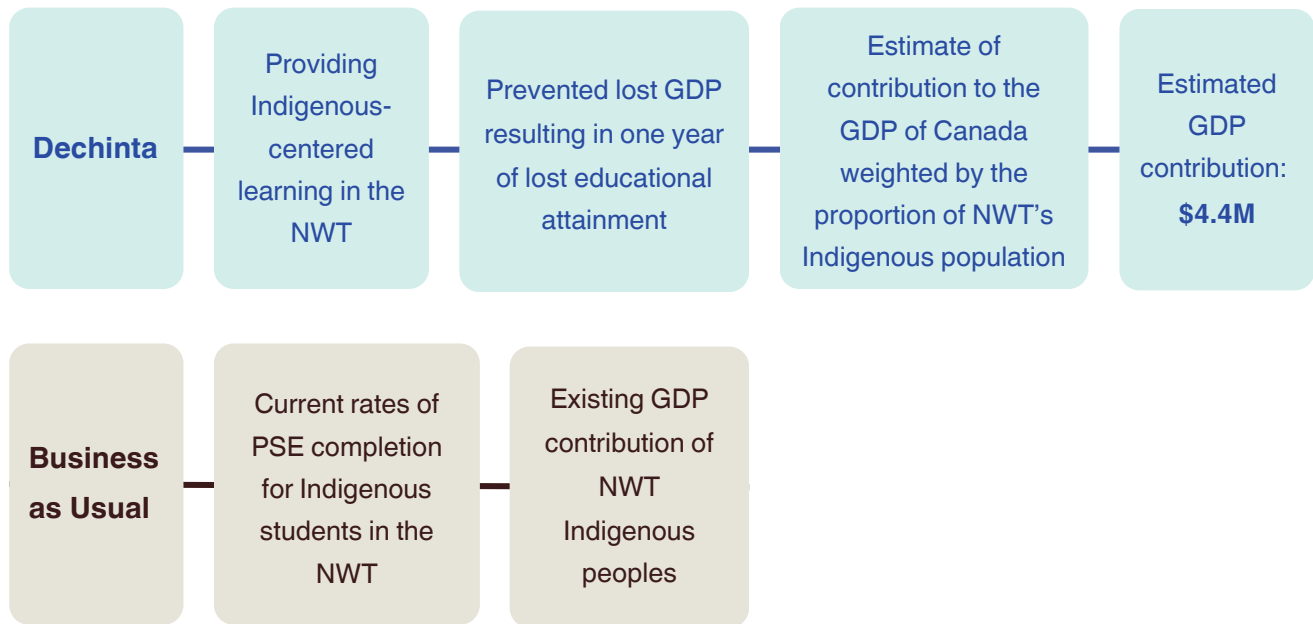


**RETURNS TO INCREASED EDUCATIONAL ATTAINMENT FOR COMMUNITIES**

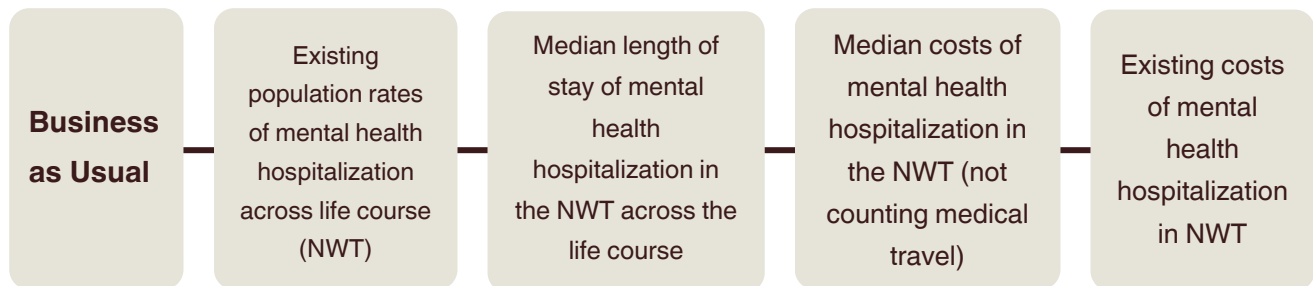
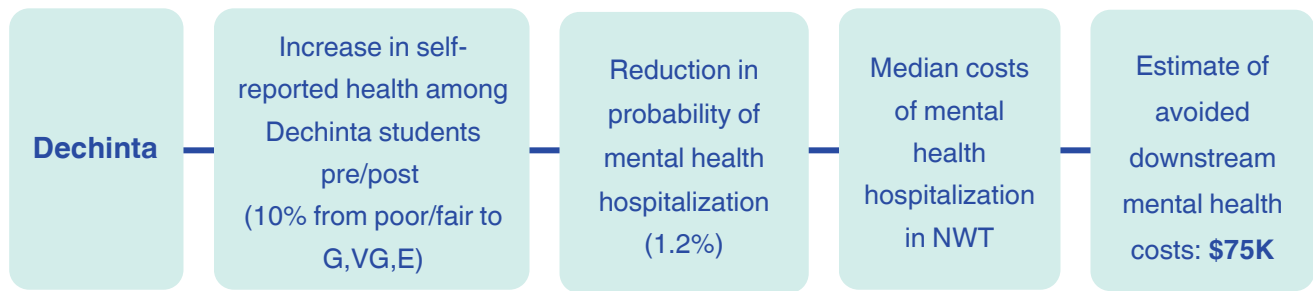




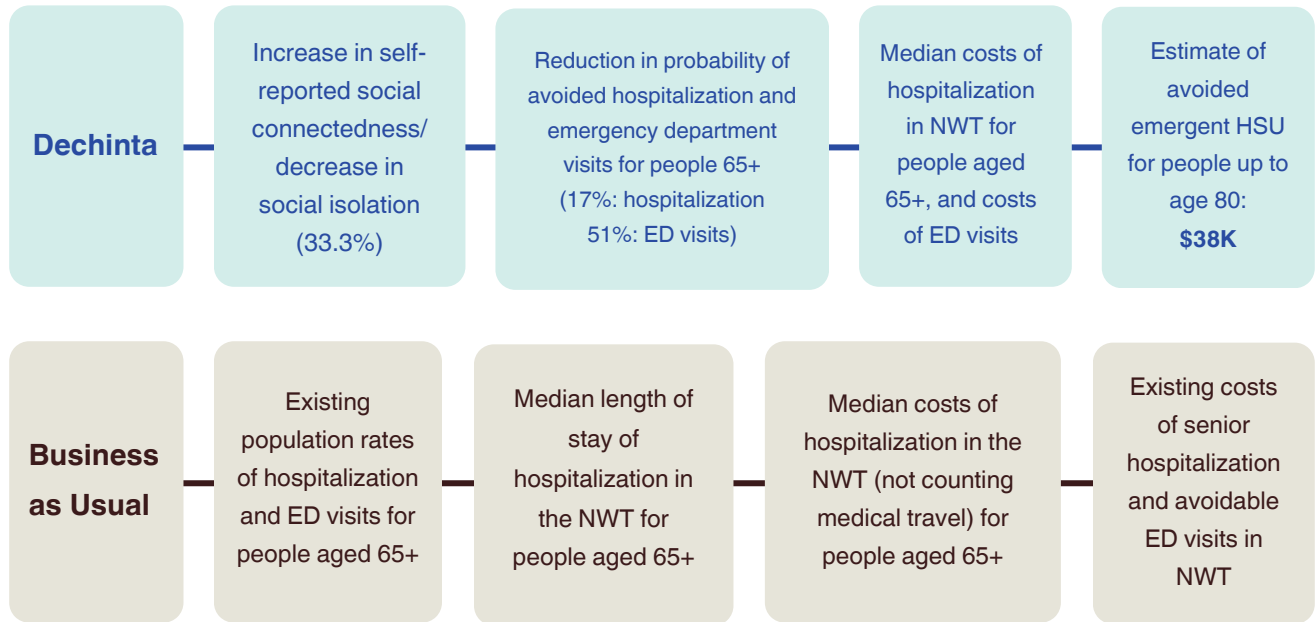
## RETURNS TO CANADIAN ECONOMIC OUTPUTS



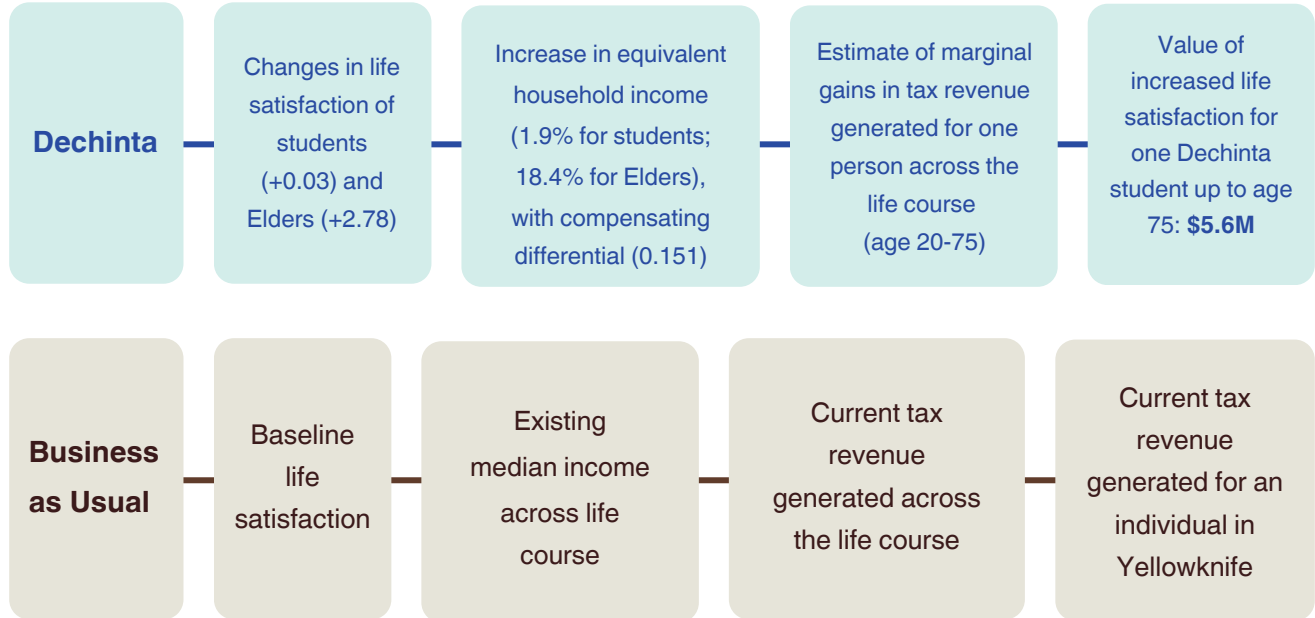
## INCREASED INDIVIDUAL STUDENT HEALTH



## INCREASED ELDER SOCIAL CONNECTEDNESS



## LIFE SATISFACTION AND SOCIETAL BENEFITS



## THE VALUE OF HARVESTING

1. Data gathered: Amount harvested	2. Conversion: Edible weight	3. Calculation: Store- bought equivalent
<b>Needed:</b> Number of each species harvested	<b>Needed:</b> Average edible weight of each species	<b>Needed:</b> Number of each species harvested
<b>Collection methods:</b> <ul style="list-style-type: none"><li>• Daily reports from hunters; or</li><li>• Extract from previous reports/records; or</li><li>• Retrospective estimates from hunters</li></ul>	<b>Collection methods:</b> <ul style="list-style-type: none"><li>• Average edible weights reported in the literature</li></ul>	<b>Collection methods:</b> <ul style="list-style-type: none"><li>• Daily reports from hunters; or</li><li>• Extract from previous reports/records; or</li><li>• Retrospective estimates from hunters</li></ul>



# EXTENDING THESE ANALYSES

Dechinta has developed an evaluation framework to explore short, medium, and long-term outcomes and impacts. *Figure 1 (at the end of this report) provides a summary of Dechinta's programming logic model, outlining the pillars of programming and related outcomes/impacts.* Because of the breadth of the types of programming Dechinta offers, the number of activities Dechinta facilitates, and the populations Dechinta serves, Dechinta focused our quantitative data collection on the education and health impacts for its Indigenous academic students from NWT communities and Elder staff. Data used for these analyses represent a small number of indicators and measures collected with students and Elders. Economic analyses are based on observed changes reported by students and Elders within one academic year (2023-2024). Benefits related to education and health across the life course are extrapolated utilizing data from recent (no more than 10 years), high quality research drawn from education and population health fields of scholarship. Estimations of future earnings and health-related outcomes are based on statistically significant and quantitatively important relationships between observed outcomes (changes in access to PSE, self-reported health and mental health, and social connectedness) and outcomes observed in peer reviewed literature for changes in earnings and health service utilization across the life course.

The observed changes in Elders and adult, Northern Indigenous students are connected with the most selective and conservative values to generate impact. The ROI data shared in this document has been based on select measures:

- Self-rated health
- Self-rated mental health
- Self-rated social connectedness (Elders)
- Change in access to PSE (current students and alumni)
- Life satisfaction



In addition to summative evaluation information, we currently collect myriad information from our prospective students that supports their journey in applying to, and attending Dechinta programming. These data include detailed demographic information, and information related to what supports students may require to participate in Dechinta programming – including food security, housing stability, and childcare-related supports. Dechinta collects information from students about student experience along their journeys from the program application process to their experiences during their courses. As the number of observations grow, Dechinta will be able to explore quantitatively how aspects of students’ identities, strengths, needs, and contexts influence their experiences and outcomes.

Currently collected summative measures not accounted for in these economic analyses include educational self-efficacy, career decision making, different areas of career focus and cultural identity. At the community level, Dechinta collects information about community outreach, and activities related to health education and promotion, social support provision (e.g. transportation, health navigation), and providing access to country foods via harvesting and harvesting distribution activities.

## **EXPANDING DATA COLLECTION**



**Longitudinal:** Given the success of our data collection initiatives, Dechinta plans to extend data collection beyond the time horizon of course completion, to follow up with alumni about key metrics related to labour market outcomes, educational attainment, health, and wellbeing. This will inevitably enhance existing economic estimates/analyses, further grounding them in individual-level student data.

**Other programs:** Dechinta is planning to explore outcomes related to the inclusion of children/childcare within its academic/accredited programs, and other courses; its large-scale community programs (e.g. fish camp); its health promotion/education programs; and its impact on local communities’ food security.

Continuing to do evaluation will strengthen our findings. The ROI results in this report are based on a narrow set of outcomes on two sets of people: Elders and students in academic programming. These results do not include observed outcomes in communities, children or parents. It does not include a retrospective student, or career pathways analysis.

This data relates only to Indigenous students living in the North. This ROI does not include participants from regions outside of the territory, or non-Indigenous students living in the NWT. The median values of labour market participation are such that the inclusion of southern students would likely increase the ROI ratio for the individual level student outcomes. Activities that have not yet been included in this work include community programming, language and cultural programming, arts programming and research programming.

With more ongoing data collection these numbers will be more robust, as we collect more information it is expected that the ROI number will increase due to the quality of longitudinal data collection.

### PIE CHART TO ILLUSTRATE THE LIMITED SCOPE OF THE CURRENT ROI ANALYSIS

#### **Economic Benefit of:**



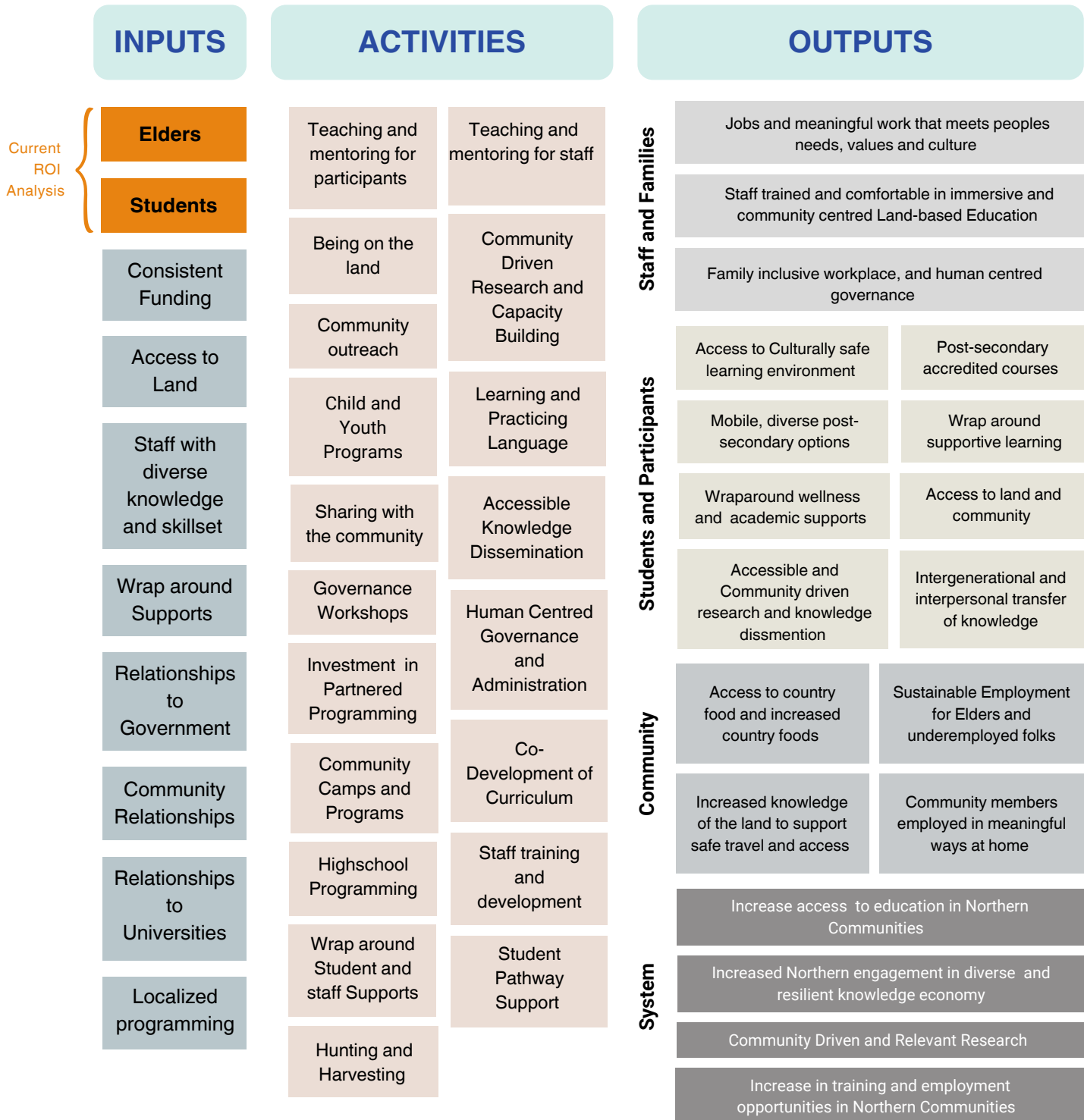
- Employing Highly Skilled Knowledge Holders
- Indigenous Centred Education
- Food Distribution and Food Security
- Family Inclusive Educational Programming
- Community Research Opportunities
- Community Connections to Culture and Language
- Increased capacity for Northern Research

*\* Relative Economic Impact is Illustrative*



# FIGURE ONE: DECHINTA LOGIC MODEL

Dechinta has co-developed this model of change based on years of engagement with Elders, community members, students and their families who have participated in Dechinta programming. Rooted in Indigenous values and incorporating rigorous research on the individual and collective benefits of programming, this model demonstrates the deep value of investing in Indigenous communities and their land. This theory of change traces the impact of Dechinta programming across Individuals (including staff and participants), community and systemic change.



# OUTCOMES

Staff and Families	Staff, Elders and families have time and support to practice what is important to them	Income (house and food) security	Family and Household wellbeing
	Opportunities for families and individuals across the lifespan to access land and knowledge		
Students and Participants	Increased interest in post-secondary education	Northern students better prepared for Post-secondary	Increased understanding of Northern History and Governance
	Increased diversity of students and faculty in post-secondary education	Increased interest in community and national governance	Increased number of students in Northern communities with post-secondary education
	Youth, community members empowered, increased self efficacy, confidence, sense of belonging	Gain and Improve traditional and land based skills	Increased diversity of students and faculty in Northern post-secondary education
	Cultural revitalization, deeper connection to land and culture	2nd generation family and educational attainment	Increased involvement in community governance
	Increased confidence in parenting	Family and household wellbeing	
Community	Increased sense of pride in Indigenous community knowledge and research capacity	Research and knowledge shared without translation	Harvesters and harvesting recognized and valued within communities
	Harvesting practices and safe access to land preserved	Increased use and access to the land	Family and household wellbeing
	Decreased interpersonal stress	Important traditional climate knowledge learned and shared	Bring people closer, healthy community connections, overcoming generational conflict
	Decreased conflict	Increased intergenerational healing	Strengthening communities understanding of Indigenous legal and political issues pertaining to land, governance and self-determination
System	Increase in number of academic communities and researchers equipped to engage in ethical community research	Knowledge sharing across generations and communities	Advance the capacity of research organizations and educational institutions to ethically engage with, respect and work with Indigenous communities, knowledge and Elders
	Positive public perception of Indigenous knowledge	Land based learning recognized as critical and valuable	
			Strengthen local Indigenous knowledge experts
Summary	Improve quality of life of Northerners	Traditional Knowledge and Skills are practice and shared between generations	Increased social connectedness and support
	Improved Wellbeing of staff, participants and community	Cultural Connection and Revitalization	Increased Economic security
			Increased Access to land, knowledge and tradition
			Global Impact

# IN CONCLUSION

Dechinta will continue to gather high quality data from Elders and students.

We are working to develop more data collection tools to examine the impact of multigenerational and family inclusive programming over the life-course of children and youth involved in Dechinta programming.

Pending funding for future evaluation work, we will continue to work with 3rd party evaluators to assess the economic and social impacts of Dechinta programming.



