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Investigating Cultural Appropriateness in On-Reserve Housing in the Swan River First Nation Community

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Investigating Cultural Appropriateness in On-Reserve Housing in the Swan River First Nation
Community

by

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A THESIS

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Abstract

The Indigenous housing system in Canada has been in crisis for decades. It is characterized by culturally inappropriate housing and unhealthy living conditions. This situation affects Indigenous communities all over Canada, including the Swan River Nation. As the available housing options become unlivable, overcrowding rates have been rising, and Indigenous communities have been linked to a series of social issues. In fact, Indigenous housing has been characterised for decades as substandard and hazardous to Indigenous people's health and welfare, and this situation prevails. Although the literature establishes housing concerns in Indigenous communities, there is still little progress on the specific housing situation and particular strategies to improve homes in the Swan River Nation. This study examined the community's housing conditions and perspectives on cultural appropriateness, sustainability, prefabrication, and modularity. The methodology focused on a community-based approach and included the analysis of the literature, logical argumentation, and data from key-informant interviews and a focus group session to determine the community's concerns and housing preferences. By collecting data from legitimate community representatives, this research determined preliminary recommendations for housing design with the community. The findings of this thesis may affect how houses in the community are designed and built. Ultimately, this research challenged the current condition of Indigenous housing in Canada, particularly to the Swan River First Nation community. This study built on the knowledge gained from the literature and established a basis for future research to collaboratively work with the community, advocate for better housing conditions, and implement culturally appropriate design options.

Keywords: Indigenous housing, Aboriginal housing, Swan River First Nation, cultural appropriateness, sustainability, natural environment, prefabrication, modularity.

Preface

This thesis is original, unpublished, independent work by the author, Gabriela Ferreira Morais de Oliveira Alves. The qualitative methods of data collection reported in Chapters 3-8 were covered by Ethics Certificate REB21-0312, issued by the University of Calgary Conjoint Faculties Research Ethics Board (CFREB) for the project “Investigating Cultural Appropriateness in On-Reserve Housing in the Swan River First Nation Community” on June 22, 2021. This thesis has been professionally edited.

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I would like to thank my supervisor, Mauricio Soto-Rubio, for his guidance, patience, and enthusiasm to produce this study, cultivating the best of my abilities. Further, I would like to thank the support of the Indigenous Research Support Team at the University, including Alexandra Kanters and Amber Bedard, who have helped me define the study and appropriately establish a relationship with the community. I would like to acknowledge the guidance of Dr. Brian R. Sinclair in our reflections while defining this research. Lastly, I would like to acknowledge the support of the First Nations Information Governance Centre in providing me with tools to ensure the community's right to self-determination in this study.

Dedication

To my mother, my spiritual guide, my moral compass.

To my father and brother, who have taught me resilience.

To my grandfather, my source of inspiration and focus.

To my aunt, who provided me with the chance to study at the University.

To my husband, who supported me through my restless nights writing this thesis through amusing and humorous antics.

To my best friends, Agata, Carolina, Isadora, and Mayan, who have reminded me of my cheerful spirit, and helped me overcome my personal problems during this degree.

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List of Abbreviations

CBPR – Community-Based Participatory Research

CFREB – Conjoint Faculties Research Ethics Board

CMHC – Canada Mortgage and Housing Corporation

CP – Certificate of Possession

DHA – Dominion Housing Act

HBC – Hudson’s Bay Company

NHA – National Housing Act

NWC – Northwest Company

OCAP – Ownership, Control, Access, and Possession

PV – Photovoltaics

SIP – Structured Insulated Panels

TEK – Traditional Ecological Knowledge

Prologue

A Reflection About Reciprocity

The principle of reciprocity is a belief system that states that we should pay back what we receive from others. It is one of the basic laws of psychology and a value by which many Indigenous peoples live. *Indigenous reciprocity* is a component of Indigenous worldviews, and it is more complex than just an exchange of favors. It is a value that guides their daily lives. Indigenous reciprocity is a practice of exchanging mutual benefits with others and it is a basis for relationships in several Indigenous communities (Valencia, 2018). Engagement with some Indigenous peoples prior to this study made me realize that the relationships created during the engagement process would be the foundation of this study. In contact with multiple Indigenous communities, I was invited to check my heart and look for the principle of reciprocity. Reflections, ranging from "Is my intention writing this thesis merely for personal interests?" and "How am I benefiting the community who chooses to work with me?", crossed my mind constantly. As a non-Indigenous person, I started my journey by reading extensive literature about Indigenous cultures. The surprise of reading numerous negative yet romanticized aspects of their history is a life-changing experience. However, it is also often dissimulated. There are thousands of stories about Indigenous cultures that are being told from a settler's point of view, determined to help an underprivileged community with the assumption that Western knowledge holds the key. By doing so, many people perpetuated colonialism and excluded Indigenous peoples from their studies, not considering methods that could benefit these communities. Having lived so long under the influence of a settler's background, and by working on research based on several scholarly structures, I wondered, "How am I not continuing to uphold this structure?" The writing of this thesis has been one of self-reflection and an attempt to decolonize

my mind to truly understand the Indigenous reciprocity values. As I check my heart and my intentions, I understand that this study is not about simply developing a thesis document to fulfill a Master's requirement. It is about connecting with people, understanding different worldviews, and finding means to benefit the community, the Swan River First Nation Community, who decided to embark on this journey with me.

Checking my Heart

As a student of architecture, there are several directions to be taken professionally. Some people decide to work in large firms and famous projects, some become interior architects, and some decide to work in residential projects. Although I am passionate about architecture, and I have read and learned about how it impacts people's lives, it always bothered me to have to choose one of these paths. Designing houses or commercial buildings for wealthy people to demonstrate their status never felt right for me. The opportunity that I was given when connecting with the Swan River First Nation people was one of fulfillment. The idea of developing a study that benefits participants with similar values as mine has brought me the strength to complete this journey. As an immigrant, who has lived outside her country multiple times, building cultural competencies and cultural awareness moved me as I understand the importance of empathizing with other cultures and appreciating your own. As stated by Collins & Arthur (2010), the development of awareness of cultural sensitivities and awareness of participants' cultures is crucial in supporting experiences, values, and practices of non-dominant populations. Guided by suggestions in the literature and by the Indigenous Research Support Team at the University, I began my experience of engaging with Indigenous peoples to determine the scope and the intended outcomes of the research. As I moved along with this study, I have thought about all the times people had preconceptions about me because of my

culture and where I am from. I have thought about how I wish someone had asked me about who I am and what my values are. This was the first question each Indigenous person who engaged with me asked, "Tell me about you." I felt at home. I believe that this understanding of wanting to know and hear the other demonstrated how I "checked my heart" throughout this process and, hopefully, how it resulted in a study that benefits both parties (Wilson, 2008).

Introduction

We seldom realize, for example, that our most private thoughts and emotions are not actually our own. For we think in terms of languages and images which we did not invent, but which we were given to us by our society. Watts (1966, pp. 53-54)

As one who appreciates cultural diversity, Watt's quote portrays a critical reflection that is encouraged in this thesis. As this study demonstrated, many assumptions of Western culture prevent appropriate understanding of other cultures. This study reported a series of colonization practices and assimilation policies implemented through the years to control Indigenous communities in Canada under the perception of superiority of non-Indigenous cultures. Followed by the understanding of historical and cultural contexts, this study acknowledged the need for decolonizing methodologies and a community-based approach that could provide the Swan River community's interpretation, preferences, and opinions in terms of housing conditions and architectural home design. By removing assumptions of cultural superiorities and wondering about the effects of cultural impositions, this study indicated the need to re-situate the community's culture within a more empathic outlook that is able to put assumptions aside and seek the best housing interests of the Swan River community.

Territorial Acknowledgement

This study took place at the University of Calgary, located on the traditional territories of the people of the Treaty 7 region in Southern Alberta, which includes the Blackfoot Confederacy (comprising the Siksika, Piikani, and Kainai First Nations), as well as the Tsuut'ina First Nation, and the Stoney Nakoda (including the Chiniki, Bearspaw, and Wesley First Nations). I also acknowledge my privilege to develop this study with the Swan River First Nation community located on the traditional territories of the people of the Treaty 8 region. Treaty 8 region includes

the ancestral and traditional territory of the Cree, Dene, as and the Métis. I acknowledge the many First Nations, Métis, and Inuit whose footsteps have marked these lands for generations. I am grateful for the Traditional Knowledge Keepers and Elders who are still with us today and those who have gone before us. I recognize the land as an act of reconciliation and gratitude to those whose territory we reside on or are visiting.

Research Context and Background

Indigenous people have been suffering from a lack of appropriate housing for several hundred years due to colonialism practices introduced in the late 15th century. After French and British expeditions arrived in Canada, they moved Indigenous people from their ancestral lands, separated families and communities, and, consequently, disrupted Indigenous homemaking practices. As a result, these families started to feel disconnected from their cultures and identities, and gave rise to more than physical homelessness but also to a spiritual sense of “disbelonging” (Christensen, 2016).

Between the 1930s and 1990s, the federal government created a series of affordable housing programs to assist the Indigenous population. However, these programs were inadequate and discriminative. They conceived culturally inappropriate home designs and ignored the Indigenous right to self-determination based on their habits and desires (Olsen, 2016). Despite the constant recommendation “to give First Nations control over their own housing delivery” (p. 2), the federal government has provided different opportunities to Indigenous and non-Indigenous people, creating restrictive policies for Indigenous funding and making their housing decisions with almost no feedback from Indigenous communities (Olsen, 2016).

While studies state the importance of the home for the formation of the individual, the federal government constantly ignores First Nations recommendations and prioritizes their own

culture in housing policies, which consequently affects culturally appropriate design (Olsen, 2016). Researchers such as Olsen (2016) and Hill (2010) mentioned the role of the home in molding a person's identity and questioned the consequences of living in a home that does not reflect one as a person. Regardless of First Nations' and academics' recommendations, federal decisions kept being made based on the idea that Indigenous deserved a lower standard of housing than non-Indigenous (Olsen, 2016).

As a result of a series of misled policies, insufficient funding, and discrimination, the Indigenous housing system in Canada has failed. Researchers have documented numerous issues and declared urgency in addressing Indigenous housing crises for years. For instance, in 1996, the Report of the Royal Commission on Aboriginal People identified that “Aboriginal housing was sub-standard and was threatening the health and well-being of Aboriginal people” (Indigenous and Northern Affairs Canada, 2017, p. 16), and this situation still prevails. Although several pieces of research have linked the poor condition of Indigenous dwellings with their social and health issues, there are still numerous design and policy failures that have persisted through the years, contributing to the characterization of substandard conditions and culturally inappropriate designs (Kyser, 2012).

Cultural inadequacy, insufficient access to essential services, psychological issues, mold and fungi, respiratory illnesses, and overcrowding are among the problems caused by these housing conditions. In their research, Larcombe et al. (2011) reported that psychological disorders, social dysfunctions, and accidental injuries are directly related to overcrowding and poor housing conditions. Additionally, the relationship between the role of design and construction deficiencies, increased levels of moisture, poorly ventilated homes, and the consequent growth of mold and fungi has been established. Moisture problems, poor ventilation,

and growth of mold and fungi have been repeatedly reported as a key cause of respiratory diseases, such as tuberculosis and lung cancer in Indigenous communities. According to an analysis conducted by the First Nations Centre and the National Aboriginal Health Organization, 44% of 10,616 Indigenous people living in reserve communities in Canada reported mold growth in their homes (Optis et al., 2012). This number is significantly high and reveals the imminent need to support better design and construction practices for these communities.

Larcombe et al. (2011) also reported on the critical issue of the consequences of insufficient funding and the resulting lack of housing units. Since Indigenous communities have reduced funding for housing, not all families can have their own homes. Consequently, they usually need to share houses with extended family members or other families. These overcrowded conditions are alleviated and aggravated by the mediation of Indigenous cultural practices. Traditionally, Indigenous cultures often accept and welcome families who do not have a permanent residence to stay with them for extended periods. Although these practices prevent homelessness, they generate other serious social and financial issues such as overcrowding and increasing costs that can lead to the loss of the home for the whole family (Christensen, 2016). According to Larcombe et al., "The average number of persons per room is 20% higher for FN people living on-reserve than for the rest of the Canadian population" (2011, p. 142). The overcrowding situation and the lack of maintenance are both crucial factors that contribute to a negative impact on the health and well-being of Indigenous people in Canada (Hill, 2010).

Considering the reported substandard conditions of Indigenous housing, with the addition of the use of poor materials and overcrowding circumstances, the durability of these homes is greatly affected. The lack of sturdiness throughout time is an additional factor to a problematic cycle. Due to inadequate conditions, the available housing options usually becomes unlivable,

creating further cases of overcrowding. That being said, it is clear that long-lasting structures and durable systems are essential aspects of Indigenous housing.

The identification of these problems and their complex structures have set off Indigenous peoples to leave their reserves. Although communities have no interest in giving up their culture, there have been cases of individuals becoming attracted to moving to urban non-reserve areas to look for better opportunities for employment, education, and housing. However, because of discrimination and cultural, social, and economic differences, these communities are assigned to the most unfavorable housing options off-reserve (Hill, 2010). This action that supports inequity, the lack of funding, low maintenance, and inappropriate housing options, are precisely the reasons for the current Indigenous housing situation.

Finally, Indigenous people have been suffering not only due to the poor condition of their housing but also from the stereotypes and discrimination because of their living conditions (Olsen, 2016). It must be understood that the substandard houses on reserves are not a result of poverty. Instead, they are live documentations of the consequences of colonial invasions, assimilation attempts, separations of families, domestic violence, and inadequate housing policies. Due to their unsuitable and unhealthy homes these communities struggle to prosper in life.

Justification

In light of the fundamental human rights, appropriate and healthy homes are a basic need that should have devoted attention (United Nations, 1948). As a developed country with enough resources to address such issues, Canada should seek to develop appropriate housing improvements. To address this issue, the federal government should grant sufficient funding to build and repair homes and allow the construction of homes that are made of high-quality

materials. They should also acknowledge the need for a design that promotes a sense of identity and responsibility with the home. Understanding and implementing cultural considerations into Indigenous housing design is an important step toward creating the necessary sense of belonging (Kyser, 2012). This ability to relate to the design of their home and the consequent feeling of ownership has been identified as a factor to decrease the need for maintenance and allow for long-lasting houses.

Nevertheless, actions discrediting their cultures should cease, and reconciliation with Indigenous communities should be sought. As this thesis uncovered in further detail, the current housing conditions in these communities are consequences of colonial practices and inadequate housing policies. The government has a responsibility to Indigenous people in disrupting their lives since colonization and perpetuating substandard housing conditions; thus, it is imperative the government acknowledge the need for reconciliation and implement changes in policies and funding that can promote better housing opportunities. This thesis was written as a manifesto to disrupted patterns, ingrained concepts, and stereotypes that support discrimination and the substandard Indigenous housing conditions in Canada.

"We are the forgotten people," one Winnipeg Indigenous says, "and the situation here is getting worse" (Sinclair, 2019).

"We're vulnerable," one elderly woman says, "and no one seems to care" (Sinclair, 2019).

May they never feel this way again.

Purpose

Although academics widely state the importance of the home in the formation of the individual (Christensen, 2016; Hill, 2010; Minnery et al., 2000; Olsen, 2016), most homes in Indigenous communities are still culturally inadequate, negating Indigenous ways of living and

being. Even though the literature has reported on the substandard conditions in Indigenous housing (Anderson, 2013; Anderson & Collins, 2014; Christensen, 2016; Habibis et al., 2019; Minich et al., 2011) and revealed a series of issues including overcrowding (Christensen, 2016; Olsen, 2016), low-quality materials (Kyser, 2012), and physical and mental health issues related to housing (Optis et al., 2012), their conclusions have been mostly generic, referring to either other Indigenous communities or too many at a time. This study sought a relationship with one community in particular with the aim of establishing a community-based approach that allowed for deeper interaction with said single community. The opportunity of establishing a deeper connection with one community allows for the collection of more precise data. It also prevents pan-Indigeneity, empowers the community, and promotes their right to self-determination.

This research was built on knowledge acquired from available literature to connect with Indigenous communities in Alberta seeking a single partnership. Accordingly, the researcher and community representatives could build relationships and share perspectives on the community's particular housing conditions and suggestions for possible improvements. This study was motivated by examining problems raised within available literature and the learning experience of others. Establishing a partnership with the Swan River First Nation, the literature had not revealed studies that particularly discussed their housing conditions, cultural inadequateness, or any pursued housing improvements within the community. Therefore, this research intended to bridge the gap found in the literature review by developing a community-based and holistic approach that identifies housing problems within the Swan River First Nation community and evaluates possible improvements that may address their most urgent concerns.

Ultimately, the purpose of this research was to develop the appropriate historical and cultural capacities to facilitate the interpretation and determination of culturally appropriate

strategies and other modifications that may improve the condition of houses in the Swan River First Nation community. By understanding the individual experiences of members of the community regarding their housing, it is possible to determine problems that need attention and modifications. To understand the problems in on-reserve houses of the Swan River First Nation and to pave the way for their improvement, the researcher worked with the community, asking for their opinions and experiences to advocate for better housing conditions in the community.

Significance

As opposed to the idea of studying a familiar topic and doing "backyard research," this study, as expected, has uncovered a series of previously unknown concepts and allowed the researcher to develop particular cultural capacities and empathy to connect with diverse groups of people. As tempting as it can be to work on a topic wherein the researcher already has established groundwork or relatively easy access, there are also downsides to working on backyard research. With the pursuit of such an external topic, the relationship building was more honest, the interest was genuine, and the benefits produced were purely defined by the community and not by the researcher.

Determining the Partnership

As per the recommendation of renowned qualitative researchers such as Glesne (2011), it is often beneficial to study a culture different from one's own. It is an opportunity to learn new ways of behaviour and perception and open oneself to new understandings without previous assumptions. Although it can be tempting to study more familiar topics or engage with communities with whom the University had longer relationships due to easier access to the community and less complicated groundwork, previous experiences can also set up expectations. Committing to an unfamiliar topic allows the relationship with the community to evolve without

any assumptions, acknowledging that the community will assign a new role to the researcher who is dissociated from their past experiences and possible ethical and political dilemmas. That being said, in the process of selecting a topic for the research, the investigator contacted many Indigenous communities in Alberta, explaining to them the researcher's intention of working with a community to promote their interests in terms of housing improvements.

The Swan River First Nation was the community that demonstrated interest in working with the researcher. They continued to establish contact to build a relationship and partnership to share their perspectives and interests in terms of housing improvements. The partnership involved the community representative leader, who was the one who decided the priorities of the Nation and how the work of the researcher could benefit them. This partnership process is further explained in Chapter Three, which discusses the engagement stage of the research. Essentially, this community was ideal to work with due to their need for housing improvements, as was stated by the community leader since first contact with the researcher. The reserve location was also in the province of Alberta which gave the researcher opportunities to visit and, consequently, facilitated the building of a stronger relationship with the community.

By the end of this study, both the thesis and a summary of research findings were provided to the community so these may be shared with other parties, such as government members to advocate for the housing improvements needed in their community. All data encountered in this thesis and in the supplementary document pertained to the community and should be used for their benefit. In addition to this thesis, the partnership with the community will continue as part of the larger project that this research is part of, establishing a deeper relationship with the community, collecting further data, seeking design implementations of their preferences, and minimizing the limitations of this study.

Scope and Methodology

Traditional Western research methods have been known to expose Indigenous peoples to exploitation by researchers. On the contrary, studies that decide to work with Indigenous communities should adapt to Indigenous ways of knowing and decolonizing research processes (Simonds & Christopher, 2013). This approach is particularly appropriate when connecting with Indigenous communities whose opinions have been disregarded for hundreds of years and urge for a different behaviour from the investigators. To prevent further harm to the community and ensure their right to self-determination, one of the recommendations is to engage in a community-based approach. Over the years, there has been increased support for research that focuses on benefiting the communities involved (Castleden et al., 2012; Halseth, 2016). This process is entitled community-based participatory research (CBPR), which includes shifting the decision-making power and the ownership of data between the researcher and the community. As opposed to conventional research, CBPR is a study designed *by* and *for* the community. The community decides on the research topic and the methodology is chosen aiming at their empowerment and mutual learning. Both the data problem identification and the data collection involve the engagement of the community and are adapted to participants' preferences, allowing researchers to increasingly learn from participants' perceptions. Data is interpreted according to the local concepts and frameworks. The presentation of the findings is permanently accessible, useful, and beneficial for the community (Cornwall & Jewkes, 1995).

In other words, this method focuses on studies conducted *with* and *by* a local community instead of *on* them. The key difference in this approach is in who holds the powers in the research process and how participants mold the research. In contrast with inflexible pieces of research, participatory research continually explores local knowledge (Cornwall & Jewkes,

1995). This approach was followed by engaging with the community prior to the research, connecting with a representative that voiced the community's concerns, preferences for data management, and dissemination. Accordingly, community representatives were welcome to control the research process and seek their own solutions according to their community's priorities. The knowledge documented in this study was disseminated to mutually benefit all those involved, including the researcher and the community who decided to engage in the process (Castleden et al., 2012).

Based on the community-based approach, the study involved a community leader to speak on behalf of the community and represent their interests, while also determining the scope of the research. In conversations with the researcher, the community representative leader determined that the scope would entail four topics:

- A discussion of the current housing concerns in the community and the advocacy for better housing conditions, explaining their needs in context and uncovering the reasons for their current situation.
- An investigation of cultural appropriateness concepts that consider their housing needs and intention to decolonize. This investigation may enhance their values, habits, and promote self-determination.
- The exploration of establishing a connection with the natural environment and promoting sustainability in the community. This approach acknowledges the community's worldviews towards Mother Earth and Mother Nature and promotes designs that adhere to contemporary building performance and materials standards in Indigenous communities.

- An examination of the potential use and effects of prefabrication and modularity methods in the community, which may enable many houses to be built and may allow self-construction, self-determination, and independence in the community.

Subsequently, in discussions with the community leader, the research methodology was determined, which included employing qualitative methods to collect data to answer the research questions. The methodology included the analysis of the literature, an interview, a focus group session with the housing committee, logical argumentation, and elements of strategic analysis to understand housing preferences in the Swan River First Nation community. The first phase involved an analysis of the literature review to establish the missing content, followed by investigations of methods of decolonization by the research and author.

Later, the researcher engaged with Indigenous communities with the aim of establishing meaningful connections. The researcher built a relationship with one particular community, the Swan River First Nation, and sought guidance to determine the scope and appropriate research questions. After developing an understanding of the community's concerns and worldviews through the literature, an interview and focus group session were conducted to identify the community's concerns of their housing conditions through their lenses and discuss potential alternative approaches. The researcher assumed that these methods would allow for a holistic understanding of the community's perspectives on housing improvements and cultural appropriateness. In summary, the methodology of this research can be structured as the following:

- Analysis of the literature and investigation of missing research content.
- Analysis of historical and cultural context.
- Engagement with Indigenous communities.

- Establishment of partnership with one community.
- Determination of scope and development of research questions.
- Interview with a community leader.
- Development of focus group questions on the topics of
 - Housing conditions,
 - Housing preferences,
 - Sustainable development, and
 - Prefabrication.
- Focus group session with the housing committee.
- Qualitative analysis of data.
- Discussion of results.
- Report back to the community.

Essentially, the conversations with the community leader were used to determine the scope, methodology, objectives and research questions of the study. The research was adjusted several times according to the community's needs, and methods were discussed to determine the means of collecting, storing, and disposal of the data. The relationship allowed the study to involve consultative participation. It was consultative since the participants were asked for their opinions from the beginning, from determining the scope of the study to the sharing of data. Accordingly, the researcher and the community worked together to develop an appropriate methodology by deciding the focus group questions and choosing the appropriate representatives of the community to participate in group discussions. Finally, this study opted for qualitative methods of establishing patterns with the acknowledgment of the variety of participants' backgrounds and the possible multiple interpretations in the data analysis. This work situated the

Swan River member's perspectives in social, historical, cultural, and housing contexts to understand their needs and preferences while advocating for housing improvements.

Objectives and Research Questions

This research aimed to utilize the social, historical, and cultural understandings found in the literature to establish connections with the Swan River First Nation and allow for a deeper comprehension of their housing concerns. It aimed to contribute to a greater understanding of the variety of perceptions and attitudes among the community representatives while providing preliminary recommendations to properly design and build homes for the community. Ultimately, this thesis advocated for the federal government to acknowledge Indigenous principles and ways of living so they can prevent the increase of substandard housing and help in developing culturally appropriate homes for the Indigenous communities, particularly the Swan River First Nation.

According to the conversation with the community leader, the research questions that directed this thesis are the following:

- Housing Condition:
 - What are the main concerns of the Swan River Nation members in terms of housing?
 - How could their houses be improved with the support of researchers?
- Cultural Appropriateness:
 - What aspects of their housing design should be modified to promote cultural appropriateness?

- Which spaces are more important? How many rooms should the house have or how large should the rooms be to adequately accommodate families of their community?
- Sustainability and Relationship with Natural Environment:
 - Are there any spaces that should have more connection to the natural environment? How would this connection be established?
 - Are there any green building methods or green energy technologies that could benefit their community?
- Prefabrication and Modularity:
 - Have they had any experience with prefabrication? If so, were they positive or negative?
 - Is there potential for flexible and adaptative architecture in their community?
 - Is there potential for prefabrication in their community?

Ethics Approval

To ensure that this study was conducted responsibly with minimal risk to all participants involved, ethics clearance was sought and granted by the Conjoint Faculties Research Ethics Board (CFREB) at the University of Calgary in June 2021. This process guided the investigator through the most ethical ways of involving research participants, including ensuring the protection of their dignity, safety, and data. The ethical board offered continued support and advice for the researcher to establish a mutually beneficial relationship with the participants and increase the legitimacy of the outcomes produced. Based on the support provided, the investigators were able to engage with the Swan River First Nation community to hear their

concerns and expectations, define the scope of the study and research questions, and explore methods of storing the data. By seeking the opinions of the community representatives, the investigator utilized all available tools to ensure that this study followed cultural protocols and benefitted all parties involved. Attached to this thesis are the recruitment invitation, information letter, and topics to guide the focus group session in appendices A, B, and C.

Principle of OCAP

In consideration of Indigenous people who have always understood the value of community, principles of reciprocity, and the need to protect resources, whether environmental or intellectual, this study acknowledges the First Nations' principles of OCAP. These are a set of standards that establish how the data and knowledge of First Nations can be gathered, preserved, used, and exchanged. OCAP stands for ownership, control, access, and possession, and it is an important tool to support Indigenous information governance. As a result, this research aimed to give Indigenous peoples participating in the study control over data collection processes and the ownership and control over how the data is stored, processed, used, and shared (First Nations Information Governance Centre, 2021).

In determining the data collection, management, and storage strategies for this study, it is important to break the patterns that have happened in Canada. The study and acknowledgment of the principles of OCAP is an act of advocacy that future research will be conducted according to the communities' preferences. Indigenous consent should not be ignored, coerced, negotiated, or enforced. Consultation is not a simple act of consent; it is about shifting the control of the decisions to the community. Indigenous consent should not just be articulated in theory but also, most importantly, in practice. Their involvement should be sought from the start when determining the scope of the research to develop useful outcomes for the community.

A document shared by the Swan River First Nations, the community working in the study alongside the investigator, is the Yellowhead Institute report (2019). The report outlines Indigenous consent, which consists of four essential elements: restorative, epistemic, reciprocal, and legitimate. Consent should be restorative by safeguarding authentic governance practices and institutions. It should be epistemic wherein it accepts Indigenous wisdom and languages to understand the relationship to the land. It should be reciprocal and ensure that Indigenous people determine the terms of consent rather than being asked to accept them. By doing so, the researcher is respecting and promoting Indigenous governance. Finally, Indigenous consent should be legitimate. It should involve community representatives that are perceived as legitimate. These actions of Indigenous consent were recommended by the community to the researcher. Throughout the study, the researcher sought guidance from legitimate community representatives who ensured Indigenous governance and cultural protocols were followed.

Limitations, Reliability and External Validity

It is important to establish that this research did not intend to solve the Indigenous housing problems. Instead, its goal was to interpret the experiences of the Swan River First Nation with housing and the challenges present in their community. It is also recognized that, although Indigenous communities face similar challenges, they have different beliefs and may need to consider distinctive contexts. Therefore, this research spoke only on behalf of the Swan River First Nation. Even so, not all community members were able to participate despite the researcher's and the community representative's efforts. Thus, some individuals may not feel adequately represented in this document. This research considered that members of this community might benefit from similar approaches when faced with similar challenges. However,

it also acknowledged and recommended that further analysis and consultation with more members and a broader spectrum be conducted before architectural projects are conceptualized.

Furthermore, Indigenous housing is a complex phenomenon that involves relationships between multiple systems and cultures. Therefore, the development of a complete set of recommendations that can support the systematic societal and economic changes that would fix the problem falls outside the scope of this research. However, the outcome of this study does include raising awareness around the historical, cultural, and socioeconomic factors that have contributed to defining the status quo of Indigenous housing and also identified culturally appropriate strategies that have the potential to improve the situation, particularly in the Swan River Nation.

In terms of the reliability of the study, the investigator has based research decisions on a few crucial principles. First, all decisions about the research have been made with the input of the community leader with the consideration that only the community is able to determine the appropriate means to manage their situation. Secondly, the researcher only pursued data collection after building a relationship and establishing trust with the community leader, aiming at complying with OCAP principles and showing consideration to the community. Another key aspect was to check for researcher bias and reflect on subjectivities as a person raised with a settler background in the Western culture (Glesne, 2011). This was done by identifying and writing any pre-conceived concepts and reflections before and after the focus group session. Finally, all data was shared to and controlled by the community. The recordings, transcripts, and reports were made available to the participants to judge if they were accurately represented (Glesne, 2011) and their narrative was put in context.

Terminology

Considering the complicated history between Indigenous people and the Canadian Government, understanding and using correct terminology has been considered as an act of respect. Many scholars and Indigenous people argue that most of the words about Indigenous communities are not neutral. It is established that some names and classifications of Indigenous people have been used as a technique to control these communities during colonization (Gareau, 2015, Module 1).

Depending on the context, terminologies can represent the history of colonization and/or relationships of power. It may indicate respect or disregard for a culture. For instance, when the colonizers chose some terms, they were simply imposed and spread with no consent from Indigenous people. This type of action demonstrated how colonizers thought they could control these communities' identity, misrepresentation, and categorization. Accordingly, selecting the right terminology can legitimize and empower a culture (*Terminology*, n.d.). Understanding the weight of these words while writing about Indigenous housing was found essential to briefly discuss some of the most accepted and respectful terminologies when approaching the Indigenous context.

In Canada, the terms Aboriginal and Indigenous refer to the three native groups: the First Nations, Métis, and Inuit (Canada & Citizenship and Immigration Canada, 2012). However, as mentioned by Ward (2017) and cited in Wilson (2018), it is no longer preferable to use the term Aboriginal. The prefix "ab" means "away from" or "not", which implicates in the word "Aboriginal" to mean "not original". Instead, the term "Indigenous" comes from the Latin word "Indigena", which means "native". Thus, the preferred term to use when referring to all groups is Indigenous people and was then chosen to be used throughout this research.

In terms of the Indigenous groups, First Nations, Métis, and Inuit are the three Indigenous groups acknowledged by the Canadian Constitution (Gareau, 2015, Module 1), It is advised to use the specific names of the communities whenever possible to acknowledge their territory and specific identity. Additionally, based on the course entitled “Indigenous Canada” provided by the University of Alberta, it is preferable to refer to non-Indigenous as settlers and Canada as a settler society (Gareau, 2015, Module 1)

Considering the terminology utilized by the literature and during the individual and focus group session, there were references to both Mother Earth and Mother Nature that should be clarified due to the different concepts behind it. In the context of this thesis, Mother Earth is written when referring to Earth, the planet we live on, as the mother of all living organisms, encompassing both humans and nature (Satgar, 2018). On the other hand, Mother Nature is a more spiritual term that describes a spiritual entity that provides all that is necessary for living in the planet. Mother Nature is life-giving and caring, providing guidance so all living beings can live in harmony. Both terminologies are used throughout this thesis to describe different meanings and contexts.

Finally, this section of this chapter was written to acknowledge the legacy of assimilation and colonial practices and seek decolonization and reconciliation through the appropriate use of terminology. This study moves towards decolonization and avoids unwanted categorizations and control over Indigenous communities by employing suitable terminology.

Organization of this Thesis

The introduction discussed the research context; explained the purpose, significance, and objectives of the study; and described the steps taken to adhere to the community's expectations regarding advocacy for better housing conditions in the Swan River Nation. The community

has been involved since the beginning of the study, working towards reconciliation and providing directions for a culturally rooted investigation within their community. The rationale is based on the knowledge acquired from experienced qualitative researchers (Glesne, 2011; Halseth, 2016; Minkler, 2005) and the community leader representing the Swan River interests. The combination of these sources of knowledge complied with university requirements and scholar recommendations and encompassed Indigenous perspectives and, most importantly, the involved community's preferences.

Chapter One reflected on the motivation for reconciliation and the processes of decolonization of research and author. Chapter Two presented the framework for understanding the Indigenous housing problems in Canada and the Swan River Nation, contextualizing their current housing conditions with the history and consequences of colonization and inadequate housing policies. Chapter Three introduced the process of engaging with a variety of communities, selecting the Swan River Nation, determining a scope that particularly benefits the community, and understanding key contextual factors about their housing conditions. Chapter Four discussed important documents and policies in the Swan River Nation and exposed their current housing conditions based on the interview and focus group session with community representatives. Chapters Five to Seven examined the interview and focus group session according to cultural appropriateness, relationship with the natural environment, and prefabrication and modularity, as previously determined by the community leader. Chapter Eight concluded the research by providing general design recommendations for more culturally appropriate and durable designs according to community representatives' suggestions, discussed the strengths and limitations of the study, determined advice for future research, and provided a final, personal reflection of the outcomes of the research.

Chapter 1: Principle of Reconciliation

The Oxford dictionary defines “reconciliation” as the end of a disagreement and restoration of a good relationship. In Canada, reconciliation is the ongoing process of establishing and maintaining new and respectful relationships between Indigenous and non-Indigenous Canadian people. It is the act of acknowledging the harm caused, including social, physical, and cultural abuses inflicted –both past and present – while seeking a more supportive and respectful behaviour towards Indigenous people (Truth and Reconciliation Commission of Canada, 2015b). With respect to understanding the past, this study relied on an extensive literature review of the history of colonialism in Canada and its consequences on the lives of Indigenous peoples and established the urgent need for reconciliation. For instance, scholars such as Bazin (1993) called for reconciliation when he examined the expansion of imperialist beliefs and concluded that, as a consequence, Indigenous cultural sensibilities were lost. The ethnocentric Western beliefs that reinforce racist practices and undervalue cultural diversity have affected Indigenous communities since the coming of Europeans to their lands in the 15th century.

As a consequence, the Truth and Reconciliation Commission of Canada introduced calls to action that state the need for significant support for Indigenous communities, taking into consideration the cultural genocide and colonialism in Canada (Truth and Reconciliation Commission of Canada, 2015b). Although the historical and cultural context regarding how Indigenous communities were affected due to restrictions by colonialism practices will be further explained in the next chapter, this section established reasons for seeking reconciliation and presented the ongoing efforts to address this concept in this study. This chapter highlighted the need for reconciliation and presented documents that legitimize the history of Indigenous people

being neglected in Canada. The information presented in this chapter ranged from presenting the author's background, discussing decolonization practices, demonstrating the need for reconciliation, and determining goals directed at reconciliation in the scope of this study.

Presenting the Author

When developing research with Indigenous peoples, information should be accessible to the communities involved. Therefore, I presented myself in a more culturally appropriate way for Indigenous peoples by taking the role of a storyteller (Wilson, 2008) to establish my intellectual and cultural capacity to conduct this study. Indigenous peoples in Canada have recognized that it is important for storytellers to share their own life and experience in the telling. In addition to sharing this study in a culturally appropriate manner, this approach was also a way to acknowledge that readers will filter the story according to their own experience. By presenting the author, it is recognized that the readers of this study know where the author is coming from and how the study fits into the storyteller's life. This is the premise of Indigenous oral traditions. By presenting myself and explaining my background, my role as a storyteller illustrated my interest in a study for Indigenous peoples and my contribution to housing improvements in the Swan River First Nation community.

Travelling and meeting people from different cultures has always fascinated me. Being an international student, I am in an environment where I am meeting new people and new cultures every day, especially with Canada being such an intercultural country. I have lived in Brazil, the US, and Canada. My ancestors come from Portugal, Germany, and Indigenous peoples from Brazil. My links with spirituality were nurtured since I was a child, particularly by my grandparents and my mother. They have always taught me about compassion, kindness, and the importance of family. My maternal and paternal

families taught me about our need to attain moral improvements more than any material goods. They have guided me towards spiritual relationships with our ancestors and to develop a consciousness about our inner-heart and how to connect with our true selves. Being raised with these values in a society that prioritizes competition and capitalism, I have always felt that I did not quite fit into this world. To ensure no misunderstanding, I have recognized my role as a settler and how my mind has been framed by what I was taught in the society I was raised in. But I was never one to be able to talk about vain and superficial subjects. I was always more interested in learning about the Other and talking about our spiritualities. When there are so many important things going on in the world, I always felt like I had a duty to use my life to be spiritually better and be with my family, the beings I was chosen to improve myself with. I have always wondered what my role in the world is, especially as an architectural student. My conclusion is that my role is definitely not to build aesthetically pleasant and expensive buildings to showcase the economic discrepancy between people. Thus, while I was seeking a topic to research for my Master of Environmental Design thesis, I realized I could not work for years by just focusing on technology or aesthetics. I wanted to understand other ways of being, connect with good-hearted people, and impact the world in a good way. Developing a study with Indigenous peoples seemed to be the appropriate way to find meaning amidst my insecurity that I do not belong in the architectural industry. This study is particularly meaningful to me because I want to make a positive impact on the world. However, its main purpose is to help a community to express themselves, share their stories, concerns, ideas, and connect with people who have values that are so important to me—values that should be celebrated and appreciated.

Additionally, I have always been interested in learning about environmental issues and have been concerned about contributing to the preservation of our environment. I have engaged with research groups focused on sustainability and have worked with solar energy companies that design photovoltaic systems. I was eager to do something to help the environment, and I thought I was doing so. But as I embarked on a new endeavour to engage with the Swan River First Nation, I realized that most of the sustainable solutions in Western culture are limited compared to the damage we have caused to Mother Earth. Meanwhile, Indigenous communities have an entirely different way of thinking and acting that prevents further damage to Mother Earth and protects the environment. Connecting with Indigenous people made this topic particularly significant in terms of my spiritual beliefs and environmental concerns. Absorbed in readings of cultures as connected to the land and the environment as they are, my admiration grew for Indigenous cultures. However, my investigations also revealed the colonial histories, residential schools, and disrespect Indigenous peoples were put through. Ultimately, I perceived that the research topic should not be dictated by myself. I was a mediator, I was the consultant, and they were the protagonists.

Immersed in the literature, I took a course at the University of Alberta entitled “Indigenous Canada” and one at the University of Calgary called “Indigenous culture, green technologies, and prefabrication”. These experiences built my respect for traditional knowledge, connection to the land, and responsibilities to Mother Earth. I have also been learning to investigate my own subjectivities and have embarked on a journey of decolonization. I have understood the need to dismantle the colonial power in Canada and many other countries. I expect to contribute to the process of reconciliation

while respecting the community's history, practices, and beliefs. As per the Truth and Reconciliation Commission of Canada (2015b), newcomers to Canada like me are called to find common ground with Indigenous communities, learn about their history, and build stronger relationships. With this in mind, one of the objectives of this research was to demystify the inability of newcomers to connect with Indigenous peoples in Canada and create more dialogue between the two parties.

As part of my quest to decolonize, I have read several studies involving Indigenous peoples that answered questions beyond the intended outcomes. For instance, these investigations revealed studies aiming for decolonization and achieved beneficial results through the investigator's self-reflections and the guidance from Indigenous communities. One of the challenges non-Indigenous researchers face is that it is not usually part of the Western research processes to connect with your heart. Engaging with the Swan River First Nations led me to constantly ask myself if my spirit is clear and if my heart is good and to determine what kind of other baggage is leading me towards this path. I embarked on a journey that focused not only on scientific methodologies and scholarly disciplines of research but also on a spiritual exploration. This process has guided me through this research as a recurring validation of each step. I constantly asked myself if my motives were still pure and if I was benefiting this community with this approach. I constantly sought advice from the Indigenous research support team at the University, my supervisor, and community members to determine the best means of producing a study that could positively impact the community who has trusted me with their knowledge and hearts.

While I began this study feeling insecure about not being Indigenous, I have read and heard validations from the literature and the community about my external position as a non-Indigenous researcher. For many legitimate reasons, an Indigenous researcher may not be the selected person to conduct research with Indigenous communities (Smith, 2012). Even when communities have access to an Indigenous researcher, some communities have opted to select or prefer a non-Indigenous researcher. Sometimes, it is due to a fear of having no external validation and credibility or that Indigenous researchers may disclose confidences within their own community. This is not to say that I am the obvious or utmost choice. As long as the community selected me as advocate and their storyteller, I have been doing my best to walk alongside them and decolonize my mind in this collective work.

An Ongoing Reflection about Decolonization

Through the study and acknowledgment of colonizing practices, it became evident that Indigenous cultures have been undermined for decades. These investigations revealed the need to contribute to systemic changes and strengthen Indigenous cultures and ways of knowing and doing. The literature review and the Swan River First Nation, the community that participated in this study, underlined decolonization as an essential process to deconstruct colonial ideologies of Western cultures. Most people in Canada and many other colonized countries have been in contact with systems that perpetuate colonial ideals and privileged Western methods of living.

Decolonizing is then a way to dismantle these systems that sustain power imbalances by acknowledging Indigenous knowledge and practices. For non-Indigenous people, decolonization is an important process of allowing oneself to step aside from Western knowledge and incorporate Indigenous worldviews into the study. Part of decolonization is to question dominant

perspectives and demystify assumptions of Western superiority. This process involves understanding different ways of progress, finding ways of expression of a dedicated commitment to a loving Mother Earth, and accepting each other, including our differences in knowledge, experiences, and beliefs. Ultimately, decolonization is an ongoing process that seeks the understanding of Indigenous cultures and entails the creation of welcoming, courteous, and respectful environments for Indigenous peoples. It may involve several practices such as learning the language, participating in ceremonies, and acquiring knowledge about how to be empathic and resilient. It is a process to develop a better understanding of Indigenous cultures and restrain the past to repeat itself by protecting Indigenous peoples' cultures, lands, and wellbeing.

In an attempt at decolonization and involving an Indigenous community, the investigator acted as a mediator and consultant and invited the community to guide the research process. By doing so, Indigenous worldviews were respected, and the community can retain control over their own information and data. In the context of this study, decolonization was investigated as a method to collaborate with the Swan River community in a continuous effort to understand their perspectives, values, and practices and, consequently, develop research that adequately benefits their interests.

Past Research in Indigenous Communities

Scholars have indicated that Indigenous communities in North America are among the most studied populations (Pierre & Michelle, 2018; Rigney, 1999; Smith, 2012). Regardless of the veracity of this statement, Western knowledge has been perpetuating colonialism practices by putting Indigenous peoples in the position of being a subject of research. For decades, they have been treated as objects of research and did not contribute to the production of knowledge (Smith, 2012). Over time, Indigenous people became accustomed to researchers entering their

communities, gathering data, and then leaving, usually conducting research that had not been requested nor had any relevance to their communities. Community members are often excluded from the research process, leading them to become resentful of research in general. In the same way Europeans could not imagine that other people could have more or better knowledge than them (Bazin, 1993), researchers ingrained in Western and colonized ideas could not imagine that the “objects” of their research could contribute to their studies.

In the past decades, researchers have collected a representative amount of data for self-serving reasons, established by an idea of the superiority of Western knowledge. In general, research was - and sometimes still is - a selfish analysis that was often worthless to Indigenous communities and discredited cultural protocols and values. Smith (2012) pointed out that scholars believed they were doing a service to mankind with their research by “assisting” an oppressed community. In fact, their settlers’ mindsets sustained colonialism practices and diminished Indigenous people’s rights to self-determination. Researchers asked rude questions, suggested things that would not work, told the communities things they already knew, and made careers for themselves, leaving the community in the exact or worst situation as before. In many of these studies, Western knowledge institutions and researchers were the sole beneficiaries. Smith (2012) also argued that the act of producing knowledge and discovering and challenging ideas have become as much a commodity in colonial exploitation as any other product. The subsequent systems created to classify, regulate, and store knowledge constituted a type of research that has been associated with domination and power. It was simply assumed that the communities benefitted from having access to more knowledge and technology. With the same assumptions made during colonialism, researchers did not notice the negative interference they were causing to Indigenous communities by enforcing a series of dominating practices.

Research in the past decades has been conducted by following a series of steps required by education institutions to follow Western regulations. The employment of Western methods is a validation procedure that verifies research authenticity and credibility. However, the utilization of these methods and the definition of the scope of research and collection of data established by non-Indigenous peoples is not culturally adequate. It is inappropriate not only due to the nature of the theory but also due to the lack of Indigenous input in the process. As a consequence, and sometimes with good intentions, Western methods that were used as a step to legitimize a study also endorsed the false idea of the superiority of Western knowledge and colonial practices over Indigenous knowledge (Smith, 2012).

A New Scholarly Approach

As mentioned earlier, the inappropriateness of Western research methods in studies involving Indigenous peoples has been identified, and the process to conduct adequate research has been changing. With the growing number of Indigenous people excelling in academia, focusing their studies on their own people, and doing research by following their beliefs, scholars have been introduced to Indigenous beliefs, values, and customs in research. This type of approach allows researchers today to conduct research that is much more culturally sensitive to Indigenous peoples (Wilson & Pence, 2006). This new emerging style of research consists of Indigenous people deciding and participating in all steps of the research. Based on the contributions of Halseth (2016), Smith (2012), and Wilson (2008), a research that follows an approach that respects and acknowledges the value of Indigenous worldviews should seek connection and understanding of the community's culture, incorporating their perspectives, cosmology, and ethical beliefs.

After decades of harmful research, the academic community has gathered more conscience about decolonizing methodologies and has recommended new approaches that put the Indigenous community at the center of the study. Reflections about conscious and unconscious colonizing practices have been raised with the dissemination of decolonizing methods. Some of the questions that are crucial to consider are concerned with the ingrained belief systems determined by Western views and how these belief systems affect research that should benefit the community. It is crucial to understand the paradigms that limit the research methodologies involved and acknowledge valid concerns of the Indigenous people about the loss of their intellectual and cultural properties (Smith, 2012; Wilson, 2008). Only by ruminating on these subjects, reading about the history, and reframing cultural ideas is one able to strengthen a cause (Barnes, 2018; McGregor et al., 2018). Further, the false idea of Western superiority can only be dismantled by the deconstruction of colonial logic. It is one of the steps towards the repair of Indigenous and non-Indigenous relationships (McGregor et al., 2018).

In this approach, one of the steps recommended to researchers is to work alongside communities to protect Indigenous knowledge and produce significant studies. Meaningful research should confront the messages constantly spread about Indigenous people, such as them being worthless or lazy or that they need to adapt to Western worldviews. Studies should be conducted *for* Indigenous peoples in service to a scope defined by the communities and according to the user's needs.

Research with Indigenous communities should not be a distant academic exercise. These studies consider the political, economical, cultural, and social contexts involved. They should consider that government members have been denying the consequences of colonialism and refusing to support and make proper amends with these communities. They should acknowledge

prior researchers who did not seek communities' guidance and permission to share their stories and knowledge. A researcher who decides to conduct a study with Indigenous communities is expected to form a historical analysis from Indigenous perspectives and write in context about their fights for self-determination and treaty rights (Smith, 2012). In the context of this study, with the involvement of the Swan River First Nation in each research stage, power imbalances have been dismantled and members have become familiar with critical thinking skills that can lead to new approaches of community development (Halseth, 2016), community empowerment, and, eventually, the ability to take control over their own housing. For this purpose, the investigator acknowledged Indigenous research practices and established prior engagement with the community to determine details about the research and organize the interview and key informant focus group meeting. The collaborative process of this study enabled the investigators to develop a relationship and understand the community as a cultural entity, as well as assisted in the analysis of culturally appropriate housing improvements for the Swan River community.

Decolonization Methods Employed

With the aim of reconciliation and building a mutually beneficial relationship with the community, it has been established that Western frameworks of conducting research should be limited (Urion, 1999). Over the past couple of years, Indigenous researchers have developed practices to decolonize Western methodologies (Kovach, 2009) by adjusting Western methods and research requirements to fit Indigenous paradigms (Pierre & Michelle, 2018). Since then, researchers have been encouraged to employ culturally appropriate methodologies that consider Indigenous worldviews (Kovach, 2009; Wilson, 2008). These are highly recommended approaches that demand the researcher to address a variety of issues in the decolonization process (Fellner, 2016; Lucero et al., 2018). Shawn Wilson (2008), Margaret Kovach (2009), and

Linda Tuniwai Smith (2012) are some of the respected authors that provided guidelines in decolonizing methodologies that have guided this study. Some of the methods that should be considered based on their contributions are (1) the adoption of a community-based Indigenous paradigm, (2) incorporation of epistemological hybridism, (3) the act of checking one's soul, (4) the act of being aware of self and other, and (5) the prioritization of the community's voices and preferences.

A Community-Based Indigenous Paradigm. The act of doing research may give investigators an illusory idea of superiority. This is particularly true in studies developed using Western knowledge because it is established by Western society's basic rules that promote individuals to competitively pursue economic self-interest (Smith, 2012). The researcher is usually put in a position of power to establish a problem and determine solutions to solve it. Producing studies with Indigenous peoples is the exact opposite. The process involves offering control and decisions of the research process to the community. It requires the investigator to have an open mind to cultural practices and worldviews different from the ones they were raised in (Duran, 2006). Wilson (2008) has even suggested that research conducted with respect to Indigenous peoples is beyond offering control of the study's topic. The research methodology also must consider Indigenous cosmology, worldviews, and ethics. As a non-Indigenous investigator, it was unrealistic to say that the current study could be developed with an Indigenous paradigm. However, the investigator's efforts focused on developing a community-based paradigm that prioritizes Indigenous methods of knowing and being.

According to Halseth (2016), community-based research can potentially protect communities from the frustrations that may be felt towards research, including being treated as subjects, not being included in the process, not seeing the research outcomes, and feeling

overstudied but not benefitted. While this is a common approach for researchers who want to make a difference in communities experiencing particular challenges, the capacity to generate a study that can make a difference depends on a two-way relationship and responsibilities to both the researcher and the community. Halseth (2016) argued that the involvement of the community affected by the study is essential to produce findings that correctly represent the nuances of their reality that will be beneficial to their future.

When implementing the community-based approach, relationship building is natural in each phase of the research and leads to a process in which the community is no longer *studied*. They are part of the research process and determine the problems they need to be solved and the means to achieve their aspirations (Halseth, 2016). This process ensures that the research protocols are culturally appropriate and guarantees participants have control over their own data and part in the research process. Another crucial aspect of community-based research is the use of the research outcomes. Communities are often used to researchers who come and go, producing studies according to their self-serving needs, and are never to be heard again. The community-based approach defends a collaborative research process that acknowledges the unique advantages of each party and combines their knowledge to strengthen the study for social change (Minkler, 2005). The act of seeking social change and participating in the "action" after the fieldwork is a way of honouring the relationship built during the process (Halseth, 2016). This means that the relationship with the community should continue post-fieldwork, with results being reported back to the community, continued connections for discussions, and implementation of possible changes beyond the conclusion of the research project. Sá et al. (2011) suggested that, when these steps are followed, chances of producing meaningful change are improved with the capacity to develop co-knowledge and affect policies, programs, and

initiatives. Ultimately, research involving Indigenous peoples should go beyond theoretical understanding and make a practical difference in the community's lives. The goal is to ensure that the relationship built is honoured by seeking practical outcomes. Accordingly, this study followed the recommendations found in the literature. The researcher has built relationships and has continued to connect with members of the Swan River First Nation community to seek practical implementation of the findings revealed in the interview and focus group discussion.

Incorporation of an Epistemological Hybridism. Working with Indigenous communities as a non-Indigenous researcher is challenging because the research process itself is an underlying root of colonialism. It is regulated by scholarly disciplines and scientific paradigms outside the communities' cultures. Thus, researchers who are affiliated with Western education institutions justify the research and knowledge systems from a Western perspective, including when discussing Indigenous topics. Simultaneously, Eurocentric studies have oppressed Indigenous peoples and perpetuated colonization practices by imposing Western research methods on studies involving Indigenous communities (Wilson, 2008). As a non-Indigenous individual, one of the disorienting aspects of conducting a study with Indigenous people is to employ required Western research tools and adapt and include Indigenous perspectives in the research process. Adapting methods by incorporating traditional protocols and Indigenous practices into the research process is one of the strategies used in the past by scholars to validate studies both in Western knowledge institutions yet still benefit the Indigenous community (Wilson, 2008). Furthermore, scholars have determined that research can be framed according to both the expectations from the non-Indigenous society in terms of methods and validations while following the community's beliefs and values.

It is important to acknowledge that the author cannot remove herself from her culture and analyze the situation objectively. As argued by Allen (2017) and Wilson (2008), it is unreasonable to make a claim of complete objectivity. Instead, it is common for researchers to centralize or acknowledge their subjective position in the research process. Inevitably, the author's - *and reader's* – concepts, experiences, and worldviews reflect on the study, especially when research involves the interpretation of other cultures' perspectives. Regardless of how objective an author claims to be, they always bring their own set of biases and a partially dominant research approach. This does not mean that the author always underappreciates the other cultures or imposes outside solutions to the community. Instead, they should work towards decolonizing and developing research with the input from the community. An approach that centralizes the community as the protagonists and determiners of the study promotes self-determination and minimizes the propagation of negative stereotypes about the communities involved.

Aware of the inability to address an Indigenous paradigm as per the author's non-Indigenous origin, this study was conducted by incorporating epistemological hybridism. According to Barrett (2013), an epistemological hybrid approach bridges Western and Indigenous knowledge systems and worldviews. It is a way of seeing a subject from different perspectives. The employment of this approach embraces diversity in knowledge systems and appreciates aspects of Indigenous ways of knowing. Contrary to adopting a colonized approach based solely on Western knowledge, epistemological hybridism acknowledges the value of the decision-making capacity of Indigenous communities. It also identifies the impact of colonization and rejects the idea that Western knowledge is unequivocal and indisputable (Barrett, 2013).

The epistemological hybrid approach was used in this research to support Indigenous rights to self-determination while acknowledging the investigator's role and intrinsic worldviews as a non-Indigenous individual. This approach enabled respect for diverse ways of knowing and rejected acts of domination and assimilation towards the community who decided to participate in the study. It also enabled a dialogue from a place of shared perspectives and prevented further exposure to colonization practices and methods when connecting with Indigenous communities. For all these reasons, epistemological hybridism is one decolonization practice that was employed in this study. This method recognizes that different ways of knowing are equally valued, promoting empowerment of Indigenous voices (Pierre & Michelle, 2018; Smith, 2012; Wilson, 2008).

Although Duran (2006) suggested that the implementation of an epistemological hybridism approach dismisses the need to justify non-dominant ways of knowing, the use of this method is explained in this thesis due to academic requirements. Duran (2006) claims that the act of justification is a way of neo-colonization. Explaining the reason for engaging with Indigenous communities and of the use of Indigenous cultural knowledge and protocols is, in some instances, *against* the need to normalize Indigenous ways of knowing. Simultaneously, conducting research as part of a master's degree encompasses a series of responsibilities with the university. Among these responsibilities is to argue each decision made during the research process for evaluation. The solution found so far was to indeed explain the use of the approach to the dominant audience but also to clarify that this is a process that should not be necessary for studies involving Indigenous communities. This justification is part of the advocacy in this research to remove forms of neo-colonization and find new ways to regulate research with Indigenous peoples. Aikenhead & Ogawa (2007) suggested Indigenous knowledge is holistic,

sophisticated, and multi-faceted with their own validation system and should not be explained any more than non-Indigenous methods. Justification is also a reflection of the various colonizing ways non-Indigenous individuals pursue either by obligation or by not even realizing the illogicalness of their actions. This reflection is further demonstrated in this study when presenting how Indigenous input was lacking in the decision-making process related to housing options.

The Act of Checking One's Soul. The research process established by Western culture is straightforward. There are steps to be followed: a problem to be identified, then data to be collected, analyzed, and published. However, when producing a study with Indigenous peoples, part of the decolonization process is implementing culturally sensitive research. Accordingly, a study involving Indigenous peoples requires engagement in spiritual practice. Weber-Pillwax (2001), an Indigenous researcher, argued the importance of checking your heart as a crucial part of the research process to ensure that the study is conducted for good motives and not for selfish reasons that may cause harm to the community. As explained by Duran (2006), the employment of a combination of Indigenous and Western methods requires the constant assessment of one's spirituality from an Indigenous point of view. Although the reflection on spirituality has always been part of my life, this study has changed my worldview regarding how much of a priority my spirituality is. People who were raised in the Western culture tend to focus on productivity and disregard practices of mental health and spirituality, especially during busy periods of our lives. The engagement with the Swan River community has brought me reflection on our priorities and allowed me to connect further with my inner self, especially in busier times. The lesson of checking my soul is one of the Indigenous practices that has enabled me to complete this study.

Positioning the Self and Understanding the Other. Forms of disciplines that supported racist policies have been implemented to adhere to Western ways of living for decades (Smith, 2012). Since these ideas were ingrained in Western culture, non-Indigenous individuals were educated to comply with these concepts. As a result of the globalization of Western knowledge, non-Indigenous people often insist that Western belief systems are "civilized" and legitimate, while Indigenous knowledge is inferior (Smith, 2012). Indeed, this is one of the many traces of colonizing ideas that have been imposed in the 19th century and are still present nowadays. Simultaneously, Indigenous peoples have been misrepresented with positional inferiority in knowledge, language, and culture. Smith (2012) suggested that this act of undervaluing and exploiting Indigenous communities is a form of appropriation of the Other.

Additionally, other researchers presented further abuses when Indigenous communities are represented with oppressive labels such as *uncivilized*, *drunk*, or *lazy*, internalizing that Indigenous peoples are not civilized or as superior as the Western culture (Harding, 2006). This lack of awareness in both the Self and the Other should be avoided. Researchers should break this pattern and engage in reflections about the Self to determine which of their beliefs have been ingrained and are harmful to Indigenous communities. Accordingly, one should reflect on the Other, making an effort to understand Indigenous peoples better and value their worldviews to produce a significant study rather than unconsciously contributing to oppression (Fowers & Davidov, 2006). Wilson (2008) stated that to seeking understanding of the Other means actively listening to Other's ideas, acknowledging that one's beliefs may not prevail. Listening intently demonstrates honour, consideration for others' well-being, and respect. This approach is part of the concept of reciprocity, which is particularly significant in Indigenous cultures because it demonstrates kindness, courtesy, ethical responsibility, and sensitivity (Atkinson, 2001).

According to Cree Elders, as cited by Wilson (2008), reciprocity is a basic law of life for Indigenous peoples. It regulates how people behave towards each other and with Mother Nature. Weber-Pillwax (2001), a recognized Indigenous educator at the University of Alberta, determined several principles for research involving Indigenous peoples that, amongst other topics, focused on understanding of interconnectedness of all beings and respect in all relationships and interactions. The study of Indigenous knowledge and practices is crucial since the foundation of the Indigenous research is based on the reality of the Indigenous lived experience. Indigenous researchers base their studies on the experiences of real people rather than on a world of ideas. Indigenous research should not be guided simply by literature but rather conducted and decided by the community where it takes place. Indigenous research cannot undermine Indigenous peoples' integrity or fail to understand the community's preferences. Indigenous research is a life-changing ceremony (Wilson, 2008, p. 60) and should celebrate and respect Indigenous cultures, beliefs, and ways of living.

In the context of this study, researchers should seek increasing awareness of their culture and how their worldviews influence both the relationship with the Other and the housing projects outcomes. Since the design is also impacted by the subjective opinion of the architect, practicing self-awareness and seeking comprehension of Indigenous cultures and their historical context is imperative to avoid perpetuating colonialism. As a non-Indigenous person, my reflections of self-awareness and explorations of further understanding of Indigenous cultures have been demonstrated in this thesis. The development of this study has expanded my comprehension of multiculturalism and my empathy for the Other.

The investigation of the history behind colonialism revealed several implications on Indigenous peoples' lives and how Western knowledge systems masks them. Examples are

presented by Foucault (1977) when he introduced the ‘formulas of domination’ employed in the 19th century in Western institutions to maintain discipline over the body. As explained by Smith (2012), similar approaches were used to control the knowledge of Indigenous peoples. She uncovered that the most common way of dominating their knowledge had been to exclude and marginalize their ways of knowing by forcing Western concepts into their lives, such as imposing individual land titles on their existing lands. Several domination systems were designed to discipline and colonize Indigenous peoples and eradicate their languages and cultures.

The consequences of colonization are endless and have affected Indigenous communities culturally, physically, and mentally. One of the goals of this study was to engage in reflections of both the Self and the Other to develop new perspectives of decolonization and understanding of Indigenous peoples' social and housing conditions. It is believed that my growing awareness of decolonization and understanding of Indigenous ways has been revealed throughout the development of this thesis. At the beginning, this study presented my current perspectives as a non-Indigenous person. However, as I continue to engage with the Swan River community and learn through our relationship and this journey, it is expected that these understandings will have changed. Throughout the study, I strive to decolonize, check my heart, and engage in reflections to develop a study that positively impacts the community that has trusted me with their knowledge and hearts.

Prioritization of the Community’s Preferences. As a product of colonization, non-Indigenous people have considered their cultures, knowledge, and ways of living superior to Indigenous’. The imperial power that has been established since colonialism claims that Western ways of doing things are greater since it pertains to a “superior civilization”. This idea of

supremacy and imposition of Western over Indigenous cultures plays a critical role in assimilating Indigenous peoples (Smith, 2012). For instance, as related to this study, the denial of Indigenous peoples' inputs on their housing assumes that their preferences are not important or that non-Indigenous ways of building Indigenous homes are superior. It is disregarded that non-Indigenous people could never understand the most appropriate ways of designing houses for a population that they do not understand the culture, languages, and knowledge. Although it is particularly important to include Indigenous communities in the design processes, it is not something unusual in design development. It is common even in the Western culture to seek input from potential clients to design their homes. Generally, homes are designed either customized to the client or at least following typical arrangements according to the client's culture. The problem is that, usually, the client's and the designer's cultures are similar requiring little to no effort from the designer to truly understand the client. When designing homes for Indigenous populations, the designer is faced with the unique challenge of seeking comprehension of the Other, their culture, beliefs, and ways of living. However, the usual approach taken by the designer is to impose their own ways of building and living into the designs. This kind of imposition is one of the many remains of colonial practices that continue to harm the Indigenous population today.

Although colonialism is often called *history*, silencing Indigenous voices has been used by Western institutions to persist with colonization policies, implying Indigenous ways of living are inferior (Truth and Reconciliation Commission of, 2015). To contest these Western methods and belief systems, Studies often recommended that Indigenous voices need to be centralized and prioritized in research to seek reconciliation and healing (Wilson, 2008). This recommendation translates into research that engages with Indigenous communities and concentrates on their

preferences. The community decides the topic of the study, the scope, and the means to collect and use the data. Representatives of the community are the ones deciding over how the study will be conducted and determining the means to benefit the community in general. Only by consolidating the community as the decision-maker of the study is it possible to unroot colonialism practices. According to this ideology, the researcher's role involves steps to ensure Indigenous voices are respected and understood. The investigator is responsible for studying the historical and cultural knowledge of Indigenous peoples, inviting the community, and creating a safe environment that supports Indigenous interests, values, and institutions (Champagne, 2015). Ultimately, the investigator's goal should always be to decolonize and maintain a high level of respect towards the community while providing significant contributions to improve their lives.

In this study, while investigating the topic of housing with the Swan River community, the researcher sought the community's opinions to properly understand how their ways of living and preferences could determine new ways to build culturally appropriate housing for the community. Moved by the ideas of Halseth (2016, Smith (2012), Wilson (2008), it was realized that research can be a process of empowerment for Indigenous communities and can minimize colonialism practices. As a researcher who believed in the described approach, this study was conducted with the guidance of Swan River First Nation community representatives, prioritizing the community's preferences and handing the control of the study regarding their decisions, as will be further explained in the following sections.

Discussing Reconciliation and Indigenous Rights

Canada is a country formed by various backgrounds and a consequent discrepancy in perspectives. Some non-Indigenous individuals view the country as a nation filled with opportunities and the possibility of a new home. On the other hand, Indigenous peoples often see

Canada as the state attacking their traditional lands, cultures, languages, practices, values, and systems. Regardless of the truth in non-Indigenous perspectives, a series of physical, psychological, and cultural abuses that have taken place in the country towards Indigenous peoples have resulted in resentment among Indigenous peoples and put Canada in fundamental need of a discussion about reconciliation.

From 2008 to 2015, the Truth and Reconciliation Commission of Canada documented the history and the lasting impacts of Western cultural attacks on Indigenous communities. The Truth and Reconciliation Report in 2015 was issued with 94 calls to action toward the reconciliation of Indigenous and non-Indigenous people in Canada (Truth and Reconciliation Commission of Canada, 2015a). This report presented numerous testimonies from residential school survivors and documents that established the cultural genocide of Indigenous people in Canada. The report's calls to action were divided into two categories, "Legacy" and "Reconciliation" (Truth and Reconciliation Commission of Canada, 2015a). "Legacy" were calls to action that addressed harms caused by residential schools. "Reconciliation" focused on fostering improved relations between Canada's federal and provincial governments and Indigenous peoples (Truth and Reconciliation Commission of Canada, 2015a). This study, in acknowledgment of the legitimacy of the Truth and Reconciliation Commission of Canada report, disclosed a few of the measures and policies that the federal and provincial governments established to eradicate or assimilate Indigenous people into the non-Indigenous cultures and the commission's recommendations towards reconciliation. The final report of the Truth and Reconciliation Commission of Canada was released in December 2015. It uncovered several Canadian actions that intended to dominate and assimilate Indigenous cultures. These policies are explained in more detail in the next chapter. Despite the measures imposed, the Canadian

government failed to eliminate Indigenous communities, leaving them severely damaged, both physically and psychologically. Against all odds, the Indigenous population in Canada survived and grew as a symbol of resilience.

The Indigenous' determination and courage while surviving restrictive government policies should be an example to non-Indigenous people in combating discrimination against the Indigenous population. Indigenous beliefs of respect for cultural diversity should inspire us to acknowledge the unique history of others and put efforts into reconciliation. Although this process may be long or unachievable, it is our turn to acknowledge both the past (Truth and Reconciliation Commission of Canada, 2015b) and the ongoing nature and impact of colonialism. In addition to acknowledging colonialism's consequences in the lives of Indigenous peoples, it is crucial to establish the basic human and Indigenous rights that are being overlooked with these communities' current housing policies and consequent housing conditions. This study recognized and supported the Universal Declaration of Human Rights, the United Nations Declaration on the Rights of Indigenous Peoples, and the Truth and Reconciliation Commission of Canada Report as legitimate documents that determine human and Indigenous rights which include the right for culturally appropriate, safe, and durable housing. The Truth and Reconciliation Commission of Canada (2015b) recommends the adoption of the United Nations Declaration on the Rights of Indigenous Peoples as a framework for reconciliation and guidance for concrete measures that benefit Indigenous people's lives. Based on the analysis of the documents mentioned above, the improvement of Indigenous housing is not only deemed necessary but is also a basic right. The Universal Declaration of Human Rights states the right to shelter in Article 25:

Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control. (United Nations, 1948, p. 7)

The United Nations Declaration on the Rights of Indigenous Peoples, Article 21, states that Indigenous peoples have the right to the improve their conditions, including housing, sanitation, health, and social security (United Nations, 2007). This document exposed the particular need to improve the housing condition in Indigenous communities across Canada. Aside from structural design, materials, and finishes, designers should also consider cultural appropriateness for housing options for Indigenous peoples. Article 23 of the United Nations Declaration on the Rights of Indigenous Peoples (2007) also determined that Indigenous peoples have the right to be involved in developing health, housing, and other economic and social programmes that affect them. When they participate in the decision-making process of designing their houses, Indigenous peoples are placed on a path to self-determination, preventing their cultures' assimilation to Western ways of doing and promoting decolonization amongst their community members.

Article 8 of the same document also protected the Indigenous peoples' right to preserve their culture (United Nations, 2007). The Truth and Reconciliation Commission of Canada (2015b) also advocated for Indigenous rights for housing and preservation of culture and called the federal, provincial, territorial, and Indigenous governments to actions that ensure their right to self-determination, education, and health. Additionally, agreements made in collaboration with survivors of residential schools, representatives of Indigenous organizations, and church parties

have established permanent funding for Indigenous people for “community-controlled healing and reconciliation projects” (Truth and Reconciliation Commission of Canada 2015b, p. 233). Although these agreements are not always enforced, this study’s role is to uncover these documents and advocate for Indigenous rights. Based on the literature review, it is believed that Indigenous housing falls under the scope of community-controlled healing and reconciliation projects. Their house designs should be controlled by the community and could promote healing and reconciliation if built in a culturally appropriate manner with designated funding. In other words, the housing options that will result from the advocacy of this study should receive sufficient funding for execution if deemed culturally appropriate by the community. Indigenous people should be in control of any projects in their communities by guiding decisions, endorsing self-determination, and promoting their culture.

As it was established in the previous chapter, the substandard conditions of Indigenous community houses greatly affects the health of their inhabitants. The Truth and Reconciliation Report also urged the government to acknowledge that the state of Indigenous health is a consequence of government policies (Truth and Reconciliation Commission of Canada 2015b). Due to the movement of Indigenous communities to unprosperous lands, the lack of sufficient funding, the social and cultural traumas inflicted, and the delivery of culturally inappropriate homes, Indigenous communities’ health and wellbeing of have been harmed for decades. The Truth and Reconciliation Report called the federal, provincial, territorial, and Indigenous governments to act to ensure the wellbeing of Indigenous people by establishing goals and closing the gaps in health outcomes between Indigenous and non-Indigenous communities (Truth and Reconciliation Commission of Canada 2015b). This call to action includes improving

housing conditions, resulting in benefits to their physical and mental health and empowerment of their culture.

Finally, it is part of the efforts towards reconciliation to take action to improve the general wellbeing of Indigenous communities. As declared by the honourable Jack Layton, MP, on June 11, 2008:

Let us reverse the horrific and shameful statistics afflicting Aboriginal populations, now: the high rates of poverty, suicide, the poor or having no education, overcrowding, crumbling housing, and unsafe drinking water. Let us make sure that all survivors of the residential schools receive the recognition that is due to them. (Truth and Reconciliation Commission of Canada 2015b, p. 376)

Although this study cannot address all the aforementioned issues, they were studied and have been acknowledged in this document. In the scope of this study, the investigators collaborated with the Swan River First Nation community to promote their right to preserve their culture and advocate for their well-being and improvements in their housing conditions. This study also acknowledged the condition of Indigenous housing and social and health issues today because of Canadian assimilation policies, including the abuses inflicted during residential schools. This research is an act of respect and reconciliation, attempting to restore the relationship between non-Indigenous and Indigenous people, particularly the members of the Swan River community. However, it is recognized that reconciliation can only be achieved by understanding and acknowledging the harm inflicted in the past and in the present to Indigenous communities in Canada and the Swan River Community. Therefore, the following chapter drew both on the literature review and testimonies of community members to establish the historical

and cultural context and determine the consequent impacts of the Canada's colonial history as related to today's social and housing issues in Indigenous communities.

Chapter 2: Historical and Cultural Context

There is a widespread misconception worldwide claiming Canada does not have a violent history. A common 21st-century expression even asserted that "the world needs more Canada" (Mancke et al., 2019, p. 3). However, like other colonized nations, Canada has a longstanding history of oppression and violence that shaped the country. Violence includes physical harms and any coercive or aggressive behaviours resulting in traumatic consequences. While other nations had even larger episodes of domination and disputes, Canada also had events of conflicts and attempts at cultural assimilation. The tensions between the Western and Indigenous cultures are still present, and the myth of Canadians' non-violent approaches to the modern world continues to mislead and mask the widespread coercion in the country (Mancke et al., 2019). Although it is not in the scope of this research to uncover in detail the history of colonization, its consequences are the motivation for writing this work. Due to the history of the dispossession of Indigenous lands in Canada and the several attempts at assimilation, Indigenous communities face challenges in housing today, which include cultural inadequateness, substandard conditions, and overcrowding. For this reason, it was requested by representatives of the Swan River First Nation to put their situation in context since the beginning of this study. Accordingly, this chapter is an act of respect wherein both the history of colonization and the Swan River community history are presented so readers can understand the broader picture and draw informed conclusions about the imminent need to improve this community's housing conditions.

It is not uncommon to connect with people who have distorted visions of the struggles of Indigenous peoples in Canada. During the development of this study, several people expressed their opinions of how Indigenous people were "unproductive" or "undeserving" without considering the degradation of Indigenous traditional lands, creation of reserves, residential

schools, and ultimately, the lasting legacy of colonial governance and contemporary barriers to self-sufficiency and sovereignty (Taylor-Neu et al., 2018). Indigenous people's relationship with the Canadian government has been marked by a constant decrease in Indigenous independence and self-determination since the mid-19th century. Taylor-Neu et al. (2018) mentioned in their historical analysis of welfare reform in Canada that the State has sought to assimilate Indigenous peoples into their colonial structures instead of creating room for Indigenous sovereignty and economies. As this chapter has uncovered, several government initiatives have transferred the control of land and natural resources to colonial governments, leading to severe impoverishment among Indigenous communities in Canada over the years (Taylor-Neu et al., 2018).

Because of colonial practices, Indigenous people have been facing challenges of self-determination and sovereignty. For example, in the Swan River Nation, their houses are not only in substandard condition but often do not reflect the community's cultures and belief systems and are not adequate to their ways of living. Scholars across the globe agree that the current discrimination and unsustainable Indigenous housing issues exist due to a "legacy of subordination" (Patrick, 2014, p. 11) and the harmful effects of colonization. Therefore, this chapter is dedicated to discussing Indigenous people's history to ensure that the Indigenous side of the story is portrayed correctly and not overpowered by Western beliefs. Although it is acknowledged that Western beliefs would still be present since the study is written by someone raised in Western culture, this chapter sought to reduce discrimination and prejudice against Indigenous communities. Only by exposing the history of colonial relationships is it possible to provide an appropriate context for understanding the consequences of colonial practices, domination, and exploitation of Indigenous peoples. Only by presenting some of the imperial histories and introducing the Indigenous challenges over their housing and their difficulties in

economic autonomy rooted in colonization is it possible to minimize unconscious preconceptions of Indigenous civilizations.

Putting Indigenous history in context and focusing on the positive effects of promoting maintaining Indigenous ways of living and being (Wilson 2008) in light of the discrimination that Indigenous peoples suffer in the Western culture are ways to ground studies that advocate for improving Indigenous peoples' lives. Using a strong research paradigm that acknowledges Indigenous challenges due to colonial history, this study created a foundation to advocate better housing conditions grounded in legitimate arguments and developed an initiative to celebrate the diversity of Indigenous cultures. Accordingly, this chapter and the thesis, in general, encouraged the acknowledgment and appreciation of Indigenous histories and worldviews, allowing the reader to look to the past sensibly. This thesis made clear how historical events have impacted Indigenous lives since colonization, including the lack of homes that are in good condition and are culturally appropriate (Lavallee, 2010).

As recommended by the Truth and Reconciliation Commission of Canada (2015b), part of the reconciliation is to acknowledge the past and the harms that were inflicted on Indigenous peoples. This chapter in this thesis is one attempt at reconciliation and documentation of the awareness of Indigenous histories, including the repercussion on the Swan River Nation. Through the discussion in this chapter, which leads to the understanding of the effects of colonial practices, the community's testimonies in the interview and focus group could lead to a means of augmenting their housing situation.

Colonization Process and Outcomes

Since this research involves the Indigenous peoples of the Swan River community and their housing conditions, it is important to understand the significance of studying colonization in

Canada and how it affected Indigenous people's ability to determine their housing decisions and the development of substandard conditions of their dwellings. In the centuries before European explorers arrived in Canada, Indigenous peoples lived in Canadian lands and prospered, preserving their cultures, languages, and ways of knowing. The arrival of Europeans made a significant impact and disrupted Indigenous people's lives by bringing diseases, imposing Western culture, and proposing treaties for non-Indigenous benefit. Europeans' impositions of culture and belief systems were introduced with conquering and economic goals in mind, which deeply affected Indigenous future generations until today.

Accordingly, the discussion of the effects of colonization and imperialism is frequently endorsed by scholars such as Emberley (2007), a knowledgeable researcher of Indigenous practices, cultural studies, and decolonial theories. According to her investigations, colonial practices were severely prejudicial to Indigenous communities across Canada. The disregard for the impact of colonization perpetuated colonial violence and reinforced the insensitivity Indigenous peoples have experienced for years. Therefore, academics should uncover these historical events and learn from past mistakes to prevent further harm and rebuild relationships with Indigenous communities. History provides us with the awareness and understanding of the reasoning behind the circumstances that Indigenous communities, including the Swan River Nation, have been facing nowadays. Through the study of history and the consequent critical thinking skills that are developed in the process, one can advocate and transform current inadequate conditions. Therefore, this research exposed colonialism as an attempt to interrupt its impacts and address the inappropriate housing issues caused by it. The goal was to explore the history of Indigenous peoples in Canada and the Swan River Nation to increase cross-cultural

awareness, advocate for more durable housing conditions, and allow more culturally appropriate housing designs to be conceived.

It is also critical to point out what colonization is, how it has occurred in Canada, and why its consequences have persisted until today. Colonization is a process of dominance characterized by one group (colonizers) who takes control over another group (the colonized). The colonizers exploit the land and resources and damage and disrupt the other group's ways of living until they settle and dominate the other community (Gareau, 2015, Module 1). Frideres (2012) argued that this process usually occurs in four steps. First, the colonizers alter political, economic, social, and religious systems and, generally, the other group's way of life. Second, the colonizer sets up political control over the colonized. Third, the colonized group slowly becomes economically dependent on the dominant group. Finally, the colonizer provides poor services, such as education and health, to the colonized group, perpetuating their dominance. Throughout this thesis, it will be demonstrated that Canada has enforced all these actions, which have created racial barriers between the colonizer (Europeans) and the colonized (Indigenous people) and established control and authority.

Despite the peaceful first contact of Europeans and Indigenous people in Canada, we are now aware of the authoritarian results of the colonization process. What seemed to be an offer of help and the small-scale fur trade was transformed into a complex industry and an elaborate system of a political, social, and economic fight for control. Although we know it led to dreadful results, it is undeniably a critical moment in history that allowed a mixture of social, cultural, and economical interactions which founded a new country, Canada (Frideres, 2012).

To properly learn about the colonization period, it is essential to recognize that trading networks occurred long before the first contact with Europeans. At that time, Indigenous people

have lived in North America and, specifically in Alberta, for at least 12,000 years (Berry, 2004; Dickason, 2009). Indigenous communities exchanged materials for both necessities and luxury items with each other (Trigger, 1987). They traded their surpluses for their necessities or gave gifts to formalize agreements (Smith, 2008). It was not until the late 1400s that the fur trade between Europeans and Indigenous people began. With the spread of European empires in the 15th century, maritime explorers announced potential sources of resources to the monarchs of Europe (Truth and Reconciliation Commission of Canada, 2015a). This action not only ushered in a new era of trade, conquest, and colonization but also indicated the beginning of a European-dominated economy. Europeans benefitted from taking raw materials from colonies at a low cost to fabricate new products. During this period, European nations were driven by mercantilism, an economic theory that specifically valued profitable trading, which consequently put them in fierce competition for colonies and their raw materials. This belief system lasted from the 1500s to the 1700s and controlled European policies and actions (Kardulias, 1990).

Before the 1800s, Europeans did not come to Canada wanting to conquer the territory. Instead, they came on fishing and whaling expeditions aiming to profit, which set the stage for what would become known as the Fur Trade (Gareau, 2015, Module 2). This new period covered about 250 years and shaped European and Indigenous relationships, and delineated the geographical infrastructure of Canada. During the fur trade, Europeans exchanged goods for furs and meat, including hides of bear, moose, deer, marten, fox, buffalo, and, most valuably, the beaver pelt (Gareau, 2015, Module 2). It is crucial to understand that the Fur Trade period had three phases. The first of these phases was marked by trading goods that were highly beneficial for Indigenous people. During this phase, Europeans requested pelts that Indigenous people had used as winter coats since the guard hairs would fall off and become soft and suitable for hat-

making (Gareau, 2015, Module 2). Therefore, the products in question were much less valuable for Indigenous people than Europeans (Gareau, 2015, Module 2). Stories told mention one Indigenous person saying: “The English have no sense; they give us twenty knives like this for one beaver skin” (Ray, 2005, p. 56). These exchanges provided Indigenous people access to several useful materials and tools that were unknown to them at the time, such as knives, pots, axes, kettles, and so on. Meanwhile, Indigenous people assisted Europeans with their hunting skills and knowledge about the land (Gareau, 2015, Module 2).

As the trades developed, Europeans were motivated to further travel into Canada to exchange goods with other communities, establishing trading posts. This was the beginning of the second trade phase in which these trading posts would progressively become European settlements (Innis, 1999). At that point, colonies were established to economically benefit the monarchy, who would exploit their resources (Truth and Reconciliation Commission of Canada, 2015a). In this second phase, the relationship between Indigenous people and Europeans was characterized by an increasing dependency of the Indigenous communities on the tools traded with the Europeans. Additionally, since Europeans believed that Indigenous people's occupancy of the colonized lands was obstructing their access to further resources, they decided to gain control of Indigenous peoples' lands (Truth and Reconciliation Commission of Canada, 2015a). Gradually, the advantage and control of the trades started to shift. The English and French took control over Indigenous lands by negotiating treaties, declaring ownership of lands, and establishing trading companies, such as the Hudson's Bay Company (Foster et al., 2001) and the North West Company (NWC).

The consumption of these new goods and consequent economic dependency was most harmful to Indigenous communities. Ultimately, they had little resources to offer to Europeans,

leading to diminished power. The third phase of the fur trade then began, which was marked by the point when the negative effects surpassed the benefits for Indigenous people. By the 1800s, beavers were almost extinct, and the fur trade deteriorated. After more than 200 years of overhunting, with limited pelts to offer and the increasing European knowledge of the North American territory (Ray, 2016), Indigenous knowledge of the ecosystem was no longer an advantage. Europeans took control over Indigenous lands, eliminated traditional practices, disrupted families, and imposed cultural, spiritual, and political practices (Truth and Reconciliation Commission of Canada, 2015a). Indigenous people became economically dependent and lost several portions of land to the new European companies. Gradually, Indigenous people were under critical political and economic circumstances where Europeans had enough power and privileges to colonize Indigenous people in North America.

Although the primary goal of Europeans was to return to Europe with merchandise, they progressively noticed a desirable position that changed their initial interests. They had discovered the advantages of settling on the land, were introduced to gold, learned about fabrics cheaper than fur, and, ultimately, their lifestyle and needs for resources had changed. The balance between the two cultures was disrupted (*Stolen Lives: The Indigenous Peoples of Canada and the Indian Residential Schools*, n.d.). Europeans established colonies to exploit them economically and made the Indigenous captive by forcing them to purchase their imports from the homeland (Truth and Reconciliation Commission of Canada, 2015a). Indigenous people constantly needed goods and were put in a position of trading for debt repayment. The reliance and loss of control and the signed treaties forced Indigenous communities to abandon lands with sufficient resources, furthering their increased dependency on Europeans (*Colonialism / Indigenous Peoples Atlas of Canada*, n.d.).

This process of colonization happened to Indigenous communities worldwide. Europeans intervened in lands across the world, believing one of two things. First, they believed that God had given Christian nations the right to colonize lands if they converted the original inhabitants to Christianity (Truth and Reconciliation Commission of Canada, 2015b). Second, Europeans believed that they benefitted Indigenous communities by civilizing them, ultimately helping the Indigenous in this world or the spiritual one (Truth and Reconciliation Commission of Canada, 2015b). According to European worldviews, being “civilized,” which means having a legitimate social and cultural development, was to be *Christian*. This belief system guided many Europeans’ actions over time, justifying not the colonization of the Americas and also disguising their abuses towards Indigenous people.

During the 18th century, one ideology idealized by Harman Verelst called *Doctrine of Discovery* was disseminated, promoting colonization and the European right to claim America’s lands. It affirmed that America’s lands were *terra nullius*, meaning it was no man’s lands and could be claimed by Europeans (Truth and Reconciliation Commission of Canada, 2015a). Imperialists who followed this doctrine argued that Indigenous peoples’ occupation of the land did not void Europeans’ rights to claim it. Indigenous peoples were simply occupying the area and not owning it (Truth and Reconciliation Commission of Canada, 2015a). In their view, true ownership could only come from European civilizations and, therefore, any presence of Indigenous communities in the land was invalid for claiming purposes. This conviction was based on the settler's "civilizing mission" grounded on Europe's allegedly cultural superiority. Accordingly, geography, climate, and migration have hampered the progress of other people around the world (Truth and Reconciliation Commission of Canada, 2015) who needed European colonization and assistance to become "civilized". Although this ideology is

antiquated, it influenced colonization in America and determines policy towards Indigenous populations until the present.

Since then, as European settlements expanded, colonialism persisted and remained an ongoing process that continues to shape the history of Indigenous peoples in Canada and their relationship with non-Indigenous (Truth and Reconciliation Commission of Canada, 2015). Consequently, Indigenous communities have faced several types of marginalization, either by not being considered them as a permanent community or by being expected to join non-Indigenous cultures. The colonization practices affected and dismantled Indigenous peoples' health, cultural identity, and land. At first, they were seen as a temporary population in Canada. Non-Indigenous people predicted that, in a few generations, the First Nations would "cease to be," either sacrificing their status and joining the Western culture or simply perishing (Lavallee, 2010). Europeans took action to allow the dissipation of Indigenous culture and ultimately dominate the Canadian territory (Lavallee, 2010). One historian named Moravian Church mentioned that, in the 1860s, the government "began to sanction intermarriage on the grounds that European blood, with its resistance to Western diseases, might protect the Inuit from extinction" (Fitzhugh, 1999, p. 250-251, as cited in Belshaw, 2016). Many of the policies created for the Indigenous population throughout time were widely unsuccessful precisely because they were based on the mindset of temporary measures being imposed on "temporary" communities. The federal government developed legislation, such as the Gradual Civilization Act of 1857 and the Indian Act of 1874 (amended in 1985), to determine who holds the Status Indian, in other words, who is recognized as an Indigenous person by the government. As a result, the government would provide benefits to assist Indigenous communities and also control Indigenous land, health, cultural practices, and education (Lavallee, 2010). Gradually,

Indigenous communities lost control of their space and their identity. As mentioned by one Indigenous person: “Slowly, we started to lose control over the destiny of our culture and our lives” (*Colonialism / Indigenous Peoples Atlas of Canada*, n.d., para. 1). Over time, the discrimination and disadvantages evolved into the extensive Indigenous inappropriate housing crisis today (Patrick, 2014).

Essentially, colonization marked the onset of the constant housing problems Indigenous people would experience in the years to come. From this moment forward, their culture was disrespected, their interests were neglected, and they were relocated to unfavorable locations. Indigenous people lost access to resources and traditional foods, leading to poverty, intense vulnerability, malnourishment, and dispossession (Belshaw, 2016). These communities signed treaties and donated their lands, expecting to be protected by Europeans, who later openly stated to never have had the intention to honor the treaties (Truth and Reconciliation Commission of Canada, 2015b). Meanwhile, the colonial authorities put efforts into reducing their obligations to Indigenous people (Belshaw, 2016). Thousands of Indigenous communities all over Canada were affected by this process, which disrupted their resources, homes, and ways of living (*Stolen Lives: The Indigenous Peoples of Canada and the Indian Residential Schools*, n.d.). These practices violated and have continued to violate their cultural identity. It traumatized and left a void in many Indigenous people's lives and could only begin to be solved by a spiritual and collective understanding of Indigenous cultures and investigation of direct causes for housing failures (Lavallee, 2010). Although distressing, this section of this thesis was crucial to expose the imperial history, the intentions of colonization, and the rationales used to justify colonial abuses. This section rested on the knowledge obtained from respected authors and the Truth and

Reconciliation report to investigate and disclose actions that have harmed Indigenous communities in Canada, including the Swan River First Nation.

A History of Assimilation Policies

Based on the study of the colonizing history of Canada, the influence of the policies implemented by the federal government was determined to be a crucial factor in influencing current Indigenous housing conditions and restricting Indigenous cultural expressions. This section discussed the history of policies shaped by colonization that aimed to destroy Indigenous cultures and contributed to diminishing their rights to self-determination to honour Indigenous people's history. According to the scope of this research, this section studied a collection of policies that demonstrated that federal government actions had affected Indigenous peoples' lives in terms of insufficient funding, unhealthy housing conditions, and culturally inappropriate housing. However, it is essential to note that, since the 1800s, several policies have been implemented and contributed to a broader range of problems that, in conjunction, may all collaborate with the housing issues faced today. Some of these challenges that were raised by such policies include, but are not limited to:

- the forced separation of families within communities, including the removal of children from their homes by sending them to residential schools;
- repression of cultural practices such as language, ceremonies, and ways of living;
- dependency on the federal government for housing, infrastructure, and social welfare; and
- the imposition of foreign governance systems and the disregard/elimination of Indigenous social, economic, environmental, and cultural systems (Kyser, 2012).

Ultimately, the enforcement of several policies created by the federal government has dictated how Indigenous people may live, interact, inhabit, and celebrate their cultures. These policies have impacted Indigenous people's lives, including housing-related aspects, since colonialism until today and is discussed throughout this chapter.

Before the Europeans arrived in Canada, Indigenous people had developed successful social, political, economic, and spiritual practices. These distinct habits and belief systems were what characterized their diverse cultures. Their cultures are filled with traditions, stories, ceremonies, and enriching practices focused on the community's well-being, relationship building, and learning (Borrows, 2006). However, these vibrant and spiritual communities would have their ways of living disrupted by the arrival of Europeans in their territory. The early history of Indigenous policy in Canada began with the French and British colonization of Canada. Although Indigenous communities were the first occupants of Canada, their customs, laws, and beliefs have been constantly overruled by non-Indigenous ways of living. These impositions were employed several decades ago and called acts of "civilization". They disrupted their routine, social interactions, relationships with their lands, laws and policies, education, and health systems (Borrows, 2006).

At first, when the Europeans arrived in their territory, they wanted to establish relationships with Indigenous communities, so they followed their laws, practices, and ceremonies during the entire first phase of contact and during the Peace and Friendship treaty negotiations (Borrows, 2006). Over time, many aspects of Indigenous daily lives would be impacted by inadequate policies and customs of the non-Indigenous. It started with policies for the acquisition of Indigenous lands, which progressed to policies of assimilation and control of Indigenous peoples. It gradually shifted to policies that allegedly assisted Indigenous

communities but, ultimately, did not pursue Indigenous people's right to self-determination and self-governance.

Around the 1700s with the British expansion and settlement over the Canadian territory, the beginning of the loss of Indigenous lands and cultures occurred (Indian and Northern Affairs, 1970). After decades of establishing trading posts and a series of battles, the Indian Department was founded in 1755 (Leslie, 2002). This entity was run by William Johnson, who was expected to supervise the acquisition of Indigenous lands during the European colonization, ensuring Indigenous protection. Later around 1800-1830, the Indian Department's role was expanded from managing Indigenous lands to acting as mediators in fur trades and assisting armed forces during wars (Leslie, 2002). Regardless of its official roles, this department was later ordered to orchestrate events that meticulously obtained “obedience” and dedication of Indigenous peoples to the British Crown (Indian and Northern Affairs, 1970).

Meanwhile, in 1763, one of the first critical Indigenous historical documents was released. This date was marked by the introduction of the Canadian Indian policy and legislation and the creation of the *Royal Proclamation* (Leslie, 2002). This document determined the necessary arrangements and policies so that the Royalty could obtain the Canadian Indigenous hunting areas and, allegedly, protect Indigenous lands from “unscrupulous land speculators and traders” (Leslie, 2002, p.1). This document represented one of the many written policies representing Western cultural interests masked by supposedly Indigenous protection. This kind of behaviour was repeatedly demonstrated throughout history. It did not only affect the Indigenous populations who lived at the time but also future generations who were not able to migrate to certain lands to hunt, fish, and gather in their lands without the Crown’s permission.

A policy was issued in the winter of 1807-08, instructing the conduct of the Indian Department for the next few years and establishing that Indigenous people would be employed in the war against America (Leslie, 2002). At that time, Indigenous people did not have a concept of ownership of lands, so they made agreements and shared the area today known as Canada and offered their help to collectively protect their territory from any invasions. With the imminent war of 1812 against America, Indigenous support was considered essential for the preservation of the so-called "Canadian" territory in collaboration with the British Crown (Leslie, 2002). Their agreements did not mean much to Europeans who viewed themselves as superior beings with ultimate privileges. By the end of the war, the Indigenous roles in the settler society were changed, and the British claimed that they were determined to honor Indigenous protection as they had promised. It is now challenging to interact with Indigenous communities because of the numerous unfulfilled promises throughout history. The mistrust has been established, and promises are no longer believable.

While claiming to protect Indigenous communities and honour their promises, the British royalty moved these communities from their productive and traditional lands to reserves in areas they did not consider resourceful. They dressed them as Europeans and taught them British ways of living so they could become farmers. Their goal was that Indigenous people would leave their culture behind and would quickly be assimilated into the European cultures. The Indigenous population and their lands would disappear into the new habits and through intermarriage with no necessity to protect the Indigenous culture or legislation (Leslie, 2002).

Following this same idea, the *Indian civilization program* was launched later in 1830 based on protecting and improving Indigenous lives by promoting their assimilation to the settlers' culture (Leslie, 2002). This system worked based on three principles of assimilation: (a)

Implementing Indigenous education in residential schools to impose European ways of living from an early age, (b) transference of lands through the signature of treaties, and (c) creation of reserves and supervisory Indigenous agents (Leslie, 2002). At that time, settlers did not recognize Indigenous cultures and believed they needed to “civilize” Indigenous people fast. To do that, they should dress them in European fashion, prohibit them from speaking their language, break family ties, and other oppressive measures. That way, they would eradicate traces of Indigenous identity (Haig-Brown, 1988). Their civilized identity would become focused on settled ways of life and follow Christianity (Gieben & Hall, 1992). Essentially, in their judgment, being “civilized” meant following a European lifestyle, and any different ways of living were a less advanced civilization.

By the 1850s, the government concluded that Indigenous assimilation was not moving as fast as it should. In 1857, they proclaimed an act called the Gradual Civilization Act of 1857. This official act aimed to gradually assimilating Indigenous cultures into non-Indigenous ways of living (Lavallee, 2010). Europeans attempted to dismantle Indigenous cultural identities, assimilate their communities into non-Indigenous beliefs, and control their lands, political, health, and educational systems. These misleading and controlling actions toward Indigenous communities were part of the assimilation behaviours that still affect Indigenous Nations today by preventing access to typical resources and traditions (Leslie, 2002).

In 1858, the British Royalty announced that they would not continue to finance Indigenous administration, and further disbursements were formally reassigned to the Province of Canada in 1860. From that moment on, Canada was the only one responsible for financially assisting Indigenous people (Leslie, 2002). In 1867, the British North American colonies were united and formed the Dominion of Canada. After the Confederation, as this union event would

become known, the government was divided into provincial and federal. Along with these accomplishments came many responsibilities. For instance, Indigenous protection was considered too delicate to be assigned to provincial governments and became a matter of federal responsibility. Since the federal government was composed of Canada officials, no significant changes were implemented from the pre-Confederation policies. During several years after the Confederation, these legislations were not questioned. The treaties, the reserves, and the education were not disputed, which opened doors to even more controlling actions.

The first post-Confederation measure was the Indian Act, a document first issued in 1876 that specified all aspects of Indigenous lives (Leslie, 2002). This document went over who was considered Indigenous, what was an Indigenous band, what was a reserve, how they could be subdivided, and several authoritative measures (Leslie, 2002). Essentially, it was - and still is - the government's way to control aspects of Indigenous lives, including land, resources, rights, education, and band administration. For instance, when considering housing, the Indian Act restricted the ownership of houses on reserve, threatening the market function and economic development in Indigenous communities for decades (Kyser, 2012). Meanwhile, Indigenous people were required to comply with its guidelines, or they could lose their "Indian Status," meaning they would no longer be recognized as an Indigenous person (Leslie, 2002).

In 1879, a document called *Report on Industrial Schools for Indians and Half-Breeds*, written by Nicholas Flood Davin, a member of the Canadian Parliament, recommended a more aggressive method of "civilization." According to this report, Indigenous children should be separated from their families and any cultural tradition or influence (Satzewich & Mahood, 1995). Based on the ideas of this report, the government of Canada introduced Residential Schools in 1883 as the leading feature for Indigenous assimilation. To speed up Indigenous

assimilation, these schools were created to silence Indigenous people's voices. Children were removed from their families to be "educated" into European ways of living. These schools were operated by the Catholic Church and received funding from the government (Gareau, 2015, Module 5). However, funding was insufficient and led to a lack of supplies, such as food and clothing. The religious organizations' administration acted with severe abuse and was not supervised nor regulated (Royal Commission on Aboriginal Peoples, 1996a; Truth and Reconciliation Commission of Canada, 2012). Their school curriculum was designed to teach the kids how to read, write, and perform labour activities. The boys were supposed to engage in agricultural duties and sports, while girls would do domestic duties, such as sewing, knitting, cooking, and cleaning (Royal Commission on Aboriginal Peoples, 1996a). These schools were located far from Indigenous communities, avoiding the interaction between children and their families and culture (Satzewich & Mahood, 1995). Parents who protested against sending their children to residential schools faced punishments, such as fines and imprisonment under the Indian Act Provisions (Gareau, 2015, Module 5). Through these acts, the Europeans' goal was to remove cultural influences, languages, practices, and customs by separating children from their parents (Wilson, 2002).

Once adapted to the new habits learned at residential schools, Indigenous children would quickly adapt to European practices and eventually assimilate future coming generations of Indigenous people (Wilson, 2002). As Davin (1879) stated in his report, education was a mechanism to eradicate the uncivilized Indian. However, instead of natural assimilation into the European lifestyle, these children suffered a lot from the separation from their families and the physical and psychological abuses provided by the schools' administration. Reports estimated that more than 150,000 children were separated from their homes and placed in residential

schools (Royal Commission on Aboriginal Peoples, 1996a; Truth and Reconciliation Commission of Canada, 2012). Since these children were raised in these abusive environments, they became adults that did not know how to treat their children with love and respect (Nagy, 2012). Consequently, these abuses were transformed into social disorders. Colonialism and residential schools emerged a generational cycle of social issues, such as high rates of suicide, overdoses, drug addictions, domestic violence, and unemployment (Gareau, 2015, Module 2). At this point, the caring, respectful, and interactive Indigenous cultures became known not for their qualities but for the resultant social problems (Nagy, 2012).

Meanwhile, the Indian Act would go through several modifications, most of the time becoming less ethical and less embracing. For instance, a section was amended in 1884 banning dancing and traditional Indigenous ceremonies (Leslie, 2002). The government's ambition was to promote Indigenous assimilation even if meant negating their culture. As presented in a quote mentioned in Leslie (2002) by the Deputy Superintendent-General Duncan Campbell Scott in the early 20th century,

Our objective is to continue until there is not a single Indian in Canada that has not been absorbed into the body politic and there is no Indian question, and no Indian Department, that is the object of this Bill.” (p.25)

Although Indigenous communities were the first occupants in Canada, their customs, laws, and beliefs have been constantly overruled by non-Indigenous ways of living. These impositions have been employed several years ago and called acts of “civilization.” They disrupted their routine, social interactions, relationships with their lands, laws and policies, education, and health systems (Borrows, 2006). Fortunately, Indigenous peoples’ cultures and ways of living survived all these policies and unethical efforts.

In the following years, the Indigenous population that had been declining since the colonization was finally showing their first signs of growth. In 1921, their numbers, used to be around 113,724 people. Their population more than doubled by 1951 and exceeded half a million by 1971 (Leslie, 2002). Despite the authorities' attempts to cease Indigenous communities, their population sustained a high fertility rate and continued to rise. However, even with a significant Indigenous population, acquiring their right to self-determination was still challenging. From 1946 to 1948, a special committee was created to oversee Indigenous administration. Included in the committee were government officials, interested parties, and selected native groups. This committee was called the "Committee's Bill" (Leslie, 2002). This group represented Indigenous interests and claimed that Indigenous bands should be allowed to conceive their own constitution for self-government. However, the group's establishment was not sufficient to alter the outcomes of Indigenous lives in the following years. In fact, from 1948 to 1950, the government rejected most of the committee's proposals, including the federal vote and the idea of Indigenous band's constitutions (Leslie, 2002).

A new proposal for the Indian Act in 1950 was presented without any consultation with Indigenous people and withdrawn due to the lack of support (Leslie, 2002). After a revision, the new Indian Act of 1951 was proclaimed. This new version still prohibited Indigenous people from federal votes, but the government lifted the ban on dances and traditional ceremonies (Leslie, 2002). This document gave the Indigenous difficult choices between accepting insufficient government measures to recover some of their traditional ways of living. It was not until 1960 that Indigenous people got their right to vote in federal elections (Smith, 2013), which deeply affected their future.

Subsequently, another Indigenous policy was conceived without their consent in 1969. At that time, the government ordered a series of Indigenous consultations to revise the Indian Act. These consultations revealed Indigenous' desire for more self-government, social development, constitutional recognition of Indigenous rights, and sufficient funds (Leslie, 2002). In June of 1969, the government responded to these requests by developing a document that reviewed the Indigenous populations' values, roles, and rights. This document was called the *White Paper*. Instead of promoting self-determination and providing the proper assistance, this paper intended to finish the Indian Status, the Department of Indian Affairs, and the revised legal status for Indigenous territories (Leslie, 2002). In other words, they proposed the termination of the groups that claim Indigenous rights were discriminatory and that this measure would improve their standing as equals. Disguised through this discourse, the government went back to the ideas of assimilation. This document was considered outrageous by Indigenous people and their supporters across Canada. There was extensive mobilization as a response to this lack of progress in the recognition of Indigenous rights and culture. Therefore, the White Paper was formally withdrawn in 1970 but left a painful mark in Indigenous history (Walker, 2008). It was not until 1982, in Section 35 of the Constitution Act, that Indigenous and treaty rights were finally recognized (Immigration, Refugees and Citizenship of Canada, 2021).

As a result of multiple violent actions, assimilation attempts, and disregard of Indigenous cultures, history has left an ongoing mistrust of non-Indigenous peoples. In addition to social, economic, and health problems, Indigenous people have faced housing challenges due to misleading policies and practices implemented since colonization. In its latest report, the Truth and Reconciliation Commission of Canada states:

Canada denied the right to participate fully in Canadian political, economic, and social life to those Aboriginal people who refused to abandon their Aboriginal identity. Canada outlawed Aboriginal spiritual practices, jailed Aboriginal spiritual leaders, and confiscated sacred objects. And, Canada separated children from their parents, sending them to residential schools (Truth and Reconciliation Commission of Canada, 2015a, p. 4).

This report also exposed how the Canadian government forced Indigenous people to relocate from rich and prosperous lands to unfavourable locations with fewer resources. By doing so, the Canadian government controlled Indigenous lands and disempowered communities all over Canada. Accordingly, Indigenous populations continued to advocate for further revisions in these inadequate policies, which greatly impact their living conditions today. The 20th century was marked by the increasing Native population facing disturbing housing and health conditions (Belshaw, 2016). The resulting poverty, overcrowding, and substandard housing conditions resulted in diseases, unbearable living situations, and urges for new housing policies.

Indigenous Housing Policies and Contexts

Although many housing policies have been implemented through the years, most authors argued that they have either failed or lacked consideration of Indigenous cultures and contexts. The federal government has continued to promote assimilation while focusing on short-term solutions and culturally unsuitable arrangements. Therefore, the need for developing a medium to long-term solution continues to increase (Habibis et al., 2019). From the 1930s to the present, the government records demonstrated that on-reserve housing policies failed nationally, resulting in communities suffering from living in substandard homes (Olsen, 2016).

In 1935, Canada's first official housing policy, the *Dominion Housing Act (DHA)*, was implemented (Olsen, 2016). This policy was a response to the overcrowding and housing degradation situations, seeking more affordable housing outcomes. Without seeing sufficient housing development, the federal government passed a second policy, the *National Housing Act (NHA)*, in 1938, which again sought to increase access to affordable housing and enhance building standards. None of these policies so far helped Indigenous populations and instead were focused on improving the housing conditions of non-Indigenous individuals in Canada. At that time, support to Indigenous communities was implemented either by using the band's funds or government welfare funds or by providing insufficient packages of low-quality building materials (Olsen, 2016).

The federal government separated the housing system in two from the 1940s to the 1960s with different arrangements provided to Indigenous and non-Indigenous populations. This system built homes for both Canadians and the Indigenous population, allegedly intending the settlement of both communities. The first system focused on creating jobs, wealth, and a stable economy for non-Indigenous people, while the second was centred on welfare distribution to communities living on reserves (Olsen, 2016). The separation of systems represented the different intentions and consequent contrasting housing outcomes that would be provided. This strategy failed the on-reserve system as the program provided different opportunities yet expected the same results of financial stability, wealth, and appropriate housing. The on-reserve system prevented their inhabitants from using their dwellings as a source of wealth like the non-Indigenous populations, establishing housing as a factor that would make on-reserve communities prevail in poor conditions (Olsen, 2016).

Wanting to achieve the same results as the non-Indigenous system, the Indigenous bands began to address their housing issues using their own capital and, later, with government payments that could not sustain their housing demand (Olsen, 2016). Observing the situation, the federal government decided to launch programs and policies that provided funding to increase Indigenous housing production, which focused merely on increasing the number of houses being built with no regard to the quality of the building materials. Their goal was to showcase the number of houses they were providing to the Indigenous as assistance and not to actually contribute and offer support to the housing situation. Such actions completely disregarded the social implications for those inhabitants and their future living conditions. Considering how the Indigenous housing issue had been spreading, the housing policies became selective, prioritizing the poorest members of the communities, which led to even more exclusion of those who were barely able to support themselves. From then on, housing policies became the leading factor responsible for the bad health, social, economic, and educational conditions in Indigenous communities (Olsen, 2016).

Later in the 1960s and 1970s, academics and professionals were assigned to find solutions to the on-reserve housing issue. Their idea was to transfer the housing assistance from the government funding by enabling off-reserve financial assistance (Olsen, 2016). Many of the responsibilities under the federal government were shifted to the Indian Department, which, despite not having any experience with housing management, became responsible for most of the administrative obligations. They were held accountable for their responsibilities with little authority to change policies. The frustrating, impotent feeling created by the academics' proposal resulted in a constant dispute between the bands' leaders and Indigenous communities (Olsen, 2016).

Afterward, the Social Housing Era began in 1978. This period was marked by the combination of on-reserve social housing and non-Indigenous housing and programs (Olsen, 2016). It was a significant turning point to include Indigenous communities in the social housing programs to minimize the differentiation in policies for Indigenous populations. They implemented loan programs that have lent mortgages to the bands instead of to each individual. Based on the bands' attempts to address housing issues since the 1960s, band leaders became overburdened with expensive mortgages and did not have enough money to pay for them. This program led most bands to suffer from extensive financial debt from the 1990s until today (Olsen, 2016).

Furthermore, in the 1980s, when the Conservative government was elected, the federal budget dedicated to Indigenous housing considerably decreased (Walker, 2008). The new authorities discontinued most of the social housing programs and announced that no additional housing units would be built (Walker, 2008). Since then, the decline of Indigenous housing conditions has been certain. The new government designed alternative housing programs that provided one-time subsidies to support Indigenous housing projects (Walker, 2008). However, this substitution of one-time injections of money rather than long-term funding assistance affected the durability of Indigenous housing. Due to these policies, Indigenous bands became obligated to decide between two urgent necessities. They had to determine how they could best benefit the community, either repairing and maintaining existing social housing units or building new ones (Walker, 2008).

Essentially, due to the development of several inadequate housing policies and insufficient funding established for Indigenous communities, their housing conditions have never improved at the same pace as non-Indigenous homes. The poor materials employed have caused

them to deteriorate quicker, leaving an imminent need for renovations. Based on the increasingly growing Indigenous population and current overcrowding conditions, there is also an immediate need for building more houses, while focusing on durability and cultural appropriateness. These substandard housing conditions have been explored in numerous research and reports over time, but have not received due attention (Anderson & Collins, 2014; Beavis et al., 1997; Christensen, 2017; Indigenous and Northern Affairs Canada, 2017; Habibis et al., 2019; Kyser, 2012; Larcombe et al., 2011; Lgui, 2019; Minich et al., 2011; Minnery et al., 2000; Olsen, 2016; Royal Commission on Aboriginal Peoples, 1996a). Modifications in policies and housing outcomes also have not been implemented. Based on the data source and/or time, the extent of the Indigenous housing issues reported differs. Nevertheless, the demands for new homes, renovations, and culturally appropriate housing development are repeatedly reported, demonstrating the need for advocacy and practical changes in Indigenous housing in Canada.

Although this chapter only outlined some of the federal government policies, it presented several measures that have impacted Indigenous lives and living conditions through the years. After all these erroneous policies, various authors such as Habibis et al. (2019), Kyser (2012), Olsen (2016), and Walker (2008) have claimed a new way of thinking about Indigenous housing. Academia now demands more than a shelter, but a house that these communities can relate to; a place that feels like home that enhances their personalities and beliefs. Recent research projects defend a program that repudiates the previous policies and recommends a design supporting Indigenous self-determination. The goal is to finally provide the same opportunities to the Indigenous as the non-Indigenous population has had since the colonization. In addition, researchers recommend an inclusive and completely new redesign that represents Indigenous cultures.

In summary, this chapter explored Indigenous histories and attempted to uncover strategies that properly respect all these communities have been put through. It is believed that only by looking at the past one can accurately understand the present and envision the future. Only by this analysis was it possible to at understand at least partially what Indigenous people have been experiencing: to perceive the world through their eyes and augment their homes.

Swan River History and Culture

Acknowledging that each community experienced colonialism, battle for territories, and cultural assimilation challenges differently, this section investigated the experience of the Swan River First Nation throughout history in terms of culture and territories and their relationship with the federal government.

The Swan River Nation is situated on the Lesser Slave Lake's south-central shore (Swan River First Nation, 2016b). Based on the lake's name, there were discussions in the community about the early inhabitants of the area. It was suggested that the name of the lake represents these inhabitants as the Slavey people or the Dene today who are living in other locations of Alberta. It could also be related to the Cree word for slave "hya-tche-nu", or it could even be a misunderstanding of the "hua-tsai-see-nu", which means "unknown people", and could refer to the Beaver, Slavey, Blackfoot, or any unfamiliar Cree groups (Swan River First Nation, 2016b). Regardless of the actual first inhabitants, speculations state that the Swan River community did not always inhabited the area.

Since the beginning of the fur trade in 1799, the area around the Lesser Slave Lake was marked by the construction of a Northwest Company (NWC) post. Subsequently, another NWC post was built on the shore of the Lesser Slave Lake in 1802. Followed by these constructions, the Hudson's Bay Company (HBC) built two new posts, one on the east end of the Lesser Slave

Lake and another between the Athabasca River and Lesser Slave Lake. Between 1790 and 1821, the fur trade caused the invasion of the Lesser Slave Lake area to Metis, Assiniboine, Iroquois, Ojibwa, and Cree people. Followed by the NWC and HBC competition, hunting practices intensified, increasing the pressure on fur animals (Swan River First Nation, 2016b).

In 1846, the first Catholic mission was sent to the area with Father Tache. Since then, many religious leaders would be sent to the Lesser Slave Lake to seek the assimilation of communities in the area, influencing Indigenous people to settle, farm, and send their children to residential schools while their parents were away. Around the 1880s, the federal government promoted non-Indigenous settlements in fertile locations and encouraged Indigenous communities to accept Treaties. Before establishing permanent farming communities, settlements at the Lesser Slave Lake mainly were used as summer homes wherein families would stay during trapping and hunting camps (Swan River First Nation, 2016b). The Swan River would usually establish small settlements at Wahpah and Assineau River among other communities. Based on their ways of living, although Indigenous populations had been sharing their lands, they were unsure about signing the treaties as non-Indigenous individuals had been quickly depleting resources and disrupting their environment.

During the discussions and reflections before signing the Treaty, First Nations in the Lesser Slave Lake voiced their concerns about not wanting to live on reserves, feeling apprehension of being restricted by the government (Swan River First Nation, 2018). Within a short time of discussing their apprehension, Europeans started arriving on these lands, creating a disturbance to Indigenous ways of living. Some communities decided to move to areas that Europeans were unlikely to inhabit, while others demanded the creation of reserves. Despite their initial reluctance and after the non-Indigenous occupied their lands, the reserves began to

represent a home base for the Swan Lake Nation in which natural resources would remain intact, protecting their interests. In 1890, the majority of the Cree of Lesser Slave Lake decided in favor of signing the Treaty, and, in 1899, Treaty 8 was signed (Swan River First Nation, 2016b).

Although it is claimed that most Elders accepted to surrender their land as part of Treaty 8, historians explained that documentation suggests that treaty commissioners did not explain the implications of surrendering land, rights, and privileges (Government of Canada, 2009; Price, 1999). The declaration of the anthropologist, Dr. June, discusses the disregard for Indigenous communities and the consequences of improper explanations during negotiations of Treaty 8.

How could anybody put in the Athapaskan language through a Métis interpreter to monolingual Athapaskan hearers the concept of relinquishing ownership of land, I don't know, of people who have never conceived of a bounded property which can be transferred from one group to another. I don't know how they would be able to comprehend the import translated from English into a language that does not have those concepts, and certainly in any sense that Anglo-Saxon jurisprudence would understand. So this is an anthropological opinion and it has continued to puzzle me how any of them could possibly have understood this. I don't think they could have. That is my judgement (Government of Canada, 2009, p. 47).

Additionally, the community's statements suggested that it was not the federal government's intention to assign permanent lands to Indigenous communities as it was specified in treaty negotiations (Swan River First Nation, 2018). When non-Indigenous took an interest in a certain area, the Indian Affairs department was charged to facilitate the sale of reserve lands. The sale was allowed by the Indian Act, which was repeatedly amended to facilitate their interests. This process was used on several prairie communities, establishing a pattern of the non-

Indigenous seeking their own well-being while disregarding proper explanations or their promises to Indigenous communities. They used to justify these sales by arguing that some areas of the prairies were not being used to their full potential, claiming that unfarmable land was "idle", and farming lands were a "proper" use of the land. When these sales were completed, the balance was partially paid off in the band's account, followed by the promise of annual payments that were eventually never received by the communities (Swan River First Nation, 2018).

Although several reserves were sold following this pattern, the Swan River reserve survived several attempts by the government to try to sell their land for 15 years (Swan River First Nation, 2018). By 1923, with a population of 66, the community had a land of approximately 11,500 acres. Although some of their lands were suitable for farming, the Swan River Nations lived by trapping, hunting, and selling hay and firewood. Subsequently, when the railway crossed their reserve, a station was constructed on land purchased from the Swan River Nation, and in that location, the village of Kinuso was built surrounded by the reserve (Swan River First Nation, 2018).

Nevertheless, the formation of the Swan River First Nation reserves involved two areas, 150E and 150F (Swan River First Nation, 2016b). On December 18, 1922, 150F reserve land was put aside for the community. The 150E reserve land followed on April 4, 1925 (Swan River First Nation, 2018). Some individuals preferred to stay in the area of the reserve 150E, which was larger, while others preferred to stay closer to their fishing grounds and remained at Assineau River (Swan River First Nation, 2018). These different interests resulted in the two reserves locations of the Swan River First Nation community.

Acknowledging some of the historical contexts of the Swan River Nation, it is also essential to understand a few cultural aspects that may influence their ways of living and

concepts of cultural appropriateness today. Accordingly, this section sought comprehension of the Swan River community's customs and ways of living before the arrival of Europeans on their lands. Based on anthropological studies, the Swan River Nation is a Woodland Cree community, which used to be divided into groups (Swan River First Nation, 2016b). A smaller group stayed together during the fall, winter, and spring. The local band is the next largest group that consisted of 10-30 people in related families. The regional band was a larger group that included a series of local bands. Each of these groups had particular roles in the community. For instance, the regional band used to get together in the summer to socialize, reinforce family ties, and plan for winter. During the fall, groups went separate ways for their hunting locations and hunted moose, elk, and woodland caribou between September to October. From November to December, they used to practice trapping, and from January to February, they used to enjoy their time together practicing storytelling. During spring, on their way back, woodland caribou were hunted again, and, in the summer, the community would gather (Swan River First Nation, 2016b).

Essentially, their community's ways of living were very different from the settler's customs. While Europeans were used to establishing settlements in particular locations for farming, the Swan River community preferred to travel and seek important resources such as moose, woodland caribou, elk, woodland bison, whitetail deer, bear, hare, beaver, woodchuck, muskrat, porcupine, squirrel as well as whitefish, lake trout, pickerel, and pike (Swan River First Nation, 2016b). Despite the series of assimilation practices that have involved Indigenous populations and movements of communities to particular lands, the community is continuously making efforts to decolonize and restore their ways of living.

The concept of decolonization was part of the literature review to understand the community's endeavor to seek to practice their culture without Western impositions. According to the community's outlook, being Indigenous consists of five aspects:

1. It is about understanding the value of the land that provides everything for the communities.
2. It is also about using their language and understanding its value in terms of culture and self-determination ("*language is power*," Swan River First Nation, 2017, Being Indigenous section).
3. Being Indigenous is about living freely ("*freedom is on the other side of fear*," Swan River First Nation, 2017, Being Indigenous section).
4. It is about taking action to change things and win small battles to achieve the ultimate goal ("*change happens one warrior at a time*," Swan River First Nation, 2017, Being Indigenous section).
5. Being Indigenous is also about decolonizing their diet by hunting, fishing, trapping, and gathering, and going back to their ways of living and being (Swan River First Nation, 2017, Being Indigenous section). Being Indigenous is about being healthy, living within their community, doing right by them and by the land and Mother Nature.

Fundamentally, this chapter was essential to establish a preliminary knowledge of the historical and cultural contexts of the Indigenous communities in Canada and the Swan River Nation within their reserve based on their experiences with the federal government. Only by understanding their history and being aware of their situation is it possible to acknowledge the challenges that are faced within their housing and families. Studying the history of colonization and its impacts on policies and housing outcomes, followed by an overview of the Swan River

historical and cultural context, providing a deeper understanding of the impacts of colonization on the lack of quality and cultural inappropriateness of the housing in the community. This chapter established the need to seek decolonization practices in this study and allowed for an understanding of the origin of negative patterns seen in community housing and the impacts on Indigenous social welfare. Finally, this chapter served to ground the theoretical and contextual understanding required to connect with Indigenous communities, as discussed in the next step of this study.

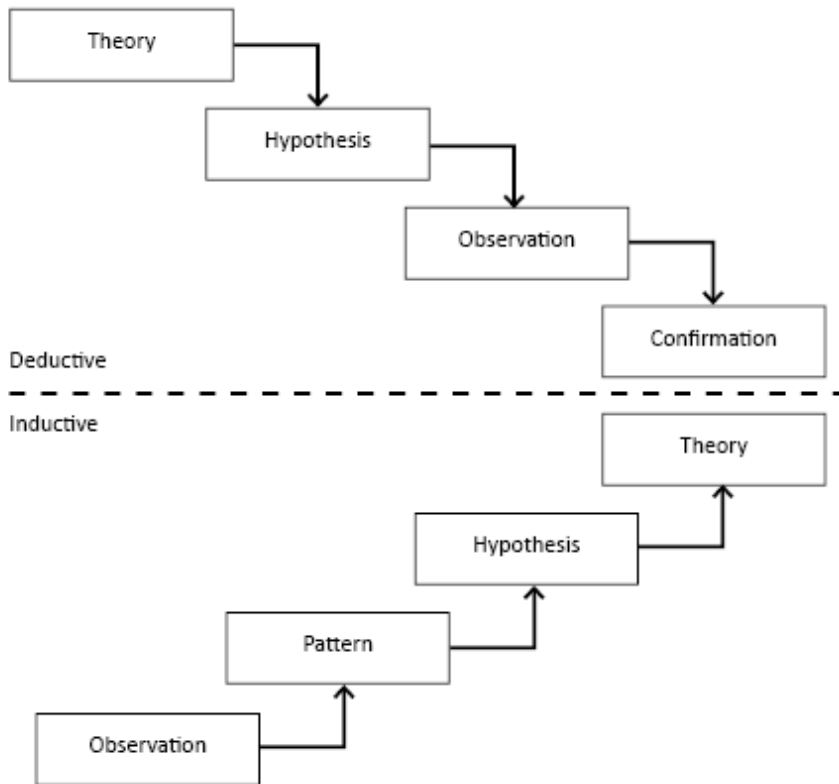
Chapter 3: Connecting with Indigenous Communities

After reviewing the literature, the current substandard conditions of Indigenous housing in Canada was established. It was determined that there was a need for reconciliation, and means of dismantling colonial systems were investigated. The investigator incorporated Indigenous ways of doing research and discussed potential research projects with Indigenous communities in Canada. By acknowledging the impacts of colonization, the effects of insufficient funding policies, and, consequently, inappropriate housing, the importance of connecting with Indigenous communities was recognized. This contact was crucial to establishing partnerships, determining the scope of the research, and identifying the architectural researchers' roles in the research process to benefit Indigenous communities properly.

This study sought to establish a relationship with Indigenous communities prior to developing hypotheses and theories. This would require an inductive approach to conducting research. Professor Trochim (n.d., see figure 1), in his research methods course, stated that deductive reasoning operates from the broadest to the narrowest ideas. In other words, it begins with the theory that gives rise to a hypothesis, which is later observed and confirmed. On the other hand, inductive reasoning works the other way. It begins with an observed fact, then patterns are determined, ultimately resulting in the conceptualization of a hypothesis and a theory.

Figure 1

Deductive and Inductive Reasoning Diagram



Note. Adapted from Trochim (n.d.).

While this study began with a series of assumptions and a theory in mind, it was soon realized that the determination of the scope, the culturally appropriate concepts, and the communities' needs should not be dictated by the author. Instead, the researcher followed an inductive reasoning approach by connecting with several Indigenous communities in Alberta to hear their concerns and establish a partnership with one of the interested communities. This chapter described the investigator's path in selecting Indigenous communities to contact. It also explained the engagement process and the determination of the scope of the research with a community leader. Finally, this chapter provided details about the interview and the development of questions for the focus group, and methods for data analysis. The clarification of the steps

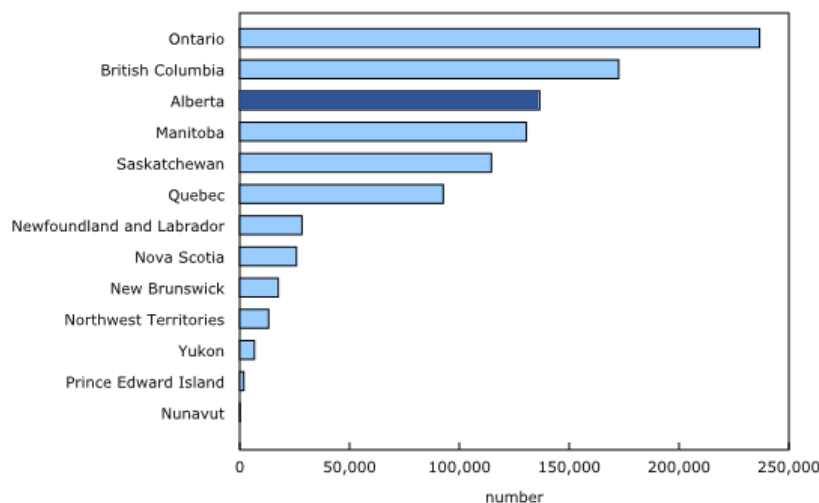
taken in the engagement phase is shared in this chapter to help future researchers to have a more linear path when conducting research involving Indigenous people. This chapter also provided a guide on how researchers can protect communities from harm and uninformed conversation with future investigators of similar topics.

Connecting with Indigenous Communities in Alberta

It was decided that a partnership should be established with a single Indigenous community interested in taking part in the study to share their concerns and preferences for current and future housing. This decision was based on the community-based approach studied and employed in this research, and to avoid pan-Indigenity. Canada has an Indigenous population of approximately 1,670,000 people. This population is diverse and growing, accounting for 4.9 percent of Canada's total population (Government Of Canada, 2017). Alberta alone covers the area of three treaties and accounts for the third-largest First Nation population in Canada, followed only by Ontario and British Columbia, as seen in Figure 2. According to the Government Of Canada (2017), in its last statistics report, Alberta accounts for 136,585 Indigenous people and has been home to Indigenous people for at least 12,000 years (Berry, 2004).

Figure 2

First Nations Population by Provinces and Territories in Canada



Note. Adapted from (Statistics Canada (2019, chart 2).

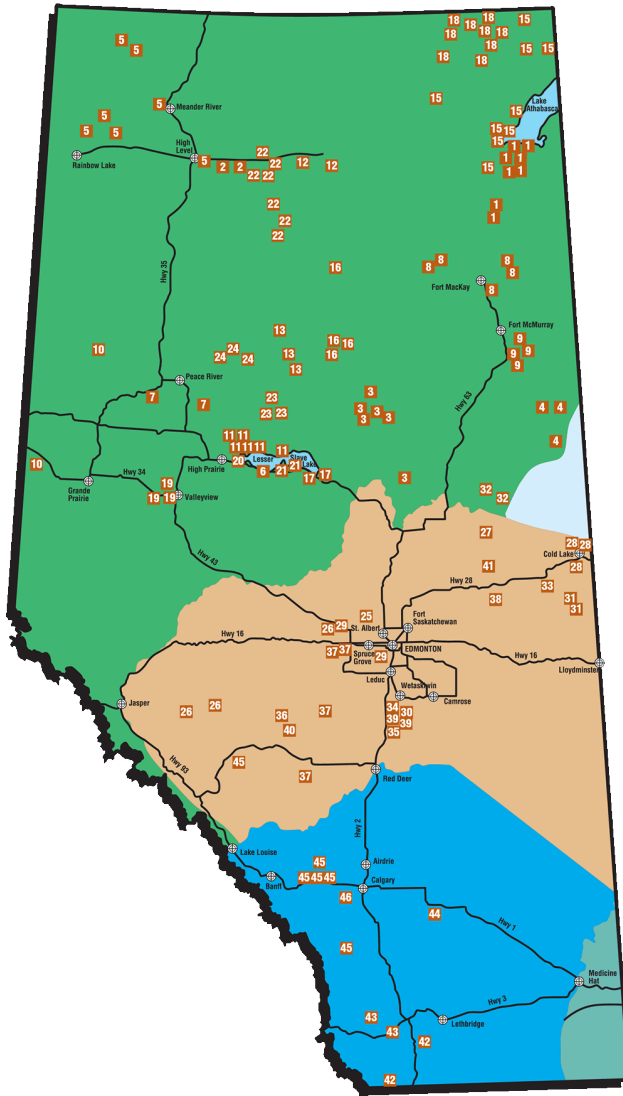
It was determined that it was best to primarily contact Indigenous communities in Alberta. The large Indigenous population in the province and the reasonable proximity of Indigenous communities to the University would make it more feasible for the researcher to visit a reserve in person, once COVID-19 safety protocols allow, and build relationships more closely. Acknowledging the diversity and complexity of Indigenous histories and cultures, the researcher noted that it would be difficult to establish meaningful relationships with several communities due to the limited time for research. Accordingly, it was decided to follow up with a single community depending on their interest to engage in the study.

Based on the large area covered by the province, Alberta’s territories include the area of three treaties. These are Treaty 8 (with 24 Alberta First Nations), Treaty 7 (with 5 Alberta First Nations), and Treaty 6 (with 16 Alberta First Nations), as seen in Figure 3 (Aboriginal Affairs and Northern Development Canada, 2008). In general, Alberta contains 48 First Nations with a total population of 131,378 and 8 Métis Settlements with a total population of 5,632 (Alberta

Government, 2021). Alberta is among the provinces with the most need for Indigenous housing adjustments based on adequacy and suitability, as represented by Figure 4. The province has reported a high incidence of Indigenous housing needs, confirming the lack of adequacy and appropriate building standards for years (Wali, 2019). Canada Mortgage and Housing Corporation (CMHC) has reported the need to establish partnerships with First Nation communities to seek appropriate implementation of further housing policies with actual capacity development to address their current needs (Wali, 2019).

Figure 3

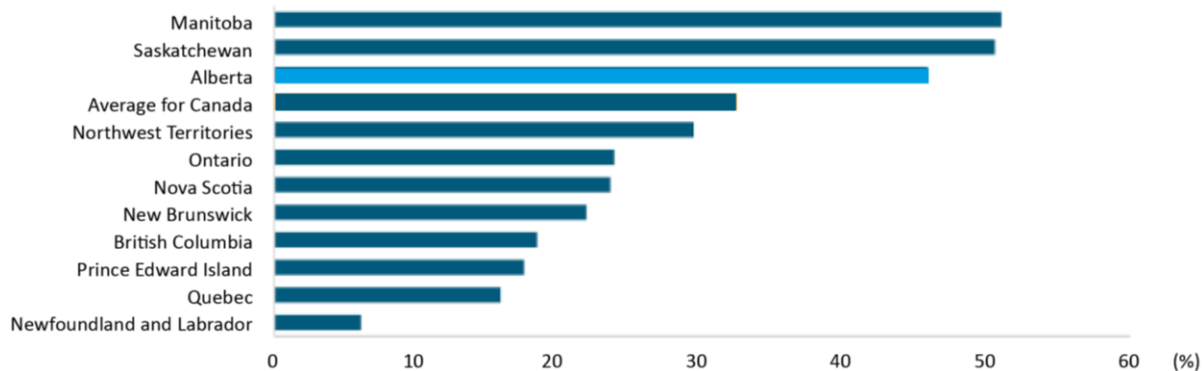
Alberta First Nations Map



Note. From Aboriginal Affairs and Northern Development Canada (2008).

Figure 4

On-Reserve Aboriginal Households in Adequacy and Suitability Based Housing Need by Province and Territory



Note. Adapted from Lgui (2019, p. 2)

The reported housing needs of the Indigenous and their extensive population within the province of Alberta provide reasonable grounds for implementing a relevant feasibility study for a better understanding of improving cultural adequacy in Indigenous communities. In addition to the numerous communities present in the province, Figure 3 also represents the consequent diversity of historical and cultural backgrounds of the 48 different First Nation communities within the province of Alberta. The diversity of Indigenous communities emphasized the need for a devoted study of a singular community with a particular history, cultural specificities, and housing preferences.

Amongst the 48 Indigenous communities in the province of Alberta, a total of 42 were contacted by e-mail. In this first contact, they were provided with a general overview of the intention of the research and inquired about the communities' interest in sharing any insights on their housing situation. During this phase, the purpose of the research was to establish their needs and their role in guiding the research and learn about the ways in which this study could benefit

their communities. From these 42 contacts, five responded with interest in connecting further with the researcher. The low response rate (approximately 12%) represented the difficulty of establishing contact with a community without any prior connections with representatives due to the numerous challenging experiences these communities have had with past researchers.

From the five communities that responded, four community representatives continued to follow up. They agreed to book phone conversations with the researcher to discuss their concerns and possible scope of research. The phone conversation focused on identifying baseline information on the community's housing issues and preferences in topics to be further discussed for future design. From these four conversations, one community, the Swan River Nation, decided to continue with the project and establish a relationship and partnership with the researcher to explain further the community's concerns and interests in terms of housing.

Engaging with a Community Representative

After establishing the first contact with the community representative from Swan River Nation, the researcher ensured the use of a community-based approach in all communications. The investigator began engaging with the community representative 8 months in advance, intending to develop a study that would benefit the involved community. The relationship-building was complex and continuous, and it comprised several milestones. First communications were conducted through e-mail and phone, followed by conversations through Zoom and e-mail to discuss the scope of the project and the appropriate means to collect and store data safely. Finally, the tobacco offer to the community leader was held as an invitation to the partnership with the University.

During the first over-the-phone conversation with the community representative, he shared some of the community's concerns regarding housing, policies, and discrimination.

Subsequently, based on Ownership, Control, Access, and Possession (OCAP) principles, the researcher went back to the community representative to determine the scope of the research and adequately represent their needs and interests. Seeking the input of Indigenous peoples from the beginning of research is crucial. The Royal Commission on Aboriginal Peoples (1996b) highlighted the instances wherein Indigenous peoples were not consulted regarding what information should be collected, which resulted in data gathered that may or may not have been relevant to indigenous communities' issues, priorities, and concerns.

To avoid such issues, the researcher connected with the community representative throughout the entire process and ensured that the individual was someone who knew the community history and general housing situation. Contact with an appropriate individual is crucial as it defines the foundations of the relationship with the community. The information provided should come from knowledgeable community members in terms of culture and their housing situation and policies, since engagement and acceptance by community members of lower ranks could have resulted in research being hindered by their supervisors (Glesne, 2011). Secondly, to develop a study that is useful for the community, the representative should understand their needs and determine the research based on their preferences.

Subsequently, the researcher and the community representative shared their perspectives and suggestions for the project's scope for several months until both had determined a research topic that was feasible for the researcher to conduct and was in line with the community's preferences and interests. The literature review served to partially understand their culture and raise questions about their housing conditions and how culturally appropriate housing could be defined. By connecting with the community representative before committing to a research topic,

this study gave the community control of the research process of determining the research topic and the method for collecting and storing data.

The researcher's role was to be the bridge between the community's interests and the possible housing design outcomes based on their needs. In these conversations, the community representative determined the scope of the research based on his knowledge of the most current and challenging housing issues faced by the Swan River Nation. According to the representative, the study could address the topics of cultural appropriateness, connection with green building technologies, and prefabrication/modularity. The community representative demonstrated his experience and interest in the strengthening of Swan River culture, the implementation of photovoltaic (PV) panels, and the building of several prefabricated homes within the community. Aside from these topics, discussions regarding the durability of their housing and seeking reflections to improve their housing conditions were the main issues affecting the Swan River Nation. Essentially, the lack of durability and consequent substandard housing conditions were imminent needs in the community. Accordingly, these subjects should be written and advocated for to get the due attention and increase the chances of government visibility in a small community with long-standing funding challenges.

Once the scope of the research was determined, it was time to discuss appropriate means of data collection. Based on the literature review and OCAP, it was acknowledged that this study should follow cultural protocols, values, and behaviors as part of its methodology (Smith, 2012). By developing research *with* the community and disseminating results back to them in a culturally appropriate manner, the study can accurately represent and benefit the community involved. With that in mind, it was noticed that reflections on their housing could not be answered through quantitative means and should involve engagement and discussions with the

community. It was determined that quantitative methods would not be adequate since their housing issues would not be a matter of counting numbers and expressions. What was crucial was to evaluate the community's feeling about living in an appropriate home or perceiving that the homes in their reserve are sufficient, leading to the decision of collecting information through an interview and a focus group session.

Based on the idea of the community-based approach, the principle of reciprocity was found to be essential to ensuring that the community who participated in the research process will benefit. Reciprocity encourages the practice of engaging with the community and sharing knowledge to be a long-term commitment (Smith, 2012). Consequently, researchers involved in this work should not hand out reports that are never to be seen again. To share the community's stories and practices is an act of trust and should be devoted care. Accordingly, the investigator has worked in decolonizing methods and has engaged in a long-term relationship with the community involved, including past the point of publication and results sharing. The partnership with the community extends itself to the larger project this thesis is a part of, and the relationship will continue to be established to seek better housing conditions for the Swan River Nation.

After establishing the relationship for a reasonable period and collaboratively determining the scope of the study and means of data collection and storage, the researcher established contact with the community representative to make an offer of tobacco. As learned in one Honoraria and Gifting workshop provided by the University, this tradition was revealed to be appropriate when seeking aid from an Indigenous Elder or knowledge keeper. This offering is a tradition of giving tobacco in the form of a tobacco tie and respectfully asking for help. When the knowledge keeper accepts the offer, they are pledging to listen openly and without prejudice to help as best as they can. Hence, when the community representative accepted the tobacco offer,

it was implied that we would both do our bests to work together in this collaborative work with the Swan River First Nation.

The First Individual Session

After establishing the scope of the research and building a relationship with the community representative, the first individual session was organized over the phone. As the research was conducted during the years affected by COVID-19, the contact with the community was initially limited to phone conversations and Zoom meetings. This first conversation was not recorded, but the researcher was allowed to take written notes to refer to the knowledge provided. The handwritten approach was considered a less obtrusive method for a first meeting, allowing the researcher to integrate better with the community representative. Accordingly, the notes were analyzed through reading, searching for patterns or themes, reviewing, defining, and writing conclusions about each theme. This talk focused on identifying baseline information on the community's housing issues and preferences for future design. It was an unstructured interview wherein the community representative expressed their concerns regarding the houses available in their community and provided a general overview of the housing conditions. This strategy provided an opportunity for an open conversation in which the community representative could express what the community needed and preferred without outside intervention and pre-determined questions. The conversation was rather organic and determined by the Swan River member, aiming at engaging for a more beneficial research and relationship.

In summary, this first session was essential to understanding the general problems faced by the Swan River Nation in terms of housing. This unstructured interview allowed the researcher to take the role of a listener, and the representative carried on the conversation according to the themes he judged to be important and appropriate for the community. The

community then guided this process, and the researcher acted as a facilitator in understanding steps for improvement of houses and opportunities for reconciliation. The themes raised by the representative are summarized in Table 1 and followed by comments and the researcher’s

Table 1

Summary of Community’s Comments and Researcher’s Interpretations

Themes	Representative comments	Researcher’s conclusions
The community depends on social housing Insufficient funding	Due to colonization (implied). No expectations in terms of funding.	Need more funding for better quality houses. The government needs to take responsibility for reserve conditions. Correlated with substandard housing.
Substandard housing conditions: - Structures and appliances freezing up; - Temperature changes; - Moisture and mold.	Would prefer to spend more on planning and construction. Build with better materials.	Correlated with insufficient funding. Need more appropriate insulation and building with durable materials.
“Make more with a lot less”	Forced to build low-quality homes to supply demand for houses.	Difficult choice between more houses or better quality.
No homelessness*	There is a shelter for all the families.	Low funding may cause overcrowding. Cultural traditions prevent homelessness*. Overcrowding leads to further deterioration of houses.
Cultural Inappropriateness	Unaware of how a culturally appropriate design should be. Suggests connection to housing committee for further input. Had a few suggestions himself discussed in Chapters four to seven.	Designed by Western Culture without any cultural consultation. Crucial to ask for the community's inputs.
Sustainability	Cause least impact possible on the land.	Green buildings design can minimize the impact of the land and align with the culture's beliefs.
Prefabrication	Bad experience with container homes. Not against prefabrication. Interested in structured insulated panels (SIPs).	Hesitant about big modules, exploring prefabricated panels and modularity. Attention to durability.
Mobility	Not interested in mobile homes. Want to be able to “spread”.	Concerned about density.

Note. *Homelessness in this context is referred to as the lack of housing. However, in Indigenous cultures, homelessness may refer to the spiritual sense of “disbelonging” as Christensen (2017)

discussed, which refers to the absence of a sense of place or a sense of home. Additionally, it may refer to Indigenous relationships to a certain portion of land inhabited by their communities for generations. The concept of homelessness may also indicate the lack of a desired relationship to a significant place for the culture. This is related to the consequences of colonization, intergenerational trauma, and sociocultural change (Christensen, 2013).

As demonstrated above, this interview revealed a series of issues faced by the Swan River Nation. The community representative had a few suggestions regarding means to address some of the challenges in the community to seek a more culturally appropriate design for their homes and more durable constructions. The topics raised in this interview revealed the need for two other steps: a visit to the community to see the housing conditions and connect with the housing committee that could speak on behalf of the community about their houses, as suggested by the representative. Both steps were pursued accordingly. A series of questions were developed based on the topics raised in the interview. A site visit and a focus group session with the housing committee of the community were organized.

The Housing Committee

According to the Swan River Housing Policy, the housing committee is a group of individuals accountable to the community members for decisions made about housing programs on the reserves (Swan River First Nation, 2014). Among the members of this committee, there are Elders, experts in construction and maintenance of the community houses, and individuals familiar with the history of the community who are interested in seeking better housing solutions and advocating for their rights. The members of this committee are constantly involved and informed about the housing issues in the community. They are approachable individuals with whom other members express their concerns, submit housing applications, and explain their

housing situations. The committee, along with the Infrastructure Director and Chief and Council, prepare an annual report summarizing activities and achievements of the housing program in the community (Swan River First Nation, 2014). They are responsible for supervising and managing any partnerships, contractor and sub-contractor arrangements concerning the housing program, and the allocation of homes in the community (Swan River First Nation, 2014).

In summary, these individuals are the knowledgeable members in terms of community housing, and their expertise was valuable during this research. As was recommended by the community leader, this group was chosen to represent the interests of the community in the research due to their awareness of the housing situation of each family within the community and their knowledge about any fundings provided, government and band requirements, and previous relationships with external stakeholders. The connection with the group was established through a focus group session, and the questions were recommended and first analyzed by the community representative.

Development of Questions for Focus Group

Initially, a survey was developed to explore community housing issues and related topics. The idea was to connect with a variety of members of the reserve to get their opinions on improvements in housing. However, in a conversation with the community representative, it was decided that it would be more appropriate to have a conversation with the housing committee. The housing committee are the people who are knowledgeable about the housing issues that are faced by the community in general and are also vocal and engaged in these subjects. Therefore, they are people in the community who have been given the role to represent the opinions and interests of the community and connecting with external partners to advocate for the necessary housing improvements in the community. Considering that the Swan River is a small community

and the housing committee is a small group of five members, the focus group session was a more suitable means data collection method than the survey, which would require a larger and more diverse sample.

Additionally, because Indigenous communities have been through a series of research projects, there are a few preconceptions about some methodologies. For instance, surveys are known to be used by researchers who tend to avoid contact with the community and are primarily interested in the research results. Since this study involved people's opinions and perceptions, employing a qualitative method that considered people's emotions, assessments, and ideas about each topic was more appropriate. Lastly, considering the usefulness of the data collected, it would be more beneficial for the researcher and the community to have information gathered in a setting where members could exchange opinions and ideas while having a critical conversation. Due to the aforementioned reasons, the survey questions were then adapted to focus group questions to guide a semi-structured discussion about housing challenges and possible interests in improvements.

Finally, based on previous conversations with the community representative, months of engagement with the community, and ethics reviews of the study, the researcher established a series of questions designed to achieve research results that could benefit the community. These questions were set per the research scope determined by the community representative and aimed at participants describing their opinions, desires, and experiences with their housing. Therefore, these were not knowledge questions and did not give an impression of "being tested." The researcher took on the role of the learner seeking answers, preventing participants from being put in a position of feeling embarrassed or unprepared for not knowing the answer to one of the researcher's questions. The community representative reviewed the questions prepared for this

focus group session before it was shared with the housing committee for the group session. The questions are presented below in Table 2, subdivided into four topics: housing design, sustainability/low impact, durability/mobility, and closing questions. The community representative raised these topics in the first interview, who also recommended further input from the housing committee regarding these topics.

Table 2

Questions Developed for Focus Group Session According to Community Leader

Recommendations

<p>Housing Design Questions:</p> <ol style="list-style-type: none"> 1. Considering your lifestyle, routine, and cultural priorities, can you comment on which interior and exterior spaces in your house are the most important and least important for you? 2. Do you have any suggestions on how these spaces should be changed? This could refer to the number of rooms, how big or small the rooms are, the privacy, the appropriateness of the spaces to socialize, etc. 3. Are there any spaces that need more connection to the natural environment? Are there any spaces that should be more open or enclosed? Are there any spaces that could have a different shape?
<p>Sustainability/Low Impact:</p> <ol style="list-style-type: none"> 4. Are you concerned with the impact of the houses on reserve on the land? Would you have any ideas on how to minimize this impact? 5. Have you considered renewable energy sources in your community? Would you consider these technologies as an opportunity to be more independent from national grids?
<p>Durability/Mobility:</p> <ol style="list-style-type: none"> 6. What parts of the houses on your reserve are wearing out prematurely? 7. Have you had any experience with prefabrication? If so, which were beneficial; which were not, and why? 8. Would the possibility of moving a house from one place to another benefit your community?
<p>Closing Questions:</p> <ol style="list-style-type: none"> 9. Do you have any other thoughts that you would like to share about housing conditions or preferences in your community?

Categorizing the interview questions into topics ensured that all subjects (i.e., housing design, sustainability/low impact, and durability/mobility) would be covered during the focus group discussion. It is important to note that a semi-structured format for focus group discussion was used, allowing the researcher and the participants to stray from the established questions if judged to be appropriate. This approach enables a more natural conversation and builds trust between the researcher and participants. The participants were not only free to decide which questions they wanted to answer but could also determine which questions could contribute positively to the research and the community. Consequently, the questions asked did not match exactly the ones presented above.

The order of asking questions were also arranged to establish trust. The researcher withheld more sensitive topics until the end of the discussion. By doing so, the researcher could analyze the general mood of the participants to determine if these topics should be broached during the discussion. Thus, the first questions asked were easier, usually introductory, and based on housing design. Then, questions about sustainability and low impact, topics known to be important for the community, were the second category to be addressed. Finally, mobility and durability, polemic topics that could distract focus group participants, were the third topic of the conversation. This ordering of questions allowed participants to take their time to respond based on their preferences and need to express frustration. To finalize, the closing question were asked as an opportunity to double-check that all their opinions were listened to and that there were no additional comments interrupted at some point during the session or questions the researcher did not ask. Once the questions were decided and written, they were sent to the community representative to verify their appropriateness and confirm that they would benefit the community. The questions were only taken to the focus group discussion after Council approval.

A Visit to the Site

It was noted that there is a need to develop a deeper understanding of the community's perspectives after the session with the community representative and reading literature about the topic. According to Glesne (2011), the literature review is part of the process of preparing for going to the field and interviewing to acknowledge research assumptions, determine frameworks, methods, and become aware of practical limitations. Having engaged with the Swan River First Nation representative for months, the researcher was invited to visit the community and connect with members of the housing committee for a focus group session. During this day, the researcher visited the Swan River reserve to become aware of the general conditions of the houses in the community.

This visit was an important step towards the future interpretations of the research for a several reasons. First, observing the reserve made it possible for the researcher to understand references that were discussed by the housing committee participants during the focus group session. When one of them mentioned the location of the school or a few types of dwellings that the community had recently received and were under construction, the researcher would understand what the members were referring to. Secondly, the act of designing is directly correlated with the act of observing. To create a great community, it is important to be aware of what makes them succeed and what contributes to the challenges faced. Only by observing, the researcher is able to identify the positive and negative patterns and causes to contribute to the formation of healthy and thriving communities.

According to Glesne (2011), it is important to strengthen the researcher's experiential foundation, especially in studies involving other cultures. This is done by engaging with the community, refining interview questions based on the community's preferences, and reading

relevant literature on the field. Although the engagement was mostly done digitally due to safety measures during COVID-19, it was beneficial to visit the community, when considered safe, to better understand the housing challenges in the Swan River Nation. Essentially, each step of the research was spent amending and adjusting questions, cultural protocols, and methods to the following stage. For example, the scope of the research was altered after engaging with the community representative, which led to a more relevant interview, which led to the suggestion of visiting the community, which led to more relevant and accurate perceptions during the focus group session. Although this was not a long-term immersion in the field, it was a positive experience that expanded the researcher's knowledge of the housing situation in the Swan River Nation, provided cultural references, and augmented the descriptions of the community in this study.

This site visit was crucial for understanding of the community's general housing conditions and contextualizing the conversation with the housing committee. Additionally, observing the constructions around the reserve contributed to acquiring a better understanding of workarounds and presuming future preferences in terms of architectural design. Although the literature discloses the substandard conditions of Indigenous housing in Canada, no specific publications are pointing out these conditions, particularly in the Swan River Nation, nor the reasons and preferences for improvements. Accordingly, this site visit revealed that their housing was in substandard conditions. However, the substandard conditions were not limited to housing but were also noted in commercial buildings, as represented in Figure 5.

Figure 5*Substandard Commercial Areas in the Swan River Nation*

The majority of the houses in better conditions were non-prefabricated, wood-frame homes, as represented in Figure 6. However, these houses did not seem to accommodate large families of around ten members. These observations allowed the researcher to understand the community's preferences regarding housing based on their experience and affirm the origin of overcrowding issues in the community.

Figure 6

Non-Prefabricated House in the Swan River Nation.



The non-prefabricated homes found in reasonable condition based on their exterior were older than the recently purchased prefabricated ones represented in Figure 7. Accordingly, there were also examples of substandard non-prefabricated homes, as represented in Figure 8. This observation raised questions about the durability of the housing methods used in the community, and these were later discussed in the focus group meeting (presented in Chapters four to seven). This site visit only allowed an exterior observation of the homes to be used as a future reference during the focus group session to discuss the topics of overcrowding and housing conditions. The researcher could not identify any housing interior issues during this visit since that would involve entering people's homes during a sensitive period of the pandemic wherein not all members of the committee, nor the community were vaccinated.

Figure 7

Prefabricated House in the Swan River Nation.

**Figure 8**

Damaged Non-Prefabricated House in the Swan River Nation.



There was also one section of homes on the reserve that was to be used by senior citizens, as presented in Figure 9. These homes were smaller, possibly not allowing large family reunions, and had multiple steps at the entrance, preventing accessibility depending on the senior's physical limitations.

Figure 9

A Portion of the Reserve for Senior Citizens in the Swan River Nation



After the site visit and the acknowledgment of general housing conditions and types and understanding of the community's landmark references, such as the location of the school and the community's main roads, the researchers proceeded to the focus group meeting with the housing committee members.

Focus Group Investigation

The focus groups meeting took place on the Swan River Nation reserve. It was planned at the convenience of the community in terms of location and time. In contrast with the individual interview, the focus group meeting brought together different people and personalities. This exchange of alternative perspectives was valuable to understanding the variety of housing options available in the community and how individual experiences molded a general outlook. As pointed out by Glesne (2011), group interviews are ideal for research that intends to advocate for the action of a third party as this approach allows the expression of multiple perspectives and or similar experiences about a topic. Each member of the housing committee was able to point out different issues according to their own experiences or testimonies of family members and

friends. Sometimes members would agree with each other, demonstrating a broader issue, and sometimes members would have different opinions indicating particular experiences.

Based on the experience of interviewing the community representative, it was learned that the researcher could add a therapeutic dimension to the discussion. For instance, when the interviewee provided information that could be better elaborated, the researcher would ask to know more about the topic. The interviewee's experience was placed at the center (Glesne, 2011). Probes were patient, and explanations were deep and therapeutic for all participants. The time, effort, and collaboration of participants were appreciated. At the end of the focus group, the researcher's expression of gratitude was made by giving a culturally appropriate gift. Each member of the housing committee, the ones present and the ones who were more comfortable resuming the meeting later through video received mugs produced by the Tsuu T'ina Nation in Treaty 7.

Regarding selection of study participants, the reasons for developing a relationship with the Swan River First Nation as per their choice of who to trust in their history and culture had been established. The selection within the community itself was done purposefully. It is common in interpretative approaches to select participants deliberately and logically as it may lead to the richness of information. This strategy is beneficial in cases that deal with one central topic to the purpose of the research (Patton, 2002). This was the case in this study that aimed to understand the means for improving housing in the Swan River community. Accordingly, the community leader selected the housing committee about their houses to speak on behalf of the Nation. As previously explained, this group of people were individuals who were familiar and knowledgeable about the topic of housing and could speak up for the rest of the community. The purpose of study was to gain a preliminary understanding of the general issues of the houses in

the community. After this understanding was established, further research could delineate other criteria to work with a broader spectrum of participants if judged appropriate by the community leader.

The discussion between this group of participants was not limited to a group interview in which each person would answer the same questions. Instead, it was an organic conversation wherein issues and numerous perspectives were discussed and raised regarding the housing in the community based on their individual experiences and exchange of ideas. The meeting was scheduled for one hour but lasted for two hours per the respondents' decision, allowing for a more productive conversation. In contrast to the interview, the questions written were adapted to address particular topics in mind and readjusted according to the direction of the conversation, ensuring an organic session that prioritized the respondents to talk about each topic. The location chosen by the housing department staff was physically comfortable and in a private location, prioritizing the respondent's needs and suggestions. The investigator and community representatives were in touch during the entire process, ensuring that the community's interests were followed and that the research could benefit everyone involved.

Analysis of Data

Followed by the individual session and the focus group meeting, data analysis took place. This stage continued to focus on developing a deeper understanding of the Swan River culture to honour the community's interests and preferences. Knowledge from existing literature was sought to identify the appropriate means of analyzing the data. Accordingly, different methods to extract meaning from the data were uncovered. Stewart et al. (2006) pointed out that when qualitative research methods were used to collect the data, qualitative analyses methods will also be used. Qualitative data analyses are particularly complex since they involve limitless

approaches that the researcher might leverage (Lester et al., 2020). They are usually adopted when the author wants to understand a situation and intends to learn from subjective information. Qualitative methods of analyses were judged appropriate to use for this study.

The researcher drew from renowned qualitative scholars' experience and common practices of analyzing qualitative data, specifically that of Miles and Huberman (1994) and Glesne (2011). With the oral consent of participants, this focus group session was audio-recorded and transcribed. The audio and transcribed records were read thoroughly to uncover common words and correlations between variables and patterns. These variations were later categorized among subgroups by sorting and filtering resources. Then, patterns of similarities and differences in opinions were isolated. This process allowed for the development of modest generalizations that cover the data's consistent patterns.

Finally, the patterns and themes raised were used to compile a summary of housing experiences and design needs and preferences from the participants. The comments related to alternative designs were categorized as "community cultural preference" or "general housing needs" wherever possible. For example, design suggestions related to the durability and lack of maintenance of the houses were categorized as "general housing needs", while the need for a larger space for cultural interaction was considered a "community cultural preference". These reflections were interpreted and discussed in Chapters four and five. In addition, comments related to the community's connection to the natural environment or cherishing the land and Mother Nature were categorized under "relationship with the environment and green technologies" and are discussed in Chapter six. When comments were made referring to prefabricated housing, home extensions, flexibility, and adaptability, they were categorized under "prefabrication and modularity" and examined under Chapter seven. Similarities and

differences among the community's concerns and suggestions were examined to create a summary of cultural design needs and preferences. All these explorations were further explained, summarized, and explored in Chapters four to seven. These chapters were written based on the four topics that were raised in the interview and focus groups session during this study.

Chapter 4: Swan River Nation Housing Context

It has been established in previous chapters that Indigenous housing in Canada is in substandard conditions. However, while there are similarities in the challenges faced by each community, they also have particular and unique problems that may only be applicable at their reserve. Each community may also face issues at different levels of severity, resulting in different priorities and needs for housing improvements. Acknowledging the diverse background and the particular cultural and housing context of each Nation, the interview and focus group discussion suggested a variety of themes that should be devoted attention and would be the points for advocacy in this study. The first and perhaps most important theme is the overview of housing conditions and the challenges faced by community members. This theme is crucial because it establishes the reasons for the community to reflect on the proposed improvements in the following chapters. Essentially, this chapter prepared the ground for the following chapters by establishing the most crucial needs of the community to discuss suggestions for each of them later. The ideas raised by the community leader and the housing committee representatives about housing conditions will be explored throughout this chapter, along with a general context of the public works programs and policies pertinent to the Swan River Nation. This contextual study was important to advocate and disclose relevant and beneficial material to the community and would be useful for future redesign projects or contact with external stakeholders and government members.

Swan River Community Profile

The Swan River Nation is a First Nation Woodland Cree community northwest of Alberta's capital, Edmonton, and one of the original signatories to Treaty 8. According to the latest Alberta community profiles, the Nation has a population of 431 members living on-reserve

and 1,068 members off-reserve, reaching 1,499 members (Alberta Government, 2021). Their land is separated by two reserves, No. 150F at Assineau River and No 150E at Swan River. The Assineau River 150F reserve counts 71.6 hectares of land, and the Swan River 150E counts 4271.1 hectares of reserve land, reaching 4342.7 hectares. Fifty kilometers west of the town of Slake Lake off Highway 2 is where the Swan River 150E, their main reserve, is located. On this reserve are the Nation's administration Offices, Health Center, a school, the Creland Park and Campground, and approximately 100 homes (Swan River First Nation, 2016a).

The community has a chief and three councillors elected every three years. The present Chief and Council were elected in June 2016 and again in June 2019 and strive to guarantee and safeguard community members' interests and preferences (Swan River First Nation, 2018). One of their great interests and battles is to protect their traditional territory and inheritance as their ancestors did. Their history demonstrates resilience and illustrates how Indigenous people are not passive in the face of changes. While many First Nations communities around the same area had their lands sold and were moved to other locations, the Swan River Nation persisted and resisted the pressure of selling their lands for 15 years. Consequently, the community was able to preserve the integrity of their traditional territory, protect the natural resources of the reserve, and continue to have a home based on Western culture's labour and commercial activities (Swan River First Nation, 2018).

Additionally, this strong community has worked with several partners to disseminate their interests to preserve their traditional territory for the use of future generations and teach about their culture. In the spirit of collaboration, the Swan River Nation has held cultural camps to raise awareness of their challenges. They are involved in the project of creating their proposed cultural center (seen in Figure 10) that will share some of their traditional knowledge and arts.

This project is still under the feasibility study stage. If completed, it will be a space where Nation members will engage; gather; and create and showcase their art, culture, and ceremony with non-Nation members, allowing them to experience the Woodland Cree history and culture. Activities will include tipi making, beading, moccasin making, traditional dances, regalia making, drumming, singing, drying meat, and others (Tawaw Architecture, 2020).

Figure 10

Swan River First Nation Cultural Centre by Wanda Dalla Costa Architect



Note. From Tawaw Architecture (2020).

These actions taken by the community reflect their openness to work with the external public, who acknowledge their challenges and respect their culture and beliefs. It is an honour to work in this partnership with such a tenacious, resilient, and public-spirited community.

Followed by this introduction, the later sections of this chapter analyzed the Swan River housing context with consideration of their policies, guidelines, and concerns to efficiently assist the

community in advocating for adequate housing while conserving their traditional knowledge and lands.

Swan River Housing Policy

This chapter analyzed the Swan River housing policy as it was considered important to discuss it to provide context to the housing issues faced by the community. The examination of the housing policy document provided information about the efforts of the housing committee and community leaders to provide adequate housing using fair and impartial criteria, their procedures for maintenance, and the guidelines for occupation to all existing and future Nation dwellings located on the Swan River First Nation reserve.

The housing policy of the community begins by discussing the role the federal government has undertaken to provide funding for the reserve. Although funding is granted, it is inadequate for the number, quality, and durability of the houses on reserve (Swan River First Nation, 2014). There is a continuous effort from the housing committee and the community leaders to pursue sufficient funding for the Nation. However, the lack of funding for the reserve must be uncovered for further research and advocacy purposes. Despite challenges in funding, the community leaders strive to manage housing allocation fairly and provide adequate housing and maintenance for all families living on reserve.

In terms of allocation to community members, the Swan River First Nation community plan and related policies set a framework for designating sites for new and relocated housing units. The allocation considers the preferences of community members wherever possible, as long as it is within 100 meters of the main water line, powerline, and main roads (Swan River First Nation, 2014). Due to the increased cost of extending utility lines to distant sites, these requirements are necessary. A member is allowed to be allocated farther from utility lines

provided they pay the additional costs associated with the extension of the services and are approved by the Chief and Council. Implementing rule is frustrating to the community, especially to those who wish to live on other parts of the land, as restraints have been established. However, this rule is also crucial since the community leaders want to ensure the health and safety of the members. The housing policy clearly states that every new house built on the reserve should be fully serviced, including water, sewer, heating, and electrical amenities, to meet the minimum federal safety and quality standards (Swan River First Nation, 2014). Considering that the houses built in the community were not structurally and systemically planned and designed to be off-grid, meaning they are not durable or insulated enough to withstand low temperatures without access to heating, access to these services is essential. It prevents the ingestion of contaminated water, poor sanitation, and inadequate heating. This policy ensures the health of the community's inhabitants.

The housing committee carefully evaluates the allocation of houses to the community members. They follow a priority list that considers a range of parameters to determine the people in most need of allocation. The considered parameters are (a) the number of children who are a member of the Nation, (b) the total number of individuals in the family who will reside in the home, (c) the number of consecutive years of residence on the reserve, (d) the length of time on the waiting list, (e) the condition of their current residence, (f) if the family includes Elders or disabled members, (g) if the applicant lives off-reserve but wishes to return, (h) if the current residence is overcrowded, and (i) if the person has been allocated in the past or recently (Swan River First Nation, 2014). This criteria allow the housing committee to make an informative decision that considers the priorities and the conditions faced by each family who applied for housing allocation.

The list of parameters also allows us to infer some of the housing issues faced by the community that was later confirmed during the interview and focus group meeting. According to criteria (a), (b), and (h), it was inferred that the community faces overcrowding problems and that it could be related to the number of children that the families often have. In other words, families on the reserve are usually large and may not have enough space in their homes. According to the housing policy, a home is considered overcrowded if it is occupied by more than eight individuals (Swan River First Nation, 2014). This is a particularly high number considering the sizes of the homes, which demonstrates that they have been adapting to this issue over time. According to criteria (c), (g), and (i), the desire to live on reserve and be involved in the community is an important factor for the allocation of members as it relates to the person's beliefs in supporting family and collective living (National Collaborating Centre for Aboriginal Health, 2015).

Regarding criteria (d), it was inferred that there is a long waiting time for housing on the reserve, possibly due to limited funding. According to criteria (e), the housing condition on the reserve is substandard, as indicated in the literature review of other communities. The lack of funding affects the number of houses on reserve and their conditions due to the deprivation of opportunities for maintenance. Regarding criteria (f), the community values and prioritizes its Elders as described in the literature review.

Another aspect that is important to discuss regarding the allocation of members is the missing sense of ownership. Up until 1951, no individuals owned houses on the reserve, based on the specifications of the Indian Act. Section 20, Article 1 determines that "No Indian is lawfully in possession of land in a reserve unless, with the approval of the Minister, possession of the land has been allotted to him by the council of the band" (Legislative Services Branch,

2019, Possession of lands in reserve section). While the Indian Act still restricts private ownership, an amendment made to the document in 1951 allowed on-reserve property rights through a certificate of possession (CP) (Alcantara & Flanagan, 2003). This system is outlined in sections 20-29 of the Indian Act, permitting the band to grant an individual or group of band members the right of possession to a piece of land (Alcantara, 2002). Although this system is similar to usual private ownership, a few rights that limit the CP holder. For example, the reserve member who holds a CP has the right of possession of a parcel of reserve land, and they are allowed to sell, lease, build a home, or extract any natural resources from their land. However, a CP does not grant ownership of the land. A CP holder cannot sell nor lease the land to a non-member. Members are not entitled to mortgage the land, and if done so, they may be forced to dispose of their rights (Alcantara, 2002). Regardless of the limitations, CPs have been highly beneficial in Indigenous communities across Canada as a resource to tackle chronic housing problems, enabling communities to use their homes as a source of wealth and establishing a sense of ownership of members' homes.

Nevertheless, in the Swan River Nation, in particular, most of the homes are still social housing and are therefore suffering from insufficient funding and a missing sense of ownership. Accordingly, the Swan River housing policy specifies measures to make the best use of the homes provided in the community. If an individual is allocated and their unit is vacated, it should be returned to the Swan River First Nation to be passed on to other community members. This policy is the Nation's means to ensure the maximization of the use of their resources within the reserve. This practice provides both positive and negative consequences. It is positive because it allows more members to have access to housing, which is crucial considering that many members face overcrowding problems. It demonstrates a sense of community and the willingness

to help each other have appropriate housing conditions. However, it is also negative because psychological ownership allows the inhabitants to maintain and safeguard their homes as a legacy. When this is taken from the individual, it is more likely that the community will have episodes of neglect of the homes. For instance, it is part of the maintenance and repair policies that any improvements and fixtures added to a Nation's home become the property of the Nation even in the case when the house is vacated. This policy represents the communal spirit of the Nation. However, it also may decrease the member's interest in implementing new fixtures and care for the home out of their own pocket, increasing the possibility of instances of neglect.

The Swan River First Nation has a "Maintenance, Repair and Renovation" program. This program develops annual plans for maintaining the homes in the community and deals with inhabitants' requests for maintenance, repair, and replacements. Because of the shortage in funding, there is also a priority list based on several criteria. These parameters are set out to determine the houses in most need of maintenance to seek the most appropriate and urgent use of the funding provided. Thus, any damage caused by the neglect of the householder or occupant is not covered by the community's maintenance program and would be the responsibility of the householder/occupant. However, any cost of repairs that demonstrate a need due to health, safety, or fire hazard are covered by the maintenance program. The Swan River First Nation is responsible, when funding is available, for the cost of the repairs and renovations of the following: (a) furnace heating systems; (b) sewer/ water systems and septic tanks, including freezing pipes not caused by neglect; (c) electrical wiring; (d) structural problems with foundations; (e) deterioration caused by normal wear and tear; (f) damage or problems related to improper construction or materials, such as leaky roof; (g) damage caused by "Acts of God" or natural disasters, such as lightning, flood, tornado, earthquakes, etc. (Swan River First Nation,

2014). The analysis of this list enabled the reader to infer some of the community's common issues and provide speculations of aspects to be carefully considered in the event of a redesign of homes for the community. For instance, if it is common for households to have freezing pipes issues, it can be inferred that houses in the community should have more insulation to prevent the extended exposure to severe cold that causes pipes to break. Similarly, constant structural problems with foundations may represent a need for further soil analysis before construction, attention to possible inadequate drainage of the home, or improper construction. Damages, such as leaky roofs, could also be due to improper construction or may represent a need for more ventilation in the attic to prevent the accumulation of moisture, condensation, and mold.

The housing policy document also represented the community's interest in the durability of the homes. Section 15 presented minimum guidelines and standards that should be applied for the design, construction, maintenance, health, and safety of the Nation's houses. These standards include the National Building Code of Canada, National Fire Code of Canada, Measures for Energy Conservation in New Buildings, EMC Energy conservations measures and policies, Environmental Canada Standards and objectives, building insulation and infiltration levels equal or better than required by codes and regulations, adequate foundations, architectural designs compatible with local cultural and community expectations, and economic realities of the community, among others (Swan River First Nation, 2014). It is noted that these minimum standards are implemented around three topics: durability, sustainability and energy conservation, and cultural appropriateness. These subjects have been raised as common concerns of the community upon review of the community's documents and during the interview with the community leader and focus group meeting with the housing committee. Therefore, this study

focused on collecting the community's opinions and concerns related to these topics to improve their housing conditions according to their most urgent needs and preferences.

Swan River Housing Conditions

After discussing the community profile, by speculating the needs of the Nation through reading community documents and establishing the organization, structure, and accountability of community leaders and the programs and policies of the Swan River Nation, this study uncovered the perspectives of the community representative and housing committee members through an individual interview and a focus group session. It is important to note that within this qualitative research, the interpretation of the participants' concepts, opinions, and experiences are, at some point, subjective. The analysis is not based on quantitative data and is not based on a large number of respondents. Instead, it is based on the perspective of community representatives elected by the community, including Elders and experts in the construction and maintenance of the community houses.

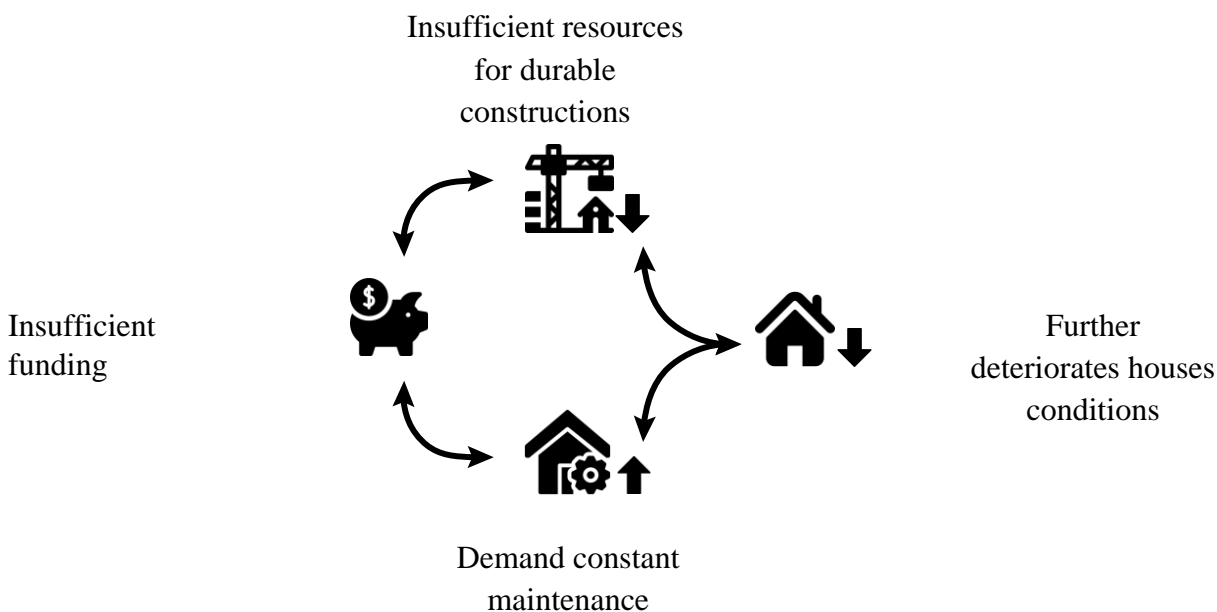
The condition of the houses was one of the most recurrent topics in the individual interview and the focus group session. Because of the urgent need for funding for better housing conditions, durable materials, and maintenance, this subject was introduced frequently and considered essential to advocate for superior housing conditions. During the conversation with the community leader, this topic was raised as an introduction to some of the general challenges faced by the community and were further elaborated through examples and suggestions. For instance, it was explained that not many community members could afford to buy their own houses. Therefore, most of the community is dependent on social housing units. As discussed in previous chapters, this reliance is a result of colonialism and leads to two major challenges: insufficient funding and substandard housing conditions (seen in Figure 11).

Figure 11*Substandard Housing Condition in the Swan River Nation*

Naturally, these two issues are co-related. Because the community does not receive enough funding, there are not sufficient resources to improve or maintain housing conditions. Insufficient funding results in substandard housing options constructed with cheaper materials, which results in the need for constant maintenance. Constant maintenance cannot be completed due to insufficient funding, which further deteriorates the condition of existing substandard housing, as seen in Figure 12.

Figure 12

Diagram of Substandard Conditions due to Insufficient Funding in the Swan River Nation



To address this issue, the community leader expressed a desire to spend more funds on the planning and construction phase than to have to compensate with constant maintenance due to the use of poor materials later. The need for more resources and the importance of anticipating future consequences of building with short-lived materials is recognized in this study. This need was expressed several times in conversations revealing an actual disturbance of community leaders and members by it. Some of the conditions mentioned that often require maintenance are (1) structures and appliances that freeze in the winter, (2) drastic temperature changes due to inadequate insulation, and (3) high levels of moisture and consequent mold. These issues had been presumed through the Swan River Nation housing policy analysis and were later confirmed with the community leader’s statement. These problems require immediate attention due to their health and safety hazard attributes. However, these same problems have been documented for

various decades in several Indigenous communities across Canada and still are major issues in many of them, including the Swan River First Nation. In retrospect to the literature review, many Indigenous communities have increased cases of respiratory diseases compared to non-Indigenous communities because of the mold issues caused by the low-quality of houses provided and overcrowding living conditions (Optis et al., 2012). Ideally, the community would receive sufficient funding to remedy the small number of houses and build durable constructions with suitable materials. However, the community leader does not have high expectations regarding a possible increase in funding and instead works with the resources they receive. This includes creating priority lists to repair houses with issues according to the age of occupants, living situation, and any parameters established in the Swan River Housing Policy uncovered in the former section of this chapter.

The second point raised by the community representative indicated their need to "make more with a lot less". What contributes to the substandard condition of the houses in the community is the need for more dwellings. Although members need additional housing, they are also aware of the limited funding and the low-quality options available to supply the demand for new houses. This situation leaves the community with the constant choice between quantity and quality when both are urgent needs. Due to the limited funding and the need for a considerable number of houses, Indigenous communities are forced to build low-quality houses. As Kyser (2012) explained using the concepts of Larcombe et al. (2011), the unavailability of sufficient resources may limit the restorations and the original constructions since if the cost exceeds the available funds, the work will resume in favour of less costly and less significant solutions. This type of perspective may also cause the community's small projects to be overlooked compared to more significant developments causing severe carelessness issues with the building of

Indigenous homes, such as having structural flaws, inaccurate assemblies, negligent painting and finishes, and so on. The federal government needs to take responsibility for the assimilations attempts, lands, and resources taken from Indigenous people by providing adequate funding and realistic acts of reconciliation. Although the literature review and reports by CMHC acknowledge the overcrowding situation and the substandard housing conditions in Indigenous communities (Christensen, 2016; Indigenous and Northern Affairs, 2017; Olsen, 2016; Wali, 2019), the funding provided is still insufficient. Using the data from the 2016 Census, the CMHC has published a report that points out that 18% of Indigenous people live in homes that require substantial repairs and 20% live in overcrowded homes (Wali, 2019).

Despite the need for more dwellings, the community representative stated that there is no homelessness in the community. This is due to a cultural measure commonly taken by Indigenous communities, including the Swan River First Nation. Their culture acknowledges a social responsibility to provide shelter for all the families. This means that if a family member, a friend, or people in need are facing difficulties, unable to be allocated to their own home, or are living in substandard conditions, a family will provide their home for the individual despite the lack of space or damage it may cause to their houses. Their actions are due to their sense of community, or as mentioned by the representative, "We are communal people". In other words, they are people that belong to a community that engages with one another. They participate and share a communal life for community's general well-being, which may include sharing houses with family members when needed. In the community, the concept of family is important. It defines their identity and sense of connectedness to kinship and culture. However, it is natural that not many houses can fit more than one family comfortably, which leads to overcrowding.

According to their standards, overcrowding in the Swan River Nation means at least eight people living in the same home. Throughout the interviews, it was mentioned that families in the community often are allocated a small 3- bedroom home. This means their perception of overcrowding is underestimating their rightful quality of life. A small 3-bedroom home for seven people would still not be ideal for non-Indigenous inhabitants and should not be considered optimal for Indigenous communities. Additionally, they have numerous families living in what they consider the regular overcrowding situation, meaning having more than eight family members in a home. This situation is also inconvenient and distresses the home environment as it may affect the functioning within a family, the interaction between family members, and economic circumstances. This is important to point out due to the many social issues that Indigenous communities are accused of without any context. When in fact, the relationships between family members are important influences on children's development and the family's psychological well-being (Shonkoff & Phillips, 2000). If a house is used by many individuals more than what it was planned for, it will most likely deteriorate quicker than expected. The combination of both overcrowding and the lack of durable materials particularly aggravates the housing situation in the community.

With cheap materials usually being used in the homes and due to overcrowding and consequent wear and tear, when asked about the main issues faced in the community, the first topic that came to mind was *renovations*. Housing committee members have expressed frustration with the number of incomplete houses or those in need of major repair for years. One of the housing committee members indicated that the community has had no renovation programs in the past 10 years. Another representative spoke about the need for renovations since

most of the houses were old and not appropriately built back then, making them need renovations quicker than regular houses.

These houses are probably around 50-years old. So, they need to be renovated. And then, there is the lack of getting them right. So, I think we need more qualified carpenters to start working on them, and we don't have them. That's one of the big issues.

Certainly, these homes wear out faster because they were not built correctly. They also have multiple families living in them to supply the demand of homes in the community with limited funding. Another housing committee member also expressed her frustration as she explained her solution to the overcrowding issue in her home.

I live in one of the older houses too. I think it's 50 years old now. And I kind of... it is a 3-bedroom, but you are 100% right. My daughter's companion and my grandchildren, we gather in the kitchen, and we can't fit. So, I shoot down a wall. So, this was a bedroom, I took down the wall and I opened it up to give it an open concept, just to fit in one house.

Followed by this representative's comment, it was also raised that, for most of the housing issues on the reserve, "you are only gonna get it done if you do it yourself." All the representatives agreed with this statement. This statement uncovered their desire to be able to fix some of the issues themselves since they often cannot depend on external stakeholders and government members to address their concerns. This leads to the first insinuation of the need for self-determination in the community. It is rare that someone is available to fix these issues. So, the community usually spend years waiting for possible improvements, such as the 50-year-old houses awaiting renovations and maintenance due to lack of funding.

Although many of their issues are caused by limited funding, the community also faces several challenges because of the Western misconception of superiority to First Nations. This is

one of the consequences and remains of colonization that, until today, causes First Nations to be mistreated in Canada. Across Canada, this discrimination threatens Indigenous human rights when they are treated differently or put through lengthy and costly court battles to defend their traditions. One example of this discrimination was pointed out regarding housing in the Swan River Nation. One of the housing committee representatives mentioned the difference she saw in her daughter's home compared to her non-Indigenous friend's home.

And I was just telling *housing committee member x* (undisclosed committee member name for privacy) about Gendal homes. My daughter is in one of the Gendal homes, the dishwasher just stopped. It's brand new. And I have a friend who is not Aboriginal, who bought a trailer from Gendal, beautiful home, she set it up in Whitecork, paid the same amount we as a reserve paid for, beautiful cabinets, top of the line appliances. And then I come to my daughters, and I look at what do they do. Did they just say, 'this is going to the reserve so let's choose this door that we cut wrong and throw it in there?' Because that's what I feel when I look at my daughter's trailer compared to my friend's.

This member was frustrated to see the condition of her daughter's new home compared to her friend who did not pay anything extra or chose special appliances and materials. They were in the same process of buying the home, paid the same price, got the same model, but received utterly different products. One housing committee member mentioned that

It looks day and night, even the trims they put are not so tight. And then Gendal says this happens in the move. So, how come it didn't happen with my friend whose trailer was moved pretty much the same distance?

In another testimony, a housing committee member exposed the frustration regarding the disregard with the houses received by the community.

My daughter starts with the measuring tape, and she's got three different sizes of doors in her bedrooms and 100% they said 'you've cut it wrong Mr. James, put in that pile that is going to the reserve.' She's got three different sizes, which is just enough, you'd really have to watch a measuring tape, but it's just enough that they shouldn't have been three different sizes even if it is just half a centimetre. So, her trailer came in and you think they would have thought that we would have been overwhelmed because we are natives, we are not used to having new homes.

The dissatisfaction with the negligence of external companies was present in several statements of the daughter's trailer. Later in the testimony, it was explained that even the cabinets doors were not painted on one side and that the latch came off during the first use. The disappointment was later emphasized when the individual argues that "There is a big difference between having a 400-dollar cabinet that's not painted, whatever, and a door that someone just threw off to the side, 'let's put that in her trailer'. The proof was in the putting." This type of experience certainly jeopardizes the relationship with external stakeholders and creates a pattern of distrust between the reserve and manufacturers. As explained by a housing committee member: "How is a reserve supposed to trust any manufacturer that knows they are gonna send the home here? I feel like they are giving us the cheaper materials." The other housing committee members could relate to this feeling of being taken advantage of and revealed the community's need to determine their own housing options. This feeling is a consequence of colonization across hundreds of years and across many generations of settlers assuming to be superior to Indigenous people, believing they deserve less quality. These myths, stereotypes, and preconceptions continue to affect the Indigenous and, particularly, the Swan River community members' life daily. This testimony is one of many proofs in this study that exemplifies how the legacy of colonization affects the

community's housing situation in the present and the importance of discrediting myths and seeking their rights to self-determination. These rights are sought by advocating for better housing conditions, uncovering the discrimination the community is put through, vocalizing their housing preferences, and determining means to be less dependent on government and external stakeholders.

Based on the literature review, it was noted that there is also the preconception that the conditions of the houses on reserves are substandard due to the community's negligence. The discrimination against Indigenous people is not limited to the non-Indigenous making decisions assuming that Indigenous people deserve less quality or by the companies' careless shipment of their houses. This discrimination goes beyond the lack of understanding of the intergenerational trauma experienced by the communities and the social issues that arise due to the trauma. It is crucial to acknowledge that since the members of the community usually do not own their houses and are simply allocated to a piece of land and given low-quality homes to live with two or three families, it is more likely for the Indigenous' houses to deteriorate faster than the non-Indigenous' which were built and provided under completely different conditions. It is not fair to compare the durability of the houses of someone who owns their house, has a sense of ownership, received it in good conditions, has enough capital for maintenance, and lives with just a few family members to the Swan River's living conditions and say that the Western culture homes last longer. The community houses' conditions today are not necessarily substandard due to neglect. One of the housing committee members points out that "having a messy home is totally different than (discarding it) sooner than we should have." This statement explains that what non-Indigenous people may see and call neglect is only the regular disorganization of a home that shelters two to three families. It is not because of disorganization that there is neglect

and that the houses wear out faster. These are consequences of the non-durable, overcrowded, culturally inappropriate houses provided to the community.

Another housing committee member also raised mold as one of the structural issues that negatively affect the houses in the community. The individual explained that many of them have mold and are “falling apart”, with walls and strips of wallpaper coming off. This issue was pointed out in both the individual meeting and in the focus group session as an example of the problems in how the houses are built on the reserve. As mentioned before, this is one of the issues frequently brought up in the literature review and has been confirmed during the connection with the community representatives. The presence of mold poses a health risk causing people to develop respiratory problems. It also causes structural damage to the building it envelopes (Optis et al., 2012). The growth of mold is one of the consequences of the problematic houses provided to the Swan River Nation. The substandard conditions in their houses are both a hazard to health and the structures, representing disregard for the community.

Another aspect pointed out by the housing committee members was that most of the basements were not finished. This was raised as a need and a possible solution to the overcrowding issue. A member further explains by saying, “Most of the basements aren't even finished. You know, so even though say you have 1200 sq/ft on one floor. You could easily double that by finishing the basement.” This suggestion presented much potential since it could be a cost-effective measure, considering that another family could live in the basement without the need for building a new foundation and roof. While there are already extended family members who live together, the option of finishing the basement could provide them with separate spaces without the need for much funding, alleviating the overcrowded situation of some families.

In terms of strategies for improving houses in the community, committee members continually referred to the University as a potential partner to help understand some of the challenges the community has faced and to eventually develop a sustainable system that could implement better housing conditions that are culturally appropriate and specifically designed to meet the community needs. One of the members mentioned that they need someone to assist with "Anything that gets us out of what we are being handed now... Things that are falling apart a year into being in them." It is acknowledged that these analyses, speculations, and solutions may take years to be implemented. However, they also have the potential to help mitigate the problems for the current generation and benefit the future ones. One member exemplifies this outlook by stating, "Yeah, well that works. Because our next... Families are always gonna be tied together by generations... (Inaudible) for next generations, right?" This statement is aligned with an idea documented in the literature that Indigenous communities believe in nurturing and supporting their families, including inter-generational relationships, because that is how Indigenous people make sense of who they are and understand their place in the world as part of a larger collective (National Collaborating Centre for Aboriginal Health, 2015). Consequently, this partnership can potentially strengthen and improve the homes and well-being of the community's families. The partnership could rebuild their cultural strengths across generations and benefit the community collectively.

Committee members also acknowledged that the partnership involves a learning curve that may introduce more questions to be studied over time before developing the most appropriate means to improve their housing conditions. Essentially, the collaboration in this study could provide the community with the tools to better express their needs and think of alternatives that could benefit them as related to their housing. It provides them with the

opportunity to advocate for self-determination and cultural appropriateness and uncover the housing conditions on the reserve. This research has set the foundation for future research about new housing projects and raised the community's interest in the education of carpenters, plumbers, and electricians, among other professions, regarding the proper maintenance and building of new houses on reserve.

Based on their sense of community and intention to build better houses for the Nation, another interesting feature recently explored and the community representatives will soon implement is the "Urban housing" website. This website is an open platform for the community to have a say regarding their most urgent needs and their preferences and opinions regarding housing. It is a way for members to have an open conversation with the leaders and the housing committee and have access to updated information about the recent implementations related to housing in the community. This platform has a great potential to assist in improving the quality of the houses and the cultural adequateness aspects of the dwellings. It may also assist in improving the quality and durability of the homes since it will provide an easy way to track a summary of housing issues in the community, including how the houses were built. This tool will bring accountability to *who* built the homes and *how* they were built and provide a way for each community member to express their needs and preferences for their housing. This tool uncovers a potential for the community to voice their concerns regarding cultural inappropriateness (discussed further in chapter 5) and of being taken advantage of during construction for being Indigenous. Essentially, the possibility of combining this tool with a partnership with the University to design and build culturally appropriate houses with the community is an opportunity to gather more opinions from the community members to provide some feasible changes to the homes in the community.

In summary, several concerns were raised regarding the housing conditions on the reserve during this study. The community leader and the housing committee representatives expressed housing issues that can be categorized under three themes: (a) Inadequate funding and policies, (b) substandard housing conditions, and (c) discrimination. The following Table 3 summarizes some of the frequent concerns in three categories.

Table 3

Housing Concerns Voiced by the Swan River First Nation Representatives

Category	Comments of the community
1. Inadequate funding and policies	Consequences of colonization Dependency on social housing Overcrowding Lack of renovations Lack of maintenance Lack of new homes The difficulty of choosing between building new homes and renovations
2. Substandard housing conditions	Non-durable housing units Small homes Drastic temperature changes High level of moisture and mold Improper construction Structures and appliances that freeze in the winter
3. Discrimination	“Negligence”; appearing negligent due to overcrowding Houses provided differently for the same price Houses provided with low-quality materials and appliances

The topics raised about the community’s housing condition are interdependent, requiring further analysis and development of solutions from the problem’s origins, such as the perpetuation of colonization and insufficient funding. This relationship is represented in Figure

13 below. Figure 14 demonstrates the relationships dependent on appropriate funding provided by the federal government to improve the community's housing conditions.

Figure 13

Relationships and Interdependence Between Community's Housing Concerns

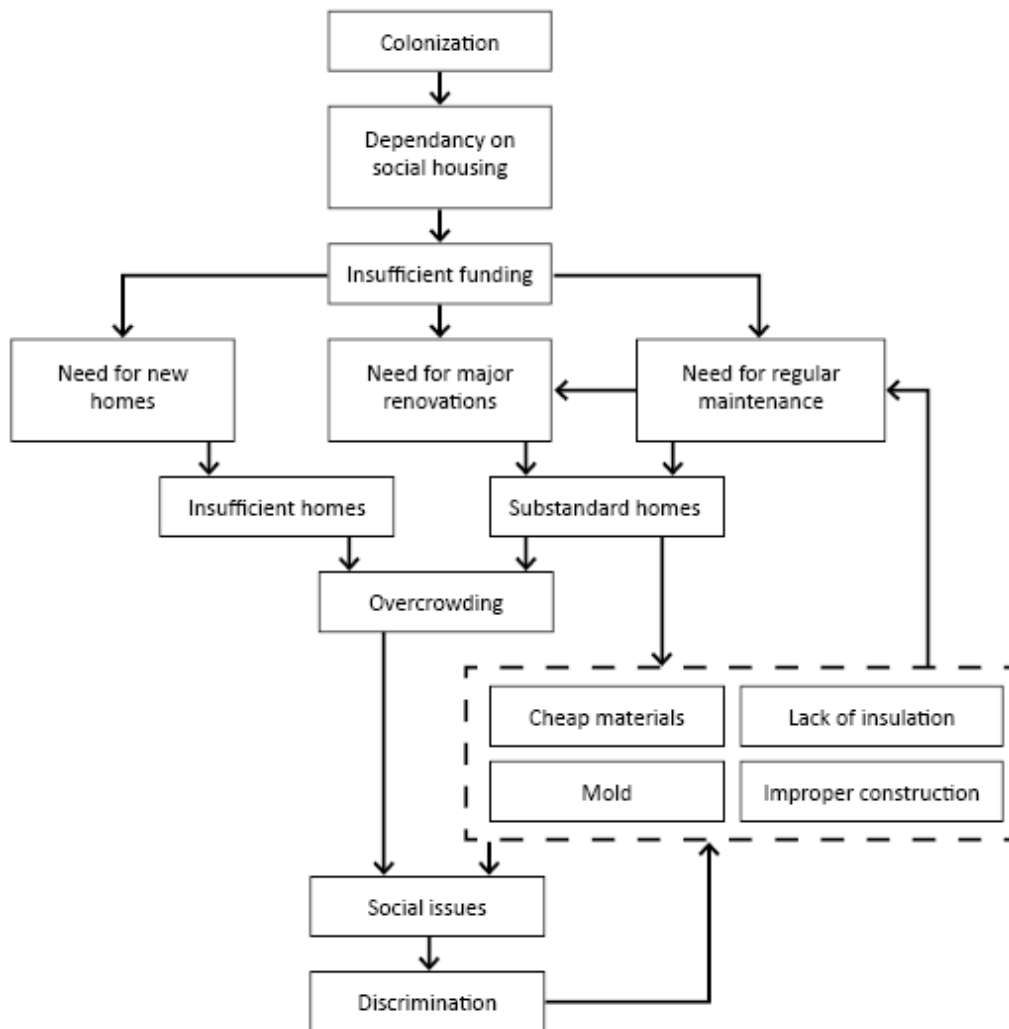
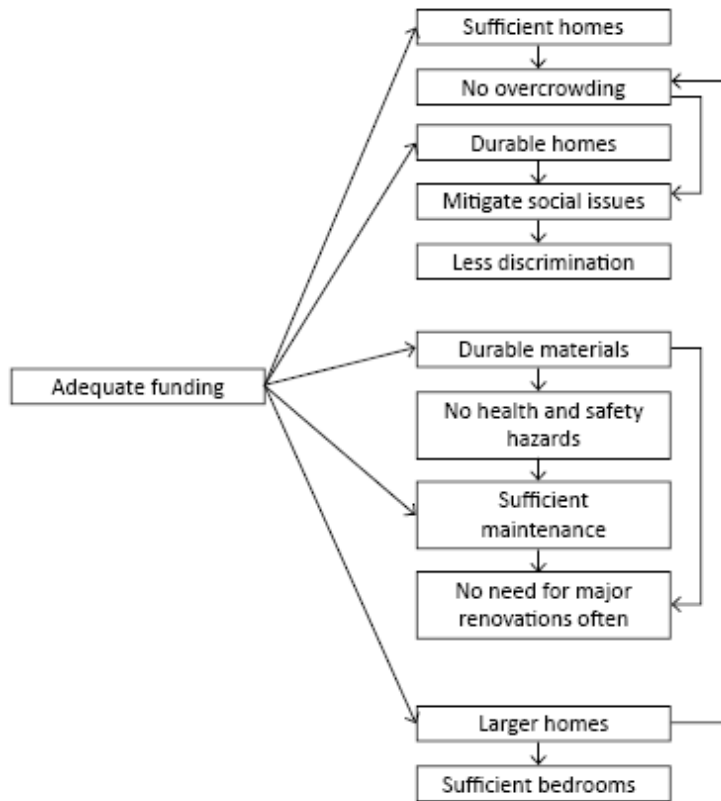


Figure 14

Positive Impacts of Providing Adequate Funding for the Community



Essentially, the statements and figures presented in this chapter demonstrated the complexity of the housing challenges faced by the community and the multiplicity of factors involved in improving their housing conditions. This chapter sets the foundation for the next three chapters while uncovering the community’s most urgent needs and demonstrating the relationship between the context of colonization history, insufficient assistance from the federal government, and the social and housing consequences of these challenges. According to the community representative statements acquired through the interview and focus group discussion, experiential testimonies and suggestions about three themes will be further discussed in the

following chapters, specifically: (a) cultural appropriateness, (b) green building technologies, and (c) prefabrication and modularity.

Chapter 5: Culturally Appropriate Housing

Canada is a country, like many others, that has had a distressing history of colonization with long-lasting impacts. Since then, Indigenous peoples in Canada have lived under culturally inappropriate housing because of colonizing practices. Several hundred years ago, groups of people settled in different locations worldwide. Each civilization developed differently and established unique practices and belief systems. Over time, communities around the world were able to interact with each other. Some of these civilizations began to visit other territories to settle in other people's lands and establish control over their territories. This is one of the examples of cultural interactions that began several centuries ago and validates the many conflicts different cultures have had. Although the Western culture claims to celebrate diversity, the relationship between different cultures was not always tolerant of one other. Minkov (2011) mentioned that people have had conflicts and debates about cultural differences. These conflicts and debates have centered on some cultures seeking basic human rights and freedoms without granting those to *others*. One such culture is Canada, a country well-known for having numerous immigrants and a diversity of cultures. Canada has a turbulent history with its Indigenous peoples, with assimilation attempts and a violent past (and present) between the two cultures.

In a study about cultural differences, Minkov (2011) suggested that respecting other cultures is essential to understand that behaviours which are appropriate in one community may not be applicable in other cultures. Similarly, ways to build homes in one culture may not be adequate in another since they do not reflect their habits and ways of living. Understanding cultural realities is crucial in a world in which intercultural interactions have become so frequent. Different cultures must acknowledge their differences and be aware of cross-cultural sensitivities, including appreciating diverse cultural practices and values. Minkov (2011) named

this process *cultural reconciliation* and stated that it is challenging, especially in the Western culture, wherein people were raised to believe that their culture was superior to others.

Acknowledging these challenges and the cultural oppression that Indigenous people in Canada have lived, this chapter addressed a reflection on cultural appropriateness in housing design and the investigator's efforts to engage with the Swan River community to seek an understanding of their values and cultural preferences regarding their houses. The connection with the community provided cultural indicators of possible improvements to their houses and revealed the need for further engagement with community members and the development of cultural understanding before designing and building their homes. As the relationship developed, co-decisions made during the study allowed the community to express their needs in terms of housing and their preferences and resulted in tangible knowledge for use in future studies. Therefore, this chapter addressed the impact of architectural design on people's lives, followed by a reflection on the means and importance of cultural engagement, and finally, the discussion of considerations for culturally appropriate housing designs specifically for the Swan River Nation. The conclusions drawn from this chapter were grounded in the literature review of the study, the interview, and the focus group session conducted about the topic and approved by the community.

A Reflection about the Power of Design

Design is a powerful tool. It affects our lives by defining our daily routine and determining our physical and mental health. As opposed to what people commonly think, architectural design is not simply creating pleasant aesthetic buildings. It involves reflections and design decisions that contribute to the occupant's health, mood, productivity, and well-being. Studies about neuro-architecture have demonstrated how buildings and cities can affect people's

well-being. For example, it is known that the geometry and organization of spaces can directly affect our emotions and well-being (Hiss, 1991). Bond (2017) explained that specialized cells in the hippocampal region of our brains are responsive to different special arrangements and finishes, shaping the behaviours of those who live in those spaces. Accordingly, if design decisions can actively affect our daily lives, moods, and, consequently, relationships with people around us, why are there so many homes designed without regard to their users? In other words, if the design of a space affects people's emotions and well-being, it should be considered, from an early stage, *what* is well-being for the user and *how* well-being can be provided through design. While some people may feel comfortable in a space with a particular shape, color, and make of a specific material, others may have different preferences for their home. The challenge of designing a house according to one's preferences should have even more devoted attention when it is a design made for a different culture, which have different habits and beliefs and would adapt better to other design decisions.

Although it is known that architectural design has the potential to instigate social change, such as by improving the housing conditions and social interactions in marginalized communities, much work remains to be done to support culturally sensitive needs in Indigenous communities, particularly in the Swan River Nation. When designing for a different culture, the designer must understand the community's values, beliefs, and various routines to create a space that reflects who they are as a community. According to the architect Sinclair (2015), understanding different lifestyles and opinions and acknowledging and respecting others' history and culture are parameters that should profoundly alter the designed space. It is crucial to understand the designer's responsibility to improve the user's life and understand the community's social, environmental, cultural, and aesthetical contexts. For instance, Western

culture focuses on mass production and consumerism, while Indigenous cultures are known for living a more sustainable way of life. Regarding the homes that the Swan River Nation has been receiving, their houses are still built like others in the Western culture, except for the lower quality despite having different ways of living. Therefore, their ways of living and belief systems have not been respected through the design and build of the houses. Thus, the cultural appropriateness aspect of this study is advocacy to break the homogeneity of spaces that the Swan River community currently faces. This research also encourages architects to engage with the community before designing and proposing spaces to ensure that these are culturally appropriate. Designing homes that are culturally appropriate designs is a means to augment their homes, thus amplifying the bond between community members and strengthening their culture.

The reflection on the cultural appropriateness of housing in this chapter has two purposes. First, it exposed the means to design culturally appropriate homes that can benefit the Swan River Nation while proposing strengthening their culture and advocating for their preferences. Secondly, it uncovered the potential of empowering diversity worldwide by reflecting on contrasting beliefs of the Indigenous and the non-Indigenous, allowing for a better understanding of Indigenous ways of design. The reflection demonstrated the need to consult with different cultures to represent them through design properly and to learn different cultural ideas and architectural concepts paramount to the advancement of architecture. Only by connecting with contrasting views is an architect able to identify features in a culture that may also benefit other cultures. This study raised awareness that, amidst all potential in design decisions, architects should encourage respect and empathy towards different cultures in their designs instead of perpetuating colonizing practices with the imposition of Western culture homes and ways of living. When designing selflessly and acknowledging the importance of understanding other

cultures, architects may find the richness of the convergence of different ideas between cultures with similar interests, uncovering solutions to address current housing and design challenges faced worldwide. Sinclair (2015) noted, “To advance civilizations we need to have the ability to see through others’ eyes, to grasp the need for and value in differences, and to substitute arrogance with acceptance, intolerance with respect” (p. 570). In this sense, architecture plays an integrative and crucial role in changing how social and design issues are tackled. The architectural designer's role is to seek cultural understandings that can collaboratively change architectural paradigms. It is also the architect's role to acquire a proper knowledge of one's culture to make a community feel that their needs are being addressed and that they have a sense of place.

Defining Cultural Design

Culturally sensitive design is an architectural conceptualization that seeks an understanding of cross-cultural contexts of design rather than accepting the domination of Western concepts of what architecture is and how spaces should be designed. It is a type of design that aligns architectural outcomes with culturally specific forms of spatial arrangements, cultural properties of buildings orientations, and the dynamics of cultural traditions (Memmott & Keys, 2015). In other words, it is the process of designing spaces according to a particular culture, considering society's beliefs, family sizes, spiritualities, and any peculiarities that their culture may have. Established by the need to engage with communities to promote culturally appropriate home designs, this section investigated theories of culturally appropriate design based on the literature. A research project was conducted to serve as an example of interaction between non-Indigenous and Indigenous communities. This example served as a good-practice parameter by presenting testimonies and results of a collaborative design that could positively

influence this study. The documents studied disclosed concepts to be considered before and during building a relationship with the community. This researcher found the theoretical preparation to be essential to allow for an open mind to cultural differences and varying contexts within the Swan River community.

The first important concept about culturally appropriate design was the perception of multiple modernities, as explained by Eisenstadt (2000). When trying to contribute to a community, settler researchers often believe that they should expose “modern” practices to Indigenous communities to contribute to their social progress. However, this assumption of superiority is the same as Europeans thought when they were “civilizing” Indigenous communities during colonization. Indigenous communities may or may not wish for “modern” materials or technologies because the Indigenous concept of *modern* could be different from a non-Indigenous perspective. It should be within the community’s choice to determine their preferences. Eisenstadt (2000) exposed the idea of multiple modernities and explained how European cultural modernity was developed and assumed to prevail throughout the world. In reality, cultural modernity did not evolve homogeneously as predicted. Societies worldwide had different views of family, education, economic, political structures, and even individual ideas of urbanization and architecture. The concept of multiple modernities in the contemporary world presumed that ongoing changes of multiple ideological patterns are carried forward by communities with diverse views of what makes them a modern society (Eisenstadt, 2000). In other words, the concept of what makes a community modern may vary. In India, for example, they use the principle of Vastu shastra to organize spaces. These strategies value sustainable development, are ecologically balanced and culturally stimulating, yet still modern (Patra, 2009). Their traditional knowledge guides their decisions over the organization of spaces according to

specific energy fields, availability of light, use of natural ventilation, culturally valuable decorative elements, etc. For Indians, the sustainable strategies used in the Vastu shastra are as modern as a LEED-certified building. Thus, the concept of modernity and progress depends on the culture's beliefs, and only the community can determine what their needs, preferences, and ideas of improvements.

The second idea constantly raised that must be acknowledged is that reading about other cultures is insufficient to understand their needs. This is particularly true for Indigenous communities who have not actively written publications nor built their own homes. Their worldviews may or may not be reflected in their homes. One way to look at this concept is to imagine yourself attempting to analyze someone with a settler background. Usually, in a society, the car someone drives, the outside of their home, the objects, and the organization of their house can all indicate notions about their history and who they are. However, this is not true for Indigenous communities since everything they own was imposed on them. It is not because the government provides them houses that these houses are the best option for their ways of living. They are not sufficient in quality, nor cultural terms and numbers. They are certainly not more modern just because non-Indigenous people designed and provided them. These are their homes only because these were their only option as people who had their resourceful land taken away from them. They did not have a say in the houses that they own today. They did not choose the number of bedrooms, the size of each room, the materials, and the appliances. They are given insufficient funding to purchase numerous housing units for the community and end up with culturally inappropriate designs and houses in substandard conditions. This settler belief should change, and houses should not be provided under these circumstances. Indigenous people should be consulted and guided regarding the development of their own housing. Essentially, a safe

space should be created in which community representatives can express themselves so that researchers are able to advocate for better housing conditions collaboratively and reflect about culturally appropriate designs.

Acknowledging that the literature could not accurately represent the Swan River community, since there has been no such engagement and consultation with them so far, a research project involving other communities was studied to understand common approaches to interpret cultural priorities of Indigenous communities in Canada. The research project investigated was a hypothetical Calgary Centre for Aboriginal Culture studied by Sinclair et al. (n.d.). This project revealed the cooperation between both cultures, Indigenous and non-Indigenous, which expanded people's perspectives, uncovered specific design opportunities, and enabled compassionate discussions that ultimately resolved conflicts. By teaming up with Elders, project participants were able to gain insights into the past and the present of Indigenous peoples. Several topics were studied in relation to researching buildings particularly designed for Indigenous communities. These topics included symbols, structures, myths, spirituality, governance, language, and values. Ultimately, the willingness to understand the Other and listen to others' beliefs and knowledge led to envisioning more appropriate spaces wherein Indigenous people had greater constructive action. Overall, the practice of seeking an understanding of Indigenous people's cultures, languages, and traditions was found essential to the Indigenous healing process. By connecting with these cultures and listening to their stories with our hearts, it was possible to understand the key struggles they faced and the cumulative impact they caused over time (Yellowhead Institute, 2019). To act respectfully with these communities and appreciate the land are crucial aspects that allow the balance of people's needs and the health of the land, ensuring the honouring of traditions and the availability of resources (McAdam, 2015).

It was also pointed out the importance of taking the time to understand community policies, standards, values, and goals before engaging in a home design. Traditionally, building a relationship before submitting proposed designs makes it possible to enhance community engagement and, consequently, develop contextually-inspired projects and better residential experiences (Sinclair & Pour, n.d.). Fundamentally, projects conceived with appropriate understanding and engagement ensure Indigenous peoples' health and the quality of their homes. Sinclair et al.'s (n.d.) article noted inspirational teaching from one Elder that must be considered in cultural design involving Indigenous communities. They mention the importance of listening not only to each other but also to one's inner self, Mother Nature, and all of Creation. When one allows the inner artistic genius to manifest, one understands and builds spaces with respect to the land and all things connected to the land. This sincere effort to achieve harmony between us and nature is what makes a prosperous and harmonious world. Essentially, the effort to show consideration to other points of view and to listen with genuine interest to different cultures is to acknowledge the importance of *cultural appropriateness* and the community's cultural practices while being sensitive to others.

Culturally Appropriate Housing for the Swan River Nation

Several hundred years ago, Indigenous people worldwide built their structures in a manner that respected their culture, location, and climate. These structures were made based on the cultural needs of the communities and to withstand local conditions (The Centre for Indigenous Environmental Resources, 2004). However, nowadays, Indigenous communities' housing is predominantly designed and built by non-Indigenous cultures. Understanding the lack of cultural appropriateness and the resulting substandard housing conditions pointed out by the Swan River First Nation representatives in the previous chapter, the rationale for this chapter of

the study is based on the theory that the lack of cultural attention is one of the reasons for contemporary housing failures in the community.

In this study, the researcher investigated cultural appropriateness through an interview with a community leader and a focus group session with Elders and housing committee members. In conversations with these representatives, they expressed that their housing design is inadequate for their way of life and does not reflect them as a culture. This section uncovered the housing design aspects considered inadequate or insufficient for the Swan River Nation. This section also documented the representatives', their family's, and friends' experiences of the representatives, their family member, and friends according to the design needs and preferences they expressed. This was the first topic raised in the focus group meeting with the housing committee, in which they explained their intention to incorporate considerations of their culture into their homes. This topic has been crucial for the community since before the involvement with the research project, as they had identified the need for more cultural appropriateness into their dwellings and were making efforts to address this concern. Currently, these efforts include seeking the community's input through conversations and online platforms, connecting with the University about design partnerships, and implementing new technologies in the housing office to improve their efficiency. As mentioned in the previous chapter, the "Urban Housing" website is one of the valuable ideas of the community that will be used to collect information from community members about their housing preferences. This has been identified as a valuable tool for future research to collect data in an approved means by the Chief and Council and discover essential information from all community members about their needs and priorities on how their houses should be built.

This was also the first topic raised by the community leader in the interview. He explained that the design of the community dwellings does not promote their ways of living and is not explicitly planned for their families. Since the community only receives limited funding, they also have limited options for houses. They are only offered options within a particular price range, and homes are usually designed *by* and *for* the Western Culture. These houses are sold to the community without any thought about their ways of living, such as if their daily habits are different from the designers, if their families have different interests, and etc. The Indigenous community is not the one who decides how their housing should be. Instead, they are given two or three choices of standard houses and have had to adapt their ways of living to these homes. Considering the human and Indigenous rights expressed earlier in this research (United Nations, 1948, 2007), Indigenous peoples' input should be sought before any design. Therefore, the investigator sought input from the Swan River Nation community leader and the housing committee for future research and design of homes.

The community leader also expressed that they do not have any desire to give up their culture more than once. He constantly expressed their aspiration toward self-determination. According to this individual, they are an old society and culture. They are not comfortable with the attempts to disconnect them from their culture and assimilation to the Western culture, including taking their children to residential schools, suppressing traditions, or building culturally inappropriate houses. The representative even mentioned that they "just want to be able to be ourselves." When asked about how to design more culturally appropriate homes, the representative explained that because they have not had control over housing decisions for decades, it is challenging to understand and create a concept of how a culturally appropriate house in this time could be designed to reflect their ways of living. According to this

representative, they are not aware of how they used to live can influence how their houses could be built today. Consequently, the community leader expressed the interest to connect with people that could translate their desires and habits into culturally appropriate homes.

The discussion of culturally appropriate homes could unravel any idea. For instance, it could mean that the community could prefer a certain type of material with a more natural feel, or preference for a particular house shape or a different organization of rooms. While some cultures prefer more privacy, others are more open to new relationships with neighbours and extended family members. When connecting about this topic in the focus group session, it was noted that the possibility of adapting the home according to the ways of living of the Swan River Nation community and each particular family is still unexplored. As explained by the community leader, these individuals had never had a chance to consider new types of houses or choose different arrangements of spaces. Therefore, it is difficult for them to envision their preferences instead of what they were provided for decades.

During this conversation, the housing committee members started to point out a few aspects of how their homes could be modified. They mentioned the importance of the kitchen for their families. One member referred to the kitchen as the center of the house: the space where the families "party." This statement introduced the significance of the kitchen. It provided an opportunity for new spatial speculations wherein the kitchen is more important than the living room, as opposed to most Canadian home designs. Given the importance of the kitchen in their culture, priority in terms of space could also be given, such as providing a larger kitchen and dining room where families could invite their extended family members for dinner parties.

Another member explained that their family turned one of the three bedrooms of their house into a dining room so they could all fit into the kitchen area. However, when their

daughter had to move back with them for a year, they needed that previous bedroom that became the dining room. This testimony revealed two things. First, the kitchen for them is a central space for gathering in the home that needs to be large enough for the immediate and extended family. Since this individual has one of the few larger houses on the reserve and was still facing difficulty fitting all the family in the kitchen, the community will often need larger kitchens and dining rooms for frequent family parties and reunions. Second, an appropriate solution is to provide larger houses. As implied by the session with the housing committee members, just modifying the uses of each space is not sufficient to address their concerns since they have bigger families and different habits of visitation and gathering that require a larger kitchen and numerous bedrooms. These families in the Swan River Nation community need more space.

After this testimony, the housing committee members were asked about their desires if they could change anything in their homes. Their responses varied between wanting a bigger kitchen, bigger bedrooms, more bedrooms, or more bathrooms. While the researcher imagined a wide range of possibilities, the wants of the community were much more practical and were related to family size. Their needs are urgent to the point where it is not appropriate to be thinking about different shapes, materials, and other inventive design ideas. What they need is to change the organization, the durability, the sizes, and quantities of rooms. Their needs are practical and focused on cultural appropriateness because they are related to their community's specific ways of living including proximity to the family and the social support aspects of their culture. For example, while homes for non-Indigenous people in Canada are typically 3-4 bedrooms, which is usually adequate for the typical non-Indigenous family, the families in the Swan River Nation community are bigger. Thus, the size and quantity of rooms should be changed accordingly. These are immediate needs for improving their quality of life.

One housing committee member justifies this need by saying "Cause you have, even those trailers, it's only a 3-bedroom trailer, it's like well... if you have 3 kids, all of the sudden, you know, what do you do?" While most houses in the community are built for about four people, most of their families had more members, and there is not enough room for people to have their own space.

Another aspect raised by this statement is the difference between the length of time that people will live in their homes. As explained by the community leader and in the housing policy of the Swan River Nation, most of the houses in the community are social homes. They are not owned by the occupants, and when someone moves, they are simply exchanged between band members. Additionally, there is no sufficient funding for a variety of housing options in the community, which results in community members spending most of their lives residing in the same home. While non-Indigenous families move to larger homes when their families grow, the members of the community do not have this option. Young families may get a home that suits their current needs but when the size of their family increases, they end up with an overcrowding problem. Another member built on the former statement pointing out a preference for bigger bedrooms saying:

In a bigger bedroom at least, you could fit a couple of beds in there. The way that bedrooms are, they are small, super small. My kids, one has 7 kids, and one has 6 kids. We have a 4-bedroom house. The bedrooms are so tiny.

This example demonstrates how large the families in the community are compared to the typical Canadian family, illustrating the need for larger rooms. As this individual explained, she could have 13 grandkids visiting in addition to her own daughters and sons. This person would need a particularly large kitchen to have a family gathering that could fit all of them comfortably. They

also mentioned that they usually have just one bathroom, which is not enough considering the size of their families. Their sons and daughters also face challenges having 3-bedroom homes and only one bathroom for themselves with six to seven kids. This situation creates problems of a lack of privacy and increased family conflicts due to lack of space.

Understanding this need, they were asked what would be more beneficial for the community: larger bedrooms or more bedrooms. They agreed unanimously that the best option was to have larger bedrooms. Although it would be beneficial for each family member to have their own space, knowing the sizes of their families and the limited funding provided, they thought it was more reasonable to have larger bedrooms. One of the members justifies this decision by saying: "They live in a 4-bedroom trailer (referring to their family). So, if they had bigger bedrooms, it would be way better. Because there's no way you're gonna have like 7 mini bedrooms. It's not really realistic unless you're rich." This statement spoke to the need for larger bedrooms to accommodate the size of the families but also demonstrated the conditions in which the children live as a result of the lack of space. Based on the restricted space for the family, it can be inferred that there is limited privacy for the parents and insufficient room for children to play, study, and socialize in their homes. The small number of bedrooms consists of children sharing rooms which can generate conflicts in families with kids of different ages and opposite sexes.

In addition, participants' testimonies revealed that it is common for adult children to live with their parents due to limited houses in the community, resulting in two or more families living together in one house. The houses provided are not suitable for a large number of occupants, causing overcrowding living conditions and uncomfortable spaces for gathering families and friends. It was often pointed out that families may need extra rooms for extended family members or for events when their children and grandchildren will need to come to stay

with them for awhile probably because it is taking a long time to be allocated a house or their houses became deteriorated. A space for older children and grandchildren should be considered in the design. It is also part of their culture to open their homes to a family who needs it and to spend more time with family, and these cultural needs should be premeditated and planned in the design phase. These needs should be suited with sufficient bedroom space for large families, which include grandparents, parents and children living together, and large gathering spaces for families, extended families, and friends.

Another suggestion involving the number of rooms was the need to increase the number of bathrooms. According to the housing committee members, most of the homes on the reserve only have one bathroom. Usually, the trailers will have one bathroom and the houses will have two bathrooms. However, for the past few decades, they have only been able to purchase trailers. The houses are getting older, and their structures, finishing, and appliances have been wearing out. It was explained that even just adding powder room would greatly benefit families who only have one bathroom. The need for more bathrooms is imminent and should be addressed immediately with numerous people sharing a home. One of the housing committee members stated "I think everyone should have two bathrooms. Especially if there's a lot of people living in your home. Even if it's just the toilet and the sink." This opinion was again unanimous and disclosed their need for more comfort in the house to alleviate the stresses and social issues caused by overcrowding. Their need was later illustrated with a testimony of a family: "I've had a little line of kids in my little hallway for that one bathroom. (Laughter). The little boys, you're like, 'just go outside around the corner'. (Laughter). 'And come back in'." Although this situation was taken with humor, it is an excellent example of how their quality of life is affected by the

cultural inappropriateness of their houses and highlighted the need for an extra bathroom or powder room to alleviate their needs.

In summary, participants have expressed the need for various larger spaces including a larger kitchen, larger bedrooms, and more bathrooms to accommodate the size of the families in the community. The enlargement of space and increased number of these rooms can be translated into a need for a larger house that suits the needs of families larger than four individuals. As in some of the testimonies, some of the families are as large as nine individuals, not considering possible guests. These numbers should be acknowledged when designing culturally appropriate homes for the community members to avoid overcrowding and the social and health issues associated with overcrowded conditions.

In addition to comments regarding the number and sizes of spaces within the home, the community leader also expressed that it would be beneficial to have spaces where they could grow their own food. This aligns with the community's interest to live off their land. These spaces would also be beneficial to ensure access to nutrition and food sovereignty, which is the right and ability of a Nation to control its access to food supply outside the market system. The ability to grow their own food also contributes to the connection between the culture, the individual, and the land. It supports cultural practices and knowledge of living based on what Mother Nature provides rather than living off industrial markets. It develops pride and independence from food prices and ensures prosperity for generations to come.

The final comment from the community leader was about the desire to add a fireplace to the homes. This interest was also mentioned by the housing committee members and is aligned with statements from the community representatives when expressing their worries over the low temperatures in the region. Community members were concerned about the reliability of their

heating source, considering the cold that they often experience on the reserve due to its high latitude and lower average temperatures in the winter. Accordingly, having a fireplace or a woodstove is an opportunity for having a backup heating system that should increase thermal comfort and ensure heat security for their homes during the winter. The consideration of the climate and their supplementary need for efficiency in heating systems is crucial to safeguard the health and safety of the occupants of these houses. Additional measures that can be implemented include appropriate insulation and adequate construction without cracks and water leaks. Like decades ago, when Indigenous people determined their housing options and built structures according to the climate and location, a culturally appropriate home should ensure the same reasonable and healthy standards nowadays. The implementation of features that consider their land particularities are crucial to safeguard their safety and well-being, while respecting and acknowledging their relationship with the land and its climate conditions.

Overall, the community leader and the housing committee members raised similar topics in the conversations, which indicate similar concerns. Their statements revealed that their needs are much more practical than anticipated and generally more focused on the adaptation of the designs to their family sizes. Representatives recommended larger sizes and a different number of rooms according to their typical families. They identified the kitchen as a more significant space in the home that deserves more attention and a central position in the design. Other suggestions pointed out their desire to be connected to the outdoors, an idea linked to their beliefs and value to the land and Mother Nature. Some recommendations focused on ensuring their safety and health with backup systems, as well as establishing community independence. These are also culturally appropriate aspects since they speak to the community's traumas and lack of support that need to be discussed, respected, and have practical solutions implemented for

community healing. A summary of the culturally appropriate suggestions categorized by rooms is represented below in Table 4.

Table 4

Summary of Culturally Appropriate Preferences Raised by the Swan River First Nation Representatives by Room

Space	Comments
1. Kitchen	
Function	The kitchen is the usual space where the family gathers.
Location/organization of spaces	Kitchen as a central space.
Size/number	The kitchen should be larger.
Priority	The kitchen is more significant than a living room.
Use	Family, extended family, and guests.
Current concerns	Cramped spaces, need to turn spaces into the larger kitchen area and dining room.
2. Bedrooms	
Size/number	Bedrooms should be larger to accommodate families larger than 4 individuals.
Use	Family and extended family.
Current concerns	Lack of privacy, cramped bedrooms, space for their children and grandchildren in case they need a place to stay.
3. Bathroom	
Size/number	At least 2 bathrooms per family, or one bathroom and one powder room.
Use	Family, extended family, and guests.
Current concerns	Usually, just one bathroom per family causes long lines to use the bathroom.
4. Living Room	
Current concerns	Adding a fireplace to serve as an extra heating source due to common low temperatures on the reserve and increased need for thermal comfort.
5. Garden	
Current concerns	Preference for a space to grow their own food. Food sovereignty.

Although these preferences represent the majority of the Swan River culture since the data was collected through members of the community whose role was to represent the

community, engagement with each family is still recommended since every family may have different preferences and needs according to their backgrounds, routines, and number of members.

In addition, several challenges and general preferences were expressed and inferred in the discussions with community representatives. Table 5 summarized the discussions about each of the topics raised in the meetings, observed in the site visit, and studied in the literature review.

Table 5

Summary of General Challenges and Preferences Raised in Discussions with Swan River Representatives in Terms of Cultural Appropriateness.

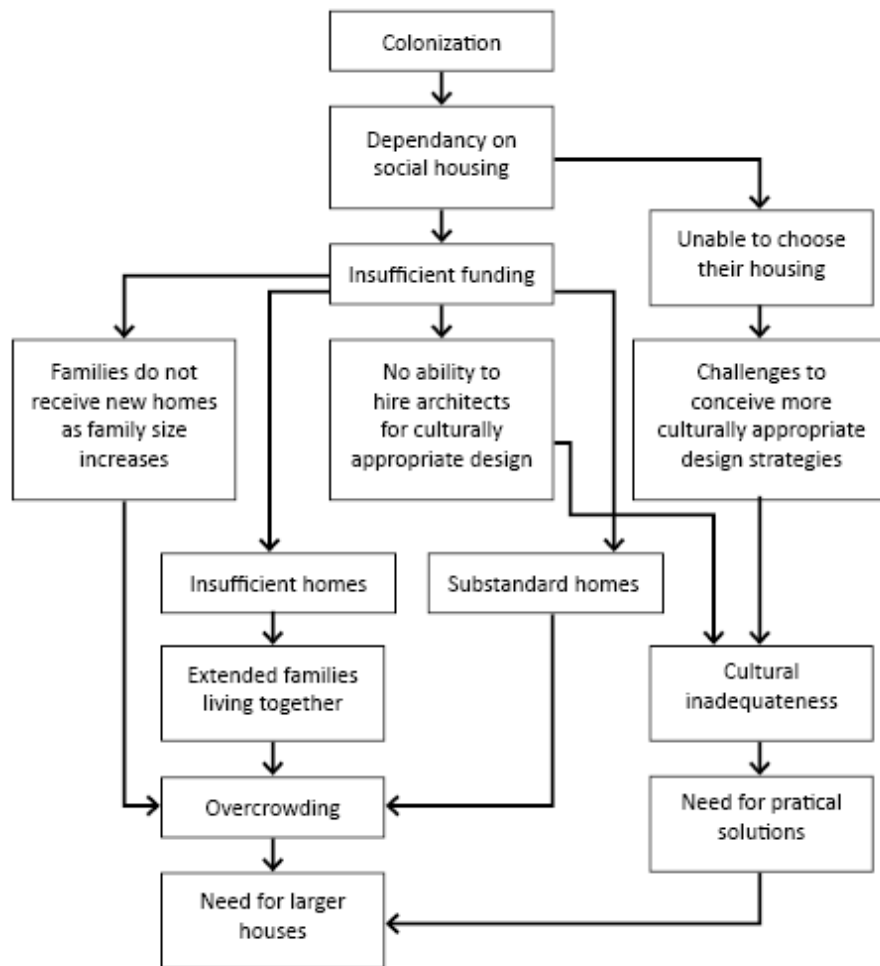
General Challenges	Comments
Limited funding	Due to the limited funding, the community is not able to choose designs particularly conceived for their community and is left with culturally inadequate alternatives.
Age of residence	Families do not tend to receive new houses as their family size increases, leading to overcrowding issues.
More than one family living together	Testimonies revealed that several adult children live with their parents as well as their own kids in one home, leading to overcrowding issues.
Need for more space	Larger families require larger kitchens and bedrooms and more bathrooms. Consequently, needing a larger house as a whole.
Lack of space for children	Due to overcrowding situations, children are affected with a lack of individual space or even room to play and socialize inside their homes.
General Preferences	Comments
Desire to translate their needs into housing design options	The community has lived under these circumstances for a long time and finds it challenging to determine culturally appropriate strategies that suit their needs. It is their desire to work with an architectural designer to translate their housing preferences into spatial conceptualizations.
Practical preferences	Due to a range of housing condition problems and overcrowding issues, the community seeks mostly practical preferences for a dignified living.
Connection to the land	Representatives expressed the desire to be in more connection to the land including having spaces to grow their own food and ensure food sovereignty.
Consideration of climate	The community expresses the desire to have fireplaces as a backup heating source according to the climatic condition of the reserve. Effective insulation and passive housing design strategies may also benefit the community.

In the search for guidelines for culturally appropriate architectural design within the Swan River Nation, the challenges faced by the community and discussed in the interview and focus groups meeting revealed an interconnection of reasons for the current inadequate housing

situation. The relationship between these challenges and their reasons is demonstrated below in Figure 15.

Figure 15

Relationship Between Historical, Social and Economic Contexts and Current Cultural Inappropriateness Challenges Faced by the Swan River First Nation



The critical reflection of topics raised in the literature review and in the meetings with the community representatives added to the spatial perceptions during the site visit and enabled a comprehensive understanding of the interconnection between limited funding, substandard housing conditions, large families, and designs conceived without the input from the community.

The comprehension of these circumstances provides a holistic understanding of means to elevate psychological, cultural, and spiritual dimensions within the community's homes. By seeking an understanding of personal experiences and cultural needs in the Swan River Nation, this chapter provides a series of reflections on architecture. It exposes ideas to intervene in the disrupted housing system, and uncovers the constant disconnection and feelings of loss that have revolved around the Swan River First Nation since colonization. It suggests tools to translate the community's background and ways of living into culturally appropriate home designs that resonate with community members and their land.

Chapter 6: Sustainability and the Swan River Nation

It has been years since academics concluded that we need to change our habits to maintain life on this planet. It has been widely stated how it is crucial to reduce carbon emissions, reduce waste, and protect natural ecosystems, among several sustainable practices. While Indigenous communities have always been mindful of their impact on the land, non-Indigenous cultures have been practicing overconsumption of natural resources for years to the point that it has surpassed the capacity of a sustainable system. This consumption has been altering natural environments and, consequently, affecting the lives of all beings (McMichael et al., 2008). Although Indigenous ways of living have contributed little to environmental issues faced today, their communities face immediate and considerable effects of the climate crisis. Because their ways of life rely on local ecosystems and biological diversity, the depletion of natural resources, such as deforestation, unnecessary use of resources, pollution, and contamination of resources, directly affect their lives.

Several hundred years ago, when Indigenous people had control over their homes, they used to take into account cultural design elements and primary respect for Mother Nature and the planet's resources. In contrast, in non-Indigenous societies, the construction industry is responsible for significant impacts on the natural environment, society, and the global economy. Studies show that the construction industry uses 40% of the total energy production, which signals its critical role in sustainable development (Darko et al., 2017). With society's growing environmental awareness, green building and green energy technologies have received increased attention, and Indigenous inputs in architecture have become increasingly valuable. Indigenous knowledge and ways of knowing are more valuable when it comes to the design of Indigenous houses, as has been established in Chapter five. The present chapter explored the

motivation for employing sustainable practices in Indigenous constructions, its possible impacts, and the community representatives' opinions on the topic. The study utilized both an interview and a focus group session to investigate the Swan River First Nation's interests in sustainability, connection to the environment and land, and implementation of green energy technologies in their housing. This qualitative analysis uncovered the community's preferences regarding how their beliefs and respect for Nature align with the rising popularity of sustainable development and green energy technologies.

Establishing Context and Motivation for Sustainable Practices

Living in a world facing social, economic, and environmental challenges provides us with a responsibility and an opportunity. There is a responsibility to recognize accountability in the fact that people caused the decline of the planet's natural resources by not sustainably using them. There is also an opportunity to acknowledge more sustainable living methods and investigate environmentally-friendly buildings that are reasonable on climate and resources. Several researchers have been investigating efficient technologies that reduce energy and water use without impact to living standards. Since the building sector is responsible for up to 40% of energy requirements worldwide and a significant number of water requirements (Bauer 2010), it can be inferred that the construction of buildings substantially influences the demands of energy and water within their life span. In other words, buildings designed today will affect energy and water needs during the period they still stand. The construction of buildings today that preserve the land and natural resources are particularly significant to Indigenous cultures. They adhere to the belief system of the Seventh Generation Principle, which acknowledges their connection to their predecessors (three generations before) and their responsibility the current and future generations (three generations after); in total, seven generations. Building homes that support

previous generations' knowledge and preserve future generations' access to housing and land produces culturally appropriate housing for the community. Additionally, to invest in durable housing for the Swan River Nation, designs should consider the Seventh-Generation principle, which could mean influencing energy and water requirements of the home for the next 50-80 years. Thus, people who design buildings for the community today should consider and plan for buildings and houses that conserve natural resources and minimize waste, ensuring a sustainable future for the next generations.

It is also important to acknowledge that the construction of every building consumes natural resources since they use construction materials, land, water, and energy. Architectural designers need to be mindful that their proposals implement sustainable approaches that positively augment community development. Every step of the building construction and life cycle consume different resources, and it is the designer's responsibility to lessen the building's impacts on the valuable environment of the community. There has been a change of mentality in the construction industry, which explores different building methods that could provide outstanding housing standards while managing the current environmental crisis. Some researchers focus on learning about traditional constructions built on materials available in a specific location, such as stone, timber, and straw. In these constructions, transportation costs and CO₂ being emitted will be minimal as not all materials have to be transported to the site. This approach investigates how buildings may be built using local materials that keep elegant designs and increased levels of comfort while considering cultural and economic contexts within a community's traditional building practice.

A second approach is to balance the use of new technologies and contemporary building methods in a culturally appropriate manner for the community to increase the quality of life and

high standards of living while adjusting to the increasing demands for resources of fast-growing populations (Sayigh, 2014). This approach may implement energy-efficient technologies, build homes with high-quality wood-based materials that reduce carbon emissions or use prefabricated materials that minimize waste. In any case, especially in the Swan River Nation, where their families have been growing, sustainable development and sustainable building should be considered due to the impact on their lands. The community is experiencing an annual increase in demand for new homes due to their increasing population, potentially causing the depletion of finite resources.

While methods of implementing sustainable development – using traditional building materials and balancing new technologies for increased quality of life – are valid. This study investigated the community's concerns and opinions on the most appropriate and sustainable approaches within their ways of living, knowledge, and experienced restraints from federal government funding and programs. Essentially, this chapter advocated that the homes designed for the Swan River First Nation should be culturally appropriate, aligning with their beliefs towards Mother Nature and sustainable uses of natural resources (Swan River First Nation, 2017). It proposed the need to build homes designed that considers their entire lifecycle, including the use of appropriate materials, sustainable approaches that conserve natural resources, and lessened wastage. It suggested the need to lessen the environmental impact and implement sustainable design features, resulting in responsive buildings with better performance outcomes.

When reviewing the literature to seek strategies to implement these design features, this study referred to a respected author in the sustainable building field, Bauer (2010), who

published a book delineating steps to design a Green Building properly. This author subdivided the process of sustainable design into three stages:

1. Reduce building energy requirements, which consist of adapting the design to the climate and user's demands in terms of shape, orientation, materials, and so on;
2. Reduce misuse of resources, which means consciously choosing building materials based on environmental impact, durability, and transportation costs; and
3. Increase energy efficiency, which may be done by using an integrated approach that employs technologies and systems that generate energy or use less energy than regular features.

Buildings that have implemented these technologies are self-sufficient. These buildings that are so efficient they do not require external use of energy, water, or other resources once built, enabling them to be situated in remote locations without any connection to utility lines. This is often the result of the use of regenerative energy sources for electricity, cooling, and heating, providing opportunities for independence from utility bills and government-subsidized programs. This may be particularly beneficial for communities, such as the Swan River Nation, which has been dependent on the federal government for its housing programs and insufficient funding for follow-up and maintenance. This reliance has caused them to voice their concerns during the focus group meeting about feeling limited concerning the use of their land due to the minimum distances required to connect to utility lines. Community representatives demonstrated an interest in off-grid homes. This interest is further elaborated in the following sections of this chapter.

Optimizing every system and the overall shape, orientation, and materials used in construction may turn the building into one efficient integrative construction. These designs consider the user's cultural and practical needs and concepts of self-sufficiency, sustainability,

and minimum environmental impacts (Leaman et al., 2007). The design of this type of home involves a holistic knowledge of cultural needs, climate, energy, and structural design. All these factors should be considered harmoniously to properly build a home that supports the community's practices and contributes to the land's sustainable development.

Indigenous communities in Canada have indicated their interest in implementing sustainable construction and green building technologies for their community homes. Thus, the investigator studied what is presented the literature regarding these concepts. Available literature on sustainable construction and green building technologies were presented by non-Indigenous scholars. For instance, Darko et al. (2017) published a study identifying the drivers to implementing green building technologies. These drivers aligned with the general needs of Indigenous communities in Canada. For example, Darko et al. (2017) discussed that constructing green buildings reduces the lifecycle costs of construction, which is a particular need of the Swan River Nation due to insufficient funding for maintenance provided by the federal government. The community leader raised the intention to invest mostly in building homes to avoid further costs later was raised by the community leader as one of their priorities. Another general driver for green buildings was the increased energy and water efficiency, which is also a community interest. Some members indicated they wish to live in self-sufficient homes. The third driver is enhancing occupants' health and comfort, which is also a priority of the community, considering their homes' substandard, overcrowded, and unhealthy conditions. The fourth is the minimization of environmental impact and preservation of natural resources. The community prioritizes the protection of the land, especially in their traditional territory (Swan River First Nation, 2018). Finally, the fifth motive for building green buildings is better indoor environment quality and thermal comfort, which also aligns with the community's preferences. Community

representatives indicated their need for improved heating and thermal comfort in their homes due to the reserve's location, which is in a particularly cold area of the country. Based on the similarities found between the literature review and the community's needs, sustainable housing is a crucial topic to be considered when designing homes for the Swan River First Nation community and further explained in this chapter.

Several methods have been identified for creating spaces that reduce damaging effects on the built and natural environments. Architectural designers should connect with users to find the most appropriate strategies to provide them a higher quality of life while respecting their community's beliefs, promoting sustainable development, and positively contributing to augmenting the community's homes. Although some concepts found in the literature may not necessarily relate to how a particular community would prefer their homes to be built, they promote ideas of general cultural preferences and sustainable building and guides researchers to develop a new concept of green building that is appropriate to the community's worldviews. The following section investigated the relationship between the literature on green buildings and Indigenous communities to compare the perceptions and ideas provided by the Swan River community representatives.

Natural Environment and Indigenous Communities in Canada

As previously established, academics have been raising awareness concerning the current environmental issues and hazards over the past decades. Academics have informed us about the impact of the human pressure on the natural environment and discussed how modernization practices had led societies to intense economic activities, population growth, climate change, loss of diversity, and shortage of natural resources (McMichael et al., 2008). Over time, the effects of the environmental crisis have expanded. The results of the modifications in the planet's

ecosystems have brought considerable risks to the lives of all inhabitants. They have affected particularly those whose cultures are based on the connection to animals, nature, and land, such as Indigenous peoples. Part of Indigenous worldviews is the belief in interconnection. Most communities adopt the philosophy that all people are connected to each other and the Earth (Gareau, 2015, Module 1). In that sense, the physical landscape actively influences their values and has a crucial role in their lifestyle (Gareau, 2015, Module 1)

It is crucial to reiterate Indigenous rights to practice their culture and sustainably manage their assets and resources, considering that their ways of living and cultural practice have been affected by the non-Indigenous disturbance to the natural environment (United Nations, 1948, 2007). This right was not respected for decades when these communities were moved to remote and sometimes scarce lands. They have always believed in the importance of the environment yet were still given housing options that had little to no concern for natural resources and their cultural beliefs. With the signing of the treaties and the creation of reserves, once again, these communities emphasized the importance of using resources sustainably, demonstrating their advantage over non-Indigenous individuals who do not know how to survive off the land. Through the years, Indigenous peoples' lives have focused on Mother Nature and protecting the land that provides everything necessary for their survival. Decades ago, Indigenous peoples acknowledged ecosystems were all created to sustain themselves (Capra, 1983). They developed ecological awareness and wisdom to live with minimal impact on the environment. Sustainable practice holds special value, particularly among Indigenous communities, whose lives are often organized around their awareness of the environment. They represent an expression of their cultural practices and benefit the community by the mitigation of current environmental concerns.

The environmental crisis is becoming more critical with temperatures increasing and summer ice continuously melting in the Arctic (Thériault, 2013). During the fall, water takes longer to freeze, and ice melts rapidly on the coasts in the spring. Consequently, animals, such as polar bears, walruses, and seals, had their lives disrupted. Indigenous populations, such as Inuit and Dene, have had their ability to travel safely to hunt and fish compromised. Their relationship with the traditional land has been jeopardized (Gareau, 2015, Module 8). Arctic communities are also worried about the possible loss of their infrastructure, such as the slow melting of permafrost that supports their constructions (Leduc, 2011; Wright, 2014). The issues of climate change and the effects of different climatic patterns in annual migrations cause various transformations in the distribution of animals such as whitetail deer, magpies, and other types of plants and animals, effectively altering Indigenous ways of living (Gareau, 2015, Module 8).

Due to non-Indigenous excessive and wasteful use of natural resources, Indigenous people's lifestyle has been threatened. Even communities that adapted to the European farming way of living have been deeply affected. The soil needs to be fertile, and the climate needs to be stable to have food supplies. Freshwater is a constant need, and ecological support, such as pollination, is crucial (McMichael et al., 2008). Thus, Indigenous communities all over Canada have expressed feeling overwhelmed due to several developments that impact their lands, either in terms of quality of water, availability of wildlife, or the rights of future generations to exercise their treaty rights (Gareau, 2015, Module 8). To address these issues, many Indigenous communities have responded to the environmental dangers by monitoring their lands. They keep track of water, fish, wildlife distributions and numbers, and any harmful developments. This observation is beneficial to the environment and the communities as a cultural procedure that represents Indigenous care of their land (Gareau, 2015, Module 8).

This attention to the natural environment is part of Indigenous knowledge referred to as traditional ecological knowledge (TEK). It refers to a way of life and knowledge gathered over thousands of years of interacting with the natural environment. It represents knowledge, beliefs, traditions, practices, institutions, and worldviews developed by Indigenous communities while respecting Mother Nature and appraising ecology (Reyes-García et al., 2013). These techniques have been gaining cumulative recognition over time and have been passed through generations. This knowledge can refer to several ecological fields, including the landscape, the wildlife, types of snow, and medicine, among others. For instance, some communities are experts in identifying local plants and animals, with the ability to recognize over 1,600 plant species. Others are exceptionally skilled in dealing with the landscape of their geographical area (Knowledge & Centre Canada, 1993).

TEK can cover many areas but is always focused on sustainable management of resources and respectful interaction with the land. Such valuable expertise is transmitted between generations. The familiarity with balancing pressures on the ecosystem is discussed from an early age and comprises part of communities' cultures. Although TEK may be notably different from the scientific method of acquiring knowledge developed by the Western culture, there are also some similarities between the two which makes it possible for non-Indigenous designers to implement. The scientific method appears to be more rational (following a series of steps), while TEK is more intuitive (based on observation and experimentation). For example, when building cathedrals several years ago, the Western learning process was not just based on intuition. It was learned by experimenting with different materials through time and observing their behaviours and resistance. Accordingly, TEK is acquired by living with nature and understanding the territory through thousands of years of experience. By the same logic, neither the empirical

scientific method nor TEK is exclusively based on rationality nor solely on intuition. Every discovery process involves intuition and rationality and can be used both by Indigenous and non-Indigenous societies. In any case, TEK is a way of life rather than a precise conceptual method to be defined. It is a lifestyle capable of offering many lessons in managing resources (World Commission on Environment and Development, 1987) that should be used to improve the housing of communities whose interests align with sustainable practices.

These communities are familiar with their lands. They are aware of when the land is affected. They have voiced their concerns for a long time (Kulchyski & Tester, 2007). Arctic scientists also recognized the impact of the environmental crisis and began to work closely with Indigenous people. The collaboration results in the best of both Western science and Indigenous knowledge to understand the repercussions, organize plans to adapt, and establish appropriate sustainable development strategies. However, the connection between Indigenous and non-Indigenous populations is challenging due to the mistrust of colonizing practices and the ongoing consequences Indigenous people still face today. Collaboration between Indigenous and non-Indigenous can also be mutually beneficial. It is a fact that Indigenous ways of living to respect the environment and know how to manage natural resources properly.

This chapter aimed to question non-Indigenous unilateral decisions in Indigenous housing when non-Indigenous people are not the future occupants of these residences. The non-Indigenous are currently dealing with several environmental issues that the Indigenous population may have valuable knowledge to contribute. Non-Indigenous people have been studying sustainable construction and energy generation methods that may also benefit Indigenous communities, such as the Swan River Nation. This reflection raised the attention to understanding how these two groups can collaborate to share knowledge, understand each other's

perspectives, and bring the advantages and lessons learned from both methods to improve the Swan River First Nation reserve homes. This chapter recommends that the federal government recognize different ways of knowing (that is, Indigenous and non-Indigenous). Recognition of diversity of ways of knowing enhances the legitimacy and effectiveness of environmental policies in Indigenous communities (United Nations, 2007). Through the acknowledgement of the need for reconciliation and non-Indigenous people's responsibility regarding climate change with the understanding of cultural inappropriateness towards environmental concerns, the next section connects with Swan River Nation housing representatives to determine means of depicting their environmental interests.

Natural Environment through the Lenses of the Swan River Nation

Having acknowledged current environmental concerns and how Indigenous communities have been affected by climate change, as well as the community's interest to safeguard their land and environment, this study consulted representatives of the Swan River First Nation to identify their concerns regarding sustainable development, density and impact on the land, and methods of energy generation. These topics were studied and determined according to the literature review and conversations with the Swan River community leader during the determination of the scope of research. The data collected during these meetings represented the community's interests regarding their need to connect to the natural environment, using sustainable features to express the community's preferences, measures to protect their land, and strategies that enable building houses that support community's self-determination.

The first topic raised in terms of sustainable development when interviewing the Swan River community leader was their goal to sustain life on the planet that caused the least impact possible. Based on the community's value of Mother Nature as the one that provides everything

for them, the natural environment should be preserved and considered when designing a home for them. Considering the insufficient funding and reduced resources for constructing new houses, they also mentioned that their purpose is to be as efficient and as sustainable as they can in all of their actions, including developing housing options. Based on the interview with the community leader and from the literature review that constantly discussed Indigenous connection to the land, it was speculated that there is a need to design homes with specific features of connection to the land. Subsequently, the housing committee elaborated on the topic during the focus group session. Two different opinions were offered when asked about the need for more connection with the environment and the land. Some members felt that their house should have more connection to the natural environment and enable more natural light as a tool to connect with the land.

My house is really tiny. In my living room for many years, I just felt like there wasn't enough light. I blew out the wall and put a patio door, you just feel connected. Some days my curtains are open because we can see the trees, it just feels..., it's a good feeling. 100% I feel that.

Others said that their places may be small but there are a lot of windows to satisfy their needs.

The majority of the places here have a lot of windows in them...And my place is small but there's a lot of windows in them... Some families, they have very small windows. The one I have, I have 2 great big windows, I open them, and I see everything.

According to these testimonies, it was implied that the connection with the outside is a preference in the community. While it may not be a priority because of other crucial needs that affect their health and safety, all members expressed their wish to have enough light and a relationship with the outside environment in their homes.

Regarding the use of natural materials, members revealed a preference to feel connected to the land visually, but they did not necessarily require any physical involvement of natural materials. The only point raised was the visual connection with nature through windows. Other strategies, such as preference for natural materials or organic shapes, can be further explored once their immediate needs and preferences are satisfied.

In their current perspective, a connection to the land may be fulfilled with a less aggressive disturbance of the site and a sufficient visual connection to the environment. This aspect may have already been accomplished in some of the houses on the reserve and should be maintained in further designs and partnerships. As one of the strategies to support and implement the use of natural light, it was suggested to design larger windows instead of installing numerous windows. “Like when you’re building, or when you are designing, I should say, instead of having 3 small – having 2 giant windows. You know, just little things like that.” This approach allows the inhabitants to have equivalent sunlight into their homes often while retaining a better and unobstructed visual connection to the outdoors, maintaining their relationship with nature from their homes.

The community leader also pointed out interest in enhancing the connection to the outside environment by proposing spaces designed so users can be outside while on their own property. These spaces may be backyards with enough space to connect to nature, perhaps by growing their own food or medicinal plants, providing a means to develop their relationship with the land, and reclaiming culturally appropriate food and sovereignty. Alternatively, the space could be a landscape so family members could gather and children could play. There are a variety of possibilities to establish the connection to the natural environment that the community seeks. The

designer's role is to explore alternatives and determine the most appropriate means for each home and family.

The housing committee members were asked if they were concerned about the impact new houses could cause on their land, especially with the increasing number of community members and the need for more construction to generate an appropriate number of houses. It was concluded that density was not a concern for people with their own land on the reserve, but it could be for people who still have to be allocated a house. It was explained that, even though the land is large, not everyone owns a portion of it. It was also pointed out that the concept of "owning" land is different from their perspective. When a person *owns* the land on the reserve, it means that they have been allocated to a particular site. People who are still waiting to be allocated a piece of land may have difficulties finding a desirable location as more people get allocated and fewer portions of land are available. Currently, people can still choose a piece of land that they prefer. Over time, if people receive the appropriate number of houses that they should, allocation of land could become a bigger challenge. This is particularly important since the land they are allocated, although not specifically "owned", can be passed off to family members. Considering community's values of family, including past and future generations, the allocation of land is particularly valuable as a measure of intergenerational solidarity.

Another point that sounded to have potential in the community was off-grid housing. As stated before, since this community is seeking independence from external government members and stakeholders, the opportunity of building off-grid houses would allow for houses in the community to be self-sustainable. In addition to freedom from utilities, these houses could generate enough power during the day to be stored and used at night, enabling self-reliant access to power. This option is ideal for remote areas where access to the grid could be far and

expensive. Although this is not the case for the Swan River Nation, it is an optimal alternative for when allocation along the power line is entirely used or when someone in the community wants to be allocated in a different area further away from the serviced location, as discussed in the focus group meeting the situation of a family member of a housing committee member.

Yeah, you know, but we have to, we got (name of community member) is gonna be here and I'm gonna need a place for dad in here and we can put you here. And it's like, but, this big beautiful land, I wanna put it the 'hell' over here. But you can't, cause the services are there.

This statement demonstrated how community members might feel anchored to external stakeholders' requirements due to the need to be close to utility lines. According to the Swan River housing policy, homes are required to be at least 10 meters in proximity to the power line. This comment also indicated their desire to occupy the rest of their land and choose particular locations to live, according to their connection to the area or proximity to family members. Based on the statements of representatives, when community members wish to be allocated far from utility lines, the currently available option is to pay out of their own pocket to extend the service to the desired location. When this is the case, the band could only pay to extend the service one pole length away, and the remaining needs to be paid by the members.

My daughter, for us, for example, she's already got her little dream spot that she's picked out. And she actually got a small spot...she wanted to be close to...She has to be close to one power pole away from the next, from the highway. She actually wanted to be further back, and she priced out how much that would cost, it was 30 thousand that would come out of her pocket to be at that little spot that she was looking at when she was a little girl...

The Indigenous population grows an average of 3.2% annually in the province of Alberta (Alberta Government, 2017). Currently, there is still no problem related to density (Figure 16), but the reserve may come to face issues with density over time. Implementing the option of going off-grid refrains the community from densify the community houses vertically (i.e., adding levels or storeys to houses) and still allowing the families to grow sustainably and self-sufficiently at their pace on their lands.

Figure 16

Map of Open and Enclosed Spaces in the Swan River First Nation Reserve



Additionally, it was observed that off-grid housing could be an opportunity to combine a sustainable way of generating energy with the possibility of living independently in areas more connected to the environment to produce their own food and reduce utility costs. These aspects are ultimately aligned with the community's beliefs, needs, and wish to decolonize. They cause

less impact on the environment, are less reliant on fossil fuels, and endorse traditional Indigenous ways of living off the land and freely through the land. Based on studies of past Indigenous communities in Alberta, Berry (2004) suggested an independent life of subsistence through Mother Earth's resources. Implementing these beliefs and ways of living in the community could surely benefit the community's houses and families. It will enable decolonization and living off the land while still providing a safe, comfortable, and durable home for the community's families.

Living off-grid also aligns with the community's preference for self-sufficiency while intending to be more independent from external stakeholders, utilities, and government members. By building off-grid homes in the community, members would not have to constantly rely on the grid yet continue to be served during power losses. During the focus group meeting, it was discussed that installing photovoltaic panels could be used as an option to generate energy in these homes. This was the option explored, considering possible appropriateness as the community has had a positive experience using photovoltaic panels. The focus group shared that this is a technology they are already familiar with since they have it installed in the house center. The community understands the costs and maintenance of use of photovoltaic panels, which resulted in positive outcomes. This alternative could put them in a position of power within the local power company. The community could sell to the local power company the surplus energy produced during the summer. The community will not need to follow all the guidelines established by the power company, such as hydro fees, proximity needs, and limiting the use of their land.

The housing committee was particularly interested in off-grid houses and even had some community members in mind who had mentioned enthusiasm for these types of homes for their

desire to live self-sufficiently. Throughout the discussion, it was suggested that off-grid houses could have the most potential for the single people in the community.

But that actually would help us with some of the single people that don't make it into like this 2-bedroom... Or they... Because we have other people that need the 2-bedroom. They are constantly getting the bad end of the stick. That would help them 110% because if it's a small sustainable home, then we home all of these other people.

Due to the need for housing and consequent preference given to larger families, single people often do not get allocated or receive the smallest and lowest quality alternatives. Off-grid homes are usually smaller units that could accommodate single individuals and small families, designed to have a minimal environmental impact. Off-grid homes could provide an adequate living for people who have been at a disadvantage even within their own community. Housing committee members began to speculate and demonstrate important elements to promote cultural appropriateness in off-grid houses and community housing. The Elder present in the meeting suggested, "I think of a place with solar panels, you know, with a wood stove, you know, with a fireplace. You would live off the grid. You just have your water tank and that." This statement described the willingness to live off the grid and also allowed us to presuppose the community's preference for natural elements in the house. A few times during the conversations, housing committee members made references and demonstrated interest in fire appliances and the use of natural resources, such as the woodstove and the fireplace. The implementation of wood-derived biomass fuel for heating or even cooking is a feature that promotes the community's wishes to decolonize and connect with the natural environment beyond installing large windows and visual connections.

It is important to state that off-grid houses must be designed to be self-reliant. It should not lack any utilities in the home just not to be connected to the grid. In other words, people should be able to maintain their way of living by using the resources of the land, such as solar energy, biomass, and greywater. These homes should be designed to safeguard the health and safety of their inhabitants, including all utilities. One member of the housing committee expressed that, although her family would appreciate living off the grid, when she was younger, she experienced an off-grid home in which she did not have access to utilities most of the time.

I've lived off the grid. I grew up in the north, we had no running water, no power, most of the time... In Paddle Prairie (Metis Settlement). We couldn't afford the waterline, so we held water from a river...the other side... It's hard... And chop wood and hold snow in the winter. I've lived like that for 7 years... And when we had no power, it was candles and all, that lanterns.

This same individual pointed out the difficulties in terms of insulation when living in the off-grid trailers when explaining the distress of chopping wood for heat, saying: "It was enough to keep... I was freezing in the morning in my room. But we had a fire going... It did heat up most of the thing to the hall. I'd just get up and go."

These statements demonstrated the challenges behind the concept of living off-grid and drew attention to the specificities that need to be considered during the design phase to facilitate the life of the inhabitant. It also brought attention to the fact that not all families would be interested in this option, having gone through similar challenges in the past in houses that were not properly designed and prepared. While this testimony presupposed a different kind of home – ones without any technology – than the ones recommended by this study, these statements can help determine what should be avoided when designing a house for these communities to

interrupt trauma and substandard housing conditions than perpetuating the same problems. In general, the housing committee concluded unanimously that there would be a lot of people in the community who would be willing and interested in living in an off-grid home, but it should be noted that these homes should be built in addition to the ones connected to the utility lines rather than substituting them.

Another topic related to off-grid housing and green energy technologies that the community members were also concerned about was utility bills. This was exemplified when one member talked about their experience receiving c-can homes (i.e., homes made of container) having found out that they would have no gas going to the allocated site of these houses. Thus, most of the services would have to be fed electrically. People who will live in this location will be cooking and heating using electric, which may significantly increase the energy bill. This testimony raised two critical points. First, they were concerned about possible increase in the cost of living and utility bills and were interested in the possibility that the construction of off-grid homes and the employment of energy generation features could alleviate these cost and energy consumption concerns. Second, they thought it was important that the off-grid homes be small, so it would not take too long to heat up or require extensive energy generation systems. For instance, in the hypothesis of utilizing photovoltaic panels, the size of the homes would be directly correlated with the size of the roofs, which is the surface available to install the photovoltaic panels. Thus, if the unit is small, it requires less energy and fewer photovoltaic panels to supply the energy demand and less roof surface to place them. Ideally, these homes should have enough power generated to run all appliances to be off the grid. The housing committee members suggested that, due to their concern over the cost of living and utility bills, photovoltaic panels could also be used even in homes within the grid since they could generate

excess solar power in the summer. The community members could then sell the surplus energy rather than pay considerable high amounts in energy bills. This will compensate for the winter months with increased energy use.

Although PV panels were the only alternative discussed in the focus group meeting, a variety of renewable energy systems could be employed in these homes for the same purposes. It could be further explored in consultation with the community. Some green energy technologies available in the market that could be further investigated are trigeneration, wind energy, geothermal, and biomass. These alternatives also have some potential to adapt well in the Swan River context, either due to the availability of resources or the suitability in housing contexts and possible alignments with the community's values of protecting the land.

Regarding the building envelope, it was advised that designs should be particularly mindful of the temperatures the community faces on the reserve. Windows should be considered for the visual connection, but also planned along with the building envelope due to the cold temperatures that result from the community's proximity with the Slave Lake and the latitude of the reserve. One of the housing committee members suggested: "That's another thing you have to think about, because it gets so cold out here. It gets so cold that you don't wanna open a window because it gets so cold." In addition to the geographical location and proximity to water, another factor that influences the low temperatures indoors is the lack of insulation. Since the use of appropriate insulation prevents heat loss during the winter, it must be ensured that the community is receiving airtight and effective thermal protection of the building envelope to safeguard inhabitants' health and comfort. A poorly designed/constructed building envelope will have air leaks and poor insulation resulting in the loss of heated air, which significantly lowers the comfort levels of the home. This may be one of the causes of the community's concerns

about low temperatures in the home and should have devoted attention when designing appropriate homes.

Zhang et al. (2011) pointed out some opportunities for implementing green building techniques and green energy technologies. Their article considers that aside from reducing operation and maintenance costs, green building techniques provide an opportunity for developing a green reputation and showing responsibility towards the natural environment. This may be a particular benefit for both the federal government and the Swan River First Nation. Since government actions have been branded as violent interventions to Indigenous personal lives, habits, and social structures (Leeuw et al., 2010), green building technologies are beneficial because they align with Indigenous cultural beliefs of connection to the natural environment. Therefore, using these technologies and green approaches is an opportunity for the government to improve its image as considerate of Indigenous culture. These technologies make it possible to improve the economic, social, environmental, and general performance of buildings that can benefit communities, such as the Swan River Nation, which has a history of being treated with inattention and neglect. While there is an increased initial cost when employing these technologies, implementing durable mechanisms may benefit the government financially in the long term, and the community by acquiring culturally appropriate and durable homes that require less funding for maintenance.

Aside from the initial increased initial cost, Chan et al. (2017) and Banerjee and Akuli (2014) presented a list of barriers that may be involved in the employment of green building and energy methods. These barriers are summarized in Table 6 and have been compared to the advantages inferred in the focus group session and from readings of the literature by Love et al. (2012) and Banerjee and Akuli (2014).

Table 6

Comparison Between Challenges and Advantages Raised by the Literature and Swan River

Community Representatives

Challenges	Advantages
Increased initial cost (Chan et al, 2017).	Improves the government image as being more considerate to Indigenous communities.
Lack of information (Chan et al, 2017).	More durable constructions require less funding for maintenance (Banerjee & Akuli, 2014).
Uncertainty about performance impacts (Banerjee & Akuli, 2014).	Less impact to the environment (Banerjee & Akuli, 2014).
Lack of skills to operate new products (Banerjee & Akuli, 2014).	Independence from external sources of energy (Banerjee & Akuli, 2014). Improvement of occupant’s health and safety (Love et al., 2012) Reduction of long-term costs for both the government and the community. Increased efficiency (Banerjee & Akuli, 2014).

While Chan et al. (2017) presented barriers such as cost and lack of information, Banerjee and Akuli (2014) showcased barriers such as the impact of uncertainty of performance and lack of skills to operate new products, as well as unknown alternative processes. However, both authors discussed considerable advantages such as the minimization of input costs, lower maintenance and operating costs, less impact on the environment, increased efficiency, independence from external sources of energy, etc. Love et al. (2012) also demonstrated that some of the reasons to implement green building technologies are to improve occupant's health, reduce environmental impacts, and reduce the costs as a whole building life cycle.

In conclusion, there is an imminent need to provide more culturally appropriate homes for the Swan River Nation. The design of these housing options should include more consideration and connection to the natural environment. By implementing sustainable development strategies

and establishing visual and spatial connections with the outdoors, future housing available at the Swan River Nation may contribute to strengthening their cultural beliefs and serve as an example to the world of sustainable housing and a way of living that confronts climate change and current environmental issues. Table 7 summarizes the suggestions provided by the Swan River Nation representatives. Table 8 lists the benefits discovered in the literature and from the Swan River Nation representatives to improve their living conditions while addressing cultural inappropriateness concerns and environmental issues.

Table 7

Summary of Suggestions to Improve Living Conditions and Address Cultural Appropriateness Concerns and Environmental Issues by the Community

Area of the home	Comments
General	Off grid homes.
Outdoor	Outdoor spaces in the property (i.e., spaces for growing their own food, spaces to gather). Installation of photovoltaic panels in housing.
Indoor	Large windows rather than numerous windows. Guarantee enough sunlight. Ensure sufficient insulation.

Table 8

Summary of Suggestions to Improve Living Conditions and Address Cultural Appropriateness

Concerns and Environmental Issues by the Literature

Category of Recommendation	Suggestions and Researcher’s Reflection
Improving living conditions	Construction of durable, new homes will result in decreased requirements for further funding for maintenance Enhancement of occupant’s health and comfort. Better indoor environment quality and thermal comfort. Supports allocation for single individuals. Minimizes risks of future allocation issues due to increased density. Decreased utility bills.
Addressing cultural inappropriateness	Lessen impact on community’s lands. Promote self-determination and self-sufficiency from power companies and government funding. Promotes Indigenous ways of living sustainably managing assets. Establishing sunlight and visual connection to the outside environment. Outdoor spaces promote family gathering and food sovereignty. Supports enough allocation and intergenerational solidarity.
Addressing environmental issues	Reduce energy and water demands. Conserve natural resources. Reduce lifecycle cost of buildings. Lessen wastage.

Chapter 7: Prefabrication and Modularity in the Swan River Nation

With the current shortage and lack of durability of houses in the Swan River Nation, as established by discussions with the community leader, the topic of prefabrication was raised and examined to determine its potential contributions to the community's main challenges. The subject was investigated in terms of cultural appropriateness, acceptance by the community, and potential to address their current housing concerns. In contrast to the traditional way of executing buildings on-site, in which individuals do manual labor work element by element, prefabricating means to create/build parts of the house beforehand, in a factory, so the construction site is only used for assembling standardized parts (Smith & Timberlake, 2010). In prefabrication, the building is being developed in two phases. The first is the manufacturing phase, which occurs in a specialized facility wherein materials are prepared to form a component. The second is the final installation on the actual construction site (Gibb, 1999; Smith & Timberlake, 2010).

Through the literature review, it was speculated that prefabrication as a method could align with the community's interests of building many homes, lessening overcrowding conditions at an increased pace, and improving the quality of the homes through factory precision and pre-selected, high-quality materials. Because prefabricated homes are often mass-produced, the costs of materials are also usually reduced compared to traditional wood-frame homes. In addition, because the cutting of materials will be done in a factory and the assembly will take less time than a conventional home, the construction time is shortened, leading to more reasonable budgets and quicker outcomes.

However, prefabrication has been dealing with periodic trends over time, and the community should be consulted regarding their opinions about the construction method (Gibb, 1999). Throughout the years, prefabrication has had phases of increased or decreased popularity.

Around the 1600s, prefabricated components, such as windows and doors, were shipped worldwide and pleased popular opinion (Smith, 2009). By the 1800s, England, dealing with several pandemics, developed a set of rapidly built hospitals made from prefabricated components that allowed quick assemblage (Gibb, 1999). These constructions, wherein the preliminary designs were focused on responding to urgency, were harshly criticized due to their cost and lack of comfort at the time (Taylor, 1991). Since then, the UK has been a leader in prefabrication, with several projects displaying innovation, new methods of production, and enhanced performance (Smith, 2009). Currently, prefabrication methods are used worldwide, with certain countries shown as leaders in specific prefabrication methods. For example, the US has demonstrated its success in the manufactured home industry and provided lessons on manufacturing methods to create different options and degrees of cost and quality (Smith, 2009).

Nowadays, several materials can be used to prefabricate, such as concrete, wood, steel, or even a mix. Each material can be used in various prefabricated methods, such as pre-cutting entire buildings, modular units, pods (pre-assembly rooms such as kitchens and bathrooms), and floor and wall panels (Li et al., 2017). It is important to understand the wide range of possibilities of prefabrication before conceptualizing a project so the designer can analyze and establish the best materials and methods for the Swan River Nation. Although it is not in the scope of this study to list all prefabricated methods, some of them are raised to explain the general advantages and disadvantages of this construction method and explore its potential use based on the statements of the community during the interview and focus group session. This chapter discussed the context of prefabrication and its potential use in other Indigenous communities as presented in the literature to examine how this method may benefit the Swan River Nation.

Testimonies from the Swan River Nation community members about their experiences with prefabrication and their perception of its potential use in their community are also presented.

Establishing the Context of Prefabrication

Prefabrication has experienced periodic streams of interest. Due to the need for quick construction to respond to historical crises or the lack of knowledge while employing a new method, there have been some strong beliefs that prefabrication represents a depletion of aesthetics and poorly constructed buildings (Tanney & Luntz, 2012). Others have seen prefabrication as a standardized approach grounded in 19th century conventions and 20th century modernism (Smith & Timberlake, 2010). Others, such as Walter Gropius, have seen potential in prefabrication in the housing sector, claiming cost reduction due to repetition of standardized components and innumerable possibilities of assemblages between parts resulting in customizable designs (Darling, 2006). With the construction market's rapid growth, prefabrication has become increasingly popular. Societies have been noticing the benefits of prefabrication, such as reduced costs and wastage, increased energy savings, and execution of factory-precise buildings made with high-quality materials. The implementation of prefabrication supports the concepts of energy efficiency while ensuring maximum precision in the airtightness of the building envelope. It also promotes sustainable development with reduced waste, enabling adaptability and flexibility of homes for future generations. While these aspects directly correlate with the Swan River community's interests, other parameters and possible disadvantages should be considered to evaluate the potential of prefabrication in the community. One criterion that should be considered is the lack of experience of designers and contractors with a new method and the maturity of policies and incentives (Li et al., 2018). Architectural designers may not be familiar with prefabricated and modular units, so there is a possibility that they would settle for
































insufficient design options without exploring the many prospective outcomes interchangeable prefabricated parts could result to. Similarly, contractors should be experienced in building prefabricated homes to avoid misinterpretations of construction drawings and improper assemblies. Before designing and construction, policies and standards must be in place to ensure that the community's interests and quality standards are followed. These steps are critical to prevent unsuccessful housing and the perpetuation of inadequate and substandard housing conditions in the community.

The refinement, investigation, and adaptation of prefabrication have culminated in some unsuccessful attempts over the years. However, it is essential to remember that any innovation goes through effective and ineffective projects. Through testing, it is revealed which methods are most suitable to use. The discovery of the suitability of methods could happen quicker for some than others. There is a greater extent of use of prefabrication methods than there was in the 20th century when most critiques of the method began. Prefabrication methods have gone through refinement over the past couple of decades, and studies present that there are more experienced designers today who can manage prefabrication considerations without compromising cultural principles. Experiences in prefabrication have demonstrated that producing something in a controlled setting off-site or establishing the design in the early stages to match certain materials and construction methods does not necessarily limit a project. Established architectural firms that work with prefabrication have shared their modular design concepts and prefabricated methods, demonstrating successful delivery of custom homes adapted to each site and client. This is done by articulating basic elements in a household to match specific situations. Architectural companies, such as Tanney and Luntz (2012), developed several typologies, as seen in Figure 17

and Figure 18, that demonstrate variability and adjustability to accommodate different design situations.

Figure 17

First Portion of the Prefabricated Typologies Matrix of 4 Architecture

	1 MODULE 1000 SQ. FT	1.5 MODULES 1500 SQ. FT	2 MODULES (2 FULL LINE SPACES) 2000 SQ. FT	25 MODULES 2500 SQ. FT
 SINGLE-WIDE SERIES				
 DOUBLE-WIDE SERIES				
 T SERIES				
 L SERIES				
 COURTYARD SERIES				
 TRIPLE-WIDE SERIES				
 Z SERIES				

Note. Collected from Tanney & Luntz, (2012, p. 16).

Figure 18

Second Portion of the Prefabricated Typologies Matrix of 4 Architecture

3 MODULES (3 FULL LINE SPACES) 3000 SQ. FT	15 MODULES 3500 SQ. FT	4 MODULES (4 FULL LINE SPACES) 4000 SQ. FT

Note. Collected from Tanney & Luntz, (2012, p. 17).

While these blocks secure modular constraints, the combined use of kitchen, dining, living, bedroom, and bathroom modules promote customizable typologies. The architectural firm 4 Architecture designed over 120 prefabricated homes based on a modular method that uses panelized, modular, and mixed methods (Tanney & Luntz, 2012). Each design is particular and different from the others, demonstrating each client’s and location’s individuality. Although this study showcased homes designed for non-Indigenous individuals, there is no reason why the same logic could not be applied in the Swan River Nation to ensure that their cultural needs are followed. However, it must be noted that the designs presented in Figure 17 and Figure 18 do not

represent culturally appropriate designs. Spaces designed for the community should be larger and should use more modules to accommodate the community's families. They showcase the variety of possibilities of mixing and matching modules and the potential diversity of homes that could be produced with the method.

The following sections investigated the potential of prefabrication as a method to benefit the homes of Indigenous communities and the Swan River Nation in particular. By identifying similarities between cultural beliefs and characteristics of the method – based on the literature and further cross-referenced with the community's testimonies and statements – this study sought an understanding of the contributions that prefabrication can provide to the Swan River Nation in terms of housing conditions and cultural appropriateness.

Prefabrication and Modularity Potential in Indigenous Housing

Different types of prefabrication have been refined and are currently growing in popular opinion, and these methods are being utilized in housing contexts. While seeking strategies that could contribute to solving the issues raised by the community, prefabrication has been studied to consider its many benefits. The literature review and the Indigenous' interests in prefabrication were examined in this study, and have guided the investigator toward asking more appropriate questions in the interactions with the Swan River representatives. The examination of literature and community's perspectives allowed for the prioritization of the community's well-being and effective participation in the research process. Accordingly, this section of the chapter raised speculations about the benefits of prefabrication based on the literature review, which will then be aligned with the Swan River community's statements and testimonies.

The literature has uncovered that prefabrication has advantages that drive customers to adopt it nowadays. Several of these benefits have been identified to potentially align with the

interests expressed by the Swan River Nation to address overcrowding, improved quality of materials and construction, and respect for the community's beliefs. These advantages include environmental benefits, production and precision, cost-effectiveness, mobility potential, and easy adaptability and flexibility. Each of these advantages will be further explained in this chapter.

First, prefabrication has widely accepted for promoting sustainable development (Aris et al., 2019). This method has several characteristics that uphold environmentally friendly ways of building, supporting Indigenous needs such as the ability to reduce construction waste, lower total construction costs, employ efficient use of materials, use less energy, adapt to various designs, provide higher quality homes, and ability to complete projects faster. These characteristics add to the community's beliefs in the conservation of resources and demonstrate that the method can contribute to strengthening the community's culture while building their homes. In terms of waste reduction, prefabrication is known for drastically minimizing construction waste compared to conventional on-site productions (Jaillon & Poon, 2014). For example, waste can be reduced by 100% with plastering with prefabrication (Tam et al., 2006). This is especially significant as the amount of construction waste in traditional buildings has increased over the last few years (Statistics Canada, 2014), and its consequent environmental impacts have become more significant.

Meanwhile, prefabrication is increasingly recognized by the construction industry as a means to provide cleaner built environments (Tam & Hao, 2014). One way prefabrication has promoted sustainable development is by reducing the construction energy use and the life-cycle of embodied energy and carbon. Wilson (2019) argued that since prefabricated structures are made to last longer life cycles, construction costs for energy and carbon use can be paid back over longer periods. Prefabrication is a method that ensures building longevity, reduces carbons

emissions, and supports sustainable development. Additionally, since factories have a more controlled environment, there is better control of energy consumption and gas emissions than in conventional construction sites (Wilson, 2019), reducing construction energy during the fabrication process. When designed appropriately, the life cycle of a prefabricated building can reduce emissions and material use and save landfill space. Prefabrication can also be a sustainable option concerning materials life cycle as it promotes the reuse and recycling of building materials, reducing land disturbance (Jaillon & Poon, 2014). Considering Indigenous belief systems of respecting the land, protecting natural resources, and embracing cultural design, prefabrication demonstrates several benefits that culturally align with Indigenous communities and could directly contribute to improving their housing.

Prefabrication and modularity can also promote sustainability as it allows for the rearrangement of homes or extension additions to the home to adapt them for future generations (Aris et al., 2019). This is particularly beneficial for the Swan River Nation since they often have large families and believe in providing for future generations. Professionals in the construction industry constantly recommend prefabrication as a technique that results in clean and sustainable environments (Tam & Hao, 2014) that are financially beneficial in the long term.

Secondly, prefabrication is advantageous in terms of productivity and precision. Prefabrication may have reduced construction time and, consequently, higher productivity and efficiency due to the standardization of components and modules. Since materials will be made in a factory, prefabrication involves better supervision and consistent quality, aligning with the Swan River community's needs for numerous homes with better-quality materials and assemblies. Additionally, regarding the mold issues found in the Swan River Nation, prefabrication can also offer alternatives to better control moisture. According to Wilson (2019),

the potentially high levels of moisture is much less likely to enter air-tight envelopes due to the controlled environment and strong, efficient and building code-approved materials used in the production of factory-based building modules. Suppose modules are appropriately designed, according to the site environment and location, and properly installed. In that case, these types of buildings will have improved building quality, have better insulation, be airtight, and promote better and more durable homes for the Swan River Nation.

Prefabrication carries advantages in costs with saved capital from early standardized design (Tam et al., 2007). This also aligns with the community's need to provide sufficient housing on a low budget. One of the most constant problems stated by the Swan River Nation is the insufficient funding provided. Prefabrication may be an opportunity to save significant construction costs and provide more durable housing to the community. Some of the advantages of prefabrication include financial benefits because of increased speed in construction and standardization of building components or modules (Wilson, 2019). The standardization of components allows for the production of many houses using fewer resources and with lower costs. Considering the overcrowding issues faced by the community, prefabrication could be a solution to provide affordable, numerous housing options to several families.

The fourth potential benefit of prefabrication is related to mobility advantages. According to the literature, prefabrication has shown promising potential in some Indigenous communities. For instance, this method allows for the construction of flexible housing, meaning that they can be easily disassembled and reassembled in different locations, which may benefit nomadic cultures, including some Indigenous people (Prout Quicke & Green, 2018). Despite the recently settled lifestyle of the Indigenous, some communities across Canada continue to practice hunting, trapping, and fishing over large areas around their traditional territory (Parlee et al.,

2005). These communities may benefit from homes that can be moved from one location to another during their traditional practices.

Finally, prefabrication can be highly advantageous for the Swan River Nation due to its adaptability potential. The versatility of architecture present in prefabricated methods is represented in the literature and is known as agile architecture. This concept portrays adaptable architectural design and strategies as a tool to respond to the evolving demands of spaces. Sinclair and Imam (n.d.) investigated architectural capabilities in terms of function in a world with extensive population growth, climate change, and scarcity of resources. They concluded that architecture could generate dynamic and adaptive designs that respond to increasingly unpredictable and uncertain environments. The capability of building environments that are adaptable over time is crucial in the context of this research as prefabrication and modularity has the potential to offer modified housing options over time according to the community's needs, including enlargement of families and changes in the provided funding. The implementation of prefabrication and agile architecture concepts aligns with the community's beliefs towards preserving resources for future generations, as it considers the homes themselves and the materials employed as resources of the community that can be passed on to future generations. According to the Seventh Generation Principle (the principle that determines the current generation should honour three generations before and after their own) followed by many Indigenous peoples, communities should seek a sustainable world three generations into the future, and consequently provide resources and housing options that could last long enough to be passed to future generations. Ultimately, combining agile architecture concepts with the community's concerns and prefabrication principles is a suitable strategy to develop more appropriate, responsive, and sustainable housing options for the Swan River Nation.

Additionally, Sinclair & Imam (n.d.) uncovered the idea of designing buildings that can constantly accommodate emerging technologies and shift along with occupant's living habits, enduring current and future challenges. This concept supports both flexibility and adaptability. Flexibility is the sense of being capable of creating different physical arrangements, while adaptability is about quickly adjusting to changing circumstances. Thus, the concept of agile architecture is a holistic and responsive measure that aims to connect design phases to produce more adaptive buildings. These constructions are usually more appropriate than conventional buildings, particularly in Indigenous communities such as the Swan River Nation, which value the natural environment and prioritize future generations' well-being. Essentially, this type of construction method is particularly suitable for communities needing resilient and agile structures that evolve as families enlarge, relocate, and merge (Sinclair & Imam, n.d.).

The adaptability and customization of modules and design strategies are examples of the concept of multiple modernities applied to prefabrication. As stated in the previous chapter and Eisenstadt (2000) explained, in a world filled with cultural diversity, multiple modernities refer to the multiplicity of ideological patterns in modern societies based on their varied worldviews and diverse belief systems. In prefabrication, there are multiple means to be "modern" by utilizing prefabricated methods that are not necessarily conventional. For example, there are cases of Mongolian prefabricated homes that were easily assembled by community members due to color-coding schemes, which empowered the community and promoted their self-determination. There are yurts in Turkey that are prefabricated, foldable, and movable to different locations, which align to their cultural preferences and resemble their primary dwellings in the area. It is also possible to substitute cold and industrial materials with warm and natural materials, masking the appearance of being in a manufactured home. Nevertheless,

prefabrication does not simply relate to contemporary materials and professional assemblies, and it may also incorporate designs based on cultural aspects that may promote cultural appropriateness and self-determination for the Swan River community.

While these benefits of prefabrication promote a possible solution to the challenges raised by the Swan River Nation representatives, some disadvantages will also be discussed to determine the feasibility and the potential of prefabrication in their community. Some of the disadvantages that should be pointed out are the implementation of new processes, elevated initial costs, and creative challenges. For instance, the first challenge is a productivity disadvantage due to the employment of new construction methods. Implementing new methods and standards is a time-consuming process and requires appropriate study and evaluation of the community leadership. There may be a general lack of experience and information about the method as this is a recent technology compared to wood frame constructions. Community representatives should be attentive while choosing and evaluating experienced contractors.

There may be cost disadvantages, such as high initial expenses depending on the prefabricated method and material, which may be challenging for the Swan River Nation considering the insufficient funding provided. However, prefabrication provides a cost-effective solution in the long term, especially for their future families, when the adaptability and flexibility of prefabricated homes are considered. The long-term cost-effectiveness of prefabricated homes is an advantage for both the community and the federal government. The community would be ensured sufficient and durable housing, requiring less funding for home maintenance. It would provide more funds for constructing new homes that can be adapted from the original buildings. The government would benefit from improving its image towards their actions to Indigenous communities across Canada. Furthermore, the government may not need to provide as much

funding for major maintenance of community houses. Additionally, depending on the material and methods employed, prefabricated homes could cost far less than building wood-frame homes because of the reduced planning and construction time. Prefabricated typically takes 50% less time to complete (Lerner, 2018) since different construction stages can be done simultaneously in the factory and on-site, such as site arrangements and building assembly.

Another challenge in using prefabricated and modular designs is the barriers to creativity that may be involved. Prefabrication became known due to the modern movement and its neglect of customization and heterogeneity (Tam et al., 2007). This negative aspect of prefabrication came about due to inexperienced designers becoming involved in this emerging construction method. Unlike designs conceived during the modern movement, this study acknowledged the potential to use modularity and prefabrication that refocuses attention to the human scale and establishes the importance of meaningful and connected spaces. When the architectural designer is creative and attentive to the construction guidelines in the factory, the possibilities with prefabrication and modular design are endless. This was discussed by an architect with Studio Z Design Concepts in Bethesda, Maryland: "You can do any style you want from traditional to craftsman to colonial to Tudor or contemporary...Prefab lends itself a little more to contemporary homes because of the clean lines, but you're not limited to that style" (Lerner, 2018, para 10). Working with designers who are knowledgeable about prefabrication methods could overcome the challenge of lack of customization and demonstrate the richness of diversity of employing this construction method. The implementation of prefabrication in the homes of the Swan River Nation may have potential by the pursuit of the diversification of spaces with the unity of components, maximized production time, and durable outcomes.

In a nutshell, some of the deficiencies of the method may be resolved with appropriate research or by hiring experienced professionals. For example, the idea that prefabrication methods are directly correlated to the lack of information is inaccurate. In general, the required information about this method is available. However, it needs to be practiced more frequently. Firms that have worked with prefabrication methods periodically tend to show positive outcomes in terms of time capacity and limited inaccuracies and mismanagements. In addition, in terms of costs, these constructions do have a higher initial cost compared to on-site constructions. However, they do become economically viable and favorable in the long term. When considering this type of construction, it is important to evaluate the duration for the use of this method. In terms of the limits to creativity, architectural firms worldwide have testified about the numerous possibilities that architects can achieve with interchangeable parts and modules with experience in prefabrication and modular design (Kasperzyk et al., 2017; Lerner, 2018). Essentially, each of these disadvantages is redeemable by choosing experienced professionals or due to the longstanding character of the constructions.

After identifying some of the potentials of prefabrication based on the needs expressed by the community representatives, this study also investigated the implementation of prefabricated housing based on the cultural aspects of Indigenous communities as presented in the literature and discussed their positive and negative aspects. One example of the implementation of prefabrication constructions in Indigenous communities was presented by Hanson (2008). It is the *'Knockabout Walkabout'* by Peter Myers in Australia, as seen in Figure 19, and Figure 20.

Figure 19

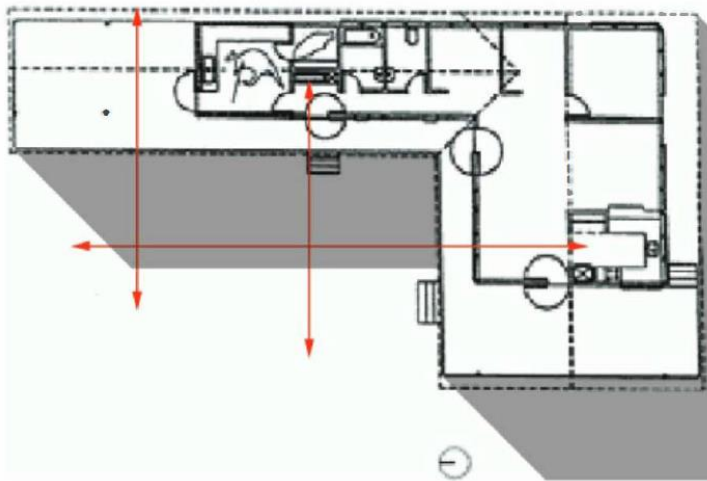
The 'Knockabout Walkabout' by Peter Myers



Note. Collected from Hanson (2008, p. 29).

Figure 20

Plan of the 'Knockabout Walkabout' by Peter Myers



Note. Collected from Hanson (2008, p. 28).

The '*Knockabout Walkabout*' is a prefabricated and modular house designed to respond to Indigenous cultural needs. It provides spaces that integrate the interior with the exterior, as per the common tradition of Indigenous cultures of spending time outdoors (Hanson, 2008). The home has a well-ventilated verandah (Myers, 2000) that promotes a sense of ease and connection

to the land through constant airflow and a clear view of the outdoors. Additionally, this home was designed for the owner to have access to his parent's house next door, which emphasized and acknowledged the importance of family to Indigenous cultures (Myers, 2000). Considering some communities' interest in deployable housing, this prototype utilizes a screw pile foundation and a lightweight frame and double roof system (seen in Figure 21 and Figure 22), allowing the structure to be moved to other sites (Myers, 2000).

Figure 21

Lightweight Structure of the 'Knockabout Walkabout' by Peter Myers



Note. Collected from Myers (2000).

Figure 22

Lightweight Structure and Roof of the 'Knockabout Walkabout' by Peter Myers



Note. Collected from Myers (2000).

This house was composed of sturdy and natural materials, ensuring the required durability and natural feeling, as seen in Figure 23 and Figure 24. Considering the funding issues faced by several Indigenous communities worldwide, the building cost was low (\$125,000 for the prototype in 2000 or \$590 per sqm) and allowed for design variations (Hanson, 2008; Myers, 2000). Although this home was designed for the warm climate in Australia, the benefits of this construction go beyond thermal performance and demonstrate modularity as a suitable alternative that could integrate culturally appropriate aspects and endless design possibilities. The *'Knockabout Walkabout'* offers a suitable structure for use as an affordable Indigenous house with strong internal-external connections, long-term durability, and mobile potential (Hanson, 2008; Myers, 2000). However, it should also be noted that, despite the positive aspects considered during the design, the floor plan reveals a limitation in space for Indigenous families that tend to be larger than non-Indigenous. Accordingly, a successful design for practical implementation acknowledges cultural beliefs and practices and the profile of families that may occupy these dwellings and their preferences.

Figure 23

Natural Materials and Connection to Outdoors in the 'Knockabout Walkabout' by Peter Myers



Note. Collected from Myers (2000).

Figure 24

Large Windows and Connection to Outdoors in the 'Knockabout Walkabout' by Peter Myers



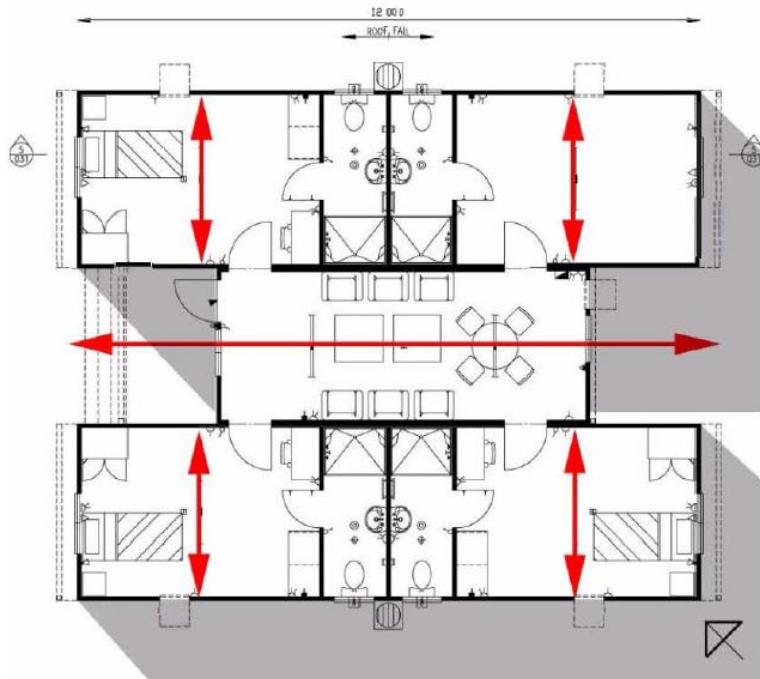
Note. Collected from Myers (2000).

The second example of a prefabricated housing option is *Ausco 'The Bungalow,'* also introduced by Hanson (2008) and represented in Figure 25 and Figure 26. This building is entirely prefabricated with hybrid modular unit systems that can be disassembled and reassembled, a feature that demonstrates potential in nomadic Indigenous communities. Its cost is also low, approximately \$90,000 in 2008 (Hanson, 2008), aligning with Indigenous interests in

affordable housing. The central living space has a direct view of internal and external living areas (Hanson, 2008), which was suggested by the housing committee of the Swan River Nation.

Figure 25

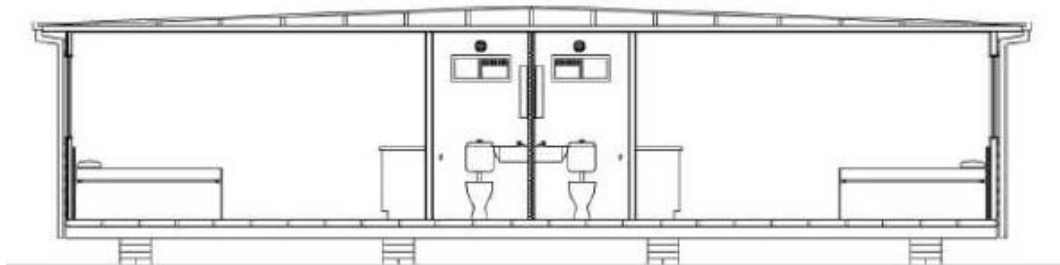
Plan of Ausco 'The Bungalow' for four people.



Note. Collected from Hanson (2008, p.30).

Figure 26

Section of Ausco 'The Bungalow' for four people.



Note. Collected from Hanson (2008, p.30).

Although this case study provides an excellent example of connection to the environment, due to its limited internal size of 117sqm, it would not be suitable for most Indigenous families, particularly those from Swan River Nation (Hanson, 2008). If this housing alternative could be modified to allow for an extended family to reside, it would be an appropriate option per its modularity's properties.

The third example is Covey Island Boatworks Arctic Housing presented in Figure 27 and Figure 28. This project consists of a prefabricated prototype home based on the Inuit tradition of turning down a summer hunting boat for a winter shelter (Jardine, 2008). Its structure is characteristic of a sailboat construction, focusing on a design mainly thought for Inuit communities of the area, demystifying some assumptions against customization in prefabricated homes. This prototype is composed of highly insulated wall components that can be easily deployable and assembled in different locations (Jardine, 2008).

Figure 27

Covey Island Boatworks Arctic Housing on site



Note. Collected from <https://inhabitat.com/prefab-friday-a-house-boat-for-the-arctic>

Figure 28*Covey Island Boatworks Arctic Housing Assembly*

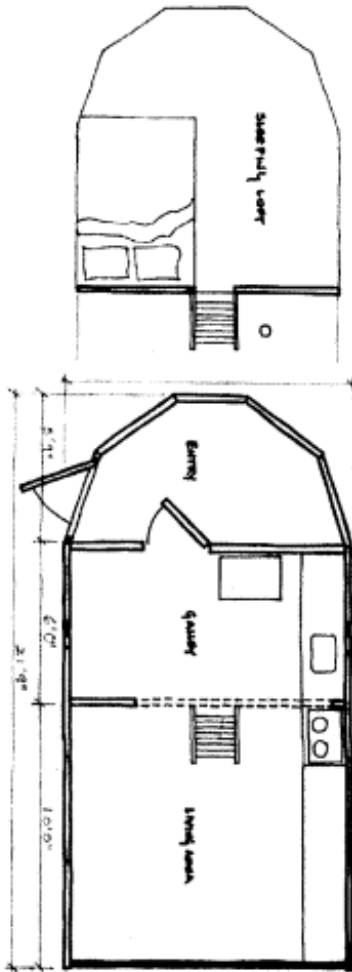
Note. Collected from <https://inhabitat.com/prefab-friday-a-house-boat-for-the-arctic>

The project also included off-grid solar, wind, and marine systems, generally seen in boating applications and are ideally suited to the Arctic's severe conditions, such as increased wind speeds, permafrost, and remoteness. Implementing these systems may also be beneficial considering Indigenous appreciation towards Mother Earth and their intention to manage natural resources sustainably. The building envelope was built from prefabricated parts, including 1" x 6" laminated curved ribs and 6" rigid insulation sandwiched between an outer and inner layer of 1/8" plywood (Jardine, 2008). Additionally, all surfaces inside and outside were treated with epoxy to avoid water penetration and wood decay (Jardine, 2008). The prototype's prefabricated pieces, including interior built-in furnishings, appliances, mechanical, and electrical sections were packed, shipped, and assembled in Rankin Inlet. This project revealed a series of beneficial practices and the potential of prefabrication in home design for Indigenous communities as it considers Inuit homemaking traditional practices, as well as land and climate implications.

However, researchers such as Jardine (2008) critiqued the inadaptability of the home in terms of enlargement and linkage between family homes (seen in Figure 29 and Figure 30), which is a crucial aspect for these communities that often lack space and face overcrowding issues. It is also inattentive to the community's needs as it was built in Nova Scotia instead of Nunavut, disregarding the potential to strengthen the community's potential for self-construction.

Figure 29

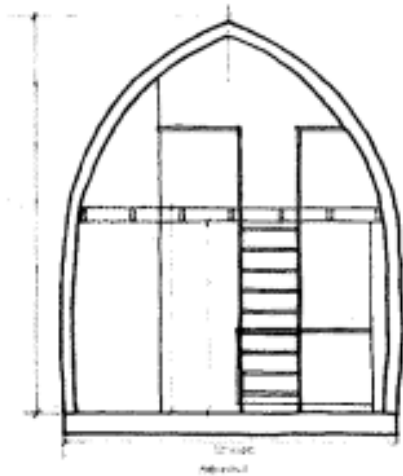
Covey Island Boatworks Arctic Housing First Floor



Note. Collected from Jardine (2008, p.19).

Figure 30

Covey Island Boatworks Arctic Housing Section



Note. Collected from Jardine (2008, p.19).

In conclusion, prefabricated examples worldwide are being studied or have been used to fulfill the requirements of improving the Indigenous housing experience in a culturally appropriate manner. Currently, the literature is still limited regarding prefabricated homes for Indigenous communities and has the potential to be further explored. Although there are positive aspects found in prefabrication and modularity implementation in Indigenous housing to endorse the exploration of the topic within the Swan River Nation, limitations were also found such as the lack of space and inability to link homes to establish a connection with their families and the rest of their communities, indicating cultural inappropriateness for Indigenous communities. Essentially, prefabrication is a strategy that enhances the durability of materials, and allows many houses to be built, conceiving modules in a culturally appropriate manner with the potential for families to customize their homes over time and be together as a community. The literature has revealed that prefabrication should be linked due to its low cost, and for allowing individualized choices and reliable products equipped with high-quality materials (Linner &

Bock, 2012). Prefabrication is considered an option that may address insufficient funding, lack of sustainable development, lack of durability, and overcrowding in the community. However, this topic should be explored further, per the testimonies from this study and in contact with the families of each home to determine the best practices according to their individual preferences.

Prefabrication and Modularity in the Swan River Nation

After speculating some of the potentials that prefabrication and modularity could have to improve the homes in the Swan River Nation according to the advantages and disadvantages of the method found in the literature, the community representatives' opinions were sought regarding their preferences and assessment of the method's potential. During the interview with the community leader, he revealed that they had had experiences with mobile houses in the community, specifically container homes. These options were chosen due to the affordability and availability of the remaining containers. However, these homes were not culturally appropriate and provided them with a low quality of life due to insufficient space and inadequate construction of building envelopes. In addition, due to restrictions brought about by COVID-19, they worry about the unavailability of shipping these homes. When asked about their interest in modular homes that could be moved from one place to another, with reference to the teepees that are part of their culture and are mobile, the individual clarified that, to be culturally appropriate, houses did not have to be mobile, based on their current ways of living. Instead, homes designed for the community should be able to "spread" in their land, referring to the increasing density of building more homes in the community and the reluctance of have a highly dense reserve. Although the community did not seek mobile homes, the community leader explained that they are not opposed to prefabrication. He expressed interest in Structured Insulated Panels (SIPS) and identified them as products that could benefit their communities regarding affordability, use

of carpentry, and proper insulation. Regardless of the construction method, he restated that any construction for them should focus on durability and cultural appropriateness since these are their most imminent and urgent needs.

Subsequently, a focus group meeting with the housing committee representatives took place, and they expressed their concerns about the quality and durability of the homes they received on the reserve. Assumptions were raised that most housing issues on the reserve were caused precisely by the “modulars”. The community representatives expressed concern with prefabrication due to their past experiences with the low-quality trailers received by the community. Housing committee members were particularly vocal about the durability of the prefabricated homes they received compared to the wood-framed houses that lasted at least 50 years. According to one of the members, if the reserve orders a prefabricated home, they will not be able to afford the best quality. They will consequently get a low-quality and non-durable option. This line of thought implied their preference for taking control of building the homes and for houses built from the ground up rather than prefabricated options. Another member alluded to houses in Edmonton that last 150 years as long as maintenance is up to date. They compared them to homes on the reserve that are 23-25 years old and are already being discarded for their precarious conditions.

From their point of view and based on their experience, prefabricated homes wear out quicker. For instance, one of the housing committee members stated that they have “23-25-year-old (trailers) that are in horrible shape, they have been destroyed and threw in a bin.” Their explanation reintroduced their perception of discrimination against the reserve with prefabricated homes and prefabricated elements. According to them, sending homes or parts of homes to the community gives the contractor the opportunity to send them low-quality or spoiled pieces. It is

implied building non-prefabricated homes on the site is much more reliable because it limits their dependency on external stakeholders who have disappointed them for decades in providing durable and high-quality materials. It is important to note that these statements about receiving cheaper materials and appliances that quickly wear out are not only speculations but testimonies of facts that they have seen and experienced compared to non-Indigenous deliveries from the same companies to the same distances and, allegedly, of the same products.

Despite the expected potential of prefabrication in the community considering the possibility of the method being able to provide numerous houses quickly to supply the demand for houses, it is still a challenging method to implement on the reserve due to the discrimination against Indigenous communities and the fact that it perpetuates a dependency on non-Indigenous stakeholders. When talking about the challenges faced with prefabrication, the community representatives acknowledged the cost efficiency that prefabrication may bring. However, one of their concerns is to find contractors that they can trust so they can be treated without discrimination and receive high-quality homes. Another aspect that they would like sorted before committing to other prefabricated methods is to have proof of the difference between a wood-frame house and a prefabricated house, especially one that suits their needs and is constructed by a reliable contractor. Based on their experiences, houses that were built on-site have been lasting a lot longer than the trailers that they have been receiving in the past couple of decades. According to their perspectives, the trailers are not even "houses." They have distinctively referred to wood-frame houses as "houses" and "homes", while the prefabricated ones were referred to as "trailers". These terminologies and statements refer to their discomfort with prefabrication due to their experience that recently built trailers in their community were of substandard conditions compared to the older houses that still stand in better condition. During

the visit to the community, the investigator observed the placing of a trailer in the community, as presented in Figure 31. During the focus group session, all the housing committee members present in the meeting expressed their dissatisfaction with only buying the trailers rather than being able to build traditional houses, such as in the statement:

Because going forward, I think for houses now we haven't been able to build a house here for what 25 years now? We haven't been able to actually build a house. So, we've only brought... I don't even see a house in the future. We've just been bringing trailers in...

Their statements point out their preference for the houses built from the ground up and emphasize a desire and hope for the future when one of the members states: "No there's gonna be new places in the future... Cause these trailers aren't gonna last forever, obviously we are gonna be having new housing. So, we'll be having new homes."

Figure 31

Recently Received Container Houses to be Placed in the Swan River Nation



When the conversation switched to modularity and different scales of prefabricated projects rather than prefabricated trailers, the housing committee members saw a possibility of having contractors "fighting for their business." In this case, the community was interested of having a partnership with an architectural designer or with the School of Architecture, Planning and Landscape at the university to obtain a culturally appropriate design that is considerate of their needs. This design could be sent to a variety of contractors and companies in Canada, providing an opportunity for the community to have a culturally appropriate home and be in a position to choose from companies with competitive prices. They could trust to receive high-quality work, knowing that they could choose between various companies.

Another solution recommended in the focus group discussion was to promote self-determination. Even though they did not use this particular term, the topic of self-determination was raised several times. They expressed their interest in being involved in the design and construction processes of the houses and less dependent on external contractors. The representatives considered prefabrication to be a reasonable method if done in a position of choosing reliable contractors because it would give them the opportunity to be engaged in the entire process. In this case, the community would be involved in the design process, ensuring a design that suits their needs. They can then request the work of the contractor of choice and participate in assembling the modules.

The possibility of creating a system wherein they can build their own houses and that the knowledge could stay in the community and be passed on to future generations was unanimously considered beneficial by the housing committee. It aligns with Indigenous customs of using storytelling to transmit knowledge to their successors.

Because then it also shows them how to take care of their home a little bit better, because they've actually put that wire there. They put that... So, they'll know what it takes to maintain that, because they built it. 100%, that's like 'habitat for humanity'.

This opportunity of engaging in the building process is valuable for various reasons. First, once the knowledge is built within the reserve and passed on to future generations, future community members would be aware of potential problems, know how to fix them, and be proud of the final product. Although the lack of sense of ownership of the homes involves financial matters that fall out of the scope of this research, building something themselves promotes a feeling of appreciating their work and, consequently, increases the sense of responsibility for the home, thus improving housing conditions. This strategy has the potential to empower the community by bringing pride and expanding valuable knowledge among community members. Second, the expertise acquired building their homes could also generate jobs, enabling community members to open new businesses, which is particularly beneficial in Indigenous communities where members sometimes wait years for a job. Additionally, the sense of pride would be transferred to future generations, as exemplified by the statement of one of the housing committee members. "And then, generations down the road, that grandchild can say: 'My grandma made this', 'My uncle made that'." This is valuable for Indigenous communities considering the Seventh Generation Principle, which establishes that today's lives should be based on how our decisions impact future generations. This principle guides Indigenous practices. Accordingly, the impacts and decisions made regarding their housing today will affect the sense of pride and the housing conditions of the generations to come. As this discussion continued, the Elder present in the meeting mentioned that they used to have qualified carpenters, and they were the ones that built

the houses that they currently have, implying that the community used to have more control over their housing, but over time, lost this capacity but have the desire to bring back control.

Back in the day, we had carpenters, we had a lot of carpenters. Probably like ten... They built every one of these homes, we got along great... The only difference is that now we don't have any trained people. But these... Our people can work together.

While there was some discussion as to whether members of the community would be able to collaborate to learn and build better houses together, they concluded that the young people in the community want to be "the warriors" of the community." It would be a matter of educating them to help each other and to learn construction processes. They concluded that learning to assemble or build their homes is a viable and beneficial option that the community would be interested in exploring with the University as their architectural designer partner to improve their housing conditions. It is important to note that this possibility would be beneficial with or without prefabrication. Options of implementing more self-determination and engagement in the construction process in both scenarios were discussed, and the community was open to both options. According to their comments, it would be crucial to determine a few reliable contractors for pursuing a prefabricated option.

In addition, the idea of modularity sounded interesting for the members to plan modules for housing extensions for the families. One example was given by one of the housing committee members:

So, it's built in a way, let's say you're gonna need 2 more rooms because 2 teenagers, and you know that in 5-6 years, they will be having their babies. They might not be able to get a home, so let's build a place for them to have, they can still be under my roof. Because a lot of times that's the way it is. A lot of times, our kids have kids young.

The possibility of enlarging and planning a home for future generations that includes their family members in the design was essential to the community. This opportunity was also considered for families who may be in an overcrowded situation and could purchase additions later rather than needing a new and much larger house. This was exemplified by one family with six to eight kids and lives in a trailer. If the family lived in one of the modular designs, extra bedrooms could be added as years went by, according to the family's needs.

It was also pointed out that the company they currently buy their trailers from also offers customization in modular units. However, the housing committee members explained that their options are limited, and extensions are only possible in unfavorable locations. Housing extensions were observed in the community, as represented in Figure 32. However, as discussed by the community representatives, they did not appear to be thoughtfully planned for the homes in which they were installed and represented poor interaction of spaces.

But in Gendal homes, that wall is in the living room, the one you have the option to put your patio door. The boards are in there, cut in a certain way so you can cut that out and add on or put a patio door. In the living room, all the Gendal homes come like that. So, you can either have a patio door or have an addition, from your living room. Like, who wants a bedroom off your living room? (Laughter).

Figure 32

Trailer with an Extension Attached in the Swan River Nation



In addition to having limited options with the trailer designs, there is only one side of the home where extensions could be added. According to the community representatives, the location for the extension is not desirable; therefore, it is not a reasonable option from their perspective. The similarity between previously discussed prefabricated options and the ones provided by Gendal homes were raised again when debating the possibility of multiple floors. Gendal had only given the option of delivering bi-levels and bungalows. According to their statements, the possibilities provided by the company are still unsettling with the lack of possible customization of the homes, stating that currently, Gendal only have about two to four different types of homes. “And then, back then, our homes right now, it’s the same...what? 4 different types of old homes?... Me and (name of community member), and everyone else have the same old home...” The lack of diversity in housing options was a topic raised multiple times during the meeting, illustrating the relevance of this aspect to the community and how their experience with prefabrication manufacturers has molded their preferences nowadays.

Another committee member mentioned that their housing options could be more flexible to incorporate their families better, stating "You know, there are so many cooler ideas like the 4-little splits. The... you know... You could do a duplex with a smaller side for a mother-in-law kinda duplex. Whatever, you know what I mean?" Accordingly, community members expressed that they wish to have more options in prefabricated housing and that the modular aspect could be more culturally appropriate. In other words, the module attached to the original house could serve as an addition of bedrooms or even as an addition of other houses connected, facilitating the interaction and accommodation of family members within the provided houses. According to the housing committee members, these designs should be more flexible, customizable, and specifically designed for each person or family and their needs. This approach embraces two crucial aspects of the community: their beliefs and traditional ways of living and the importance of family. Another suggestion to supply the demand for houses using modularity was to add on to the community's current house complexes as seen in Figure 33.

Figure 33*Housing Complex – Multifamily Housing Units at Swan River Nation*

One of the housing committee members was particularly enthusiastic about the opportunity to add on to the 6-plexes of the community instead of needing to buy six new units of houses. This idea would be advantageous if implemented because it would benefit many families currently living on the same lot and are experiencing overcrowded conditions.

Subsequently, an additional concern was pointed out regarding the customization of each of the homes. For instance, one of the housing committee members mentioned that a few different modules would have to be provided to suit the community's needs, in general, and also of the specific family that would live in that particular unit, considering the site and its surrounding area. One example was if one family was allocated to a location with a view of the

town. They would not require numerous windows facing the town. Instead, the house should be designed to have a visual connection to the natural environment. The design of each unit would have to be adapted according to the site and to the family rather than just rotating a module and jeopardizing housing functions and quality of life, as stated by one housing committee member:

Unless you would just put them in different directions. You know, 'yours is gonna have to be facing that way so you can have a window over here.' –(Laughter)... You know, it could be like...you know, 'your door has to go behind here because we don't want you looking at (name of a Housing committee member) over there'.

In compliance with this valid concern, it is judged appropriate to provide various design options and modules that the families could choose from. In addition, it may be more pertinent to produce a design on a larger scale, such as an area of the town in which the designed houses could relate to one another.

In conclusion, prefabrication and modularity are methods that could improve the housing conditions of the Swan River First Nation based on the analysis of the literature. Some of the advantages of this construction method are environmentally friendly outcomes, higher quality, and flexibility and adaptability that precisely aligns with the community's needs and preferences. The disadvantages listed by the literature and voiced by the community are redeemable. Still, prefabrication and modularity methods should be further explored by designers when they interact with each family of the Swan River Nation. These results are listed in Table 9, comparing the advantages and disadvantages of prefabrication and modularity to the speculations of potential in the Swan River Nation community. As presented, the housing committee members' previous experiences with prefabrication have resulted in concerns not previously found in the literature and other Indigenous community's experiences. The community

representatives voiced their interest in prefabrication. They identified the potential for the use of modularity pending some conditions that promote community self-determination, sense of ownership, and pride, as demonstrated in Table 10.

Table 9

Comparison Between Advantages/Disadvantages and the Potential in the Community Raised by the Literature.

Advantages	Potential in the community
Promotes sustainable development (Aris et al., 2019; Tam & Hao, 2014).	Environmentally friendly ways of building contribute to strengthening community’s culture and ways of living.
Reduce construction waste (Jaillon & Poon, 2014).	Minimized environmental impacts align with the community's beliefs.
Employ efficient materials (J. Wilson, 2019).	Minimizes use of excess materials and protects resources according to community's beliefs.
Use less energy during production and lifecycle embodied carbon (J. Wilson, 2019).	Promotes re-use, recycling, and reducing land disturbance according to community's beliefs.
Lower total construction costs due to early standardized design (Tam et al., 2007).	Address insufficient funding, production of more houses, and, consequently, addresses the overcrowding conditions.
Higher quality homes due to consistent and improved precision and building code-approved materials (R. Smith, 2009).	Address substandard housing conditions.
Airtight building envelopes (J. Wilson, 2019).	Minimizes levels of moisture and provides better envelopes for more comfortable interior temperatures.
Ability to complete projects faster (Ganiron & Almarwae, 2014).	Allows building new homes at an increased pace and addresses overcrowding conditions faster.
Adaptability and addition of extensions (Aris et al., 2019); responding to evolving demands of space.	Beneficial for the community including potential enlargement of families, changes in provided funding and opportunity to provide homes for future generations.
Ability to design deployable and mobile structures (Prout Quicke & Green, 2018).	Some individuals may benefit from practicing hunting, trapping, and fishing by carrying their mobile homes, but it was not voiced as a priority.
Disadvantages	Challenges and solutions within the community
Challenges related to the implementation of new processes.	Lack of experience and information associated with the method may make it difficult to implement appropriate standards for houses using prefabrication.
Possible elevated initial costs.	May be challenging considering insufficient funding provided. The long-term effect in funding is advantageous for both the community and the federal government. May also have reduced costs depending on materials and methods employed.
Limited design potential and creativity challenges.	Community representatives should be attentive in choosing experienced architectural designers and contractors that acknowledge the diversity of spaces using prefabrication.

Table 10

Summary of Topics Raised in the Interview and Focus Group Session with Regard to the Implementation of Prefabrication/Modularity in the Swan River Nation.

Topic raised	Comments of the community
Concerns based on past experiences with prefabrication	<p>Chosen due to affordability and availability of remaining containers.</p> <p>Provides low-quality of life.</p> <p>Insufficient space.</p> <p>Inadequate construction of building envelopes.</p> <p>Low durability.</p> <p>Dependency on external stakeholders.</p>
Concerns based on past experiences with prefabrication	<p>Discrimination to the reserve in the selection of materials and shipping.</p> <p>Lack of customization.</p>
Interests in prefabrication	<p>Demonstrated interest in SIPS (affordability, use of carpentry and proper insulation).</p> <p>Partnerships with architectural designers allow best control of the process with external stakeholders; minimizes chances of discrimination.</p>
Conditions and benefits for promoting self-determination, sense of ownership and pride.	<p>Determine cultural design needs.</p> <p>Select a contractor by choice. Determine reliable contractors.</p> <p>Participate in assembling modules.</p> <p>Pass on knowledge to future generations.</p>
Potential of modularity	<p>Ability to add housing extensions as families enlarge or funding becomes available.</p> <p>Aligns with the desire to provide resources to future generations.</p> <p>Flexibility can promote cultural appropriateness and better relationships between family members.</p> <p>May align with traditional ways of living and the importance of family.</p> <p>Additions may be more cost-effective than building new homes.</p>

Chapter 8: Conclusions and Recommendations for Future Research

Based on cultural reflections, readings of the literature review, and conversations with community representatives, this study was conceived to establish the means to improve the housing conditions of the Swan River First Nation. Before connecting with community members, the investigator extensively explored the literature to understand the Indigenous history of colonization and the social, cultural, economic, health, and housing challenges they currently face. To determine appropriate strategies to best address their current challenges, community representatives voiced their concerns about cultural inadequateness and substandard housing conditions while explaining their relationship with government members and external contractors and stakeholders. Subsequently, representatives expressed their opinions and preferences about cultural appropriateness, sustainable development, connection to the land, and prefabrication and modularity. These conversations were analyzed and cross-referenced with conclusions from the literature and between each other testimonies to determine the potential of each strategy in the context of the community. Accordingly, this chapter provided an overview of the review of literature, connection with the community representatives, and the analysis of data to present several interests and concerns of the Swan River Nation, and potential solutions to their housing issues. This chapter begins with the acknowledgment of the housing conditions of the community, which is then followed by a discussion of each topic's conclusions based on the conversations with a community leader and housing committee members. A critical reflection of the opportunities for reconciliation for government members, stakeholders, architectural designers, and people from non-Indigenous backgrounds in general was also presented. The chapter was finalized with advice and determination of future topics for research, a personal reflection, and the final remarks of the study.

Recapitulation of Housing Conditions in the Swan River Nation

The historical and cultural context of Indigenous peoples in Canada and the Swan River Nation community profile, objectives, and housing policy documents were analyzed to determine a foundation to advocate for more suitable and durable housing. The comprehensive analysis of these documents allowed for a deeper understanding of the subjects raised by the community leader and housing committee members. It was found crucial to seek a fundamental understanding of the Indigenous and the Swan River community's historical, environmental, economic, and political contexts before the start of any formal conversations. This knowledge and awareness assisted in recognizing the nuances of other cultures and the perception of differences and similarities between the past and the present based on the literature and their testimonies. Additionally, understanding the community's contexts was crucial for establishing the investigator's role and accountability in the research process in interpreting concepts, opinions, experiences, and perspectives.

After reviewing the literature and Swan River documents, community representatives discussed the current housing conditions within their reserve. While most of the issues raised by the representatives had been identified from the literature, their testimonies further revealed concerns, or more specificities to each matter, to better illustrate the concepts and the rationale behind the challenges their community faces. For example, while the literature acknowledged overcrowding issues in Indigenous communities, the extent to which this aspect affects the Swan River members is different from other communities based on their total population, funding provided, and ability to manage insufficient resources amongst their growing population. While the literature and the community's housing policy point out the insufficient funding provided by the federal government, the community leader and the housing committee representatives were

able to exemplify and describe the intertwined challenges that come from the lack of funding for their homes.

The interview and focus group session identified the urgency of addressing the substandard housing conditions and the need for sufficient maintenance in the community due to the hazard these conditions may represent to members' health and well-being. The topics that were raised the most or made community representatives more articulate and passionate were (a) the insufficiency of resources, (b) the condition of homes bought with insufficient funding, (c) the lack of space and overcrowding conditions, (d) the rapid deterioration of the homes due to poor construction and discrimination against the community, and (e) the unaddressed need for major and minor renovations.

Overall, their dissatisfaction with funding, housing conditions, and discrimination were constantly raised; these topics were interconnected, influencing and aggravating each other. Several statements represented negligence of either contractor or government members and illustrated that colonization practices are still present in their realities today. A couple of hundred years later, the Swan River Nation continues to feel taken advantage of and is treated differently. This study demonstrated the ongoing colonial violence experienced by the community disguised as issues that affect both Indigenous and non-Indigenous or as assistance from the government seeking reconciliation. The community representatives clearly described how Indigenous and non-Indigenous people do not have the same experiences, with the Indigenous experience resulting in poorer outcomes. For example, the community representatives discussed that completely different products from the same company were delivered for the same cost and distance, with the non-Indigenous getting the better end of the deal. Likewise, government practices towards reconciliation are contemporary policies that prevent self-determination and

self-governance. Such policies often involve insufficient funding practices that evolve into a constant reliance by the community on the government, perpetuating the issue of substandard homes.

Acts of reconciliation towards the Swan River Nation should involve community representatives determining how assistance is needed and provided. This may include policy modifications, such as the provision of sufficient funding for building new homes and proper maintenance. It may also involve dedicated funding toward building capacity for construction or design charettes and partnerships that invest in self-determination, resulting in culturally appropriate architectural designs for the community and each family. Essentially, seeking reconciliation involves providing the tools for the Swan River Nation to become independent from the federal government, disestablish colonial practices, and strengthen their culture by the provision of safe and culturally appropriate homes that promote their physical and mental health, well-being, and culture.

General Recommendations for Design

After understanding the current housing conditions in the Swan River Nation, this study focused on learning strategies that could improve their homes. Based on conversations with the community leader, three approaches were analyzed: cultural appropriateness, relationship with the natural environment, and sustainability. The topics of prefabrication and modularity were also explored in the context of the three approaches. The discussion of these topics enabled the community to reflect and express how the university could act as a partner to the community, with their role as guide and consultant, to build more adequate homes for its community members. According to each of these strategies, community representatives spoke on behalf of the members and reported specific interests in the design and renovations of their homes.

Cultural Appropriateness

Firstly, in terms of cultural appropriateness, the conversations with the Swan River community demonstrated the impact architectural design could have on people's well-being. Like how the negative aspects, such as overcrowding and cultural inadequateness, affect community members' lives, it was established that an appropriate design could significantly contribute to general well-being and community development. The reflection on the impact of acknowledging the community's beliefs, spiritualities, and family characteristics in the design allowed for a deeper understanding of the benefits of a collaborative consultation and design process to ensure better housing outcomes in the Swan River Nation.

In addition, during the constant endeavour to understand other cultures present in this study, the perception of multiple modernities described by Eisenstadt (2000) was revealed to be compatible. One of the reasons why homes in the community are inadequate is due to the different perceptions of modernity and social progress between Indigenous and non-Indigenous individuals. Since people from a settler background tend to think that the Indigenous community should follow the same standards as the non-Indigenous cultures, Indigenous homes have become unlike their previous designs and more similar to the homes of European-based cultures. Due to impositions and attempts of assimilation, the homes of these communities, including the Swan River Nation, are currently dissonant with their family characteristics, beliefs, and ways of living. The different views of family, sustainability, education, and social progress should be acknowledged when designing a home for the Swan River Nation. Cultures are not homogeneous and architectural design should not be based on the beliefs of alleged mainstream culture. The diverse worldviews of different cultures should promote varied housing design outcomes and reflect the values of each community.

When investigating the homes built by Indigenous people around the world several hundred years ago, it was noted that these shelters were designed according to their cultures, beliefs, and location. Although it was pointed out that the community members themselves are currently unsure what current appropriate home designs are for them, the community representatives seek member's opinions to determine adequate ways of designing and building within their reserve. Some of their speculations for more appropriate housing included:

- Larger homes with sufficient space for families and extended family members while not requiring considerably much more funding;
- Prioritizing more space to the kitchen and dining room, allowing sufficient room for family gatherings;
- Larger bedrooms that can accommodate the bigger and extended families in the community;
- More bathrooms -- at least two bathrooms per home -- to alleviate the issues caused by overcrowding;
- Spaces to grow their own food to promote food sovereignty; and
- Adding a fireplace to the homes that serve as an alternative heating source, thus increasing thermal comfort and addressing their concerns of low temperatures on the reserve.

While it was presumed that the community would express specific shapes, colors, organization of spaces, and materials, their needs were more practical. They discussed their ways of living, especially that of family values. Their preferences spoke mainly to the community's social issues and unsafe living conditions rather than design innovations, aligning with the urgency of their needs.

Relationship with the Natural Environment and Sustainability

The literature revealed that Indigenous communities are mindful of their impact on their land, tracking and ensuring sufficient resources for future generations in terms of the natural environment. However, homes that have been provided do not consider a sustainable capacity for the natural environment nor their preferred connection to nature. In addition, the Swan River Nation has been facing issues related to the durability of the community's homes. This concern aligns with the need for sustainable building practices since these constructions invest a lot of resources that significantly influence energy demands and water use during their lifespan. Accordingly, the resources utilized on construction are wasted if houses need to be discarded within a few years. In addition, the buildings designed today influence the energy and water requirements for the next 50-80 years. Both these aspects demonstrate the attentiveness required to the Swan River's relationship with the natural environment when building homes for the community.

Furthermore, while Indigenous people's lifestyle has been jeopardized due to the non-Indigenous' excessive use of natural resources, their respectful interaction with the natural environment established their interest in balancing the ecosystem for thousands of years. Designing homes for the Swan River Nation should incorporate their desire to connect with and preserve nature. For instance, the Swan River community leader expressed their appreciation for nature and explained their worldviews of how Mother Nature provides everything needed for them. The recommendations provided by the community leader and housing committee members regarding this approach were as follows:

- Provide sufficient visual connection to the land through large windows rather than numerous windows;

- Include outside spaces in the design, such as areas for growing their own food to establish a connection to the land;
- Build off-grid homes, especially for single people, that promote independence from utility lines and minimize future density issues in the community;
- Implement the use of photovoltaic panels in houses of the community to assist in reducing the cost of energy bills; and
- Ensure effective thermal protection of building envelopes to safeguard the health and comfort of community members.

By implementing the recommendations of the community representatives, the homes designed for the Swan River Nation may be more culturally appropriate, aligning with their beliefs towards Mother Nature and interest in connecting with the natural environment and assisting in remedying current environmental concerns. Their traditional knowledge and preferences for appreciating nature, increased durability, and decolonizing ways of living promote energy efficiency and sustainable development and safeguard their land and environment.

Prefabrication and Modularity

Considering the current housing shortage and lack of durability in the Swan River Nation homes, prefabrication was one of the topics investigated. This discussion determined if prefabrication could positively contribute to the community's housing development. The subject was analyzed from a literature-based point of view and the community's perspective. According to the literature, prefabrication has experienced varied streams of interest and popularity. Due to several constructions built in response to urgency during the 20th century, there are some misconceptions about the quality of prefabricated buildings. Currently, prefabrication has gained

new interest, and its potential is being showcased in successful projects worldwide (Smith, 2009).

The literature review identified the significant potential of prefabrication that could benefit the Swan River Community. Since the community expressed concerns about overcrowding, use of low-quality materials, imprecision in construction, and lack of connection to the natural environment, prefabrication can address some of the community's current issues. Some of the advantages raised regarding this method include: (a) in-factory selection of quality materials and high precision processes, (b) adaptability and flexibility to accommodate growing families, (c) mobility potential that allows for further connection to the rest of the land, and (d) ecological advantages. Several authors established prefabrication as a method that promotes sustainable development by reducing waste and energy use during the construction and the building lifecycle. The features of prefabrication, specifically the controlled environment in the factory while fabricating components of the building and the possibility of mobility, rearrangements, and extensions to the homes, added to the sustainable potential of the method benefitting the Swan River Nation community.

Through the community-based approach established in this study, these advantages found related to prefabrication led the investigator to consult with the community representatives about their opinions of the method. Based on previous experiences with prefabrication and their general preferences and knowledge about prefabrication and modularity, the community leader and the housing committee members explained that they currently have many prefabricated homes in the community which were chosen mostly due to affordability. Contrary to what was speculated, the representatives described low-quality living, insufficient space, and imprecision during the construction of their homes. They also expressed no interest in the mobility potential

of homes and clarified the important aspects and potential of prefabrication and modularity to their community. Some aspects of prefabrication and modularity raised by the community representatives included:

- Self-determine reliable contractors that ensure the durability and precision of their homes for a fair price, thus avoiding discrimination;
- Establish partnerships with architectural designers that can provide culturally appropriate designs, enabling them to be in a position of power while connecting with a contractor;
- Creating a system to build durable houses and pass them on to future generations aligns with the community's care for family and their successors;
- Self-building or assembling is beneficial to promote the appreciation and a sense of pride for the homes, which aligns with customs of transmitting knowledge to future generations;
- Modularity allows the possibility of enlarging the homes through modular extensions to accommodate growing families and extended family members who may need shelter or for when caring for seniors; and
- Be aware of the importance of customization per family and site location.

To summarize, the community has had negative experiences with prefabrication and hesitations towards its use. There is still potential in the employment of prefabrication and modularity in the community. The representatives are open to the option as long as their requirements of ensuring cultural appropriateness, sufficient space, allowing customization, and preventing discrimination of unreliable contractors are addressed.

Analysis of Potential of Explored Approaches

This study analyzed three topics based on the literature and discussions with the Swan River Nation representatives. The analyses of these three strategies uncovered the community’s concerns and the interests about these topics. The potential of each method was determined and is cross-referenced in Table 11, showcasing the alignment of community concerns and the possibility of the employment of construction methods.

Table 11

General Matrix Cross-Referencing Community’s Main Concerns and Potential of Proposed Design and Construction Methods.

Community’s concerns	Implementing culturally appropriate measures*	Implementing sustainable aspects and green technologies	Use of prefabrication and modularity
Alignment with community’s beliefs and preferences	+	+	-
Minimizing overcrowding conditions	+	0	+
Self-determination	+	+	-
Connection to the natural environment	+	+	0
Conserving natural resources	0	+	+
Insufficient thermal comfort	+	+	+
Increased density over time	0	+	+
Lack of durability	0	0	+
Imprecision of constructions	0	0	+
Affordability	-	-	-
Accommodating extended family members	+	0	+
Customization	0	+	-
Promote a sense of pride	0	0	+
Discrimination	0	0	-

Note. *Although the employment of any design or construction method should be done in consultation with the community, this column relates to the culturally appropriate strategies recommended by the community in Chapter 5, such as enlarging the kitchen, enlarging the

bedrooms, having more bathrooms, adding a fireplace and other outdoor spaces. Legend: (-) May have constraints; (+) May have potential; (0) Not affected (inability to address such issues)

Based on the analysis of the literature and the discussions with the community representatives, Table 11 was produced to demonstrate the potential and constraints of each approach studied in this research. It was established that the implementation of each of these strategies supplements the other. However, it should be noted that, with further conversations with the community, other topics may be raised, and other methods may be recommended to address their housing concerns. This study provided a general understanding of the potential and constraints of these approaches. However, every approach or method should always be complemented with consultation with the community.

Opportunities for Reconciliation and Critical Reflection

After acknowledging the various impacts of colonization in Indigenous peoples' lives, cultures, and preferences, this study provided a critical reflection on cultural appropriateness from the perspective of an attempt at reconciliation with the Swan River Nation. Based on the readings of the literature and the conversations with the community representatives, the concept of cultural appropriateness has shifted. It was established several times that the community would define which culturally appropriate strategies they wish to employ to improve their housing conditions. After connecting with the community representatives, they provided a concept of cultural appropriateness different from what was presented in the literature. In the literature review, cultural appropriateness was to be investigated as an expression of culture through architecture which includes the use of preferred shapes, colors, natural materials, and capacity for mobility. However, the statements of the community concerning their practical needs revealed that cultural appropriateness meant the acknowledgment of colonizing history as

well as the social, economic, political, and architectural consequences of non-Indigenous actions. Instead of discovering a series of guidelines for design within the community, their perception of cultural appropriateness focused a lot more on addressing practical concerns: guaranteeing a safe future for future generations, allowing enough space for families to engage with each other, and establishing relationships with their lands. Instead of identifying the potential organization of spaces, lists of energy technologies, or construction materials, the community expressed the desire to be consulted individually and work alongside architectural designers and contractors to improve their housing conditions, safeguard their families, and overcome discrimination.

Ultimately, it is up to the community to determine their needs and preferences, their understanding of the implications of colonization, and the concepts behind housing initiatives. External attempts to dictate their ways of living and being are perpetuating colonization and inherently supporting culturally inappropriate housing. The same logic applies to other actions that perpetuate colonization, such as the insufficient funding provided for housing and the enactment of inappropriate policies based on colonial practices. Considering that the community's economic capacity largely influences the employment of appropriate housing strategies, it is key to address the lack of revenue that concerns the Swan River Nation. The federal government's responsibility is to dedicate sufficient funding for homes to ensure adequate numbers and cultural appropriateness. The impacts of colonization on the community's housing conditions and the consequent social and health issues must be acknowledged and addressed. The federal government should interrupt assimilation attempts, promote self-determination, and gradually promote the community's independence from external parties by adjusting funding and policies and establishing communication with the community to determine culturally appropriate approaches.

Strengths and Limitations

Although it was identified that to improve the housing conditions of the Swan River Nation, the federal government's involvement in adjusting policies and funding is crucial. However, this aspect is out of the scope of this research, which merely exposes the community's needs and advocates for federal government attention to their housing matters. Despite the inability to solve any issues for the community, this study had many strengths due to community-based approaches. With the assistance from the Indigenous Research Support Team at the University of Calgary, OCAP (Ownership, Control, Access, and Possession) training provided by the First Nation Information Governance Centre, and Indigenous courses provided by the University of Calgary and the University of Alberta, the researcher was able to overcome the barriers between Indigenous and non-Indigenous people by connecting with community representatives from the Swan River Nation. The interview and focus group session was guided by the topics established in conversation with the community leader, which promoted their right to lead the study and determine the means that could contribute to improvements in their homes. In addition, some of the strengths pointed out by the community leader was the fact that the established partnership connected Indigenous and non-Indigenous individuals. This was considered beneficial since the author would not be categorized as Indigenous and, consequently, could prevent discrimination while advocating for improving their housing conditions.

However, there were also certain limitations in establishing trust that a non-Indigenous individual could properly understand the community's history and context about their housing challenges, resulting in hesitations among the community leader and representatives. Additionally, while community-based research requires that investigators spend a significant amount of time engaging with community leaders and representatives (Halseth, 2016; Smith,

2012), this study had practical constraints, which included the pandemic and hesitations from community leaders, that limited in-person meetings and time to conduct research. The period from connecting with the community leader, defining the scope of the study, visiting the community, to establishing the interview and focus group took over eight months. Additionally, only the site visit and final focus group meeting were held in person due to safety measures implemented during the COVID-19 pandemic.

It was also challenging to establish trust through digital means, which was the primary means of engaging with the community leader and building a relationship with the community. It was also challenging to determine the most appropriate time to visit the community while ensuring the safety of community representatives. The principle of relational accountability discussed by Wilson (2008) should have been better adhered to, which would involve all participants and building relationships with the community from the beginning of the study and before data collection. Additionally, although the investigator had a desire to connect to a broader sample, the selection of participants was determined by the community leader. He is someone knowledgeable about which community members could best speak about the housing interests of the community. The community leader recommended meeting with the community's housing committee. Two members of the housing committee were not able to participate in the in-person meeting to ensure their safety, considering the ongoing COVID-19 challenges faced by the community.

Another limitation faced during the study was the restricted time to consult with participants more frequently. This limited the potential to gather more in-depth data from the meetings. This type of back-and-forth discussion and building of knowledge between the researcher and the community representatives would have been beneficial to developing a deeper

understanding of their preferences for housing improvements. Fortunately, this study is part of a larger research project, and subsequent interactions with the community can address the time constraints and promote more numerous and in-depth discussions to better determine culturally appropriate measures for building houses within the Swan River Nation.

Advice and Recommendations for Future Research

The discussions with the community representatives showed that it is not uncommon for them to be approached by non-Indigenous individuals who believe they can solve their problems. Therefore, the investigator was careful not to make any promises that could result in disappointment and dissatisfaction with the community. It is recommended to be cautious about promises made and seek practical implementations of this study in future research. These implementations include moving forward with designing culturally appropriate housing options and building prototypes of these homes within the community.

It is also recommended to establish a relationship with Indigenous communities from the beginning of the research since it is beneficial to have a strong relationship with the community. This can be done by spending significant time with the community before data collection. This approach may significantly improve the interactions with participants during meetings and focus group sessions since they would not be trying to determine if they can trust the researchers. Further, when holding interviews or focus groups with the communities, it is suggested to book multiple meetings so researchers can acknowledge the topics raised and seek further explanations, determine new research questions, and achieve more in-depth results (Glesne, 2011).

Additionally, the stage of establishing a relationship with the community revealed several directions and advice for future research involving Indigenous communities. For instance, the

first contact with a community is a sensitive moment. The researcher must ensure that they have not determined the study's scope prior to connecting with community representatives. Instead, the researcher should encourage the community to guide the research and decide what could be done to benefit them. Before acknowledging this fact, the investigator contacted communities with a defined idea for the study, and these contacts were not well-received. It is also important to be cautious of using politicized words when connecting with an Indigenous community. The use of words that presume that colonization is in the past, that endorse stereotypes, or that demonstrate insufficient understanding and empathy for their current challenges are often disapproved and may jeopardize the relationship.

This research is part of a larger project entitled Examining Indigenous Housing in Canada. Based on the knowledge collected in the present study, it is possible to adjust the research project and use the information collected to complement the exploration of culturally appropriate ways of building homes for Indigenous communities in Canada. The relationship built with the Swan River Nation, the study of the historical and cultural context, and the information collected from this study will be further developed in the larger project. The project will implement community-based approaches, seek further discussions, and have in-depth conversations with the Swan River Nation, among other communities. These consultations will investigate the needs and preferences of Indigenous communities in Canada to subsequently advocate for more adequate Indigenous housing in Canada. The plans for the following stages of this project include continuing to consult with Swan River Nation representatives and developing partnerships with the University of Calgary. Based on the suggestions raised in this study, the project plan is to gather architecture students and community representatives of the Swan River Nation to collaboratively design a series of housing options that acknowledge the community's

culture and addresses their most urgent needs. Ideally, these designs may be used to advocate for more appropriate housing or shared with reliable contractors who could build homes based on the community's preferences.

Finally, although this study was able to understand the current housing situation of the Swan River community and some preferences in terms of cultural appropriateness, connection with the environment, and prefabrication and modularity, it could have collected more in-depth data about each of these topics. Accordingly, it is recommended that future research, follow the advice established in this section to identify more specific approaches, means of organizing spaces, determining the most appropriate materials, and any further particular needs and preferences that the community could have discussed in further meetings. With more interaction with the community, there is more time to investigate more topics that could assist in achieving better results that would benefit the community.

Personal Reflection

When this research began, I was worried that I would not be deserving to conduct this study by not being from Canada. Considering such a sensitive topic, I felt unsuitable to assist any Indigenous community in Canada. However, throughout the research and during conversations with the community, I realized that, as an immigrant, my interest and effort in learning about other cultures allowed me to have the utmost respect for Indigenous cultures, which was lacking in their previous interactions with other researchers. During the research process, I felt like an outsider, and I was continuously trying to open myself to new ways of perceiving reality and expanding my ways of living. I was and still am willing to learn rather than to judge or impose. I have gained respect

for the ability to understand other cultures and hope to continuously develop further sympathy for others.

As someone from South America, I have always felt like an outsider in Canada. I often discussed my feeling of not fitting in and how my values did not align with Canadians'. My perceptions of family and caring for spirituality were not the same as the Canadians. After connecting with the community, I realized that my culture was very similar to their values and family culture. After two years in this country, the connection with the Swan River Nation made me feel at home and made me feel understood.

However, learning about the Indigenous ways of living and the importance of decolonizing, I felt guilty for not being able to adopt these beliefs while restless writing this thesis. I had their calming ways of living in mind, but I felt pressured by deadlines and external aspects. I felt like an impostor, who agreed to their ways of living, but was incapable of adjusting and implementing them in my own life. After this reflection, I realized that although I appreciate their values, I am not Indigenous, and the fact that I live differently is also due to my culture. By learning to value their cultures, I understood the value of mine.

Closing Statements

Contributing to reconciliation with the Swan River Nation, this study has revealed architectural design as a process that goes well beyond designing buildings. Architecture is the built realization of someone's preferences and involves the capacity to perceive cultural aspects. Architecture holds power that may positively or negatively influence someone's life. Architecture should be humanitarian and aim to provide the well-being and comfort of its inhabitants. Accordingly, architectural designers should advocate and protect the right to shelter,

practice culture, and access to physical and mental health. If architecture can play an essential role in the world, it should be by promoting self-determination and designing structures that support vulnerable communities and fragile environments. Within the Swan River Nation, appropriate architectural design is described as acknowledging the community's history, practices, beliefs, and ways of living. In consultation with the community, the architect should develop designs that accurately represent them and ensure that Indigenous and human rights are safeguarded. This study challenged the current condition of the homes in the Swan River Nation from a perspective of reconciliation, decolonization, and humanity. It built on the knowledge gained from the literature review and consults with community representatives to establish new directions for their housing improvements and the continuation of the research project.

This study exposed the multiplicity of voices and perspectives when interpreting others' worldviews. It established the importance of listening to others whose stories were silenced or ignored by utilizing a community-based approach. It uncovered the significance of alternative interpretations and enabled others to see the community's perspectives. It cultivated the author's senses regarding the richness of diversity and the complexities and particularities of people's actions and worldviews. It unveiled contexts outside the Western culture and revealed common assumptions, stereotypes, and subjectivities. It proposed personal changes beyond the researcher's role to that of an empathic and critical individual. Finally, it taught me -- and hopefully the readers -- to abandon competition and self-importance and switch to collaboration and humility. The delight of learning about others and ourselves while developing genuine relationships was the utmost benefit of working with the Swan River First Nation throughout this process.

Thank you, or as it was taught to me by one of the Elders, “Hy hy” in Cree.

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Appendix A: Recruitment Notice

Hello,

This e-mail is to invite the housing committee of the Swan River First Nation to participate in a group discussion with two researchers from the University of Calgary. This research project is part of a graduate student thesis approved by the University of Calgary Conjoint Faculties Research Ethics Board. The research is being conducted by Ms. Alves, a Master of Environmental Design student working under the supervision of Professor Mauricio Soto-Rubio in the School of Architecture, Planning and Landscape. The researchers have been in contact with me and framed the research according to our conversations. The research will involve a focus group discussion with the housing committee, as a group of volunteers who can speak to the community's concerns regarding the design options, preferences and cultural adequacy of our housing. The researchers have offered to work in co-authorship of documents and to advocate for better housing conditions in the community. They also offered to provide a secure password-protected server to store the recording, which will be ours to own, control, and access.

Participation in this study involves a focus group meeting by zoom. If any participants do not have access to zoom or need any kind of accommodation, the researchers will make proper arrangements. During this meeting, participants will discuss about their concerns in terms of housing and share their opinions and insights on potential housing preferences. Participation in this study would take approximately 60-90 minutes.

If you are interested in participating, please read the information sheet attached to this email and contact me to provide the best times for the group discussion. If you have any questions, please do not hesitate to contact me or the researchers at [email address], or [email address].

Sincerely, [name of the community leader]

Appendix B: Information letter/Consent form**Name of Researcher, Faculty, Department, Telephone & Email:**

Gabriela Ferreira Morais de Oliveira Alves (Gabriela Alves), B.Arch and Master of Environmental Design Candidate, Faculty of Environmental Design, School of Architecture, Planning and Landscape, [phone number, email address].

Supervisor:

Mauricio Soto-Rubio, Master of Architecture, Faculty of Environmental Design, School of Architecture, Planning and Landscape, [phone number, email address].

Title of Project:

Investigating Cultural Appropriateness and On-Reserve Housing Conditions in the Swan River First Nation Community

Sponsor:

Not applicable

This information sheet contains details about the research. If you want more information about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

Participation

- The University of Calgary Conjoint Faculties Research Ethics Board has approved this research study.
- Your participation in this study is completely voluntary, anonymous, and confidential.
 - 1- Voluntary: You can withdraw from the study at any time and for any reason. If you choose to withdraw, your responses will not be used.
 - 2- Anonymous: No personally identifying data will be recorded in the database.

3- Confidential: The collected data will be stored in a password-protected hard drive. Only the researcher and research supervisor will have access to it.

- This research acknowledges and supports the Ownership, Control, Access, and Possession (OCAP) principles and ensures that Indigenous people have control over data collection in their communities, as well as how this information is stored, used or shared.
- Please note that any participation is completely voluntary. You may refuse to participate altogether, may refuse to participate in parts of the study, may decline to answer any and all questions without any kind of penalty.

Use of Data

- We want to ensure that you have control and access to all the data collected. In an agreement with Mr. Twin, we have created a secure password-protected database to which only the community and the researchers will have access to the collected data, questions, and notes. Any information collected in the session is your property and the community may utilize as judged appropriate. The information will be held for 5 years. After this period, the researchers will send all the information to the community and delete from their server. The researchers will no longer have access to it.

What Will I Be Asked To Do?

- Participants will be asked to talk about topics related to housing in the community in a group session along with other members of the housing committee, the councilor, and the researchers.
- Should you agree to take part, you will be asked to provide information about your concerns and preferences for the spaces in your house (including number, size, shape, appropriateness of use, and so on.), about how to cause low impact on the land in terms of housing, about problems of durability, and about the potential of mobility in houses in the community.
- The session may take between 60-90 minutes.

- The sessions may have the sound recorded if all the participants consent. This would be an important approach to review all the content while writing the research. The recording would be stored by the community. The researchers would request access to it when needed.

What Type of Personal Information Will Be Collected?

- Directly, and indirectly identifiable information will be collected in this study. Personal information includes the community you are from, and may include your names, and recording of the session (if applicable).
- Names will be omitted by the recording by default. Participants may choose to share their names or provide pseudonyms according to their preferences.
- You will also be asked if you would like to receive a small gift from us as an appreciation of your time. Elders will be offered tobacco attached to a thank you note, and other participants will receive a tie and a thank you note. The councilor will provide one address and redistribute the gifts to all participants. This address will be stored in the same password-protected database and it will be erased as soon as the thank you gifts are received.

Are there Risks or Benefits if I Participate?

Risks:

- There are no physical risks of being involved in the study.
- There are risks related to the privacy of the participants including the minimal risk of participants being identified with a combination of the information provided or with a breach of confidentiality.
- There is a minimum risk that a breach of confidentiality may occur in the event of lost or stolen passwords or data from the researchers or the community even though all the information will be password-protected. The loss of privacy could lead to cultural and social risks and cause damage to the community's reputation.
- There may be a psychological risk involved since participants may feel upset talking about the challenges they are facing and possibly remembering their past disputes about their housing.

- There is a risk of frustration with the results if participants expect immediate changes to their housing conditions. Please note that the researcher's role will be of advocacy and that this cannot make actual changes in their housing at this time, but can lead to future projects that could positively impact your community.

Benefits:

- This research is beneficial for the community amplifying your members' voices whether it is by publishing the content in co-authorship with you, or by arranging press releases, it is a means of advocating for better housing conditions.
- It may also be an opportunity to have this content for any future contact you may wish to establish using the collected data. It may serve as an advocacy document and a reminder of the need to engage with their community in the planning of architectural projects.
- This research can be a steppingstone to other projects that could lead to more practical improvements in houses on reserve.
- As an appreciation of your time, we would like to provide a small gift to each of you. These would include tobacco offerings to Elders and a tie and a thank you note for all other participants. Due to COVID safety guidelines, gifts would be sent by mail.

What Happens to the Information I Provide?

- All of the collected data will be solely used for advocating better housing condition in the Swan River First Nation community.
- All the information provided to this study will be anonymized and confidential, unless the participant requests their name to be released. The data will only be analyzed by the researchers.
- Participants are free to withdraw from the study until the discussion in the focus group session. After this date, withdrawals will no longer be possible since the data collected will have been transcribed in discussion with other members and their contributions may be out of context.

Questions/Concerns

If you have any further questions or want clarification regarding this research and/or your participation, please contact:

Ms. Alves,

Faculty of Environmental Design

[phone number, email address].

and Mr. Soto-Rubio Faculty of Environmental Design

[phone number, email address].

If you have any concerns about the way you've been treated as a participant, please contact the Research Ethics Analyst, Research Services Office, University of Calgary at [phone number, email address].

Appendix C: Focus Group Meeting Questions/Topics**Name of Researcher, Faculty, Department, Telephone & Email:**

Gabriela Ferreira Morais de Oliveira Alves (Gabriela Alves), B.Arch and Master of Environmental Design Candidate, Faculty of Environmental Design, School of Architecture, Planning and Landscape, [phone number, email address].

Supervisor:

Mauricio Soto-Rubio, Master of Architecture, Faculty of Environmental Design, School of Architecture, Planning and Landscape, [phone number, email address].

Title of Project:

Investigating Cultural Appropriateness and On-Reserve Housing Conditions in the Swan River First Nation Community

Sponsor:

Not applicable

Duration:

Approximately 60-90min

Focus group meeting questions/topics:

This focus group session consists in a series of questions around three topics: housing design, sustainability/low impact, and durability/mobility. Topics were raised by the councilor of the community and determined the research questions stated in this application. These questions are designed to guide the conversation, but it is hoped that they will lead to an organic discussion. It is expected that the questions raised here will create a platform for participants of the housing committee to express their concerns and ideas about the topics in a semi-structured/unstructured way.

Housing Design Questions:

1. Considering your lifestyle, routine, and cultural priorities, can you comment on which interior and exterior spaces in your house are the most important, and least important for you?
2. Do you have any suggestions on how these spaces should be changed? This could refer to number of rooms, how big or small the rooms are, the privacy, the appropriateness of the spaces to socialize, etc.
3. Are there any spaces that need more connection to the natural environment? Are there any spaces that should be more open or enclosed? Are there any spaces that could have a different shape?

Sustainability/Low Impact:

4. Are you concerned with the impact of the houses on-reserve on the land? Would you have any ideas on how to minimize this impact?
5. Have you considered renewable energy sources in your community? Would you consider these technologies an opportunity to be more independent from national grids?

Durability/Mobility:

6. What parts of the houses on your reserve are wearing out prematurely?
7. Have you had any experience with prefabrication? If so, which were beneficial, which were not, and why?
8. Would the possibility of moving a house from one place to another benefit your community?

Closing Questions:

9. Do you have any other thoughts that you would like to share about housing conditions or preferences in your community?

Questions/Concerns

If you have any further questions or want clarification regarding this research and/or your participation, please contact:

Ms. Alves,

Faculty of Environmental Design

[phone number, email address].

and Mr. Soto-Rubio Faculty of Environmental Design

[phone number, email address].