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Mino Bimaadiziwin Homebuilder Program's Impact on Sustainable Livelihoods Among Youth in Garden Hill and Wasagamack First Nations: An Evaluative Study

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ABSTRACT

The Mino Bimaadiziwin Homebuilders postsecondary education pilot project built Indigenous youth capacity and houses in two remote Anishinini reserves—Garden Hill and Wasagamack. To evaluate this community-led project, a sustainable livelihood assessment holistically measured the impact on 45 of the 70 (64%) Homebuilder students and the community. The community benefited by gaining three culturally appropriate houses built from local lumber and employment opportunities for Anishinini instructors. A longitudinal survey found five of the six livelihood assets improved statistically and significantly, including satisfaction with social relationships, cultural awareness, income and ability to pay bills, housing safety, and human development. Students reported better relations with their families and neighbourhood. Most (85%) of the 70 Homebuilder students earned postsecondary certificates either in forestry, homebuilding, or both while obtaining a training stipend, which elevated their incomes. These positive outcomes occurred despite project underfunding, COVID-19 pandemic lockdown, climate change events, and inequitable housing policies under the Indian Act. Based on this project's success, we recommend investing in Indigenous-led postsecondary education in community homebuilding projects. However, to attain equitable housing and human rights, a plan is needed to overturn the Indian Act keeping Indigenous people "wards of the state" and their land in trust.

RÉSUMÉ

Le projet pilote en éducation postsecondaire Mino Bimaadiziwin Homebuilder a permis d'assurer la formation de jeunes autochtones et la construction de maisons dans deux réserves anishinini isolées—Garden Hill et Wasagamack. Afin d'évaluer ce projet mené par la communauté, une approche holistique priorisant un mode de vie durable a servi à mesurer son impact sur 45 des 70 étudiants (c'est-à-dire 64% de l'ensemble) participant au projet ainsi que sur la communauté. Cette dernière a bénéficié du fait qu'elle a obtenu trois maisons culturellement appropriées construites avec du bois local ainsi que des emplois pour des enseignants anishinini. Une étude longitudinale

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a démontré que, grâce à ce projet, cinq de six atouts liés au mode de vie se sont améliorés de manière statistiquement significative, y compris la satisfaction envers les relations sociales, le savoir culturel, le revenu et la capacité à payer ses comptes, la sécurité en matière d'habitation, et le développement humain. À ce titre, les étudiants ont affirmé que leurs rapports avec leurs familles et leurs quartiers se sont améliorés. La plupart d'entre eux, c'est-à-dire 85% des 70 étudiants participant au projet Homebuilder, ont obtenu un certificat postsecondaire en foresterie, en construction d'habitations ou dans les deux domaines tout en recevant une allocation de formation, ce qui leur a permis d'augmenter leur revenu. Ces résultats positifs sont arrivés malgré le sous-financement du projet, le confinement dû à la COVID-19, des défis soulevés par le changement climatique et des politiques de logement inéquitables dues à la Loi sur les Indiens. Étant donné le succès de ce projet, nous recommandons d'investir dans une éducation postsecondaire axée sur la construction d'habitations dans la communauté qui soit menée par des autochtones. Cependant, pour rendre les droits humains et les droits au logement plus équitables, il faudrait dresser un plan pour supplanter la Loi sur les Indiens, à cause de laquelle les autochtones demeurent pupilles de l'État et leurs terres restent sous tutelle.

Keywords / Mots clés : Indigenous, housing crisis, healthy homes, Native reserves, sustainable livelihoods, Indian Act, First Nations / autochtone, crise du logement, maisons saines, réserves autochtones, mode de vie durable, Loi sur les Indiens, Premières Nations

INTRODUCTION AND LITERATURE REVIEW

Many Indigenous People living on Native reserves in Canada lack adequate housing (Assembly of First Nations [AFN], 2020a; 2020b; Statistics Canada, 2016). Colonial approaches to housing development on Native reserves in Canada have resulted in many negative impacts from overcrowded, unhealthy, and dilapidated houses. The housing crisis on Native reserves negatively impacts the health, education, economic development, and welfare of Native people (AFN, 2020a; 2020b) and contributes to homelessness (AFN, 2020a). Currently, the housing deficit in Canada's Native reserve is greater than 130,000 units, with as many as half a million Indigenous people in Canada having poor or no housing (AFN 2020a, 2020b).

An Indigenous self-determined approach is needed to solve the massive housing problem on Native reserves in Canada (AFN, 2020a; 2020b; First Nations Information Governance Centre [FNIGC], 2020) to "make housing a source of community healing and economic renewal" (Royal Commission on Aboriginal Peoples [RCAP], 1996, p. 341). Solutions by Indigenous People and for Indigenous People are needed for resolving Native reserve housing rather than the problematic federally dictated programs (AFN, 2020a; 2020b; FNIGC, 2020; First Nations Health Council [FNHC], 2020).

This article evaluates a postsecondary education project to build youth capacity and build houses in two remote Anishininiwuk reserves—Wasagamack and Garden Hill—in Manitoba, Canada. This article starts with problematizing colonial language that obscures the role of the Indian Act on housing developments on reserves and Indigenous People. We explain the Indian Act's racist colonial legal levers perpetuating the inhumane housing situation on reserves and the lower educational outcomes for Indigenous People. Canada's on-reserve housing crisis and the failings of colonial

postsecondary education are discussed, considering their impact on northern and remote Indigenous communities.

As an antithesis to these colonizing systems, we tell the story of how the Anishininiwuk from Garden Hill and Wasagamack initiated the Mino Bimaadiziwin Homebuilders (MBHB) project with researchers at the University of Manitoba (UoM). Elders gave the project the name *Mino Bimaadiziwin*, which in *Anishinini* means "a good life as destined by the Creator." This two-year project trained 70 Anishinini youth to build homes in their communities using local materials. We discuss how this project was evaluated to see if it lives up to its name using relevant indicators in a sustainable livelihoods assessment, considering student and community benefits. The longitudinal study results are presented regarding the impact of the project on six sustainable livelihoods of the students. The discussion focuses on what insights the project offers to resolve the multiple crises of housing, education, health, and unemployment in First Nation communities. The conclusion summarizes the project's impact and analyzes its applicability to other communities, offering recommendations.

INDIGENOUS PEOPLE IN CANADA AND THE INDIAN ACT

Indigenous People in Canada were here prior to colonial settlement and the formation of Canada. Over 1.6 million people in Canada identify as Indigenous, making up 4.9 percent of the national population (Statistics Canada, 2016), with diverse cultures, languages, economies, and histories (Nelson & Wilson, 2017). Indigenous People in Canada typically identify themselves by their language, for example, Anishinini, Anishinaabe, Ininiew, Haudenosaunee, Dene, and Saulteaux. This article focuses on the housing problems in a case study with two Anishinini reserves in Canada, with *Anishinini* being the Native language, *Anshininimowin* meaning speaking their Native language, and *Anishininiwuk* being the Native people.

The Canadian government divides Indigenous People into three categories: 1) Indians, 2) Inuit, and 3) Métis (RCAP, 1996). This article focuses on housing on reserve under the Indian Act, but we do not use the term *Indian* except as a legal construct as this label came out of settlers mistaking Canada for India and settlers' ideology of racial superiority. We also avoid the confusing term *First Nations*. The term First Nations obfuscates that Indigenous bands in Canada have no nation-state powers or national sovereignty and are not recognized as nation states by the United Nations (UN) (Blacksmith, Hill, Stormhunter, Thapa, & Thompson, 2021). If the Anishinini and other Native bands were legally sovereign nations in control of land, housing, funding, resources, and education, we would not be writing about the lack of Indigenous control over housing and postsecondary education. We apply the term *Anishinini* when referring specifically to Wasagamack, Garden Hill, and Island Lake people, reserves, and band government and otherwise use the more generic term of *Indigenous* or *Native* when using a term that applies to reserves, bands, or people under the Indian Act in Canada.

The crux of the housing problem lies with the Indian Act and other colonial policies (Blacksmith et al., 2021). The Indian Act enacts racial discrimination to deny Indigenous People in Canada their human rights, land, and resources. The Indian Act is considered one of the most overtly racist laws in the world (Blacksmith et al., 2021). The Indian Act (1876, sec.12) states: "a person means an individual other than an Indian," which continues to legally brand Indigenous People "wards of the

state" (Truth and Reconciliation Commission of Canada [TRC], 2015). Even Canada's Charter of Rights and Freedoms is inconsiderate of Canada's Indigenous People and their "wards of the state" status and their restrictions to Aboriginal rights within Canadian courts, except for criminal cases: "Aboriginal rights reinforce the State's monopoly on power. First Nations are radically constrained in negotiations for their rights" (King & Pasternak, 2018, p. 13).

Canada's legal denial of Indigenous People' humanity results in genocidal policies, including but not limited to the Indian Residential schools (Milloy, 2017; TRC, 2015). The Indian Act continues to undermine Indigenous People' livelihoods, language, health, education, culture, and housing. Housing needs are not met as the Indian Act severely restricts home financing, with Native people unable to mortgage reserve land through banks. With Indigenous reserve land in a Crown land trust, the only lender is Canada Mortgage and Housing Corporation (CMHC) (Zingel, 2020), which severely constrains housing on reserve.

INDIGENOUS ON-RESERVE HOUSING

Housing and infrastructure on Indigenous reserves are in a "state of crisis" due to colonial policies (Hill, Bonnycastle, & Thompson, 2020). The on-reserve housing deficit surpasses $3 to $5 billion (Standing Committee on Indigenous and Northern Affairs [INAN], 2017), with more than 130,000 homes needed. The total infrastructure deficit, including schools, roads, and hospitals, is estimated to be higher, at $45 billion to $50 billion (INAN, 2017). Chief David McDougall from Island Lake calls the housing situation a "ticking time bomb," with 1,500 houses on the waiting list for the cluster of four reserves, including Wasagamack and Garden Hill. The Chief documented 23 people living in a two-bedroom home where "they had to take turns sleeping" (Puxley, 2016).

Native reserves typically lack sufficient housing to meet the human need for decent, adequate accommodation (Hoque, 2018; Standing Senate Committee on Aboriginal Peoples [SSCAP], 2015; Hill et al., 2020). Overcrowding is measured by the National Occupancy Standard (NOS) as the home having "enough bedrooms for the size and composition of the household" (Statistics Canada, 2019, 2020). In 2016, seven percent of Manitobans lived in unsuitable housing, with rates five times higher at 37 percent for Indigenous People living on reserves (Statistics Canada, 2019). Average household size is the average number of persons per household. The average number of family members living in an on-reserve household is 3.7 compared with the national average of 2.5 (Canadian Institute of Child Health, 2021), despite smaller house sizes built on reserve.

House designs imposed on reserves by CMHC typically do not consider the place, family, climate, or culture. The one-house-fits-all designs are too small for large families and too large for single adults and culturally inappropriate (MacTavish, Marceau, Optis, Shaw, Stephenson, & Wild, 2012). As a result, homes deteriorate quickly into unhealthy housing. In Manitoba, 44 percent of households need major repairs to fix defective plumbing, faulty electrical wiring, or structural damage, for example, which is five times higher compared with nine percent overall (Statistics Canada, 2019). Most on-reserve homes (70%) across Canada need some level of repair (FNIGC, 2020).

A home's state of repair, allergens, mold, and crowding are associated with an increased risk of disease on First Nations reserves (Boutilier, 2014; FNIGC, 2020; Kovesi, 2012; Moffatt, Mayan, & Long, 2013; Statistics Canada, 2020; Weichenthal, Mallach, Kulka, Black, Wheeler, You, St. Jean, Kwiatkowski, &

Sharp, 2013). Overcrowding has negative health impacts. Overcrowding is blamed for a 50 times higher prevalence of tuberculosis for Native people living on reserve in Canada than those living off-reserve (Indigenous Services Canada, 2020; Thompson, Bonnycastle, & Hill, 2020) and unacceptable risks for COVID-19 transmission (Statistics Canada, 2020). Multigenerational families create a greater risk of viral exposure to the at-risk elderly group for severe COVID-19 symptoms (Statistics Canada, 2020). One-quarter (25%) of Native people on reserves lived in multigenerational households in 2016 (Statistics Canada, 2016), which is four times higher than off-reserve housing.

Despite the dire need for Indigenous on-reserve housing, the philanthropic sector has not stepped up to advocate and provide temporary shelter to the homeless on reserves or provide youth training to build on-reserve homes (Stormhunter, 2020). One explanation is that Indigenous governments do not qualify automatically for donee status, unlike every other town and government body, which is required to receive any charitable funding (Canada Revenue Agency [CRA], 2017). As a result of government policies, charitable donations bypass Native reserves to other areas (CRA, 2017; Stormhunter, 2020) and the communities and people who need help the most do not benefit from charitable donations. Despite the lack of philanthropic charities, a few pilot programs to assist with community priorities for housing have occurred through university projects.

DECOLONIZING POSTSECONDARY EDUCATION

For the most part, the Canadian postsecondary education system teaches colonial views without considering Indigenous knowledge or needs (Indian and Northern Affairs, 1985; Hill et al., 2020; Olsen Harper & Thompson, 2017; Thompson, Harper, Thapa, & Klatt, 2017). Postsecondary education continues to fail to prepare Indigenous students from remote northern reserves with sustainable livelihoods:

> Remote northern students were (and are) denied, through the school system, the essential preparation for life in their home environment. The traditional material culture was (and is) ignored. No one was (or is prepared for employment in the off-reserve world of commerce and industry. No one was (or is) prepared for gainful employment in traditional ways. (Indian and Northern Affairs, 1985, p. 37)

Education, whether formal or informal, should improve health, happiness, and income, which are all aspects of sustainable livelihoods (Gaudet, 2021; Chambers & Conway, 1992; Mohammadi, Omidi Najafabadi, & Poursaeed, 2021; Snider, 2021). Education aims to boost capabilities and assets (Snider, 2021; Gaudet, 2021; Trade Winds to Success, 2020; Chambers & Conway, 1992) required for normal living and survival during difficult times such as under COVID-19 pandemic or climate change disasters (Snider, 2021; Chambers & Conway, 1992). Life-long learning education provides a way to cope with new situations and continuously improve.

Clearly, the colonial postsecondary education system is not working, with limited enrolment and poor success rates for Indigenous students in Canada over many decades (Statistics Canada, 2016; Gaudet, 2021; Ineese-Nash, 2020). Hill, Bonnycastle, and Thompson (2020) report systemic and institutional barriers to trades and apprenticeship training for Indigenous People. Socially and psychologically safe educational settings should be available and accessible, considering the intergenerational trauma of residential schools, poverty in Indigenous communities, and the racism of

colonial Canada (Deane & Szabo, 2020; Organisation for Economic Co-operation and Development [OECD], 2018; Raderschall, Omidi Najafabadi, & Poursaeed, 2020). Raderschall, Omidi Najafabadi, and Poursaeed (2020) discuss the Trade Winds to Success Program as a successful Indigenous model for trades training covering foundational skills, academic preparation, pre-apprenticeship accreditation, and career development, with sufficient lead-time for upskilling to counteract the underfunding of Indigenous schools in Canada.

With limited or no access to the internet for elementary, secondary, and postsecondary students in remote Indigenous communities during COVID-19, their educational opportunities disappeared (Hill et al., 2020). Some communities, including Garden Hill, cancelled their schools in March 2020 when COVID-19 emerged in Canada. The Canadian Radio-television and Telecommunications Commission deemed broadband internet an essential service in 2016, with standards to allow users to stream video at 50 megabits/second download and 10 megabits per second uploads. However, almost 86 percent of households do not have this quality of internet access, with rural and remote communities, including Indigenous communities, being the outlier.

Culturally appropriate education is fundamental to achieving a good life and employment opportunities (Champagne, 2015; Sharpe, Arsenault, Lapointe, & Cowan, 2009; Wakefield, Sage, Coy, & Palmer, 2004). Elders have tried to fill the large hole in the Canadian education system where decolonizing and land-based education should be (Olsen Harper & Thompson, 2017). For example, Elders provided culturally appropriate postsecondary education in Island Lake. Emma and Victor Harper, two Wasagamack school teachers, led a *Nopimink* or land-based course to provide "on-the-land education" in Island Lake for teacher trainees in the 1970s and 1980s through Brandon University (Mino Bimaadiziwin Partnership, 2019a). However, this successful on-the-land pilot project was defunded, despite these Elders wanting to continue and expand this Indigenous postsecondary education to meet all the needs of the community.

Anishinini Elders propose community-led postsecondary education that focuses on the place-based issues, knowledge, and needs of their Anishinini communities. The Elders envisioned a community-led, culturally appropriate education that incorporated land-based, Indigenous knowledge and trades education to address community needs through project learning. Elders envisioned youth learning holistic land-based stewardship to keep "the earth sacred" and their families healthy and housed (Thompson et al., 2017). Similarly, Anishinini youth and Elders of Garden Hill wanted community-based and applied education rooted in traditional and spiritual beliefs, land-based learning, cultural identity, and self-determination to build sustainable, culturally appropriate livelihoods (Michnik, Thompson, & Beardy, 2021).

Community-led postsecondary education provides options to decolonize and address priority issues through community projects (Michnik et al., 2021). As needs and priorities differ across communities based on their situation, educational projects should be responsive and community-led (Michnik et al., 2021). The Anishininiwuk communities and many other Native communities identify the lack of housing and tradespeople as a priority. The Anishininiwuk see local homebuilding education as one of the ways to solve the multiple crises of housing, education, health, and unemployment occurring in many reserves (RCAP, 1996).

MINO BIMAADIZIWIN HOMEBUILDER PROJECT AS A CASE STUDY

The Mino Bimaadiziwin Homebuilder (MBHB) project originated with Anishininiwuk from two fly-in Island Lake reserve communities, namely Wasagamack and Garden Hill, in northwest Manitoba (see Figure 1). The MBHB project was envisioned by Elders Victor Harper, Emma Harper, Norman Wood, and Ivan Harper. The MBHB project was a partnership with Anishinini Elders, education directors, and employment training directors identifying the need for community-led education on trades, which led to a Social Science and Humanities Research Council (SSHRC) partnership grant in 2017 with Dr Shirley Thompson and others at the University of Manitoba. Elders named the Homebuilder project *Mino Bimaadiziwin* to describe cultural, holistic learning in by and for their community to build youth capacity in homebuilding for a good life.

Figure 1: Location of Garden Hill and Wasagamack in Manitoba

Source: Thompson et al. 2012

The Homebuilder education training started in the Fall of 2018 to build students' capacity and homes. No postsecondary education opportunities were available in either community, not even remote learning due to limited bandwidth. The Employment and Training departments agreed to provide the building materials, equipment, and classrooms in each community, but the lack of winter roads was a big impediment. The goal was to design and build two homes with local logs in both Wasagamack and Garden Hill, teaching at each step in the process. Both ATI's Indigenous instructor and local Anishinini train-the-trainers taught the postsecondary education program to students. Jide Oni, the lead author, resided in Island Lake for 14 weeks (intermittently) in the summer and fall of 2019 to conduct the participatory research and administrate the surveys.

Some of the classroom and most of the hands-on education was in Anishininimowin. Most community members in Garden Hill and Wasagamack speak their Island Lake dialect fluently, despite intergenerational trauma from children being forcibly sent to residential schools. Being forced to travel outside of their homes currently to attend colonial postsecondary institutions can be traumatic, being so far away from family, language, food, and culture. Most people return without academic success; Wasagamack education director explained that only 1 in 20 (5%) Anishinini students completed their postsecondary education programs (Mino Bimaadiziwin Partnership, 2019b), due in part to racism, poverty, and homesickness.

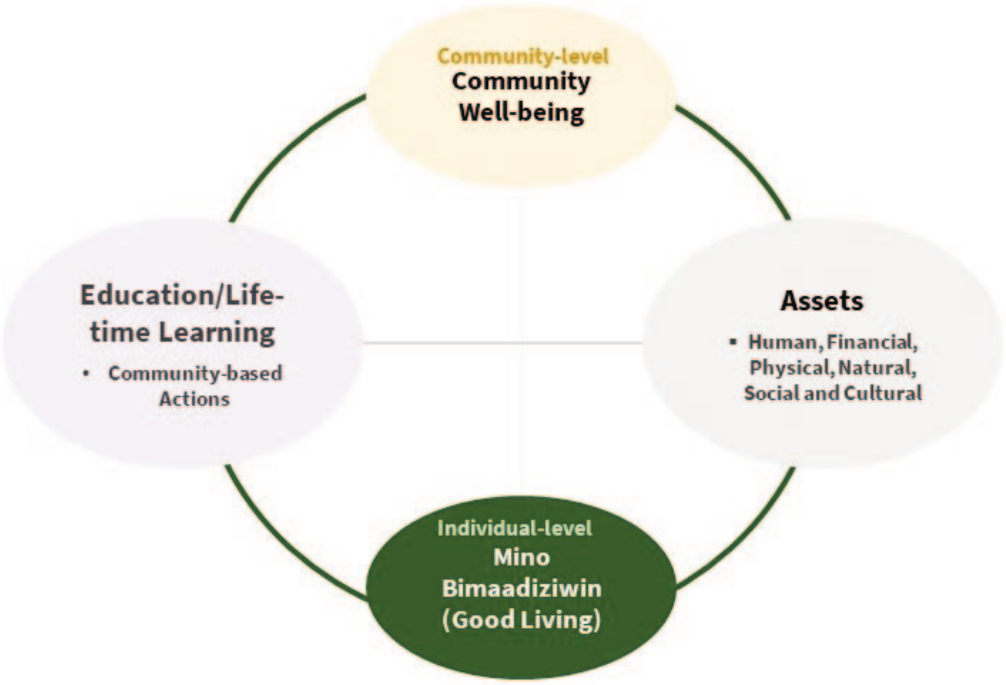
Youth from these remote communities want postsecondary education but do not want to leave their communities. Prior to starting the training, Wasagamack and Garden Hill reserves held workshops where a poll of Anishinini youth showed that the great majority wanted to remain in Island Lake to attend college or university due to their encounters with racism in the city and for family reasons (Mino Bimaadiziwin Partnership, 2019b). Rather than colonial education, the youth, Elders, and community leadership wanted a holistic education of trades to build homes combined with land-based and cultural education from Anishininiwuk in Anishininimowin. Anishininiwuk felt this was the best way to build sustainable livelihoods for Anishinini youth in their community (see Figure 2a). A sustainable livelihood assessment was used to evaluated whether this holistic, decolonial education positively impacted the youth (Gaudet, 2021; Chambers & Conway, 1992; Mohammadi et al., 2021; Snider, 2021).

Figure 2: The sustainable livelihood model applied to the Mino Bimaadiziwin Homebuilder (MBHB) project evaluation

SUSTAINABLE LIVELIHOOD ASSESSMENT

The sustainable livelihood assessment (SLA) provides a people-centred approach to evaluating education holistically. The SLA measures a project's impact on *Mino Bimaadiziwin* or a good living. The SLA assesses a person's or communities' assets. Assets are resources or capitals typically categorized into five areas, namely human, financial, physical, natural, and social, although sometimes cultural, political, or technological assets are added (Snider, 2021; Chambers & Conway, 1992). For Indigenous communities, cultural assets such as the Native language and Indigenous knowledge are very important to their identity and cultural survival (Snider, 2021; Kopp, Bodor, Makokis, Quinn, Kornberger, Tyler, Turner, & Smale, 2021; Forest, 2021). Indigenous project evaluation typically considers cultural aspects (Snider, 2021; Kopp et al., 2021) in addition to the other five assets. Also, typically the projects' impact on the individual as well as the community is considered. Figure 3 shows how the SLA model was revised to consider cultural aspects and measure individual and community-level changes (Chambers & Conway, 1992; Department for International Development [DFID], 2000; Ramirez, 2019).

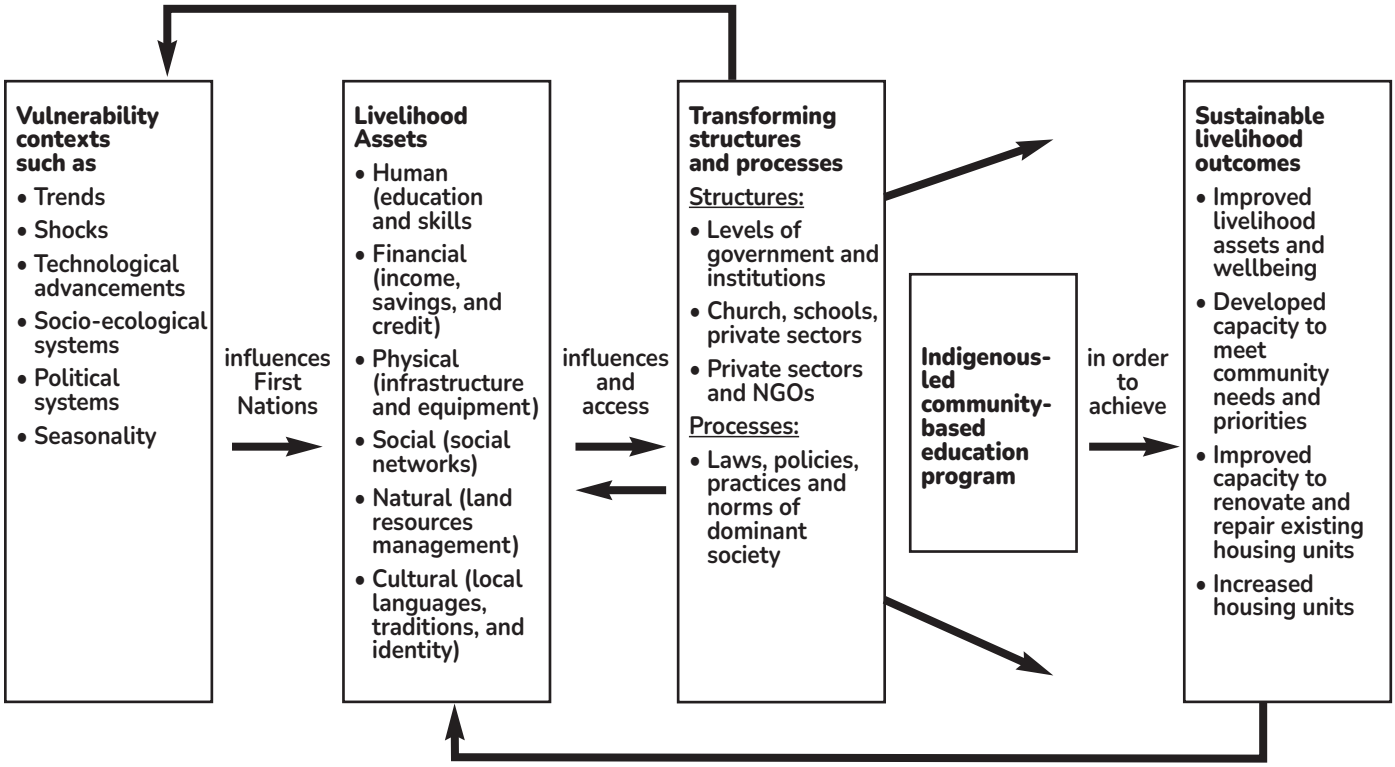
Figure 3: The sustainable livelihood model applied to Indigenous community-led education programs



Source: Adapted from Chambers & Conway (1992)

The SLA has been applied successfully to evaluate Indigenous youth education programming (Kamal, Thompson, Linklater, & Ithinto Mechisowin Committee, 2014; Kopp et al., 2021). The SLA flexibility allowed researchers to define their livelihood asset categories based on the project's local context and the complexity of livelihoods (Ramirez, 2019; Kamal et al., 2014). The SLA is able to expand to include cultural aspects and multiple scales to include regional, community, and individual levels to analyze a project's impact (Ramirez, 2019; Snider, 2021). The SLA framework is well-suited to monitor a project's changes in a complex sustainable livelihood system where long-term outcomes from a project can be challenging to predict (Ramirez, 2019). Figure 4 provides the analytical framework context for systematically evaluating an Indigenous-led community-based education program or project.

Figure 4: Sustainable livelihood framework for Indigenous-led community-based education program evaluation



Source: Adapted from Department of International Development (DFID, 2000)

APPLIED RESEARCH METHODS

Ethical considerations

The research team worked with the Anishinini *l*eaders in Wasagamack and Garden Hill towards their research priorities and process following the Ownership, Control, Access, and Possession (OCAP) protocol. Only after many workshops and meetings with the two communities did the funding proposal, ethics, and participatory research occur. The chief and council of both Garden Hill and Wasagamack reserves provided a band council resolution in support of this research. The University of Manitoba Human Research Ethics Board approved the ethical protocol, which required informed consent and participants to be at least 18 years old.

Evaluative study design

The study design aimed to measure whether the project moved Homebuilder students towards *Mino Bimaadiziwin* (the good life destined by the Creator) and provided benefit to the community (see Table 1). To achieve this aim, at the start of the project a survey was sent to all 70 Homebuilder students regarding their sustainable livelihoods in the fall or winter of 2018/2019, depending on their start date. All participants completed the survey. A post-training survey was conducted after training in the summer of 2020, with 45 of the 70 youth responding. The post-training survey coincided with the communities being locked down during the pandemic to limit the high risk of COVID-19 transmission in their communities (Thompson et al., 2020).

Table 1: Number of youth Homebuilders participating in post-survey by community

First Nation	Total number of homebuilders	Number of respondents for the pre- & post-program survey
Garden Hill	33	21 (64%)
Wasagamack	37	24 (65%)
Total	70	45 (64%)

To measure the different assets of the students' livelihoods before and after the project, the post-training survey asked all the same questions as the initial survey. In addition, the post-training survey asked 18 additional questions from the Canadian Community Health Survey (CCHS) (Statistics Canada, 2021) on food security and several COVID-19-related questions. These CCHS questions were added in response to the heightened concern about food access and hunger during COVID-19, as the initial survey had only one relevant question about food access and nothing about hunger, food quantity, or food quality.

The post-training survey return rate was high at 64 percent, despite the many barriers. As the communities were under lockdown during the COVID-19 pandemic, researchers could not do the surveys in person. Non-community members were not allowed into each community for more than a year. Also, students were largely housebound for over a year, with only designated emergency response staff allowed to leave their homes. Although this survey was available on Survey Monkey, most homes in these two remote communities have very limited or no internet or computer access. Even phone access was limited as many Homebuilder participants could not afford phones and their families had no landline.

Descriptive and inferential statistics were conducted using STATA v.15. The SLA was applied to holistically measure the educational project's impacts. Homebuilders' human, financial, physical, social, natural, and cultural assets were measured using relevant indicators of Anishinini Homebuilders' livelihoods (Mohammadi et al., 2021; Snider, 2021; Batal, Chan, Fediuk, Ing, Berti, Mercille, Sadik, & Johnson-Down, 2021; Marushka, Batal, Tikhonov, Sadik, Schwartz, Ing, Fediuk, & Chan, 2021; Morse & McNamara, 2013; Ballard, 2012; United Nations Development Programme [UNDP], 2017). The indicators used are education outcomes for human assets; income and ability to pay bills for financial assets; capacity for homebuilding for physical assets and home situations; relations with family and neighbours for social assets; access to forestry resources for natural assets; and Anishiniwuk knowledge and language for the cultural asset (Snider, 2021; Smyth and Vanclay, 2017; Morse & McNamara, 2013). Further, the asset indicators were compared using McNemar's test for paired nominal data with a probability (p) value of < 0.05 level for statistical significance (Nagata, Fiorella, Salmen, Hickey, Mattah, Magerenge, Milner, Weiser, Bukusi, & Cohen, 2016; UNDP, 2017; Ugoni & Walker, 1995). The McNemar test is a non-parametric test helpful to determine if the MBHB program significantly changed participants' livelihood assets.

The Household Food Security Survey Module (HFSSM) measured the household's food security status (Health Canada, 2020; Statistics Canada, 2021). Based on the survey response, each household was categorized as either a) food secure, b) moderately food insecure (quality and quantity of food are compromised due to lack of money to buy food), or c) severely food insecure (meals missed

or food intake reduced, and at the extreme, going day(s) without food), according to the indicators in Table 2 (Health Canada, 2020; Statistics Canada, 2021).

Table 2: Eighteen-item household food security survey

Household food security status	10-item adult food security scale	8-item child food security scale	Household status
Food secure	Zero to one affirmative response	Zero to one affirmative response	Both adult and child in the household are food secure
Moderate food insecure	Two to five affirmative responses	Two to four affirmative responses	Either adults or children in the household or both are moderately food insecure, and neither is severely food insecure
Severe food insecure	Six or more affirmative responses	Five or more affirmative responses	Either adult and/or children in the household are severely food insecure

As no control group was in place in Island Lake to compare the impacts of the Homebuilder's project, we compared their data with available Statistics Canada data for 2016. We compared the averages for Homebuilders' incomes, housing, and education before and after the project with those of their reserve community. We also compared these statistics with the average for all Manitoba reserves and all Manitobans.

RESULTS

Description of the survey sample

The 45 Homebuilders who completed the post-training survey were 20 to 39 years old, with an average age of 27 years. Of these, seven (16%) were female and 38 (84%) were male. This gender composition was reflective of the male-dominated Homebuilder program and the construction trades profession generally (Statistics Canada, 2016). Not only do males dominate the building trades professions, but this gender bias extends to the work-integrated employment training program in the trades (Oloke, 2020). Most work-integrated study or social enterprise education programs focus on construction, trades, and other male-dominated professions, which tend to engage mainly males (Oloke, 2020).

During the project, the Homebuilders built capacity in most of the six livelihood asset categories—human, financial, physical, social, natural, and cultural. The livelihood indicators in Table 3 compare the Homebuilders' statistics with Statistics Canada (2016) data for Garden Hill, Wasagamack, all Native reserves in Manitoba, and Manitobans. These statistics reveal the ongoing structural inequities faced by many Native reserves where people have diminished livelihood assets compared with others. The status of livelihood assets in the remote communities of Wasagamack and Garden Hill is relatively worse off compared with other non-Natives in Manitoba and Canada (Statistics Canada, 2016). Before training, these Homebuilders, on average, fared worse than the average person in the community on education, housing, income, and employment. Table 3 showed that, before training, 82% of the Homebuilders stayed in unsuitable housing, which is 1.5 times higher than the average persons in the Wasagamack (53%). Most of these youth were impoverished and considered at-risk youth prior to training. After training, the Homebuilders fared slightly better in employment,

income, and graduation rates from postsecondary compared with their community. However, these Homebuilders remain underemployed and in poverty during COVID-19.

Table 3: Livelihood situations in First Nation and non-First Nation communities in Manitoba

Categories	Sustainable livelihood indicators	Home-builders before training[1]	Home-builders after training[1]	WFN[2]	GHFN[2]	Manitoba First Nations [2]	Manitoba non- First Nations[2]
Housing situation	Not suitable	82%	76%	53% (13X ↑)	55% (14X ↑)	37% (9X ↑)	4%
	More than one person per room	53%	71%	46% (46X ↑)	43% (43X ↑)	26% (26X ↑)	1%
	Need major repairs	80%	75%	82% (9X ↑)	62% (7X ↑)	51% (6X ↑)	9%
Income status	Median employment/ training income	$4,446	$16,440	$11,499 (3X ↓)	$10,693 (3X ↓)	$13,909 (3X ↓)	$35,488
Education attainment	Secondary school graduation rate	7%	18%	15% (2X ↓)	18% (2X ↓)	18% (2X ↓)	30%
	Post-secondary school certificate/ diploma	2%	84%	11% (4X ↓)	12% (4X ↓)	19% (2X ↓)	44%
Employment status	Employment rate	8%	29%	20%	28%	33%	61%

Sources: [1]Homebuilders' Longitudinal survey (n = 45); [2]Statistics Canada for Wasagamack First Nation (WFN) and Garden Hill First Nation over 18 population (2016).

HUMAN ASSETS AS IMPROVED POSTSECONDARY EDUCATION ATTAINMENT

Human assets grew significantly by advancing education levels with culturally appropriate trades education designed to meet a community need with local resources. An applied Homebuilder curriculum was created to teach forestry, sawmilling, and house construction for building homes (Mino Bimaadiziwin Partnership, 2020). The project-based homebuilding curriculum evolved with the project, bringing together many certificate programs to provide ladders for Homebuilders to have many accomplishments. Homebuilder students learned home design, repair, forest management, logging, sawmilling, house construction, and workplace safety. The project was laddered with many nationally and internationally recognized course certificates (e.g., Red Cross Wilderness First Aid, Home repair, National Lumber Grading Certificate) to immediately increase their employability. This curriculum is published and provided for use to other Native reserves, including York Factory and Roseau River (Mino Bimaadiziwin Partnership, 2019b).

The educational success rate for the MBHB education project was very high. Eighty four percent of the 45 Homebuilders graduated with one or both of the two college certificates of the Homebuilder

project. A third (31%) of interns earned both the Homebuilder and the Forestry certificates (24-month project), with another 22 percent getting the nine-month forestry education certificate only and 31 percent receiving a 15-month Homebuilder college certificate. Few (7 of 45) people explored the project by taking the more general courses, such as the workplace health and safety and job readiness courses but did not continue to get a college certificate. Many Homebuilders graduated with college-level certificates, despite not having a secondary school diploma.

These high completion rates from this community education project contrast with only a few percent of people from these remote communities being successful in big urban educational institutions. Community-based education was considered successful, compared with limited success when training outside the community (Kopp et al., 2021; Gaudet, 2021; Michnik et al., 2021). The community-based Homebuilder education project increased the Homebuilders' postsecondary education rate from two percent at the beginning to 84 percent at the end of the project.

The graduation rate (84%) among the Homebuilders surveyed (n = 45) is almost the same as the overall graduation rate from the MBHB project (where N = 70) of 85 percent. Therefore, our sample was fairly representative of the entire Homebuilder student group. However, our survey sample had a higher representation of students who successfully completed both parts of the Homebuilder project, forestry and homebuilding (31% versus 20%), and fewer people who only received their forestry certificate (22% versus 39%).

The project provided many educational ladders. All Homebuilders (n = 70) obtained at least one certificate from the project. Every participant received workplace health and safety certificates and other certificates, such as the small motor 40-hour course. Also, eight of the 45 Homebuilders surveyed (18%) decided to finish their secondary school education degree through adult education after starting the project. This increased the high school graduation rate from 7 percent to 18 percent among the Homebuilders surveyed (n = 45).

Seventy-six percent of the Homebuilders thought contributing to their community was an important aspect of this project. One Homebuilder talked about how this postsecondary education project connected learning with their environment and community: "I am happy this program is happening in our community. I have been to the college in Winnipeg, and I don't feel connected with the environment and learning. I am happy to recommend this program to other youth in the community because this program has taught me to face my fears."

The Homebuilder project was student-centred and instilled skills and work ethics for personal and professional success. The youth were coached to create short-term and long-term goals and develop foundational skills, including teachings to write a resume, prepare for job interviews, conduct job searches, numeracy, computer use, and funding proposal development. In a youth dragon's den, two Homebuilders won $550,000 to execute their proposed project for the renovations and repairs to rescue the old George Knott school building from demolition (see Figure 2b).

Interns reported learning useful work skills: "This Homebuilder's program is developing good workers from youth." Two Homebuilders and the community instructor from Garden Hill First Nation shared the project's impact at a conference, advising other First Nations to adopt similar programs: "The program changed my perspective about education with a good learning experience and op-

portunities to achieve as many certificates as possible … We need more builders in our communities, and this program is helping to develop good workers from youth."

FINANCIAL ASSETS

Financial assets assessed were Homebuilders' income and ability to pay their bills, as well as the sufficiency of project funding. The training project improved Homebuilders' income significantly to above average for the community. Homebuilders without childcare costs typically received $1,370/month ($1,000 training and $370 welfare), while those with children received slightly more. The income of Homebuilders, on average, quadrupled due to the training project.

Homebuilders' satisfaction with their ability to pay bills and housing significantly changed after training. Table 4 shows the statistically significant improvement in Homebuilders' satisfaction with their ability to pay for housing ($\chi^2 = 6.37$; $p < 0.05$) and bills ($\chi^2 = 5.44$; $p < 0.05$). Initially, 13 percent of the Homebuilders were satisfied with their ability to pay for housing bills, which increased to 20 percent after the training. Also, Homebuilders' satisfaction with their ability to pay all their bills increased from 4 percent to 13 percent after the training during COVID-19. A participant described how the income support from the project improved his wellbeing during the training: "Earning income from the Homebuilders program helped me to be mentally and emotionally stable. I do not have to stress myself thinking about how to cover my bills bi-weekly. I see myself making progress and getting a good job with my certificates to keep my income stable after training."

All 70 students and six train-the-trainers from Island Lake received a $1,000/month training allowance for the Homebuilder project and retained their social welfare status without deductions for the training allowance. Typically, social welfare recipients lose their welfare benefits for their entire family when they take on work, including their families' social housing, subsidized heat and power, and their social assistance income. Keeping their welfare benefits on top of a training stipend was critical for interns to sign up and commit to the program, allowing people to engage in education without losing these necessary benefits.

Homebuilders have many financial responsibilities. All have to contribute towards the rent and hydro bills to help their extended family make ends meet. The female participants with children paid for babysitters to be able to attend classes. Many young men paid child support. One of the Homebuilders described how as a very young grandparent at 31 years of age, his financial responsibilities extended to his wife, children, grandchildren, and siblings:

> I am 31 years, and I am a grandfather already. I got married and had a daughter at 15 years [of age]. My daughter did the same but gave birth at 16. Having my daughter, her baby and my siblings stay with me has increased my household expenses. Most of my siblings do not have full-time jobs. So, I joined the program to improve my income level.

During the Homebuilder project, the Mino Bimaadiziwin partnership tried to develop housing social enterprises in both communities to retain wealth in the community by using local wood for building houses and employing local labour. However, these social enterprises quickly failed, even after obtaining small start-up grants, due to the Indian Act's Chief and Council interference, COVID-19, and the severe poverty of the community, causing people to fight over limited resources.

In the post-training survey, most (71%) Homebuilders reported a lack of job opportunities under COVID-19 lockdown conditions. Garden Hill rehired the Homebuilders to finish their house in August 2020 for three months before a second lockdown occurred in November:

> I got a job with six other people from the Employment and Training and Band as Carpenter. However, I cannot work due to the COVID-19 lockdown. Also, I cannot use my carpentry skills from the housing project due to COVID-19. The lockdown had all non-frontline jobs stopped, including construction and homebuilding work curtailed.

Another Homebuilder explained how the lockdown policies affected their household income during COVID-19:

> I do not have any paid employment or even assistance to get a job during COVID-19. Living on welfare is not enough, and I need support to get a job. I have been looking for work or training programs since COVID-19 started now.

Paying the bills was difficult as already high food prices in the monopoly store increased with COVID-19 (Statistics Canada, 2020). No household of the Homebuilders was food secure (n = 45), with 60 percent experiencing severe food insecurity and 40 percent moderate food insecurity. This rate is 14 times worse than the food insecurity rate for Canadians of one in seven during the same period (Statistics Canada, 2020). Despite a dire need, Homebuilders did not access COVID-19 emergency benefits for fear of losing welfare benefits. Clearly, the threat of being cut off from welfare restricted people's livelihoods and made households food insecure.

As well as the students' finances, the MBHB partnership had to finance the project costs, including the building, travel, materials, and curriculum development. Financing this education project was difficult, with remote communities stretched to the limit with little funding or building materials to assist. Four different proposals from different funding bodies had to be written to cover the different aspects of the project. Each grant proposal had a limited focus, with one paying student training allowances, another, only educational programming, a third, housing materials, and a fourth, management. Limited funding meant the MBHB project shared a full-time teacher between the two communities when several were needed. Also, the project had to use old equipment, which frequently broke down and required replacement parts to be flown into the communities. This underfunding was, in part, due to no support from the province, which, after many meetings, promises, and a few proposals, reneged on funding. Despite the province having the primary role in training, apprenticeship, and postsecondary education, support or funding was not forthcoming.

PHYSICAL ASSETS AS THE CAPACITY TO UPGRADE THE HOUSING SITUATION

In reserve communities, a house is a rare commodity. One house is often shared by parents with their grown children and their spouses and children. One household reported having four families sharing a three-bedroom house. Teaching both forestry and construction programs taught the youth to build homes with local materials.

Most Homebuilders (80%) joined the Homebuilder education project to learn how to repair and build their own homes. Many Homebuilders (75%) reported applying what they learned to repair their homes and help their community, with one youth reporting: "I am able to do major repairs in

my house like fixing dry walls, building stairs for my porch, and help the community build a stage and teepees for gatherings." Another Homebuilder talked about being able to design and build his home: "The Homebuilder project taught me about safety in my environment. And how to build a culturally appropriate house I can live in."

Homebuilders were engaged in designing and building energy-efficient homes with the lumber they felled, sawed, and graded. Many materials still needed to be shipped but could not be due to a short winter road season resulting in a lack of building materials. As Wasagamack and Garden Hill communities are roadless, when the building materials missed the short winter road season and the remaining burned, the project had to be extended for another year. However, having wood for the floors, walls, and roof allowed for some activities and the homes' exteriors to be completed before lockdown ended the in-class part of the project.

Despite learning to build homes, Homebuilders live in poor, overcrowded housing. Initially, roughly half of the Homebuilders (53%) lived with their parents in overcrowded conditions. The remaining (47%) lived independent of their parents in poor housing or sheds needing major repair. After training, those living with their parents increased to 71 percent, a statistically significant change (χ^2 = 5.82; $p < 0.05$) (see Table 4). A youth complained about overcrowding in his family's home during COVID-19, causing exhaustion and insomnia, as he had to sleep in shifts: "My wife, kids, and I are staying with my parents and other siblings in a two-bedroom [home] ... I am having insomnia as we take turns to sleep at night. And most times, I don't get to sleep until 4 am."

Table 4: Comparing the sustainable livelihood assets status of Homebuilders during and after the Homebuilder project

Sustainable livelihood assets	Indicators	Groups	Pre-training (%)	Post-training (%)	McNemar test	
					χ2	*p*-value
Physical	Housing situation	Living with parents	53	71	5.82	0.044*
		Living independent of parents	47	29		
Financial	Household income	Satisfied	13	9	0.40	0.527
		Dissatisfied	87	91		
	Ability to pay for housing	Satisfied	13	38	6.37	0.012*
		Dissatisfied	87	62		
	Ability to pay all bills	Satisfied	4	20	5.44	0.019*
		Dissatisfied	96	80		
Social	Family support	Satisfied	31	71	16.20	0.000*
		Dissatisfied	69	29		
	Relationship with neighbours	Satisfied	13	29	4.45	0.035*
		Dissatisfied	87	71		
Natural	Getting a survival job	Satisfied	36	22	2.25	0.134
		Dissatisfied	64	78		

Another Homebuilder talked about how overcrowded homes during lockdown created stress: "We have close to ten persons staying in four bedrooms. But we ensure no visitors." A Homebuilder complained about his house being structurally unsafe: "The last major repair of my house was 12 years ago. The walls are thin, and the floors are falling apart. During COVID-19, when we have to stay at home, I am worried about my family's safety."

SOCIAL ASSETS AS IMPROVED FAMILY AND NEIGHBOURHOOD RELATIONSHIP

The support, teachings, and fellowship of the Homebuilder education created a sense of belonging and mutual respect. Prior to the Homebuilders' project, students reported feeling isolated, with a lack of any youth programs after secondary school. A quarter (25%) of students joined the Homebuilder project to meet new people. The Homebuilder education project organized sporting activities, like volleyball and hockey, and held social gatherings, including feasts. According to one participant, the project enhanced his social life: "The program improved my social life, and I opened up myself to new things."

Table 4 shows the large increase in Homebuilder's satisfaction with the level of support from family ($\chi^2 = 16.70$; $p < 0.05$) and their neighbours ($\chi^2 = 4.45$; $p < 0.05$) is statistically significant. Initially, only 31 percent and 13 percent of the Homebuilders were satisfied with their relations with family and neighbours, respectively. After training, 71 percent and 29 percent of the Homebuilders were more satisfied with their relations with family and neighbours, respectively. Two Homebuilders talked about how the project improved their self-image and cultural pride and built positive relationships.

> This program enabled us to help one another in a friendly environment, doing good to each other and building great relationships with co-workers. Most of all, I am having fun relating with my friends and brothers in the program.
>
> I have been able to talk to people I had never greeted before in this community since the program started. It built my confidence in our ability to work together as youth and contribute to our community's development. I love that we listen to each [other and] watch out for each other during and after work. Now, I have hope that my dream of Wasagamack becoming Was Vegas, like Las Vegas, might come true.

The three-week job-readiness training taught skills for work behaviours, teamwork, and relationship building. Also, the Homebuilder instructors discussed the need for safe and healthy work and learning environments, with anti-harassment, anti-violence, and anti-drug/alcohol policies to ensure workplace safety. These programs tried to be trauma aware and provide support, considering the high suicide rates for Native youth, particularly in remote locations, are very high. Some youth felt that the education gave the youth a reason to live, preventing suicides and bullying, with one stating: "This program is making lives better. Even saving lives." Anishinini Elders regularly talked with them, and the employment and training coordinators supported them.

NATURAL ASSETS AS IMPROVED ACCESS TO FORESTRY RESOURCES AND THE LAND

The MBHB project improved youth Homebuilders' access to natural assets in their communities. Homebuilders logged local forests for housing (see Figure 2b). The Homebuilders' project selec-

tively logged in winter in Anishinini ancestral lands beyond their reserve boundaries to protect their sacred environment. These pristine boreal old-growth forests in Island Lake are sacred to the Anishininiwuk. The spruce-pine-fir forests provide the finest quality of wood for housing and furniture. The Homebuilders' forestry plan reclaimed their resource rights in their ancestral lands, with Manitoba Sustainable Development waiving the "stumpage dues for timber harvested, as this timber for housing is for community benefits" (Mino Bimaadiziwin Partnership, 2019a). The forestry plan is sustainable at less than one percent of the annual allowable cut and prevents other big forestry companies from claiming forestry rights. Normally, the Crown claims all resources throughout Indigenous territories in Canada under the Indian Act (Truth and Reconciliation Commission of Canada [TRC], 2015; Ballard, 2012; LaDuke, 2002), but not this time.

The Homebuilder program delivered a sustainable forestry management course, sawmilling course, and grading course. Logging was undertaken considering conservation but also safety. A Homebuilder spoke about how the project impacted his understanding of environmental safety: "The Homebuilder program taught me about safety in my environment." Table 4 shows that the proportion of Homebuilders satisfied with getting a survival job decreased post-program under COVID-19, but not statistically significantly (χ^2 = 2.25; $p > 0.05$). Seventy-eight percent of the Homebuilders could not get survival jobs due to being housebound under community-imposed lockdown. Under home lockdown, their band rules did not allow logging for firewood, building docks, fishing, doing carpentry, hunting, or building homes. One Homebuilder talked about his inability to camp, fish, or hunt after the project:

> There is no gathering during COVID-19 such as youth gatherings and elders gathering. I cannot even go hunting or fishing. But some people go hunting and fishing for the community. So, when they go hunting or trapping or fishing, they share anything they are able to catch from the land, which might not be enough to share.

CULTURAL ASSETS AS INDIGENOUS KNOWLEDGE TRANSFER

Garden Hill and Wasagamack communities incorporated local Indigenous knowledge and their Anishininimowin into the Homebuilder project. The Homebuilders' project was community-led, with six Indigenous instructors fluent in the Anishininimowin language hired to deliver certificate courses in sawmilling, chainsaw safety, and homebuilding. Students were able to work and learn in their mother tongue, *Anishininimowin,* which facilitated Anishinini teachings, cultural continuity, and the ability to achieve educational goals (Gillies & Battiste, 2013; McCarty & Lee, 2014; Mmari, Blum, & Teufel-Shone, 2010).

A culturally appropriate design for housing resulted from the design workshops, where Elders and youth shared knowledge on homebuilding, history, and cultural values (Mino Bimaadiziwin Partnership, 2019b). Additionally, Homebuilders visited historic sites in the communities, treaty ceremonies, and youth gatherings. In Wasagamack, an Anishinini Elder taught the Homebuilders how to design and build teepees through cultural and spiritual teachings.

COMMUNITY-LEVEL IMPACTS OF THE MINO BIMAADIZIWIN HOMEBUILDER PROJECT

The program improved community wellbeing by building culturally appropriate housing, employing

local tradespeople as teachers, and developing land-based education that met the needs of the community (see Figure 2b). The Homebuilder program employed Native instructors. Many of these local instructors taught in Anishininimowin and provided cultural teachings. The Homebuilders also had a social component that engaged with the community, having a volleyball, basketball, and floor hockey team, as well as team-building sessions during class. The Homebuilder program endeavoured to work with educators and Elders to ensure this program was a source of community healing, governance (social and economic renewal), cultural development, and self-determination (RCAP, 1996). Homebuilders participated in land-based education, learning about their home environment, particularly in the forestry aspect of the course.

Houses were built in the community, providing a community process to address the housing crisis. Two community-based housing design sessions engaged the Homebuilder students, architects from the University of Manitoba, and community members. Together the workshops and design process identified a culturally appropriate design to maximize the use of local wood and labour resources. The design sessions resulted in *Anishininiwuk*-inspired housing blueprints for both log and timber-framed houses. The design process provided opportunities for cultural and learning exchanges. All houses in Wasagamack shifted as a result of this project to include airtight wood stoves. Benefits were noted at the community level from the logging and sawing of local wood, which was used to build the timber-framed and log houses. In the end, due to building material shortages, the Homebuilder project built three, rather than four, culturally appropriate houses in the two Island Lake communities based on the housing designs developed by the two communities through workshops.

DISCUSSION

The Mino Bimaadiziwin Homebuilder project made a holistic impact on sustainable livelihoods at the community and individual levels. In multiple ways, individuals and the communities benefited from this education project, according to the SLA. Benefits were noted at the community level, with three houses designed and built with local wood. The Homebuilder curriculum was developed and is freely available to give a head-start to any Indigenous homebuilding or forestry program. The project delivered housing education and built houses, despite the COVID-19 outbreak, under-funding, and climate change impacts. This evaluation study demonstrated that this approach is replicable if a community-led postsecondary education project can succeed in two communities as remote as Island Lake (Thompson et al., 2017).

At the individual student level, positive, statistically significant changes to increase the Homebuilders' sustainable livelihoods occurred. The most notable change was in satisfaction with social relations, which were statistically significant for both family and neighbourhood relations. The positive change in participants' social relations suggests that community-based postsecondary education programs can mend relationships, impact students' psycho-social wellbeing (LaRocque, 1994), and increase the ability to establish trusting relationships (Thibodeau & Peigan, 2007; Goodman, Speers, Mcleroy, Fawcett, Kegler, Parker, Smith, Sterling, & Wallerstein, 1998). And while the project improved sustainable livelihoods, the livelihoods of Homebuilders are far below that of settlers. The Homebuilders still experienced deprivation, which reflected the larger reality and poverty of these remote communities during COVID-19. The households of the Homebuilders were found to have 100 percent food insecurity during COVID-19. A Homebuilder reported in the post-

survey having to take turns sleeping in overcrowded, unhealthy housing. Clearly, more needs to be done to deal with the causes of poverty on remote Indigenous reserves in Canada.

The big issues of systemic racism and the Indian Act need to be confronted for Indigenous-led community-based housing education to receive sufficient funding and support. This project was not sustainable due to precarious, one-time research funding that required an inordinate number of proposals and hoops to jump through. Without Indigenous ongoing program funding for community-led education and financing of housing, these one-time projects can only show the possibilities. No clear funded pathway resulted, as the funding programs used have disappeared.

Indigenous-led housing postsecondary education projects in communities are without sustainable funding. To get funding, we had to beg for money from a system based on colonial rule, which was exhausting, demeaning, counterproductive, and a source of burnout. For example, the numerous meetings with Manitoba Education and Trades (MET) and Anishininiwuk required many funding proposal submissions. This was traumatizing to experience the dishonesty of systemic racism. After our partnership successfully jumped through every hoop MET imposed, MET reneged on its verbal funding promises, abdicating its responsibility for trades training and apprenticeship in a game of politics to fund its own Manitoba Construction Sector Council (Prentice, 2021). These colonial politics do not result in Indigenous-led postsecondary programs. And yet alternatives to colonial housing education and home construction are needed. And they require funding. At present, despite the mandate of universities and colleges to work with Indigenous communities, most remote communities lack either in-person or remote postsecondary education centres. Although public universities and colleges subsidize education in settler communities to keep costs typically around $5,000 per year for domestic students, the same applied cost-recovery of $20,000 to $25,000 per student per year for postsecondary on-reserve programming. This two-tiered system shows that the public education system serves settlers but not Indigenous communities.

Earlier, this article identified the racist Indian Act and colonial policies as the crux of the housing problem, which negatively impacted this project. By controlling the land, resources, charitable organizations, education, regulations for grading lumber, and legal authority, the systems all conspire against housing and education on reserve. Even tiny community-led projects, such as the MBHB, are limited by these colonial barriers. The Indian Act barriers to financing on-reserve housing meant many housing materials and equipment were not affordable or had regulatory barriers. The Colonial Crown still controls natural resources on Crown land, requiring forestry permits. As well, the Standard Grading Rules for Canadian Lumber rules for grading lumber required an exceptional workaround to grade Anishinini lumber by a multinational industrial forestry stamp, despite our students being certified lumber graders. Many colonial barriers were encountered that limit Indigenous community-led education projects being put in place, including systemic racism, lack of financing, poverty, and inappropriate regulation.

CONCLUSION

This community-led education project was effective in holistically building sustainable livelihoods at the individual and community levels. Most Homebuilders graduated with college-level certificates (human assets), experienced better ability to pay for bills (financial assets), applied their upgraded

homebuilding skills (physical assets), mended relationships with family and neighbours (social assets), upgraded skills to access resources (natural assets), and expanded Anishiniwuk knowledge (cultural assets) (Chambers & Conway, 1992; Smyth & Vanclay, 2017). At the community level, the project resulted in three houses, employment, and culturally appropriate college education.

The Homebuilder case study documents a model to build back better after COVID-19, relevant to achieving *Mino Bimaadiziwin* in Indigenous and all communities. Students explained how this project: "saves lives," mended families, built homes, and created resilience to COVID-19 impacts. Thus, a community-led education project improves multiple aspects of lives by investing in youth through education and income support. These outcomes occurred despite underfunding, climate change impacts, and COVID-19 lockdown, showing the power of community-led postsecondary education projects to build culturally appropriate housing by and for Indigenous People. However, project funding dictated under colonial funding rules can only show a path but not solve the housing crisis.

To build capacity, homebuilding and education can be done by and for Indigenous People if taught through community house-building projects (AFN, 2020a). Articles 21 and 23 of the United Nations Declaration on the Rights of Indigenous People (UNDRIP) assert the importance of Indigenous People determining the strategies for improving their wellbeing. Let Indigenous-led postsecondary education implement those strategies. Applied homebuilding education offers a COVID-19 recovery strategy if funded adequately (Walker, Kannan, Bhawra, Foulds, & Katapally, 2021), bringing creative minds to design culturally appropriate homes that are resilient to climate change and net-zero. Investments in community-led Indigenous colleges or universities on reserves provide solid steps toward the good life by building capacity and housing. This will rebuild self-sustenance, cultural pride, and homes. For this to happen, Indigenous postsecondary education programs and housing need adequate financing, support, and delivery by Indigenous agencies to remove the barriers of systemic racism and colonialism.

Capacity building of the Indigenous labour force to meet the on-reserve housing crisis may be possible to start under the Indian Act with sufficient funding to circumvent this systemic barrier. However, to attain equitable human and housing rights, overturning the Indian Act keeping Indigenous People "wards of the state" is needed. This pilot project revealed to researchers how every aspect of Indigenous life on the reserve is impacted by the Indian Act. Indigenous communities face very limited financing for housing metered out by CMHC, barriers to trades education and apprenticeship, and Crown control of Indigenous land and resources despite the severe housing crisis. Recommendations are offered below to move Canada onto a reconciliatory, sustainable path for equitable housing and human rights.

RECOMMENDATIONS

1. This Homebuilder project should be revamped and funded through Indigenous-led colleges and universities to be an ongoing postsecondary program in Wasagamack, Garden Hill, and other interested Indigenous communities in Canada.
2. Funding for Indigenous-run universities and colleges are needed, including funding for adult education centres with computer facilities and support workers for distance and community learning.

3. Indigenous-run apprenticeship training is needed on reserve in both secondary schools and community colleges/universities, with a training allowance for Indigenous student internships in addition to social assistance in regionally depressed economic areas.
4. A shift in colonial government's regulation of forestry and lumber products to remove barriers to Indigenous People using their traditional territory for housing materials.
5. Dedicated funding for the Indigenous People to design and build hundreds of thousands of on-reserve houses is needed to resolve the housing budget in the next federal budget.
6. A clear plan is needed to abolish the Indian Act by 2030 to move towards equality of human and housing rights.

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